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INTERVENTO

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

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

LOTTO **3053/PN\_2**

**PROGETTO ESECUTIVO**

TAV.  <b>TAB_17</b>		OGGETTO  TABULATI DI CALCOLO CIVICO 47 STATO DI FATTO			DATA  <b>Settembre 2022</b>	
SCALA					N. DISEGNO	
VERSIONE	DESCRIZIONE	DATA	REDATTO	VERIFICATO		APPROVATO
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01						
02						
03						

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TABULATI DI CALCOLO  
CIVICO 47  
STATO DI FATTO





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# 1 Risultati numerici

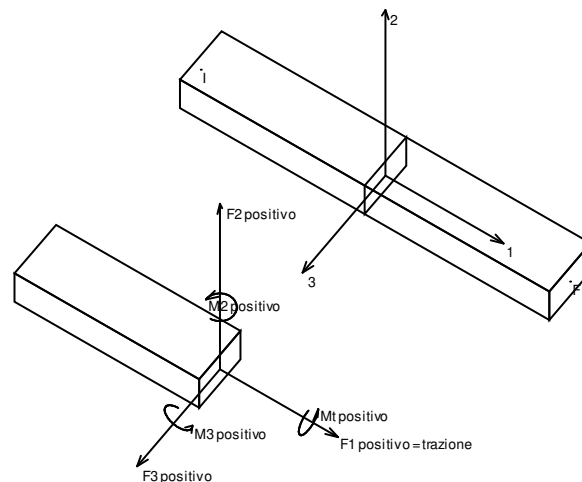
## 1.1 Sollecitazioni

### 1.1.1 Sollecitazioni aste

#### 1.1.1.1 Convenzioni di segno aste

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

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



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

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

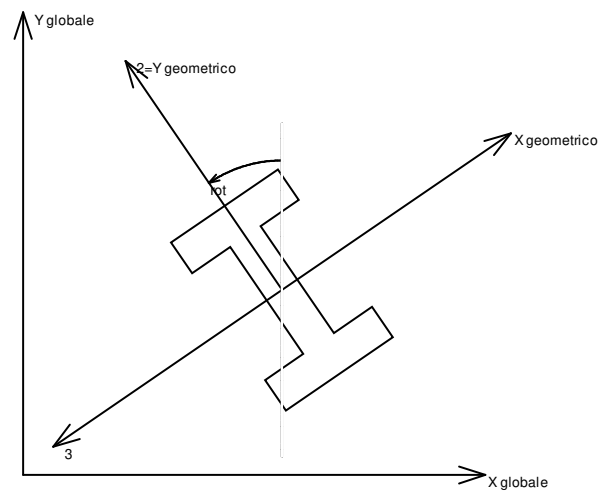
Il sistema è definito diversamente per tre categorie di aste, a seconda che siano originate da:

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

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

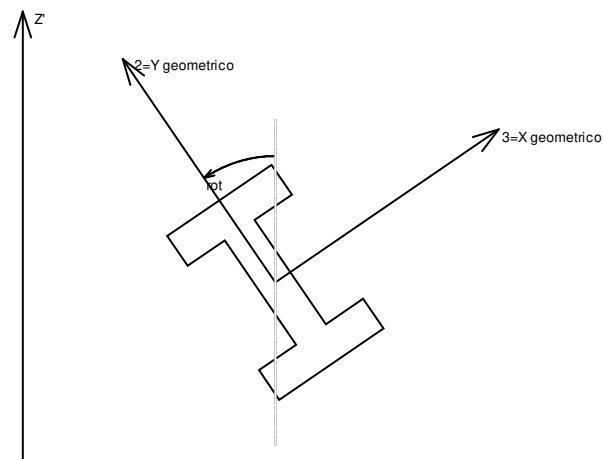


## Sistema locale aste verticali



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

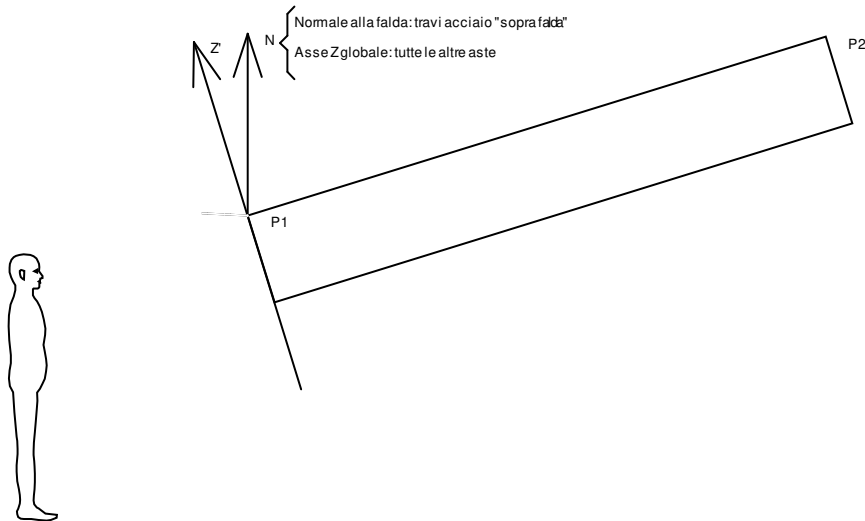
## Sistema locale aste non verticali



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

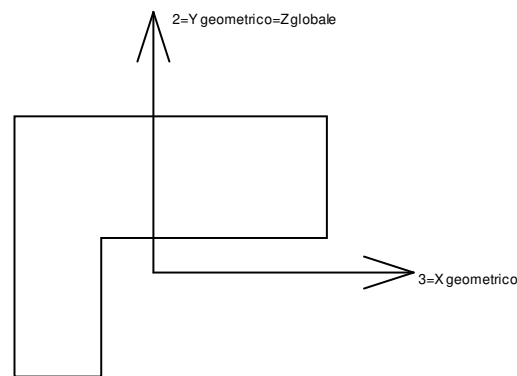
L'asse Z' è illustrato nella figura seguente dove:

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



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

**Sistema locale aste derivanti da travi in c.a.**



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

#### 1.1.1.2 Sollecitazioni estreme aste

**Asta:** elemento asta a cui si riferiscono le sollecitazioni.

**Ind.:** indice dell'asta.

**Cont.:** contesto a cui si riferisce la sollecitazione

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

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

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

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

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

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

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

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

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

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

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

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

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

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



### Sollecitazioni con sforzo normale (N) minimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta Ind.	Cont. N.br.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
			X	Y	Z	F1	F2	F3	M1	M2	M3
118	SLU 79	31	-22.32	-1.07	16.33	-49.71	1.09	4.93	-0.195	5.613	15.1171
101	SLV 7	31	-19.56	6.6	15.07	-47.43	6.98	-1.28	0.421	0.2018	-9.8609
100	SLV 7	31	-19.12	6.14	15.27	-46.75	5.89	-0.29	0.0526	0.9064	-2.7383
120	SLU 80	31	-23.19	-1.91	15.88	-45.28	8.91	-0.56	1.1579	0.9195	5.9149
99	SLV 7	31	-18.45	5.43	15.57	-45.09	3.11	1.17	-0.0325	1.1043	1.6039

### Sollecitazioni con sforzo normale (N) massimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta Ind.	Cont. N.br.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
			X	Y	Z	F1	F2	F3	M1	M2	M3
206	SLV 11	31	-18.45	-0.97	16.16	34.68	-0.41	0.2	0.0049	0.2987	1.2203
101	SLV 9	1	-19.12	6.14	15.27	31.03	0.14	1.7	0.5923	-0.6945	-6.67
128	SLV Y	1	-11.02	-3.49	14.99	30.23	-0.28	0.09	-0.0035	-0.1239	-0.3811
177	SLV 7	31	-6.29	-0.97	16.15	29.86	-0.64	-0.33	-0.0049	-0.4226	0.4679
100	SLV 9	1	-18.45	5.43	15.57	29.77	2.43	1.05	0.2053	-1.5623	-2.2637

### Sollecitazioni con momento M2 minimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta Ind.	Cont. N.br.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
			X	Y	Z	F1	F2	F3	M1	M2	M3
113	SLU 71	31	-20.24	0.96	17.43	-25.61	1.31	-1.36	-10.5348	-10.9201	-23.0716
95	SLU 71	31	-16.42	3.31	16.49	-24.8	-5.64	-0.96	-1.2307	-7.0628	40.7561
96	SLU 71	1	-16.42	3.31	16.49	-24.67	1.41	1.15	-1.0479	-6.9725	40.4436
344	SLV 11	31	-17.1	-0.97	16.16	9.15	5.06	-8.4	-0.177	-6.8693	-1.9505
337	SLV 7	1	-7.64	-0.97	16.15	10.29	-4.28	8.33	0.1378	-6.7476	-2.5406

### Sollecitazioni con momento M2 massimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta Ind.	Cont. N.br.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
			X	Y	Z	F1	F2	F3	M1	M2	M3
57	SLU 71	1	-4.75	1.05	17.46	2.08	16.21	-11.29	12.3427	12.1313	-13.4552
84	SLU 71	31	-8.31	3.35	16.48	-30.4	-5.58	0.76	1.0821	6.7866	38.6901
85	SLU 71	1	-8.31	3.35	16.48	-30.22	1.6	-1.32	0.8959	6.6792	38.3773
344	SLV 5	31	-17.1	-0.97	16.16	-11.18	-2.13	9.01	0.0902	6.2817	2.4289
337	SLV 9	1	-7.64	-0.97	16.15	-12.54	2.78	-8.6	-0.085	6.2813	2.4023

### Sollecitazioni con momento M3 minimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta Ind.	Cont. N.br.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
			X	Y	Z	F1	F2	F3	M1	M2	M3
112	SLU 80	31	-20.15	1.05	17.48	-17.75	34.97	-1.29	1.8205	-6.388	-32.9606
101	SLU 80	31	-19.56	6.6	15.07	-26.35	15.59	0.86	2.1905	1.8873	-31.3429
114	SLU 72	1	-20.24	0.96	17.43	-19.07	-34.02	-2.59	-1.5554	-2.5984	-29.334
90	SLU 80	31	-5.21	6.6	15.07	-29.46	11.23	-1.46	-3.1351	-2.8959	-28.8351
67	SLU 80	1	-4.75	1.05	17.46	-16.1	-29.21	1.56	-1.703	-6.048	-25.9758

### Sollecitazioni con momento M3 massimo

Vengono mostrate le sole 5 aste più sollecitate.

Asta Ind.	Cont. N.br.	Pos.	Posizione			Soll.traslazionale			Soll.rotazionale		
			X	Y	Z	F1	F2	F3	M1	M2	M3
95	SLU 71	31	-16.42	3.31	16.49	-24.8	-5.64	-0.96	-1.2307	-7.0628	40.7561
96	SLU 71	1	-16.42	3.31	16.49	-24.67	1.41	1.15	-1.0479	-6.9725	40.4436
84	SLU 71	31	-8.31	3.35	16.48	-30.4	-5.58	0.76	1.0821	6.7866	38.6901
85	SLU 71	1	-8.31	3.35	16.48	-30.22	1.6	-1.32	0.8959	6.6792	38.3773
97	SLU 71	1	-16.86	3.77	16.3	-24.59	8.09	0.75	-4.1555	-5.3734	35.6678

## 1.1.2 Sollecitazioni gusci

### 1.1.2.1 Convenzioni di segno gusci

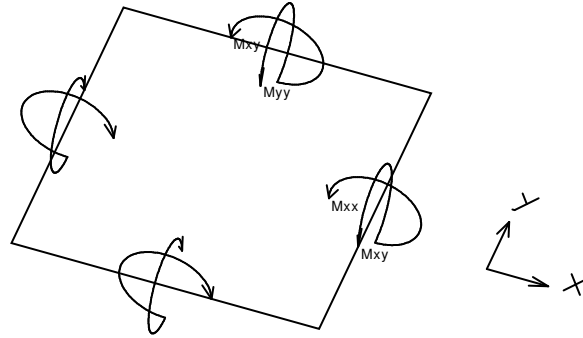
Sono individuate distinte convenzioni di segno in relazione al tipo di elemento strutturale a cui il guscio si riferisce:

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

#### Convenzione di segno per gusci non verticali

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

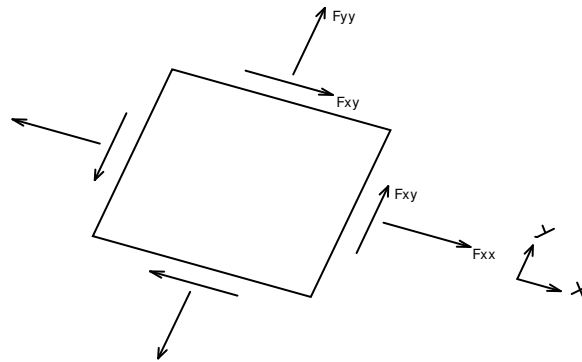
In figura è mostrato un elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione  $M_{xx}$ ,  $M_{yy}$ ,  $M_{xy}$ .



Si definiscono:

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

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



Si definiscono:

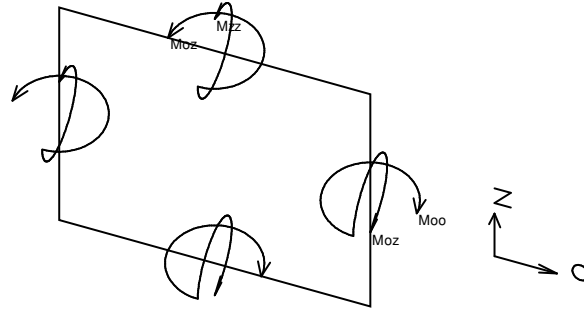
- $F_{xx}$ : sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale x (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- $F_{yy}$ : sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale all'asse y (verso positivo indicato dalla freccia in figura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

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

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

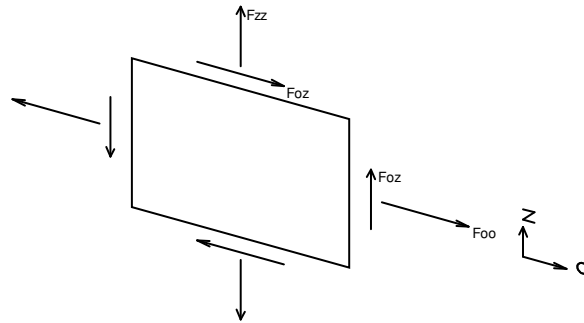
#### Convenzione di segno per gusci verticali

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



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

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



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

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

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

#### 1.1.2.2 Sollecitazioni estreme gusci

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

**Ind:** indice del guscio.

**Cont.:** contesto a cui si riferiscono le sollecitazioni.

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

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

**Ind:** indice del nodo.

**Sollecitazione:** valori della sollecitazione.

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

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

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

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

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

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

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

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

#### Sollecitazioni con momento M11 minimo

Vengono mostrati i soli 5 gusci più sollecitati.



Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
4784	SLV 7	13547	-28.98	0.28	8.26	-39	8	-263	-3299	16
4783	SLV 7	13547	-28.98	0.29	8.22	-39	-4	-261	-3299	23
53	SLV 5	3009	-20.6	-0.74	-10.42	467	240	-437	-94	29
8265	SLV 5	11250	-19.06	-3	9.55	112	-98	-172	119	-49
727	SLV 7	3398	-17.81	0.69	-10.76	-166	-211	-428	72	26

#### Sollecitazioni con momento M11 massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
4783	SLV 9	13547	28.98	-0.23	-8.21	35	-1	-69	3299	-22
4784	SLV 9	13547	28.98	-0.22	-8.26	35	0	-75	3299	-16
8265	SLV 11	11250	18.65	2.95	-9.75	-48	16	-112	-116	50
16530	SLV 9	3035	18.05	0.56	9.09	324	199	-326	74	-28
14094	SLV 9	3171	17.27	4.48	13.74	-213	-11	-174	-59	-106

#### Sollecitazioni con momento M22 minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
4568	SLU 81	12837	-5.04	-0.96	-16.78	-18	13	-163	33	307
14549	SLV 1	18682	-3.23	2.77	-16.02	138	81	-24	-16	50
14659	SLV 5	18701	-2.78	3.27	-15.31	-88	-48	196	-14	39
8703	SLV 9	18702	-2.62	-2.99	-14.33	-79	37	158	13	36
8305	SLV 9	11188	-12.47	2.67	-13.94	-92	-31	-37	66	-38

#### Sollecitazioni con momento M22 massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
9322	SLU 80	19434	8.41	3.99	41.5	-32	-35	15	-30	-175
9319	SLU 80	19434	2.2	-8.39	29.26	13	-15	-104	25	-69
9332	SLU 80	19425	8	1.92	27.24	-16	-30	-126	-39	-74
9331	SLU 80	19425	7.61	-1.08	27.14	-62	76	38	17	-74
9323	SLU 80	19436	0.55	3.85	22.04	-19	-13	-19	-5	-62

#### Sollecitazioni con sforzo F11 minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
8959	SLU 80	19392	-3.14	0.41	-3.42	-2462	-1079	-1675	10	-31
8960	SLU 79	19401	-0.09	-0.5	3.18	-1571	-508	-987	-20	-14
4808	SLU 79	18119	-0.62	0.69	-3.71	-892	-253	-1088	-520	3
4787	SLU 71	18721	-2.08	-1.13	-2.84	-848	-1027	-2384	37	31
12157	SLU 71	18725	0.41	0.13	-0.01	-810	289	-456	-8	6

#### Sollecitazioni con sforzo F11 massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
8959	SLU 72	19454	3.76	-0.17	6.45	2545	348	-188	11	-31
8960	SLU 72	19452	-2.88	-1.61	3.74	1679	907	1580	-21	-14
4787	SLU 79	18120	8.37	-0.59	3.4	935	788	1208	-474	92
12157	SLU 71	18058	-0.23	0.15	0.76	934	-554	996	-8	6
14551	SLU 71	17832	-0.17	0.02	0.22	827	-89	-195	0	0

#### Sollecitazioni con sforzo F22 minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
4787	SLU 71	18721	-2.08	-1.13	-2.84	-848	-1027	-2384	37	31
8959	SLU 72	19392	-3.15	0.41	-3.41	-2453	-1075	-1678	11	-31
8960	SLU 72	19454	5.8	-0.93	7.16	670	-797	-1669	-21	-14
15380	SLV 9	3660	0.14	-0.61	0.41	114	-44	-1639	2	-1
9349	SLU 72	19346	-1.7	-0.57	-3	-565	1035	-1523	-14	-33

#### Sollecitazioni con sforzo F22 massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	M11	M12	M22	F11	F12	F22	V13	V23
8960	SLU 80	19452	-2.92	-1.61	3.71	1669	909	1588	-22	-14
4787	SLU 71	18119	1.17	0.4	3.48	750	1174	1258	-427	87
15380	SLV Y	2931	0.46	0.26	-0.52	233	137	1232	6	1
15352	SLV Y	2930	0.26	-0.19	0.5	261	22	1195	-1	1
12310	SLU 71	18060	0.74	-0.59	0.7	573	682	1162	-1	11

#### 1.1.2.3 Sollecitazioni estreme gusci non verticali

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

**Ind:** indice del guscio.

**Cont.:** contesto a cui si riferiscono le sollecitazioni.

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

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





Ind: indice del nodo.

Sollecitazione: valori della sollecitazione.

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

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

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

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

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

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

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

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

#### Sollecitazioni con momento Mxx minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
7406	SLV 1	3135	-7.08	-0.36	-3.29	14	85	68	18	9
7405	SLV 1	3135	-6.98	0.33	-3.48	31	-9	85	18	-8
7772	SLV 15	3107	-5.87	-1.17	-2.49	-182	47	-70	-23	-7
7771	SLV 15	3107	-5.08	0.93	-2.08	-195	37	-40	-13	10
9026	SLV 7	18567	-3.95	0.24	-4.37	-18	-3	14	-13	-18

#### Sollecitazioni con momento Mxx massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
16708	SLV 15	3110	5.21	-0.07	3.95	-93	-45	-19	-21	1
7406	SLV X	3135	3.74	0.22	2.43	-81	-42	-78	-8	-6
7405	SLV X	3135	3.68	-0.17	2.04	-92	23	-87	-8	5
9031	SLV 5	18562	3.68	0.26	5.62	-12	-5	-20	15	25
9032	SLV 9	18562	3.58	-0.43	4.92	7	7	17	-14	18

#### Sollecitazioni con momento Myy minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
9031	SLV 11	18562	-3.63	-0.27	-5.85	-7	-7	-29	-15	-26
9032	SLV 11	18562	-3.16	0.36	-5.65	-4	-4	-28	16	-21
9026	SLV 7	18567	-3.95	0.24	-4.37	-18	-3	14	-13	-18
7406	SLV 3	3135	-6.59	-0.47	-4.22	31	63	90	17	10
9047	SLV 7	18546	-3.52	0.17	-4.2	-3	-4	-6	-10	-14

#### Sollecitazioni con momento Myy massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
9031	SLV 5	18562	3.68	0.26	5.62	-12	-5	-20	15	25
9032	SLV 5	18562	3.2	-0.32	5.43	-10	-3	-19	-15	20
16708	SLV 15	3110	5.21	-0.07	3.95	-93	-45	-19	-21	1
9026	SLV 9	18567	3.4	-0.31	3.65	9	-5	-87	11	15
1057	SLV 13	3169	2.29	1.66	3.63	-127	-14	-377	-4	-11

#### Sollecitazioni con sforzo Fxx minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
7772	SLV 11	3111	-1.65	-1.24	0.19	-436	90	-74	0	-10
7415	SLV 5	3547	0.63	0.44	0.55	-427	96	-120	7	-1
7394	SLV 7	3611	0.58	-0.42	0.66	-395	-92	-120	7	2
1056	SLU 84	2812	0.01	-0.04	-0.13	-385	187	-128	-1	1
9447	SLV 5	2922	-0.52	-0.17	-0.35	-375	-95	-59	-2	2

#### Sollecitazioni con sforzo Fxx massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
1057	SLV 7	3133	-1.12	-1.26	-1.27	216	248	531	0	4
1056	SLV Y	2798	0.42	0.14	0.13	172	-2	-2	0	1
18146	SLV X	7057	0.58	-0.31	0.45	160	-6	-5	0	0
18140	SLV X	6055	-0.43	0.26	-0.43	156	-3	-20	1	0
7415	SLV Y	3547	-0.21	-0.13	-0.32	142	-51	68	-2	1

#### Sollecitazioni con sforzo Fyy minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
1057	SLV 9	3169	1.62	1.35	3.53	-128	-131	-447	-2	-11
7416	SLV 5	3054	-1.49	0.42	-2.07	-260	169	-409	6	-2
7393	SLV 7	3290	-1.42	-0.26	-2.03	-230	-147	-390	6	1
25	SLU 84	67	-0.03	0	-0.13	-75	-10	-359	0	0
16502	SLU 84	68	-0.03	-0.01	-0.11	-69	13	-336	0	0



## Sollecitazioni con sforzo Fyy massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Mxx	Mxy	Myy	Fxx	Fxy	Fyy	Vx	Vy
1057	SLV 7	3133	-1.12	-1.26	-1.27	216	248	531	0	4
7416	SLV Y	3054	0.64	-0.01	0.85	68	-52	155	-2	0
25	SLV X	414	-0.07	0.15	-0.59	15	-32	141	0	-4
7393	SLV X	3290	0.52	0.17	0.8	108	35	130	-2	-1
2821	SLU 84	3785	-0.03	0.19	-0.15	6	59	128	2	-1

### 1.1.2.4 Sollecitazioni estreme gusci verticali

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

**Ind:** indice del guscio.

**Cont.:** contesto a cui si riferiscono le sollecitazioni.

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

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

**Ind:** indice del nodo.

**Sollecitazione:** valori della sollecitazione.

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

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

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

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

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

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

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

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

## Sollecitazioni con momento Moo minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
4784	SLV 7	13547	-28.98	0.28	8.26	-39	8	-263	-3299	16
4783	SLV 7	13547	-28.98	0.29	8.22	-39	-4	-261	-3299	23
8265	SLV 5	11250	-19.06	-3	9.55	112	-98	-172	119	-49
727	SLV 7	3398	-17.81	0.69	-10.76	-166	-211	-428	72	26
14094	SLV 9	3171	-17.27	4.48	-13.74	-213	11	-174	-59	106

## Sollecitazioni con momento Moo massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
4783	SLV 9	13547	28.98	-0.23	-8.21	35	-1	-69	3299	-22
4784	SLV 9	13547	28.98	-0.22	-8.26	35	0	-75	3299	-16
53	SLV 5	3009	20.6	-0.74	10.42	467	-240	-437	-94	-29
8265	SLV 11	11250	18.65	2.95	-9.75	-48	16	-112	-116	50
16530	SLV 9	3035	18.05	0.56	9.09	324	199	-326	74	-28

## Sollecitazioni con momento Mzz minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
9322	SLU 80	19434	-8.41	3.99	-41.5	-32	35	15	-30	175
9319	SLU 80	19434	-2.2	-8.39	-29.26	13	15	-104	25	69
9332	SLU 80	19425	-8	1.92	-27.24	-16	30	-126	-39	74
9331	SLU 80	19425	-7.61	-1.08	-27.14	-62	-76	38	17	74
9323	SLU 80	19436	-0.55	3.85	-22.04	-19	13	-19	-5	62

## Sollecitazioni con momento Mzz massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
12450	SLU 71	18742	1.54	1.62	18.88	-3	1	-16	-15	-99
12445	SLU 71	18750	1.4	-0.86	18.02	-1	-1	-17	9	-86
12441	SLU 71	18740	2.26	3.25	17.75	-11	0	-26	-11	-65
12436	SLU 71	18752	2.07	-3.21	17.11	-9	0	-25	11	-57
12432	SLU 71	18744	-1.66	-0.89	16.71	-6	1	-18	-14	-80

## Sollecitazioni con sforzo Foo minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
8959	SLU 80	19392	3.14	0.41	3.42	-2462	1079	-1675	10	31
8960	SLU 79	19401	0.09	-0.5	-3.18	-1571	508	-987	-20	14
4808	SLU 79	18119	-0.62	0.69	-3.71	-892	-253	-1088	-520	3
4787	SLU 71	18721	-2.08	-1.13	-2.84	-848	-1027	-2384	37	31
12157	SLU 71	18725	0.41	0.13	-0.01	-810	289	-456	-8	6

## Sollecitazioni con sforzo Foo massimo

Vengono mostrati i soli 5 gusci più sollecitati.



Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
8959	SLU 72	19454	-3.76	-0.17	-6.45	2545	-348	-188	11	31
8960	SLU 72	19452	2.88	-1.61	-3.74	1679	-907	1580	-21	14
4787	SLU 79	18120	8.37	-0.59	3.4	935	788	1208	-474	92
12157	SLU 71	18058	-0.23	0.15	0.76	934	-554	996	-8	6
14551	SLU 71	17832	-0.17	0.02	0.22	827	-89	-195	0	0

#### Sollecitazioni con sforzo Fzz minimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
4787	SLU 71	18721	-2.08	-1.13	-2.84	-848	-1027	-2384	37	31
8959	SLU 72	19392	3.15	0.41	3.41	-2453	1075	-1678	11	31
8960	SLU 72	19454	-5.8	-0.93	-7.16	670	797	-1669	-21	14
15380	SLV 9	3660	0.14	-0.61	0.41	114	-44	-1639	2	-1
9349	SLU 72	19346	1.7	-0.57	3	-565	-1035	-1523	-14	33

#### Sollecitazioni con sforzo Fzz massimo

Vengono mostrati i soli 5 gusci più sollecitati.

Shell	Cont.	Nodo	Sollecitazione							
Ind	N.br.	Ind	Moo	Moz	Mzz	Foo	Foz	Fzz	Vo	Vz
8960	SLU 80	19452	2.92	-1.61	-3.71	1669	-909	1588	-22	14
4787	SLU 71	18119	1.17	0.4	3.48	750	1174	1258	-427	87
15380	SLV Y	2931	0.46	0.26	-0.52	233	137	1232	6	1
15352	SLV Y	2930	0.26	-0.19	0.5	261	22	1195	-1	1
12310	SLU 71	18060	0.74	-0.59	0.7	573	682	1162	-1	11

### 1.1.3 Sollecitazioni gusci armati

#### 1.1.3.1 Convenzioni di segno gusci

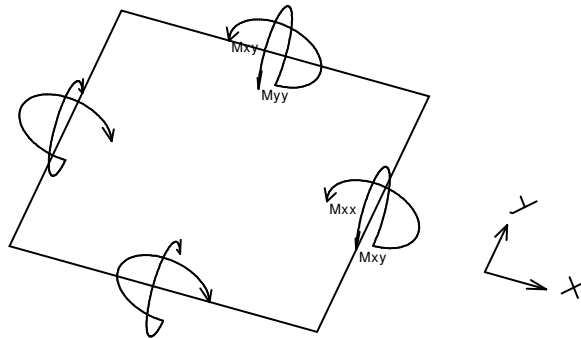
Sono individuate distinte convenzioni di segno in relazione al tipo di elemento strutturale a cui il guscio si riferisce:

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

#### Convenzione di segno per gusci non verticali

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

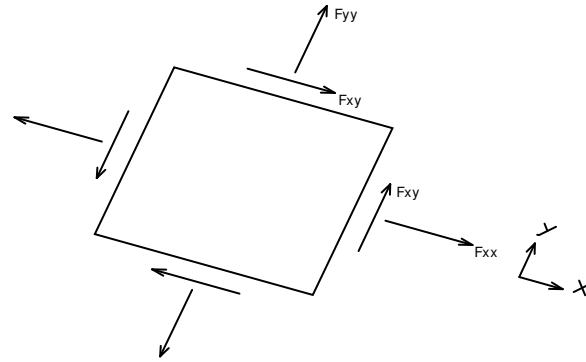
In figura è mostrato un elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione  $M_{xx}$ ,  $M_{yy}$ ,  $M_{xy}$ .



Si definiscono:

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

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



Si definiscono:

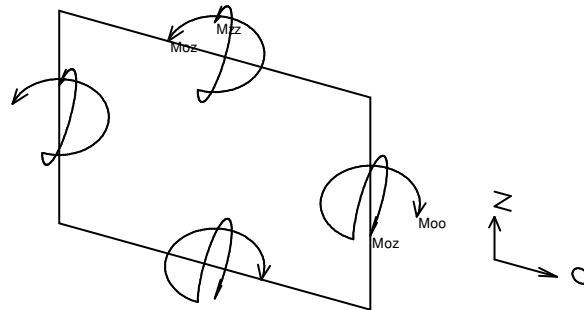
- $F_{xx}$ : sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale  $x$  (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- $F_{yy}$ : sforzo estensionale [Forza/Lunghezza] agente sul bordo di normale all'asse  $y$  (verso positivo indicato dalla freccia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

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

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

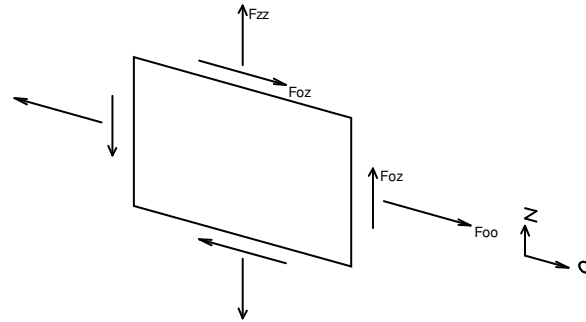
#### Convenzione di segno per gusci verticali

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



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

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



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

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

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

### 1.1.4 Sollecitazioni gusci muratura

#### 1.1.4.1 Convenzioni di segno gusci muratura

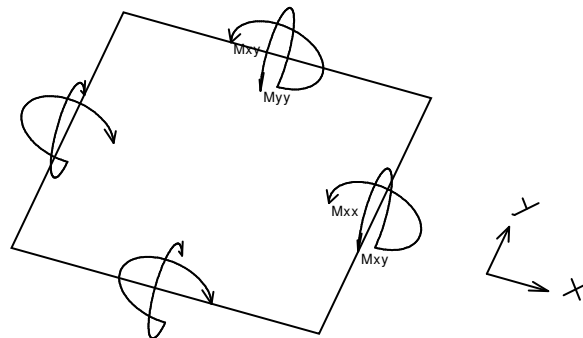
Sono individuate distinte convenzioni di segno in relazione al tipo di elemento strutturale a cui il guscio muratura si riferisce:

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

#### Convenzione di segno per gusci non verticali

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

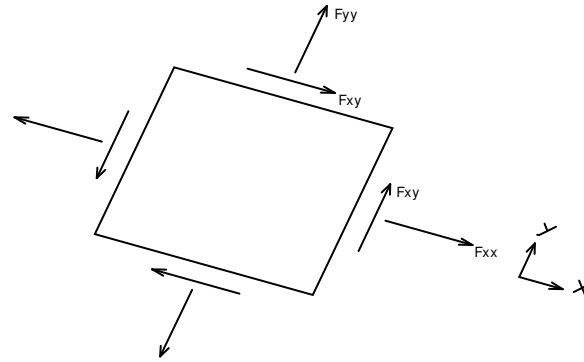
In figura è mostrato un elemento infinitesimo di shell orizzontale con indicato il sistema di riferimento e i parametri di sollecitazione  $M_{xx}$ ,  $M_{yy}$ ,  $M_{xy}$ .



Si definiscono:

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

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

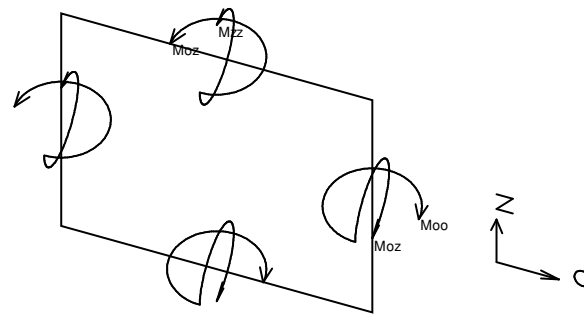


Si definiscono:

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

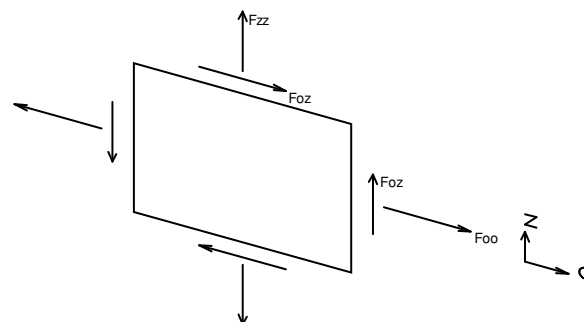
#### Convenzione di segno per gusci verticali

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



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

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



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



in trazione l'elemento);

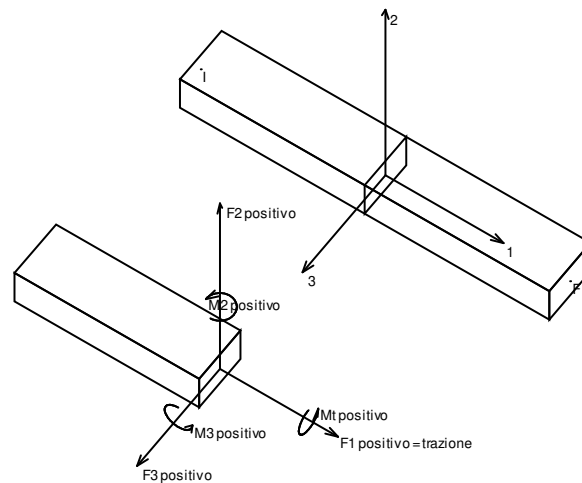
- $F_{oo}$ : sforzo tensionale distribuito [Forza/Lunghezza] applicato al bordo di normale parallela all'asse O (verso positivo indicato dalla freccia in figura che mette in trazione l'elemento);
- $F_{oz}$ : sforzo tagliante distribuito [Forza/Lunghezza] applicato sui bordi (verso positivo indicato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

## 1.1.5 Sollecitazioni aste in muratura

### 1.1.5.1 Convenzioni di segno aste

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

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



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

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

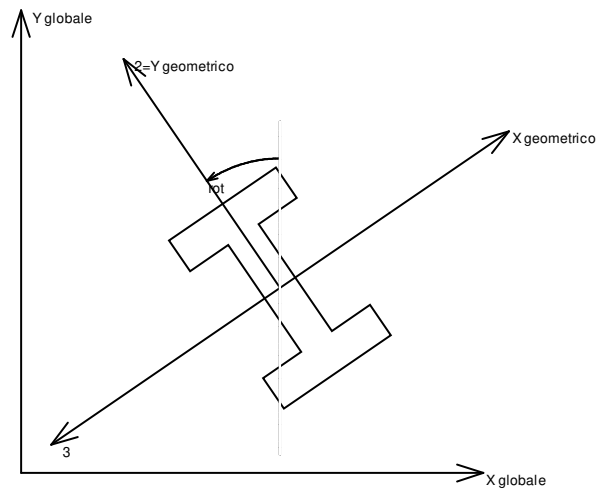
Il sistema è definito diversamente per tre categorie di aste, a seconda che siano originate da:

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

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

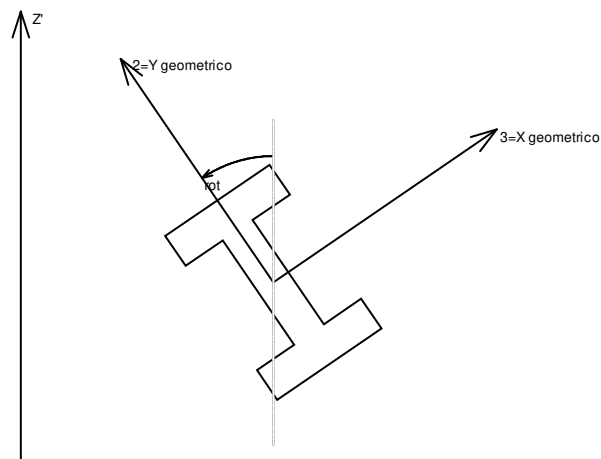


## Sistema locale aste verticali



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

## Sistema locale aste non verticali

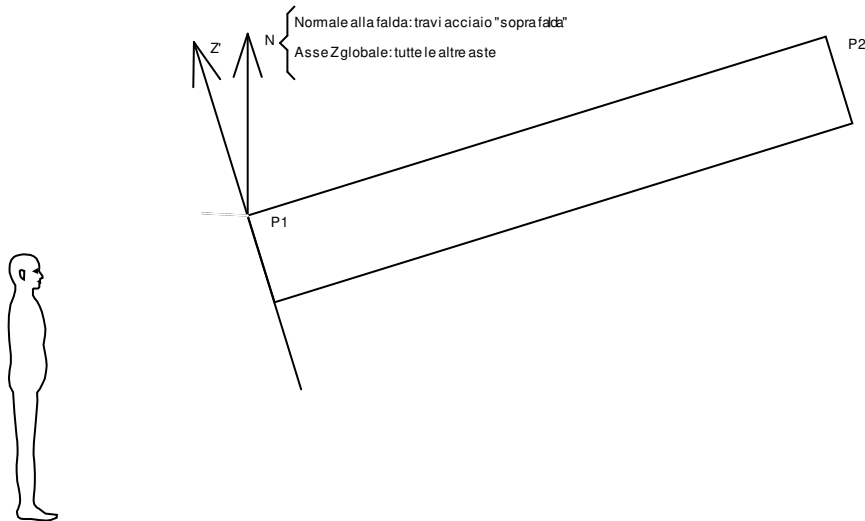


Nella figura si considera l'asse 1 entrante nel foglio (l'osservatore guarda in direzione coincidente a quella dell'asse 1).

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

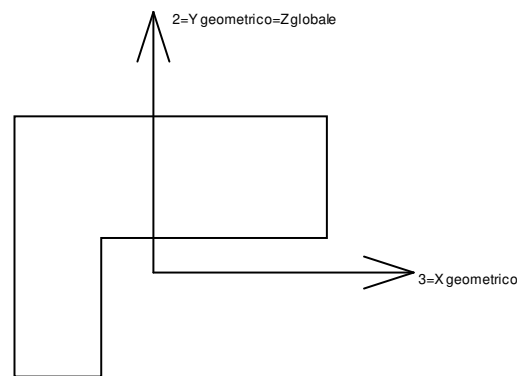
- P1 è il punto di inserimento iniziale dell'asta;
- P2 è il punto di inserimento finale dell'asta;
- N è la normale al piano o falda di inserimento;





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

**Sistema locale aste derivanti da travi in c.a.**



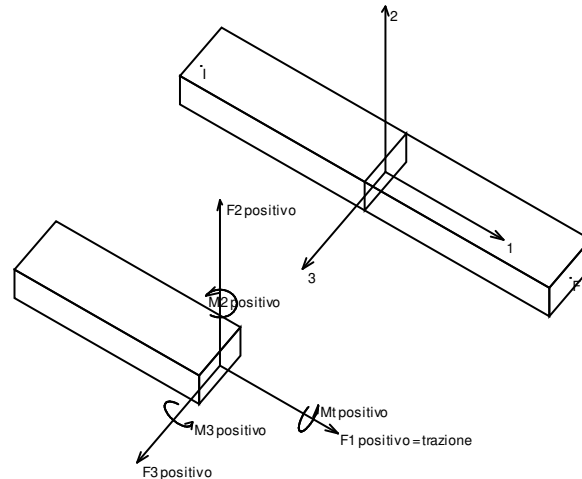
Nella figura si considera l'asse 1 entrante nel foglio (l'osservatore guarda in direzione coincidente a quella dell'asse 1). L'asse 2 è sempre verticale e quindi coincidente con l'asse  $Z$  globale nonché con l'asse  $y$  geometrico. L'asse 3 coincide con l'asse  $x$  geometrico. Si sottolinea il fatto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

### 1.1.6 Sollecitazioni aste in muratura FRCM

#### 1.1.6.1 Convenzioni di segno aste

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

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



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

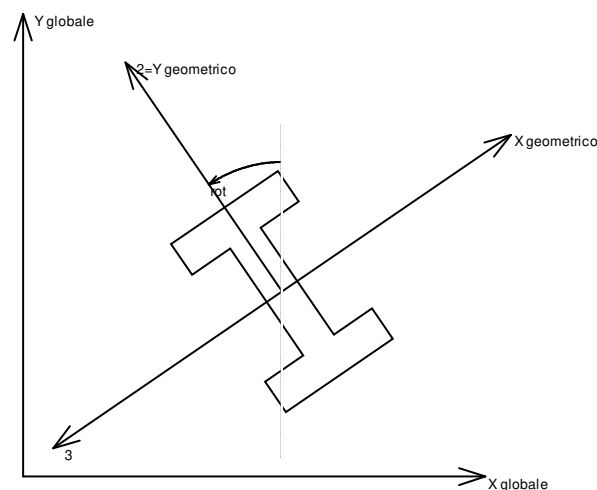
presa un'asta con nodo iniziale  $i$  e nodo finale  $f$ , asse 1 che va da  $i$  a  $f$ , assi 2 e 3 presi secondo quanto indicato nei paragrafi successivi relativi al sistema locale delle aste sezionando l'asta in un punto e considerando la sezione sinistra del punto in cui si è effettuato il taglio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

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

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

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

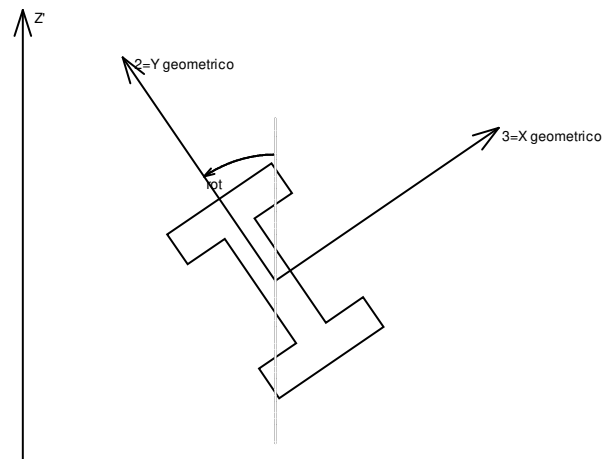
#### Sistema locale aste verticali



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



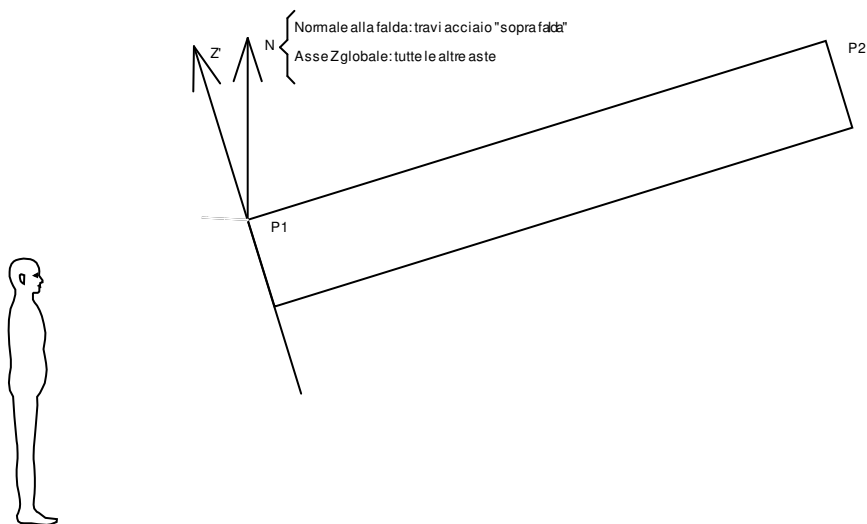
## Sistema locale aste non verticali



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

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

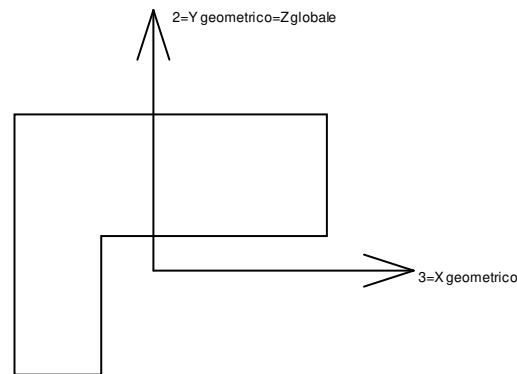
- $P1$  è il punto di inserimento iniziale dell'asta;
- $P2$  è il punto di inserimento finale dell'asta;
- $N$  è la normale al piano o falda di inserimento;



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



## Sistema locale aste derivanti da travi in c.a.



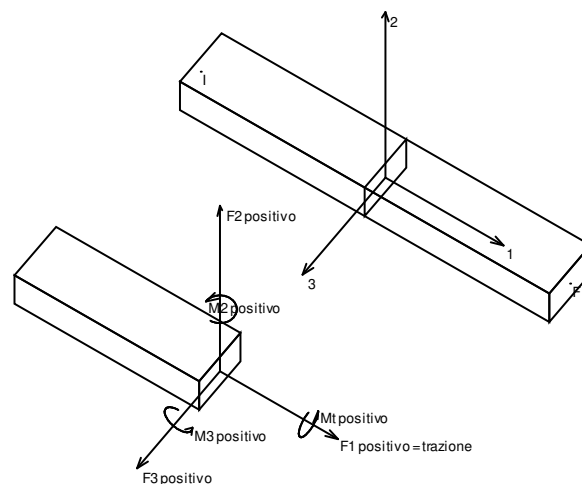
Nella figura si considera l'asse 1 entrante nel foglio (l'osservatore guarda in direzione coincidente a quella dell'asse 1). L'asse 2 è sempre verticale e quindi coincidente con l'asse Z globale nonché con l'asse y geometrico. L'asse 3 coincide con l'asse x geometrico. Si sottolinea il fatto che gli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

### 1.1.7 Sollecitazioni aste in muratura armata

#### 1.1.7.1 Convenzioni di segno aste

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

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



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

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

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

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

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

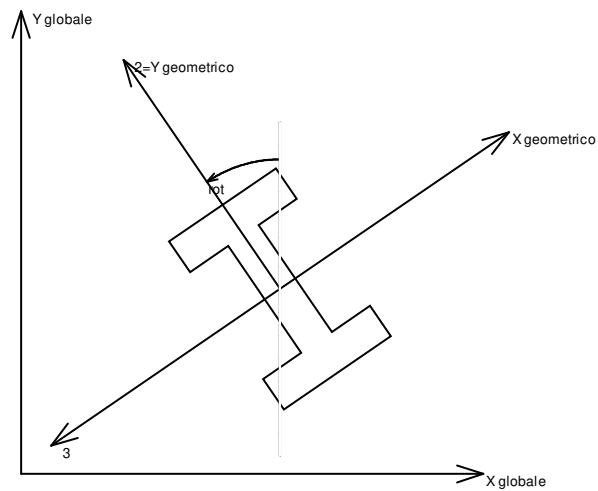
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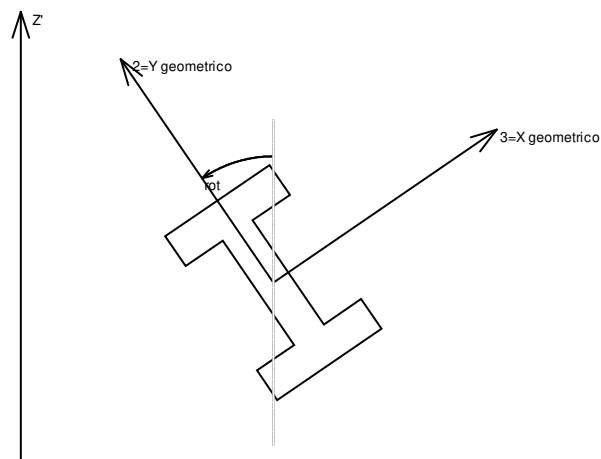
assi rispetto a cui si ha il raggio di inerzia minimo e massimo. Gli assi 1, 2 e 3 rispettano la regola della mano destra.

#### Sistema locale aste verticali



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

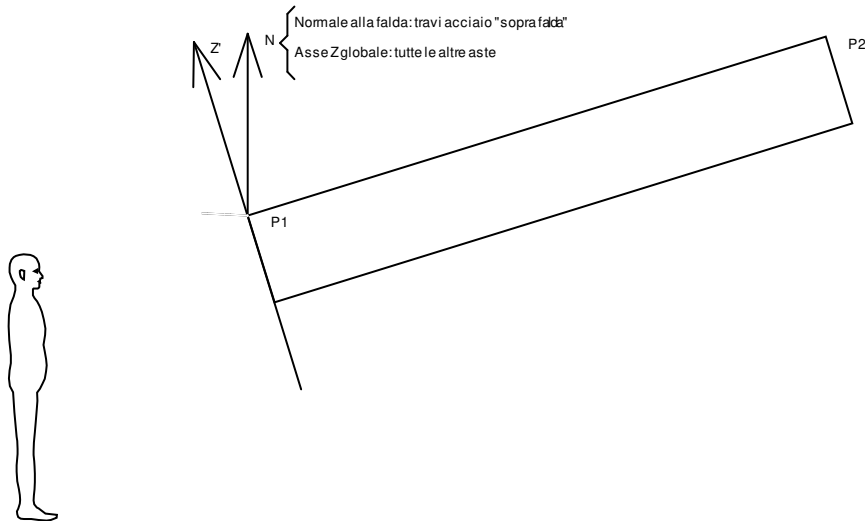
#### Sistema locale aste non verticali



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

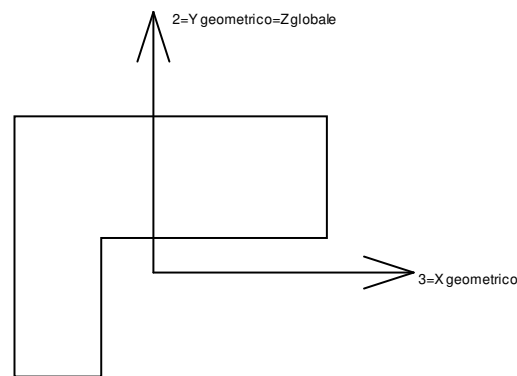
L'asse Z' è illustrato nella figura seguente dove:

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



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

**Sistema locale aste derivanti da travi in c.a.**



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

## 1.2 Reazioni nodali

### 1.2.1 Reazioni nodali estreme

**Nodo:** Nodo sollecitato dalla reazione vincolare.

**Ind.:** indice del nodo.

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

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

**Reazione a traslazione:** reazione vincolare traslazionale del nodo.

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

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

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

**Reazione a rotazione:** reazione vincolare rotazionale del nodo.

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

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

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

#### Reazioni Fx minime

Vengono mostrati i soli 5 nodi più sollecitati.



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
220	SLV 15	-40.43	-0.01	94.64	0.0798	-1.8294	0
219	SLV 15	-37.43	-0.03	83.58	0.1684	-1.6344	0.0003
218	SLV 15	-35.26	-0.2	77.43	0.2729	-1.541	0.0007
217	SLV 15	-33.99	-0.31	72.27	0.3821	-1.491	0.0012
188	SLV 15	-33.4	0.62	113.82	0.0617	-1.0251	0.0134

#### Reazioni Fx massime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
181	SLV 3	39.55	0.14	108.33	-0.0257	1.8832	0
182	SLV 3	39.3	0.12	96.68	-0.0409	1.8514	-0.0001
183	SLV 3	37.81	0.07	79.87	-0.0405	1.7523	0.0001
184	SLV 3	35.61	0.06	79.66	-0.0423	1.681	0.0001
165	SLV 3	34.71	-0.41	122.09	0.1481	1.8588	0.0002

#### Reazioni Fy minime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
329	SLV 11	0.04	-30.89	55.21	1.7012	0.0376	0.0001
287	SLV 7	0.55	-28.51	103.29	1.6167	-0.1506	-0.001
372	SLV 7	-0.23	-24.82	87.15	0.7656	-0.0662	-0.0102
327	SLV 11	-13.12	-23.99	130.3	-10.8508	-0.3517	-2.9829
324	SLV 7	-0.06	-23.77	61.56	0.9547	-0.0521	-0.0001

#### Reazioni Fy massime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
31	SLV 5	0.04	32.72	63.02	-1.5582	0.0154	-0.0001
32	SLV 5	-0.06	31.68	60.44	-1.5152	-0.0274	-0.0001
98	SLV 5	0.52	28.86	117.39	-1.6848	-0.1579	0.0011
97	SLV 9	-0.51	26.95	110.62	-1.3462	0.12	-0.0008
35	SLV 5	0.08	26.71	56.6	-1.0719	0.0247	-0.0005

#### Reazioni Fz minime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
222	SLV X	-16.09	8.89	-74.68	8.796	-0.569	-3.5848
199	SLV X	-22.09	0.07	-66.73	-0.0481	-1.3305	0.0001
198	SLV X	-20.73	-0.35	-60.57	-0.0352	-0.7308	0.0081
44	SLV X	-10.22	-5.52	-59.93	0.0753	-0.3258	0.0026
180	SLV X	-19.93	2.63	-56.02	-0.1163	-1.1457	0.0048

#### Reazioni Fz massime

Vengono mostrati i soli 5 nodi più sollecitati.

Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
221	SLV 15	-31.02	-2.26	187.49	0.079	-1.1527	0.0012
222	SLV 3	31.87	-22.06	166.88	-18.4547	1.0638	7.0571
180	SLV 3	32.08	-8.93	161.44	0.2692	1.7899	-0.0175
187	SLV 15	-29.77	-0.15	159.09	0.1237	-1.704	-0.0004
90	SLV 13	-19.09	22.26	152.48	-0.5808	-0.5801	-0.0009

### 1.2.2 Reazioni nodali in combinazioni di carico

**Nodo:** Nodo sollecitato dalla reazione vincolare.

**Ind.:** indice del nodo.

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

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

**Reazione a traslazione:** reazione vincolare traslazionale del nodo.

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

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

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

**Reazione a rotazione:** reazione vincolare rotazionale del nodo.

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

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

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

Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
3	SLU 1	3.93	2.84	20.02	-1.8221	0.1104	-0.011
3	SLU 2	3.93	2.1	17.21	-1.2898	0.1129	-0.0109
3	SLU 3	3.95	2.8	19.78	-1.7816	0.1117	-0.0109
3	SLU 4	3.95	2.36	18.09	-1.4623	0.1131	-0.0109
3	SLU 5	3.93	2.03	16.84	-1.2331	0.114	-0.0108
3	SLU 6	3.96	2.73	19.4	-1.7249	0.1128	-0.0108
3	SLU 7	3.95	2.29	17.72	-1.4056	0.1142	-0.0107
3	SLU 8	3.95	2.7	19.28	-1.7087	0.1127	-0.0107



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
3	SLU 9	3.94	2.26	17.59	-1.3893	0.1141	-0.0106
3	SLU 10	4.16	2.29	17.83	-1.3305	0.121	-0.0124
3	SLU 11	4.19	2.98	20.4	-1.8223	0.1199	-0.0124
3	SLU 12	4.18	2.54	18.71	-1.5029	0.1213	-0.0124
3	SLU 13	4.17	2.22	17.46	-1.2738	0.1222	-0.0122
3	SLU 14	4.19	2.92	20.02	-1.7656	0.121	-0.0123
3	SLU 15	4.19	2.47	18.34	-1.4462	0.1224	-0.0122
3	SLU 16	4.18	2.89	19.9	-1.7493	0.1208	-0.0122
3	SLU 17	4.18	2.44	18.21	-1.4299	0.1223	-0.0121
3	SLU 18	4.27	3.11	20.91	-1.8801	0.1221	-0.0131
3	SLU 19	4.27	2.66	19.22	-1.5608	0.1236	-0.0131
3	SLU 20	4.28	3.04	20.54	-1.8234	0.1232	-0.0129
3	SLU 21	4.27	2.59	18.85	-1.5041	0.1247	-0.0129
3	SLU 22	4.06	2.95	20.23	-1.8254	0.1148	-0.0119
3	SLU 23	4.05	2.21	17.42	-1.2932	0.1172	-0.0118
3	SLU 24	4.07	2.91	19.98	-1.785	0.116	-0.0119
3	SLU 25	4.07	2.46	18.3	-1.4656	0.1175	-0.0118
3	SLU 26	4.05	2.14	17.05	-1.2365	0.1183	-0.0117
3	SLU 27	4.08	2.84	19.61	-1.7283	0.1171	-0.0117
3	SLU 28	4.07	2.39	17.92	-1.4089	0.1186	-0.0116
3	SLU 29	4.07	2.81	19.48	-1.712	0.117	-0.0116
3	SLU 30	4.06	2.37	17.8	-1.3927	0.1185	-0.0115
3	SLU 31	4.28	2.39	18.04	-1.3338	0.1254	-0.0133
3	SLU 32	4.31	3.09	20.6	-1.8256	0.1242	-0.0133
3	SLU 33	4.3	2.65	18.92	-1.5063	0.1257	-0.0133
3	SLU 34	4.29	2.32	17.67	-1.2771	0.1265	-0.0131
3	SLU 35	4.32	3.02	20.23	-1.7689	0.1253	-0.0132
3	SLU 36	4.31	2.58	18.54	-1.4496	0.1268	-0.0131
3	SLU 37	4.3	2.99	20.1	-1.7526	0.1252	-0.0131
3	SLU 38	4.3	2.55	18.42	-1.4333	0.1266	-0.013
3	SLU 39	4.39	3.21	21.11	-1.8835	0.1265	-0.014
3	SLU 40	4.39	2.77	19.43	-1.5641	0.1279	-0.014
3	SLU 41	4.4	3.14	20.74	-1.8268	0.1276	-0.0139
3	SLU 42	4.39	2.7	19.06	-1.5074	0.129	-0.0138
3	SLU 43	5.07	3.66	25.96	-2.3675	0.1421	-0.014
3	SLU 44	5.06	2.92	23.15	-1.8353	0.1445	-0.0139
3	SLU 45	5.09	3.62	25.71	-2.3271	0.1433	-0.0139
3	SLU 46	5.09	3.17	24.02	-2.0078	0.1448	-0.0139
3	SLU 47	5.07	2.85	22.78	-1.7786	0.1456	-0.0137
3	SLU 48	5.1	3.55	25.34	-2.2704	0.1444	-0.0138
3	SLU 49	5.09	3.1	23.65	-1.9511	0.1459	-0.0137
3	SLU 50	5.09	3.52	25.21	-2.2541	0.1443	-0.0137
3	SLU 51	5.08	3.08	23.53	-1.9348	0.1457	-0.0136
3	SLU 52	5.3	3.11	23.77	-1.8759	0.1527	-0.0154
3	SLU 53	5.33	3.8	26.33	-2.3678	0.1515	-0.0154
3	SLU 54	5.32	3.36	24.64	-2.0484	0.153	-0.0153
3	SLU 55	5.31	3.04	23.39	-1.8192	0.1538	-0.0152
3	SLU 56	5.33	3.73	25.96	-2.311	0.1526	-0.0152
3	SLU 57	5.33	3.29	24.27	-1.9917	0.1541	-0.0152
3	SLU 58	5.32	3.7	25.83	-2.2948	0.1525	-0.0151
3	SLU 59	5.32	3.26	24.15	-1.9754	0.1539	-0.0151
3	SLU 60	5.41	3.92	26.84	-2.4256	0.1538	-0.0161
3	SLU 61	5.4	3.48	25.16	-2.1063	0.1552	-0.016
3	SLU 62	5.42	3.85	26.47	-2.3689	0.1549	-0.0159
3	SLU 63	5.41	3.41	24.79	-2.0496	0.1563	-0.0159
3	SLU 64	5.19	3.76	26.16	-2.3709	0.1464	-0.0149
3	SLU 65	5.19	3.03	23.35	-1.8387	0.1488	-0.0148
3	SLU 66	5.21	3.72	25.92	-2.3305	0.1477	-0.0148
3	SLU 67	5.21	3.28	24.23	-2.0111	0.1491	-0.0148
3	SLU 68	5.19	2.96	22.98	-1.7819	0.15	-0.0147
3	SLU 69	5.22	3.65	25.55	-2.2738	0.1488	-0.0147
3	SLU 70	5.21	3.21	23.86	-1.9544	0.1502	-0.0146
3	SLU 71	5.21	3.62	25.42	-2.2575	0.1486	-0.0146
3	SLU 72	5.2	3.18	23.73	-1.9381	0.1501	-0.0145
3	SLU 73	5.42	3.21	23.97	-1.8793	0.157	-0.0163
3	SLU 74	5.45	3.91	26.54	-2.3711	0.1559	-0.0163
3	SLU 75	5.44	3.46	24.85	-2.0518	0.1573	-0.0163
3	SLU 76	5.43	3.14	23.6	-1.8226	0.1581	-0.0161
3	SLU 77	5.45	3.84	26.17	-2.3144	0.157	-0.0162
3	SLU 78	5.45	3.39	24.48	-1.995	0.1584	-0.0161
3	SLU 79	5.44	3.81	26.04	-2.2981	0.1568	-0.0161
3	SLU 80	5.44	3.37	24.35	-1.9788	0.1583	-0.016
3	SLU 81	5.53	4.03	27.05	-2.429	0.1581	-0.017
3	SLU 82	5.53	3.59	25.36	-2.1096	0.1596	-0.0169
3	SLU 83	5.54	3.96	26.68	-2.3723	0.1592	-0.0168
3	SLU 84	5.53	3.52	24.99	-2.0529	0.1607	-0.0168
3	SLE RA 1	3.97	2.87	20.08	-1.823	0.1117	-0.0113
3	SLE RA 2	3.96	2.38	18.21	-1.4682	0.1133	-0.0112
3	SLE RA 3	3.98	2.84	19.92	-1.7961	0.1125	-0.0112
3	SLE RA 4	3.98	2.55	18.79	-1.5832	0.1135	-0.0112
3	SLE RA 5	3.97	2.33	17.96	-1.4304	0.114	-0.0111
3	SLE RA 6	3.98	2.8	19.67	-1.7583	0.1133	-0.0111
3	SLE RA 7	3.98	2.5	18.54	-1.5454	0.1142	-0.0111
3	SLE RA 8	3.98	2.78	19.59	-1.7474	0.1132	-0.011
3	SLE RA 9	3.97	2.48	18.46	-1.5345	0.1141	-0.011
3	SLE RA 10	4.12	2.5	18.62	-1.4953	0.1188	-0.0122
3	SLE RA 11	4.14	2.97	20.33	-1.8232	0.118	-0.0122
3	SLE RA 12	4.13	2.67	19.21	-1.6103	0.1189	-0.0122





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
Ind.	N.br.						
3	SLE RA 13	4.12	2.46	18.37	-1.4575	0.1195	-0.0121
3	SLE RA 14	4.14	2.92	20.08	-1.7854	0.1187	-0.0121
3	SLE RA 15	4.14	2.63	18.96	-1.5725	0.1197	-0.0121
3	SLE RA 16	4.14	2.9	20	-1.7745	0.1186	-0.012
3	SLE RA 17	4.13	2.61	18.87	-1.5616	0.1196	-0.012
3	SLE RA 18	4.19	3.05	20.67	-1.8617	0.1195	-0.0127
3	SLE RA 19	4.19	2.75	19.55	-1.6488	0.1204	-0.0126
3	SLE RA 20	4.2	3	20.42	-1.8239	0.1202	-0.0126
3	SLE RA 21	4.19	2.71	19.3	-1.611	0.1212	-0.0125
3	SLE FR 1	3.97	2.87	20.08	-1.823	0.1117	-0.0113
3	SLE FR 2	3.97	2.77	19.71	-1.7521	0.112	-0.0113
3	SLE FR 3	3.97	2.85	19.98	-1.8079	0.112	-0.0112
3	SLE FR 4	4.03	2.83	19.88	-1.7637	0.1143	-0.0117
3	SLE FR 5	4.04	2.91	20.16	-1.8195	0.1143	-0.0116
3	SLE FR 6	4.08	2.96	20.38	-1.8424	0.1156	-0.012
3	SLE QP 1	3.97	2.87	20.08	-1.823	0.1117	-0.0113
3	SLE QP 2	4.04	2.92	20.26	-1.8346	0.114	-0.0117
3	SLD 1	6.58	4.83	32.39	-3.2535	0.2	-0.0318
3	SLD 2	6.58	4.83	32.39	-3.2535	0.2	-0.0318
3	SLD 3	5.96	2.85	24.59	-1.9118	0.1805	-0.0192
3	SLD 4	5.96	2.85	24.59	-1.9118	0.1805	-0.0192
3	SLD 5	5.73	6.5	35.73	-4.2952	0.1694	-0.0368
3	SLD 6	5.73	6.5	35.73	-4.2952	0.1694	-0.0368
3	SLD 7	3.68	-0.1	9.72	0.1771	0.1044	0.0052
3	SLD 8	3.68	-0.1	9.72	0.1771	0.1044	0.0052
3	SLD 9	4.39	5.95	30.8	-3.8464	0.1236	-0.0285
3	SLD 10	4.39	5.95	30.8	-3.8464	0.1236	-0.0285
3	SLD 11	2.34	-0.65	4.78	0.6259	0.0586	0.0134
3	SLD 12	2.34	-0.65	4.78	0.6259	0.0586	0.0134
3	SLD 13	2.11	3	15.93	-1.7575	0.0475	-0.0042
3	SLD 14	2.11	3	15.93	-1.7575	0.0475	-0.0042
3	SLD 15	1.5	1.02	8.13	-0.4158	0.028	0.0084
3	SLD 16	1.5	1.02	8.13	-0.4158	0.028	0.0084
3	SLV 1	9.99	7.49	49.04	-5.2275	0.3155	-0.0589
3	SLV 2	9.99	7.49	49.04	-5.2275	0.3155	-0.0589
3	SLV 3	8.54	2.66	30.02	-1.9554	0.2697	-0.029
3	SLV 4	8.54	2.66	30.02	-1.9554	0.2697	-0.029
3	SLV 5	8.02	11.62	57.75	-7.8152	0.2439	-0.0712
3	SLV 6	8.02	11.62	57.75	-7.8152	0.2439	-0.0712
3	SLV 7	3.19	-4.48	3.0918	3.0918	0.0913	0.0285
3	SLV 8	3.19	-4.48	-5.67	3.0918	0.0913	0.0285
3	SLV 9	4.88	10.33	46.18	-6.7611	0.1368	-0.0518
3	SLV 10	4.88	10.33	46.18	-6.7611	0.1368	-0.0518
3	SLV 11	0.05	-5.77	-17.23	4.1459	-0.0158	0.0478
3	SLV 12	0.05	-5.77	-17.23	4.1459	-0.0158	0.0478
3	SLV 13	-0.47	3.19	10.5	-1.7139	-0.0416	0.0057
3	SLV 14	-0.47	3.19	10.5	-1.7139	-0.0416	0.0057
3	SLV 15	-1.92	-1.64	-8.52	1.5582	-0.0874	0.0355
3	SLV 16	-1.92	-1.64	-8.52	1.5582	-0.0874	0.0355
4	SLU 1	4.04	-0.02	20.38	0.0212	0.1851	0.0001
4	SLU 2	4.25	-0.03	19.5	0.0237	0.1929	0.0001
4	SLU 3	4.13	-0.02	20.24	0.0214	0.1884	0.0001
4	SLU 4	4.25	-0.03	19.71	0.0229	0.1931	0.0001
4	SLU 5	4.34	-0.03	19.26	0.0238	0.1962	0.0001
4	SLU 6	4.21	-0.02	20.01	0.0215	0.1918	0.0001
4	SLU 7	4.34	-0.03	19.48	0.023	0.1965	0.0001
4	SLU 8	4.22	-0.02	19.91	0.0214	0.1917	0.0001
4	SLU 9	4.34	-0.03	19.38	0.023	0.1964	0.0001
4	SLU 10	4.65	-0.03	20.23	0.0262	0.2096	0.0001
4	SLU 11	4.52	-0.02	20.97	0.0239	0.2051	0.0001
4	SLU 12	4.65	-0.03	20.44	0.0254	0.2098	0.0001
4	SLU 13	4.74	-0.03	19.99	0.0264	0.2129	0.0001
4	SLU 14	4.61	-0.02	20.74	0.0241	0.2085	0.0001
4	SLU 15	4.74	-0.03	20.21	0.0256	0.2132	0.0001
4	SLU 16	4.61	-0.02	20.64	0.024	0.2085	0.0001
4	SLU 17	4.74	-0.03	20.11	0.0255	0.2132	0.0001
4	SLU 18	4.6	-0.03	21.43	0.0248	0.2089	0.0001
4	SLU 19	4.73	-0.03	20.9	0.0263	0.2136	0.0001
4	SLU 20	4.69	-0.03	21.19	0.0249	0.2123	0.0001
4	SLU 21	4.82	-0.03	20.66	0.0264	0.217	0.0001
4	SLU 22	4.26	-0.02	20.71	0.0227	0.1943	0.0001
4	SLU 23	4.47	-0.03	19.82	0.0253	0.2021	0.0001
4	SLU 24	4.35	-0.02	20.57	0.023	0.1976	0.0001
4	SLU 25	4.47	-0.03	20.04	0.0245	0.2023	0.0001
4	SLU 26	4.56	-0.03	19.59	0.0254	0.2054	0.0001
4	SLU 27	4.43	-0.02	20.33	0.0231	0.201	0.0001
4	SLU 28	4.56	-0.03	19.8	0.0246	0.2057	0.0001
4	SLU 29	4.44	-0.02	20.23	0.023	0.201	0.0001
4	SLU 30	4.56	-0.03	19.7	0.0245	0.2056	0.0001
4	SLU 31	4.87	-0.03	20.55	0.0278	0.2188	0.0001
4	SLU 32	4.74	-0.03	21.3	0.0255	0.2144	0.0001
4	SLU 33	4.87	-0.03	20.77	0.027	0.219	0.0001
4	SLU 34	4.96	-0.03	20.32	0.0279	0.2222	0.0001
4	SLU 35	4.83	-0.03	21.06	0.0256	0.2177	0.0001
4	SLU 36	4.96	-0.03	20.53	0.0271	0.2224	0.0001
4	SLU 37	4.83	-0.03	20.96	0.0255	0.2177	0.0001
4	SLU 38	4.96	-0.03	20.43	0.027	0.2224	0.0001
4	SLU 39	4.82	-0.03	21.75	0.0263	0.2182	0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
4	SLU 40	4.95	-0.03	21.22	0.0279	0.2229	0.0001
4	SLU 41	4.91	-0.03	21.51	0.0265	0.2215	0.0001
4	SLU 42	5.04	-0.03	20.98	0.028	0.2262	0.0001
4	SLU 43	5.18	-0.03	26.39	0.027	0.2374	0.0001
4	SLU 44	5.39	-0.04	25.5	0.0295	0.2452	0.0001
4	SLU 45	5.26	-0.03	26.25	0.0272	0.2408	0.0001
4	SLU 46	5.39	-0.03	25.72	0.0287	0.2455	0.0001
4	SLU 47	5.48	-0.04	25.27	0.0297	0.2486	0.0001
4	SLU 48	5.35	-0.03	26.01	0.0273	0.2441	0.0001
4	SLU 49	5.48	-0.03	25.48	0.0289	0.2488	0.0001
4	SLU 50	5.35	-0.03	25.91	0.0272	0.2441	0.0001
4	SLU 51	5.48	-0.03	25.38	0.0288	0.2488	0.0001
4	SLU 52	5.78	-0.04	26.23	0.0321	0.262	0.0001
4	SLU 53	5.66	-0.03	26.98	0.0297	0.2575	0.0001
4	SLU 54	5.78	-0.04	26.45	0.0313	0.2622	0.0001
4	SLU 55	5.87	-0.04	26	0.0322	0.2653	0.0001
4	SLU 56	5.74	-0.03	26.74	0.0299	0.2608	0.0001
4	SLU 57	5.87	-0.04	26.21	0.0314	0.2655	0.0001
4	SLU 58	5.75	-0.03	26.64	0.0298	0.2608	0.0001
4	SLU 59	5.87	-0.04	26.11	0.0313	0.2655	0.0001
4	SLU 60	5.74	-0.03	27.43	0.0306	0.2613	0.0001
4	SLU 61	5.87	-0.04	26.9	0.0321	0.266	0.0001
4	SLU 62	5.83	-0.03	27.19	0.0307	0.2646	0.0001
4	SLU 63	5.96	-0.04	26.66	0.0323	0.2693	0.0001
4	SLU 64	5.4	-0.03	26.71	0.0285	0.2466	0.0001
4	SLU 65	5.61	-0.04	25.83	0.0311	0.2545	0.0001
4	SLU 66	5.48	-0.03	26.57	0.0288	0.25	0.0001
4	SLU 67	5.61	-0.04	26.04	0.0303	0.2547	0.0001
4	SLU 68	5.7	-0.04	25.59	0.0312	0.2578	0.0001
4	SLU 69	5.57	-0.03	26.34	0.0289	0.2533	0.0001
4	SLU 70	5.7	-0.04	25.81	0.0304	0.258	0.0001
4	SLU 71	5.57	-0.03	26.24	0.0288	0.2533	0.0001
4	SLU 72	5.7	-0.04	25.71	0.0303	0.258	0.0001
4	SLU 73	6	-0.04	26.56	0.0336	0.2712	0.0001
4	SLU 74	5.88	-0.03	27.3	0.0313	0.2667	0.0001
4	SLU 75	6	-0.04	26.77	0.0328	0.2714	0.0001
4	SLU 76	6.09	-0.04	26.32	0.0337	0.2745	0.0001
4	SLU 77	5.96	-0.03	27.07	0.0314	0.2701	0.0001
4	SLU 78	6.09	-0.04	26.54	0.0329	0.2747	0.0001
4	SLU 79	5.97	-0.03	26.97	0.0313	0.27	0.0001
4	SLU 80	6.09	-0.04	26.44	0.0329	0.2747	0.0001
4	SLU 81	5.96	-0.03	27.75	0.0322	0.2705	0.0001
4	SLU 82	6.09	-0.04	27.22	0.0337	0.2752	0.0001
4	SLU 83	6.05	-0.03	27.52	0.0323	0.2739	0.0001
4	SLU 84	6.18	-0.04	26.99	0.0338	0.2786	0.0001
4	SLE RA 1	4.1	-0.02	20.48	0.0216	0.1877	0.0001
4	SLE RA 2	4.24	-0.03	19.89	0.0233	0.1929	0.0001
4	SLE RA 3	4.16	-0.02	20.38	0.0218	0.1899	0.0001
4	SLE RA 4	4.25	-0.03	20.03	0.0228	0.1931	0.0001
4	SLE RA 5	4.3	-0.03	19.73	0.0234	0.1951	0.0001
4	SLE RA 6	4.22	-0.02	20.23	0.0219	0.1922	0.0001
4	SLE RA 7	4.3	-0.03	19.87	0.0229	0.1953	0.0001
4	SLE RA 8	4.22	-0.02	20.16	0.0218	0.1921	0.0001
4	SLE RA 9	4.3	-0.03	19.81	0.0228	0.1953	0.0001
4	SLE RA 10	4.51	-0.03	20.37	0.025	0.2041	0.0001
4	SLE RA 11	4.42	-0.02	20.87	0.0235	0.2011	0.0001
4	SLE RA 12	4.51	-0.03	20.52	0.0245	0.2042	0.0001
4	SLE RA 13	4.57	-0.03	20.22	0.0251	0.2063	0.0001
4	SLE RA 14	4.48	-0.02	20.71	0.0235	0.2033	0.0001
4	SLE RA 15	4.57	-0.03	20.36	0.0246	0.2064	0.0001
4	SLE RA 16	4.48	-0.02	20.65	0.0235	0.2033	0.0001
4	SLE RA 17	4.57	-0.03	20.29	0.0245	0.2064	0.0001
4	SLE RA 18	4.48	-0.03	21.17	0.024	0.2036	0.0001
4	SLE RA 19	4.56	-0.03	20.82	0.025	0.2067	0.0001
4	SLE RA 20	4.54	-0.03	21.01	0.0241	0.2058	0.0001
4	SLE RA 21	4.62	-0.03	20.66	0.0251	0.209	0.0001
4	SLE FR 1	4.1	-0.02	20.48	0.0216	0.1877	0.0001
4	SLE FR 2	4.13	-0.02	20.36	0.022	0.1887	0.0001
4	SLE FR 3	4.13	-0.02	20.41	0.0216	0.1886	0.0001
4	SLE FR 4	4.24	-0.02	20.57	0.0227	0.1935	0.0001
4	SLE FR 5	4.24	-0.02	20.62	0.0224	0.1934	0.0001
4	SLE FR 6	4.29	-0.02	20.82	0.0228	0.1957	0.0001
4	SLE QP 1	4.1	-0.02	20.48	0.0216	0.1877	0.0001
4	SLE QP 2	4.22	-0.02	20.68	0.0223	0.1925	0.0001
4	SLD 1	7.53	-0.07	29.55	0.0529	0.3509	0.0002
4	SLD 2	7.53	-0.07	29.55	0.0529	0.3509	0.0002
4	SLD 3	6.74	-0.04	25.98	0.0389	0.3146	0.0001
4	SLD 4	6.74	-0.04	25.98	0.0389	0.3146	0.0001
4	SLD 5	6.41	-0.08	28.76	0.0527	0.295	0.0002
4	SLD 6	6.41	-0.08	28.76	0.0527	0.295	0.0002
4	SLD 7	3.77	0.01	16.86	0.0061	0.1741	0
4	SLD 8	3.77	0.01	16.86	0.0061	0.1741	0
4	SLD 9	4.66	-0.06	24.51	0.0386	0.2108	0.0002
4	SLD 10	4.66	-0.06	24.51	0.0386	0.2108	0.0002
4	SLD 11	2.02	0.03	12.61	-0.008	0.0899	-0.0001
4	SLD 12	2.02	0.03	12.61	-0.008	0.0899	-0.0001
4	SLD 13	1.7	-0.01	15.39	0.0058	0.0703	0
4	SLD 14	1.7	-0.01	15.39	0.0058	0.0703	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
4	SLD 15	0.9	0.02	11.82	-0.0082	0.034	-0.0001
4	SLD 16	0.9	0.02	11.82	-0.0082	0.034	-0.0001
4	SLV 1	11.98	-0.12	41.59	0.0938	0.5638	0.0004
4	SLV 2	11.98	-0.12	41.59	0.0938	0.5638	0.0004
4	SLV 3	10.11	-0.06	32.93	0.061	0.4784	0.0003
4	SLV 4	10.11	-0.06	32.93	0.061	0.4784	0.0003
4	SLV 5	9.38	-0.15	40.1	0.0935	0.4334	0.0005
4	SLV 6	9.38	-0.15	40.1	0.0935	0.4334	0.0005
4	SLV 7	3.15	0.06	11.21	-0.0158	0.1487	-0.0002
4	SLV 8	3.15	0.06	11.21	-0.0158	0.1487	-0.0002
4	SLV 9	5.28	-0.11	30.16	0.0605	0.2362	0.0003
4	SLV 10	5.28	-0.11	30.16	0.0605	0.2362	0.0003
4	SLV 11	-0.95	0.1	1.27	-0.0489	-0.0485	-0.0003
4	SLV 12	-0.95	0.1	1.27	-0.0489	-0.0485	-0.0003
4	SLV 13	-1.68	0.01	8.44	-0.0163	-0.0934	-0.0001
4	SLV 14	-1.68	0.01	8.44	-0.0163	-0.0934	-0.0001
4	SLV 15	-3.55	0.08	-0.22	-0.0491	-0.1789	-0.0003
4	SLV 16	-3.55	0.08	-0.22	-0.0491	-0.1789	-0.0003
5	SLU 1	3.66	-0.07	20.42	0.0478	0.1531	-0.0001
5	SLU 2	3.87	-0.08	19.84	0.048	0.1604	-0.0001
5	SLU 3	3.8	-0.07	20.36	0.0481	0.1584	-0.0001
5	SLU 4	3.92	-0.07	20.01	0.0482	0.1628	-0.0001
5	SLU 5	4.01	-0.07	19.7	0.0481	0.1661	-0.0001
5	SLU 6	3.94	-0.07	20.22	0.0481	0.1641	-0.0001
5	SLU 7	4.06	-0.07	19.87	0.0483	0.1684	-0.0001
5	SLU 8	3.95	-0.07	20.14	0.0479	0.1645	-0.0001
5	SLU 9	4.08	-0.07	19.79	0.048	0.1688	-0.0001
5	SLU 10	4.36	-0.08	20.75	0.0534	0.1804	-0.0002
5	SLU 11	4.29	-0.08	21.27	0.0534	0.1784	-0.0002
5	SLU 12	4.41	-0.08	20.92	0.0536	0.1828	-0.0002
5	SLU 13	4.51	-0.08	20.61	0.0534	0.186	-0.0002
5	SLU 14	4.43	-0.08	21.13	0.0535	0.1841	-0.0002
5	SLU 15	4.56	-0.08	20.79	0.0536	0.1884	-0.0002
5	SLU 16	4.44	-0.08	21.05	0.0532	0.1845	-0.0002
5	SLU 17	4.57	-0.08	20.7	0.0533	0.1888	-0.0002
5	SLU 18	4.37	-0.08	21.72	0.0554	0.1817	-0.0002
5	SLU 19	4.49	-0.08	21.37	0.0555	0.186	-0.0002
5	SLU 20	4.51	-0.08	21.58	0.0554	0.1874	-0.0002
5	SLU 21	4.63	-0.08	21.23	0.0556	0.1917	-0.0002
5	SLU 22	3.94	-0.08	20.86	0.0509	0.1643	-0.0002
5	SLU 23	4.15	-0.08	20.28	0.0512	0.1715	-0.0002
5	SLU 24	4.07	-0.08	20.81	0.0512	0.1696	-0.0002
5	SLU 25	4.2	-0.08	20.46	0.0514	0.1739	-0.0002
5	SLU 26	4.29	-0.08	20.14	0.0512	0.1772	-0.0002
5	SLU 27	4.22	-0.08	20.67	0.0513	0.1752	-0.0002
5	SLU 28	4.34	-0.08	20.32	0.0514	0.1796	-0.0002
5	SLU 29	4.23	-0.08	20.58	0.051	0.1756	-0.0002
5	SLU 30	4.35	-0.08	20.23	0.0511	0.18	-0.0002
5	SLU 31	4.64	-0.09	21.19	0.0565	0.1915	-0.0002
5	SLU 32	4.56	-0.08	21.72	0.0565	0.1895	-0.0002
5	SLU 33	4.69	-0.08	21.37	0.0567	0.1939	-0.0002
5	SLU 34	4.78	-0.08	21.06	0.0565	0.1972	-0.0002
5	SLU 35	4.71	-0.08	21.58	0.0566	0.1952	-0.0002
5	SLU 36	4.83	-0.08	21.23	0.0567	0.1996	-0.0002
5	SLU 37	4.72	-0.08	21.5	0.0563	0.1956	-0.0002
5	SLU 38	4.84	-0.08	21.15	0.0564	0.2	-0.0002
5	SLU 39	4.64	-0.09	22.17	0.0585	0.1928	-0.0002
5	SLU 40	4.77	-0.09	21.82	0.0587	0.1972	-0.0002
5	SLU 41	4.79	-0.09	22.03	0.0586	0.1985	-0.0002
5	SLU 42	4.91	-0.09	21.68	0.0587	0.2029	-0.0002
5	SLU 43	4.67	-0.1	26.39	0.0611	0.1953	-0.0002
5	SLU 44	4.87	-0.1	25.81	0.0613	0.2025	-0.0002
5	SLU 45	4.8	-0.09	26.33	0.0614	0.2005	-0.0002
5	SLU 46	4.92	-0.1	25.98	0.0615	0.2049	-0.0002
5	SLU 47	5.02	-0.1	25.67	0.0613	0.2082	-0.0002
5	SLU 48	4.94	-0.09	26.19	0.0614	0.2062	-0.0002
5	SLU 49	5.07	-0.09	25.84	0.0615	0.2106	-0.0002
5	SLU 50	4.96	-0.09	26.11	0.0611	0.2066	-0.0002
5	SLU 51	5.08	-0.09	25.76	0.0613	0.211	-0.0002
5	SLU 52	5.37	-0.1	26.72	0.0666	0.2225	-0.0002
5	SLU 53	5.29	-0.1	27.25	0.0667	0.2205	-0.0002
5	SLU 54	5.42	-0.1	26.9	0.0668	0.2249	-0.0002
5	SLU 55	5.51	-0.1	26.58	0.0667	0.2282	-0.0002
5	SLU 56	5.44	-0.1	27.11	0.0667	0.2262	-0.0002
5	SLU 57	5.56	-0.1	26.76	0.0669	0.2306	-0.0002
5	SLU 58	5.45	-0.1	27.02	0.0665	0.2266	-0.0002
5	SLU 59	5.57	-0.1	26.67	0.0666	0.231	-0.0002
5	SLU 60	5.37	-0.1	27.69	0.0687	0.2238	-0.0002
5	SLU 61	5.49	-0.11	27.35	0.0688	0.2282	-0.0002
5	SLU 62	5.51	-0.1	27.55	0.0687	0.2295	-0.0002
5	SLU 63	5.64	-0.1	27.21	0.0689	0.2338	-0.0002
5	SLU 64	4.94	-0.1	26.84	0.0642	0.2064	-0.0002
5	SLU 65	5.15	-0.1	26.25	0.0644	0.2136	-0.0002
5	SLU 66	5.08	-0.1	26.78	0.0645	0.2117	-0.0002
5	SLU 67	5.2	-0.1	26.43	0.0646	0.216	-0.0002
5	SLU 68	5.29	-0.1	26.11	0.0645	0.2193	-0.0002
5	SLU 69	5.22	-0.1	26.64	0.0645	0.2174	-0.0002
5	SLU 70	5.34	-0.1	26.29	0.0647	0.2217	-0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
Ind.	N.br.						
5	SLU 71	5.23	-0.1	26.56	0.0643	0.2178	-0.0002
5	SLU 72	5.36	-0.1	26.21	0.0644	0.2221	-0.0002
5	SLU 73	5.64	-0.11	27.17	0.0697	0.2336	-0.0002
5	SLU 74	5.57	-0.11	27.69	0.0698	0.2317	-0.0002
5	SLU 75	5.69	-0.11	27.34	0.07	0.236	-0.0002
5	SLU 76	5.79	-0.11	27.03	0.0698	0.2393	-0.0002
5	SLU 77	5.71	-0.1	27.55	0.0698	0.2373	-0.0002
5	SLU 78	5.84	-0.11	27.2	0.07	0.2417	-0.0002
5	SLU 79	5.72	-0.1	27.47	0.0696	0.2378	-0.0002
5	SLU 80	5.85	-0.1	27.12	0.0697	0.2421	-0.0002
5	SLU 81	5.65	-0.11	28.14	0.0718	0.235	-0.0002
5	SLU 82	5.77	-0.11	27.79	0.0719	0.2393	-0.0002
5	SLU 83	5.79	-0.11	28	0.0718	0.2406	-0.0002
5	SLU 84	5.91	-0.11	27.65	0.072	0.245	-0.0002
5	SLE RA 1	3.74	-0.08	20.54	0.0487	0.1563	-0.0001
5	SLE RA 2	3.88	-0.08	20.16	0.0489	0.1611	-0.0001
5	SLE RA 3	3.83	-0.08	20.51	0.0489	0.1598	-0.0001
5	SLE RA 4	3.91	-0.08	20.27	0.049	0.1627	-0.0001
5	SLE RA 5	3.98	-0.08	20.06	0.0489	0.1649	-0.0001
5	SLE RA 6	3.93	-0.07	20.41	0.0489	0.1636	-0.0001
5	SLE RA 7	4.01	-0.08	20.18	0.049	0.1665	-0.0001
5	SLE RA 8	3.93	-0.07	20.36	0.0487	0.1639	-0.0001
5	SLE RA 9	4.02	-0.07	20.13	0.0488	0.1668	-0.0001
5	SLE RA 10	4.21	-0.08	20.77	0.0524	0.1745	-0.0002
5	SLE RA 11	4.16	-0.08	21.12	0.0524	0.1732	-0.0002
5	SLE RA 12	4.24	-0.08	20.88	0.0525	0.1761	-0.0002
5	SLE RA 13	4.3	-0.08	20.67	0.0524	0.1783	-0.0002
5	SLE RA 14	4.25	-0.08	21.02	0.0525	0.177	-0.0002
5	SLE RA 15	4.34	-0.08	20.79	0.0526	0.1798	-0.0002
5	SLE RA 16	4.26	-0.08	20.97	0.0523	0.1772	-0.0002
5	SLE RA 17	4.34	-0.08	20.73	0.0524	0.1801	-0.0002
5	SLE RA 18	4.21	-0.08	21.41	0.0538	0.1754	-0.0002
5	SLE RA 19	4.29	-0.08	21.18	0.0539	0.1783	-0.0002
5	SLE RA 20	4.31	-0.08	21.32	0.0538	0.1791	-0.0002
5	SLE RA 21	4.39	-0.08	21.09	0.0539	0.182	-0.0002
5	SLE FR 1	3.74	-0.08	20.54	0.0487	0.1563	-0.0001
5	SLE FR 2	3.77	-0.08	20.47	0.0487	0.1573	-0.0001
5	SLE FR 3	3.78	-0.08	20.51	0.0487	0.1578	-0.0001
5	SLE FR 4	3.91	-0.08	20.73	0.0502	0.163	-0.0002
5	SLE FR 5	3.92	-0.08	20.77	0.0502	0.1635	-0.0001
5	SLE FR 6	3.98	-0.08	20.98	0.0512	0.1658	-0.0002
5	SLE QP 1	3.74	-0.08	20.54	0.0487	0.1563	-0.0001
5	SLE QP 2	3.88	-0.08	20.81	0.0502	0.162	-0.0001
5	SLD 1	7.55	-0.14	27.73	0.1086	0.3239	-0.0003
5	SLD 2	7.55	-0.14	27.73	0.1086	0.3239	-0.0003
5	SLD 3	6.62	-0.11	24.77	0.0845	0.285	-0.0003
5	SLD 4	6.62	-0.11	24.77	0.0845	0.285	-0.0003
5	SLD 5	6.4	-0.14	27.39	0.1043	0.2695	-0.0003
5	SLD 6	6.4	-0.14	27.39	0.1043	0.2695	-0.0003
5	SLD 7	3.29	-0.04	17.49	0.024	0.14	-0.0001
5	SLD 8	3.29	-0.04	17.49	0.024	0.14	-0.0001
5	SLD 9	4.48	-0.11	24.12	0.0765	0.1841	-0.0002
5	SLD 10	4.48	-0.11	24.12	0.0765	0.1841	-0.0002
5	SLD 11	1.37	-0.01	14.22	-0.0038	0.0545	0
5	SLD 12	1.37	-0.01	14.22	-0.0038	0.0545	0
5	SLD 13	1.15	-0.04	16.85	0.0159	0.039	0
5	SLD 14	1.15	-0.04	16.85	0.0159	0.039	0
5	SLD 15	0.21	-0.01	13.88	-0.0082	0.0002	0
5	SLD 16	0.21	-0.01	13.88	-0.0082	0.0002	0
5	SLV 1	12.48	-0.23	37.15	0.1869	0.5413	-0.0006
5	SLV 2	12.48	-0.23	37.15	0.1869	0.5413	-0.0006
5	SLV 3	10.28	-0.15	29.97	0.1303	0.4497	-0.0004
5	SLV 4	10.28	-0.15	29.97	0.1303	0.4497	-0.0004
5	SLV 5	9.81	-0.23	36.59	0.177	0.4146	-0.0005
5	SLV 6	9.81	-0.23	36.59	0.177	0.4146	-0.0005
5	SLV 7	2.46	0.01	12.67	-0.0116	0.1095	0
5	SLV 8	2.46	0.01	12.67	-0.0116	0.1095	0
5	SLV 9	5.31	-0.16	28.94	0.112	0.2145	-0.0003
5	SLV 10	5.31	-0.16	28.94	0.112	0.2145	-0.0003
5	SLV 11	-2.04	0.08	5.02	-0.0766	-0.0906	0.0002
5	SLV 12	-2.04	0.08	5.02	-0.0766	-0.0906	0.0002
5	SLV 13	-2.51	0	11.64	-0.0299	-0.1257	0.0001
5	SLV 14	-2.51	0	11.64	-0.0299	-0.1257	0.0001
5	SLV 15	-4.72	0.07	4.47	-0.0864	-0.2172	0.0003
5	SLV 16	-4.72	0.07	4.47	-0.0864	-0.2172	0.0003
6	SLU 1	3.65	-0.11	21.58	0.0665	0.1509	-0.0002
6	SLU 2	3.8	-0.11	21.2	0.0647	0.1566	-0.0002
6	SLU 3	3.82	-0.11	21.64	0.067	0.1573	-0.0002
6	SLU 4	3.9	-0.11	21.42	0.0659	0.1608	-0.0002
6	SLU 5	3.98	-0.11	21.2	0.0648	0.1637	-0.0002
6	SLU 6	4	-0.11	21.64	0.0672	0.1644	-0.0002
6	SLU 7	4.09	-0.11	21.42	0.0661	0.1679	-0.0002
6	SLU 8	4.02	-0.11	21.58	0.0668	0.165	-0.0002
6	SLU 9	4.1	-0.11	21.35	0.0657	0.1684	-0.0002
6	SLU 10	4.38	-0.12	22.46	0.0723	0.1798	-0.0002
6	SLU 11	4.4	-0.12	22.9	0.0747	0.1805	-0.0002
6	SLU 12	4.49	-0.12	22.67	0.0735	0.1839	-0.0002
6	SLU 13	4.57	-0.12	22.46	0.0725	0.1868	-0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
Ind.	N.br.						
6	SLU 14	4.59	-0.12	22.9	0.0748	0.1875	-0.0002
6	SLU 15	4.68	-0.12	22.67	0.0737	0.191	-0.0002
6	SLU 16	4.6	-0.12	22.83	0.0745	0.1881	-0.0002
6	SLU 17	4.69	-0.12	22.61	0.0734	0.1915	-0.0002
6	SLU 18	4.49	-0.13	23.37	0.0774	0.1839	-0.0002
6	SLU 19	4.58	-0.13	23.15	0.0763	0.1874	-0.0002
6	SLU 20	4.67	-0.13	23.37	0.0776	0.1909	-0.0002
6	SLU 21	4.76	-0.13	23.15	0.0765	0.1944	-0.0002
6	SLU 22	3.98	-0.12	22.23	0.0709	0.1637	-0.0002
6	SLU 23	4.12	-0.12	21.85	0.069	0.1695	-0.0002
6	SLU 24	4.14	-0.12	22.29	0.0714	0.1702	-0.0002
6	SLU 25	4.23	-0.12	22.07	0.0703	0.1736	-0.0002
6	SLU 26	4.31	-0.12	21.85	0.0692	0.1765	-0.0002
6	SLU 27	4.33	-0.12	22.29	0.0715	0.1772	-0.0002
6	SLU 28	4.41	-0.12	22.07	0.0704	0.1807	-0.0002
6	SLU 29	4.34	-0.12	22.23	0.0712	0.1778	-0.0002
6	SLU 30	4.43	-0.12	22	0.0701	0.1812	-0.0002
6	SLU 31	4.71	-0.13	23.11	0.0767	0.1926	-0.0002
6	SLU 32	4.73	-0.13	23.55	0.079	0.1933	-0.0002
6	SLU 33	4.82	-0.13	23.33	0.0779	0.1967	-0.0002
6	SLU 34	4.89	-0.13	23.11	0.0768	0.1996	-0.0002
6	SLU 35	4.92	-0.13	23.55	0.0792	0.2003	-0.0002
6	SLU 36	5	-0.13	23.32	0.0781	0.2038	-0.0002
6	SLU 37	4.93	-0.13	23.49	0.0788	0.2009	-0.0002
6	SLU 38	5.02	-0.13	23.26	0.0777	0.2044	-0.0002
6	SLU 39	4.82	-0.13	24.03	0.0818	0.1967	-0.0002
6	SLU 40	4.9	-0.13	23.8	0.0807	0.2002	-0.0002
6	SLU 41	5	-0.13	24.02	0.0819	0.2038	-0.0002
6	SLU 42	5.09	-0.13	23.8	0.0808	0.2072	-0.0002
6	SLU 43	4.63	-0.14	27.83	0.085	0.1917	-0.0002
6	SLU 44	4.78	-0.14	27.45	0.0831	0.1975	-0.0002
6	SLU 45	4.8	-0.14	27.89	0.0855	0.1982	-0.0002
6	SLU 46	4.89	-0.14	27.67	0.0844	0.2017	-0.0002
6	SLU 47	4.96	-0.14	27.45	0.0833	0.2046	-0.0002
6	SLU 48	4.98	-0.14	27.89	0.0856	0.2053	-0.0002
6	SLU 49	5.07	-0.14	27.67	0.0845	0.2087	-0.0002
6	SLU 50	5	-0.14	27.83	0.0853	0.2058	-0.0002
6	SLU 51	5.09	-0.14	27.6	0.0842	0.2093	-0.0002
6	SLU 52	5.37	-0.15	28.71	0.0908	0.2206	-0.0003
6	SLU 53	5.39	-0.16	29.15	0.0931	0.2213	-0.0003
6	SLU 54	5.47	-0.15	28.92	0.092	0.2248	-0.0003
6	SLU 55	5.55	-0.15	28.71	0.0909	0.2277	-0.0003
6	SLU 56	5.57	-0.16	29.15	0.0933	0.2284	-0.0003
6	SLU 57	5.66	-0.15	28.92	0.0922	0.2318	-0.0003
6	SLU 58	5.59	-0.15	29.08	0.0929	0.229	-0.0003
6	SLU 59	5.67	-0.15	28.86	0.0918	0.2324	-0.0003
6	SLU 60	5.47	-0.16	29.62	0.0959	0.2248	-0.0003
6	SLU 61	5.56	-0.16	29.4	0.0948	0.2282	-0.0003
6	SLU 62	5.66	-0.16	29.62	0.096	0.2318	-0.0003
6	SLU 63	5.74	-0.16	29.4	0.0949	0.2353	-0.0003
6	SLU 64	4.96	-0.15	28.48	0.0893	0.2046	-0.0003
6	SLU 65	5.11	-0.15	28.1	0.0875	0.2103	-0.0003
6	SLU 66	5.13	-0.15	28.54	0.0898	0.211	-0.0003
6	SLU 67	5.21	-0.15	28.32	0.0887	0.2145	-0.0003
6	SLU 68	5.29	-0.15	28.1	0.0876	0.2174	-0.0003
6	SLU 69	5.31	-0.15	28.54	0.09	0.2181	-0.0003
6	SLU 70	5.4	-0.15	28.32	0.0889	0.2215	-0.0003
6	SLU 71	5.33	-0.15	28.48	0.0897	0.2187	-0.0003
6	SLU 72	5.41	-0.15	28.25	0.0885	0.2221	-0.0003
6	SLU 73	5.69	-0.16	29.36	0.0951	0.2335	-0.0003
6	SLU 74	5.71	-0.16	29.8	0.0975	0.2341	-0.0003
6	SLU 75	5.8	-0.16	29.58	0.0964	0.2376	-0.0003
6	SLU 76	5.88	-0.16	29.36	0.0953	0.2405	-0.0003
6	SLU 77	5.9	-0.16	29.8	0.0976	0.2412	-0.0003
6	SLU 78	5.99	-0.16	29.57	0.0965	0.2447	-0.0003
6	SLU 79	5.91	-0.16	29.73	0.0973	0.2418	-0.0003
6	SLU 80	6	-0.16	29.51	0.0962	0.2452	-0.0003
6	SLU 81	5.8	-0.17	30.28	0.1002	0.2376	-0.0003
6	SLU 82	5.89	-0.16	30.05	0.0991	0.241	-0.0003
6	SLU 83	5.98	-0.17	30.27	0.1004	0.2446	-0.0003
6	SLU 84	6.07	-0.16	30.05	0.0993	0.2481	-0.0003
6	SLE RA 1	3.74	-0.11	21.76	0.0678	0.1545	-0.0002
6	SLE RA 2	3.84	-0.11	21.51	0.0665	0.1584	-0.0002
6	SLE RA 3	3.85	-0.11	21.81	0.0681	0.1588	-0.0002
6	SLE RA 4	3.91	-0.11	21.66	0.0674	0.1612	-0.0002
6	SLE RA 5	3.96	-0.11	21.51	0.0666	0.1631	-0.0002
6	SLE RA 6	3.98	-0.11	21.81	0.0682	0.1635	-0.0002
6	SLE RA 7	4.03	-0.11	21.66	0.0675	0.1659	-0.0002
6	SLE RA 8	3.99	-0.11	21.76	0.068	0.1639	-0.0002
6	SLE RA 9	4.05	-0.11	21.61	0.0672	0.1662	-0.0002
6	SLE RA 10	4.23	-0.12	22.35	0.0716	0.1738	-0.0002
6	SLE RA 11	4.25	-0.12	22.65	0.0732	0.1743	-0.0002
6	SLE RA 12	4.3	-0.12	22.49	0.0724	0.1766	-0.0002
6	SLE RA 13	4.35	-0.12	22.35	0.0717	0.1785	-0.0002
6	SLE RA 14	4.37	-0.12	22.65	0.0733	0.179	-0.0002
6	SLE RA 15	4.43	-0.12	22.49	0.0726	0.1813	-0.0002
6	SLE RA 16	4.38	-0.12	22.6	0.0731	0.1793	-0.0002
6	SLE RA 17	4.44	-0.12	22.45	0.0723	0.1817	-0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
6	SLE RA 18	4.3	-0.12	22.96	0.075	0.1766	-0.0002
6	SLE RA 19	4.36	-0.12	22.81	0.0743	0.1789	-0.0002
6	SLE RA 20	4.43	-0.12	22.96	0.0751	0.1813	-0.0002
6	SLE RA 21	4.48	-0.12	22.81	0.0744	0.1836	-0.0002
6	SLE FR 1	3.74	-0.11	21.76	0.0678	0.1545	-0.0002
6	SLE FR 2	3.76	-0.11	21.71	0.0675	0.1553	-0.0002
6	SLE FR 3	3.79	-0.11	21.76	0.0678	0.1564	-0.0002
6	SLE FR 4	3.93	-0.12	22.07	0.0697	0.1619	-0.0002
6	SLE FR 5	3.96	-0.12	22.12	0.07	0.163	-0.0002
6	SLE FR 6	4.02	-0.12	22.36	0.0714	0.1655	-0.0002
6	SLE QP 1	3.74	-0.11	21.76	0.0678	0.1545	-0.0002
6	SLE QP 2	3.91	-0.12	22.12	0.0699	0.1611	-0.0002
6	SLD 1	7.81	-0.23	28.61	0.1545	0.3313	-0.0004
6	SLD 2	7.81	-0.23	28.61	0.1545	0.3313	-0.0004
6	SLD 3	6.76	-0.18	25.71	0.1212	0.2878	-0.0003
6	SLD 4	6.76	-0.18	25.71	0.1212	0.2878	-0.0003
6	SLD 5	6.68	-0.22	28.46	0.1459	0.2782	-0.0004
6	SLD 6	6.68	-0.22	28.46	0.1459	0.2782	-0.0004
6	SLD 7	3.17	-0.07	18.81	0.0347	0.1331	-0.0001
6	SLD 8	3.17	-0.07	18.81	0.0347	0.1331	-0.0001
6	SLD 9	4.65	-0.16	25.44	0.1052	0.1892	-0.0003
6	SLD 10	4.65	-0.16	25.44	0.1052	0.1892	-0.0003
6	SLD 11	1.15	-0.02	15.79	-0.006	0.0441	0
6	SLD 12	1.15	-0.02	15.79	-0.006	0.0441	0
6	SLD 13	1.07	-0.05	18.54	0.0187	0.0345	-0.0001
6	SLD 14	1.07	-0.05	18.54	0.0187	0.0345	-0.0001
6	SLD 15	0.01	-0.01	15.64	-0.0147	-0.009	0
6	SLD 16	0.01	-0.01	15.64	-0.0147	-0.009	0
6	SLV 1	13.04	-0.37	37.39	0.268	0.5599	-0.0007
6	SLV 2	13.04	-0.37	37.39	0.268	0.5599	-0.0007
6	SLV 3	10.57	-0.27	30.45	0.1896	0.4575	-0.0005
6	SLV 4	10.57	-0.27	30.45	0.1896	0.4575	-0.0005
6	SLV 5	10.41	-0.35	37.24	0.2483	0.4361	-0.0006
6	SLV 6	10.41	-0.35	37.24	0.2483	0.4361	-0.0006
6	SLV 7	2.15	-0.01	14.08	-0.0131	0.0948	0
6	SLV 8	2.15	-0.01	14.08	-0.0131	0.0948	0
6	SLV 9	5.67	-0.23	30.16	0.153	0.2275	-0.0004
6	SLV 10	5.67	-0.23	30.16	0.153	0.2275	-0.0004
6	SLV 11	-2.59	0.12	7	-0.1084	-0.1138	0.0002
6	SLV 12	-2.59	0.12	7	-0.1084	-0.1138	0.0002
6	SLV 13	-2.74	0.03	13.8	-0.0497	-0.1353	0.0001
6	SLV 14	-2.74	0.03	13.8	-0.0497	-0.1353	0.0001
6	SLV 15	-5.22	0.14	6.85	-0.1281	-0.2377	0.0003
6	SLV 16	-5.22	0.14	6.85	-0.1281	-0.2377	0.0003
7	SLU 1	4.16	-0.13	23.33	0.0744	0.1706	-0.0002
7	SLU 2	4.23	-0.12	23.05	0.0709	0.1732	-0.0002
7	SLU 3	4.36	-0.13	23.54	0.0752	0.1786	-0.0002
7	SLU 4	4.41	-0.13	23.37	0.0731	0.1802	-0.0002
7	SLU 5	4.45	-0.12	23.22	0.0713	0.1819	-0.0002
7	SLU 6	4.58	-0.13	23.7	0.0756	0.1872	-0.0002
7	SLU 7	4.63	-0.13	23.54	0.0735	0.1888	-0.0002
7	SLU 8	4.6	-0.13	23.65	0.0753	0.1879	-0.0002
7	SLU 9	4.64	-0.13	23.49	0.0731	0.1895	-0.0002
7	SLU 10	4.96	-0.14	24.76	0.0799	0.2025	-0.0002
7	SLU 11	5.09	-0.14	25.25	0.0842	0.2078	-0.0002
7	SLU 12	5.13	-0.14	25.09	0.0821	0.2094	-0.0002
7	SLU 13	5.18	-0.14	24.93	0.0803	0.2111	-0.0002
7	SLU 14	5.31	-0.14	25.41	0.0846	0.2165	-0.0002
7	SLU 15	5.35	-0.14	25.25	0.0825	0.2181	-0.0002
7	SLU 16	5.33	-0.14	25.37	0.0843	0.2172	-0.0002
7	SLU 17	5.37	-0.14	25.2	0.0822	0.2187	-0.0002
7	SLU 18	5.2	-0.15	25.77	0.0873	0.2123	-0.0003
7	SLU 19	5.24	-0.15	25.61	0.0852	0.2139	-0.0002
7	SLU 20	5.42	-0.15	25.94	0.0877	0.221	-0.0003
7	SLU 21	5.46	-0.15	25.77	0.0856	0.2226	-0.0002
7	SLU 22	4.56	-0.14	24.24	0.0795	0.1866	-0.0002
7	SLU 23	4.63	-0.13	23.97	0.076	0.1892	-0.0002
7	SLU 24	4.76	-0.14	24.45	0.0803	0.1946	-0.0002
7	SLU 25	4.81	-0.13	24.29	0.0781	0.1962	-0.0002
7	SLU 26	4.85	-0.13	24.13	0.0764	0.1979	-0.0002
7	SLU 27	4.98	-0.14	24.62	0.0807	0.2032	-0.0002
7	SLU 28	5.02	-0.13	24.45	0.0785	0.2048	-0.0002
7	SLU 29	5	-0.14	24.57	0.0803	0.2039	-0.0002
7	SLU 30	5.04	-0.13	24.4	0.0782	0.2055	-0.0002
7	SLU 31	5.36	-0.15	25.68	0.085	0.2185	-0.0002
7	SLU 32	5.49	-0.15	26.17	0.0893	0.2238	-0.0003
7	SLU 33	5.53	-0.15	26	0.0872	0.2254	-0.0003
7	SLU 34	5.58	-0.15	25.84	0.0854	0.2271	-0.0002
7	SLU 35	5.71	-0.15	26.33	0.0897	0.2325	-0.0003
7	SLU 36	5.75	-0.15	26.17	0.0876	0.2341	-0.0003
7	SLU 37	5.73	-0.15	26.28	0.0894	0.2331	-0.0003
7	SLU 38	5.77	-0.15	26.12	0.0872	0.2347	-0.0003
7	SLU 39	5.6	-0.16	26.69	0.0924	0.2283	-0.0003
7	SLU 40	5.64	-0.15	26.52	0.0903	0.2299	-0.0003
7	SLU 41	5.82	-0.16	26.85	0.0928	0.237	-0.0003
7	SLU 42	5.86	-0.15	26.69	0.0907	0.2386	-0.0003
7	SLU 43	5.27	-0.17	30.01	0.095	0.2163	-0.0003
7	SLU 44	5.34	-0.16	29.74	0.0915	0.2189	-0.0003



Nodo Ind.	Cont. N.br.	Reazione a traslazione				Reazione a rotazione		
		x	y	z	x	y	z	
7	SLU 45	5.47	-0.17	30.22	0.0958	0.2243	-0.0003	
7	SLU 46	5.52	-0.16	30.06	0.0936	0.2259	-0.0003	
7	SLU 47	5.56	-0.16	29.9	0.0919	0.2276	-0.0003	
7	SLU 48	5.69	-0.17	30.39	0.0962	0.2329	-0.0003	
7	SLU 49	5.74	-0.16	30.22	0.0941	0.2345	-0.0003	
7	SLU 50	5.71	-0.17	30.34	0.0959	0.2336	-0.0003	
7	SLU 51	5.75	-0.16	30.17	0.0937	0.2352	-0.0003	
7	SLU 52	6.07	-0.17	31.45	0.1005	0.2482	-0.0003	
7	SLU 53	6.2	-0.18	31.93	0.1048	0.2535	-0.0003	
7	SLU 54	6.24	-0.18	31.77	0.1027	0.2551	-0.0003	
7	SLU 55	6.29	-0.17	31.61	0.1009	0.2568	-0.0003	
7	SLU 56	6.42	-0.18	32.1	0.1052	0.2622	-0.0003	
7	SLU 57	6.46	-0.18	31.93	0.1031	0.2638	-0.0003	
7	SLU 58	6.44	-0.18	32.05	0.1049	0.2629	-0.0003	
7	SLU 59	6.48	-0.18	31.89	0.1027	0.2644	-0.0003	
7	SLU 60	6.31	-0.19	32.46	0.1079	0.258	-0.0003	
7	SLU 61	6.35	-0.18	32.29	0.1058	0.2596	-0.0003	
7	SLU 62	6.53	-0.19	32.62	0.1083	0.2667	-0.0003	
7	SLU 63	6.57	-0.18	32.46	0.1062	0.2683	-0.0003	
7	SLU 64	5.67	-0.17	30.92	0.1001	0.2323	-0.0003	
7	SLU 65	5.74	-0.17	30.65	0.0965	0.2349	-0.0003	
7	SLU 66	5.87	-0.17	31.14	0.1009	0.2403	-0.0003	
7	SLU 67	5.92	-0.17	30.97	0.0987	0.2418	-0.0003	
7	SLU 68	5.96	-0.17	30.81	0.097	0.2436	-0.0003	
7	SLU 69	6.09	-0.17	31.3	0.1013	0.2489	-0.0003	
7	SLU 70	6.14	-0.17	31.14	0.0991	0.2505	-0.0003	
7	SLU 71	6.11	-0.17	31.25	0.1009	0.2496	-0.0003	
7	SLU 72	6.15	-0.17	31.09	0.0988	0.2512	-0.0003	
7	SLU 73	6.47	-0.18	32.36	0.1056	0.2641	-0.0003	
7	SLU 74	6.6	-0.19	32.85	0.1099	0.2695	-0.0003	
7	SLU 75	6.64	-0.18	32.69	0.1077	0.2711	-0.0003	
7	SLU 76	6.69	-0.18	32.53	0.106	0.2728	-0.0003	
7	SLU 77	6.82	-0.19	33.01	0.1103	0.2782	-0.0003	
7	SLU 78	6.86	-0.18	32.85	0.1082	0.2798	-0.0003	
7	SLU 79	6.84	-0.19	32.97	0.11	0.2788	-0.0003	
7	SLU 80	6.88	-0.18	32.8	0.1078	0.2804	-0.0003	
7	SLU 81	6.71	-0.19	33.37	0.113	0.274	-0.0003	
7	SLU 82	6.75	-0.19	33.21	0.1109	0.2756	-0.0003	
7	SLU 83	6.93	-0.19	33.53	0.1134	0.2827	-0.0003	
7	SLU 84	6.97	-0.19	33.37	0.1113	0.2843	-0.0003	
7	SLE RA 1	4.27	-0.13	23.59	0.0759	0.1752	-0.0002	
7	SLE RA 2	4.32	-0.13	23.4	0.0735	0.1769	-0.0002	
7	SLE RA 3	4.41	-0.13	23.73	0.0764	0.1805	-0.0002	
7	SLE RA 4	4.44	-0.13	23.62	0.075	0.1815	-0.0002	
7	SLE RA 5	4.47	-0.13	23.51	0.0738	0.1827	-0.0002	
7	SLE RA 6	4.55	-0.13	23.84	0.0767	0.1863	-0.0002	
7	SLE RA 7	4.58	-0.13	23.73	0.0752	0.1873	-0.0002	
7	SLE RA 8	4.57	-0.13	23.81	0.0764	0.1867	-0.0002	
7	SLE RA 9	4.6	-0.13	23.7	0.075	0.1878	-0.0002	
7	SLE RA 10	4.81	-0.14	24.55	0.0795	0.1964	-0.0002	
7	SLE RA 11	4.89	-0.14	24.87	0.0824	0.2	-0.0002	
7	SLE RA 12	4.92	-0.14	24.76	0.081	0.201	-0.0002	
7	SLE RA 13	4.95	-0.14	24.66	0.0798	0.2022	-0.0002	
7	SLE RA 14	5.04	-0.14	24.98	0.0827	0.2057	-0.0002	
7	SLE RA 15	5.07	-0.14	24.87	0.0813	0.2068	-0.0002	
7	SLE RA 16	5.05	-0.14	24.95	0.0825	0.2062	-0.0002	
7	SLE RA 17	5.08	-0.14	24.84	0.081	0.2073	-0.0002	
7	SLE RA 18	4.97	-0.14	25.22	0.0845	0.203	-0.0002	
7	SLE RA 19	5	-0.14	25.11	0.0831	0.2041	-0.0002	
7	SLE RA 20	5.11	-0.14	25.33	0.0848	0.2088	-0.0002	
7	SLE RA 21	5.14	-0.14	25.22	0.0833	0.2098	-0.0002	
7	SLE FR 1	4.27	-0.13	23.59	0.0759	0.1752	-0.0002	
7	SLE FR 2	4.28	-0.13	23.55	0.0754	0.1755	-0.0002	
7	SLE FR 3	4.33	-0.13	23.63	0.076	0.1775	-0.0002	
7	SLE FR 4	4.49	-0.13	24.04	0.078	0.1839	-0.0002	
7	SLE FR 5	4.54	-0.14	24.12	0.0786	0.1858	-0.0002	
7	SLE FR 6	4.62	-0.14	24.4	0.0802	0.1891	-0.0002	
7	SLE QP 1	4.27	-0.13	23.59	0.0759	0.1752	-0.0002	
7	SLE QP 2	4.48	-0.14	24.08	0.0785	0.1835	-0.0002	
7	SLD 1	8.63	-0.28	30.75	0.1798	0.3604	-0.0005	
7	SLD 2	8.63	-0.28	30.75	0.1798	0.3604	-0.0005	
7	SLD 3	7.39	-0.22	27.5	0.1411	0.3094	-0.0004	
7	SLD 4	7.39	-0.22	27.5	0.1411	0.3094	-0.0004	
7	SLD 5	7.61	-0.26	31.01	0.1676	0.3139	-0.0004	
7	SLD 6	7.61	-0.26	31.01	0.1676	0.3139	-0.0004	
7	SLD 7	3.47	-0.08	20.18	0.0386	0.1439	-0.0001	
7	SLD 8	3.47	-0.08	20.18	0.0386	0.1439	-0.0001	
7	SLD 9	5.49	-0.19	27.98	0.1184	0.2231	-0.0003	
7	SLD 10	5.49	-0.19	27.98	0.1184	0.2231	-0.0003	
7	SLD 11	1.36	-0.01	17.15	-0.0106	0.0531	0	
7	SLD 12	1.36	-0.01	17.15	-0.0106	0.0531	0	
7	SLD 13	1.57	-0.05	20.65	0.0158	0.0576	-0.0001	
7	SLD 14	1.57	-0.05	20.65	0.0158	0.0576	-0.0001	
7	SLD 15	0.33	0.01	17.4	-0.0229	0.0066	0	
7	SLD 16	0.33	0.01	17.4	-0.0229	0.0066	0	
7	SLV 1	14.2	-0.47	39.79	0.3157	0.598	-0.0008	
7	SLV 2	14.2	-0.47	39.79	0.3157	0.598	-0.0008	
7	SLV 3	11.28	-0.34	32.04	0.2248	0.478	-0.0006	



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
7	SLV 4	11.28	-0.34	32.04	0.2248	0.478	-0.0006
7	SLV 5	11.82	-0.42	40.54	0.2876	0.4897	-0.0007
7	SLV 6	11.82	-0.42	40.54	0.2876	0.4897	-0.0007
7	SLV 7	2.1	-0.01	14.71	-0.0156	0.09	0
7	SLV 8	2.1	-0.01	14.71	-0.0156	0.09	0
7	SLV 9	6.86	-0.26	33.44	0.1725	0.277	-0.0004
7	SLV 10	6.86	-0.26	33.44	0.1725	0.277	-0.0004
7	SLV 11	-2.86	0.15	7.61	-0.1307	-0.1227	0.0003
7	SLV 12	-2.86	0.15	7.61	-0.1307	-0.1227	0.0003
7	SLV 13	-2.32	0.07	16.11	-0.0679	-0.111	0.0002
7	SLV 14	-2.32	0.07	16.11	-0.0679	-0.111	0.0002
7	SLV 15	-5.24	0.2	8.36	-0.1588	-0.231	0.0004
7	SLV 16	-5.24	0.2	8.36	-0.1588	-0.231	0.0004
8	SLU 1	4.77	-0.12	25.95	0.0693	0.1911	-0.0002
8	SLU 2	4.8	-0.11	25.71	0.0646	0.1926	-0.0002
8	SLU 3	5	-0.12	26.34	0.0702	0.2	-0.0002
8	SLU 4	5.02	-0.12	26.19	0.0674	0.2008	-0.0002
8	SLU 5	5.05	-0.11	26.06	0.0652	0.2021	-0.0002
8	SLU 6	5.24	-0.12	26.69	0.0708	0.2095	-0.0002
8	SLU 7	5.26	-0.12	26.55	0.068	0.2103	-0.0002
8	SLU 8	5.26	-0.12	26.66	0.0705	0.2102	-0.0002
8	SLU 9	5.28	-0.12	26.51	0.0677	0.211	-0.0002
8	SLU 10	5.65	-0.13	28.01	0.0736	0.2259	-0.0002
8	SLU 11	5.85	-0.14	28.64	0.0791	0.2333	-0.0002
8	SLU 12	5.87	-0.13	28.49	0.0763	0.2342	-0.0002
8	SLU 13	5.9	-0.13	28.36	0.0742	0.2354	-0.0002
8	SLU 14	6.09	-0.14	28.99	0.0797	0.2429	-0.0002
8	SLU 15	6.11	-0.13	28.85	0.0769	0.2437	-0.0002
8	SLU 16	6.11	-0.14	28.96	0.0794	0.2435	-0.0002
8	SLU 17	6.13	-0.13	28.81	0.0766	0.2444	-0.0002
8	SLU 18	5.99	-0.14	29.24	0.0821	0.2388	-0.0002
8	SLU 19	6.01	-0.14	29.09	0.0793	0.2396	-0.0002
8	SLU 20	6.23	-0.14	29.59	0.0827	0.2483	-0.0002
8	SLU 21	6.25	-0.14	29.45	0.0799	0.2492	-0.0002
8	SLU 22	5.24	-0.13	27.2	0.0743	0.2092	-0.0002
8	SLU 23	5.26	-0.12	26.96	0.0696	0.2106	-0.0002
8	SLU 24	5.46	-0.13	27.58	0.0752	0.218	-0.0002
8	SLU 25	5.48	-0.12	27.44	0.0724	0.2189	-0.0002
8	SLU 26	5.51	-0.12	27.31	0.0702	0.2201	-0.0002
8	SLU 27	5.7	-0.13	27.94	0.0758	0.2275	-0.0002
8	SLU 28	5.72	-0.13	27.79	0.0729	0.2284	-0.0002
8	SLU 29	5.72	-0.13	27.91	0.0755	0.2282	-0.0002
8	SLU 30	5.74	-0.13	27.76	0.0727	0.2291	-0.0002
8	SLU 31	6.12	-0.13	29.26	0.0786	0.2439	-0.0002
8	SLU 32	6.31	-0.14	29.89	0.0841	0.2514	-0.0002
8	SLU 33	6.33	-0.14	29.74	0.0813	0.2522	-0.0002
8	SLU 34	6.36	-0.14	29.61	0.0791	0.2535	-0.0002
8	SLU 35	6.56	-0.14	30.24	0.0847	0.2609	-0.0002
8	SLU 36	6.57	-0.14	30.1	0.0819	0.2617	-0.0002
8	SLU 37	6.57	-0.14	30.21	0.0844	0.2616	-0.0002
8	SLU 38	6.59	-0.14	30.06	0.0816	0.2624	-0.0002
8	SLU 39	6.45	-0.15	30.49	0.0871	0.2568	-0.0003
8	SLU 40	6.47	-0.14	30.34	0.0843	0.2577	-0.0002
8	SLU 41	6.7	-0.15	30.84	0.0877	0.2664	-0.0003
8	SLU 42	6.71	-0.15	30.7	0.0848	0.2672	-0.0002
8	SLU 43	6.05	-0.15	33.31	0.0884	0.2423	-0.0003
8	SLU 44	6.08	-0.15	33.07	0.0837	0.2437	-0.0002
8	SLU 45	6.27	-0.15	33.69	0.0893	0.2511	-0.0003
8	SLU 46	6.29	-0.15	33.55	0.0865	0.252	-0.0002
8	SLU 47	6.32	-0.15	33.42	0.0843	0.2532	-0.0002
8	SLU 48	6.52	-0.16	34.05	0.0899	0.2607	-0.0003
8	SLU 49	6.53	-0.15	33.9	0.087	0.2615	-0.0003
8	SLU 50	6.53	-0.16	34.02	0.0896	0.2613	-0.0003
8	SLU 51	6.55	-0.15	33.87	0.0868	0.2622	-0.0002
8	SLU 52	6.93	-0.16	35.37	0.0927	0.2771	-0.0003
8	SLU 53	7.13	-0.17	36	0.0982	0.2845	-0.0003
8	SLU 54	7.14	-0.16	35.85	0.0954	0.2853	-0.0003
8	SLU 55	7.17	-0.16	35.72	0.0932	0.2866	-0.0003
8	SLU 56	7.37	-0.17	36.35	0.0988	0.294	-0.0003
8	SLU 57	7.39	-0.17	36.2	0.096	0.2949	-0.0003
8	SLU 58	7.39	-0.17	36.32	0.0985	0.2947	-0.0003
8	SLU 59	7.4	-0.17	36.17	0.0957	0.2955	-0.0003
8	SLU 60	7.27	-0.17	36.6	0.1012	0.29	-0.0003
8	SLU 61	7.28	-0.17	36.45	0.0984	0.2908	-0.0003
8	SLU 62	7.51	-0.18	36.95	0.1018	0.2995	-0.0003
8	SLU 63	7.53	-0.17	36.81	0.099	0.3003	-0.0003
8	SLU 64	6.51	-0.16	34.56	0.0934	0.2603	-0.0003
8	SLU 65	6.54	-0.15	34.31	0.0887	0.2617	-0.0003
8	SLU 66	6.74	-0.16	34.94	0.0943	0.2692	-0.0003
8	SLU 67	6.75	-0.16	34.8	0.0914	0.27	-0.0003
8	SLU 68	6.78	-0.15	34.67	0.0893	0.2713	-0.0003
8	SLU 69	6.98	-0.16	35.3	0.0948	0.2787	-0.0003
8	SLU 70	7	-0.16	35.15	0.092	0.2795	-0.0003
8	SLU 71	7	-0.16	35.26	0.0946	0.2794	-0.0003
8	SLU 72	7.01	-0.16	35.12	0.0918	0.2802	-0.0003
8	SLU 73	7.39	-0.17	36.62	0.0976	0.2951	-0.0003
8	SLU 74	7.59	-0.18	37.24	0.1032	0.3025	-0.0003
8	SLU 75	7.6	-0.17	37.1	0.1004	0.3034	-0.0003





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
8	SLU 76	7.63	-0.17	36.97	0.0982	0.3046	-0.0003
8	SLU 77	7.83	-0.18	37.6	0.1038	0.312	-0.0003
8	SLU 78	7.85	-0.17	37.45	0.101	0.3129	-0.0003
8	SLU 79	7.85	-0.18	37.56	0.1035	0.3127	-0.0003
8	SLU 80	7.86	-0.17	37.42	0.1007	0.3136	-0.0003
8	SLU 81	7.73	-0.18	37.84	0.1062	0.308	-0.0003
8	SLU 82	7.74	-0.18	37.7	0.1034	0.3088	-0.0003
8	SLU 83	7.97	-0.18	38.2	0.1068	0.3175	-0.0003
8	SLU 84	7.99	-0.18	38.05	0.1039	0.3184	-0.0003
8	SLE RA 1	4.91	-0.12	26.31	0.0708	0.1963	-0.0002
8	SLE RA 2	4.93	-0.12	26.15	0.0676	0.1972	-0.0002
8	SLE RA 3	5.06	-0.12	26.56	0.0713	0.2022	-0.0002
8	SLE RA 4	5.07	-0.12	26.47	0.0694	0.2028	-0.0002
8	SLE RA 5	5.09	-0.12	26.38	0.068	0.2036	-0.0002
8	SLE RA 6	5.22	-0.12	26.8	0.0717	0.2085	-0.0002
8	SLE RA 7	5.23	-0.12	26.7	0.0698	0.2091	-0.0002
8	SLE RA 8	5.23	-0.12	26.78	0.0715	0.209	-0.0002
8	SLE RA 9	5.24	-0.12	26.68	0.0697	0.2096	-0.0002
8	SLE RA 10	5.49	-0.13	27.68	0.0736	0.2195	-0.0002
8	SLE RA 11	5.62	-0.13	28.1	0.0773	0.2244	-0.0002
8	SLE RA 12	5.64	-0.13	28	0.0754	0.225	-0.0002
8	SLE RA 13	5.65	-0.13	27.92	0.074	0.2258	-0.0002
8	SLE RA 14	5.79	-0.13	28.33	0.0777	0.2308	-0.0002
8	SLE RA 15	5.8	-0.13	28.24	0.0758	0.2313	-0.0002
8	SLE RA 16	5.8	-0.13	28.31	0.0775	0.2312	-0.0002
8	SLE RA 17	5.81	-0.13	28.22	0.0756	0.2318	-0.0002
8	SLE RA 18	5.72	-0.14	28.5	0.0793	0.2281	-0.0002
8	SLE RA 19	5.73	-0.13	28.4	0.0774	0.2286	-0.0002
8	SLE RA 20	5.88	-0.14	28.74	0.0797	0.2344	-0.0002
8	SLE RA 21	5.89	-0.13	28.64	0.0778	0.235	-0.0002
8	SLE FR 1	4.91	-0.12	26.31	0.0708	0.1963	-0.0002
8	SLE FR 2	4.91	-0.12	26.27	0.0701	0.1965	-0.0002
8	SLE FR 3	4.97	-0.12	26.4	0.0709	0.1988	-0.0002
8	SLE FR 4	5.15	-0.13	26.93	0.0727	0.206	-0.0002
8	SLE FR 5	5.21	-0.13	27.06	0.0735	0.2084	-0.0002
8	SLE FR 6	5.31	-0.13	27.4	0.075	0.2122	-0.0002
8	SLE QP 1	4.91	-0.12	26.31	0.0708	0.1963	-0.0002
8	SLE QP 2	5.15	-0.13	26.96	0.0733	0.2058	-0.0002
8	SLD 1	9.53	-0.27	34.42	0.1761	0.3956	-0.0004
8	SLD 2	9.53	-0.27	34.42	0.1761	0.3956	-0.0004
8	SLD 3	8.11	-0.22	30.45	0.1372	0.3384	-0.0004
8	SLD 4	8.11	-0.22	30.45	0.1372	0.3384	-0.0004
8	SLD 5	8.62	-0.25	35.22	0.1631	0.3494	-0.0004
8	SLD 6	8.62	-0.25	35.22	0.1631	0.3494	-0.0004
8	SLD 7	3.89	-0.08	21.99	0.0335	0.1589	-0.0001
8	SLD 8	3.89	-0.08	21.99	0.0335	0.1589	-0.0001
8	SLD 9	6.41	-0.18	31.94	0.1131	0.2528	-0.0003
8	SLD 10	6.41	-0.18	31.94	0.1131	0.2528	-0.0003
8	SLD 11	1.68	0	18.71	-0.0165	0.0622	0
8	SLD 12	1.68	0	18.71	-0.0165	0.0622	0
8	SLD 13	2.19	-0.03	23.48	0.0094	0.0733	-0.0001
8	SLD 14	2.19	-0.03	23.48	0.0094	0.0733	-0.0001
8	SLD 15	0.77	0.02	19.51	-0.0295	0.0161	0
8	SLD 16	0.77	0.02	19.51	-0.0295	0.0161	0
8	SLV 1	15.42	-0.47	44.5	0.3139	0.6505	-0.0008
8	SLV 2	15.42	-0.47	44.5	0.3139	0.6505	-0.0008
8	SLV 3	12.08	-0.34	35.07	0.2226	0.516	-0.0006
8	SLV 4	12.08	-0.34	35.07	0.2226	0.516	-0.0006
8	SLV 5	13.3	-0.41	46.53	0.284	0.5432	-0.0007
8	SLV 6	13.3	-0.41	46.53	0.284	0.5432	-0.0007
8	SLV 7	2.16	-0.01	15.1	-0.0204	0.0949	0
8	SLV 8	2.16	-0.01	15.1	-0.0204	0.0949	0
8	SLV 9	8.14	-0.25	38.83	0.1671	0.3168	-0.0004
8	SLV 10	8.14	-0.25	38.83	0.1671	0.3168	-0.0004
8	SLV 11	-3	0.16	7.4	-0.1374	-0.1316	0.0002
8	SLV 12	-3	0.16	7.4	-0.1374	-0.1316	0.0002
8	SLV 13	-1.78	0.09	18.85	-0.076	-0.1043	0.0001
8	SLV 14	-1.78	0.09	18.85	-0.076	-0.1043	0.0001
8	SLV 15	-5.12	0.21	9.43	-0.1673	-0.2388	0.0003
8	SLV 16	-5.12	0.21	9.43	-0.1673	-0.2388	0.0003
9	SLU 1	5.11	-0.08	29.42	0.0504	0.2057	-0.0001
9	SLU 2	5.1	-0.07	29.17	0.0455	0.2053	-0.0001
9	SLU 3	5.34	-0.08	30	0.0511	0.2149	-0.0001
9	SLU 4	5.34	-0.08	29.85	0.0481	0.2147	-0.0001
9	SLU 5	5.35	-0.07	29.73	0.0459	0.2151	-0.0001
9	SLU 6	5.59	-0.08	30.56	0.0515	0.2247	-0.0001
9	SLU 7	5.58	-0.08	30.41	0.0485	0.2244	-0.0001
9	SLU 8	5.61	-0.08	30.54	0.0513	0.2253	-0.0001
9	SLU 9	5.6	-0.08	30.39	0.0483	0.225	-0.0001
9	SLU 10	6.03	-0.08	32.19	0.0524	0.2424	-0.0001
9	SLU 11	6.27	-0.09	33.02	0.058	0.252	-0.0001
9	SLU 12	6.27	-0.09	32.86	0.055	0.2518	-0.0001
9	SLU 13	6.28	-0.09	32.74	0.0528	0.2522	-0.0001
9	SLU 14	6.52	-0.09	33.58	0.0584	0.2618	-0.0001
9	SLU 15	6.51	-0.09	33.42	0.0554	0.2616	-0.0001
9	SLU 16	6.54	-0.09	33.56	0.0582	0.2624	-0.0001
9	SLU 17	6.53	-0.09	33.4	0.0552	0.2621	-0.0001
9	SLU 18	6.44	-0.1	33.73	0.0603	0.2588	-0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
9	SLU 19	6.43	-0.09	33.58		0.0573	0.2585	-0.0001	
9	SLU 20	6.69	-0.1	34.29		0.0607	0.2686	-0.0001	
9	SLU 21	6.68	-0.09	34.14		0.0577	0.2683	-0.0001	
9	SLU 22	5.6	-0.09	31.07		0.0543	0.2254	-0.0001	
9	SLU 23	5.6	-0.08	30.81		0.0493	0.225	-0.0001	
9	SLU 24	5.84	-0.09	31.64		0.0549	0.2346	-0.0001	
9	SLU 25	5.83	-0.08	31.49		0.0519	0.2343	-0.0001	
9	SLU 26	5.84	-0.08	31.37		0.0497	0.2347	-0.0001	
9	SLU 27	6.08	-0.09	32.2		0.0553	0.2443	-0.0001	
9	SLU 28	6.08	-0.08	32.05		0.0523	0.2441	-0.0001	
9	SLU 29	6.1	-0.09	32.18		0.0551	0.2449	-0.0001	
9	SLU 30	6.09	-0.08	32.03		0.0522	0.2447	-0.0001	
9	SLU 31	6.53	-0.09	33.83		0.0562	0.2621	-0.0001	
9	SLU 32	6.77	-0.1	34.66		0.0618	0.2717	-0.0001	
9	SLU 33	6.76	-0.09	34.51		0.0588	0.2715	-0.0001	
9	SLU 34	6.77	-0.09	34.39		0.0566	0.2719	-0.0001	
9	SLU 35	7.01	-0.1	35.22		0.0622	0.2815	-0.0001	
9	SLU 36	7.01	-0.1	35.07		0.0592	0.2812	-0.0001	
9	SLU 37	7.03	-0.1	35.2		0.062	0.2821	-0.0001	
9	SLU 38	7.02	-0.1	35.05		0.059	0.2818	-0.0001	
9	SLU 39	6.93	-0.1	35.38		0.0641	0.2785	-0.0001	
9	SLU 40	6.93	-0.1	35.22		0.0611	0.2782	-0.0001	
9	SLU 41	7.18	-0.1	35.94		0.0645	0.2882	-0.0001	
9	SLU 42	7.18	-0.1	35.78		0.0616	0.288	-0.0001	
9	SLU 43	6.47	-0.1	37.69		0.0643	0.2607	-0.0001	
9	SLU 44	6.46	-0.1	37.43		0.0593	0.2603	-0.0001	
9	SLU 45	6.71	-0.11	38.27		0.0649	0.2699	-0.0001	
9	SLU 46	6.7	-0.1	38.11		0.0619	0.2696	-0.0001	
9	SLU 47	6.71	-0.1	37.99		0.0597	0.27	-0.0001	
9	SLU 48	6.95	-0.11	38.82		0.0653	0.2796	-0.0001	
9	SLU 49	6.95	-0.1	38.67		0.0624	0.2794	-0.0001	
9	SLU 50	6.97	-0.11	38.8		0.0651	0.2802	-0.0001	
9	SLU 51	6.96	-0.1	38.65		0.0622	0.28	-0.0001	
9	SLU 52	7.39	-0.11	40.45		0.0662	0.2974	-0.0001	
9	SLU 53	7.64	-0.12	41.28		0.0718	0.307	-0.0002	
9	SLU 54	7.63	-0.11	41.13		0.0688	0.3068	-0.0001	
9	SLU 55	7.64	-0.11	41.01		0.0666	0.3072	-0.0001	
9	SLU 56	7.88	-0.12	41.84		0.0722	0.3168	-0.0002	
9	SLU 57	7.88	-0.11	41.69		0.0692	0.3165	-0.0001	
9	SLU 58	7.9	-0.12	41.82		0.072	0.3174	-0.0002	
9	SLU 59	7.89	-0.11	41.67		0.069	0.3171	-0.0001	
9	SLU 60	7.8	-0.12	42		0.0741	0.3138	-0.0002	
9	SLU 61	7.8	-0.12	41.85		0.0711	0.3135	-0.0001	
9	SLU 62	8.05	-0.12	42.56		0.0745	0.3235	-0.0002	
9	SLU 63	8.04	-0.12	42.4		0.0716	0.3233	-0.0002	
9	SLU 64	6.97	-0.11	39.33		0.0681	0.2804	-0.0001	
9	SLU 65	6.96	-0.1	39.08		0.0631	0.2799	-0.0001	
9	SLU 66	7.2	-0.11	39.91		0.0687	0.2895	-0.0001	
9	SLU 67	7.19	-0.11	39.76		0.0657	0.2893	-0.0001	
9	SLU 68	7.21	-0.1	39.63		0.0635	0.2897	-0.0001	
9	SLU 69	7.45	-0.11	40.47		0.0692	0.2993	-0.0001	
9	SLU 70	7.44	-0.11	40.31		0.0662	0.2991	-0.0001	
9	SLU 71	7.46	-0.11	40.45		0.069	0.2999	-0.0001	
9	SLU 72	7.46	-0.11	40.29		0.066	0.2996	-0.0001	
9	SLU 73	7.89	-0.11	42.09		0.07	0.3171	-0.0001	
9	SLU 74	8.13	-0.12	42.92		0.0756	0.3267	-0.0002	
9	SLU 75	8.13	-0.12	42.77		0.0726	0.3264	-0.0002	
9	SLU 76	8.14	-0.11	42.65		0.0704	0.3269	-0.0001	
9	SLU 77	8.38	-0.12	43.48		0.076	0.3365	-0.0002	
9	SLU 78	8.37	-0.12	43.33		0.0731	0.3362	-0.0002	
9	SLU 79	8.39	-0.12	43.46		0.0759	0.337	-0.0002	
9	SLU 80	8.39	-0.12	43.31		0.0729	0.3368	-0.0002	
9	SLU 81	8.3	-0.13	43.64		0.0779	0.3334	-0.0002	
9	SLU 82	8.29	-0.12	43.49		0.0749	0.3332	-0.0002	
9	SLU 83	8.54	-0.13	44.2		0.0784	0.3432	-0.0002	
9	SLU 84	8.54	-0.12	44.05		0.0754	0.3429	-0.0002	
9	SLE RA 1	5.25	-0.08	29.89		0.0515	0.2113	-0.0001	
9	SLE RA 2	5.25	-0.08	29.72		0.0482	0.2111	-0.0001	
9	SLE RA 3	5.41	-0.08	30.28		0.052	0.2175	-0.0001	
9	SLE RA 4	5.4	-0.08	30.18		0.05	0.2173	-0.0001	
9	SLE RA 5	5.41	-0.08	30.1		0.0485	0.2176	-0.0001	
9	SLE RA 6	5.57	-0.09	30.65		0.0522	0.224	-0.0001	
9	SLE RA 7	5.57	-0.08	30.55		0.0503	0.2238	-0.0001	
9	SLE RA 8	5.58	-0.08	30.64		0.0521	0.2244	-0.0001	
9	SLE RA 9	5.58	-0.08	30.54		0.0501	0.2242	-0.0001	
9	SLE RA 10	5.87	-0.09	31.74		0.0528	0.2358	-0.0001	
9	SLE RA 11	6.03	-0.09	32.29		0.0565	0.2422	-0.0001	
9	SLE RA 12	6.02	-0.09	32.19		0.0546	0.2421	-0.0001	
9	SLE RA 13	6.03	-0.09	32.11		0.0531	0.2423	-0.0001	
9	SLE RA 14	6.19	-0.09	32.66		0.0568	0.2487	-0.0001	
9	SLE RA 15	6.19	-0.09	32.56		0.0548	0.2486	-0.0001	
9	SLE RA 16	6.2	-0.09	32.65		0.0567	0.2491	-0.0001	
9	SLE RA 17	6.2	-0.09	32.55		0.0547	0.249	-0.0001	
9	SLE RA 18	6.14	-0.09	32.77		0.0581	0.2467	-0.0001	
9	SLE RA 19	6.13	-0.09	32.67		0.0561	0.2466	-0.0001	
9	SLE RA 20	6.3	-0.09	33.14		0.0584	0.2532	-0.0001	
9	SLE RA 21	6.3	-0.09	33.04		0.0564	0.2531	-0.0001	
9	SLE FR 1	5.25	-0.08	29.89		0.0515	0.2113	-0.0001	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
9	SLE FR 2	5.25	-0.08	29.86	0.0509	0.2113	-0.0001
9	SLE FR 3	5.32	-0.08	30.04	0.0517	0.2139	-0.0001
9	SLE FR 4	5.52	-0.09	30.72	0.0528	0.2219	-0.0001
9	SLE FR 5	5.58	-0.09	30.9	0.0536	0.2246	-0.0001
9	SLE FR 6	5.69	-0.09	31.33	0.0548	0.229	-0.0001
9	SLE QP 1	5.25	-0.08	29.89	0.0515	0.2113	-0.0001
9	SLE QP 2	5.52	-0.09	30.76	0.0535	0.222	-0.0001
9	SLD 1	9.82	-0.21	39.39	0.1412	0.4032	-0.0003
9	SLD 2	9.82	-0.21	39.39	0.1412	0.4032	-0.0003
9	SLD 3	8.3	-0.16	34.41	0.1067	0.3415	-0.0002
9	SLD 4	8.3	-0.16	34.41	0.1067	0.3415	-0.0002
9	SLD 5	9.12	-0.19	40.89	0.1323	0.3699	-0.0003
9	SLD 6	9.12	-0.19	40.89	0.1323	0.3699	-0.0003
9	SLD 7	4.04	-0.04	24.31	0.017	0.1642	0
9	SLD 8	4.04	-0.04	24.31	0.017	0.1642	0
9	SLD 9	6.99	-0.13	37.2	0.09	0.2797	-0.0002
9	SLD 10	6.99	-0.13	37.2	0.09	0.2797	-0.0002
9	SLD 11	1.91	0.02	20.62	-0.0252	0.074	0.0001
9	SLD 12	1.91	0.02	20.62	-0.0252	0.074	0.0001
9	SLD 13	2.73	-0.01	27.1	0.0003	0.1024	0
9	SLD 14	2.73	-0.01	27.1	0.0003	0.1024	0
9	SLD 15	1.21	0.03	22.12	-0.0342	0.0407	0
9	SLD 16	1.21	0.03	22.12	-0.0342	0.0407	0
9	SLV 1	15.62	-0.36	51.07	0.2589	0.6468	-0.0005
9	SLV 2	15.62	-0.36	51.07	0.2589	0.6468	-0.0005
9	SLV 3	12.02	-0.26	39.28	0.1777	0.5014	-0.0003
9	SLV 4	12.02	-0.26	39.28	0.1777	0.5014	-0.0003
9	SLV 5	13.99	-0.33	54.75	0.2381	0.5699	-0.0005
9	SLV 6	13.99	-0.33	54.75	0.2381	0.5699	-0.0005
9	SLV 7	2.02	0.02	15.42	-0.0323	0.0852	0.0001
9	SLV 8	2.02	0.02	15.42	-0.0323	0.0852	0.0001
9	SLV 9	9.01	-0.2	46.1	0.1393	0.3587	-0.0004
9	SLV 10	9.01	-0.2	46.1	0.1393	0.3587	-0.0004
9	SLV 11	-2.96	0.16	6.77	-0.1311	-0.126	0.0003
9	SLV 12	-2.96	0.16	6.77	-0.1311	-0.126	0.0003
9	SLV 13	-0.99	0.08	22.24	-0.0707	-0.0575	0
9	SLV 14	-0.99	0.08	22.24	-0.0707	-0.0575	0
9	SLV 15	-4.58	0.19	10.44	-0.1519	-0.2029	0.0002
9	SLV 16	-4.58	0.19	10.44	-0.1519	-0.2029	0.0002
10	SLU 1	4.68	-0.01	33.37	0.0184	0.1818	0
10	SLU 2	4.66	0	33.07	0.0143	0.1815	0
10	SLU 3	4.9	-0.01	34.15	0.0183	0.1902	0
10	SLU 4	4.89	0	33.97	0.0159	0.19	0
10	SLU 5	4.89	0	33.84	0.0141	0.1905	0
10	SLU 6	5.13	-0.01	34.91	0.0182	0.1991	0
10	SLU 7	5.12	0	34.73	0.0157	0.199	0
10	SLU 8	5.14	-0.01	34.91	0.0181	0.1997	0
10	SLU 9	5.13	0	34.73	0.0156	0.1995	0
10	SLU 10	5.56	0	36.89	0.0168	0.2159	0
10	SLU 11	5.79	-0.01	37.96	0.0209	0.2246	0
10	SLU 12	5.78	0	37.78	0.0184	0.2244	0
10	SLU 13	5.79	0	37.65	0.0167	0.2248	0
10	SLU 14	6.02	-0.01	38.73	0.0208	0.2335	0
10	SLU 15	6.01	0	38.55	0.0183	0.2333	0
10	SLU 16	6.04	-0.01	38.72	0.0207	0.234	0
10	SLU 17	6.02	0	38.54	0.0182	0.2339	0
10	SLU 18	5.96	-0.01	38.82	0.022	0.2309	0
10	SLU 19	5.95	-0.01	38.64	0.0196	0.2307	0
10	SLU 20	6.19	-0.01	39.59	0.0219	0.2398	0
10	SLU 21	6.18	-0.01	39.41	0.0194	0.2397	0
10	SLU 22	5.15	-0.01	35.45	0.0198	0.1996	0
10	SLU 23	5.13	0	35.15	0.0157	0.1993	0
10	SLU 24	5.36	-0.01	36.22	0.0198	0.208	0
10	SLU 25	5.35	0	36.04	0.0173	0.2078	0
10	SLU 26	5.36	0	35.91	0.0155	0.2082	0
10	SLU 27	5.59	-0.01	36.99	0.0196	0.2169	0
10	SLU 28	5.58	0	36.81	0.0172	0.2167	0
10	SLU 29	5.6	-0.01	36.98	0.0195	0.2174	0
10	SLU 30	5.59	0	36.8	0.017	0.2173	0
10	SLU 31	6.03	0	38.96	0.0183	0.2337	0
10	SLU 32	6.26	-0.01	40.04	0.0223	0.2423	0
10	SLU 33	6.25	-0.01	39.85	0.0199	0.2422	0
10	SLU 34	6.25	0	39.73	0.0181	0.2426	0
10	SLU 35	6.49	-0.01	40.8	0.0222	0.2513	0
10	SLU 36	6.48	0	40.62	0.0197	0.2511	0
10	SLU 37	6.5	-0.01	40.79	0.0221	0.2518	0
10	SLU 38	6.49	0	40.61	0.0196	0.2517	0
10	SLU 39	6.43	-0.01	40.9	0.0235	0.2487	0
10	SLU 40	6.42	-0.01	40.72	0.021	0.2485	0
10	SLU 41	6.66	-0.01	41.66	0.0233	0.2576	0
10	SLU 42	6.65	-0.01	41.48	0.0209	0.2575	0
10	SLU 43	5.93	-0.01	42.68	0.0234	0.2302	0
10	SLU 44	5.91	0	42.38	0.0193	0.23	0
10	SLU 45	6.14	-0.01	43.45	0.0234	0.2386	0
10	SLU 46	6.13	-0.01	43.27	0.0209	0.2385	0
10	SLU 47	6.14	0	43.14	0.0191	0.2389	0
10	SLU 48	6.37	-0.01	44.22	0.0232	0.2476	0
10	SLU 49	6.36	0	44.04	0.0207	0.2474	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
10	SLU 50	6.39	-0.01	44.21	0.0231	0.2481	0
10	SLU 51	6.37	0	44.03	0.0206	0.2479	0
10	SLU 52	6.81	0	46.19	0.0218	0.2643	0
10	SLU 53	7.04	-0.01	47.26	0.0259	0.273	0
10	SLU 54	7.03	-0.01	47.08	0.0235	0.2728	0
10	SLU 55	7.03	0	46.96	0.0217	0.2733	0
10	SLU 56	7.27	-0.01	48.03	0.0258	0.2819	0
10	SLU 57	7.26	-0.01	47.85	0.0233	0.2818	0
10	SLU 58	7.28	-0.01	48.02	0.0257	0.2825	0
10	SLU 59	7.27	-0.01	47.84	0.0232	0.2823	0
10	SLU 60	7.21	-0.01	48.12	0.0271	0.2794	0
10	SLU 61	7.2	-0.01	47.94	0.0246	0.2792	0
10	SLU 62	7.44	-0.01	48.89	0.0269	0.2883	0
10	SLU 63	7.43	-0.01	48.71	0.0245	0.2881	0
10	SLU 64	6.39	-0.01	44.75	0.0248	0.248	0
10	SLU 65	6.37	0	44.45	0.0207	0.2477	0
10	SLU 66	6.61	-0.01	45.52	0.0248	0.2564	0
10	SLU 67	6.6	-0.01	45.34	0.0223	0.2562	0
10	SLU 68	6.6	0	45.22	0.0206	0.2567	0
10	SLU 69	6.84	-0.01	46.29	0.0246	0.2653	0
10	SLU 70	6.83	-0.01	46.11	0.0222	0.2652	0
10	SLU 71	6.85	-0.01	46.28	0.0245	0.2659	0
10	SLU 72	6.84	-0.01	46.1	0.0221	0.2657	0
10	SLU 73	7.27	0	48.26	0.0233	0.2821	0
10	SLU 74	7.51	-0.01	49.34	0.0274	0.2908	0
10	SLU 75	7.49	-0.01	49.16	0.0249	0.2906	0
10	SLU 76	7.5	0	49.03	0.0231	0.2911	0
10	SLU 77	7.73	-0.01	50.1	0.0272	0.2997	0
10	SLU 78	7.72	-0.01	49.92	0.0247	0.2996	0
10	SLU 79	7.75	-0.01	50.1	0.0271	0.3003	0
10	SLU 80	7.74	-0.01	49.92	0.0246	0.3001	0
10	SLU 81	7.67	-0.01	50.2	0.0285	0.2971	0
10	SLU 82	7.66	-0.01	50.02	0.026	0.297	0
10	SLU 83	7.9	-0.01	50.96	0.0284	0.3061	0
10	SLU 84	7.89	-0.01	50.78	0.0259	0.3059	0
10	SLE RA 1	4.82	-0.01	33.97	0.0188	0.1869	0
10	SLE RA 2	4.8	0	33.77	0.016	0.1867	0
10	SLE RA 3	4.96	-0.01	34.48	0.0188	0.1925	0
10	SLE RA 4	4.95	0	34.36	0.0171	0.1924	0
10	SLE RA 5	4.96	0	34.28	0.0159	0.1926	0
10	SLE RA 6	5.11	-0.01	34.99	0.0187	0.1984	0
10	SLE RA 7	5.1	0	34.87	0.017	0.1983	0
10	SLE RA 8	5.12	-0.01	34.99	0.0186	0.1988	0
10	SLE RA 9	5.11	0	34.87	0.0169	0.1987	0
10	SLE RA 10	5.4	0	36.31	0.0177	0.2096	0
10	SLE RA 11	5.56	-0.01	37.03	0.0205	0.2154	0
10	SLE RA 12	5.55	-0.01	36.9	0.0188	0.2153	0
10	SLE RA 13	5.55	0	36.82	0.0177	0.2156	0
10	SLE RA 14	5.71	-0.01	37.54	0.0204	0.2213	0
10	SLE RA 15	5.7	-0.01	37.42	0.0187	0.2212	0
10	SLE RA 16	5.72	-0.01	37.53	0.0203	0.2217	0
10	SLE RA 17	5.71	-0.01	37.41	0.0187	0.2216	0
10	SLE RA 18	5.67	-0.01	37.6	0.0212	0.2196	0
10	SLE RA 19	5.66	-0.01	37.48	0.0196	0.2195	0
10	SLE RA 20	5.82	-0.01	38.11	0.0211	0.2256	0
10	SLE RA 21	5.81	-0.01	37.99	0.0195	0.2255	0
10	SLE FR 1	4.82	-0.01	33.97	0.0188	0.1869	0
10	SLE FR 2	4.81	-0.01	33.93	0.0182	0.1868	0
10	SLE FR 3	4.88	-0.01	34.17	0.0187	0.1893	0
10	SLE FR 4	5.07	-0.01	35.02	0.019	0.1967	0
10	SLE FR 5	5.13	-0.01	35.26	0.0195	0.1991	0
10	SLE FR 6	5.24	-0.01	35.78	0.02	0.2032	0
10	SLE QP 1	4.82	-0.01	33.97	0.0188	0.1869	0
10	SLE QP 2	5.07	-0.01	35.06	0.0195	0.1967	0
10	SLD 1	9.14	-0.04	45.12	0.0519	0.3734	-0.0001
10	SLD 2	9.14	-0.04	45.12	0.0519	0.3734	-0.0001
10	SLD 3	7.67	-0.08	38.94	0.0793	0.3164	0
10	SLD 4	7.67	-0.08	38.94	0.0793	0.3164	0
10	SLD 5	8.51	0.04	47.45	-0.0124	0.3362	-0.0001
10	SLD 6	8.51	0.04	47.45	-0.0124	0.3362	-0.0001
10	SLD 7	3.63	-0.09	26.84	0.0791	0.1461	0.0001
10	SLD 8	3.63	-0.09	26.84	0.0791	0.1461	0.0001
10	SLD 9	6.51	0.07	43.27	-0.0401	0.2473	-0.0001
10	SLD 10	6.51	0.07	43.27	-0.0401	0.2473	-0.0001
10	SLD 11	1.63	-0.06	22.66	0.0515	0.0572	0.0001
10	SLD 12	1.63	-0.06	22.66	0.0515	0.0572	0.0001
10	SLD 13	2.47	0.06	31.18	-0.0403	0.077	0
10	SLD 14	2.47	0.06	31.18	-0.0403	0.077	0
10	SLD 15	1.01	0.02	24.99	-0.0128	0.0199	0
10	SLD 16	1.01	0.02	24.99	-0.0128	0.0199	0
10	SLV 1	14.6	-0.08	58.74	0.0951	0.6109	-0.0002
10	SLV 2	14.6	-0.08	58.74	0.0951	0.6109	-0.0002
10	SLV 3	11.15	-0.17	44.09	0.1595	0.4766	0
10	SLV 4	11.15	-0.17	44.09	0.1595	0.4766	0
10	SLV 5	13.16	0.11	64.39	-0.0554	0.5246	-0.0003
10	SLV 6	13.16	0.11	64.39	-0.0554	0.5246	-0.0003
10	SLV 7	1.67	-0.19	15.54	0.1591	0.0771	0.0002
10	SLV 8	1.67	-0.19	15.54	0.1591	0.0771	0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
10	SLV 9	8.48	0.17	54.57	-0.12	0.3163	-0.0002
10	SLV 10	8.48	0.17	54.57	-0.12	0.3163	-0.0002
10	SLV 11	-3.02	-0.12	5.73	0.0944	-0.1312	0.0002
10	SLV 12	-3.02	-0.12	5.73	0.0944	-0.1312	0.0002
10	SLV 13	-1.01	0.15	26.03	-0.1204	-0.0832	0
10	SLV 14	-1.01	0.15	26.03	-0.1204	-0.0832	0
10	SLV 15	-4.46	0.06	11.37	-0.0561	-0.2175	0.0001
10	SLV 16	-4.46	0.06	11.37	-0.0561	-0.2175	0.0001
11	SLU 1	3.7	0.15	38.18	-0.0229	0.1331	0.0005
11	SLU 2	3.68	0.15	37.79	-0.0248	0.1325	0.0005
11	SLU 3	3.88	0.15	39.18	-0.024	0.1397	0.0005
11	SLU 4	3.87	0.15	38.94	-0.0251	0.1394	0.0005
11	SLU 5	3.87	0.15	38.79	-0.0259	0.1395	0.0005
11	SLU 6	4.07	0.15	40.17	-0.0251	0.1467	0.0005
11	SLU 7	4.06	0.16	39.94	-0.0262	0.1463	0.0005
11	SLU 8	4.08	0.15	40.17	-0.0251	0.147	0.0005
11	SLU 9	4.07	0.16	39.94	-0.0262	0.1467	0.0005
11	SLU 10	4.48	0.17	42.59	-0.0286	0.1619	0.0006
11	SLU 11	4.68	0.17	43.98	-0.0278	0.1691	0.0006
11	SLU 12	4.67	0.17	43.75	-0.0289	0.1687	0.0006
11	SLU 13	4.67	0.18	43.59	-0.0297	0.1689	0.0006
11	SLU 14	4.87	0.18	44.97	-0.0289	0.176	0.0006
11	SLU 15	4.86	0.18	44.74	-0.03	0.1757	0.0006
11	SLU 16	4.88	0.18	44.97	-0.0289	0.1764	0.0006
11	SLU 17	4.87	0.18	44.74	-0.03	0.1761	0.0006
11	SLU 18	4.84	0.18	45.04	-0.0283	0.1751	0.0006
11	SLU 19	4.83	0.18	44.81	-0.0295	0.1747	0.0006
11	SLU 20	5.03	0.18	46.04	-0.0294	0.182	0.0006
11	SLU 21	5.02	0.18	45.8	-0.0306	0.1817	0.0006
11	SLU 22	4.1	0.16	40.78	-0.025	0.1474	0.0005
11	SLU 23	4.07	0.16	40.39	-0.0269	0.1469	0.0005
11	SLU 24	4.28	0.16	41.78	-0.0261	0.154	0.0006
11	SLU 25	4.26	0.16	41.54	-0.0272	0.1537	0.0006
11	SLU 26	4.26	0.17	41.38	-0.028	0.1539	0.0005
11	SLU 27	4.47	0.17	42.77	-0.0272	0.161	0.0006
11	SLU 28	4.45	0.17	42.54	-0.0283	0.1607	0.0006
11	SLU 29	4.48	0.17	42.77	-0.0272	0.1614	0.0006
11	SLU 30	4.46	0.17	42.53	-0.0283	0.161	0.0006
11	SLU 31	4.87	0.18	45.19	-0.0307	0.1763	0.0006
11	SLU 32	5.08	0.18	46.58	-0.0299	0.1834	0.0006
11	SLU 33	5.06	0.19	46.34	-0.031	0.1831	0.0006
11	SLU 34	5.07	0.19	46.19	-0.0318	0.1832	0.0006
11	SLU 35	5.27	0.19	47.57	-0.031	0.1904	0.0007
11	SLU 36	5.26	0.19	47.34	-0.0321	0.19	0.0006
11	SLU 37	5.28	0.19	47.57	-0.031	0.1907	0.0007
11	SLU 38	5.26	0.19	47.34	-0.0321	0.1904	0.0006
11	SLU 39	5.24	0.19	47.64	-0.0304	0.1894	0.0007
11	SLU 40	5.23	0.19	47.41	-0.0316	0.1891	0.0007
11	SLU 41	5.43	0.19	48.63	-0.0315	0.1964	0.0007
11	SLU 42	5.42	0.2	48.4	-0.0327	0.196	0.0007
11	SLU 43	4.67	0.18	48.75	-0.029	0.1681	0.0006
11	SLU 44	4.65	0.19	48.36	-0.0309	0.1676	0.0006
11	SLU 45	4.85	0.19	49.74	-0.0301	0.1747	0.0006
11	SLU 46	4.84	0.19	49.51	-0.0312	0.1744	0.0006
11	SLU 47	4.84	0.19	49.35	-0.032	0.1745	0.0006
11	SLU 48	5.04	0.19	50.74	-0.0312	0.1817	0.0007
11	SLU 49	5.03	0.2	50.5	-0.0323	0.1814	0.0007
11	SLU 50	5.05	0.19	50.73	-0.0312	0.1821	0.0007
11	SLU 51	5.04	0.2	50.5	-0.0324	0.1817	0.0007
11	SLU 52	5.45	0.21	53.16	-0.0347	0.1969	0.0007
11	SLU 53	5.65	0.21	54.54	-0.0339	0.2041	0.0007
11	SLU 54	5.64	0.21	54.31	-0.0351	0.2038	0.0007
11	SLU 55	5.64	0.22	54.15	-0.0358	0.2039	0.0007
11	SLU 56	5.84	0.22	55.54	-0.035	0.2111	0.0007
11	SLU 57	5.83	0.22	55.3	-0.0362	0.2107	0.0007
11	SLU 58	5.85	0.22	55.54	-0.035	0.2114	0.0007
11	SLU 59	5.84	0.22	55.3	-0.0362	0.2111	0.0007
11	SLU 60	5.82	0.22	55.61	-0.0345	0.2101	0.0007
11	SLU 61	5.8	0.22	55.37	-0.0356	0.2097	0.0007
11	SLU 62	6.01	0.22	56.6	-0.0356	0.217	0.0008
11	SLU 63	5.99	0.22	56.37	-0.0367	0.2167	0.0008
11	SLU 64	5.07	0.2	51.35	-0.0311	0.1824	0.0007
11	SLU 65	5.05	0.2	50.95	-0.033	0.1819	0.0007
11	SLU 66	5.25	0.2	52.34	-0.0322	0.189	0.0007
11	SLU 67	5.24	0.2	52.11	-0.0333	0.1887	0.0007
11	SLU 68	5.24	0.21	51.95	-0.0341	0.1889	0.0007
11	SLU 69	5.44	0.21	53.33	-0.0333	0.196	0.0007
11	SLU 70	5.43	0.21	53.1	-0.0344	0.1957	0.0007
11	SLU 71	5.45	0.21	53.33	-0.0333	0.1964	0.0007
11	SLU 72	5.44	0.21	53.1	-0.0345	0.1961	0.0007
11	SLU 73	5.85	0.22	55.76	-0.0368	0.2113	0.0007
11	SLU 74	6.05	0.22	57.14	-0.036	0.2184	0.0008
11	SLU 75	6.04	0.23	56.91	-0.0372	0.2181	0.0008
11	SLU 76	6.04	0.23	56.75	-0.0379	0.2182	0.0008
11	SLU 77	6.24	0.23	58.14	-0.0371	0.2254	0.0008
11	SLU 78	6.23	0.23	57.9	-0.0383	0.2251	0.0008
11	SLU 79	6.25	0.23	58.13	-0.0371	0.2258	0.0008
11	SLU 80	6.24	0.23	57.9	-0.0383	0.2254	0.0008



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
11	SLU 81	6.21	0.23	58.21	-0.0366	0.2244	0.0008
11	SLU 82	6.2	0.23	57.97	-0.0377	0.2241	0.0008
11	SLU 83	6.4	0.23	59.2	-0.0377	0.2314	0.0008
11	SLU 84	6.39	0.24	58.96	-0.0388	0.231	0.0008
11	SLE RA 1	3.81	0.15	38.93	-0.0235	0.1372	0.0005
11	SLE RA 2	3.8	0.15	38.66	-0.0247	0.1368	0.0005
11	SLE RA 3	3.93	0.15	39.59	-0.0242	0.1416	0.0005
11	SLE RA 4	3.92	0.15	39.43	-0.025	0.1414	0.0005
11	SLE RA 5	3.92	0.15	39.33	-0.0255	0.1415	0.0005
11	SLE RA 6	4.06	0.16	40.25	-0.0249	0.1462	0.0005
11	SLE RA 7	4.05	0.16	40.09	-0.0257	0.146	0.0005
11	SLE RA 8	4.07	0.15	40.25	-0.0249	0.1465	0.0005
11	SLE RA 9	4.06	0.16	40.09	-0.0257	0.1463	0.0005
11	SLE RA 10	4.33	0.17	41.87	-0.0273	0.1564	0.0006
11	SLE RA 11	4.47	0.17	42.79	-0.0267	0.1612	0.0006
11	SLE RA 12	4.46	0.17	42.63	-0.0275	0.161	0.0006
11	SLE RA 13	4.46	0.17	42.53	-0.028	0.1611	0.0006
11	SLE RA 14	4.59	0.17	43.45	-0.0275	0.1658	0.0006
11	SLE RA 15	4.59	0.17	43.3	-0.0282	0.1656	0.0006
11	SLE RA 16	4.6	0.17	43.45	-0.0275	0.1661	0.0006
11	SLE RA 17	4.59	0.17	43.3	-0.0282	0.1658	0.0006
11	SLE RA 18	4.57	0.17	43.5	-0.0271	0.1652	0.0006
11	SLE RA 19	4.57	0.17	43.34	-0.0279	0.1649	0.0006
11	SLE RA 20	4.7	0.17	44.16	-0.0279	0.1698	0.0006
11	SLE RA 21	4.69	0.17	44	-0.0286	0.1696	0.0006
11	SLE FR 1	3.81	0.15	38.93	-0.0235	0.1372	0.0005
11	SLE FR 2	3.81	0.15	38.87	-0.0237	0.1371	0.0005
11	SLE FR 3	3.86	0.15	39.19	-0.0238	0.1391	0.0005
11	SLE FR 4	4.04	0.16	40.25	-0.0248	0.1455	0.0005
11	SLE FR 5	4.09	0.16	40.56	-0.0249	0.1474	0.0005
11	SLE FR 6	4.19	0.16	41.21	-0.0253	0.1512	0.0005
11	SLE QP 1	3.81	0.15	38.93	-0.0235	0.1372	0.0005
11	SLE QP 2	4.04	0.16	40.3	-0.0246	0.1456	0.0005
11	SLD 1	7.55	0.22	52.27	-0.0165	0.2887	0.0007
11	SLD 2	7.55	0.22	52.27	-0.0165	0.2887	0.0007
11	SLD 3	6.24	0.17	44.44	0.0045	0.241	0.0006
11	SLD 4	6.24	0.17	44.44	0.0045	0.241	0.0006
11	SLD 5	7.07	0.24	55.77	-0.054	0.2608	0.0008
11	SLD 6	7.07	0.24	55.77	-0.054	0.2608	0.0008
11	SLD 7	2.73	0.09	29.66	0.016	0.1019	0.0003
11	SLD 8	2.73	0.09	29.66	0.016	0.1019	0.0003
11	SLD 9	5.36	0.22	50.94	-0.0652	0.1893	0.0007
11	SLD 10	5.36	0.22	50.94	-0.0652	0.1893	0.0007
11	SLD 11	1.01	0.07	24.83	0.0049	0.0303	0.0003
11	SLD 12	1.01	0.07	24.83	0.0049	0.0303	0.0003
11	SLD 13	1.84	0.14	36.16	-0.0537	0.0502	0.0005
11	SLD 14	1.84	0.14	36.16	-0.0537	0.0502	0.0005
11	SLD 15	0.54	0.09	28.33	-0.0326	0.0025	0.0003
11	SLD 16	0.54	0.09	28.33	-0.0326	0.0025	0.0003
11	SLV 1	12.25	0.3	68.47	-0.0057	0.4807	0.001
11	SLV 2	12.25	0.3	68.47	-0.0057	0.4807	0.001
11	SLV 3	9.19	0.19	49.92	0.0436	0.3685	0.0007
11	SLV 4	9.19	0.19	49.92	0.0436	0.3685	0.0007
11	SLV 5	11.15	0.37	76.88	-0.0936	0.4162	0.0012
11	SLV 6	11.15	0.37	76.88	-0.0936	0.4162	0.0012
11	SLV 7	0.94	0	15.05	0.0706	0.0424	0.0001
11	SLV 8	0.94	0	15.05	0.0706	0.0424	0.0001
11	SLV 9	7.14	0.31	65.54	-0.1197	0.2488	0.001
11	SLV 10	7.14	0.31	65.54	-0.1197	0.2488	0.001
11	SLV 11	-3.07	-0.06	3.71	0.0445	-0.125	-0.0001
11	SLV 12	-3.07	-0.06	3.71	0.0445	-0.125	-0.0001
11	SLV 13	-1.1	0.12	30.67	-0.0927	-0.0774	0.0004
11	SLV 14	-1.1	0.12	30.67	-0.0927	-0.0774	0.0004
11	SLV 15	-4.17	0.01	12.12	-0.0434	-0.1895	0.0001
11	SLV 16	-4.17	0.01	12.12	-0.0434	-0.1895	0.0001
12	SLU 1	-0.26	9.09	61.84	-0.2985	0.0079	0.0001
12	SLU 2	-0.2	8.93	61.16	-0.2914	0.0104	0.0001
12	SLU 3	-0.21	9.38	63.59	-0.309	0.0107	0.0001
12	SLU 4	-0.17	9.28	63.18	-0.3047	0.0122	0.0001
12	SLU 5	-0.13	9.21	62.89	-0.3013	0.0138	0.0001
12	SLU 6	-0.14	9.66	65.32	-0.319	0.014	0.0001
12	SLU 7	-0.11	9.56	64.9	-0.3147	0.0156	0.0001
12	SLU 8	-0.13	9.64	65.3	-0.3184	0.0145	0.0001
12	SLU 9	-0.09	9.55	64.89	-0.3141	0.0161	0.0001
12	SLU 10	-0.01	10.47	69.73	-0.3449	0.0203	0.0001
12	SLU 11	-0.02	10.92	72.16	-0.3626	0.0205	0
12	SLU 12	0.02	10.82	71.75	-0.3583	0.0221	0.0001
12	SLU 13	0.05	10.74	71.46	-0.3549	0.0236	0.0001
12	SLU 14	0.05	11.19	73.89	-0.3725	0.0239	0
12	SLU 15	0.08	11.1	73.48	-0.3682	0.0254	0
12	SLU 16	0.06	11.18	73.88	-0.372	0.0244	0
12	SLU 17	0.09	11.08	73.47	-0.3677	0.0259	0
12	SLU 18	0.01	11.28	74.1	-0.375	0.0219	0
12	SLU 19	0.04	11.19	73.69	-0.3707	0.0235	0.0001
12	SLU 20	0.07	11.56	75.83	-0.385	0.0253	0
12	SLU 21	0.11	11.46	75.41	-0.3807	0.0268	0
12	SLU 22	-0.21	9.94	66.47	-0.3283	0.0112	0.0001
12	SLU 23	-0.15	9.78	65.78	-0.3211	0.0137	0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
12	SLU 24			-0.16	10.23	68.21	-0.3388	0.014	0.0001
12	SLU 25			-0.12	10.14	67.8	-0.3345	0.0155	0.0001
12	SLU 26			-0.09	10.06	67.51	-0.3311	0.0171	0.0001
12	SLU 27			-0.09	10.51	69.94	-0.3487	0.0173	0.0001
12	SLU 28			-0.06	10.41	69.53	-0.3444	0.0189	0.0001
12	SLU 29			-0.08	10.49	69.92	-0.3482	0.0179	0.0001
12	SLU 30			-0.05	10.4	69.51	-0.3439	0.0194	0.0001
12	SLU 31			0.04	11.32	74.36	-0.3747	0.0236	0.0001
12	SLU 32			0.03	11.77	76.79	-0.3923	0.0238	0.0001
12	SLU 33			0.06	11.67	76.38	-0.3881	0.0254	0.0001
12	SLU 34			0.1	11.6	76.09	-0.3846	0.0269	0.0001
12	SLU 35			0.09	12.04	78.52	-0.4023	0.0272	0
12	SLU 36			0.13	11.95	78.1	-0.398	0.0287	0
12	SLU 37			0.11	12.03	78.5	-0.4018	0.0277	0
12	SLU 38			0.14	11.94	78.09	-0.3975	0.0292	0
12	SLU 39			0.06	12.13	78.72	-0.4048	0.0252	0.0001
12	SLU 40			0.09	12.04	78.31	-0.4005	0.0268	0.0001
12	SLU 41			0.12	12.41	80.45	-0.4147	0.0286	0
12	SLU 42			0.16	12.32	80.04	-0.4105	0.0301	0
12	SLU 43			-0.36	11.52	78.81	-0.3778	0.0091	0.0001
12	SLU 44			-0.29	11.36	78.13	-0.3707	0.0116	0.0001
12	SLU 45			-0.3	11.81	80.56	-0.3883	0.0119	0.0001
12	SLU 46			-0.27	11.72	80.14	-0.3841	0.0134	0.0001
12	SLU 47			-0.23	11.64	79.85	-0.3807	0.015	0.0001
12	SLU 48			-0.24	12.09	82.28	-0.3983	0.0153	0.0001
12	SLU 49			-0.2	12	81.87	-0.394	0.0168	0.0001
12	SLU 50			-0.23	12.07	82.27	-0.3978	0.0158	0.0001
12	SLU 51			-0.19	11.98	81.86	-0.3935	0.0173	0.0001
12	SLU 52			-0.11	12.9	86.7	-0.4243	0.0215	0.0001
12	SLU 53			-0.11	13.35	89.13	-0.4419	0.0218	0.0001
12	SLU 54			-0.08	13.26	88.72	-0.4376	0.0233	0.0001
12	SLU 55			-0.04	13.18	88.43	-0.4342	0.0248	0.0001
12	SLU 56			-0.05	13.63	90.86	-0.4519	0.0251	0.0001
12	SLU 57			-0.01	13.53	90.45	-0.4476	0.0266	0.0001
12	SLU 58			-0.04	13.61	90.85	-0.4513	0.0256	0.0001
12	SLU 59			0	13.52	90.43	-0.447	0.0271	0.0001
12	SLU 60			-0.09	13.71	91.06	-0.4544	0.0232	0.0001
12	SLU 61			-0.05	13.62	90.65	-0.4501	0.0247	0.0001
12	SLU 62			-0.02	13.99	92.79	-0.4643	0.0265	0.0001
12	SLU 63			0.01	13.9	92.38	-0.46	0.028	0.0001
12	SLU 64			-0.31	12.37	83.44	-0.4076	0.0124	0.0001
12	SLU 65			-0.25	12.22	82.75	-0.4005	0.015	0.0001
12	SLU 66			-0.25	12.66	85.18	-0.4181	0.0152	0.0001
12	SLU 67			-0.22	12.57	84.77	-0.4138	0.0168	0.0001
12	SLU 68			-0.18	12.49	84.48	-0.4104	0.0183	0.0001
12	SLU 69			-0.19	12.94	86.91	-0.4281	0.0186	0.0001
12	SLU 70			-0.15	12.85	86.5	-0.4238	0.0201	0.0001
12	SLU 71			-0.18	12.93	86.89	-0.4275	0.0191	0.0001
12	SLU 72			-0.14	12.83	86.48	-0.4232	0.0206	0.0001
12	SLU 73			-0.06	13.75	91.33	-0.454	0.0248	0.0001
12	SLU 74			-0.07	14.2	93.76	-0.4717	0.0251	0.0001
12	SLU 75			-0.03	14.11	93.34	-0.4674	0.0266	0.0001
12	SLU 76			0.01	14.03	93.05	-0.464	0.0281	0.0001
12	SLU 77			0	14.48	95.48	-0.4816	0.0284	0.0001
12	SLU 78			0.04	14.38	95.07	-0.4774	0.0299	0.0001
12	SLU 79			0.01	14.46	95.47	-0.4811	0.0289	0.0001
12	SLU 80			0.05	14.37	95.06	-0.4768	0.0305	0.0001
12	SLU 81			-0.04	14.57	95.69	-0.4841	0.0265	0.0001
12	SLU 82			0	14.47	95.28	-0.4798	0.028	0.0001
12	SLU 83			0.03	14.84	97.42	-0.4941	0.0298	0.0001
12	SLU 84			0.06	14.75	97.01	-0.4898	0.0313	0.0001
12	SLE RA 1			-0.25	9.33	63.17	-0.307	0.0088	0.0001
12	SLE RA 2			-0.21	9.23	62.71	-0.3022	0.0105	0.0001
12	SLE RA 3			-0.21	9.52	64.33	-0.314	0.0107	0.0001
12	SLE RA 4			-0.19	9.46	64.05	-0.3111	0.0117	0.0001
12	SLE RA 5			-0.16	9.41	63.86	-0.3089	0.0127	0.0001
12	SLE RA 6			-0.17	9.71	65.48	-0.3206	0.0129	0.0001
12	SLE RA 7			-0.14	9.65	65.2	-0.3178	0.0139	0.0001
12	SLE RA 8			-0.16	9.7	65.47	-0.3203	0.0133	0.0001
12	SLE RA 9			-0.14	9.64	65.19	-0.3174	0.0143	0.0001
12	SLE RA 10			-0.08	10.25	68.43	-0.338	0.0171	0.0001
12	SLE RA 11			-0.09	10.55	70.05	-0.3497	0.0173	0.0001
12	SLE RA 12			-0.06	10.49	69.77	-0.3469	0.0183	0.0001
12	SLE RA 13			-0.04	10.43	69.58	-0.3446	0.0193	0.0001
12	SLE RA 14			-0.04	10.73	71.2	-0.3564	0.0195	0.0001
12	SLE RA 15			-0.02	10.67	70.92	-0.3535	0.0205	0.0001
12	SLE RA 16			-0.04	10.72	71.19	-0.356	0.0198	0.0001
12	SLE RA 17			-0.01	10.66	70.91	-0.3531	0.0208	0.0001
12	SLE RA 18			-0.07	10.79	71.33	-0.358	0.0182	0.0001
12	SLE RA 19			-0.04	10.73	71.06	-0.3552	0.0192	0.0001
12	SLE RA 20			-0.02	10.98	72.49	-0.3647	0.0204	0.0001
12	SLE RA 21			0	10.92	72.21	-0.3618	0.0214	0.0001
12	SLE FR 1			-0.25	9.33	63.17	-0.307	0.0088	0.0001
12	SLE FR 2			-0.24	9.31	63.07	-0.306	0.0092	0.0001
12	SLE FR 3			-0.23	9.4	63.63	-0.3097	0.0097	0.0001
12	SLE FR 4			-0.19	9.75	65.52	-0.3214	0.012	0.0001
12	SLE FR 5			-0.18	9.84	66.08	-0.325	0.0125	0.0001
12	SLE FR 6			-0.16	10.06	67.25	-0.3325	0.0135	0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
12	SLE QP 1	-0.25	9.33	63.17	-0.307	0.0088	0.0001	
12	SLE QP 2	-0.19	9.77	65.62	-0.3223	0.0116	0.0001	
12	SLD 1	1.95	13.52	85.67	-0.4665	0.1366	0	
12	SLD 2	1.95	13.52	85.67	-0.4665	0.1366	0	
12	SLD 3	2.39	10.8	71.96	-0.3555	0.1149	-0.0001	
12	SLD 4	2.39	10.8	71.96	-0.3555	0.1149	-0.0001	
12	SLD 5	-0.23	15.03	92.42	-0.5339	0.0821	0.0001	
12	SLD 6	-0.23	15.03	92.42	-0.5339	0.0821	0.0001	
12	SLD 7	1.26	5.95	46.73	-0.164	0.0096	-0.0001	
12	SLD 8	1.26	5.95	46.73	-0.164	0.0096	-0.0001	
12	SLD 9	-1.65	13.59	84.5	-0.4806	0.0136	0.0002	
12	SLD 10	-1.65	13.59	84.5	-0.4806	0.0136	0.0002	
12	SLD 11	-0.16	4.51	38.81	-0.1107	-0.0589	0	
12	SLD 12	-0.16	4.51	38.81	-0.1107	-0.0589	0	
12	SLD 13	-2.78	8.74	59.27	-0.2891	-0.0916	0.0002	
12	SLD 14	-2.78	8.74	59.27	-0.2891	-0.0916	0.0002	
12	SLD 15	-2.33	6.01	45.56	-0.1781	-0.1134	0.0002	
12	SLD 16	-2.33	6.01	45.56	-0.1781	-0.1134	0.0002	
12	SLV 1	4.81	18.59	112.8	-0.6609	0.304	-0.0002	
12	SLV 2	4.81	18.59	112.8	-0.6609	0.304	-0.0002	
12	SLV 3	5.86	12.17	80.37	-0.3997	0.2529	-0.0003	
12	SLV 4	5.86	12.17	80.37	-0.3997	0.2529	-0.0003	
12	SLV 5	-0.29	22.16	128.95	-0.8201	0.1767	0.0001	
12	SLV 6	-0.29	22.16	128.95	-0.8201	0.1767	0.0001	
12	SLV 7	3.22	0.74	20.86	0.0507	0.0066	-0.0002	
12	SLV 8	3.22	0.74	20.86	0.0507	0.0066	-0.0002	
12	SLV 9	-3.61	18.79	110.38	-0.6953	0.0166	0.0003	
12	SLV 10	-3.61	18.79	110.38	-0.6953	0.0166	0.0003	
12	SLV 11	-0.1	-2.62	2.28	0.1755	-0.1535	0	
12	SLV 12	-0.1	-2.62	2.28	0.1755	-0.1535	0	
12	SLV 13	-6.25	7.37	50.87	-0.2449	-0.2297	0.0004	
12	SLV 14	-6.25	7.37	50.87	-0.2449	-0.2297	0.0004	
12	SLV 15	-5.19	0.95	18.44	0.0163	-0.2807	0.0003	
12	SLV 16	-5.19	0.95	18.44	0.0163	-0.2807	0.0003	
13	SLU 1	-3.86	0.12	38.12	-0.0256	-0.1238	-0.0006	
13	SLU 2	-3.72	0.11	37.77	-0.0209	-0.1191	-0.0006	
13	SLU 3	-3.91	0.12	39.2	-0.0265	-0.1252	-0.0006	
13	SLU 4	-3.83	0.12	38.99	-0.0237	-0.1223	-0.0006	
13	SLU 5	-3.76	0.12	38.87	-0.0217	-0.1199	-0.0006	
13	SLU 6	-3.95	0.12	40.3	-0.0272	-0.126	-0.0006	
13	SLU 7	-3.87	0.12	40.09	-0.0244	-0.1231	-0.0006	
13	SLU 8	-3.94	0.12	40.31	-0.0272	-0.1254	-0.0006	
13	SLU 9	-3.86	0.12	40.11	-0.0244	-0.1225	-0.0006	
13	SLU 10	-4.11	0.13	42.95	-0.0267	-0.13	-0.0007	
13	SLU 11	-4.3	0.14	44.38	-0.0322	-0.1361	-0.0007	
13	SLU 12	-4.22	0.14	44.17	-0.0294	-0.1333	-0.0007	
13	SLU 13	-4.15	0.14	44.05	-0.0274	-0.1308	-0.0007	
13	SLU 14	-4.34	0.15	45.48	-0.0329	-0.1369	-0.0007	
13	SLU 15	-4.26	0.14	45.27	-0.0301	-0.1341	-0.0007	
13	SLU 16	-4.32	0.14	45.49	-0.0329	-0.1363	-0.0007	
13	SLU 17	-4.24	0.14	45.29	-0.0301	-0.1335	-0.0007	
13	SLU 18	-4.41	0.15	45.51	-0.0338	-0.1395	-0.0007	
13	SLU 19	-4.33	0.14	45.31	-0.031	-0.1366	-0.0007	
13	SLU 20	-4.45	0.15	46.61	-0.0345	-0.1403	-0.0008	
13	SLU 21	-4.37	0.15	46.41	-0.0317	-0.1374	-0.0008	
13	SLU 22	-4.13	0.13	40.82	-0.0287	-0.132	-0.0006	
13	SLU 23	-3.99	0.12	40.48	-0.0241	-0.1273	-0.0006	
13	SLU 24	-4.18	0.13	41.91	-0.0296	-0.1334	-0.0007	
13	SLU 25	-4.1	0.13	41.7	-0.0268	-0.1306	-0.0007	
13	SLU 26	-4.03	0.13	41.58	-0.0248	-0.1281	-0.0007	
13	SLU 27	-4.22	0.14	43.01	-0.0303	-0.1342	-0.0007	
13	SLU 28	-4.14	0.13	42.8	-0.0275	-0.1314	-0.0007	
13	SLU 29	-4.21	0.14	43.02	-0.0303	-0.1336	-0.0007	
13	SLU 30	-4.13	0.13	42.82	-0.0275	-0.1308	-0.0007	
13	SLU 31	-4.38	0.15	45.66	-0.0298	-0.1383	-0.0007	
13	SLU 32	-4.57	0.15	47.09	-0.0353	-0.1444	-0.0008	
13	SLU 33	-4.49	0.15	46.88	-0.0325	-0.1415	-0.0008	
13	SLU 34	-4.42	0.15	46.76	-0.0305	-0.1391	-0.0008	
13	SLU 35	-4.61	0.16	48.19	-0.036	-0.1452	-0.0008	
13	SLU 36	-4.53	0.15	47.98	-0.0332	-0.1423	-0.0008	
13	SLU 37	-4.6	0.16	48.2	-0.036	-0.1446	-0.0008	
13	SLU 38	-4.51	0.15	47.99	-0.0332	-0.1417	-0.0008	
13	SLU 39	-4.68	0.16	48.22	-0.0369	-0.1477	-0.0008	
13	SLU 40	-4.6	0.16	48.01	-0.0341	-0.1449	-0.0008	
13	SLU 41	-4.72	0.16	49.32	-0.0376	-0.1485	-0.0008	
13	SLU 42	-4.64	0.16	49.11	-0.0348	-0.1457	-0.0008	
13	SLU 43	-4.92	0.15	48.62	-0.0322	-0.1581	-0.0007	
13	SLU 44	-4.79	0.14	48.28	-0.0276	-0.1534	-0.0007	
13	SLU 45	-4.98	0.15	49.71	-0.0331	-0.1595	-0.0008	
13	SLU 46	-4.9	0.15	49.5	-0.0303	-0.1567	-0.0008	
13	SLU 47	-4.83	0.15	49.38	-0.0283	-0.1542	-0.0007	
13	SLU 48	-5.02	0.16	50.81	-0.0339	-0.1603	-0.0008	
13	SLU 49	-4.94	0.15	50.6	-0.0311	-0.1575	-0.0008	
13	SLU 50	-5	0.16	50.82	-0.0338	-0.1597	-0.0008	
13	SLU 51	-4.92	0.15	50.62	-0.031	-0.1569	-0.0008	
13	SLU 52	-5.17	0.16	53.46	-0.0333	-0.1644	-0.0008	
13	SLU 53	-5.37	0.17	54.88	-0.0388	-0.1705	-0.0009	
13	SLU 54	-5.28	0.17	54.68	-0.036	-0.1676	-0.0009	





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
13	SLU 55	-5.21	0.17	54.56	-0.034	-0.1651	-0.0009
13	SLU 56	-5.41	0.18	55.98	-0.0396	-0.1713	-0.0009
13	SLU 57	-5.32	0.17	55.78	-0.0368	-0.1684	-0.0009
13	SLU 58	-5.39	0.18	56	-0.0395	-0.1707	-0.0009
13	SLU 59	-5.31	0.17	55.79	-0.0367	-0.1678	-0.0009
13	SLU 60	-5.48	0.18	56.02	-0.0404	-0.1738	-0.0009
13	SLU 61	-5.39	0.18	55.81	-0.0376	-0.1709	-0.0009
13	SLU 62	-5.52	0.18	57.12	-0.0412	-0.1746	-0.0009
13	SLU 63	-5.43	0.18	56.91	-0.0384	-0.1717	-0.0009
13	SLU 64	-5.19	0.16	51.33	-0.0353	-0.1663	-0.0008
13	SLU 65	-5.06	0.16	50.99	-0.0307	-0.1616	-0.0008
13	SLU 66	-5.25	0.16	52.41	-0.0362	-0.1677	-0.0008
13	SLU 67	-5.17	0.16	52.21	-0.0334	-0.1649	-0.0008
13	SLU 68	-5.1	0.16	52.09	-0.0314	-0.1624	-0.0008
13	SLU 69	-5.29	0.17	53.51	-0.037	-0.1685	-0.0008
13	SLU 70	-5.21	0.16	53.31	-0.0342	-0.1657	-0.0008
13	SLU 71	-5.27	0.17	53.53	-0.0369	-0.1679	-0.0008
13	SLU 72	-5.19	0.16	53.32	-0.0341	-0.1651	-0.0008
13	SLU 73	-5.44	0.18	56.16	-0.0364	-0.1726	-0.0009
13	SLU 74	-5.64	0.18	57.59	-0.0419	-0.1787	-0.0009
13	SLU 75	-5.55	0.18	57.39	-0.0391	-0.1759	-0.0009
13	SLU 76	-5.48	0.18	57.26	-0.0371	-0.1734	-0.0009
13	SLU 77	-5.68	0.19	58.69	-0.0427	-0.1795	-0.001
13	SLU 78	-5.59	0.19	58.49	-0.0399	-0.1767	-0.0009
13	SLU 79	-5.66	0.19	58.71	-0.0426	-0.1789	-0.001
13	SLU 80	-5.58	0.18	58.5	-0.0398	-0.1761	-0.0009
13	SLU 81	-5.75	0.19	58.73	-0.0435	-0.182	-0.001
13	SLU 82	-5.66	0.19	58.52	-0.0407	-0.1792	-0.001
13	SLU 83	-5.79	0.19	59.83	-0.0443	-0.1828	-0.001
13	SLU 84	-5.7	0.19	59.62	-0.0415	-0.18	-0.001
13	SLE RA 1	-3.93	0.12	38.89	-0.0265	-0.1261	-0.0006
13	SLE RA 2	-3.84	0.12	38.66	-0.0234	-0.123	-0.0006
13	SLE RA 3	-3.97	0.12	39.61	-0.0271	-0.1271	-0.0006
13	SLE RA 4	-3.92	0.12	39.47	-0.0252	-0.1252	-0.0006
13	SLE RA 5	-3.87	0.12	39.39	-0.0239	-0.1235	-0.0006
13	SLE RA 6	-4	0.13	40.34	-0.0276	-0.1276	-0.0006
13	SLE RA 7	-3.94	0.12	40.21	-0.0257	-0.1257	-0.0006
13	SLE RA 8	-3.99	0.13	40.36	-0.0275	-0.1272	-0.0006
13	SLE RA 9	-3.93	0.12	40.22	-0.0257	-0.1253	-0.0006
13	SLE RA 10	-4.1	0.13	42.11	-0.0272	-0.1303	-0.0007
13	SLE RA 11	-4.23	0.14	43.06	-0.0309	-0.1344	-0.0007
13	SLE RA 12	-4.18	0.14	42.93	-0.029	-0.1325	-0.0007
13	SLE RA 13	-4.13	0.13	42.85	-0.0277	-0.1308	-0.0007
13	SLE RA 14	-4.26	0.14	43.8	-0.0314	-0.1349	-0.0007
13	SLE RA 15	-4.2	0.14	43.66	-0.0295	-0.133	-0.0007
13	SLE RA 16	-4.25	0.14	43.81	-0.0313	-0.1345	-0.0007
13	SLE RA 17	-4.19	0.14	43.67	-0.0295	-0.1326	-0.0007
13	SLE RA 18	-4.3	0.14	43.82	-0.0319	-0.1366	-0.0007
13	SLE RA 19	-4.25	0.14	43.68	-0.0301	-0.1347	-0.0007
13	SLE RA 20	-4.33	0.14	44.55	-0.0324	-0.1371	-0.0007
13	SLE RA 21	-4.28	0.14	44.42	-0.0306	-0.1352	-0.0007
13	SLE FR 1	-3.93	0.12	38.89	-0.0265	-0.1261	-0.0006
13	SLE FR 2	-3.92	0.12	38.84	-0.0259	-0.1255	-0.0006
13	SLE FR 3	-3.95	0.12	39.18	-0.0267	-0.1264	-0.0006
13	SLE FR 4	-4.03	0.13	40.32	-0.0275	-0.1286	-0.0006
13	SLE FR 5	-4.06	0.13	40.66	-0.0283	-0.1295	-0.0006
13	SLE FR 6	-4.12	0.13	41.35	-0.0292	-0.1314	-0.0007
13	SLE QP 1	-3.93	0.12	38.89	-0.0265	-0.1261	-0.0006
13	SLE QP 2	-4.05	0.13	40.37	-0.0281	-0.1293	-0.0006
13	SLD 1	-2.21	0.23	51.34	-0.061	-0.051	-0.0011
13	SLD 2	-2.21	0.23	51.34	-0.061	-0.051	-0.0011
13	SLD 3	-0.99	0.19	43.44	-0.0442	-0.0107	-0.0009
13	SLD 4	-0.99	0.19	43.44	-0.0442	-0.0107	-0.0009
13	SLD 5	-5.34	0.21	55.65	-0.0635	-0.1668	-0.001
13	SLD 6	-5.34	0.21	55.65	-0.0635	-0.1668	-0.001
13	SLD 7	-1.28	0.09	29.3	-0.0075	-0.0327	-0.0005
13	SLD 8	-1.28	0.09	29.3	-0.0075	-0.0327	-0.0005
13	SLD 9	-6.81	0.16	51.44	-0.0488	-0.2259	-0.0008
13	SLD 10	-6.81	0.16	51.44	-0.0488	-0.2259	-0.0008
13	SLD 11	-2.75	0.04	25.08	0.0072	-0.0917	-0.0003
13	SLD 12	-2.75	0.04	25.08	0.0072	-0.0917	-0.0003
13	SLD 13	-7.1	0.06	37.3	-0.012	-0.2478	-0.0003
13	SLD 14	-7.1	0.06	37.3	-0.012	-0.2478	-0.0003
13	SLD 15	-5.88	0.03	29.39	0.0048	-0.2076	-0.0002
13	SLD 16	-5.88	0.03	29.39	0.0048	-0.2076	-0.0002
13	SLV 1	0.22	0.36	66.2	-0.1052	0.0529	-0.0017
13	SLV 2	0.22	0.36	66.2	-0.1052	0.0529	-0.0017
13	SLV 3	3.12	0.27	47.49	-0.0658	0.1487	-0.0014
13	SLV 4	3.12	0.27	47.49	-0.0658	0.1487	-0.0014
13	SLV 5	-7.15	0.33	76.49	-0.1111	-0.2198	-0.0015
13	SLV 6	-7.15	0.33	76.49	-0.1111	-0.2198	-0.0015
13	SLV 7	2.49	0.04	14.13	0.0204	0.0993	-0.0003
13	SLV 8	2.49	0.04	14.13	0.0204	0.0993	-0.0003
13	SLV 9	-10.58	0.21	66.61	-0.0767	-0.3578	-0.001
13	SLV 10	-10.58	0.21	66.61	-0.0767	-0.3578	-0.001
13	SLV 11	-0.94	-0.07	4.24	0.0549	-0.0388	0.0003
13	SLV 12	-0.94	-0.07	4.24	0.0549	-0.0388	0.0003
13	SLV 13	-11.21	-0.02	33.25	0.0095	-0.4072	0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
13	SLV 14	-11.21	-0.02	33.25	0.0095	-0.4072	0.0001
13	SLV 15	-8.32	-0.11	14.54	0.049	-0.3115	0.0005
13	SLV 16	-8.32	-0.11	14.54	0.049	-0.3115	0.0005
14	SLU 1	-3.09	-0.05	31.66	0.0116	-0.0937	0.0001
14	SLU 2	-2.98	-0.06	31.46	0.0197	-0.0894	0.0002
14	SLU 3	-3.09	-0.05	32.6	0.0121	-0.0926	0.0001
14	SLU 4	-3.02	-0.06	32.48	0.017	-0.09	0.0001
14	SLU 5	-2.95	-0.06	32.44	0.0203	-0.0874	0.0002
14	SLU 6	-3.07	-0.05	33.57	0.0127	-0.0907	0.0001
14	SLU 7	-3	-0.06	33.45	0.0175	-0.088	0.0002
14	SLU 8	-3.05	-0.06	33.6	0.0128	-0.0898	0.0001
14	SLU 9	-2.98	-0.06	33.49	0.0176	-0.0872	0.0002
14	SLU 10	-3.26	-0.06	35.82	0.0188	-0.0959	0.0002
14	SLU 11	-3.38	-0.06	36.95	0.0112	-0.0992	0.0001
14	SLU 12	-3.31	-0.06	36.83	0.0161	-0.0966	0.0002
14	SLU 13	-3.24	-0.07	36.79	0.0194	-0.094	0.0002
14	SLU 14	-3.35	-0.06	37.92	0.0118	-0.0972	0.0001
14	SLU 15	-3.28	-0.06	37.81	0.0167	-0.0946	0.0002
14	SLU 16	-3.33	-0.06	37.96	0.0119	-0.0964	0.0001
14	SLU 17	-3.26	-0.07	37.84	0.0168	-0.0938	0.0002
14	SLU 18	-3.5	-0.06	37.88	0.0104	-0.1031	0.0001
14	SLU 19	-3.43	-0.06	37.76	0.0152	-0.1005	0.0002
14	SLU 20	-3.48	-0.06	38.85	0.011	-0.1011	0.0001
14	SLU 21	-3.41	-0.06	38.73	0.0158	-0.0985	0.0002
14	SLU 22	-3.28	-0.05	33.86	0.0113	-0.0987	0.0001
14	SLU 23	-3.17	-0.06	33.67	0.0194	-0.0944	0.0002
14	SLU 24	-3.28	-0.05	34.8	0.0118	-0.0976	0.0001
14	SLU 25	-3.21	-0.06	34.69	0.0167	-0.095	0.0002
14	SLU 26	-3.14	-0.06	34.64	0.02	-0.0924	0.0002
14	SLU 27	-3.26	-0.06	35.77	0.0124	-0.0956	0.0001
14	SLU 28	-3.19	-0.06	35.66	0.0173	-0.093	0.0002
14	SLU 29	-3.24	-0.06	35.81	0.0125	-0.0948	0.0001
14	SLU 30	-3.17	-0.06	35.69	0.0174	-0.0922	0.0002
14	SLU 31	-3.45	-0.07	38.02	0.0185	-0.1009	0.0002
14	SLU 32	-3.57	-0.06	39.16	0.011	-0.1042	0.0001
14	SLU 33	-3.5	-0.06	39.04	0.0158	-0.1016	0.0002
14	SLU 34	-3.43	-0.07	38.99	0.0191	-0.099	0.0002
14	SLU 35	-3.54	-0.06	40.13	0.0115	-0.1022	0.0001
14	SLU 36	-3.47	-0.07	40.01	0.0164	-0.0996	0.0002
14	SLU 37	-3.52	-0.06	40.16	0.0116	-0.1014	0.0001
14	SLU 38	-3.45	-0.07	40.04	0.0165	-0.0987	0.0002
14	SLU 39	-3.69	-0.06	40.08	0.0101	-0.1081	0.0001
14	SLU 40	-3.62	-0.06	39.96	0.0149	-0.1055	0.0002
14	SLU 41	-3.67	-0.06	41.05	0.0107	-0.1061	0.0001
14	SLU 42	-3.6	-0.07	40.94	0.0155	-0.1035	0.0002
14	SLU 43	-3.96	-0.06	40.4	0.0152	-0.1201	0.0002
14	SLU 44	-3.84	-0.07	40.21	0.0233	-0.1158	0.0002
14	SLU 45	-3.96	-0.07	41.34	0.0157	-0.119	0.0002
14	SLU 46	-3.89	-0.07	41.23	0.0205	-0.1164	0.0002
14	SLU 47	-3.82	-0.08	41.18	0.0239	-0.1138	0.0002
14	SLU 48	-3.93	-0.07	42.31	0.0163	-0.1171	0.0002
14	SLU 49	-3.86	-0.07	42.2	0.0211	-0.1145	0.0002
14	SLU 50	-3.91	-0.07	42.35	0.0164	-0.1162	0.0002
14	SLU 51	-3.84	-0.08	42.23	0.0212	-0.1136	0.0002
14	SLU 52	-4.13	-0.08	44.56	0.0224	-0.1223	0.0002
14	SLU 53	-4.24	-0.07	45.7	0.0148	-0.1256	0.0002
14	SLU 54	-4.17	-0.08	45.58	0.0197	-0.123	0.0002
14	SLU 55	-4.1	-0.08	45.53	0.023	-0.1204	0.0002
14	SLU 56	-4.22	-0.07	46.67	0.0154	-0.1236	0.0002
14	SLU 57	-4.15	-0.08	46.55	0.0203	-0.121	0.0002
14	SLU 58	-4.2	-0.07	46.7	0.0155	-0.1228	0.0002
14	SLU 59	-4.13	-0.08	46.58	0.0204	-0.1202	0.0002
14	SLU 60	-4.37	-0.07	46.62	0.014	-0.1295	0.0002
14	SLU 61	-4.3	-0.08	46.5	0.0188	-0.1269	0.0002
14	SLU 62	-4.34	-0.07	47.59	0.0146	-0.1276	0.0002
14	SLU 63	-4.27	-0.08	47.47	0.0194	-0.1249	0.0002
14	SLU 64	-4.15	-0.07	42.61	0.0149	-0.1251	0.0002
14	SLU 65	-4.03	-0.08	42.41	0.023	-0.1208	0.0002
14	SLU 66	-4.14	-0.07	43.55	0.0154	-0.124	0.0002
14	SLU 67	-4.07	-0.07	43.43	0.0203	-0.1214	0.0002
14	SLU 68	-4.01	-0.08	43.38	0.0236	-0.1188	0.0002
14	SLU 69	-4.12	-0.07	44.52	0.016	-0.122	0.0002
14	SLU 70	-4.05	-0.08	44.4	0.0208	-0.1194	0.0002
14	SLU 71	-4.1	-0.07	44.55	0.0161	-0.1212	0.0002
14	SLU 72	-4.03	-0.08	44.43	0.0209	-0.1186	0.0002
14	SLU 73	-4.31	-0.08	46.76	0.0221	-0.1273	0.0002
14	SLU 74	-4.43	-0.07	47.9	0.0145	-0.1306	0.0002
14	SLU 75	-4.36	-0.08	47.78	0.0194	-0.128	0.0002
14	SLU 76	-4.29	-0.08	47.73	0.0227	-0.1254	0.0002
14	SLU 77	-4.41	-0.08	48.87	0.0151	-0.1286	0.0002
14	SLU 78	-4.34	-0.08	48.75	0.02	-0.126	0.0002
14	SLU 79	-4.39	-0.08	48.9	0.0152	-0.1278	0.0002
14	SLU 80	-4.31	-0.08	48.78	0.0201	-0.1251	0.0002
14	SLU 81	-4.56	-0.07	48.83	0.0137	-0.1345	0.0002
14	SLU 82	-4.48	-0.08	48.71	0.0185	-0.1319	0.0002
14	SLU 83	-4.53	-0.08	49.8	0.0143	-0.1325	0.0002
14	SLU 84	-4.46	-0.08	49.68	0.0191	-0.1299	0.0002
14	SLE RA 1	-3.15	-0.05	32.29	0.0115	-0.0951	0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
14	SLE RA 2	-3.07	-0.06	32.16	0.0169	-0.0922	0.0001
14	SLE RA 3	-3.15	-0.05	32.92	0.0119	-0.0944	0.0001
14	SLE RA 4	-3.1	-0.06	32.84	0.0151	-0.0927	0.0001
14	SLE RA 5	-3.05	-0.06	32.81	0.0173	-0.0909	0.0001
14	SLE RA 6	-3.13	-0.05	33.56	0.0123	-0.0931	0.0001
14	SLE RA 7	-3.08	-0.06	33.49	0.0155	-0.0914	0.0001
14	SLE RA 8	-3.12	-0.05	33.59	0.0123	-0.0925	0.0001
14	SLE RA 9	-3.07	-0.06	33.51	0.0156	-0.0908	0.0001
14	SLE RA 10	-3.26	-0.06	35.06	0.0163	-0.0966	0.0001
14	SLE RA 11	-3.34	-0.06	35.82	0.0113	-0.0988	0.0001
14	SLE RA 12	-3.29	-0.06	35.74	0.0145	-0.097	0.0001
14	SLE RA 13	-3.24	-0.06	35.71	0.0167	-0.0953	0.0002
14	SLE RA 14	-3.32	-0.06	36.47	0.0117	-0.0975	0.0001
14	SLE RA 15	-3.27	-0.06	36.39	0.0149	-0.0957	0.0001
14	SLE RA 16	-3.31	-0.06	36.49	0.0118	-0.0969	0.0001
14	SLE RA 17	-3.26	-0.06	36.41	0.015	-0.0952	0.0001
14	SLE RA 18	-3.42	-0.05	36.44	0.0107	-0.1014	0.0001
14	SLE RA 19	-3.37	-0.06	36.36	0.0139	-0.0997	0.0001
14	SLE RA 20	-3.4	-0.06	37.08	0.0111	-0.1001	0.0001
14	SLE RA 21	-3.36	-0.06	37	0.0143	-0.0984	0.0001
14	SLE FR 1	-3.15	-0.05	32.29	0.0115	-0.0951	0.0001
14	SLE FR 2	-3.13	-0.05	32.26	0.0126	-0.0946	0.0001
14	SLE FR 3	-3.14	-0.05	32.55	0.0117	-0.0946	0.0001
14	SLE FR 4	-3.21	-0.05	33.51	0.0124	-0.0964	0.0001
14	SLE FR 5	-3.22	-0.05	33.79	0.0115	-0.0965	0.0001
14	SLE FR 6	-3.28	-0.05	34.36	0.0111	-0.0983	0.0001
14	SLE QP 1	-3.15	-0.05	32.29	0.0115	-0.0951	0.0001
14	SLE QP 2	-3.23	-0.05	33.53	0.0113	-0.097	0.0001
14	SLD 1	-0.96	-0.01	40.83	0.0029	0.0049	-0.0003
14	SLD 2	-0.96	-0.01	40.83	0.0029	0.0049	-0.0003
14	SLD 3	0.11	0.04	34.81	-0.0245	0.043	-0.0005
14	SLD 4	0.11	0.04	34.81	-0.0245	0.043	-0.0005
14	SLD 5	-4.17	-0.11	44.85	0.0504	-0.1242	0.0004
14	SLD 6	-4.17	-0.11	44.85	0.0504	-0.1242	0.0004
14	SLD 7	-0.6	0.04	24.8	-0.041	0.0028	-0.0004
14	SLD 8	-0.6	0.04	24.8	-0.041	0.0028	-0.0004
14	SLD 9	-5.86	-0.15	42.27	0.0636	-0.1968	0.0007
14	SLD 10	-5.86	-0.15	42.27	0.0636	-0.1968	0.0007
14	SLD 11	-2.29	0.01	22.22	-0.0278	-0.0698	-0.0001
14	SLD 12	-2.29	0.01	22.22	-0.0278	-0.0698	-0.0001
14	SLD 13	-6.57	-0.14	32.26	0.0471	-0.2371	0.0008
14	SLD 14	-6.57	-0.14	32.26	0.0471	-0.2371	0.0008
14	SLD 15	-5.5	-0.09	26.24	0.0197	-0.199	0.0005
14	SLD 16	-5.5	-0.09	26.24	0.0197	-0.199	0.0005
14	SLV 1	2.06	0.05	50.71	-0.0083	0.1404	-0.0008
14	SLV 2	2.06	0.05	50.71	-0.0083	0.1404	-0.0008
14	SLV 3	4.61	0.15	36.48	-0.0725	0.2312	-0.0014
14	SLV 4	4.61	0.15	36.48	-0.0725	0.2312	-0.0014
14	SLV 5	-5.52	-0.19	60.26	0.1028	-0.1635	0.0007
14	SLV 6	-5.52	-0.19	60.26	0.1028	-0.1635	0.0007
14	SLV 7	3	0.17	12.85	-0.1112	0.1392	-0.0011
14	SLV 8	3	0.17	12.85	-0.1112	0.1392	-0.0011
14	SLV 9	-9.46	-0.28	54.22	0.1338	-0.3332	0.0014
14	SLV 10	-9.46	-0.28	54.22	0.1338	-0.3332	0.0014
14	SLV 11	-0.94	0.08	6.81	-0.0802	-0.0305	-0.0004
14	SLV 12	-0.94	0.08	6.81	-0.0802	-0.0305	-0.0004
14	SLV 13	-11.08	-0.26	30.59	0.0951	-0.4253	0.0016
14	SLV 14	-11.08	-0.26	30.59	0.0951	-0.4253	0.0016
14	SLV 15	-8.52	-0.15	16.36	0.0309	-0.3345	0.0011
14	SLV 16	-8.52	-0.15	16.36	0.0309	-0.3345	0.0011
15	SLU 1	-1.64	-0.11	28.4	0.032	-0.0751	0.0003
15	SLU 2	-1.55	-0.12	28.28	0.0425	-0.0713	0.0003
15	SLU 3	-1.55	-0.11	29.34	0.0333	-0.0724	0.0003
15	SLU 4	-1.5	-0.12	29.26	0.0396	-0.0701	0.0003
15	SLU 5	-1.44	-0.13	29.27	0.044	-0.0675	0.0003
15	SLU 6	-1.44	-0.12	30.33	0.0348	-0.0685	0.0003
15	SLU 7	-1.39	-0.13	30.26	0.0411	-0.0663	0.0003
15	SLU 8	-1.41	-0.12	30.39	0.0349	-0.0675	0.0003
15	SLU 9	-1.36	-0.13	30.31	0.0412	-0.0652	0.0003
15	SLU 10	-1.7	-0.14	32.26	0.0441	-0.0795	0.0003
15	SLU 11	-1.7	-0.13	33.33	0.0349	-0.0806	0.0003
15	SLU 12	-1.65	-0.13	33.25	0.0412	-0.0783	0.0003
15	SLU 13	-1.59	-0.14	33.25	0.0455	-0.0757	0.0003
15	SLU 14	-1.59	-0.13	34.32	0.0363	-0.0768	0.0003
15	SLU 15	-1.54	-0.14	34.24	0.0426	-0.0745	0.0003
15	SLU 16	-1.57	-0.13	34.37	0.0365	-0.0757	0.0003
15	SLU 17	-1.51	-0.14	34.3	0.0428	-0.0735	0.0003
15	SLU 18	-1.85	-0.13	34.1	0.0342	-0.0869	0.0003
15	SLU 19	-1.8	-0.13	34.02	0.0406	-0.0846	0.0003
15	SLU 20	-1.74	-0.13	35.09	0.0357	-0.0831	0.0003
15	SLU 21	-1.69	-0.14	35.01	0.042	-0.0808	0.0003
15	SLU 22	-1.7	-0.12	30.39	0.0332	-0.0786	0.0003
15	SLU 23	-1.61	-0.13	30.27	0.0437	-0.0748	0.0003
15	SLU 24	-1.62	-0.12	31.33	0.0345	-0.0759	0.0003
15	SLU 25	-1.56	-0.13	31.25	0.0408	-0.0736	0.0003
15	SLU 26	-1.5	-0.14	31.26	0.0452	-0.071	0.0003
15	SLU 27	-1.51	-0.13	32.32	0.0359	-0.0721	0.0003
15	SLU 28	-1.45	-0.13	32.25	0.0423	-0.0698	0.0003



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
15	SLU 29	-1.48	-0.13	32.38	0.0361	-0.071	0.0003
15	SLU 30	-1.43	-0.14	32.3	0.0424	-0.0687	0.0003
15	SLU 31	-1.76	-0.14	34.25	0.0453	-0.083	0.0003
15	SLU 32	-1.77	-0.13	35.32	0.0361	-0.0841	0.0003
15	SLU 33	-1.72	-0.14	35.24	0.0424	-0.0818	0.0003
15	SLU 34	-1.65	-0.15	35.24	0.0467	-0.0792	0.0003
15	SLU 35	-1.66	-0.14	36.31	0.0375	-0.0803	0.0003
15	SLU 36	-1.61	-0.15	36.23	0.0438	-0.078	0.0003
15	SLU 37	-1.63	-0.14	36.36	0.0377	-0.0793	0.0003
15	SLU 38	-1.58	-0.15	36.29	0.044	-0.077	0.0003
15	SLU 39	-1.91	-0.13	36.09	0.0354	-0.0904	0.0003
15	SLU 40	-1.86	-0.14	36.01	0.0417	-0.0881	0.0003
15	SLU 41	-1.8	-0.14	37.08	0.0369	-0.0866	0.0003
15	SLU 42	-1.75	-0.15	37	0.0432	-0.0843	0.0003
15	SLU 43	-2.1	-0.14	36.24	0.0412	-0.0964	0.0003
15	SLU 44	-2.02	-0.15	36.11	0.0517	-0.0926	0.0004
15	SLU 45	-2.02	-0.14	37.18	0.0425	-0.0937	0.0003
15	SLU 46	-1.97	-0.15	37.1	0.0488	-0.0914	0.0004
15	SLU 47	-1.91	-0.16	37.11	0.0532	-0.0888	0.0004
15	SLU 48	-1.91	-0.15	38.17	0.0439	-0.0899	0.0003
15	SLU 49	-1.86	-0.16	38.1	0.0503	-0.0876	0.0004
15	SLU 50	-1.88	-0.15	38.23	0.0441	-0.0888	0.0003
15	SLU 51	-1.83	-0.16	38.15	0.0504	-0.0865	0.0004
15	SLU 52	-2.17	-0.17	40.1	0.0533	-0.1009	0.0004
15	SLU 53	-2.17	-0.16	41.17	0.0441	-0.1019	0.0004
15	SLU 54	-2.12	-0.16	41.09	0.0504	-0.0996	0.0004
15	SLU 55	-2.06	-0.17	41.09	0.0547	-0.0971	0.0004
15	SLU 56	-2.06	-0.16	42.16	0.0455	-0.0981	0.0004
15	SLU 57	-2.01	-0.17	42.08	0.0518	-0.0958	0.0004
15	SLU 58	-2.03	-0.16	42.21	0.0457	-0.0971	0.0004
15	SLU 59	-1.98	-0.17	42.14	0.052	-0.0948	0.0004
15	SLU 60	-2.32	-0.16	41.94	0.0434	-0.1082	0.0004
15	SLU 61	-2.27	-0.17	41.86	0.0497	-0.1059	0.0004
15	SLU 62	-2.21	-0.16	42.93	0.0449	-0.1044	0.0004
15	SLU 63	-2.16	-0.17	42.85	0.0512	-0.1021	0.0004
15	SLU 64	-2.17	-0.15	38.23	0.0424	-0.0999	0.0003
15	SLU 65	-2.08	-0.16	38.1	0.0529	-0.0961	0.0004
15	SLU 66	-2.08	-0.15	39.17	0.0437	-0.0972	0.0003
15	SLU 67	-2.03	-0.16	39.09	0.05	-0.0949	0.0004
15	SLU 68	-1.97	-0.17	39.1	0.0544	-0.0923	0.0004
15	SLU 69	-1.97	-0.16	40.16	0.0451	-0.0934	0.0004
15	SLU 70	-1.92	-0.17	40.09	0.0515	-0.0911	0.0004
15	SLU 71	-1.95	-0.16	40.22	0.0453	-0.0923	0.0004
15	SLU 72	-1.9	-0.17	40.14	0.0516	-0.09	0.0004
15	SLU 73	-2.23	-0.17	42.09	0.0545	-0.1044	0.0004
15	SLU 74	-2.24	-0.16	43.16	0.0452	-0.1054	0.0004
15	SLU 75	-2.18	-0.17	43.08	0.0516	-0.1031	0.0004
15	SLU 76	-2.12	-0.18	43.08	0.0559	-0.1006	0.0004
15	SLU 77	-2.13	-0.17	44.15	0.0467	-0.1016	0.0004
15	SLU 78	-2.07	-0.18	44.07	0.053	-0.0993	0.0004
15	SLU 79	-2.1	-0.17	44.2	0.0469	-0.1006	0.0004
15	SLU 80	-2.05	-0.18	44.13	0.0532	-0.0983	0.0004
15	SLU 81	-2.38	-0.16	43.93	0.0446	-0.1117	0.0004
15	SLU 82	-2.33	-0.17	43.85	0.0509	-0.1094	0.0004
15	SLU 83	-2.27	-0.17	44.92	0.0461	-0.1079	0.0004
15	SLU 84	-2.22	-0.18	44.84	0.0524	-0.1056	0.0004
15	SLE RA 1	-1.65	-0.11	28.97	0.0323	-0.0761	0.0003
15	SLE RA 2	-1.6	-0.12	28.89	0.0394	-0.0736	0.0003
15	SLE RA 3	-1.6	-0.11	29.6	0.0332	-0.0743	0.0003
15	SLE RA 4	-1.56	-0.12	29.55	0.0374	-0.0727	0.0003
15	SLE RA 5	-1.52	-0.12	29.55	0.0403	-0.071	0.0003
15	SLE RA 6	-1.52	-0.12	30.26	0.0342	-0.0717	0.0003
15	SLE RA 7	-1.49	-0.12	30.21	0.0384	-0.0702	0.0003
15	SLE RA 8	-1.51	-0.12	30.3	0.0343	-0.071	0.0003
15	SLE RA 9	-1.47	-0.12	30.24	0.0385	-0.0695	0.0003
15	SLE RA 10	-1.7	-0.13	31.54	0.0404	-0.0791	0.0003
15	SLE RA 11	-1.7	-0.12	32.26	0.0343	-0.0798	0.0003
15	SLE RA 12	-1.66	-0.13	32.2	0.0385	-0.0782	0.0003
15	SLE RA 13	-1.62	-0.13	32.21	0.0414	-0.0765	0.0003
15	SLE RA 14	-1.63	-0.13	32.92	0.0352	-0.0772	0.0003
15	SLE RA 15	-1.59	-0.13	32.86	0.0394	-0.0757	0.0003
15	SLE RA 16	-1.61	-0.13	32.95	0.0353	-0.0765	0.0003
15	SLE RA 17	-1.57	-0.13	32.9	0.0395	-0.075	0.0003
15	SLE RA 18	-1.8	-0.12	32.77	0.0338	-0.084	0.0003
15	SLE RA 19	-1.76	-0.13	32.72	0.038	-0.0824	0.0003
15	SLE RA 20	-1.72	-0.13	33.43	0.0348	-0.0814	0.0003
15	SLE RA 21	-1.69	-0.13	33.38	0.039	-0.0799	0.0003
15	SLE FR 1	-1.65	-0.11	28.97	0.0323	-0.0761	0.0003
15	SLE FR 2	-1.64	-0.11	28.96	0.0337	-0.0756	0.0003
15	SLE FR 3	-1.62	-0.11	29.24	0.0327	-0.0751	0.0003
15	SLE FR 4	-1.69	-0.12	30.09	0.0342	-0.078	0.0003
15	SLE FR 5	-1.67	-0.12	30.38	0.0332	-0.0775	0.0003
15	SLE FR 6	-1.73	-0.12	30.87	0.0331	-0.08	0.0003
15	SLE QP 1	-1.65	-0.11	28.97	0.0323	-0.0761	0.0003
15	SLE QP 2	-1.7	-0.11	30.11	0.0328	-0.0785	0.0003
15	SLD 1	0.81	-0.17	34.63	0.059	0.0266	0.0001
15	SLD 2	0.81	-0.17	34.63	0.059	0.0266	0.0001
15	SLD 3	1.64	-0.11	29.52	0.0242	0.0608	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
15	SLD 4	1.64	-0.11	29.52	0.0242	0.0608	0		
15	SLD 5	-2.2	-0.22	39.22	0.0934	-0.0988	0.0005		
15	SLD 6	-2.2	-0.22	39.22	0.0934	-0.0988	0.0005		
15	SLD 7	0.56	-0.02	22.18	-0.0226	0.0152	-0.0001		
15	SLD 8	0.56	-0.02	22.18	-0.0226	0.0152	-0.0001		
15	SLD 9	-3.95	-0.21	38.04	0.0882	-0.1722	0.0006		
15	SLD 10	-3.95	-0.21	38.04	0.0882	-0.1722	0.0006		
15	SLD 11	-1.19	-0.01	21	-0.0279	-0.0581	0		
15	SLD 12	-1.19	-0.01	21	-0.0279	-0.0581	0		
15	SLD 13	-5.03	-0.12	30.71	0.0414	-0.2178	0.0006		
15	SLD 14	-5.03	-0.12	30.71	0.0414	-0.2178	0.0006		
15	SLD 15	-4.2	-0.06	25.59	0.0066	-0.1836	0.0004		
15	SLD 16	-4.2	-0.06	25.59	0.0066	-0.1836	0.0004		
15	SLV 1	4.14	-0.24	40.77	0.0942	0.1663	0		
15	SLV 2	4.14	-0.24	40.77	0.0942	0.1663	0		
15	SLV 3	6.12	-0.1	28.7	0.0126	0.2481	-0.0005		
15	SLV 4	6.12	-0.1	28.7	0.0126	0.2481	-0.0005		
15	SLV 5	-2.95	-0.36	51.62	0.1749	-0.129	0.0008		
15	SLV 6	-2.95	-0.36	51.62	0.1749	-0.129	0.0008		
15	SLV 7	3.65	0.1	11.37	-0.0969	0.1435	-0.0006		
15	SLV 8	3.65	0.1	11.37	-0.0969	0.1435	-0.0006		
15	SLV 9	-7.04	-0.33	48.85	0.1625	-0.3004	0.0011		
15	SLV 10	-7.04	-0.33	48.85	0.1625	-0.3004	0.0011		
15	SLV 11	-0.44	0.14	8.6	-0.1093	-0.0279	-0.0003		
15	SLV 12	-0.44	0.14	8.6	-0.1093	-0.0279	-0.0003		
15	SLV 13	-9.51	-0.13	31.53	0.0529	-0.405	0.001		
15	SLV 14	-9.51	-0.13	31.53	0.0529	-0.405	0.001		
15	SLV 15	-7.53	0.01	19.45	-0.0286	-0.3233	0.0006		
15	SLV 16	-7.53	0.01	19.45	-0.0286	-0.3233	0.0006		
16	SLU 1	0.84	-0.11	28.27	0.0331	0.0383	0.0003		
16	SLU 2	0.87	-0.13	28.13	0.044	0.0397	0.0003		
16	SLU 3	1.04	-0.12	29.34	0.0345	0.046	0.0003		
16	SLU 4	1.05	-0.13	29.26	0.041	0.0469	0.0003		
16	SLU 5	1.1	-0.13	29.29	0.0455	0.0487	0.0003		
16	SLU 6	1.26	-0.12	30.51	0.0361	0.055	0.0003		
16	SLU 7	1.28	-0.13	30.43	0.0425	0.0559	0.0003		
16	SLU 8	1.3	-0.13	30.59	0.0362	0.0563	0.0003		
16	SLU 9	1.32	-0.13	30.51	0.0427	0.0572	0.0003		
16	SLU 10	1	-0.14	32.12	0.0458	0.0462	0.0003		
16	SLU 11	1.16	-0.13	33.34	0.0363	0.0526	0.0003		
16	SLU 12	1.18	-0.14	33.26	0.0428	0.0534	0.0003		
16	SLU 13	1.23	-0.15	33.29	0.0473	0.0552	0.0004		
16	SLU 14	1.39	-0.14	34.5	0.0379	0.0616	0.0003		
16	SLU 15	1.41	-0.15	34.42	0.0443	0.0624	0.0004		
16	SLU 16	1.42	-0.14	34.59	0.038	0.0629	0.0003		
16	SLU 17	1.44	-0.15	34.5	0.0445	0.0637	0.0004		
16	SLU 18	1.02	-0.13	33.97	0.0357	0.0476	0.0003		
16	SLU 19	1.04	-0.14	33.89	0.0422	0.0485	0.0003		
16	SLU 20	1.25	-0.14	35.13	0.0373	0.0567	0.0003		
16	SLU 21	1.27	-0.15	35.05	0.0437	0.0575	0.0004		
16	SLU 22	0.99	-0.12	30.3	0.0344	0.0445	0.0003		
16	SLU 23	1.02	-0.14	30.17	0.0452	0.0459	0.0003		
16	SLU 24	1.18	-0.13	31.38	0.0358	0.0523	0.0003		
16	SLU 25	1.2	-0.14	31.3	0.0423	0.0531	0.0003		
16	SLU 26	1.25	-0.14	31.33	0.0468	0.0549	0.0003		
16	SLU 27	1.41	-0.13	32.55	0.0373	0.0613	0.0003		
16	SLU 28	1.43	-0.14	32.46	0.0438	0.0621	0.0003		
16	SLU 29	1.44	-0.13	32.63	0.0375	0.0626	0.0003		
16	SLU 30	1.46	-0.14	32.55	0.044	0.0634	0.0003		
16	SLU 31	1.14	-0.15	34.16	0.047	0.0525	0.0004		
16	SLU 32	1.31	-0.14	35.38	0.0376	0.0588	0.0003		
16	SLU 33	1.32	-0.15	35.29	0.0441	0.0596	0.0004		
16	SLU 34	1.37	-0.15	35.32	0.0486	0.0615	0.0004		
16	SLU 35	1.53	-0.14	36.54	0.0391	0.0678	0.0004		
16	SLU 36	1.55	-0.15	36.46	0.0456	0.0686	0.0004		
16	SLU 37	1.57	-0.14	36.62	0.0393	0.0691	0.0004		
16	SLU 38	1.59	-0.15	36.54	0.0458	0.0699	0.0004		
16	SLU 39	1.16	-0.14	36.01	0.037	0.0539	0.0004		
16	SLU 40	1.18	-0.15	35.93	0.0435	0.0547	0.0004		
16	SLU 41	1.39	-0.14	37.17	0.0385	0.0629	0.0004		
16	SLU 42	1.41	-0.15	37.09	0.045	0.0637	0.0004		
16	SLU 43	1.04	-0.15	36.05	0.0427	0.0477	0.0004		
16	SLU 44	1.08	-0.16	35.91	0.0535	0.049	0.0004		
16	SLU 45	1.24	-0.15	37.13	0.044	0.0554	0.0004		
16	SLU 46	1.26	-0.16	37.04	0.0505	0.0562	0.0004		
16	SLU 47	1.3	-0.17	37.08	0.055	0.0581	0.0004		
16	SLU 48	1.47	-0.16	38.29	0.0456	0.0644	0.0004		
16	SLU 49	1.49	-0.17	38.21	0.0521	0.0652	0.0004		
16	SLU 50	1.5	-0.16	38.37	0.0457	0.0657	0.0004		
16	SLU 51	1.52	-0.17	38.29	0.0522	0.0665	0.0004		
16	SLU 52	1.2	-0.17	39.91	0.0553	0.0556	0.0004		
16	SLU 53	1.36	-0.16	41.12	0.0458	0.0619	0.0004		
16	SLU 54	1.38	-0.17	41.04	0.0523	0.0627	0.0004		
16	SLU 55	1.43	-0.18	41.07	0.0568	0.0646	0.0004		
16	SLU 56	1.59	-0.17	42.28	0.0474	0.0709	0.0004		
16	SLU 57	1.61	-0.18	42.2	0.0539	0.0718	0.0004		
16	SLU 58	1.63	-0.17	42.37	0.0475	0.0722	0.0004		
16	SLU 59	1.64	-0.18	42.29	0.054	0.0731	0.0004		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
16	SLU 60	1.22	-0.16	41.75	0.0452	0.057	0.0004
16	SLU 61	1.24	-0.17	41.67	0.0517	0.0578	0.0004
16	SLU 62	1.45	-0.17	42.92	0.0468	0.066	0.0004
16	SLU 63	1.47	-0.18	42.83	0.0533	0.0668	0.0004
16	SLU 64	1.19	-0.15	38.09	0.0439	0.0539	0.0004
16	SLU 65	1.22	-0.17	37.95	0.0547	0.0553	0.0004
16	SLU 66	1.38	-0.16	39.16	0.0453	0.0616	0.0004
16	SLU 67	1.4	-0.17	39.08	0.0518	0.0624	0.0004
16	SLU 68	1.45	-0.17	39.11	0.0563	0.0643	0.0004
16	SLU 69	1.61	-0.16	40.33	0.0468	0.0706	0.0004
16	SLU 70	1.63	-0.17	40.25	0.0533	0.0715	0.0004
16	SLU 71	1.64	-0.16	40.41	0.047	0.0719	0.0004
16	SLU 72	1.66	-0.17	40.33	0.0535	0.0728	0.0004
16	SLU 73	1.35	-0.18	41.94	0.0565	0.0618	0.0004
16	SLU 74	1.51	-0.17	43.16	0.0471	0.0682	0.0004
16	SLU 75	1.53	-0.18	43.08	0.0536	0.069	0.0004
16	SLU 76	1.57	-0.19	43.11	0.0581	0.0708	0.0004
16	SLU 77	1.74	-0.18	44.32	0.0486	0.0772	0.0004
16	SLU 78	1.76	-0.18	44.24	0.0551	0.078	0.0005
16	SLU 79	1.77	-0.18	44.4	0.0488	0.0785	0.0004
16	SLU 80	1.79	-0.19	44.32	0.0553	0.0793	0.0005
16	SLU 81	1.37	-0.17	43.79	0.0465	0.0632	0.0004
16	SLU 82	1.39	-0.18	43.71	0.053	0.0641	0.0004
16	SLU 83	1.6	-0.18	44.95	0.048	0.0723	0.0004
16	SLU 84	1.62	-0.18	44.87	0.0545	0.0731	0.0005
16	SLE RA 1	0.88	-0.12	28.85	0.0335	0.0401	0.0003
16	SLE RA 2	0.9	-0.13	28.76	0.0407	0.041	0.0003
16	SLE RA 3	1.01	-0.12	29.57	0.0344	0.0452	0.0003
16	SLE RA 4	1.02	-0.13	29.51	0.0387	0.0458	0.0003
16	SLE RA 5	1.06	-0.13	29.53	0.0417	0.047	0.0003
16	SLE RA 6	1.16	-0.12	30.34	0.0354	0.0512	0.0003
16	SLE RA 7	1.18	-0.13	30.29	0.0398	0.0518	0.0003
16	SLE RA 8	1.19	-0.12	30.4	0.0356	0.0521	0.0003
16	SLE RA 9	1.2	-0.13	30.35	0.0399	0.0527	0.0003
16	SLE RA 10	0.99	-0.13	31.42	0.0419	0.0454	0.0003
16	SLE RA 11	1.1	-0.13	32.23	0.0356	0.0496	0.0003
16	SLE RA 12	1.11	-0.13	32.18	0.0399	0.0501	0.0003
16	SLE RA 13	1.14	-0.14	32.2	0.0429	0.0514	0.0003
16	SLE RA 14	1.25	-0.13	33	0.0366	0.0556	0.0003
16	SLE RA 15	1.26	-0.14	32.95	0.041	0.0562	0.0003
16	SLE RA 16	1.27	-0.13	33.06	0.0368	0.0565	0.0003
16	SLE RA 17	1.28	-0.14	33.01	0.0411	0.057	0.0003
16	SLE RA 18	1	-0.13	32.65	0.0352	0.0463	0.0003
16	SLE RA 19	1.02	-0.13	32.6	0.0395	0.0469	0.0003
16	SLE RA 20	1.15	-0.13	33.43	0.0362	0.0523	0.0003
16	SLE RA 21	1.17	-0.14	33.37	0.0406	0.0529	0.0003
16	SLE FR 1	0.88	-0.12	28.85	0.0335	0.0401	0.0003
16	SLE FR 2	0.89	-0.12	28.83	0.0349	0.0403	0.0003
16	SLE FR 3	0.94	-0.12	29.16	0.0339	0.0425	0.0003
16	SLE FR 4	0.92	-0.12	29.97	0.0355	0.0421	0.0003
16	SLE FR 5	0.98	-0.12	30.3	0.0344	0.0444	0.0003
16	SLE FR 6	0.94	-0.12	30.75	0.0344	0.0432	0.0003
16	SLE QP 1	0.88	-0.12	28.85	0.0335	0.0401	0.0003
16	SLE QP 2	0.92	-0.12	29.99	0.034	0.042	0.0003
16	SLD 1	4.11	-0.19	33.51	0.0679	0.1771	0.0003
16	SLD 2	4.11	-0.19	33.51	0.0679	0.1771	0.0003
16	SLD 3	3.42	-0.13	28.47	0.0337	0.1488	0.0001
16	SLD 4	3.42	-0.13	28.47	0.0337	0.1488	0.0001
16	SLD 5	2.91	-0.23	38.7	0.0961	0.1255	0.0005
16	SLD 6	2.91	-0.23	38.7	0.0961	0.1255	0.0005
16	SLD 7	0.63	-0.03	21.88	-0.018	0.031	0.0001
16	SLD 8	0.63	-0.03	21.88	-0.018	0.031	0.0001
16	SLD 9	1.2	-0.2	38.1	0.086	0.0529	0.0005
16	SLD 10	1.2	-0.2	38.1	0.086	0.0529	0.0005
16	SLD 11	-1.07	-0.01	21.28	-0.028	-0.0416	0.0001
16	SLD 12	-1.07	-0.01	21.28	-0.028	-0.0416	0.0001
16	SLD 13	-1.58	-0.11	31.51	0.0344	-0.0648	0.0005
16	SLD 14	-1.58	-0.11	31.51	0.0344	-0.0648	0.0005
16	SLD 15	-2.27	-0.05	26.47	0.0001	-0.0932	0.0003
16	SLD 16	-2.27	-0.05	26.47	0.0001	-0.0932	0.0003
16	SLV 1	8.38	-0.28	38.32	0.1135	0.3583	0.0002
16	SLV 2	8.38	-0.28	38.32	0.1135	0.3583	0.0002
16	SLV 3	6.76	-0.15	26.42	0.0333	0.2911	-0.0001
16	SLV 4	6.76	-0.15	26.42	0.0333	0.2911	-0.0001
16	SLV 5	5.62	-0.38	50.53	0.1795	0.2387	0.0007
16	SLV 6	5.62	-0.38	50.53	0.1795	0.2387	0.0007
16	SLV 7	0.21	0.08	10.88	-0.0878	0.0149	-0.0002
16	SLV 8	0.21	0.08	10.88	-0.0878	0.0149	-0.0002
16	SLV 9	1.63	-0.32	49.1	0.1558	0.069	0.0008
16	SLV 10	1.63	-0.32	49.1	0.1558	0.069	0.0008
16	SLV 11	-3.78	0.14	9.45	-0.1114	-0.1548	-0.0001
16	SLV 12	-3.78	0.14	9.45	-0.1114	-0.1548	-0.0001
16	SLV 13	-4.92	-0.09	33.56	0.0347	-0.2072	0.0007
16	SLV 14	-4.92	-0.09	33.56	0.0347	-0.2072	0.0007
16	SLV 15	-6.54	0.05	21.66	-0.0454	-0.2744	0.0004
16	SLV 16	-6.54	0.05	21.66	-0.0454	-0.2744	0.0004
17	SLU 1	2.34	-0.06	31.28	0.0143	0.0699	0.0002
17	SLU 2	2.33	-0.07	31.05	0.0231	0.0704	0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
17	SLU 3	2.59	-0.06	32.64	0.0147	0.0787	0.0002
17	SLU 4	2.59	-0.07	32.5	0.0199	0.079	0.0002
17	SLU 5	2.62	-0.07	32.54	0.0235	0.0805	0.0002
17	SLU 6	2.88	-0.07	34.12	0.0152	0.0888	0.0002
17	SLU 7	2.87	-0.07	33.98	0.0204	0.0891	0.0002
17	SLU 8	2.91	-0.07	34.24	0.0153	0.09	0.0002
17	SLU 9	2.91	-0.07	34.11	0.0205	0.0903	0.0002
17	SLU 10	2.56	-0.08	35.4	0.0228	0.0759	0.0002
17	SLU 11	2.82	-0.07	36.99	0.0145	0.0842	0.0002
17	SLU 12	2.82	-0.08	36.85	0.0197	0.0845	0.0002
17	SLU 13	2.85	-0.08	36.89	0.0233	0.086	0.0002
17	SLU 14	3.11	-0.07	38.47	0.015	0.0942	0.0002
17	SLU 15	3.11	-0.08	38.34	0.0202	0.0945	0.0002
17	SLU 16	3.15	-0.07	38.59	0.0151	0.0955	0.0002
17	SLU 17	3.14	-0.08	38.46	0.0203	0.0958	0.0002
17	SLU 18	2.67	-0.07	37.49	0.014	0.0778	0.0003
17	SLU 19	2.67	-0.08	37.36	0.0193	0.0781	0.0003
17	SLU 20	2.96	-0.07	38.97	0.0145	0.0878	0.0003
17	SLU 21	2.95	-0.08	38.84	0.0197	0.0881	0.0003
17	SLU 22	2.6	-0.06	33.62	0.0141	0.0781	0.0002
17	SLU 23	2.59	-0.07	33.4	0.0229	0.0786	0.0002
17	SLU 24	2.85	-0.07	34.98	0.0145	0.0869	0.0002
17	SLU 25	2.85	-0.07	34.85	0.0197	0.0872	0.0002
17	SLU 26	2.88	-0.08	34.88	0.0233	0.0887	0.0002
17	SLU 27	3.14	-0.07	36.46	0.015	0.0969	0.0002
17	SLU 28	3.13	-0.08	36.33	0.0202	0.0972	0.0002
17	SLU 29	3.18	-0.07	36.59	0.0151	0.0982	0.0002
17	SLU 30	3.17	-0.08	36.45	0.0203	0.0985	0.0002
17	SLU 31	2.82	-0.08	37.75	0.0226	0.0841	0.0003
17	SLU 32	3.08	-0.07	39.33	0.0143	0.0924	0.0003
17	SLU 33	3.08	-0.08	39.2	0.0195	0.0927	0.0003
17	SLU 34	3.11	-0.08	39.23	0.0231	0.0942	0.0003
17	SLU 35	3.37	-0.08	40.81	0.0148	0.1024	0.0003
17	SLU 36	3.37	-0.08	40.68	0.02	0.1027	0.0003
17	SLU 37	3.41	-0.08	40.94	0.0149	0.1037	0.0003
17	SLU 38	3.4	-0.08	40.8	0.0201	0.104	0.0003
17	SLU 39	2.93	-0.07	39.84	0.0138	0.0859	0.0003
17	SLU 40	2.93	-0.08	39.7	0.0191	0.0862	0.0003
17	SLU 41	3.22	-0.07	41.32	0.0143	0.096	0.0003
17	SLU 42	3.21	-0.08	41.19	0.0195	0.0963	0.0003
17	SLU 43	2.95	-0.08	39.86	0.0187	0.0881	0.0003
17	SLU 44	2.94	-0.09	39.63	0.0274	0.0886	0.0003
17	SLU 45	3.21	-0.08	41.21	0.0191	0.0969	0.0003
17	SLU 46	3.2	-0.09	41.08	0.0243	0.0972	0.0003
17	SLU 47	3.23	-0.09	41.12	0.0279	0.0987	0.0003
17	SLU 48	3.49	-0.08	42.7	0.0196	0.1069	0.0003
17	SLU 49	3.49	-0.09	42.56	0.0248	0.1072	0.0003
17	SLU 50	3.53	-0.08	42.82	0.0197	0.1082	0.0003
17	SLU 51	3.52	-0.09	42.69	0.0249	0.1085	0.0003
17	SLU 52	3.18	-0.09	43.98	0.0272	0.0941	0.0003
17	SLU 53	3.44	-0.09	45.57	0.0189	0.1024	0.0003
17	SLU 54	3.43	-0.09	45.43	0.0241	0.1027	0.0003
17	SLU 55	3.46	-0.1	45.47	0.0277	0.1041	0.0003
17	SLU 56	3.72	-0.09	47.05	0.0193	0.1124	0.0003
17	SLU 57	3.72	-0.1	46.91	0.0246	0.1127	0.0003
17	SLU 58	3.76	-0.09	47.17	0.0194	0.1137	0.0003
17	SLU 59	3.75	-0.1	47.04	0.0247	0.114	0.0003
17	SLU 60	3.28	-0.09	46.07	0.0184	0.0959	0.0003
17	SLU 61	3.28	-0.09	45.94	0.0236	0.0962	0.0003
17	SLU 62	3.57	-0.09	47.55	0.0189	0.106	0.0003
17	SLU 63	3.57	-0.1	47.42	0.0241	0.1063	0.0003
17	SLU 64	3.21	-0.08	42.2	0.0185	0.0963	0.0003
17	SLU 65	3.2	-0.09	41.98	0.0272	0.0968	0.0003
17	SLU 66	3.47	-0.08	43.56	0.0189	0.1051	0.0003
17	SLU 67	3.46	-0.09	43.43	0.0241	0.1054	0.0003
17	SLU 68	3.49	-0.09	43.46	0.0277	0.1068	0.0003
17	SLU 69	3.75	-0.09	45.04	0.0194	0.1151	0.0003
17	SLU 70	3.75	-0.09	44.91	0.0246	0.1154	0.0003
17	SLU 71	3.79	-0.09	45.16	0.0195	0.1164	0.0003
17	SLU 72	3.78	-0.09	45.03	0.0247	0.1167	0.0003
17	SLU 73	3.44	-0.1	46.33	0.027	0.1023	0.0003
17	SLU 74	3.7	-0.09	47.91	0.0187	0.1105	0.0003
17	SLU 75	3.69	-0.1	47.78	0.0239	0.1108	0.0003
17	SLU 76	3.72	-0.1	47.81	0.0275	0.1123	0.0003
17	SLU 77	3.98	-0.09	49.39	0.0191	0.1206	0.0003
17	SLU 78	3.98	-0.1	49.26	0.0244	0.1209	0.0003
17	SLU 79	4.02	-0.09	49.52	0.0192	0.1219	0.0003
17	SLU 80	4.01	-0.1	49.38	0.0245	0.1222	0.0003
17	SLU 81	3.54	-0.09	48.42	0.0182	0.1041	0.0003
17	SLU 82	3.54	-0.1	48.28	0.0234	0.1044	0.0003
17	SLU 83	3.83	-0.09	49.9	0.0187	0.1142	0.0003
17	SLU 84	3.83	-0.1	49.76	0.0239	0.1145	0.0003
17	SLE RA 1	2.42	-0.06	31.95	0.0143	0.0723	0.0002
17	SLE RA 2	2.41	-0.07	31.8	0.0201	0.0726	0.0002
17	SLE RA 3	2.58	-0.06	32.85	0.0145	0.0781	0.0002
17	SLE RA 4	2.58	-0.07	32.76	0.018	0.0783	0.0002
17	SLE RA 5	2.6	-0.07	32.79	0.0204	0.0793	0.0002
17	SLE RA 6	2.78	-0.07	33.84	0.0148	0.0848	0.0002



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
17	SLE RA 7	2.77	-0.07	33.75	0.0183	0.085	0.0002		
17	SLE RA 8	2.8	-0.07	33.92	0.0149	0.0857	0.0002		
17	SLE RA 9	2.79	-0.07	33.83	0.0184	0.0859	0.0002		
17	SLE RA 10	2.56	-0.07	34.7	0.0199	0.0763	0.0002		
17	SLE RA 11	2.74	-0.07	35.75	0.0144	0.0818	0.0002		
17	SLE RA 12	2.73	-0.07	35.66	0.0179	0.082	0.0002		
17	SLE RA 13	2.75	-0.07	35.69	0.0203	0.083	0.0002		
17	SLE RA 14	2.93	-0.07	36.74	0.0147	0.0885	0.0002		
17	SLE RA 15	2.92	-0.07	36.65	0.0182	0.0887	0.0002		
17	SLE RA 16	2.95	-0.07	36.82	0.0148	0.0893	0.0002		
17	SLE RA 17	2.95	-0.07	36.73	0.0183	0.0895	0.0002		
17	SLE RA 18	2.64	-0.07	36.09	0.0141	0.0775	0.0002		
17	SLE RA 19	2.63	-0.07	36	0.0176	0.0777	0.0002		
17	SLE RA 20	2.83	-0.07	37.08	0.0144	0.0842	0.0002		
17	SLE RA 21	2.82	-0.07	36.99	0.0179	0.0844	0.0002		
17	SLE FR 1	2.42	-0.06	31.95	0.0143	0.0723	0.0002		
17	SLE FR 2	2.41	-0.06	31.92	0.0154	0.0723	0.0002		
17	SLE FR 3	2.49	-0.06	32.34	0.0144	0.0749	0.0002		
17	SLE FR 4	2.48	-0.06	33.16	0.0154	0.0739	0.0002		
17	SLE FR 5	2.56	-0.06	33.58	0.0143	0.0765	0.0002		
17	SLE FR 6	2.53	-0.06	34.02	0.0142	0.0749	0.0002		
17	SLE QP 1	2.42	-0.06	31.95	0.0143	0.0723	0.0002		
17	SLE QP 2	2.48	-0.06	33.19	0.0142	0.0738	0.0002		
17	SLD 1	5.48	-0.16	39.06	0.055	0.201	0		
17	SLD 2	5.48	-0.16	39.06	0.055	0.201	0		
17	SLD 3	4.68	-0.11	33.25	0.0287	0.1725	-0.0002		
17	SLD 4	4.68	-0.11	33.25	0.0287	0.1725	-0.0002		
17	SLD 5	4.59	-0.16	43.75	0.0664	0.1551	0.0004		
17	SLD 6	4.59	-0.16	43.75	0.0664	0.1551	0.0004		
17	SLD 7	1.94	-0.01	24.41	-0.0214	0.0603	-0.0002		
17	SLD 8	1.94	-0.01	24.41	-0.0214	0.0603	-0.0002		
17	SLD 9	3.03	-0.11	41.97	0.0498	0.0873	0.0006		
17	SLD 10	3.03	-0.11	41.97	0.0498	0.0873	0.0006		
17	SLD 11	0.38	0.03	22.63	-0.0379	-0.0074	0		
17	SLD 12	0.38	0.03	22.63	-0.0379	-0.0074	0		
17	SLD 13	0.28	-0.01	33.12	-0.0003	-0.0249	0.0006		
17	SLD 14	0.28	-0.01	33.12	-0.0003	-0.0249	0.0006		
17	SLD 15	-0.51	0.03	27.32	-0.0266	-0.0533	0.0004		
17	SLD 16	-0.51	0.03	27.32	-0.0266	-0.0533	0.0004		
17	SLV 1	9.49	-0.28	47	0.1099	0.3713	-0.0003		
17	SLV 2	9.49	-0.28	47	0.1099	0.3713	-0.0003		
17	SLV 3	7.61	-0.18	33.31	0.0482	0.3042	-0.0007		
17	SLV 4	7.61	-0.18	33.31	0.0482	0.3042	-0.0007		
17	SLV 5	7.43	-0.29	58.09	0.1365	0.2649	0.0007		
17	SLV 6	7.43	-0.29	58.09	0.1365	0.2649	0.0007		
17	SLV 7	1.18	0.06	12.47	-0.0692	0.0411	-0.0007		
17	SLV 8	1.18	0.06	12.47	-0.0692	0.0411	-0.0007		
17	SLV 9	3.79	-0.18	53.91	0.0976	0.1065	0.0011		
17	SLV 10	3.79	-0.18	53.91	0.0976	0.1065	0.0011		
17	SLV 11	-2.46	0.16	8.29	-0.1081	-0.1172	-0.0003		
17	SLV 12	-2.46	0.16	8.29	-0.1081	-0.1172	-0.0003		
17	SLV 13	-2.65	0.05	33.07	-0.0198	-0.1565	0.0011		
17	SLV 14	-2.65	0.05	33.07	-0.0198	-0.1565	0.0011		
17	SLV 15	-4.52	0.16	19.38	-0.0814	-0.2237	0.0007		
17	SLV 16	-4.52	0.16	19.38	-0.0814	-0.2237	0.0007		
18	SLU 1	2.85	0.11	37.22	-0.0227	0.0701	0.0005		
18	SLU 2	2.81	0.1	36.81	-0.0173	0.0698	0.0005		
18	SLU 3	3.1	0.11	39.03	-0.0245	0.0776	0.0006		
18	SLU 4	3.08	0.11	38.78	-0.0213	0.0774	0.0005		
18	SLU 5	3.09	0.11	38.78	-0.0193	0.0781	0.0005		
18	SLU 6	3.39	0.12	41	-0.0265	0.0859	0.0006		
18	SLU 7	3.36	0.12	40.75	-0.0233	0.0857	0.0006		
18	SLU 8	3.41	0.12	41.17	-0.0266	0.0867	0.0006		
18	SLU 9	3.39	0.12	40.92	-0.0234	0.0866	0.0006		
18	SLU 10	3.04	0.12	41.84	-0.0219	0.0731	0.0006		
18	SLU 11	3.34	0.13	44.06	-0.0291	0.0808	0.0006		
18	SLU 12	3.31	0.13	43.81	-0.0259	0.0807	0.0006		
18	SLU 13	3.32	0.12	43.81	-0.0238	0.0814	0.0006		
18	SLU 14	3.62	0.14	46.03	-0.031	0.0891	0.0007		
18	SLU 15	3.59	0.13	45.78	-0.0278	0.089	0.0007		
18	SLU 16	3.65	0.14	46.2	-0.0311	0.09	0.0007		
18	SLU 17	3.62	0.13	45.95	-0.0279	0.0898	0.0007		
18	SLU 18	3.18	0.13	44.41	-0.0292	0.0748	0.0007		
18	SLU 19	3.16	0.13	44.16	-0.0259	0.0746	0.0007		
18	SLU 20	3.47	0.14	46.38	-0.0311	0.0831	0.0007		
18	SLU 21	3.44	0.13	46.13	-0.0279	0.0829	0.0007		
18	SLU 22	3.15	0.12	40.15	-0.026	0.078	0.0006		
18	SLU 23	3.1	0.11	39.74	-0.0207	0.0777	0.0006		
18	SLU 24	3.4	0.13	41.96	-0.0279	0.0855	0.0006		
18	SLU 25	3.38	0.12	41.71	-0.0247	0.0853	0.0006		
18	SLU 26	3.39	0.12	41.71	-0.0226	0.086	0.0006		
18	SLU 27	3.68	0.13	43.93	-0.0298	0.0938	0.0006		
18	SLU 28	3.66	0.13	43.68	-0.0266	0.0936	0.0006		
18	SLU 29	3.71	0.13	44.1	-0.0299	0.0946	0.0006		
18	SLU 30	3.69	0.13	43.85	-0.0267	0.0945	0.0006		
18	SLU 31	3.34	0.13	44.77	-0.0252	0.081	0.0007		
18	SLU 32	3.64	0.14	46.99	-0.0324	0.0887	0.0007		
18	SLU 33	3.61	0.14	46.74	-0.0292	0.0885	0.0007		





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
18	SLU 34	3.62	0.14	46.74	-0.0272	0.0893	0.0007
18	SLU 35	3.92	0.15	48.96	-0.0344	0.097	0.0007
18	SLU 36	3.89	0.15	48.71	-0.0312	0.0969	0.0007
18	SLU 37	3.95	0.15	49.13	-0.0345	0.0979	0.0007
18	SLU 38	3.92	0.15	48.88	-0.0313	0.0977	0.0007
18	SLU 39	3.48	0.14	47.34	-0.0325	0.0827	0.0007
18	SLU 40	3.46	0.14	47.09	-0.0293	0.0825	0.0007
18	SLU 41	3.76	0.15	49.31	-0.0344	0.091	0.0007
18	SLU 42	3.74	0.15	49.07	-0.0312	0.0908	0.0007
18	SLU 43	3.6	0.13	47.38	-0.0284	0.0885	0.0007
18	SLU 44	3.56	0.13	46.97	-0.023	0.0882	0.0007
18	SLU 45	3.86	0.14	49.19	-0.0302	0.0959	0.0007
18	SLU 46	3.83	0.14	48.94	-0.027	0.0957	0.0007
18	SLU 47	3.84	0.13	48.94	-0.025	0.0965	0.0007
18	SLU 48	4.14	0.15	51.16	-0.0322	0.1042	0.0007
18	SLU 49	4.11	0.14	50.91	-0.029	0.104	0.0007
18	SLU 50	4.17	0.15	51.33	-0.0323	0.1051	0.0007
18	SLU 51	4.14	0.14	51.08	-0.0291	0.1049	0.0007
18	SLU 52	3.79	0.14	52	-0.0275	0.0914	0.0007
18	SLU 53	4.09	0.16	54.22	-0.0347	0.0992	0.0008
18	SLU 54	4.06	0.15	53.97	-0.0315	0.099	0.0008
18	SLU 55	4.07	0.15	53.97	-0.0295	0.0997	0.0008
18	SLU 56	4.37	0.16	56.19	-0.0367	0.1075	0.0008
18	SLU 57	4.35	0.16	55.95	-0.0335	0.1073	0.0008
18	SLU 58	4.4	0.16	56.36	-0.0368	0.1083	0.0008
18	SLU 59	4.37	0.16	56.11	-0.0336	0.1082	0.0008
18	SLU 60	3.94	0.16	54.57	-0.0348	0.0931	0.0008
18	SLU 61	3.91	0.15	54.32	-0.0316	0.0929	0.0008
18	SLU 62	4.22	0.16	56.54	-0.0368	0.1014	0.0008
18	SLU 63	4.19	0.16	56.3	-0.0336	0.1012	0.0008
18	SLU 64	3.9	0.15	50.31	-0.0317	0.0963	0.0007
18	SLU 65	3.86	0.14	49.9	-0.0264	0.0961	0.0007
18	SLU 66	4.15	0.15	52.12	-0.0336	0.1038	0.0007
18	SLU 67	4.13	0.15	51.87	-0.0303	0.1036	0.0007
18	SLU 68	4.14	0.15	51.87	-0.0283	0.1044	0.0007
18	SLU 69	4.44	0.16	54.09	-0.0355	0.1121	0.0008
18	SLU 70	4.41	0.16	53.84	-0.0323	0.1119	0.0008
18	SLU 71	4.46	0.16	54.26	-0.0356	0.113	0.0008
18	SLU 72	4.44	0.16	54.01	-0.0324	0.1128	0.0008
18	SLU 73	4.09	0.16	54.93	-0.0309	0.0993	0.0008
18	SLU 74	4.39	0.17	57.15	-0.0381	0.1071	0.0008
18	SLU 75	4.36	0.17	56.9	-0.0349	0.1069	0.0008
18	SLU 76	4.37	0.16	56.91	-0.0328	0.1076	0.0008
18	SLU 77	4.67	0.18	59.12	-0.04	0.1154	0.0009
18	SLU 78	4.65	0.17	58.88	-0.0368	0.1152	0.0009
18	SLU 79	4.7	0.18	59.29	-0.0401	0.1162	0.0009
18	SLU 80	4.67	0.17	59.04	-0.0369	0.116	0.0009
18	SLU 81	4.23	0.17	57.5	-0.0382	0.101	0.0009
18	SLU 82	4.21	0.17	57.25	-0.0349	0.1008	0.0008
18	SLU 83	4.52	0.18	59.48	-0.0401	0.1093	0.0009
18	SLU 84	4.49	0.17	59.23	-0.0369	0.1091	0.0009
18	SLE RA 1	2.93	0.11	38.06	-0.0236	0.0724	0.0005
18	SLE RA 2	2.91	0.11	37.78	-0.0201	0.0722	0.0005
18	SLE RA 3	3.1	0.11	39.26	-0.0249	0.0773	0.0006
18	SLE RA 4	3.09	0.11	39.1	-0.0227	0.0772	0.0006
18	SLE RA 5	3.09	0.11	39.1	-0.0214	0.0777	0.0006
18	SLE RA 6	3.29	0.12	40.58	-0.0262	0.0829	0.0006
18	SLE RA 7	3.27	0.12	40.41	-0.024	0.0828	0.0006
18	SLE RA 8	3.31	0.12	40.69	-0.0263	0.0835	0.0006
18	SLE RA 9	3.29	0.12	40.52	-0.0241	0.0833	0.0006
18	SLE RA 10	3.06	0.12	41.14	-0.0231	0.0744	0.0006
18	SLE RA 11	3.26	0.13	42.62	-0.0279	0.0795	0.0006
18	SLE RA 12	3.24	0.12	42.45	-0.0258	0.0794	0.0006
18	SLE RA 13	3.25	0.12	42.45	-0.0244	0.0799	0.0006
18	SLE RA 14	3.45	0.13	43.93	-0.0292	0.0851	0.0006
18	SLE RA 15	3.43	0.13	43.77	-0.0271	0.0849	0.0006
18	SLE RA 16	3.47	0.13	44.04	-0.0293	0.0856	0.0006
18	SLE RA 17	3.45	0.13	43.88	-0.0271	0.0855	0.0006
18	SLE RA 18	3.16	0.13	42.85	-0.028	0.0755	0.0006
18	SLE RA 19	3.14	0.12	42.69	-0.0258	0.0754	0.0006
18	SLE RA 20	3.35	0.13	44.17	-0.0293	0.081	0.0006
18	SLE RA 21	3.33	0.13	44	-0.0271	0.0809	0.0006
18	SLE FR 1	2.93	0.11	38.06	-0.0236	0.0724	0.0005
18	SLE FR 2	2.93	0.11	38	-0.0229	0.0723	0.0005
18	SLE FR 3	3.01	0.11	38.59	-0.0242	0.0746	0.0006
18	SLE FR 4	3	0.11	39.44	-0.0242	0.0733	0.0006
18	SLE FR 5	3.08	0.12	40.02	-0.0255	0.0755	0.0006
18	SLE FR 6	3.05	0.12	40.46	-0.0258	0.0739	0.0006
18	SLE QP 1	2.93	0.11	38.06	-0.0236	0.0724	0.0005
18	SLE QP 2	3	0.11	39.5	-0.0249	0.0733	0.0006
18	SLD 1	5.69	0.06	48.72	-0.0081	0.181	0.0004
18	SLD 2	5.69	0.06	48.72	-0.0081	0.181	0.0004
18	SLD 3	4.79	0.02	41.21	0.0082	0.1545	0.0002
18	SLD 4	4.79	0.02	41.21	0.0082	0.1545	0.0002
18	SLD 5	5.17	0.15	53.65	-0.0446	0.1458	0.0007
18	SLD 6	5.17	0.15	53.65	-0.0446	0.1458	0.0007
18	SLD 7	2.17	0.03	28.63	0.0097	0.0575	0.0002
18	SLD 8	2.17	0.03	28.63	0.0097	0.0575	0.0002



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
18	SLD 9	3.83	0.2	50.37	-0.0596	0.0891	0.0009	
18	SLD 10	3.83	0.2	50.37	-0.0596	0.0891	0.0009	
18	SLD 11	0.83	0.08	25.35	-0.0053	0.0008	0.0004	
18	SLD 12	0.83	0.08	25.35	-0.0053	0.0008	0.0004	
18	SLD 13	1.22	0.21	37.78	-0.0581	-0.0079	0.0009	
18	SLD 14	1.22	0.21	37.78	-0.0581	-0.0079	0.0009	
18	SLD 15	0.32	0.17	30.28	-0.0418	-0.0344	0.0008	
18	SLD 16	0.32	0.17	30.28	-0.0418	-0.0344	0.0008	
18	SLV 1	9.28	-0.01	61.17	0.0145	0.3251	0.0001	
18	SLV 2	9.28	-0.01	61.17	0.0145	0.3251	0.0001	
18	SLV 3	7.17	-0.1	43.47	0.0528	0.2629	-0.0002	
18	SLV 4	7.17	-0.1	43.47	0.0528	0.2629	-0.0002	
18	SLV 5	8.09	0.21	72.84	-0.0712	0.2432	0.001	
18	SLV 6	8.09	0.21	72.84	-0.0712	0.2432	0.001	
18	SLV 7	1.05	-0.08	13.85	0.0564	0.0358	-0.0002	
18	SLV 8	1.05	-0.08	13.85	0.0564	0.0358	-0.0002	
18	SLV 9	4.96	0.31	65.15	-0.1063	0.1108	0.0014	
18	SLV 10	4.96	0.31	65.15	-0.1063	0.1108	0.0014	
18	SLV 11	-2.09	0.02	6.15	0.0213	-0.0966	0.0001	
18	SLV 12	-2.09	0.02	6.15	0.0213	-0.0966	0.0001	
18	SLV 13	-1.17	0.33	35.52	-0.1027	-0.1162	0.0014	
18	SLV 14	-1.17	0.33	35.52	-0.1027	-0.1162	0.0014	
18	SLV 15	-3.28	0.24	17.82	-0.0644	-0.1785	0.001	
18	SLV 16	-3.28	0.24	17.82	-0.0644	-0.1785	0.001	
19	SLU 1	-0.33	8.79	59.78	-0.2863	-0.0266	0.0001	
19	SLU 2	-0.3	8.58	58.89	-0.277	-0.0249	0.0001	
19	SLU 3	-0.33	9.37	62.9	-0.3084	-0.0272	0.0001	
19	SLU 4	-0.31	9.25	62.37	-0.3028	-0.0262	0.0001	
19	SLU 5	-0.3	9.2	62.29	-0.3005	-0.0255	0.0001	
19	SLU 6	-0.33	10	66.3	-0.3319	-0.0278	0.0001	
19	SLU 7	-0.31	9.87	65.77	-0.3263	-0.0268	0.0001	
19	SLU 8	-0.32	10.04	66.57	-0.3334	-0.0278	0.0001	
19	SLU 9	-0.31	9.91	66.04	-0.3278	-0.0267	0.0001	
19	SLU 10	-0.56	9.87	66.86	-0.3204	-0.0365	0.0002	
19	SLU 11	-0.59	10.67	70.86	-0.3518	-0.0389	0.0002	
19	SLU 12	-0.57	10.55	70.33	-0.3462	-0.0378	0.0002	
19	SLU 13	-0.56	10.5	70.25	-0.3439	-0.0371	0.0002	
19	SLU 14	-0.59	11.3	74.26	-0.3753	-0.0394	0.0002	
19	SLU 15	-0.57	11.17	73.73	-0.3697	-0.0384	0.0002	
19	SLU 16	-0.58	11.34	74.53	-0.3768	-0.0394	0.0002	
19	SLU 17	-0.57	11.21	74	-0.3712	-0.0383	0.0002	
19	SLU 18	-0.7	10.64	71.15	-0.3483	-0.0432	0.0002	
19	SLU 19	-0.68	10.51	70.62	-0.3427	-0.0422	0.0002	
19	SLU 20	-0.7	11.27	74.55	-0.3718	-0.0438	0.0002	
19	SLU 21	-0.68	11.14	74.02	-0.3662	-0.0427	0.0002	
19	SLU 22	-0.38	9.74	64.8	-0.3199	-0.0297	0.0001	
19	SLU 23	-0.35	9.53	63.91	-0.3106	-0.028	0.0001	
19	SLU 24	-0.38	10.32	67.92	-0.342	-0.0303	0.0001	
19	SLU 25	-0.36	10.2	67.39	-0.3364	-0.0293	0.0001	
19	SLU 26	-0.35	10.15	67.31	-0.3341	-0.0286	0.0001	
19	SLU 27	-0.38	10.95	71.32	-0.3655	-0.0309	0.0001	
19	SLU 28	-0.36	10.82	70.78	-0.3599	-0.0299	0.0001	
19	SLU 29	-0.38	10.99	71.59	-0.367	-0.0309	0.0001	
19	SLU 30	-0.36	10.86	71.06	-0.3614	-0.0298	0.0001	
19	SLU 31	-0.61	10.82	71.87	-0.354	-0.0396	0.0002	
19	SLU 32	-0.64	11.62	75.88	-0.3854	-0.042	0.0002	
19	SLU 33	-0.62	11.5	75.35	-0.3798	-0.0409	0.0002	
19	SLU 34	-0.61	11.45	75.27	-0.3775	-0.0402	0.0002	
19	SLU 35	-0.64	12.25	79.28	-0.4089	-0.0425	0.0002	
19	SLU 36	-0.62	12.12	78.75	-0.4033	-0.0415	0.0002	
19	SLU 37	-0.64	12.29	79.55	-0.4104	-0.0425	0.0002	
19	SLU 38	-0.62	12.16	79.02	-0.4048	-0.0414	0.0002	
19	SLU 39	-0.75	11.59	76.17	-0.3819	-0.0463	0.0002	
19	SLU 40	-0.73	11.46	75.64	-0.3763	-0.0453	0.0002	
19	SLU 41	-0.75	12.22	79.57	-0.4054	-0.0469	0.0002	
19	SLU 42	-0.73	12.09	79.04	-0.3998	-0.0459	0.0002	
19	SLU 43	-0.41	11.1	75.99	-0.3607	-0.0336	0.0002	
19	SLU 44	-0.38	10.89	75.11	-0.3514	-0.0318	0.0002	
19	SLU 45	-0.41	11.69	79.12	-0.3828	-0.0342	0.0002	
19	SLU 46	-0.39	11.56	78.58	-0.3772	-0.0331	0.0002	
19	SLU 47	-0.38	11.51	78.5	-0.3749	-0.0324	0.0002	
19	SLU 48	-0.41	12.31	82.51	-0.4063	-0.0347	0.0002	
19	SLU 49	-0.39	12.18	81.98	-0.4007	-0.0337	0.0002	
19	SLU 50	-0.4	12.35	82.78	-0.4078	-0.0347	0.0002	
19	SLU 51	-0.39	12.22	82.25	-0.4022	-0.0337	0.0002	
19	SLU 52	-0.64	12.18	83.07	-0.3947	-0.0434	0.0002	
19	SLU 53	-0.67	12.98	87.08	-0.4261	-0.0458	0.0002	
19	SLU 54	-0.65	12.86	86.55	-0.4205	-0.0447	0.0002	
19	SLU 55	-0.64	12.81	86.46	-0.4183	-0.044	0.0002	
19	SLU 56	-0.67	13.61	90.47	-0.4497	-0.0463	0.0002	
19	SLU 57	-0.65	13.48	89.94	-0.4441	-0.0453	0.0002	
19	SLU 58	-0.66	13.65	90.74	-0.4512	-0.0463	0.0002	
19	SLU 59	-0.65	13.52	90.21	-0.4455	-0.0453	0.0002	
19	SLU 60	-0.78	12.95	87.37	-0.4227	-0.0501	0.0002	
19	SLU 61	-0.76	12.82	86.84	-0.4171	-0.0491	0.0002	
19	SLU 62	-0.78	13.58	90.76	-0.4462	-0.0507	0.0002	
19	SLU 63	-0.76	13.45	90.23	-0.4406	-0.0497	0.0002	
19	SLU 64	-0.46	12.05	81.01	-0.3943	-0.0367	0.0002	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
19	SLU 65	-0.43	11.84	80.12	-0.385	-0.0349	0.0002
19	SLU 66	-0.46	12.64	84.13	-0.4164	-0.0373	0.0002
19	SLU 67	-0.44	12.51	83.6	-0.4108	-0.0362	0.0002
19	SLU 68	-0.43	12.46	83.52	-0.4085	-0.0355	0.0002
19	SLU 69	-0.46	13.26	87.53	-0.4399	-0.0378	0.0002
19	SLU 70	-0.44	13.13	87	-0.4343	-0.0368	0.0002
19	SLU 71	-0.46	13.3	87.8	-0.4414	-0.0378	0.0002
19	SLU 72	-0.44	13.17	87.27	-0.4358	-0.0368	0.0002
19	SLU 73	-0.69	13.13	88.09	-0.4284	-0.0465	0.0002
19	SLU 74	-0.72	13.93	92.1	-0.4598	-0.0489	0.0002
19	SLU 75	-0.7	13.81	91.56	-0.4541	-0.0478	0.0002
19	SLU 76	-0.69	13.76	91.48	-0.4519	-0.0471	0.0002
19	SLU 77	-0.72	14.56	95.49	-0.4833	-0.0495	0.0002
19	SLU 78	-0.7	14.43	94.96	-0.4777	-0.0484	0.0002
19	SLU 79	-0.72	14.6	95.76	-0.4848	-0.0494	0.0002
19	SLU 80	-0.7	14.47	95.23	-0.4791	-0.0484	0.0002
19	SLU 81	-0.83	13.9	92.38	-0.4563	-0.0533	0.0002
19	SLU 82	-0.81	13.77	91.85	-0.4507	-0.0522	0.0002
19	SLU 83	-0.83	14.53	95.78	-0.4798	-0.0538	0.0002
19	SLU 84	-0.81	14.4	95.25	-0.4742	-0.0528	0.0002
19	SLE RA 1	-0.34	9.06	61.21	-0.2959	-0.0275	0.0001
19	SLE RA 2	-0.32	8.92	60.62	-0.2897	-0.0264	0.0001
19	SLE RA 3	-0.34	9.45	63.29	-0.3106	-0.0279	0.0001
19	SLE RA 4	-0.33	9.37	62.94	-0.3069	-0.0272	0.0001
19	SLE RA 5	-0.32	9.33	62.89	-0.3054	-0.0267	0.0001
19	SLE RA 6	-0.34	9.87	65.56	-0.3263	-0.0283	0.0001
19	SLE RA 7	-0.33	9.78	65.2	-0.3226	-0.0276	0.0001
19	SLE RA 8	-0.34	9.89	65.74	-0.3273	-0.0283	0.0001
19	SLE RA 9	-0.33	9.81	65.39	-0.3236	-0.0276	0.0001
19	SLE RA 10	-0.5	9.78	65.93	-0.3186	-0.0341	0.0002
19	SLE RA 11	-0.52	10.32	68.6	-0.3396	-0.0357	0.0002
19	SLE RA 12	-0.5	10.23	68.25	-0.3358	-0.035	0.0002
19	SLE RA 13	-0.5	10.2	68.19	-0.3343	-0.0345	0.0002
19	SLE RA 14	-0.51	10.73	70.87	-0.3552	-0.036	0.0002
19	SLE RA 15	-0.5	10.65	70.51	-0.3515	-0.0354	0.0002
19	SLE RA 16	-0.51	10.76	71.05	-0.3562	-0.036	0.0002
19	SLE RA 17	-0.5	10.67	70.69	-0.3525	-0.0353	0.0002
19	SLE RA 18	-0.59	10.29	68.8	-0.3373	-0.0386	0.0002
19	SLE RA 19	-0.58	10.21	68.44	-0.3335	-0.0379	0.0002
19	SLE RA 20	-0.59	10.71	71.06	-0.3529	-0.039	0.0002
19	SLE RA 21	-0.58	10.63	70.7	-0.3492	-0.0383	0.0002
19	SLE FR 1	-0.34	9.06	61.21	-0.2959	-0.0275	0.0001
19	SLE FR 2	-0.34	9.03	61.09	-0.2947	-0.0273	0.0001
19	SLE FR 3	-0.34	9.23	62.12	-0.3022	-0.0277	0.0001
19	SLE FR 4	-0.41	9.4	63.37	-0.3071	-0.0306	0.0001
19	SLE FR 5	-0.42	9.6	64.39	-0.3146	-0.031	0.0001
19	SLE FR 6	-0.47	9.68	65	-0.3166	-0.0331	0.0001
19	SLE QP 1	-0.34	9.06	61.21	-0.2959	-0.0275	0.0001
19	SLE QP 2	-0.42	9.43	63.49	-0.3083	-0.0308	0.0001
19	SLD 1	1.81	12.78	80.87	-0.4359	0.075	0
19	SLD 2	1.81	12.78	80.87	-0.4359	0.075	0
19	SLD 3	2.25	10.13	67.88	-0.3287	0.0969	0
19	SLD 4	2.25	10.13	67.88	-0.3287	0.0969	0
19	SLD 5	-0.41	14.45	88.4	-0.5092	-0.0324	0.0002
19	SLD 6	-0.41	14.45	88.4	-0.5092	-0.0324	0.0002
19	SLD 7	1.05	5.62	45.11	-0.1519	0.0408	0
19	SLD 8	1.05	5.62	45.11	-0.1519	0.0408	0
19	SLD 9	-1.88	13.24	81.87	-0.4648	-0.1025	0.0003
19	SLD 10	-1.88	13.24	81.87	-0.4648	-0.1025	0.0003
19	SLD 11	-0.42	4.41	38.58	-0.1075	-0.0293	0.0001
19	SLD 12	-0.42	4.41	38.58	-0.1075	-0.0293	0.0001
19	SLD 13	-3.08	8.73	59.09	-0.288	-0.1586	0.0003
19	SLD 14	-3.08	8.73	59.09	-0.288	-0.1586	0.0003
19	SLD 15	-2.65	6.08	46.11	-0.1807	-0.1366	0.0003
19	SLD 16	-2.65	6.08	46.11	-0.1807	-0.1366	0.0003
19	SLV 1	4.79	17.29	104.35	-0.6081	0.2164	-0.0002
19	SLV 2	4.79	17.29	104.35	-0.6081	0.2164	-0.0002
19	SLV 3	5.82	11.07	73.74	-0.3564	0.2682	-0.0003
19	SLV 4	5.82	11.07	73.74	-0.3564	0.2682	-0.0003
19	SLV 5	-0.42	21.23	122.18	-0.78	-0.0352	0.0002
19	SLV 6	-0.42	21.23	122.18	-0.78	-0.0352	0.0002
19	SLV 7	3.02	0.48	20.13	0.059	0.1374	-0.0002
19	SLV 8	3.02	0.48	20.13	0.059	0.1374	-0.0002
19	SLV 9	-3.85	18.38	106.84	-0.6757	-0.199	0.0004
19	SLV 10	-3.85	18.38	106.84	-0.6757	-0.199	0.0004
19	SLV 11	-0.42	-2.37	4.8	0.1634	-0.0265	0.0001
19	SLV 12	-0.42	-2.37	4.8	0.1634	-0.0265	0.0001
19	SLV 13	-6.65	7.79	53.24	-0.2603	-0.3298	0.0006
19	SLV 14	-6.65	7.79	53.24	-0.2603	-0.3298	0.0006
19	SLV 15	-5.63	1.57	22.62	-0.0085	-0.2781	0.0005
19	SLV 16	-5.63	1.57	22.62	-0.0085	-0.2781	0.0005
20	SLU 1	-4.17	0.14	36.7	-0.024	-0.1622	-0.0008
20	SLU 2	-4.06	0.15	36.17	-0.0261	-0.1579	-0.0008
20	SLU 3	-4.45	0.15	38.45	-0.0265	-0.1729	-0.0009
20	SLU 4	-4.39	0.16	38.14	-0.0278	-0.1702	-0.0009
20	SLU 5	-4.37	0.16	38.09	-0.0288	-0.1695	-0.0009
20	SLU 6	-4.76	0.17	40.37	-0.0292	-0.1845	-0.0009
20	SLU 7	-4.7	0.17	40.05	-0.0305	-0.1819	-0.0009



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
20	SLU 8	-4.79	0.17	40.53	-0.0295	-0.1855	-0.0009	
20	SLU 9	-4.73	0.17	40.22	-0.0307	-0.1829	-0.0009	
20	SLU 10	-4.88	0.17	40.68	-0.0291	-0.19	-0.0009	
20	SLU 11	-5.28	0.17	42.96	-0.0295	-0.205	-0.001	
20	SLU 12	-5.21	0.18	42.65	-0.0308	-0.2023	-0.001	
20	SLU 13	-5.2	0.18	42.6	-0.0318	-0.2016	-0.001	
20	SLU 14	-5.59	0.18	44.88	-0.0322	-0.2166	-0.001	
20	SLU 15	-5.52	0.19	44.57	-0.0335	-0.214	-0.001	
20	SLU 16	-5.62	0.19	45.05	-0.0325	-0.2176	-0.001	
20	SLU 17	-5.55	0.19	44.73	-0.0337	-0.215	-0.001	
20	SLU 18	-5.35	0.17	43.14	-0.0283	-0.2081	-0.001	
20	SLU 19	-5.28	0.17	42.83	-0.0295	-0.2055	-0.001	
20	SLU 20	-5.66	0.18	45.06	-0.031	-0.2197	-0.001	
20	SLU 21	-5.59	0.19	44.74	-0.0323	-0.2171	-0.001	
20	SLU 22	-4.63	0.16	39.48	-0.0268	-0.1795	-0.0009	
20	SLU 23	-4.52	0.16	38.95	-0.0289	-0.1752	-0.0009	
20	SLU 24	-4.91	0.17	41.23	-0.0293	-0.1902	-0.0009	
20	SLU 25	-4.85	0.17	40.92	-0.0305	-0.1876	-0.0009	
20	SLU 26	-4.83	0.17	40.87	-0.0316	-0.1868	-0.001	
20	SLU 27	-5.22	0.18	43.15	-0.032	-0.2018	-0.001	
20	SLU 28	-5.16	0.18	42.83	-0.0332	-0.1992	-0.001	
20	SLU 29	-5.25	0.18	43.31	-0.0322	-0.2028	-0.001	
20	SLU 30	-5.19	0.18	43	-0.0335	-0.2002	-0.001	
20	SLU 31	-5.34	0.18	43.46	-0.0318	-0.2073	-0.001	
20	SLU 32	-5.74	0.19	45.74	-0.0323	-0.2223	-0.0011	
20	SLU 33	-5.67	0.19	45.43	-0.0335	-0.2196	-0.0011	
20	SLU 34	-5.66	0.19	45.38	-0.0346	-0.2189	-0.0011	
20	SLU 35	-6.05	0.2	47.66	-0.035	-0.2339	-0.0011	
20	SLU 36	-5.98	0.2	47.35	-0.0362	-0.2313	-0.0011	
20	SLU 37	-6.08	0.2	47.83	-0.0352	-0.2349	-0.0011	
20	SLU 38	-6.01	0.2	47.51	-0.0365	-0.2323	-0.0011	
20	SLU 39	-5.81	0.19	45.92	-0.0311	-0.2254	-0.0011	
20	SLU 40	-5.74	0.19	45.61	-0.0323	-0.2228	-0.0011	
20	SLU 41	-6.12	0.2	47.84	-0.0338	-0.237	-0.0011	
20	SLU 42	-6.05	0.2	47.52	-0.035	-0.2344	-0.0011	
20	SLU 43	-5.26	0.18	46.75	-0.0303	-0.205	-0.001	
20	SLU 44	-5.15	0.19	46.23	-0.0324	-0.2006	-0.001	
20	SLU 45	-5.54	0.19	48.51	-0.0328	-0.2156	-0.0011	
20	SLU 46	-5.48	0.2	48.19	-0.034	-0.213	-0.0011	
20	SLU 47	-5.46	0.2	48.15	-0.0351	-0.2122	-0.0011	
20	SLU 48	-5.86	0.2	50.43	-0.0355	-0.2272	-0.0011	
20	SLU 49	-5.79	0.21	50.11	-0.0368	-0.2246	-0.0011	
20	SLU 50	-5.88	0.2	50.59	-0.0358	-0.2282	-0.0011	
20	SLU 51	-5.82	0.21	50.28	-0.037	-0.2256	-0.0011	
20	SLU 52	-5.98	0.21	50.74	-0.0354	-0.2327	-0.0011	
20	SLU 53	-6.37	0.21	53.02	-0.0358	-0.2477	-0.0012	
20	SLU 54	-6.3	0.21	52.7	-0.037	-0.2451	-0.0012	
20	SLU 55	-6.29	0.22	52.66	-0.0381	-0.2443	-0.0012	
20	SLU 56	-6.68	0.22	54.94	-0.0385	-0.2593	-0.0012	
20	SLU 57	-6.62	0.23	54.62	-0.0397	-0.2567	-0.0012	
20	SLU 58	-6.71	0.22	55.1	-0.0388	-0.2603	-0.0013	
20	SLU 59	-6.64	0.23	54.79	-0.04	-0.2577	-0.0013	
20	SLU 60	-6.44	0.21	53.2	-0.0346	-0.2508	-0.0012	
20	SLU 61	-6.37	0.21	52.88	-0.0358	-0.2482	-0.0012	
20	SLU 62	-6.75	0.22	55.12	-0.0373	-0.2624	-0.0012	
20	SLU 63	-6.69	0.22	54.8	-0.0385	-0.2598	-0.0012	
20	SLU 64	-5.72	0.2	49.53	-0.033	-0.2223	-0.0011	
20	SLU 65	-5.61	0.2	49.01	-0.0351	-0.2179	-0.0011	
20	SLU 66	-6	0.21	51.29	-0.0355	-0.2329	-0.0012	
20	SLU 67	-5.94	0.21	50.97	-0.0368	-0.2303	-0.0012	
20	SLU 68	-5.92	0.21	50.93	-0.0378	-0.2295	-0.0012	
20	SLU 69	-6.32	0.22	53.21	-0.0383	-0.2445	-0.0012	
20	SLU 70	-6.25	0.22	52.89	-0.0395	-0.2419	-0.0012	
20	SLU 71	-6.34	0.22	53.37	-0.0385	-0.2455	-0.0012	
20	SLU 72	-6.28	0.22	53.06	-0.0398	-0.2429	-0.0012	
20	SLU 73	-6.44	0.22	53.52	-0.0381	-0.25	-0.0012	
20	SLU 74	-6.83	0.23	55.8	-0.0385	-0.265	-0.0013	
20	SLU 75	-6.76	0.23	55.48	-0.0398	-0.2624	-0.0013	
20	SLU 76	-6.75	0.23	55.44	-0.0408	-0.2616	-0.0013	
20	SLU 77	-7.14	0.24	57.72	-0.0413	-0.2766	-0.0013	
20	SLU 78	-7.08	0.24	57.4	-0.0425	-0.274	-0.0013	
20	SLU 79	-7.17	0.24	57.88	-0.0415	-0.2776	-0.0013	
20	SLU 80	-7.1	0.24	57.57	-0.0428	-0.275	-0.0013	
20	SLU 81	-6.9	0.23	55.98	-0.0373	-0.2681	-0.0013	
20	SLU 82	-6.83	0.23	55.66	-0.0386	-0.2655	-0.0013	
20	SLU 83	-7.21	0.24	57.9	-0.0401	-0.2798	-0.0013	
20	SLU 84	-7.14	0.24	57.58	-0.0413	-0.2771	-0.0013	
20	SLE RA 1	-4.3	0.15	37.49	-0.0248	-0.1672	-0.0008	
20	SLE RA 2	-4.23	0.15	37.14	-0.0262	-0.1643	-0.0008	
20	SLE RA 3	-4.49	0.16	38.66	-0.0265	-0.1743	-0.0009	
20	SLE RA 4	-4.44	0.16	38.45	-0.0273	-0.1725	-0.0009	
20	SLE RA 5	-4.43	0.16	38.42	-0.028	-0.172	-0.0009	
20	SLE RA 6	-4.7	0.16	39.94	-0.0283	-0.182	-0.0009	
20	SLE RA 7	-4.65	0.16	39.73	-0.0291	-0.1803	-0.0009	
20	SLE RA 8	-4.71	0.16	40.05	-0.0285	-0.1827	-0.0009	
20	SLE RA 9	-4.67	0.16	39.84	-0.0293	-0.1809	-0.0009	
20	SLE RA 10	-4.78	0.16	40.15	-0.0282	-0.1857	-0.0009	
20	SLE RA 11	-5.04	0.17	41.67	-0.0285	-0.1957	-0.0009	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
20	SLE RA 12			-4.99	0.17	41.46	-0.0293	-0.1939	-0.0009
20	SLE RA 13			-4.98	0.17	41.43	-0.03	-0.1934	-0.0009
20	SLE RA 14			-5.25	0.18	42.95	-0.0303	-0.2034	-0.001
20	SLE RA 15			-5.2	0.18	42.74	-0.0311	-0.2017	-0.001
20	SLE RA 16			-5.26	0.18	43.06	-0.0305	-0.2041	-0.001
20	SLE RA 17			-5.22	0.18	42.85	-0.0313	-0.2023	-0.001
20	SLE RA 18			-5.08	0.17	41.79	-0.0277	-0.1977	-0.0009
20	SLE RA 19			-5.04	0.17	41.58	-0.0285	-0.196	-0.0009
20	SLE RA 20			-5.29	0.17	43.07	-0.0295	-0.2055	-0.001
20	SLE RA 21			-5.25	0.18	42.86	-0.0303	-0.2038	-0.001
20	SLE FR 1			-4.3	0.15	37.49	-0.0248	-0.1672	-0.0008
20	SLE FR 2			-4.28	0.15	37.42	-0.0251	-0.1666	-0.0008
20	SLE FR 3			-4.38	0.15	38	-0.0255	-0.1703	-0.0008
20	SLE FR 4			-4.52	0.16	38.71	-0.0259	-0.1758	-0.0009
20	SLE FR 5			-4.62	0.16	39.29	-0.0264	-0.1794	-0.0009
20	SLE FR 6			-4.69	0.16	39.64	-0.0262	-0.1825	-0.0009
20	SLE QP 1			-4.3	0.15	37.49	-0.0248	-0.1672	-0.0008
20	SLE QP 2			-4.53	0.15	38.78	-0.0257	-0.1763	-0.0009
20	SLD 1			-2.16	0.21	35.74	-0.0509	-0.0725	-0.0012
20	SLD 2			-2.16	0.21	35.74	-0.0509	-0.0725	-0.0012
20	SLD 3			-0.79	0.17	28.44	-0.0304	-0.0202	-0.0009
20	SLD 4			-0.79	0.17	28.44	-0.0304	-0.0202	-0.0009
20	SLD 5			-5.9	0.24	48.93	-0.0643	-0.2245	-0.0013
20	SLD 6			-5.9	0.24	48.93	-0.0643	-0.2245	-0.0013
20	SLD 7			-1.33	0.09	24.62	0.004	-0.0502	-0.0005
20	SLD 8			-1.33	0.09	24.62	0.004	-0.0502	-0.0005
20	SLD 9			-7.73	0.22	52.94	-0.0554	-0.3025	-0.0012
20	SLD 10			-7.73	0.22	52.94	-0.0554	-0.3025	-0.0012
20	SLD 11			-3.17	0.07	28.63	0.013	-0.1282	-0.0004
20	SLD 12			-3.17	0.07	28.63	0.013	-0.1282	-0.0004
20	SLD 13			-8.28	0.14	49.12	-0.021	-0.3325	-0.0008
20	SLD 14			-8.28	0.14	49.12	-0.021	-0.3325	-0.0008
20	SLD 15			-6.91	0.1	41.82	-0.0005	-0.2802	-0.0006
20	SLD 16			-6.91	0.1	41.82	-0.0005	-0.2802	-0.0006
20	SLV 1			1.02	0.29	31.69	-0.0849	0.0662	-0.0016
20	SLV 2			1.02	0.29	31.69	-0.0849	0.0662	-0.0016
20	SLV 3			4.24	0.18	14.48	-0.0369	0.1895	-0.001
20	SLV 4			4.24	0.18	14.48	-0.0369	0.1895	-0.001
20	SLV 5			-7.76	0.35	62.76	-0.1162	-0.2906	-0.0019
20	SLV 6			-7.76	0.35	62.76	-0.1162	-0.2906	-0.0019
20	SLV 7			2.99	0.01	5.38	0.0437	0.1204	-0.0001
20	SLV 8			2.99	0.01	5.38	0.0437	0.1204	-0.0001
20	SLV 9			-12.06	0.3	72.18	-0.0951	-0.4731	-0.0017
20	SLV 10			-12.06	0.3	72.18	-0.0951	-0.4731	-0.0017
20	SLV 11			-1.31	-0.04	14.8	0.0649	-0.0621	0.0002
20	SLV 12			-1.31	-0.04	14.8	0.0649	-0.0621	0.0002
20	SLV 13			-13.31	0.12	63.08	-0.0145	-0.5422	-0.0007
20	SLV 14			-13.31	0.12	63.08	-0.0145	-0.5422	-0.0007
20	SLV 15			-10.08	0.02	45.87	0.0335	-0.4189	-0.0002
20	SLV 16			-10.08	0.02	45.87	0.0335	-0.4189	-0.0002
21	SLU 1			-4.74	0	31.97	0.0145	-0.1795	0
21	SLU 2			-4.66	0.01	31.5	0.01	-0.1762	-0.0001
21	SLU 3			-5.07	0	33.32	0.0139	-0.1915	0
21	SLU 4			-5.02	0.01	33.04	0.0112	-0.1896	-0.0001
21	SLU 5			-5.02	0.01	32.98	0.0092	-0.1895	-0.0001
21	SLU 6			-5.43	0	34.8	0.0131	-0.2049	0
21	SLU 7			-5.38	0.01	34.52	0.0104	-0.2029	-0.0001
21	SLU 8			-5.46	0	34.93	0.0129	-0.2061	0
21	SLU 9			-5.41	0.01	34.65	0.0102	-0.2042	-0.0001
21	SLU 10			-5.56	0.01	35.07	0.0126	-0.21	-0.0001
21	SLU 11			-5.96	0	36.89	0.0165	-0.2254	0
21	SLU 12			-5.92	0	36.61	0.0138	-0.2234	-0.0001
21	SLU 13			-5.92	0.01	36.55	0.0118	-0.2234	-0.0001
21	SLU 14			-6.32	0	38.37	0.0157	-0.2387	0
21	SLU 15			-6.28	0.01	38.09	0.013	-0.2367	-0.0001
21	SLU 16			-6.36	0	38.5	0.0155	-0.24	0
21	SLU 17			-6.31	0.01	38.22	0.0128	-0.238	-0.0001
21	SLU 18			-6.02	0	37.06	0.0183	-0.2278	0
21	SLU 19			-5.98	0	36.78	0.0155	-0.2259	0
21	SLU 20			-6.38	0	38.54	0.0174	-0.2412	0
21	SLU 21			-6.34	0	38.26	0.0147	-0.2392	-0.0001
21	SLU 22			-5.25	0	34.14	0.0155	-0.1984	0
21	SLU 23			-5.17	0.01	33.68	0.0109	-0.1951	-0.0001
21	SLU 24			-5.58	0	35.5	0.0148	-0.2105	0
21	SLU 25			-5.53	0.01	35.22	0.0121	-0.2085	-0.0001
21	SLU 26			-5.53	0.01	35.16	0.0101	-0.2085	-0.0001
21	SLU 27			-5.94	0	36.98	0.014	-0.2238	0
21	SLU 28			-5.89	0.01	36.7	0.0113	-0.2219	-0.0001
21	SLU 29			-5.97	0	37.11	0.0138	-0.2251	0
21	SLU 30			-5.92	0.01	36.83	0.0111	-0.2231	-0.0001
21	SLU 31			-6.07	0.01	37.24	0.0135	-0.229	-0.0001
21	SLU 32			-6.47	0	39.07	0.0174	-0.2444	0
21	SLU 33			-6.43	0.01	38.79	0.0147	-0.2424	-0.0001
21	SLU 34			-6.43	0.01	38.73	0.0127	-0.2423	-0.0001
21	SLU 35			-6.83	0	40.55	0.0166	-0.2577	0
21	SLU 36			-6.79	0.01	40.27	0.0139	-0.2557	-0.0001
21	SLU 37			-6.87	0	40.67	0.0164	-0.259	0
21	SLU 38			-6.82	0.01	40.39	0.0137	-0.257	-0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
21	SLU 39	-6.53	0	39.24	0.0192	-0.2468	0
21	SLU 40	-6.49	0	38.96	0.0164	-0.2448	0
21	SLU 41	-6.89	0	40.72	0.0184	-0.2601	0
21	SLU 42	-6.85	0	40.44	0.0156	-0.2582	-0.0001
21	SLU 43	-5.99	0	40.81	0.0186	-0.2268	0
21	SLU 44	-5.91	0.01	40.34	0.014	-0.2235	-0.0001
21	SLU 45	-6.31	0	42.16	0.0179	-0.2389	0
21	SLU 46	-6.27	0.01	41.88	0.0152	-0.2369	-0.0001
21	SLU 47	-6.27	0.01	41.82	0.0132	-0.2368	-0.0001
21	SLU 48	-6.67	0	43.65	0.0171	-0.2522	0
21	SLU 49	-6.63	0.01	43.37	0.0144	-0.2502	-0.0001
21	SLU 50	-6.71	0	43.77	0.017	-0.2535	0
21	SLU 51	-6.66	0.01	43.49	0.0142	-0.2515	-0.0001
21	SLU 52	-6.81	0.01	43.91	0.0166	-0.2574	-0.0001
21	SLU 53	-7.21	0	45.73	0.0205	-0.2727	0
21	SLU 54	-7.16	0	45.45	0.0178	-0.2708	-0.0001
21	SLU 55	-7.17	0.01	45.39	0.0158	-0.2707	-0.0001
21	SLU 56	-7.57	0	47.21	0.0197	-0.2861	0
21	SLU 57	-7.52	0.01	46.93	0.017	-0.2841	-0.0001
21	SLU 58	-7.61	0	47.34	0.0196	-0.2873	0
21	SLU 59	-7.56	0.01	47.06	0.0168	-0.2853	-0.0001
21	SLU 60	-7.27	0	45.91	0.0223	-0.2752	0
21	SLU 61	-7.22	0	45.63	0.0196	-0.2732	0
21	SLU 62	-7.63	0	47.39	0.0215	-0.2885	0
21	SLU 63	-7.58	0	47.11	0.0188	-0.2865	-0.0001
21	SLU 64	-6.5	0	42.99	0.0195	-0.2458	0
21	SLU 65	-6.42	0.01	42.52	0.0149	-0.2425	-0.0001
21	SLU 66	-6.82	0	44.34	0.0189	-0.2579	0
21	SLU 67	-6.78	0.01	44.06	0.0161	-0.2559	-0.0001
21	SLU 68	-6.78	0.01	44	0.0141	-0.2558	-0.0001
21	SLU 69	-7.18	0	45.82	0.0181	-0.2712	0
21	SLU 70	-7.14	0.01	45.54	0.0153	-0.2692	-0.0001
21	SLU 71	-7.22	0	45.95	0.0179	-0.2724	0
21	SLU 72	-7.17	0.01	45.67	0.0152	-0.2705	-0.0001
21	SLU 73	-7.32	0.01	46.09	0.0175	-0.2763	-0.0001
21	SLU 74	-7.72	0	47.91	0.0215	-0.2917	0
21	SLU 75	-7.67	0	47.63	0.0187	-0.2897	-0.0001
21	SLU 76	-7.68	0.01	47.57	0.0167	-0.2897	-0.0001
21	SLU 77	-8.08	0	49.39	0.0207	-0.305	0
21	SLU 78	-8.03	0.01	49.11	0.0179	-0.3031	-0.0001
21	SLU 79	-8.12	0	49.52	0.0205	-0.3063	0
21	SLU 80	-8.07	0.01	49.24	0.0178	-0.3043	-0.0001
21	SLU 81	-7.78	0	48.08	0.0232	-0.2941	0
21	SLU 82	-7.73	0	47.8	0.0205	-0.2922	-0.0001
21	SLU 83	-8.14	0	49.56	0.0224	-0.3075	0
21	SLU 84	-8.09	0	49.28	0.0197	-0.3055	-0.0001
21	SLE RA 1	-4.89	0	32.59	0.0148	-0.1849	0
21	SLE RA 2	-4.83	0.01	32.28	0.0118	-0.1827	-0.0001
21	SLE RA 3	-5.1	0	33.49	0.0144	-0.1929	0
21	SLE RA 4	-5.07	0	33.31	0.0125	-0.1916	0
21	SLE RA 5	-5.07	0.01	33.27	0.0112	-0.1916	-0.0001
21	SLE RA 6	-5.34	0	34.48	0.0138	-0.2018	0
21	SLE RA 7	-5.31	0.01	34.29	0.012	-0.2005	-0.0001
21	SLE RA 8	-5.37	0	34.56	0.0137	-0.2027	0
21	SLE RA 9	-5.33	0.01	34.38	0.0119	-0.2013	-0.0001
21	SLE RA 10	-5.43	0	34.66	0.0135	-0.2053	-0.0001
21	SLE RA 11	-5.7	0	35.87	0.0161	-0.2155	0
21	SLE RA 12	-5.67	0	35.68	0.0143	-0.2142	0
21	SLE RA 13	-5.67	0.01	35.64	0.013	-0.2141	-0.0001
21	SLE RA 14	-5.94	0	36.86	0.0156	-0.2244	0
21	SLE RA 15	-5.91	0	36.67	0.0137	-0.2231	-0.0001
21	SLE RA 16	-5.96	0	36.94	0.0155	-0.2252	0
21	SLE RA 17	-5.93	0	36.75	0.0136	-0.2239	-0.0001
21	SLE RA 18	-5.74	0	35.99	0.0173	-0.2171	0
21	SLE RA 19	-5.71	0	35.8	0.0155	-0.2158	0
21	SLE RA 20	-5.98	0	36.97	0.0167	-0.226	0
21	SLE RA 21	-5.95	0	36.79	0.0149	-0.2247	0
21	SLE FR 1	-4.89	0	32.59	0.0148	-0.1849	0
21	SLE FR 2	-4.88	0	32.53	0.0142	-0.1845	0
21	SLE FR 3	-4.98	0	32.98	0.0146	-0.1884	0
21	SLE FR 4	-5.13	0	33.55	0.0149	-0.1941	0
21	SLE FR 5	-5.24	0	34	0.0153	-0.1981	0
21	SLE FR 6	-5.31	0	34.29	0.016	-0.201	0
21	SLE QP 1	-4.89	0	32.59	0.0148	-0.1849	0
21	SLE QP 2	-5.14	0	33.61	0.0155	-0.1946	0
21	SLD 1	-2.38	0.06	30.62	-0.0343	-0.0672	-0.0004
21	SLD 2	-2.38	0.06	30.62	-0.0343	-0.0672	-0.0004
21	SLD 3	-0.95	0.02	24.91	-0.0064	-0.0121	-0.0002
21	SLD 4	-0.95	0.02	24.91	-0.0064	-0.0121	-0.0002
21	SLD 5	-6.48	0.07	41.37	-0.0417	-0.2398	-0.0005
21	SLD 6	-6.48	0.07	41.37	-0.0417	-0.2398	-0.0005
21	SLD 7	-1.72	-0.05	22.34	0.0512	-0.0563	0.0003
21	SLD 8	-1.72	-0.05	22.34	0.0512	-0.0563	0.0003
21	SLD 9	-8.57	0.05	44.88	-0.0201	-0.3328	-0.0003
21	SLD 10	-8.57	0.05	44.88	-0.0201	-0.3328	-0.0003
21	SLD 11	-3.8	-0.08	25.84	0.0727	-0.1493	0.0004
21	SLD 12	-3.8	-0.08	25.84	0.0727	-0.1493	0.0004
21	SLD 13	-9.34	-0.03	42.31	0.0375	-0.377	0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
21	SLD 14	-9.34	-0.03	42.31		0.0375	-0.377	0.0001	
21	SLD 15	-7.91	-0.06	36.6		0.0653	-0.322	0.0003	
21	SLD 16	-7.91	-0.06	36.6		0.0653	-0.322	0.0003	
21	SLV 1	1.32	0.15	26.65		-0.1011	0.1034	-0.0009	
21	SLV 2	1.32	0.15	26.65		-0.1011	0.1034	-0.0009	
21	SLV 3	4.69	0.06	13.14		-0.0359	0.233	-0.0004	
21	SLV 4	4.69	0.06	13.14		-0.0359	0.233	-0.0004	
21	SLV 5	-8.31	0.18	52		-0.1184	-0.3017	-0.001	
21	SLV 6	-8.31	0.18	52		-0.1184	-0.3017	-0.001	
21	SLV 7	2.91	-0.12	6.99		0.0991	0.1302	0.0007	
21	SLV 8	2.91	-0.12	6.99		0.0991	0.1302	0.0007	
21	SLV 9	-13.2	0.11	60.23		-0.068	-0.5193	-0.0007	
21	SLV 10	-13.2	0.11	60.23		-0.068	-0.5193	-0.0007	
21	SLV 11	-1.98	-0.18	15.22		0.1495	-0.0874	0.001	
21	SLV 12	-1.98	-0.18	15.22		0.1495	-0.0874	0.001	
21	SLV 13	-14.97	-0.06	54.07		0.0669	-0.6221	0.0003	
21	SLV 14	-14.97	-0.06	54.07		0.0669	-0.6221	0.0003	
21	SLV 15	-11.61	-0.15	40.57		0.1322	-0.4925	0.0008	
21	SLV 16	-11.61	-0.15	40.57		0.1322	-0.4925	0.0008	
22	SLU 1	-4.98	-0.07	28.27		0.0442	-0.208	0.0005	
22	SLU 2	-4.94	-0.06	27.79		0.0389	-0.2061	0.0004	
22	SLU 3	-5.32	-0.07	29.31		0.0448	-0.2219	0.0005	
22	SLU 4	-5.3	-0.07	29.01		0.0416	-0.2207	0.0004	
22	SLU 5	-5.33	-0.06	28.91		0.0394	-0.2214	0.0004	
22	SLU 6	-5.71	-0.07	30.43		0.0453	-0.2373	0.0005	
22	SLU 7	-5.68	-0.07	30.14		0.0421	-0.2361	0.0005	
22	SLU 8	-5.74	-0.07	30.52		0.0452	-0.2388	0.0005	
22	SLU 9	-5.72	-0.07	30.23		0.042	-0.2376	0.0005	
22	SLU 10	-5.87	-0.07	30.56		0.0452	-0.2437	0.0005	
22	SLU 11	-6.25	-0.08	32.08		0.0511	-0.2595	0.0006	
22	SLU 12	-6.23	-0.08	31.79		0.0479	-0.2583	0.0005	
22	SLU 13	-6.25	-0.07	31.68		0.0457	-0.2591	0.0005	
22	SLU 14	-6.63	-0.08	33.2		0.0516	-0.2749	0.0006	
22	SLU 15	-6.61	-0.08	32.91		0.0484	-0.2737	0.0005	
22	SLU 16	-6.67	-0.08	33.3		0.0515	-0.2764	0.0006	
22	SLU 17	-6.65	-0.08	33		0.0483	-0.2752	0.0005	
22	SLU 18	-6.3	-0.08	32.24		0.0532	-0.2617	0.0006	
22	SLU 19	-6.28	-0.08	31.94		0.05	-0.2606	0.0005	
22	SLU 20	-6.68	-0.08	33.36		0.0537	-0.2771	0.0006	
22	SLU 21	-6.66	-0.08	33.07		0.0505	-0.2759	0.0005	
22	SLU 22	-5.51	-0.08	29.97		0.0476	-0.2296	0.0005	
22	SLU 23	-5.48	-0.07	29.48		0.0422	-0.2277	0.0004	
22	SLU 24	-5.86	-0.08	31		0.0482	-0.2435	0.0005	
22	SLU 25	-5.84	-0.07	30.71		0.045	-0.2424	0.0005	
22	SLU 26	-5.86	-0.07	30.6		0.0427	-0.2431	0.0005	
22	SLU 27	-6.24	-0.08	32.12		0.0487	-0.2589	0.0005	
22	SLU 28	-6.22	-0.07	31.83		0.0455	-0.2578	0.0005	
22	SLU 29	-6.28	-0.08	32.21		0.0486	-0.2604	0.0005	
22	SLU 30	-6.26	-0.07	31.92		0.0454	-0.2593	0.0005	
22	SLU 31	-6.4	-0.08	32.25		0.0485	-0.2653	0.0005	
22	SLU 32	-6.78	-0.09	33.77		0.0545	-0.2812	0.0006	
22	SLU 33	-6.76	-0.08	33.48		0.0513	-0.28	0.0005	
22	SLU 34	-6.79	-0.08	33.38		0.049	-0.2807	0.0005	
22	SLU 35	-7.16	-0.09	34.9		0.055	-0.2965	0.0006	
22	SLU 36	-7.14	-0.08	34.6		0.0518	-0.2954	0.0006	
22	SLU 37	-7.2	-0.09	34.99		0.0549	-0.298	0.0006	
22	SLU 38	-7.18	-0.08	34.7		0.0517	-0.2969	0.0006	
22	SLU 39	-6.83	-0.09	33.93		0.0566	-0.2834	0.0006	
22	SLU 40	-6.81	-0.08	33.64		0.0534	-0.2822	0.0006	
22	SLU 41	-7.22	-0.09	35.05		0.0571	-0.2988	0.0006	
22	SLU 42	-7.19	-0.08	34.76		0.0539	-0.2976	0.0006	
22	SLU 43	-6.29	-0.09	36.18		0.0563	-0.2629	0.0006	
22	SLU 44	-6.25	-0.08	35.69		0.051	-0.261	0.0005	
22	SLU 45	-6.63	-0.09	37.21		0.057	-0.2768	0.0006	
22	SLU 46	-6.61	-0.08	36.92		0.0537	-0.2757	0.0006	
22	SLU 47	-6.64	-0.08	36.81		0.0515	-0.2764	0.0006	
22	SLU 48	-7.01	-0.09	38.33		0.0575	-0.2922	0.0006	
22	SLU 49	-6.99	-0.09	38.04		0.0542	-0.2911	0.0006	
22	SLU 50	-7.05	-0.09	38.42		0.0573	-0.2937	0.0006	
22	SLU 51	-7.03	-0.09	38.13		0.0541	-0.2926	0.0006	
22	SLU 52	-7.18	-0.09	38.46		0.0573	-0.2986	0.0006	
22	SLU 53	-7.56	-0.1	39.98		0.0633	-0.3144	0.0007	
22	SLU 54	-7.54	-0.09	39.69		0.0601	-0.3133	0.0006	
22	SLU 55	-7.56	-0.09	39.59		0.0578	-0.314	0.0006	
22	SLU 56	-7.94	-0.1	41.11		0.0638	-0.3298	0.0007	
22	SLU 57	-7.92	-0.1	40.81		0.0606	-0.3287	0.0007	
22	SLU 58	-7.98	-0.1	41.2		0.0636	-0.3313	0.0007	
22	SLU 59	-7.96	-0.1	40.91		0.0604	-0.3302	0.0007	
22	SLU 60	-7.61	-0.1	40.14		0.0654	-0.3167	0.0007	
22	SLU 61	-7.59	-0.1	39.85		0.0621	-0.3155	0.0007	
22	SLU 62	-7.99	-0.1	41.26		0.0659	-0.3321	0.0007	
22	SLU 63	-7.97	-0.1	40.97		0.0626	-0.3309	0.0007	
22	SLU 64	-6.82	-0.09	37.87		0.0597	-0.2846	0.0007	
22	SLU 65	-6.79	-0.08	37.38		0.0544	-0.2827	0.0006	
22	SLU 66	-7.17	-0.1	38.9		0.0603	-0.2985	0.0007	
22	SLU 67	-7.15	-0.09	38.61		0.0571	-0.2973	0.0006	
22	SLU 68	-7.17	-0.09	38.51		0.0549	-0.2981	0.0006	
22	SLU 69	-7.55	-0.1	40.03		0.0608	-0.3139	0.0007	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
22	SLU 70	-7.53	-0.09	39.73	0.0576	-0.3127	0.0006
22	SLU 71	-7.59	-0.1	40.12	0.0607	-0.3154	0.0007
22	SLU 72	-7.57	-0.09	39.82	0.0575	-0.3142	0.0006
22	SLU 73	-7.71	-0.09	40.16	0.0607	-0.3203	0.0006
22	SLU 74	-8.09	-0.11	41.67	0.0666	-0.3361	0.0007
22	SLU 75	-8.07	-0.1	41.38	0.0634	-0.335	0.0007
22	SLU 76	-8.09	-0.1	41.28	0.0612	-0.3357	0.0007
22	SLU 77	-8.47	-0.11	42.8	0.0671	-0.3515	0.0007
22	SLU 78	-8.45	-0.1	42.51	0.0639	-0.3504	0.0007
22	SLU 79	-8.51	-0.11	42.89	0.067	-0.353	0.0007
22	SLU 80	-8.49	-0.1	42.6	0.0638	-0.3519	0.0007
22	SLU 81	-8.14	-0.11	41.83	0.0687	-0.3383	0.0007
22	SLU 82	-8.12	-0.1	41.54	0.0655	-0.3372	0.0007
22	SLU 83	-8.52	-0.11	42.95	0.0692	-0.3537	0.0008
22	SLU 84	-8.5	-0.1	42.66	0.066	-0.3526	0.0007
22	SLE RA 1	-5.13	-0.07	28.76	0.0452	-0.2142	0.0005
22	SLE RA 2	-5.11	-0.07	28.43	0.0416	-0.2129	0.0004
22	SLE RA 3	-5.36	-0.07	29.45	0.0456	-0.2234	0.0005
22	SLE RA 4	-5.35	-0.07	29.25	0.0435	-0.2227	0.0005
22	SLE RA 5	-5.36	-0.07	29.18	0.042	-0.2231	0.0005
22	SLE RA 6	-5.62	-0.07	30.2	0.0459	-0.2337	0.0005
22	SLE RA 7	-5.6	-0.07	30	0.0438	-0.2329	0.0005
22	SLE RA 8	-5.64	-0.07	30.26	0.0459	-0.2347	0.0005
22	SLE RA 9	-5.63	-0.07	30.06	0.0437	-0.2339	0.0005
22	SLE RA 10	-5.72	-0.07	30.28	0.0458	-0.238	0.0005
22	SLE RA 11	-5.98	-0.08	31.29	0.0498	-0.2485	0.0005
22	SLE RA 12	-5.96	-0.07	31.1	0.0477	-0.2477	0.0005
22	SLE RA 13	-5.98	-0.07	31.03	0.0462	-0.2482	0.0005
22	SLE RA 14	-6.23	-0.08	32.04	0.0501	-0.2588	0.0005
22	SLE RA 15	-6.22	-0.08	31.85	0.048	-0.258	0.0005
22	SLE RA 16	-6.26	-0.08	32.11	0.0501	-0.2598	0.0005
22	SLE RA 17	-6.24	-0.08	31.91	0.0479	-0.259	0.0005
22	SLE RA 18	-6.01	-0.08	31.4	0.0512	-0.25	0.0006
22	SLE RA 19	-6	-0.08	31.2	0.0491	-0.2492	0.0005
22	SLE RA 20	-6.26	-0.08	32.15	0.0515	-0.2602	0.0006
22	SLE RA 21	-6.25	-0.08	31.95	0.0494	-0.2595	0.0005
22	SLE FR 1	-5.13	-0.07	28.76	0.0452	-0.2142	0.0005
22	SLE FR 2	-5.13	-0.07	28.69	0.0445	-0.2139	0.0005
22	SLE FR 3	-5.23	-0.07	29.06	0.0453	-0.2183	0.0005
22	SLE FR 4	-5.39	-0.07	29.49	0.0463	-0.2247	0.0005
22	SLE FR 5	-5.5	-0.07	29.85	0.0471	-0.229	0.0005
22	SLE FR 6	-5.57	-0.08	30.08	0.0482	-0.2321	0.0005
22	SLE QP 1	-5.13	-0.07	28.76	0.0452	-0.2142	0.0005
22	SLE QP 2	-5.39	-0.07	29.55	0.047	-0.2249	0.0005
22	SLD 1	-2.5	-0.03	26.62	0.013	-0.1001	0.0002
22	SLD 2	-2.5	-0.03	26.62	0.013	-0.1001	0.0002
22	SLD 3	-1.06	0.02	22	-0.0238	-0.0402	-0.0002
22	SLD 4	-1.06	0.02	22	-0.0238	-0.0402	-0.0002
22	SLD 5	-6.71	-0.13	35.67	0.0926	-0.2783	0.0009
22	SLD 6	-6.71	-0.13	35.67	0.0926	-0.2783	0.0009
22	SLD 7	-1.91	0.03	20.29	-0.0301	-0.0787	-0.0002
22	SLD 8	-1.91	0.03	20.29	-0.0301	-0.0787	-0.0002
22	SLD 9	-8.88	-0.17	38.81	0.1241	-0.3712	0.0012
22	SLD 10	-8.88	-0.17	38.81	0.1241	-0.3712	0.0012
22	SLD 11	-4.07	-0.02	23.44	0.0013	-0.1715	0.0001
22	SLD 12	-4.07	-0.02	23.44	0.0013	-0.1715	0.0001
22	SLD 13	-9.73	-0.17	37.1	0.1178	-0.4096	0.0012
22	SLD 14	-9.73	-0.17	37.1	0.1178	-0.4096	0.0012
22	SLD 15	-8.28	-0.12	32.48	0.0809	-0.3497	0.0008
22	SLD 16	-8.28	-0.12	32.48	0.0809	-0.3497	0.0008
22	SLV 1	1.37	0.04	22.73	-0.0324	0.0671	-0.0003
22	SLV 2	1.37	0.04	22.73	-0.0324	0.0671	-0.0003
22	SLV 3	4.76	0.15	11.79	-0.1187	0.208	-0.0011
22	SLV 4	4.76	0.15	11.79	-0.1187	0.208	-0.0011
22	SLV 5	-8.51	-0.21	44.09	0.154	-0.3509	0.0015
22	SLV 6	-8.51	-0.21	44.09	0.154	-0.3509	0.0015
22	SLV 7	2.79	0.16	7.64	-0.1335	0.1186	-0.0012
22	SLV 8	2.79	0.16	7.64	-0.1335	0.1186	-0.0012
22	SLV 9	-13.58	-0.31	51.47	0.2275	-0.5684	0.0022
22	SLV 10	-13.58	-0.31	51.47	0.2275	-0.5684	0.0022
22	SLV 11	-2.28	0.06	15.01	-0.06	-0.0989	-0.0005
22	SLV 12	-2.28	0.06	15.01	-0.06	-0.0989	-0.0005
22	SLV 13	-15.55	-0.3	47.31	0.2127	-0.6578	0.0021
22	SLV 14	-15.55	-0.3	47.31	0.2127	-0.6578	0.0021
22	SLV 15	-12.16	-0.19	36.37	0.1264	-0.5169	0.0013
22	SLV 16	-12.16	-0.19	36.37	0.1264	-0.5169	0.0013
23	SLU 1	-4.27	-0.11	25.29	0.0614	-0.1695	0.0008
23	SLU 2	-4.32	-0.1	24.72	0.0566	-0.1707	0.0008
23	SLU 3	-4.58	-0.11	26.04	0.0626	-0.1815	0.0009
23	SLU 4	-4.61	-0.1	25.69	0.0597	-0.1822	0.0008
23	SLU 5	-4.66	-0.1	25.52	0.0577	-0.184	0.0008
23	SLU 6	-4.93	-0.11	26.84	0.0638	-0.1948	0.0009
23	SLU 7	-4.95	-0.11	26.49	0.0609	-0.1955	0.0008
23	SLU 8	-4.96	-0.11	26.9	0.0637	-0.1961	0.0009
23	SLU 9	-4.99	-0.1	26.55	0.0608	-0.1968	0.0008
23	SLU 10	-5.12	-0.11	26.78	0.0645	-0.202	0.0009
23	SLU 11	-5.39	-0.12	28.11	0.0706	-0.2128	0.001
23	SLU 12	-5.42	-0.12	27.76	0.0677	-0.2135	0.0009





Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
23	SLU 13	-5.47	-0.11	27.59	0.0656	-0.2153	0.0009		
23	SLU 14	-5.74	-0.12	28.91	0.0717	-0.2261	0.001		
23	SLU 15	-5.76	-0.12	28.56	0.0688	-0.2268	0.0009		
23	SLU 16	-5.77	-0.12	28.97	0.0716	-0.2274	0.001		
23	SLU 17	-5.8	-0.12	28.62	0.0687	-0.2281	0.0009		
23	SLU 18	-5.43	-0.12	28.25	0.0727	-0.2142	0.001		
23	SLU 19	-5.45	-0.12	27.9	0.0698	-0.2149	0.0009		
23	SLU 20	-5.77	-0.12	29.05	0.0738	-0.2275	0.001		
23	SLU 21	-5.8	-0.12	28.7	0.071	-0.2282	0.001		
23	SLU 22	-4.75	-0.11	26.55	0.0659	-0.1879	0.0009		
23	SLU 23	-4.79	-0.1	25.98	0.0611	-0.1891	0.0008		
23	SLU 24	-5.06	-0.11	27.3	0.0672	-0.1999	0.0009		
23	SLU 25	-5.09	-0.11	26.95	0.0643	-0.2006	0.0009		
23	SLU 26	-5.14	-0.11	26.78	0.0622	-0.2024	0.0009		
23	SLU 27	-5.41	-0.12	28.1	0.0683	-0.2132	0.0009		
23	SLU 28	-5.43	-0.11	27.75	0.0654	-0.2139	0.0009		
23	SLU 29	-5.44	-0.12	28.16	0.0682	-0.2146	0.0009		
23	SLU 30	-5.47	-0.11	27.81	0.0653	-0.2153	0.0009		
23	SLU 31	-5.6	-0.12	28.04	0.069	-0.2204	0.0009		
23	SLU 32	-5.87	-0.13	29.37	0.0751	-0.2312	0.001		
23	SLU 33	-5.9	-0.12	29.02	0.0722	-0.2319	0.001		
23	SLU 34	-5.95	-0.12	28.85	0.0702	-0.2337	0.001		
23	SLU 35	-6.21	-0.13	30.17	0.0762	-0.2445	0.001		
23	SLU 36	-6.24	-0.12	29.82	0.0733	-0.2452	0.001		
23	SLU 37	-6.25	-0.13	30.23	0.0761	-0.2459	0.001		
23	SLU 38	-6.28	-0.12	29.88	0.0732	-0.2466	0.001		
23	SLU 39	-5.91	-0.13	29.51	0.0772	-0.2326	0.001		
23	SLU 40	-5.93	-0.13	29.16	0.0743	-0.2334	0.001		
23	SLU 41	-6.25	-0.13	30.31	0.0784	-0.246	0.0011		
23	SLU 42	-6.28	-0.13	29.96	0.0755	-0.2467	0.001		
23	SLU 43	-5.39	-0.13	32.45	0.0783	-0.2141	0.0011		
23	SLU 44	-5.43	-0.13	31.87	0.0734	-0.2152	0.001		
23	SLU 45	-5.7	-0.14	33.19	0.0795	-0.226	0.0011		
23	SLU 46	-5.73	-0.13	32.85	0.0766	-0.2267	0.0011		
23	SLU 47	-5.78	-0.13	32.67	0.0746	-0.2286	0.001		
23	SLU 48	-6.05	-0.14	34	0.0806	-0.2393	0.0011		
23	SLU 49	-6.07	-0.13	33.65	0.0778	-0.24	0.0011		
23	SLU 50	-6.08	-0.14	34.06	0.0806	-0.2407	0.0011		
23	SLU 51	-6.11	-0.13	33.71	0.0777	-0.2414	0.0011		
23	SLU 52	-6.24	-0.14	33.94	0.0814	-0.2465	0.0011		
23	SLU 53	-6.51	-0.15	35.26	0.0874	-0.2573	0.0012		
23	SLU 54	-6.54	-0.14	34.91	0.0845	-0.258	0.0012		
23	SLU 55	-6.59	-0.14	34.74	0.0825	-0.2598	0.0011		
23	SLU 56	-6.85	-0.15	36.06	0.0886	-0.2706	0.0012		
23	SLU 57	-6.88	-0.15	35.72	0.0857	-0.2713	0.0012		
23	SLU 58	-6.89	-0.15	36.12	0.0885	-0.272	0.0012		
23	SLU 59	-6.92	-0.15	35.77	0.0856	-0.2727	0.0012		
23	SLU 60	-6.55	-0.15	35.4	0.0896	-0.2588	0.0012		
23	SLU 61	-6.57	-0.15	35.06	0.0867	-0.2595	0.0012		
23	SLU 62	-6.89	-0.15	36.21	0.0907	-0.2721	0.0012		
23	SLU 63	-6.92	-0.15	35.86	0.0878	-0.2728	0.0012		
23	SLU 64	-5.87	-0.14	33.71	0.0828	-0.2325	0.0011		
23	SLU 65	-5.91	-0.13	33.13	0.078	-0.2337	0.0011		
23	SLU 66	-6.18	-0.14	34.45	0.084	-0.2444	0.0012		
23	SLU 67	-6.2	-0.14	34.11	0.0811	-0.2451	0.0011		
23	SLU 68	-6.26	-0.14	33.93	0.0791	-0.247	0.0011		
23	SLU 69	-6.52	-0.15	35.26	0.0852	-0.2577	0.0012		
23	SLU 70	-6.55	-0.14	34.91	0.0823	-0.2585	0.0011		
23	SLU 71	-6.56	-0.15	35.32	0.0851	-0.2591	0.0012		
23	SLU 72	-6.58	-0.14	34.97	0.0822	-0.2598	0.0011		
23	SLU 73	-6.72	-0.15	35.2	0.0859	-0.265	0.0012		
23	SLU 74	-6.99	-0.16	36.52	0.092	-0.2757	0.0012		
23	SLU 75	-7.01	-0.15	36.17	0.0891	-0.2764	0.0012		
23	SLU 76	-7.07	-0.15	36	0.087	-0.2783	0.0012		
23	SLU 77	-7.33	-0.16	37.32	0.0931	-0.289	0.0013		
23	SLU 78	-7.36	-0.15	36.98	0.0902	-0.2898	0.0012		
23	SLU 79	-7.37	-0.16	37.38	0.093	-0.2904	0.0013		
23	SLU 80	-7.39	-0.15	37.04	0.0901	-0.2911	0.0012		
23	SLU 81	-7.02	-0.16	36.66	0.0941	-0.2772	0.0013		
23	SLU 82	-7.05	-0.15	36.32	0.0912	-0.2779	0.0012		
23	SLU 83	-7.37	-0.16	37.47	0.0952	-0.2905	0.0013		
23	SLU 84	-7.39	-0.16	37.12	0.0924	-0.2912	0.0013		
23	SLE RA 1	-4.41	-0.11	25.65	0.0627	-0.1748	0.0009		
23	SLE RA 2	-4.44	-0.1	25.27	0.0595	-0.1756	0.0008		
23	SLE RA 3	-4.62	-0.11	26.15	0.0635	-0.1828	0.0009		
23	SLE RA 4	-4.63	-0.11	25.92	0.0616	-0.1832	0.0008		
23	SLE RA 5	-4.67	-0.1	25.8	0.0602	-0.1844	0.0008		
23	SLE RA 6	-4.85	-0.11	26.69	0.0643	-0.1916	0.0009		
23	SLE RA 7	-4.86	-0.11	26.45	0.0624	-0.1921	0.0009		
23	SLE RA 8	-4.87	-0.11	26.72	0.0642	-0.1925	0.0009		
23	SLE RA 9	-4.89	-0.11	26.49	0.0623	-0.193	0.0009		
23	SLE RA 10	-4.98	-0.11	26.65	0.0648	-0.1964	0.0009		
23	SLE RA 11	-5.15	-0.12	27.53	0.0688	-0.2036	0.0009		
23	SLE RA 12	-5.17	-0.11	27.3	0.0669	-0.2041	0.0009		
23	SLE RA 13	-5.21	-0.11	27.18	0.0655	-0.2053	0.0009		
23	SLE RA 14	-5.39	-0.12	28.06	0.0696	-0.2125	0.0009		
23	SLE RA 15	-5.4	-0.12	27.83	0.0676	-0.213	0.0009		
23	SLE RA 16	-5.41	-0.12	28.1	0.0695	-0.2134	0.0009		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
23	SLE RA 17	-5.43	-0.12	27.87	0.0676	-0.2139	0.0009		
23	SLE RA 18	-5.18	-0.12	27.62	0.0702	-0.2046	0.001		
23	SLE RA 19	-5.2	-0.12	27.39	0.0683	-0.2051	0.0009		
23	SLE RA 20	-5.41	-0.12	28.16	0.071	-0.2135	0.001		
23	SLE RA 21	-5.43	-0.12	27.93	0.0691	-0.2139	0.0009		
23	SLE FR 1	-4.41	-0.11	25.65	0.0627	-0.1748	0.0009		
23	SLE FR 2	-4.41	-0.11	25.58	0.0621	-0.1749	0.0009		
23	SLE FR 3	-4.5	-0.11	25.87	0.063	-0.1783	0.0009		
23	SLE FR 4	-4.65	-0.11	26.17	0.0643	-0.1839	0.0009		
23	SLE FR 5	-4.73	-0.11	26.46	0.0653	-0.1873	0.0009		
23	SLE FR 6	-4.79	-0.11	26.64	0.0665	-0.1897	0.0009		
23	SLE QP 1	-4.41	-0.11	25.65	0.0627	-0.1748	0.0009		
23	SLE QP 2	-4.64	-0.11	26.25	0.065	-0.1837	0.0009		
23	SLD 1	-1.65	-0.06	23.33	0.0267	-0.0477	0.0004		
23	SLD 2	-1.65	-0.06	23.33	0.0267	-0.0477	0.0004		
23	SLD 3	-0.39	0	19.53	-0.0162	0.0028	0		
23	SLD 4	-0.39	0	19.53	-0.0162	0.0028	0		
23	SLD 5	-5.66	-0.18	31.14	0.1187	-0.2196	0.0014		
23	SLD 6	-5.66	-0.18	31.14	0.1187	-0.2196	0.0014		
23	SLD 7	-1.45	0.01	18.46	-0.0246	-0.0511	-0.0001		
23	SLD 8	-1.45	0.01	18.46	-0.0246	-0.0511	-0.0001		
23	SLD 9	-7.83	-0.23	34.03	0.1545	-0.3163	0.0019		
23	SLD 10	-7.83	-0.23	34.03	0.1545	-0.3163	0.0019		
23	SLD 11	-3.62	-0.04	21.35	0.0112	-0.1479	0.0003		
23	SLD 12	-3.62	-0.04	21.35	0.0112	-0.1479	0.0003		
23	SLD 13	-8.89	-0.22	32.96	0.1462	-0.3703	0.0018		
23	SLD 14	-8.89	-0.22	32.96	0.1462	-0.3703	0.0018		
23	SLD 15	-7.63	-0.17	29.16	0.1032	-0.3197	0.0013		
23	SLD 16	-7.63	-0.17	29.16	0.1032	-0.3197	0.0013		
23	SLV 1	2.35	0.02	19.5	-0.0244	0.1347	-0.0002		
23	SLV 2	2.35	0.02	19.5	-0.0244	0.1347	-0.0002		
23	SLV 3	5.32	0.15	10.42	-0.1251	0.2533	-0.0012		
23	SLV 4	5.32	0.15	10.42	-0.1251	0.2533	-0.0012		
23	SLV 5	-7.04	-0.28	37.98	0.191	-0.2681	0.0022		
23	SLV 6	-7.04	-0.28	37.98	0.191	-0.2681	0.0022		
23	SLV 7	2.85	0.17	7.74	-0.1448	0.1273	-0.0014		
23	SLV 8	2.85	0.17	7.74	-0.1448	0.1273	-0.0014		
23	SLV 9	-12.13	-0.4	44.75	0.2748	-0.4947	0.0032		
23	SLV 10	-12.13	-0.4	44.75	0.2748	-0.4947	0.0032		
23	SLV 11	-2.24	0.06	14.51	-0.061	-0.0994	-0.0004		
23	SLV 12	-2.24	0.06	14.51	-0.061	-0.0994	-0.0004		
23	SLV 13	-14.6	-0.38	42.07	0.255	-0.6208	0.003		
23	SLV 14	-14.6	-0.38	42.07	0.255	-0.6208	0.003		
23	SLV 15	-11.63	-0.24	32.99	0.1543	-0.5021	0.0019		
23	SLV 16	-11.63	-0.24	32.99	0.1543	-0.5021	0.0019		
24	SLU 1	-3.51	-0.11	23.39	0.0655	-0.1513	0.0009		
24	SLU 2	-3.65	-0.11	22.62	0.0621	-0.1559	0.0009		
24	SLU 3	-3.77	-0.12	23.9	0.0668	-0.1618	0.0009		
24	SLU 4	-3.85	-0.11	23.44	0.0648	-0.1645	0.0009		
24	SLU 5	-3.94	-0.11	23.16	0.0633	-0.1676	0.0009		
24	SLU 6	-4.06	-0.12	24.43	0.0681	-0.1735	0.001		
24	SLU 7	-4.14	-0.11	23.97	0.066	-0.1762	0.0009		
24	SLU 8	-4.09	-0.12	24.46	0.068	-0.1747	0.001		
24	SLU 9	-4.17	-0.11	24	0.066	-0.1774	0.0009		
24	SLU 10	-4.32	-0.12	24.12	0.0698	-0.1833	0.001		
24	SLU 11	-4.44	-0.13	25.4	0.0746	-0.1892	0.001		
24	SLU 12	-4.53	-0.12	24.94	0.0725	-0.192	0.001		
24	SLU 13	-4.61	-0.12	24.66	0.0711	-0.195	0.001		
24	SLU 14	-4.73	-0.13	25.93	0.0758	-0.2009	0.001		
24	SLU 15	-4.82	-0.13	25.47	0.0738	-0.2037	0.001		
24	SLU 16	-4.76	-0.13	25.96	0.0757	-0.2021	0.001		
24	SLU 17	-4.85	-0.13	25.5	0.0737	-0.2049	0.001		
24	SLU 18	-4.47	-0.13	25.53	0.0766	-0.1905	0.0011		
24	SLU 19	-4.55	-0.13	25.07	0.0745	-0.1932	0.001		
24	SLU 20	-4.76	-0.13	26.07	0.0778	-0.2022	0.0011		
24	SLU 21	-4.84	-0.13	25.61	0.0758	-0.2049	0.001		
24	SLU 22	-3.91	-0.12	24.3	0.0701	-0.1676	0.001		
24	SLU 23	-4.05	-0.12	23.53	0.0667	-0.1722	0.0009		
24	SLU 24	-4.17	-0.12	24.81	0.0714	-0.1781	0.001		
24	SLU 25	-4.26	-0.12	24.34	0.0694	-0.1809	0.001		
24	SLU 26	-4.34	-0.12	24.07	0.0679	-0.1839	0.001		
24	SLU 27	-4.46	-0.12	25.34	0.0727	-0.1898	0.001		
24	SLU 28	-4.55	-0.12	24.88	0.0707	-0.1925	0.001		
24	SLU 29	-4.49	-0.12	25.37	0.0726	-0.191	0.001		
24	SLU 30	-4.58	-0.12	24.91	0.0706	-0.1937	0.001		
24	SLU 31	-4.72	-0.13	25.03	0.0744	-0.1997	0.001		
24	SLU 32	-4.85	-0.13	26.3	0.0792	-0.2055	0.0011		
24	SLU 33	-4.93	-0.13	25.84	0.0771	-0.2083	0.0011		
24	SLU 34	-5.01	-0.13	25.57	0.0757	-0.2113	0.001		
24	SLU 35	-5.14	-0.14	26.84	0.0804	-0.2172	0.0011		
24	SLU 36	-5.22	-0.13	26.38	0.0784	-0.22	0.0011		
24	SLU 37	-5.17	-0.14	26.87	0.0803	-0.2184	0.0011		
24	SLU 38	-5.25	-0.13	26.41	0.0783	-0.2212	0.0011		
24	SLU 39	-4.87	-0.14	26.44	0.0812	-0.2068	0.0011		
24	SLU 40	-4.96	-0.13	25.98	0.0791	-0.2096	0.0011		
24	SLU 41	-5.16	-0.14	26.98	0.0824	-0.2185	0.0011		
24	SLU 42	-5.25	-0.14	26.51	0.0804	-0.2213	0.0011		
24	SLU 43	-4.43	-0.14	30.1	0.0836	-0.1911	0.0012		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
24	SLU 44	-4.56	-0.14	29.33	0.0802	-0.1957	0.0011
24	SLU 45	-4.69	-0.15	30.6	0.0849	-0.2015	0.0012
24	SLU 46	-4.77	-0.14	30.14	0.0829	-0.2043	0.0012
24	SLU 47	-4.85	-0.14	29.86	0.0814	-0.2073	0.0011
24	SLU 48	-4.98	-0.15	31.14	0.0862	-0.2132	0.0012
24	SLU 49	-5.06	-0.15	30.68	0.0841	-0.216	0.0012
24	SLU 50	-5.01	-0.15	31.17	0.0861	-0.2144	0.0012
24	SLU 51	-5.09	-0.15	30.71	0.084	-0.2172	0.0012
24	SLU 52	-5.24	-0.15	30.83	0.0879	-0.2231	0.0012
24	SLU 53	-5.36	-0.16	32.1	0.0927	-0.229	0.0013
24	SLU 54	-5.44	-0.16	31.64	0.0906	-0.2318	0.0013
24	SLU 55	-5.53	-0.15	31.36	0.0892	-0.2348	0.0012
24	SLU 56	-5.65	-0.16	32.64	0.0939	-0.2407	0.0013
24	SLU 57	-5.73	-0.16	32.18	0.0919	-0.2434	0.0013
24	SLU 58	-5.68	-0.16	32.67	0.0938	-0.2419	0.0013
24	SLU 59	-5.76	-0.16	32.21	0.0918	-0.2446	0.0013
24	SLU 60	-5.39	-0.16	32.24	0.0946	-0.2303	0.0013
24	SLU 61	-5.47	-0.16	31.78	0.0926	-0.233	0.0013
24	SLU 62	-5.68	-0.16	32.77	0.0959	-0.242	0.0013
24	SLU 63	-5.76	-0.16	32.31	0.0938	-0.2447	0.0013
24	SLU 64	-4.83	-0.15	31	0.0882	-0.2074	0.0012
24	SLU 65	-4.97	-0.15	30.24	0.0848	-0.212	0.0012
24	SLU 66	-5.09	-0.15	31.51	0.0895	-0.2179	0.0012
24	SLU 67	-5.17	-0.15	31.05	0.0875	-0.2206	0.0012
24	SLU 68	-5.26	-0.15	30.77	0.086	-0.2237	0.0012
24	SLU 69	-5.38	-0.16	32.05	0.0908	-0.2296	0.0013
24	SLU 70	-5.46	-0.15	31.59	0.0887	-0.2323	0.0012
24	SLU 71	-5.41	-0.16	32.08	0.0907	-0.2308	0.0013
24	SLU 72	-5.49	-0.15	31.62	0.0886	-0.2335	0.0012
24	SLU 73	-5.64	-0.16	31.74	0.0925	-0.2394	0.0013
24	SLU 74	-5.76	-0.17	33.01	0.0973	-0.2453	0.0013
24	SLU 75	-5.84	-0.16	32.55	0.0952	-0.2481	0.0013
24	SLU 76	-5.93	-0.16	32.27	0.0938	-0.2511	0.0013
24	SLU 77	-6.05	-0.17	33.55	0.0985	-0.257	0.0014
24	SLU 78	-6.13	-0.16	33.08	0.0965	-0.2598	0.0013
24	SLU 79	-6.08	-0.17	33.57	0.0984	-0.2582	0.0014
24	SLU 80	-6.16	-0.16	33.11	0.0964	-0.261	0.0013
24	SLU 81	-5.79	-0.17	33.15	0.0992	-0.2466	0.0014
24	SLU 82	-5.87	-0.17	32.68	0.0972	-0.2494	0.0013
24	SLU 83	-6.08	-0.17	33.68	0.1005	-0.2583	0.0014
24	SLU 84	-6.16	-0.17	33.22	0.0984	-0.2611	0.0014
24	SLE RA 1	-3.63	-0.12	23.65	0.0668	-0.1559	0.0009
24	SLE RA 2	-3.72	-0.11	23.14	0.0645	-0.159	0.0009
24	SLE RA 3	-3.8	-0.12	23.99	0.0677	-0.1629	0.0009
24	SLE RA 4	-3.85	-0.11	23.68	0.0663	-0.1648	0.0009
24	SLE RA 5	-3.91	-0.11	23.5	0.0654	-0.1668	0.0009
24	SLE RA 6	-3.99	-0.12	24.34	0.0685	-0.1707	0.001
24	SLE RA 7	-4.05	-0.12	24.04	0.0672	-0.1726	0.0009
24	SLE RA 8	-4.01	-0.12	24.36	0.0685	-0.1715	0.001
24	SLE RA 9	-4.07	-0.12	24.06	0.0671	-0.1734	0.0009
24	SLE RA 10	-4.17	-0.12	24.14	0.0697	-0.1773	0.001
24	SLE RA 11	-4.25	-0.12	24.99	0.0729	-0.1812	0.001
24	SLE RA 12	-4.3	-0.12	24.68	0.0715	-0.1831	0.001
24	SLE RA 13	-4.36	-0.12	24.49	0.0705	-0.1851	0.001
24	SLE RA 14	-4.44	-0.13	25.34	0.0737	-0.189	0.001
24	SLE RA 15	-4.5	-0.12	25.04	0.0723	-0.1909	0.001
24	SLE RA 16	-4.46	-0.13	25.36	0.0736	-0.1898	0.001
24	SLE RA 17	-4.52	-0.12	25.06	0.0723	-0.1917	0.001
24	SLE RA 18	-4.27	-0.13	25.08	0.0742	-0.1821	0.001
24	SLE RA 19	-4.32	-0.12	24.77	0.0728	-0.1839	0.001
24	SLE RA 20	-4.46	-0.13	25.43	0.075	-0.1899	0.001
24	SLE RA 21	-4.51	-0.13	25.13	0.0737	-0.1917	0.001
24	SLE FR 1	-3.63	-0.12	23.65	0.0668	-0.1559	0.0009
24	SLE FR 2	-3.64	-0.11	23.55	0.0664	-0.1566	0.0009
24	SLE FR 3	-3.7	-0.12	23.79	0.0671	-0.1591	0.0009
24	SLE FR 4	-3.84	-0.12	23.98	0.0686	-0.1644	0.001
24	SLE FR 5	-3.89	-0.12	24.22	0.0694	-0.1669	0.001
24	SLE FR 6	-3.95	-0.12	24.36	0.0705	-0.169	0.001
24	SLE QP 1	-3.63	-0.12	23.65	0.0668	-0.1559	0.0009
24	SLE QP 2	-3.82	-0.12	24.08	0.069	-0.1638	0.001
24	SLD 1	-1.04	-0.07	21.02	0.0339	-0.0414	0.0006
24	SLD 2	-1.04	-0.07	21.02	0.0339	-0.0414	0.0006
24	SLD 3	0.04	-0.01	17.61	-0.0093	0.0039	0.0001
24	SLD 4	0.04	-0.01	17.61	-0.0093	0.0039	0.0001
24	SLD 5	-4.62	-0.19	28.34	0.1241	-0.1957	0.0016
24	SLD 6	-4.62	-0.19	28.34	0.1241	-0.1957	0.0016
24	SLD 7	-1.03	0	16.95	-0.02	-0.0448	0
24	SLD 8	-1.03	0	16.95	-0.02	-0.0448	0
24	SLD 9	-6.61	-0.24	31.2	0.1581	-0.2828	0.002
24	SLD 10	-6.61	-0.24	31.2	0.1581	-0.2828	0.002
24	SLD 11	-3.02	-0.04	19.81	0.014	-0.1318	0.0004
24	SLD 12	-3.02	-0.04	19.81	0.014	-0.1318	0.0004
24	SLD 13	-7.67	-0.23	30.55	0.1474	-0.3315	0.0018
24	SLD 14	-7.67	-0.23	30.55	0.1474	-0.3315	0.0018
24	SLD 15	-6.6	-0.17	27.13	0.1041	-0.2862	0.0014
24	SLD 16	-6.6	-0.17	27.13	0.1041	-0.2862	0.0014
24	SLV 1	2.69	-0.01	17.04	-0.013	0.1228	0
24	SLV 2	2.69	-0.01	17.04	-0.013	0.1228	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
24	SLV 3	5.22	0.13	8.79	-0.1143	0.2292	-0.0011
24	SLV 4	5.22	0.13	8.79	-0.1143	0.2292	-0.0011
24	SLV 5	-5.7	-0.3	34.47	0.1981	-0.2391	0.0024
24	SLV 6	-5.7	-0.3	34.47	0.1981	-0.2391	0.0024
24	SLV 7	2.73	0.17	6.99	-0.1396	0.1154	-0.0014
24	SLV 8	2.73	0.17	6.99	-0.1396	0.1154	-0.0014
24	SLV 9	-10.37	-0.41	41.17	0.2777	-0.443	0.0033
24	SLV 10	-10.37	-0.41	41.17	0.2777	-0.443	0.0033
24	SLV 11	-1.93	0.06	13.68	-0.06	-0.0885	-0.0005
24	SLV 12	-1.93	0.06	13.68	-0.06	-0.0885	-0.0005
24	SLV 13	-12.86	-0.37	39.36	0.2524	-0.5568	0.003
24	SLV 14	-12.86	-0.37	39.36	0.2524	-0.5568	0.003
24	SLV 15	-10.33	-0.23	31.12	0.1511	-0.4504	0.0019
24	SLV 16	-10.33	-0.23	31.12	0.1511	-0.4504	0.0019
25	SLU 1	-2.79	-0.1	22.57	0.057	-0.1168	0.0007
25	SLU 2	-3.03	-0.1	21.48	0.0555	-0.125	0.0007
25	SLU 3	-2.99	-0.1	22.89	0.0582	-0.1244	0.0008
25	SLU 4	-3.13	-0.1	22.24	0.0572	-0.1293	0.0008
25	SLU 5	-3.25	-0.1	21.81	0.0565	-0.1335	0.0007
25	SLU 6	-3.21	-0.1	23.22	0.0592	-0.133	0.0008
25	SLU 7	-3.36	-0.1	22.57	0.0583	-0.1379	0.0008
25	SLU 8	-3.24	-0.1	23.22	0.0591	-0.1339	0.0008
25	SLU 9	-3.38	-0.1	22.57	0.0582	-0.1388	0.0008
25	SLU 10	-3.54	-0.1	22.56	0.0618	-0.1447	0.0008
25	SLU 11	-3.5	-0.11	23.97	0.0644	-0.1442	0.0008
25	SLU 12	-3.64	-0.11	23.31	0.0635	-0.1491	0.0008
25	SLU 13	-3.76	-0.11	22.89	0.0628	-0.1532	0.0008
25	SLU 14	-3.72	-0.11	24.29	0.0655	-0.1527	0.0008
25	SLU 15	-3.87	-0.11	23.64	0.0645	-0.1576	0.0008
25	SLU 16	-3.75	-0.11	24.3	0.0654	-0.1536	0.0008
25	SLU 17	-3.89	-0.11	23.65	0.0645	-0.1585	0.0008
25	SLU 18	-3.52	-0.11	24.1	0.066	-0.145	0.0008
25	SLU 19	-3.66	-0.11	23.45	0.0651	-0.1499	0.0008
25	SLU 20	-3.74	-0.11	24.43	0.067	-0.1535	0.0009
25	SLU 21	-3.89	-0.11	23.78	0.0661	-0.1584	0.0008
25	SLU 22	-3.1	-0.1	23.21	0.0609	-0.1287	0.0008
25	SLU 23	-3.34	-0.1	22.12	0.0594	-0.1369	0.0008
25	SLU 24	-3.3	-0.1	23.53	0.062	-0.1364	0.0008
25	SLU 25	-3.44	-0.1	22.88	0.0611	-0.1413	0.0008
25	SLU 26	-3.56	-0.1	22.45	0.0604	-0.1455	0.0008
25	SLU 27	-3.52	-0.11	23.86	0.063	-0.1449	0.0008
25	SLU 28	-3.67	-0.11	23.21	0.0621	-0.1498	0.0008
25	SLU 29	-3.55	-0.11	23.86	0.0629	-0.1458	0.0008
25	SLU 30	-3.69	-0.1	23.21	0.062	-0.1507	0.0008
25	SLU 31	-3.85	-0.11	23.2	0.0656	-0.1566	0.0008
25	SLU 32	-3.81	-0.11	24.61	0.0683	-0.1561	0.0009
25	SLU 33	-3.95	-0.11	23.96	0.0674	-0.161	0.0009
25	SLU 34	-4.07	-0.11	23.53	0.0667	-0.1652	0.0009
25	SLU 35	-4.03	-0.11	24.93	0.0693	-0.1647	0.0009
25	SLU 36	-4.18	-0.11	24.28	0.0684	-0.1696	0.0009
25	SLU 37	-4.06	-0.11	24.94	0.0692	-0.1656	0.0009
25	SLU 38	-4.2	-0.11	24.29	0.0683	-0.1705	0.0009
25	SLU 39	-3.83	-0.11	24.74	0.0698	-0.1569	0.0009
25	SLU 40	-3.97	-0.11	24.09	0.0689	-0.1618	0.0009
25	SLU 41	-4.05	-0.12	25.07	0.0709	-0.1655	0.0009
25	SLU 42	-4.2	-0.12	24.42	0.07	-0.1704	0.0009
25	SLU 43	-3.52	-0.12	29.12	0.0728	-0.1477	0.001
25	SLU 44	-3.76	-0.12	28.03	0.0713	-0.1559	0.0009
25	SLU 45	-3.72	-0.13	29.44	0.0739	-0.1554	0.001
25	SLU 46	-3.86	-0.13	28.79	0.073	-0.1603	0.001
25	SLU 47	-3.98	-0.13	28.36	0.0723	-0.1645	0.001
25	SLU 48	-3.94	-0.13	29.77	0.075	-0.1639	0.001
25	SLU 49	-4.09	-0.13	29.12	0.0741	-0.1688	0.001
25	SLU 50	-3.97	-0.13	29.77	0.0749	-0.1648	0.001
25	SLU 51	-4.11	-0.13	29.12	0.074	-0.1697	0.001
25	SLU 52	-4.27	-0.13	29.11	0.0776	-0.1756	0.001
25	SLU 53	-4.23	-0.13	30.52	0.0802	-0.1751	0.001
25	SLU 54	-4.37	-0.13	29.87	0.0793	-0.18	0.001
25	SLU 55	-4.49	-0.13	29.44	0.0786	-0.1842	0.001
25	SLU 56	-4.45	-0.14	30.84	0.0812	-0.1837	0.001
25	SLU 57	-4.6	-0.14	30.19	0.0803	-0.1886	0.001
25	SLU 58	-4.48	-0.14	30.85	0.0811	-0.1846	0.001
25	SLU 59	-4.62	-0.14	30.2	0.0802	-0.1895	0.001
25	SLU 60	-4.25	-0.14	30.65	0.0818	-0.1759	0.0011
25	SLU 61	-4.39	-0.14	30	0.0809	-0.1808	0.001
25	SLU 62	-4.47	-0.14	30.98	0.0828	-0.1845	0.0011
25	SLU 63	-4.62	-0.14	30.33	0.0819	-0.1894	0.0011
25	SLU 64	-3.83	-0.13	29.76	0.0767	-0.1597	0.001
25	SLU 65	-4.07	-0.13	28.67	0.0752	-0.1679	0.001
25	SLU 66	-4.03	-0.13	30.08	0.0778	-0.1673	0.001
25	SLU 67	-4.17	-0.13	29.43	0.0769	-0.1722	0.001
25	SLU 68	-4.29	-0.13	29	0.0762	-0.1764	0.001
25	SLU 69	-4.25	-0.13	30.41	0.0788	-0.1759	0.001
25	SLU 70	-4.4	-0.13	29.76	0.0779	-0.1808	0.001
25	SLU 71	-4.28	-0.13	30.41	0.0787	-0.1768	0.001
25	SLU 72	-4.42	-0.13	29.76	0.0778	-0.1817	0.001
25	SLU 73	-4.58	-0.14	29.75	0.0814	-0.1876	0.001
25	SLU 74	-4.54	-0.14	31.16	0.0841	-0.1871	0.0011



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
25	SLU 75	-4.68	-0.14	30.51	0.0832	-0.192	0.0011		
25	SLU 76	-4.8	-0.14	30.08	0.0825	-0.1961	0.0011		
25	SLU 77	-4.76	-0.14	31.48	0.0851	-0.1956	0.0011		
25	SLU 78	-4.91	-0.14	30.83	0.0842	-0.2005	0.0011		
25	SLU 79	-4.79	-0.14	31.49	0.085	-0.1965	0.0011		
25	SLU 80	-4.93	-0.14	30.84	0.0841	-0.2014	0.0011		
25	SLU 81	-4.56	-0.14	31.29	0.0856	-0.1879	0.0011		
25	SLU 82	-4.7	-0.14	30.64	0.0847	-0.1928	0.0011		
25	SLU 83	-4.78	-0.14	31.62	0.0867	-0.1964	0.0011		
25	SLU 84	-4.93	-0.14	30.97	0.0858	-0.2013	0.0011		
25	SLE RA 1	-2.88	-0.1	22.75	0.0581	-0.1202	0.0008		
25	SLE RA 2	-3.04	-0.1	22.03	0.0571	-0.1257	0.0007		
25	SLE RA 3	-3.01	-0.1	22.96	0.0589	-0.1253	0.0008		
25	SLE RA 4	-3.11	-0.1	22.53	0.0583	-0.1286	0.0008		
25	SLE RA 5	-3.19	-0.1	22.25	0.0578	-0.1314	0.0008		
25	SLE RA 6	-3.16	-0.1	23.18	0.0596	-0.131	0.0008		
25	SLE RA 7	-3.26	-0.1	22.75	0.059	-0.1343	0.0008		
25	SLE RA 8	-3.18	-0.1	23.19	0.0595	-0.1316	0.0008		
25	SLE RA 9	-3.27	-0.1	22.75	0.0589	-0.1349	0.0008		
25	SLE RA 10	-3.38	-0.1	22.74	0.0613	-0.1388	0.0008		
25	SLE RA 11	-3.35	-0.11	23.68	0.0631	-0.1385	0.0008		
25	SLE RA 12	-3.45	-0.11	23.25	0.0625	-0.1417	0.0008		
25	SLE RA 13	-3.53	-0.1	22.96	0.062	-0.1445	0.0008		
25	SLE RA 14	-3.5	-0.11	23.9	0.0637	-0.1442	0.0008		
25	SLE RA 15	-3.6	-0.11	23.47	0.0631	-0.1474	0.0008		
25	SLE RA 16	-3.52	-0.11	23.9	0.0637	-0.1448	0.0008		
25	SLE RA 17	-3.61	-0.11	23.47	0.0631	-0.148	0.0008		
25	SLE RA 18	-3.37	-0.11	23.77	0.0641	-0.139	0.0008		
25	SLE RA 19	-3.46	-0.11	23.34	0.0635	-0.1423	0.0008		
25	SLE RA 20	-3.51	-0.11	23.99	0.0648	-0.1447	0.0008		
25	SLE RA 21	-3.61	-0.11	23.56	0.0642	-0.148	0.0008		
25	SLE FR 1	-2.88	-0.1	22.75	0.0581	-0.1202	0.0008		
25	SLE FR 2	-2.91	-0.1	22.6	0.0579	-0.1213	0.0008		
25	SLE FR 3	-2.94	-0.1	22.84	0.0584	-0.1225	0.0008		
25	SLE FR 4	-3.06	-0.1	22.91	0.0597	-0.1269	0.0008		
25	SLE FR 5	-3.08	-0.1	23.14	0.0602	-0.1281	0.0008		
25	SLE FR 6	-3.12	-0.1	23.26	0.0611	-0.1296	0.0008		
25	SLE QP 1	-2.88	-0.1	22.75	0.0581	-0.1202	0.0008		
25	SLE QP 2	-3.02	-0.1	23.06	0.0599	-0.1258	0.0008		
25	SLD 1	-0.45	-0.07	19.6	0.0331	-0.0068	0.0005		
25	SLD 2	-0.45	-0.07	19.6	0.0331	-0.0068	0.0005		
25	SLD 3	0.47	-0.02	16.01	-0.0033	0.0297	0.0001		
25	SLD 4	0.47	-0.02	16.01	-0.0033	0.0297	0.0001		
25	SLD 5	-3.64	-0.16	27.46	0.1071	-0.1455	0.0013		
25	SLD 6	-3.64	-0.16	27.46	0.1071	-0.1455	0.0013		
25	SLD 7	-0.58	0	15.5	-0.0143	-0.0238	0		
25	SLD 8	-0.58	0	15.5	-0.0143	-0.0238	0		
25	SLD 9	-5.47	-0.2	30.61	0.1341	-0.2279	0.0015		
25	SLD 10	-5.47	-0.2	30.61	0.1341	-0.2279	0.0015		
25	SLD 11	-2.41	-0.04	18.65	0.0128	-0.1062	0.0003		
25	SLD 12	-2.41	-0.04	18.65	0.0128	-0.1062	0.0003		
25	SLD 13	-6.52	-0.18	30.1	0.1232	-0.2814	0.0014		
25	SLD 14	-6.52	-0.18	30.1	0.1232	-0.2814	0.0014		
25	SLD 15	-5.6	-0.13	26.51	0.0868	-0.2449	0.001		
25	SLD 16	-5.6	-0.13	26.51	0.0868	-0.2449	0.001		
25	SLV 1	3	-0.03	15.15	-0.0027	0.1527	0.0002		
25	SLV 2	3	-0.03	15.15	-0.0027	0.1527	0.0002		
25	SLV 3	5.19	0.09	6.38	-0.0881	0.2391	-0.0007		
25	SLV 4	5.19	0.09	6.38	-0.0881	0.2391	-0.0007		
25	SLV 5	-4.53	-0.25	33.99	0.1705	-0.1733	0.0019		
25	SLV 6	-4.53	-0.25	33.99	0.1705	-0.1733	0.0019		
25	SLV 7	2.75	0.13	4.75	-0.1139	0.1146	-0.001		
25	SLV 8	2.75	0.13	4.75	-0.1139	0.1146	-0.001		
25	SLV 9	-8.8	-0.33	41.36	0.2337	-0.3663	0.0026		
25	SLV 10	-8.8	-0.33	41.36	0.2337	-0.3663	0.0026		
25	SLV 11	-1.52	0.05	12.12	-0.0507	-0.0784	-0.0004		
25	SLV 12	-1.52	0.05	12.12	-0.0507	-0.0784	-0.0004		
25	SLV 13	-11.24	-0.29	39.73	0.2079	-0.4908	0.0023		
25	SLV 14	-11.24	-0.29	39.73	0.2079	-0.4908	0.0023		
25	SLV 15	-9.05	-0.18	30.96	0.1226	-0.4044	0.0014		
25	SLV 16	-9.05	-0.18	30.96	0.1226	-0.4044	0.0014		
26	SLU 1	-2.8	-0.05	22.51	0.0363	-0.1257	0.0003		
26	SLU 2	-3.12	-0.05	20.96	0.0369	-0.1363	0.0003		
26	SLU 3	-2.96	-0.05	22.7	0.037	-0.132	0.0003		
26	SLU 4	-3.15	-0.05	21.77	0.0374	-0.1383	0.0003		
26	SLU 5	-3.29	-0.05	21.13	0.0375	-0.1433	0.0003		
26	SLU 6	-3.13	-0.05	22.87	0.0377	-0.139	0.0003		
26	SLU 7	-3.32	-0.05	21.94	0.038	-0.1453	0.0003		
26	SLU 8	-3.15	-0.05	22.85	0.0376	-0.1397	0.0003		
26	SLU 9	-3.34	-0.05	21.92	0.0379	-0.146	0.0003		
26	SLU 10	-3.52	-0.06	21.73	0.0408	-0.153	0.0003		
26	SLU 11	-3.36	-0.05	23.48	0.0409	-0.1487	0.0003		
26	SLU 12	-3.55	-0.06	22.54	0.0412	-0.1551	0.0003		
26	SLU 13	-3.69	-0.06	21.9	0.0414	-0.16	0.0003		
26	SLU 14	-3.53	-0.05	23.64	0.0415	-0.1557	0.0003		
26	SLU 15	-3.72	-0.06	22.71	0.0419	-0.1621	0.0003		
26	SLU 16	-3.55	-0.05	23.63	0.0415	-0.1564	0.0003		
26	SLU 17	-3.74	-0.06	22.69	0.0418	-0.1628	0.0003		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
26	SLU 18	-3.38	-0.06	23.62	0.0419	-0.1496	0.0003
26	SLU 19	-3.56	-0.06	22.69	0.0422	-0.156	0.0003
26	SLU 20	-3.55	-0.06	23.79	0.0425	-0.1566	0.0003
26	SLU 21	-3.74	-0.06	22.86	0.0428	-0.1629	0.0003
26	SLU 22	-3.05	-0.05	22.96	0.0388	-0.1359	0.0003
26	SLU 23	-3.36	-0.06	21.4	0.0393	-0.1465	0.0003
26	SLU 24	-3.2	-0.05	23.15	0.0395	-0.1422	0.0003
26	SLU 25	-3.39	-0.05	22.21	0.0398	-0.1485	0.0003
26	SLU 26	-3.54	-0.06	21.57	0.0399	-0.1535	0.0003
26	SLU 27	-3.38	-0.05	23.32	0.0401	-0.1492	0.0003
26	SLU 28	-3.57	-0.06	22.38	0.0404	-0.1555	0.0003
26	SLU 29	-3.4	-0.05	23.3	0.04	-0.1499	0.0003
26	SLU 30	-3.58	-0.06	22.36	0.0404	-0.1563	0.0003
26	SLU 31	-3.76	-0.06	22.18	0.0432	-0.1632	0.0003
26	SLU 32	-3.61	-0.06	23.92	0.0433	-0.1589	0.0003
26	SLU 33	-3.79	-0.06	22.99	0.0437	-0.1653	0.0003
26	SLU 34	-3.94	-0.06	22.35	0.0438	-0.1702	0.0003
26	SLU 35	-3.78	-0.06	24.09	0.044	-0.1659	0.0003
26	SLU 36	-3.97	-0.06	23.16	0.0443	-0.1723	0.0003
26	SLU 37	-3.8	-0.06	24.07	0.0439	-0.1666	0.0003
26	SLU 38	-3.99	-0.06	23.14	0.0442	-0.173	0.0003
26	SLU 39	-3.62	-0.06	24.07	0.0443	-0.1598	0.0003
26	SLU 40	-3.81	-0.06	23.13	0.0446	-0.1662	0.0003
26	SLU 41	-3.8	-0.06	24.24	0.0449	-0.1668	0.0003
26	SLU 42	-3.98	-0.06	23.3	0.0453	-0.1732	0.0003
26	SLU 43	-3.56	-0.07	29.12	0.0464	-0.1599	0.0004
26	SLU 44	-3.87	-0.07	27.56	0.047	-0.1705	0.0004
26	SLU 45	-3.71	-0.07	29.3	0.0471	-0.1662	0.0004
26	SLU 46	-3.9	-0.07	28.37	0.0474	-0.1725	0.0004
26	SLU 47	-4.05	-0.07	27.73	0.0476	-0.1775	0.0004
26	SLU 48	-3.89	-0.07	29.47	0.0477	-0.1732	0.0004
26	SLU 49	-4.07	-0.07	28.54	0.0481	-0.1795	0.0004
26	SLU 50	-3.9	-0.07	29.46	0.0477	-0.1739	0.0004
26	SLU 51	-4.09	-0.07	28.52	0.048	-0.1803	0.0004
26	SLU 52	-4.27	-0.07	28.33	0.0508	-0.1872	0.0004
26	SLU 53	-4.11	-0.07	30.08	0.051	-0.1829	0.0004
26	SLU 54	-4.3	-0.07	29.14	0.0513	-0.1893	0.0004
26	SLU 55	-4.45	-0.07	28.5	0.0515	-0.1942	0.0004
26	SLU 56	-4.29	-0.07	30.25	0.0516	-0.1899	0.0004
26	SLU 57	-4.48	-0.07	29.31	0.0519	-0.1963	0.0004
26	SLU 58	-4.31	-0.07	30.23	0.0515	-0.1906	0.0004
26	SLU 59	-4.5	-0.07	29.3	0.0519	-0.197	0.0004
26	SLU 60	-4.13	-0.07	30.22	0.052	-0.1838	0.0004
26	SLU 61	-4.32	-0.07	29.29	0.0523	-0.1902	0.0004
26	SLU 62	-4.31	-0.07	30.39	0.0526	-0.1908	0.0004
26	SLU 63	-4.49	-0.07	29.46	0.0529	-0.1972	0.0004
26	SLU 64	-3.8	-0.07	29.56	0.0488	-0.1701	0.0004
26	SLU 65	-4.12	-0.07	28	0.0494	-0.1807	0.0004
26	SLU 66	-3.96	-0.07	29.75	0.0495	-0.1764	0.0004
26	SLU 67	-4.15	-0.07	28.81	0.0499	-0.1828	0.0004
26	SLU 68	-4.29	-0.07	28.17	0.05	-0.1877	0.0004
26	SLU 69	-4.13	-0.07	29.92	0.0502	-0.1834	0.0004
26	SLU 70	-4.32	-0.07	28.98	0.0505	-0.1897	0.0004
26	SLU 71	-4.15	-0.07	29.9	0.0501	-0.1841	0.0004
26	SLU 72	-4.34	-0.07	28.97	0.0504	-0.1905	0.0004
26	SLU 73	-4.52	-0.07	28.78	0.0533	-0.1974	0.0004
26	SLU 74	-4.36	-0.07	30.52	0.0534	-0.1931	0.0004
26	SLU 75	-4.55	-0.07	29.59	0.0537	-0.1995	0.0004
26	SLU 76	-4.69	-0.07	28.95	0.0539	-0.2044	0.0004
26	SLU 77	-4.53	-0.07	30.69	0.054	-0.2001	0.0004
26	SLU 78	-4.72	-0.07	29.76	0.0544	-0.2065	0.0004
26	SLU 79	-4.55	-0.07	30.68	0.054	-0.2009	0.0004
26	SLU 80	-4.74	-0.07	29.74	0.0543	-0.2072	0.0004
26	SLU 81	-4.38	-0.07	30.67	0.0544	-0.194	0.0004
26	SLU 82	-4.57	-0.07	29.73	0.0547	-0.2004	0.0004
26	SLU 83	-4.55	-0.07	30.84	0.055	-0.201	0.0004
26	SLU 84	-4.74	-0.07	29.9	0.0553	-0.2074	0.0004
26	SLE RA 1	-2.87	-0.05	22.64	0.037	-0.1286	0.0003
26	SLE RA 2	-3.08	-0.05	21.6	0.0374	-0.1357	0.0003
26	SLE RA 3	-2.98	-0.05	22.77	0.0375	-0.1328	0.0003
26	SLE RA 4	-3.1	-0.05	22.14	0.0377	-0.137	0.0003
26	SLE RA 5	-3.2	-0.05	21.72	0.0378	-0.1403	0.0003
26	SLE RA 6	-3.09	-0.05	22.88	0.0379	-0.1375	0.0003
26	SLE RA 7	-3.22	-0.05	22.26	0.0381	-0.1417	0.0003
26	SLE RA 8	-3.1	-0.05	22.87	0.0379	-0.138	0.0003
26	SLE RA 9	-3.23	-0.05	22.24	0.0381	-0.1422	0.0003
26	SLE RA 10	-3.35	-0.06	22.12	0.04	-0.1468	0.0003
26	SLE RA 11	-3.24	-0.05	23.28	0.0401	-0.144	0.0003
26	SLE RA 12	-3.37	-0.05	22.66	0.0403	-0.1482	0.0003
26	SLE RA 13	-3.47	-0.06	22.23	0.0404	-0.1515	0.0003
26	SLE RA 14	-3.36	-0.05	23.4	0.0405	-0.1486	0.0003
26	SLE RA 15	-3.48	-0.06	22.77	0.0407	-0.1529	0.0003
26	SLE RA 16	-3.37	-0.05	23.38	0.0405	-0.1491	0.0003
26	SLE RA 17	-3.5	-0.06	22.76	0.0407	-0.1533	0.0003
26	SLE RA 18	-3.25	-0.05	23.38	0.0407	-0.1446	0.0003
26	SLE RA 19	-3.38	-0.06	22.76	0.0409	-0.1488	0.0003
26	SLE RA 20	-3.37	-0.05	23.49	0.0411	-0.1492	0.0003
26	SLE RA 21	-3.5	-0.06	22.87	0.0414	-0.1535	0.0003



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
26	SLE FR 1	-2.87	-0.05	22.64		0.037	-0.1286	0.0003	
26	SLE FR 2	-2.91	-0.05	22.43		0.0371	-0.13	0.0003	
26	SLE FR 3	-2.92	-0.05	22.69		0.0372	-0.1305	0.0003	
26	SLE FR 4	-3.03	-0.05	22.66		0.0382	-0.1348	0.0003	
26	SLE FR 5	-3.03	-0.05	22.91		0.0383	-0.1353	0.0003	
26	SLE FR 6	-3.06	-0.05	23.01		0.0389	-0.1366	0.0003	
26	SLE QP 1	-2.87	-0.05	22.64		0.037	-0.1286	0.0003	
26	SLE QP 2	-2.99	-0.05	22.86		0.0381	-0.1334	0.0003	
26	SLD 1	-0.62	-0.09	18.78		0.0222	-0.0226	0.0006	
26	SLD 2	-0.62	-0.09	18.78		0.0222	-0.0226	0.0006	
26	SLD 3	0.28	-0.06	14.42		-0.0022	0.0131	0.0004	
26	SLD 4	0.28	-0.06	14.42		-0.0022	0.0131	0.0004	
26	SLD 5	-3.64	-0.1	28.25		0.0702	-0.1544	0.0007	
26	SLD 6	-3.64	-0.1	28.25		0.0702	-0.1544	0.0007	
26	SLD 7	-0.64	-0.01	13.72		-0.0108	-0.0352	0	
26	SLD 8	-0.64	-0.01	13.72		-0.0108	-0.0352	0	
26	SLD 9	-5.33	-0.09	32.01		0.0871	-0.2316	0.0006	
26	SLD 10	-5.33	-0.09	32.01		0.0871	-0.2316	0.0006	
26	SLD 11	-2.33	0	17.48		0.0061	-0.1124	-0.0001	
26	SLD 12	-2.33	0	17.48		0.0061	-0.1124	-0.0001	
26	SLD 13	-6.25	-0.04	31.3		0.0785	-0.2799	0.0002	
26	SLD 14	-6.25	-0.04	31.3		0.0785	-0.2799	0.0002	
26	SLD 15	-5.35	-0.01	26.94		0.0541	-0.2442	0	
26	SLD 16	-5.35	-0.01	26.94		0.0541	-0.2442	0	
26	SLV 1	2.54	-0.14	13.58		0.0008	0.1255	0.001	
26	SLV 2	2.54	-0.14	13.58		0.0008	0.1255	0.001	
26	SLV 3	4.7	-0.08	2.83		-0.0562	0.2106	0.0006	
26	SLV 4	4.7	-0.08	2.83		-0.0562	0.2106	0.0006	
26	SLV 5	-4.61	-0.18	36.38		0.1133	-0.1848	0.0012	
26	SLV 6	-4.61	-0.18	36.38		0.1133	-0.1848	0.0012	
26	SLV 7	2.6	0.04	0.54		-0.0765	0.0989	-0.0003	
26	SLV 8	2.6	0.04	0.54		-0.0765	0.0989	-0.0003	
26	SLV 9	-8.57	-0.14	45.18		0.1528	-0.3657	0.0009	
26	SLV 10	-8.57	-0.14	45.18		0.1528	-0.3657	0.0009	
26	SLV 11	-1.36	0.07	9.34		-0.037	-0.082	-0.0006	
26	SLV 12	-1.36	0.07	9.34		-0.037	-0.082	-0.0006	
26	SLV 13	-10.67	-0.02	42.9		0.1325	-0.4774	0	
26	SLV 14	-10.67	-0.02	42.9		0.1325	-0.4774	0	
26	SLV 15	-8.51	0.04	32.15		0.0755	-0.3923	-0.0004	
26	SLV 16	-8.51	0.04	32.15		0.0755	-0.3923	-0.0004	
27	SLU 1	-3.17	0.03	23.94		0.01	-0.1561	0.0001	
27	SLU 2	-3.51	0.02	21.61		0.0126	-0.1643	0.0001	
27	SLU 3	-3.28	0.03	24.04		0.0103	-0.1604	0.0001	
27	SLU 4	-3.48	0.02	22.64		0.0119	-0.1653	0.0001	
27	SLU 5	-3.63	0.02	21.67		0.0129	-0.169	0.0001	
27	SLU 6	-3.41	0.03	24.1		0.0106	-0.1652	0.0001	
27	SLU 7	-3.61	0.02	22.7		0.0121	-0.1701	0.0001	
27	SLU 8	-3.42	0.03	24.06		0.0106	-0.1656	0.0001	
27	SLU 9	-3.62	0.02	22.66		0.0121	-0.1705	0.0001	
27	SLU 10	-3.78	0.02	22.28		0.0139	-0.1763	0.0001	
27	SLU 11	-3.56	0.03	24.71		0.0116	-0.1725	0.0001	
27	SLU 12	-3.76	0.03	23.31		0.0132	-0.1774	0.0001	
27	SLU 13	-3.91	0.02	22.34		0.0142	-0.1811	0.0001	
27	SLU 14	-3.68	0.03	24.77		0.0119	-0.1773	0.0001	
27	SLU 15	-3.88	0.03	23.37		0.0134	-0.1822	0.0001	
27	SLU 16	-3.7	0.03	24.73		0.0119	-0.1777	0.0001	
27	SLU 17	-3.9	0.03	23.33		0.0134	-0.1826	0.0001	
27	SLU 18	-3.57	0.03	24.9		0.0119	-0.1733	0.0001	
27	SLU 19	-3.77	0.03	23.5		0.0134	-0.1782	0.0001	
27	SLU 20	-3.69	0.03	24.96		0.0122	-0.1781	0.0001	
27	SLU 21	-3.89	0.03	23.56		0.0137	-0.183	0.0001	
27	SLU 22	-3.34	0.03	24.32		0.0109	-0.1633	0.0001	
27	SLU 23	-3.67	0.02	21.99		0.0135	-0.1715	0.0001	
27	SLU 24	-3.45	0.03	24.42		0.0111	-0.1676	0.0001	
27	SLU 25	-3.65	0.03	23.02		0.0127	-0.1725	0.0001	
27	SLU 26	-3.79	0.02	22.05		0.0137	-0.1763	0.0001	
27	SLU 27	-3.57	0.03	24.48		0.0114	-0.1724	0.0001	
27	SLU 28	-3.77	0.03	23.08		0.013	-0.1773	0.0001	
27	SLU 29	-3.59	0.03	24.44		0.0114	-0.1729	0.0001	
27	SLU 30	-3.78	0.03	23.04		0.0129	-0.1778	0.0001	
27	SLU 31	-3.94	0.02	22.66		0.0148	-0.1836	0.0002	
27	SLU 32	-3.72	0.03	25.09		0.0124	-0.1797	0.0001	
27	SLU 33	-3.92	0.03	23.69		0.014	-0.1846	0.0001	
27	SLU 34	-4.07	0.02	22.72		0.015	-0.1883	0.0002	
27	SLU 35	-3.85	0.03	25.15		0.0127	-0.1845	0.0001	
27	SLU 36	-4.05	0.03	23.75		0.0143	-0.1894	0.0001	
27	SLU 37	-3.86	0.03	25.11		0.0127	-0.1849	0.0001	
27	SLU 38	-4.06	0.03	23.71		0.0142	-0.1898	0.0001	
27	SLU 39	-3.73	0.03	25.28		0.0127	-0.1805	0.0001	
27	SLU 40	-3.93	0.03	23.88		0.0143	-0.1855	0.0001	
27	SLU 41	-3.85	0.03	25.34		0.013	-0.1853	0.0001	
27	SLU 42	-4.05	0.03	23.94		0.0145	-0.1902	0.0002	
27	SLU 43	-4.07	0.04	30.99		0.0128	-0.2004	0.0002	
27	SLU 44	-4.4	0.03	28.66		0.0154	-0.2086	0.0002	
27	SLU 45	-4.18	0.04	31.09		0.013	-0.2047	0.0002	
27	SLU 46	-4.38	0.03	29.69		0.0146	-0.2097	0.0002	
27	SLU 47	-4.53	0.03	28.72		0.0156	-0.2134	0.0002	
27	SLU 48	-4.3	0.04	31.15		0.0133	-0.2095	0.0002	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
27	SLU 49	-4.5	0.03	29.75	0.0148	-0.2144	0.0002
27	SLU 50	-4.32	0.04	31.11	0.0133	-0.21	0.0002
27	SLU 51	-4.52	0.03	29.72	0.0148	-0.2149	0.0002
27	SLU 52	-4.68	0.03	29.33	0.0166	-0.2207	0.0002
27	SLU 53	-4.45	0.04	31.76	0.0143	-0.2168	0.0002
27	SLU 54	-4.65	0.03	30.36	0.0159	-0.2217	0.0002
27	SLU 55	-4.8	0.03	29.39	0.0169	-0.2255	0.0002
27	SLU 56	-4.58	0.04	31.82	0.0146	-0.2216	0.0002
27	SLU 57	-4.78	0.03	30.42	0.0161	-0.2265	0.0002
27	SLU 58	-4.59	0.04	31.78	0.0146	-0.2221	0.0002
27	SLU 59	-4.79	0.03	30.39	0.0161	-0.227	0.0002
27	SLU 60	-4.46	0.04	31.95	0.0146	-0.2177	0.0002
27	SLU 61	-4.66	0.03	30.55	0.0162	-0.2226	0.0002
27	SLU 62	-4.59	0.04	32.01	0.0149	-0.2224	0.0002
27	SLU 63	-4.79	0.03	30.61	0.0164	-0.2274	0.0002
27	SLU 64	-4.23	0.04	31.37	0.0136	-0.2076	0.0002
27	SLU 65	-4.57	0.03	29.04	0.0162	-0.2158	0.0002
27	SLU 66	-4.34	0.04	31.47	0.0139	-0.212	0.0002
27	SLU 67	-4.54	0.03	30.07	0.0154	-0.2169	0.0002
27	SLU 68	-4.69	0.03	29.1	0.0164	-0.2206	0.0002
27	SLU 69	-4.47	0.04	31.53	0.0141	-0.2168	0.0002
27	SLU 70	-4.67	0.03	30.13	0.0157	-0.2217	0.0002
27	SLU 71	-4.48	0.04	31.49	0.0141	-0.2172	0.0002
27	SLU 72	-4.68	0.03	30.09	0.0157	-0.2221	0.0002
27	SLU 73	-4.84	0.03	29.71	0.0175	-0.2279	0.0002
27	SLU 74	-4.62	0.04	32.14	0.0152	-0.224	0.0002
27	SLU 75	-4.82	0.04	30.74	0.0167	-0.229	0.0002
27	SLU 76	-4.96	0.03	29.77	0.0177	-0.2327	0.0002
27	SLU 77	-4.74	0.04	32.2	0.0154	-0.2288	0.0002
27	SLU 78	-4.94	0.04	30.8	0.017	-0.2337	0.0002
27	SLU 79	-4.76	0.04	32.16	0.0154	-0.2293	0.0002
27	SLU 80	-4.96	0.04	30.76	0.017	-0.2342	0.0002
27	SLU 81	-4.63	0.04	32.33	0.0155	-0.2249	0.0002
27	SLU 82	-4.83	0.04	30.93	0.017	-0.2298	0.0002
27	SLU 83	-4.75	0.04	32.39	0.0157	-0.2297	0.0002
27	SLU 84	-4.95	0.04	30.99	0.0173	-0.2346	0.0002
27	SLE RA 1	-3.22	0.03	24.05	0.0103	-0.1581	0.0001
27	SLE RA 2	-3.44	0.02	22.49	0.012	-0.1636	0.0001
27	SLE RA 3	-3.29	0.03	24.11	0.0105	-0.161	0.0001
27	SLE RA 4	-3.43	0.03	23.18	0.0115	-0.1643	0.0001
27	SLE RA 5	-3.52	0.02	22.53	0.0122	-0.1668	0.0001
27	SLE RA 6	-3.38	0.03	24.15	0.0106	-0.1642	0.0001
27	SLE RA 7	-3.51	0.03	23.22	0.0117	-0.1675	0.0001
27	SLE RA 8	-3.39	0.03	24.13	0.0106	-0.1645	0.0001
27	SLE RA 9	-3.52	0.03	23.2	0.0117	-0.1678	0.0001
27	SLE RA 10	-3.63	0.02	22.94	0.0129	-0.1716	0.0001
27	SLE RA 11	-3.48	0.03	24.56	0.0113	-0.1691	0.0001
27	SLE RA 12	-3.61	0.03	23.63	0.0124	-0.1723	0.0001
27	SLE RA 13	-3.71	0.02	22.98	0.013	-0.1748	0.0001
27	SLE RA 14	-3.56	0.03	24.6	0.0115	-0.1723	0.0001
27	SLE RA 15	-3.69	0.03	23.67	0.0125	-0.1755	0.0001
27	SLE RA 16	-3.57	0.03	24.58	0.0115	-0.1726	0.0001
27	SLE RA 17	-3.7	0.03	23.64	0.0125	-0.1758	0.0001
27	SLE RA 18	-3.48	0.03	24.69	0.0115	-0.1696	0.0001
27	SLE RA 19	-3.62	0.03	23.75	0.0126	-0.1729	0.0001
27	SLE RA 20	-3.56	0.03	24.73	0.0117	-0.1728	0.0001
27	SLE RA 21	-3.7	0.03	23.79	0.0127	-0.1761	0.0001
27	SLE FR 1	-3.22	0.03	24.05	0.0103	-0.1581	0.0001
27	SLE FR 2	-3.26	0.03	23.74	0.0106	-0.1592	0.0001
27	SLE FR 3	-3.25	0.03	24.06	0.0104	-0.1594	0.0001
27	SLE FR 4	-3.34	0.03	23.93	0.011	-0.1627	0.0001
27	SLE FR 5	-3.33	0.03	24.26	0.0107	-0.1629	0.0001
27	SLE FR 6	-3.35	0.03	24.37	0.0109	-0.1639	0.0001
27	SLE QP 1	-3.22	0.03	24.05	0.0103	-0.1581	0.0001
27	SLE QP 2	-3.3	0.03	24.24	0.0107	-0.1616	0.0001
27	SLD 1	-1.02	0.02	18.97	0.0289	-0.0451	0.0001
27	SLD 2	-1.02	0.02	18.97	0.0289	-0.0451	0.0001
27	SLD 3	-0.11	0	12.85	0.0172	-0.0142	0.0001
27	SLD 4	-0.11	0	12.85	0.0172	-0.0142	0.0001
27	SLD 5	-3.99	0.05	31.94	0.0339	-0.1734	0.0002
27	SLD 6	-3.99	0.05	31.94	0.0339	-0.1734	0.0002
27	SLD 7	-0.97	0	11.54	-0.0051	-0.0706	0
27	SLD 8	-0.97	0	11.54	-0.0051	-0.0706	0
27	SLD 9	-5.63	0.06	36.94	0.0264	-0.2526	0.0002
27	SLD 10	-5.63	0.06	36.94	0.0264	-0.2526	0.0002
27	SLD 11	-2.6	0.01	16.53	-0.0126	-0.1497	0.0001
27	SLD 12	-2.6	0.01	16.53	-0.0126	-0.1497	0.0001
27	SLD 13	-6.48	0.06	35.63	0.0041	-0.3089	0.0002
27	SLD 14	-6.48	0.06	35.63	0.0041	-0.3089	0.0002
27	SLD 15	-5.58	0.04	29.51	-0.0076	-0.2781	0.0002
27	SLD 16	-5.58	0.04	29.51	-0.0076	-0.2781	0.0002
27	SLV 1	2.01	0	12.29	0.0534	0.1109	0.0001
27	SLV 2	2.01	0	12.29	0.0534	0.1109	0.0001
27	SLV 3	4.2	-0.04	-2.82	0.0261	0.184	-0.0001
27	SLV 4	4.2	-0.04	-2.82	0.0261	0.184	-0.0001
27	SLV 5	-5.02	0.08	43.58	0.065	-0.1906	0.0003
27	SLV 6	-5.02	0.08	43.58	0.065	-0.1906	0.0003
27	SLV 7	2.26	-0.05	-6.8	-0.0262	0.0528	-0.0001





Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
27	SLV 8		2.26	-0.05	-6.8	-0.0262	0.0528	-0.0001	
27	SLV 9		-8.86	0.11	55.28	0.0475	-0.376	0.0004	
27	SLV 10		-8.86	0.11	55.28	0.0475	-0.376	0.0004	
27	SLV 11		-1.58	-0.02	4.9	-0.0437	-0.1326	0	
27	SLV 12		-1.58	-0.02	4.9	-0.0437	-0.1326	0	
27	SLV 13		-10.79	0.1	51.3	-0.0048	-0.5071	0.0003	
27	SLV 14		-10.79	0.1	51.3	-0.0048	-0.5071	0.0003	
27	SLV 15		-8.61	0.06	36.19	-0.0321	-0.4341	0.0002	
27	SLV 16		-8.61	0.06	36.19	-0.0321	-0.4341	0.0002	
28	SLU 1		-4.1	2.55	30.09	0.1283	-0.1139	-0.0002	
28	SLU 2		-3.97	1.85	26.83	0.1515	-0.1154	0.0001	
28	SLU 3		-4.16	2.55	30.22	0.1319	-0.1161	-0.0002	
28	SLU 4		-4.08	2.13	28.27	0.1459	-0.117	0	
28	SLU 5		-4.03	1.84	26.89	0.1547	-0.1178	0.0001	
28	SLU 6		-4.21	2.53	30.28	0.1351	-0.1184	-0.0002	
28	SLU 7		-4.13	2.12	28.33	0.1491	-0.1193	0	
28	SLU 8		-4.21	2.52	30.21	0.1347	-0.1186	-0.0001	
28	SLU 9		-4.13	2.1	28.25	0.1486	-0.1195	0	
28	SLU 10		-4.16	2.03	28	0.1647	-0.122	0.0001	
28	SLU 11		-4.34	2.72	31.39	0.1451	-0.1226	-0.0002	
28	SLU 12		-4.26	2.31	29.44	0.1591	-0.1236	0	
28	SLU 13		-4.21	2.01	28.06	0.1679	-0.1243	0.0001	
28	SLU 14		-4.4	2.71	31.45	0.1483	-0.125	-0.0002	
28	SLU 15		-4.32	2.29	29.5	0.1623	-0.1259	0	
28	SLU 16		-4.4	2.7	31.38	0.1478	-0.1252	-0.0002	
28	SLU 17		-4.32	2.28	29.42	0.1618	-0.1261	0	
28	SLU 18		-4.37	2.8	31.76	0.1471	-0.1232	-0.0002	
28	SLU 19		-4.29	2.38	29.81	0.161	-0.1242	-0.0001	
28	SLU 20		-4.42	2.79	31.82	0.1503	-0.1256	-0.0002	
28	SLU 21		-4.34	2.37	29.87	0.1642	-0.1265	0	
28	SLU 22		-4.21	2.67	30.85	0.1387	-0.1177	-0.0002	
28	SLU 23		-4.08	1.97	27.59	0.1619	-0.1192	0.0001	
28	SLU 24		-4.26	2.67	30.98	0.1424	-0.1199	-0.0002	
28	SLU 25		-4.19	2.25	29.02	0.1563	-0.1208	0	
28	SLU 26		-4.14	1.96	27.65	0.1651	-0.1216	0.0001	
28	SLU 27		-4.32	2.66	31.04	0.1456	-0.1223	-0.0002	
28	SLU 28		-4.24	2.24	29.08	0.1595	-0.1232	0	
28	SLU 29		-4.32	2.65	30.96	0.1451	-0.1224	-0.0002	
28	SLU 30		-4.24	2.23	29.01	0.159	-0.1233	0	
28	SLU 31		-4.27	2.15	28.76	0.1751	-0.1258	0.0001	
28	SLU 32		-4.45	2.85	32.15	0.1556	-0.1265	-0.0002	
28	SLU 33		-4.37	2.43	30.19	0.1695	-0.1274	-0.0001	
28	SLU 34		-4.32	2.14	28.82	0.1783	-0.1282	0.0001	
28	SLU 35		-4.5	2.84	32.21	0.1588	-0.1288	-0.0002	
28	SLU 36		-4.43	2.42	30.25	0.1727	-0.1297	0	
28	SLU 37		-4.5	2.82	32.13	0.1583	-0.129	-0.0002	
28	SLU 38		-4.43	2.4	30.18	0.1722	-0.1299	0	
28	SLU 39		-4.47	2.92	32.52	0.1575	-0.1271	-0.0003	
28	SLU 40		-4.4	2.51	30.56	0.1715	-0.128	-0.0001	
28	SLU 41		-4.53	2.91	32.58	0.1607	-0.1294	-0.0003	
28	SLU 42		-4.45	2.49	30.62	0.1747	-0.1304	-0.0001	
28	SLU 43		-5.3	3.27	38.86	0.1632	-0.1467	-0.0002	
28	SLU 44		-5.17	2.57	35.6	0.1864	-0.1483	0.0001	
28	SLU 45		-5.35	3.27	38.99	0.1668	-0.1489	-0.0002	
28	SLU 46		-5.27	2.85	37.04	0.1808	-0.1498	0	
28	SLU 47		-5.22	2.56	35.66	0.1896	-0.1506	0.0001	
28	SLU 48		-5.41	3.26	39.05	0.17	-0.1513	-0.0002	
28	SLU 49		-5.33	2.84	37.09	0.184	-0.1522	0	
28	SLU 50		-5.41	3.24	38.98	0.1696	-0.1514	-0.0002	
28	SLU 51		-5.33	2.82	37.02	0.1835	-0.1524	0	
28	SLU 52		-5.35	2.75	36.77	0.1996	-0.1548	0	
28	SLU 53		-5.54	3.44	40.16	0.18	-0.1555	-0.0003	
28	SLU 54		-5.46	3.03	38.21	0.194	-0.1564	-0.0001	
28	SLU 55		-5.41	2.74	36.83	0.2028	-0.1572	0.0001	
28	SLU 56		-5.59	3.43	40.22	0.1832	-0.1578	-0.0002	
28	SLU 57		-5.51	3.01	38.26	0.1972	-0.1588	-0.0001	
28	SLU 58		-5.59	3.42	40.15	0.1827	-0.158	-0.0002	
28	SLU 59		-5.51	3	38.19	0.1967	-0.1589	0	
28	SLU 60		-5.56	3.52	40.53	0.182	-0.1561	-0.0003	
28	SLU 61		-5.48	3.1	38.58	0.1959	-0.157	-0.0001	
28	SLU 62		-5.62	3.51	40.59	0.1852	-0.1585	-0.0003	
28	SLU 63		-5.54	3.09	38.63	0.1991	-0.1594	-0.0001	
28	SLU 64		-5.4	3.39	39.61	0.1736	-0.1505	-0.0003	
28	SLU 65		-5.27	2.7	36.36	0.1968	-0.1521	0.0001	
28	SLU 66		-5.46	3.39	39.74	0.1773	-0.1527	-0.0002	
28	SLU 67		-5.38	2.97	37.79	0.1912	-0.1537	-0.0001	
28	SLU 68		-5.33	2.68	36.42	0.2	-0.1544	0.0001	
28	SLU 69		-5.51	3.38	39.8	0.1805	-0.1551	-0.0002	
28	SLU 70		-5.43	2.96	37.85	0.1944	-0.156	0	
28	SLU 71		-5.51	3.37	39.73	0.18	-0.1553	-0.0002	
28	SLU 72		-5.44	2.95	37.78	0.1939	-0.1562	0	
28	SLU 73		-5.46	2.87	37.53	0.21	-0.1586	0	
28	SLU 74		-5.64	3.57	40.92	0.1905	-0.1593	-0.0003	
28	SLU 75		-5.57	3.15	38.96	0.2044	-0.1602	-0.0001	
28	SLU 76		-5.51	2.86	37.59	0.2132	-0.161	0	
28	SLU 77		-5.7	3.56	40.97	0.1937	-0.1617	-0.0003	
28	SLU 78		-5.62	3.14	39.02	0.2076	-0.1626	-0.0001	
28	SLU 79		-5.7	3.54	40.9	0.1932	-0.1618	-0.0003	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
28	SLU 80			-5.62	3.13	38.95	0.2071	-0.1628	-0.0001
28	SLU 81			-5.67	3.65	41.29	0.1924	-0.1599	-0.0003
28	SLU 82			-5.59	3.23	39.33	0.2064	-0.1608	-0.0001
28	SLU 83			-5.72	3.63	41.34	0.1956	-0.1623	-0.0003
28	SLU 84			-5.65	3.21	39.39	0.2096	-0.1632	-0.0001
28	SLE RA 1			-4.13	2.58	30.31	0.1312	-0.115	-0.0002
28	SLE RA 2			-4.05	2.12	28.13	0.1467	-0.116	0
28	SLE RA 3			-4.17	2.58	30.39	0.1337	-0.1164	-0.0002
28	SLE RA 4			-4.12	2.3	29.09	0.143	-0.117	-0.0001
28	SLE RA 5			-4.08	2.11	28.17	0.1489	-0.1176	0
28	SLE RA 6			-4.21	2.57	30.43	0.1358	-0.118	-0.0002
28	SLE RA 7			-4.15	2.29	29.13	0.1451	-0.1186	0
28	SLE RA 8			-4.21	2.57	30.38	0.1355	-0.1181	-0.0002
28	SLE RA 9			-4.15	2.29	29.08	0.1448	-0.1187	0
28	SLE RA 10			-4.17	2.24	28.91	0.1555	-0.1204	0
28	SLE RA 11			-4.29	2.7	31.17	0.1425	-0.1208	-0.0002
28	SLE RA 12			-4.24	2.42	29.87	0.1518	-0.1214	-0.0001
28	SLE RA 13			-4.21	2.23	28.95	0.1577	-0.1219	0
28	SLE RA 14			-4.33	2.69	31.21	0.1446	-0.1224	-0.0002
28	SLE RA 15			-4.28	2.41	29.91	0.1539	-0.123	-0.0001
28	SLE RA 16			-4.33	2.68	31.16	0.1443	-0.1225	-0.0002
28	SLE RA 17			-4.28	2.4	29.86	0.1536	-0.1231	-0.0001
28	SLE RA 18			-4.31	2.75	31.42	0.1438	-0.1212	-0.0002
28	SLE RA 19			-4.26	2.47	30.12	0.1531	-0.1218	-0.0001
28	SLE RA 20			-4.35	2.74	31.46	0.1459	-0.1228	-0.0002
28	SLE RA 21			-4.29	2.46	30.16	0.1552	-0.1234	-0.0001
28	SLE FR 1			-4.13	2.58	30.31	0.1312	-0.115	-0.0002
28	SLE FR 2			-4.12	2.49	29.87	0.1343	-0.1152	-0.0001
28	SLE FR 3			-4.15	2.58	30.32	0.1321	-0.1156	-0.0002
28	SLE FR 4			-4.17	2.54	30.21	0.1381	-0.117	-0.0002
28	SLE FR 5			-4.2	2.63	30.66	0.1359	-0.1175	-0.0002
28	SLE FR 6			-4.22	2.67	30.86	0.1375	-0.1181	-0.0002
28	SLE QP 1			-4.13	2.58	30.31	0.1312	-0.115	-0.0002
28	SLE QP 2			-4.19	2.63	30.64	0.135	-0.1168	-0.0002
28	SLD 1			-2.17	2.7	23.62	0.1137	-0.0447	-0.0013
28	SLD 2			-2.17	2.7	23.62	0.1137	-0.0447	-0.0013
28	SLD 3			-1.54	0.76	14.69	0.0533	-0.0279	-0.0005
28	SLD 4			-1.54	0.76	14.69	0.0533	-0.0279	-0.0005
28	SLD 5			-4.55	5.58	42.07	0.2202	-0.1206	-0.0018
28	SLD 6			-4.55	5.58	42.07	0.2202	-0.1206	-0.0018
28	SLD 7			-2.43	-0.86	12.32	0.0189	-0.0647	0.001
28	SLD 8			-2.43	-0.86	12.32	0.0189	-0.0647	0.001
28	SLD 9			-5.94	6.12	48.96	0.2511	-0.169	-0.0014
28	SLD 10			-5.94	6.12	48.96	0.2511	-0.169	-0.0014
28	SLD 11			-3.83	-0.32	19.21	0.0498	-0.1131	0.0014
28	SLD 12			-3.83	-0.32	19.21	0.0498	-0.1131	0.0014
28	SLD 13			-6.83	4.5	46.59	0.2167	-0.2058	0.0001
28	SLD 14			-6.83	4.5	46.59	0.2167	-0.2058	0.0001
28	SLD 15			-6.2	2.57	37.66	0.1563	-0.189	0.0009
28	SLD 16			-6.2	2.57	37.66	0.1563	-0.189	0.0009
28	SLV 1			0.5	2.83	14.73	0.0852	0.0521	-0.0028
28	SLV 2			0.5	2.83	14.73	0.0852	0.0521	-0.0028
28	SLV 3			2.03	-1.84	-7.23	-0.057	0.0915	-0.0008
28	SLV 4			2.03	-1.84	-7.23	-0.057	0.0915	-0.0008
28	SLV 5			-5.1	9.78	59.17	0.3357	-0.1259	-0.004
28	SLV 6			-5.1	9.78	59.17	0.3357	-0.1259	-0.004
28	SLV 7			0	-5.8	-14.03	-0.1383	0.0054	0.0027
28	SLV 8			0	-5.8	-14.03	-0.1383	0.0054	0.0027
28	SLV 9			-8.37	11.07	75.31	0.4083	-0.2391	-0.0031
28	SLV 10			-8.37	11.07	75.31	0.4083	-0.2391	-0.0031
28	SLV 11			-3.27	-4.52	2.11	-0.0657	-0.1078	0.0036
28	SLV 12			-3.27	-4.52	2.11	-0.0657	-0.1078	0.0036
28	SLV 13			-10.4	7.11	68.51	0.327	-0.3252	0.0004
28	SLV 14			-10.4	7.11	68.51	0.327	-0.3252	0.0004
28	SLV 15			-8.87	2.43	46.55	0.1848	-0.2858	0.0024
28	SLV 16			-8.87	2.43	46.55	0.1848	-0.2858	0.0024
29	SLU 1			0.06	2.5	15.96	-0.0682	0.0053	0.0002
29	SLU 2			0.06	1.92	13.4	-0.0264	0.0058	0.0002
29	SLU 3			0.06	2.5	15.76	-0.0667	0.0053	0.0002
29	SLU 4			0.06	2.15	14.22	-0.0416	0.0056	0.0002
29	SLU 5			0.06	1.88	13.07	-0.0236	0.0058	0.0002
29	SLU 6			0.06	2.47	15.43	-0.0638	0.0053	0.0002
29	SLU 7			0.06	2.12	13.89	-0.0387	0.0057	0.0002
29	SLU 8			0.06	2.43	15.3	-0.0625	0.0054	0.0002
29	SLU 9			0.06	2.08	13.76	-0.0374	0.0057	0.0002
29	SLU 10			0.07	2.32	14.15	-0.0367	0.0061	0.0002
29	SLU 11			0.07	2.91	16.51	-0.077	0.0056	0.0002
29	SLU 12			0.07	2.56	14.97	-0.0519	0.0059	0.0002
29	SLU 13			0.07	2.29	13.82	-0.0339	0.0062	0.0002
29	SLU 14			0.07	2.87	16.18	-0.0741	0.0056	0.0002
29	SLU 15			0.07	2.52	14.64	-0.049	0.006	0.0002
29	SLU 16			0.07	2.84	16.05	-0.0728	0.0057	0.0002
29	SLU 17			0.07	2.49	14.51	-0.0477	0.006	0.0002
29	SLU 18			0.07	3.08	17.03	-0.0829	0.0057	0.0003
29	SLU 19			0.07	2.73	15.49	-0.0579	0.006	0.0002
29	SLU 20			0.07	3.05	16.7	-0.0801	0.0057	0.0003
29	SLU 21			0.07	2.7	15.16	-0.055	0.0061	0.0002
29	SLU 22			0.07	2.8	16.37	-0.0752	0.0054	0.0002



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
29	SLU 23	0.06	2.22	13.81	-0.0334	0.0059	0.0002	
29	SLU 24	0.07	2.8	16.17	-0.0736	0.0054	0.0002	
29	SLU 25	0.07	2.45	14.63	-0.0485	0.0058	0.0002	
29	SLU 26	0.06	2.18	13.48	-0.0305	0.006	0.0002	
29	SLU 27	0.07	2.77	15.84	-0.0708	0.0055	0.0002	
29	SLU 28	0.07	2.42	14.3	-0.0457	0.0058	0.0002	
29	SLU 29	0.07	2.73	15.71	-0.0695	0.0055	0.0002	
29	SLU 30	0.07	2.38	14.17	-0.0444	0.0058	0.0002	
29	SLU 31	0.07	2.62	14.56	-0.0437	0.0062	0.0002	
29	SLU 32	0.07	3.21	16.92	-0.0839	0.0057	0.0003	
29	SLU 33	0.07	2.86	15.38	-0.0588	0.0061	0.0003	
29	SLU 34	0.07	2.59	14.23	-0.0408	0.0063	0.0002	
29	SLU 35	0.07	3.17	16.59	-0.0811	0.0058	0.0003	
29	SLU 36	0.07	2.82	15.05	-0.056	0.0061	0.0003	
29	SLU 37	0.07	3.14	16.46	-0.0798	0.0058	0.0003	
29	SLU 38	0.07	2.79	14.92	-0.0547	0.0061	0.0003	
29	SLU 39	0.07	3.38	17.44	-0.0899	0.0058	0.0003	
29	SLU 40	0.07	3.03	15.9	-0.0648	0.0062	0.0003	
29	SLU 41	0.07	3.35	17.11	-0.087	0.0059	0.0003	
29	SLU 42	0.07	3	15.57	-0.062	0.0062	0.0003	
29	SLU 43	0.08	3.15	20.6	-0.0863	0.0068	0.0003	
29	SLU 44	0.08	2.57	18.04	-0.0445	0.0073	0.0003	
29	SLU 45	0.08	3.15	20.4	-0.0848	0.0068	0.0003	
29	SLU 46	0.08	2.8	18.87	-0.0597	0.0072	0.0003	
29	SLU 47	0.08	2.53	17.71	-0.0416	0.0074	0.0003	
29	SLU 48	0.08	3.12	20.07	-0.0819	0.0069	0.0003	
29	SLU 49	0.08	2.77	18.54	-0.0568	0.0072	0.0003	
29	SLU 50	0.08	3.08	19.94	-0.0806	0.0069	0.0003	
29	SLU 51	0.08	2.73	18.41	-0.0555	0.0072	0.0003	
29	SLU 52	0.08	2.97	18.79	-0.0548	0.0076	0.0003	
29	SLU 53	0.09	3.56	21.15	-0.0951	0.0071	0.0003	
29	SLU 54	0.09	3.21	19.62	-0.07	0.0075	0.0003	
29	SLU 55	0.08	2.94	18.46	-0.0519	0.0077	0.0003	
29	SLU 56	0.09	3.52	20.82	-0.0922	0.0072	0.0003	
29	SLU 57	0.09	3.17	19.29	-0.0671	0.0075	0.0003	
29	SLU 58	0.09	3.49	20.69	-0.0909	0.0072	0.0003	
29	SLU 59	0.09	3.14	19.16	-0.0658	0.0075	0.0003	
29	SLU 60	0.09	3.73	21.68	-0.101	0.0072	0.0003	
29	SLU 61	0.09	3.38	20.14	-0.0759	0.0076	0.0003	
29	SLU 62	0.09	3.7	21.34	-0.0982	0.0073	0.0003	
29	SLU 63	0.09	3.34	19.81	-0.0731	0.0076	0.0003	
29	SLU 64	0.08	3.45	21.02	-0.0933	0.0069	0.0003	
29	SLU 65	0.08	2.87	18.46	-0.0514	0.0075	0.0003	
29	SLU 66	0.08	3.45	20.82	-0.0917	0.007	0.0003	
29	SLU 67	0.08	3.1	19.28	-0.0666	0.0073	0.0003	
29	SLU 68	0.08	2.83	18.12	-0.0486	0.0075	0.0003	
29	SLU 69	0.08	3.42	20.49	-0.0889	0.007	0.0003	
29	SLU 70	0.08	3.06	18.95	-0.0638	0.0073	0.0003	
29	SLU 71	0.08	3.38	20.35	-0.0876	0.007	0.0003	
29	SLU 72	0.08	3.03	18.82	-0.0625	0.0073	0.0003	
29	SLU 73	0.09	3.27	19.21	-0.0617	0.0078	0.0003	
29	SLU 74	0.09	3.86	21.57	-0.102	0.0073	0.0003	
29	SLU 75	0.09	3.5	20.03	-0.0769	0.0076	0.0003	
29	SLU 76	0.09	3.24	18.87	-0.0589	0.0078	0.0003	
29	SLU 77	0.09	3.82	21.23	-0.0992	0.0073	0.0003	
29	SLU 78	0.09	3.47	19.7	-0.0741	0.0076	0.0003	
29	SLU 79	0.09	3.79	21.1	-0.0979	0.0073	0.0003	
29	SLU 80	0.09	3.44	19.57	-0.0728	0.0077	0.0003	
29	SLU 81	0.09	4.03	22.09	-0.108	0.0074	0.0003	
29	SLU 82	0.09	3.68	20.55	-0.0829	0.0077	0.0003	
29	SLU 83	0.09	3.99	21.76	-0.1051	0.0074	0.0003	
29	SLU 84	0.09	3.64	20.22	-0.08	0.0077	0.0003	
29	SLE RA 1	0.06	2.59	16.08	-0.0702	0.0053	0.0002	
29	SLE RA 2	0.06	2.2	14.37	-0.0423	0.0057	0.0002	
29	SLE RA 3	0.06	2.59	15.94	-0.0692	0.0053	0.0002	
29	SLE RA 4	0.06	2.35	14.92	-0.0524	0.0055	0.0002	
29	SLE RA 5	0.06	2.18	14.15	-0.0404	0.0057	0.0002	
29	SLE RA 6	0.06	2.56	15.72	-0.0673	0.0054	0.0002	
29	SLE RA 7	0.06	2.33	14.7	-0.0506	0.0056	0.0002	
29	SLE RA 8	0.06	2.54	15.63	-0.0664	0.0054	0.0002	
29	SLE RA 9	0.06	2.31	14.61	-0.0497	0.0056	0.0002	
29	SLE RA 10	0.07	2.47	14.87	-0.0492	0.0059	0.0002	
29	SLE RA 11	0.07	2.86	16.44	-0.076	0.0055	0.0002	
29	SLE RA 12	0.07	2.62	15.42	-0.0593	0.0057	0.0002	
29	SLE RA 13	0.07	2.45	14.65	-0.0473	0.0059	0.0002	
29	SLE RA 14	0.07	2.84	16.22	-0.0741	0.0056	0.0002	
29	SLE RA 15	0.07	2.6	15.2	-0.0574	0.0058	0.0002	
29	SLE RA 16	0.07	2.81	16.13	-0.0733	0.0056	0.0002	
29	SLE RA 17	0.07	2.58	15.11	-0.0566	0.0058	0.0002	
29	SLE RA 18	0.07	2.97	16.79	-0.08	0.0056	0.0002	
29	SLE RA 19	0.07	2.74	15.77	-0.0633	0.0058	0.0002	
29	SLE RA 20	0.07	2.95	16.57	-0.0781	0.0056	0.0002	
29	SLE RA 21	0.07	2.72	15.54	-0.0614	0.0058	0.0002	
29	SLE FR 1	0.06	2.59	16.08	-0.0702	0.0053	0.0002	
29	SLE FR 2	0.06	2.51	15.73	-0.0646	0.0054	0.0002	
29	SLE FR 3	0.06	2.58	15.99	-0.0694	0.0053	0.0002	
29	SLE FR 4	0.07	2.63	15.95	-0.0676	0.0055	0.0002	
29	SLE FR 5	0.07	2.69	16.2	-0.0724	0.0054	0.0002	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
29	SLE FR 6	0.07	2.78	16.43	-0.0751	0.0054	0.0002
29	SLE QP 1	0.06	2.59	16.08	-0.0702	0.0053	0.0002
29	SLE QP 2	0.07	2.7	16.29	-0.0732	0.0054	0.0002
29	SLD 1	0.12	2.93	24.02	-0.0834	0.0117	0.0004
29	SLD 2	0.12	2.93	24.02	-0.0834	0.0117	0.0004
29	SLD 3	0.1	1.13	17.07	0.0272	0.0097	0.0003
29	SLD 4	0.1	1.13	17.07	0.0272	0.0097	0.0003
29	SLD 5	0.1	5.51	29.15	-0.244	0.0103	0.0003
29	SLD 6	0.1	5.51	29.15	-0.244	0.0103	0.0003
29	SLD 7	0.06	-0.5	5.99	0.1247	0.0037	0.0002
29	SLD 8	0.06	-0.5	5.99	0.1247	0.0037	0.0002
29	SLD 9	0.07	5.91	26.6	-0.271	0.0071	0.0003
29	SLD 10	0.07	5.91	26.6	-0.271	0.0071	0.0003
29	SLD 11	0.03	-0.1	3.43	0.0977	0.0005	0.0001
29	SLD 12	0.03	-0.1	3.43	0.0977	0.0005	0.0001
29	SLD 13	0.03	4.28	15.51	-0.1735	0.0011	0.0001
29	SLD 14	0.03	4.28	15.51	-0.1735	0.0011	0.0001
29	SLD 15	0.01	2.48	8.56	-0.0629	-0.0009	0.0001
29	SLD 16	0.01	2.48	8.56	-0.0629	-0.0009	0.0001
29	SLV 1	0.19	3.31	34.79	-0.1011	0.0202	0.0006
29	SLV 2	0.19	3.31	34.79	-0.1011	0.0202	0.0006
29	SLV 3	0.16	-1.07	17.76	0.1675	0.0155	0.0005
29	SLV 4	0.16	-1.07	17.76	0.1675	0.0155	0.0005
29	SLV 5	0.15	9.53	47.67	-0.4889	0.017	0.0005
29	SLV 6	0.15	9.53	47.67	-0.4889	0.017	0.0005
29	SLV 7	0.05	-5.07	-9.1	0.4064	0.0013	0.0002
29	SLV 8	0.05	-5.07	-9.1	0.4064	0.0013	0.0002
29	SLV 9	0.08	10.48	41.68	-0.5527	0.0095	0.0003
29	SLV 10	0.08	10.48	41.68	-0.5527	0.0095	0.0003
29	SLV 11	-0.02	-4.12	-15.09	0.3426	-0.0062	0
29	SLV 12	-0.02	-4.12	-15.09	0.3426	-0.0062	0
29	SLV 13	-0.02	6.48	14.82	-0.3138	-0.0047	0
29	SLV 14	-0.02	6.48	14.82	-0.3138	-0.0047	0
29	SLV 15	-0.05	2.1	-2.21	-0.0452	-0.0094	-0.0001
29	SLV 16	-0.05	2.1	-2.21	-0.0452	-0.0094	-0.0001
30	SLU 1	0.04	2.06	20.86	-0.083	0.0062	0.0001
30	SLU 2	0.04	1.4	19.94	-0.0475	0.0074	0.0001
30	SLU 3	0.04	2.07	20.84	-0.0828	0.0062	0.0001
30	SLU 4	0.04	1.67	20.28	-0.0615	0.0069	0.0001
30	SLU 5	0.04	1.37	19.74	-0.046	0.0074	0.0001
30	SLU 6	0.04	2.04	20.64	-0.0813	0.0061	0.0001
30	SLU 7	0.04	1.65	20.09	-0.06	0.0068	0.0001
30	SLU 8	0.04	2.01	20.47	-0.0799	0.0061	0.0001
30	SLU 9	0.04	1.61	19.91	-0.0586	0.0068	0.0001
30	SLU 10	0.04	1.84	21.8	-0.063	0.0081	0.0001
30	SLU 11	0.04	2.51	22.7	-0.0983	0.0069	0.0001
30	SLU 12	0.04	2.12	22.14	-0.077	0.0076	0.0001
30	SLU 13	0.04	1.82	21.6	-0.0614	0.0081	0.0001
30	SLU 14	0.04	2.49	22.5	-0.0967	0.0068	0.0001
30	SLU 15	0.04	2.09	21.95	-0.0754	0.0075	0.0001
30	SLU 16	0.04	2.45	22.33	-0.0954	0.0068	0.0001
30	SLU 17	0.04	2.06	21.77	-0.0741	0.0075	0.0001
30	SLU 18	0.04	2.69	23.52	-0.1051	0.0072	0.0002
30	SLU 19	0.04	2.3	22.96	-0.0838	0.0079	0.0002
30	SLU 20	0.04	2.67	23.32	-0.1035	0.0072	0.0002
30	SLU 21	0.04	2.27	22.77	-0.0822	0.0079	0.0002
30	SLU 22	0.04	2.4	22.19	-0.0943	0.0066	0.0001
30	SLU 23	0.04	1.74	21.27	-0.0588	0.0078	0.0001
30	SLU 24	0.04	2.4	22.17	-0.0942	0.0066	0.0001
30	SLU 25	0.04	2.01	21.62	-0.0729	0.0073	0.0001
30	SLU 26	0.04	1.71	21.07	-0.0573	0.0078	0.0001
30	SLU 27	0.04	2.38	21.97	-0.0926	0.0065	0.0001
30	SLU 28	0.04	1.98	21.42	-0.0713	0.0072	0.0001
30	SLU 29	0.04	2.34	21.8	-0.0912	0.0065	0.0001
30	SLU 30	0.04	1.95	21.25	-0.0699	0.0072	0.0001
30	SLU 31	0.04	2.18	23.13	-0.0743	0.0085	0.0002
30	SLU 32	0.04	2.85	24.03	-0.1096	0.0073	0.0002
30	SLU 33	0.04	2.45	23.48	-0.0883	0.008	0.0002
30	SLU 34	0.04	2.15	22.93	-0.0727	0.0085	0.0002
30	SLU 35	0.04	2.82	23.83	-0.1081	0.0072	0.0002
30	SLU 36	0.04	2.42	23.28	-0.0868	0.0079	0.0002
30	SLU 37	0.04	2.79	23.66	-0.1067	0.0072	0.0002
30	SLU 38	0.04	2.39	23.11	-0.0854	0.0079	0.0002
30	SLU 39	0.04	3.03	24.85	-0.1164	0.0076	0.0002
30	SLU 40	0.04	2.63	24.3	-0.0951	0.0083	0.0002
30	SLU 41	0.04	3	24.65	-0.1149	0.0076	0.0002
30	SLU 42	0.04	2.61	24.1	-0.0936	0.0083	0.0002
30	SLU 43	0.05	2.56	26.66	-0.104	0.008	0.0002
30	SLU 44	0.05	1.9	25.74	-0.0685	0.0092	0.0002
30	SLU 45	0.05	2.57	26.64	-0.1039	0.0079	0.0002
30	SLU 46	0.05	2.18	26.08	-0.0826	0.0086	0.0002
30	SLU 47	0.05	1.88	25.54	-0.067	0.0091	0.0002
30	SLU 48	0.05	2.55	26.44	-0.1023	0.0078	0.0002
30	SLU 49	0.05	2.15	25.89	-0.081	0.0086	0.0002
30	SLU 50	0.05	2.51	26.27	-0.1009	0.0078	0.0002
30	SLU 51	0.05	2.12	25.71	-0.0796	0.0086	0.0002
30	SLU 52	0.05	2.35	27.6	-0.084	0.0099	0.0002
30	SLU 53	0.05	3.02	28.5	-0.1193	0.0086	0.0002



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
30	SLU 54	0.05	2.62	27.94	-0.098	0.0093	0.0002	
30	SLU 55	0.05	2.32	27.4	-0.0824	0.0098	0.0002	
30	SLU 56	0.05	2.99	28.3	-0.1178	0.0085	0.0002	
30	SLU 57	0.05	2.59	27.75	-0.0965	0.0093	0.0002	
30	SLU 58	0.05	2.95	28.13	-0.1164	0.0085	0.0002	
30	SLU 59	0.05	2.56	27.57	-0.0951	0.0093	0.0002	
30	SLU 60	0.05	3.2	29.32	-0.1261	0.009	0.0002	
30	SLU 61	0.05	2.8	28.76	-0.1048	0.0097	0.0002	
30	SLU 62	0.05	3.17	29.12	-0.1245	0.0089	0.0002	
30	SLU 63	0.05	2.78	28.57	-0.1033	0.0096	0.0002	
30	SLU 64	0.05	2.9	27.99	-0.1154	0.0084	0.0002	
30	SLU 65	0.05	2.24	27.07	-0.0799	0.0096	0.0002	
30	SLU 66	0.05	2.91	27.97	-0.1152	0.0083	0.0002	
30	SLU 67	0.05	2.51	27.42	-0.0939	0.009	0.0002	
30	SLU 68	0.05	2.21	26.87	-0.0783	0.0095	0.0002	
30	SLU 69	0.05	2.88	27.77	-0.1136	0.0082	0.0002	
30	SLU 70	0.05	2.48	27.22	-0.0923	0.009	0.0002	
30	SLU 71	0.05	2.85	27.6	-0.1122	0.0082	0.0002	
30	SLU 72	0.05	2.45	27.05	-0.0909	0.009	0.0002	
30	SLU 73	0.05	2.68	28.93	-0.0953	0.0103	0.0002	
30	SLU 74	0.05	3.35	29.83	-0.1306	0.009	0.0002	
30	SLU 75	0.05	2.95	29.28	-0.1094	0.0097	0.0002	
30	SLU 76	0.05	2.66	28.73	-0.0938	0.0102	0.0002	
30	SLU 77	0.05	3.32	29.63	-0.1291	0.0089	0.0002	
30	SLU 78	0.05	2.93	29.08	-0.1078	0.0097	0.0002	
30	SLU 79	0.05	3.29	29.46	-0.1277	0.0089	0.0002	
30	SLU 80	0.05	2.89	28.91	-0.1064	0.0096	0.0002	
30	SLU 81	0.05	3.53	30.65	-0.1374	0.0093	0.0002	
30	SLU 82	0.05	3.14	30.1	-0.1161	0.0101	0.0002	
30	SLU 83	0.05	3.51	30.45	-0.1359	0.0093	0.0002	
30	SLU 84	0.05	3.11	29.9	-0.1146	0.01	0.0002	
30	SLE RA 1	0.04	2.16	21.24	-0.0862	0.0063	0.0001	
30	SLE RA 2	0.04	1.72	20.62	-0.0626	0.0071	0.0001	
30	SLE RA 3	0.04	2.16	21.22	-0.0861	0.0063	0.0001	
30	SLE RA 4	0.04	1.9	20.86	-0.0719	0.0068	0.0001	
30	SLE RA 5	0.04	1.7	20.49	-0.0615	0.0071	0.0001	
30	SLE RA 6	0.04	2.14	21.09	-0.0851	0.0063	0.0001	
30	SLE RA 7	0.04	1.88	20.72	-0.0709	0.0067	0.0001	
30	SLE RA 8	0.04	2.12	20.98	-0.0842	0.0063	0.0001	
30	SLE RA 9	0.04	1.86	20.61	-0.07	0.0067	0.0001	
30	SLE RA 10	0.04	2.01	21.86	-0.0729	0.0076	0.0001	
30	SLE RA 11	0.04	2.46	22.47	-0.0964	0.0068	0.0001	
30	SLE RA 12	0.04	2.19	22.1	-0.0822	0.0072	0.0001	
30	SLE RA 13	0.04	1.99	21.73	-0.0718	0.0076	0.0001	
30	SLE RA 14	0.04	2.44	22.33	-0.0954	0.0067	0.0001	
30	SLE RA 15	0.04	2.18	21.97	-0.0812	0.0072	0.0001	
30	SLE RA 16	0.04	2.42	22.22	-0.0945	0.0067	0.0001	
30	SLE RA 17	0.04	2.15	21.85	-0.0803	0.0072	0.0001	
30	SLE RA 18	0.04	2.58	23.01	-0.101	0.007	0.0001	
30	SLE RA 19	0.04	2.31	22.64	-0.0868	0.0075	0.0001	
30	SLE RA 20	0.04	2.56	22.88	-0.0999	0.007	0.0001	
30	SLE RA 21	0.04	2.3	22.51	-0.0857	0.0074	0.0001	
30	SLE FR 1	0.04	2.16	21.24	-0.0862	0.0063	0.0001	
30	SLE FR 2	0.04	2.07	21.12	-0.0815	0.0065	0.0001	
30	SLE FR 3	0.04	2.15	21.19	-0.0858	0.0063	0.0001	
30	SLE FR 4	0.04	2.2	21.65	-0.0859	0.0067	0.0001	
30	SLE FR 5	0.04	2.28	21.72	-0.0902	0.0065	0.0001	
30	SLE FR 6	0.04	2.37	22.13	-0.0936	0.0067	0.0001	
30	SLE QP 1	0.04	2.16	21.24	-0.0862	0.0063	0.0001	
30	SLE QP 2	0.04	2.28	21.77	-0.0907	0.0065	0.0001	
30	SLD 1	0.09	2.37	26.32	-0.1	0.0203	0.0003	
30	SLD 2	0.09	2.37	26.32	-0.1	0.0203	0.0003	
30	SLD 3	0.06	0.28	22.14	0.0065	0.0112	0.0002	
30	SLD 4	0.06	0.28	22.14	0.0065	0.0112	0.0002	
30	SLD 5	0.1	5.47	29.47	-0.2551	0.0245	0.0003	
30	SLD 6	0.1	5.47	29.47	-0.2551	0.0245	0.0003	
30	SLD 7	0	-1.48	15.54	0.1001	-0.0059	0.0001	
30	SLD 8	0	-1.48	15.54	0.1001	-0.0059	0.0001	
30	SLD 9	0.07	6.05	28	-0.2814	0.019	0.0002	
30	SLD 10	0.07	6.05	28	-0.2814	0.019	0.0002	
30	SLD 11	-0.02	-0.91	14.07	0.0737	-0.0114	0	
30	SLD 12	-0.02	-0.91	14.07	0.0737	-0.0114	0	
30	SLD 13	0.01	4.28	21.4	-0.1878	0.0019	0.0001	
30	SLD 14	0.01	4.28	21.4	-0.1878	0.0019	0.0001	
30	SLD 15	-0.01	2.2	17.22	-0.0813	-0.0072	0	
30	SLD 16	-0.01	2.2	17.22	-0.0813	-0.0072	0	
30	SLV 1	0.16	2.55	32.71	-0.1157	0.039	0.0005	
30	SLV 2	0.16	2.55	32.71	-0.1157	0.039	0.0005	
30	SLV 3	0.09	-2.49	22.38	0.1413	0.017	0.0003	
30	SLV 4	0.09	-2.49	22.38	0.1413	0.017	0.0003	
30	SLV 5	0.18	10.01	40.71	-0.488	0.0495	0.0005	
30	SLV 6	0.18	10.01	40.71	-0.488	0.0495	0.0005	
30	SLV 7	-0.05	-6.8	6.29	0.3688	-0.0236	0	
30	SLV 8	-0.05	-6.8	6.29	0.3688	-0.0236	0	
30	SLV 9	0.13	11.36	37.25	-0.5501	0.0366	0.0003	
30	SLV 10	0.13	11.36	37.25	-0.5501	0.0366	0.0003	
30	SLV 11	-0.1	-5.44	2.83	0.3067	-0.0364	-0.0002	
30	SLV 12	-0.1	-5.44	2.83	0.3067	-0.0364	-0.0002	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
30	SLV 13	-0.02	7.06	21.16	-0.3226	-0.004	-0.0001
30	SLV 14	-0.02	7.06	21.16	-0.3226	-0.004	-0.0001
30	SLV 15	-0.08	2.01	10.83	-0.0656	-0.0259	-0.0002
30	SLV 16	-0.08	2.01	10.83	-0.0656	-0.0259	-0.0002
31	SLU 1	0	12.7	34.11	-0.5973	-0.0003	0
31	SLU 2	0.01	12.46	33.98	-0.5851	0.0005	0
31	SLU 3	0	13.12	34.97	-0.6178	-0.0002	0
31	SLU 4	0.01	12.98	34.89	-0.6105	0.0003	0
31	SLU 5	0.01	12.86	34.78	-0.6046	0.0006	0
31	SLU 6	0	13.52	35.77	-0.6373	-0.0001	0
31	SLU 7	0.01	13.38	35.7	-0.63	0.0004	0
31	SLU 8	0	13.49	35.71	-0.6363	-0.0001	0
31	SLU 9	0.01	13.35	35.64	-0.6289	0.0004	0
31	SLU 10	0.01	14.78	39.02	-0.6916	0.0004	0
31	SLU 11	0	15.45	40.01	-0.7243	-0.0003	0
31	SLU 12	0.01	15.3	39.94	-0.717	0.0002	0
31	SLU 13	0.01	15.18	39.83	-0.7111	0.0005	0
31	SLU 14	0	15.84	40.82	-0.7438	-0.0003	0
31	SLU 15	0.01	15.7	40.74	-0.7365	0.0002	0
31	SLU 16	0	15.81	40.76	-0.7428	-0.0002	0
31	SLU 17	0.01	15.67	40.68	-0.7354	0.0002	0
31	SLU 18	0	16.01	41.31	-0.7494	-0.0004	0
31	SLU 19	0.01	15.87	41.24	-0.7421	0	0
31	SLU 20	0	16.41	42.12	-0.7689	-0.0004	0
31	SLU 21	0.01	16.27	42.04	-0.7616	0.0001	0
31	SLU 22	0	14.01	36.88	-0.6572	-0.0004	0
31	SLU 23	0.01	13.77	36.75	-0.645	0.0004	0
31	SLU 24	0	14.43	37.74	-0.6777	-0.0003	0
31	SLU 25	0.01	14.29	37.67	-0.6704	0.0002	0
31	SLU 26	0.01	14.16	37.56	-0.6645	0.0005	0
31	SLU 27	0	14.83	38.55	-0.6972	-0.0002	0
31	SLU 28	0.01	14.69	38.47	-0.6899	0.0002	0
31	SLU 29	0	14.8	38.49	-0.6961	-0.0002	0
31	SLU 30	0.01	14.66	38.41	-0.6888	0.0002	0
31	SLU 31	0.01	16.09	41.8	-0.7515	0.0003	0
31	SLU 32	0	16.75	42.79	-0.7842	-0.0005	0
31	SLU 33	0.01	16.61	42.71	-0.7769	0	0
31	SLU 34	0.01	16.49	42.6	-0.771	0.0004	0
31	SLU 35	0	17.15	43.59	-0.8037	-0.0004	0
31	SLU 36	0.01	17.01	43.51	-0.7964	0.0001	0
31	SLU 37	0	17.12	43.53	-0.8026	-0.0004	0
31	SLU 38	0.01	16.98	43.46	-0.7953	0.0001	0
31	SLU 39	0	17.32	44.09	-0.8093	-0.0006	0
31	SLU 40	0.01	17.18	44.01	-0.802	-0.0001	0
31	SLU 41	0	17.72	44.89	-0.8288	-0.0005	0
31	SLU 42	0.01	17.58	44.81	-0.8215	0	0
31	SLU 43	0	16.06	43.39	-0.756	-0.0003	0
31	SLU 44	0.01	15.82	43.26	-0.7438	0.0005	0
31	SLU 45	0	16.48	44.25	-0.7765	-0.0002	0
31	SLU 46	0.01	16.34	44.17	-0.7692	0.0002	0
31	SLU 47	0.01	16.22	44.06	-0.7633	0.0006	0
31	SLU 48	0	16.88	45.05	-0.796	-0.0002	0
31	SLU 49	0.01	16.74	44.98	-0.7887	0.0003	0
31	SLU 50	0	16.85	44.99	-0.7949	-0.0001	0
31	SLU 51	0.01	16.71	44.92	-0.7876	0.0003	0
31	SLU 52	0.01	18.14	48.3	-0.8503	0.0004	0
31	SLU 53	0	18.81	49.29	-0.883	-0.0004	0
31	SLU 54	0.01	18.66	49.22	-0.8757	0.0001	0
31	SLU 55	0.01	18.54	49.11	-0.8698	0.0004	0
31	SLU 56	0	19.2	50.1	-0.9025	-0.0003	0
31	SLU 57	0.01	19.06	50.02	-0.8952	0.0002	0
31	SLU 58	0	19.17	50.04	-0.9014	-0.0003	0
31	SLU 59	0.01	19.03	49.96	-0.8941	0.0002	0
31	SLU 60	0	19.37	50.59	-0.9081	-0.0005	0
31	SLU 61	0.01	19.23	50.52	-0.9008	0	0
31	SLU 62	0	19.77	51.4	-0.9276	-0.0004	0
31	SLU 63	0.01	19.63	51.32	-0.9203	0.0001	0
31	SLU 64	0	17.37	46.16	-0.8158	-0.0004	0
31	SLU 65	0.01	17.13	46.03	-0.8036	0.0004	0
31	SLU 66	0	17.79	47.02	-0.8364	-0.0004	0
31	SLU 67	0.01	17.65	46.95	-0.8291	0.0001	0
31	SLU 68	0.01	17.52	46.84	-0.8231	0.0005	0
31	SLU 69	0	18.19	47.83	-0.8558	-0.0003	0
31	SLU 70	0.01	18.05	47.75	-0.8485	0.0002	0
31	SLU 71	0	18.16	47.77	-0.8548	-0.0003	0
31	SLU 72	0.01	18.02	47.69	-0.8475	0.0002	0
31	SLU 73	0.01	19.45	51.08	-0.9101	0.0002	0
31	SLU 74	0	20.11	52.07	-0.9429	-0.0005	0
31	SLU 75	0.01	19.97	51.99	-0.9356	0	0
31	SLU 76	0.01	19.85	51.88	-0.9296	0.0003	0
31	SLU 77	0	20.51	52.87	-0.9623	-0.0004	0
31	SLU 78	0.01	20.37	52.8	-0.955	0.0001	0
31	SLU 79	0	20.48	52.81	-0.9613	-0.0004	0
31	SLU 80	0.01	20.34	52.74	-0.954	0.0001	0
31	SLU 81	0	20.68	53.37	-0.968	-0.0006	0
31	SLU 82	0.01	20.54	53.29	-0.9607	-0.0001	0
31	SLU 83	0	21.08	54.17	-0.9874	-0.0005	0
31	SLU 84	0.01	20.94	54.09	-0.9801	-0.0001	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
31	SLE RA 1		0	13.07	34.9	-0.6144	-0.0003	0
31	SLE RA 2		0.01	12.91	34.81	-0.6063	0.0002	0
31	SLE RA 3		0	13.36	35.47	-0.6281	-0.0003	0
31	SLE RA 4		0	13.26	35.42	-0.6232	0.0001	0
31	SLE RA 5		0.01	13.18	35.35	-0.6193	0.0003	0
31	SLE RA 6		0	13.62	36.01	-0.6411	-0.0002	0
31	SLE RA 7		0	13.52	35.96	-0.6362	0.0001	0
31	SLE RA 8		0	13.6	35.97	-0.6404	-0.0002	0
31	SLE RA 9		0	13.5	35.92	-0.6355	0.0001	0
31	SLE RA 10		0.01	14.46	38.18	-0.6773	0.0001	0
31	SLE RA 11		0	14.9	38.84	-0.6991	-0.0003	0
31	SLE RA 12		0	14.81	38.79	-0.6942	0	0
31	SLE RA 13		0.01	14.72	38.71	-0.6903	0.0002	0
31	SLE RA 14		0	15.17	39.37	-0.7121	-0.0003	0
31	SLE RA 15		0	15.07	39.32	-0.7072	0	0
31	SLE RA 16		0	15.15	39.33	-0.7114	-0.0003	0
31	SLE RA 17		0	15.05	39.28	-0.7065	0	0
31	SLE RA 18		0	15.28	39.7	-0.7158	-0.0004	0
31	SLE RA 19		0	15.19	39.65	-0.711	-0.0001	0
31	SLE RA 20		0	15.55	40.24	-0.7288	-0.0004	0
31	SLE RA 21		0	15.45	40.19	-0.7239	-0.0001	0
31	SLE FR 1		0	13.07	34.9	-0.6144	-0.0003	0
31	SLE FR 2		0	13.04	34.88	-0.6128	-0.0002	0
31	SLE FR 3		0	13.18	35.11	-0.6196	-0.0003	0
31	SLE FR 4		0	13.7	36.32	-0.6432	-0.0002	0
31	SLE FR 5		0	13.84	36.55	-0.65	-0.0003	0
31	SLE FR 6		0	14.18	37.3	-0.6651	-0.0004	0
31	SLE QP 1		0	13.07	34.9	-0.6144	-0.0003	0
31	SLE QP 2		0	13.73	36.34	-0.6448	-0.0003	0
31	SLD 1		-0.01	19.39	45.74	-0.915	-0.0022	0
31	SLD 2		-0.01	19.39	45.74	-0.915	-0.0022	0
31	SLD 3		-0.02	15.2	40.16	-0.7126	-0.007	0
31	SLD 4		-0.02	15.2	40.16	-0.7126	-0.007	0
31	SLD 5		0.02	21.8	47.62	-1.0328	0.0064	-0.0001
31	SLD 6		0.02	21.8	47.62	-1.0328	0.0064	-0.0001
31	SLD 7		-0.02	7.81	29.02	-0.3583	-0.0097	0
31	SLD 8		-0.02	7.81	29.02	-0.3583	-0.0097	0
31	SLD 9		0.03	19.66	43.66	-0.9314	0.009	0
31	SLD 10		0.03	19.66	43.66	-0.9314	0.009	0
31	SLD 11		-0.01	5.67	25.06	-0.2569	-0.0071	0
31	SLD 12		-0.01	5.67	25.06	-0.2569	-0.0071	0
31	SLD 13		0.02	12.27	32.52	-0.577	0.0064	0
31	SLD 14		0.02	12.27	32.52	-0.577	0.0064	0
31	SLD 15		0.01	8.07	26.94	-0.3747	0.0015	0
31	SLD 16		0.01	8.07	26.94	-0.3747	0.0015	0
31	SLV 1		-0.02	27.03	58.45	-1.2794	-0.005	-0.0001
31	SLV 2		-0.02	27.03	58.45	-1.2794	-0.005	-0.0001
31	SLV 3		-0.05	17.14	45.23	-0.8026	-0.0164	-0.0001
31	SLV 4		-0.05	17.14	45.23	-0.8026	-0.0164	-0.0001
31	SLV 5		0.04	32.72	63.02	-1.5582	0.0154	-0.0001
31	SLV 6		0.04	32.72	63.02	-1.5582	0.0154	-0.0001
31	SLV 7		-0.05	-0.24	18.95	0.0309	-0.0223	0
31	SLV 8		-0.05	-0.24	18.95	0.0309	-0.0223	0
31	SLV 9		0.06	27.71	53.72	-1.3205	0.0216	-0.0001
31	SLV 10		0.06	27.71	53.72	-1.3205	0.0216	-0.0001
31	SLV 11		-0.03	-5.25	9.65	0.2686	-0.0161	0.0001
31	SLV 12		-0.03	-5.25	9.65	0.2686	-0.0161	0.0001
31	SLV 13		0.05	10.33	27.45	-0.487	0.0157	0
31	SLV 14		0.05	10.33	27.45	-0.487	0.0157	0
31	SLV 15		0.03	0.44	14.23	-0.0103	0.0044	0.0001
31	SLV 16		0.03	0.44	14.23	-0.0103	0.0044	0.0001
32	SLU 1		-0.01	12.4	32.73	-0.5923	-0.002	0
32	SLU 2		-0.01	12.06	32.47	-0.5758	-0.0029	0
32	SLU 3		-0.01	13.29	34.26	-0.6348	-0.0022	0
32	SLU 4		-0.01	13.09	34.1	-0.6249	-0.0027	0
32	SLU 5		-0.01	13	34.07	-0.621	-0.0031	0
32	SLU 6		-0.01	14.23	35.86	-0.68	-0.0024	0
32	SLU 7		-0.01	14.03	35.71	-0.6701	-0.0029	0
32	SLU 8		-0.01	14.28	35.95	-0.6827	-0.0024	0
32	SLU 9		-0.01	14.08	35.79	-0.6728	-0.0029	0
32	SLU 10		-0.01	13.98	37.02	-0.6663	-0.0029	0
32	SLU 11		-0.01	15.21	38.81	-0.7253	-0.0022	0
32	SLU 12		-0.01	15.01	38.65	-0.7154	-0.0027	0
32	SLU 13		-0.01	14.92	38.63	-0.7115	-0.0031	0
32	SLU 14		-0.01	16.15	40.42	-0.7705	-0.0024	0
32	SLU 15		-0.01	15.95	40.26	-0.7606	-0.0029	0
32	SLU 16		-0.01	16.2	40.5	-0.7732	-0.0024	0
32	SLU 17		-0.01	16	40.34	-0.7634	-0.0029	0
32	SLU 18		-0.01	15.14	39.24	-0.7216	-0.0021	0
32	SLU 19		-0.01	14.94	39.08	-0.7117	-0.0026	0
32	SLU 20		-0.01	16.08	40.84	-0.7668	-0.0022	0
32	SLU 21		-0.01	15.88	40.68	-0.7569	-0.0028	0
32	SLU 22		-0.01	13.88	35.65	-0.661	-0.0022	0
32	SLU 23		-0.01	13.54	35.39	-0.6445	-0.003	0
32	SLU 24		-0.01	14.77	37.18	-0.7035	-0.0023	0
32	SLU 25		-0.01	14.56	37.02	-0.6936	-0.0028	0
32	SLU 26		-0.01	14.48	37	-0.6897	-0.0032	0
32	SLU 27		-0.01	15.71	38.79	-0.7487	-0.0025	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
32	SLU 28			-0.01	15.5	38.63	-0.7388	-0.003	0
32	SLU 29			-0.01	15.76	38.87	-0.7514	-0.0025	0
32	SLU 30			-0.01	15.55	38.71	-0.7415	-0.003	0
32	SLU 31			-0.01	15.46	39.94	-0.735	-0.003	0
32	SLU 32			-0.01	16.69	41.73	-0.794	-0.0024	0
32	SLU 33			-0.01	16.48	41.57	-0.7841	-0.0029	0
32	SLU 34			-0.01	16.4	41.55	-0.7802	-0.0032	0
32	SLU 35			-0.01	17.63	43.34	-0.8392	-0.0025	0
32	SLU 36			-0.01	17.42	43.18	-0.8293	-0.003	0
32	SLU 37			-0.01	17.68	43.42	-0.8419	-0.0025	0
32	SLU 38			-0.01	17.47	43.26	-0.832	-0.003	0
32	SLU 39			-0.01	16.62	42.16	-0.7903	-0.0022	0
32	SLU 40			-0.01	16.42	42	-0.7804	-0.0027	0
32	SLU 41			-0.01	17.56	43.77	-0.8355	-0.0024	0
32	SLU 42			-0.01	17.36	43.61	-0.8256	-0.0029	0
32	SLU 43			-0.01	15.61	41.55	-0.7465	-0.0026	0
32	SLU 44			-0.01	15.27	41.28	-0.73	-0.0034	0
32	SLU 45			-0.01	16.5	43.07	-0.7889	-0.0028	0
32	SLU 46			-0.01	16.3	42.91	-0.779	-0.0033	0
32	SLU 47			-0.01	16.21	42.89	-0.7752	-0.0036	0
32	SLU 48			-0.01	17.44	44.68	-0.8341	-0.0029	0
32	SLU 49			-0.01	17.24	44.52	-0.8243	-0.0034	0
32	SLU 50			-0.01	17.49	44.76	-0.8369	-0.0029	0
32	SLU 51			-0.01	17.29	44.61	-0.827	-0.0034	0
32	SLU 52			-0.01	17.19	45.84	-0.8205	-0.0035	0
32	SLU 53			-0.01	18.42	47.63	-0.8794	-0.0028	0
32	SLU 54			-0.01	18.22	47.47	-0.8696	-0.0033	0
32	SLU 55			-0.01	18.13	47.44	-0.8657	-0.0036	0
32	SLU 56			-0.01	19.36	49.23	-0.9247	-0.003	0
32	SLU 57			-0.01	19.16	49.08	-0.9148	-0.0035	0
32	SLU 58			-0.01	19.41	49.32	-0.9274	-0.003	0
32	SLU 59			-0.01	19.21	49.16	-0.9175	-0.0035	0
32	SLU 60			-0.01	18.36	48.05	-0.8758	-0.0026	0
32	SLU 61			-0.01	18.15	47.89	-0.8659	-0.0032	0
32	SLU 62			-0.01	19.3	49.66	-0.921	-0.0028	0
32	SLU 63			-0.01	19.09	49.5	-0.9111	-0.0033	0
32	SLU 64			-0.01	17.09	44.47	-0.8151	-0.0027	0
32	SLU 65			-0.01	16.75	44.21	-0.7986	-0.0036	0
32	SLU 66			-0.01	17.98	46	-0.8576	-0.0029	0
32	SLU 67			-0.01	17.78	45.84	-0.8477	-0.0034	0
32	SLU 68			-0.01	17.69	45.82	-0.8439	-0.0037	0
32	SLU 69			-0.01	18.92	47.6	-0.9028	-0.0031	0
32	SLU 70			-0.01	18.72	47.45	-0.8929	-0.0036	0
32	SLU 71			-0.01	18.97	47.69	-0.9056	-0.0031	0
32	SLU 72			-0.01	18.77	47.53	-0.8957	-0.0036	0
32	SLU 73			-0.01	18.67	48.76	-0.8892	-0.0036	0
32	SLU 74			-0.01	19.9	50.55	-0.9481	-0.0029	0
32	SLU 75			-0.01	19.7	50.39	-0.9382	-0.0034	0
32	SLU 76			-0.01	19.61	50.37	-0.9344	-0.0038	0
32	SLU 77			-0.01	20.84	52.16	-0.9933	-0.0031	0
32	SLU 78			-0.01	20.64	52	-0.9834	-0.0036	0
32	SLU 79			-0.01	20.89	52.24	-0.9961	-0.0031	0
32	SLU 80			-0.01	20.69	52.08	-0.9862	-0.0036	0
32	SLU 81			-0.01	19.83	50.98	-0.9444	-0.0028	0
32	SLU 82			-0.01	19.63	50.82	-0.9345	-0.0033	0
32	SLU 83			-0.01	20.77	52.58	-0.9896	-0.0029	0
32	SLU 84			-0.01	20.57	52.43	-0.9798	-0.0035	0
32	SLE RA 1			-0.01	12.82	33.57	-0.6119	-0.0021	0
32	SLE RA 2			-0.01	12.59	33.39	-0.6009	-0.0026	0
32	SLE RA 3			-0.01	13.41	34.58	-0.6402	-0.0022	0
32	SLE RA 4			-0.01	13.28	34.48	-0.6337	-0.0025	0
32	SLE RA 5			-0.01	13.22	34.46	-0.6311	-0.0028	0
32	SLE RA 6			-0.01	14.04	35.66	-0.6704	-0.0023	0
32	SLE RA 7			-0.01	13.9	35.55	-0.6638	-0.0026	0
32	SLE RA 8			-0.01	14.07	35.71	-0.6722	-0.0023	0
32	SLE RA 9			-0.01	13.94	35.6	-0.6656	-0.0026	0
32	SLE RA 10			-0.01	13.88	36.43	-0.6613	-0.0027	0
32	SLE RA 11			-0.01	14.7	37.62	-0.7006	-0.0022	0
32	SLE RA 12			-0.01	14.56	37.51	-0.694	-0.0025	0
32	SLE RA 13			-0.01	14.5	37.5	-0.6914	-0.0028	0
32	SLE RA 14			-0.01	15.32	38.69	-0.7307	-0.0023	0
32	SLE RA 15			-0.01	15.19	38.58	-0.7241	-0.0027	0
32	SLE RA 16			-0.01	15.36	38.75	-0.7326	-0.0023	0
32	SLE RA 17			-0.01	15.22	38.64	-0.726	-0.0027	0
32	SLE RA 18			-0.01	14.65	37.9	-0.6981	-0.0021	0
32	SLE RA 19			-0.01	14.52	37.8	-0.6915	-0.0024	0
32	SLE RA 20			-0.01	15.28	38.97	-0.7283	-0.0022	0
32	SLE RA 21			-0.01	15.14	38.87	-0.7217	-0.0026	0
32	SLE FR 1			-0.01	12.82	33.57	-0.6119	-0.0021	0
32	SLE FR 2			-0.01	12.78	33.53	-0.6097	-0.0022	0
32	SLE FR 3			-0.01	13.07	34	-0.624	-0.0021	0
32	SLE FR 4			-0.01	13.32	34.83	-0.6356	-0.0022	0
32	SLE FR 5			-0.01	13.62	35.3	-0.6498	-0.0021	0
32	SLE FR 6			-0.01	13.74	35.73	-0.655	-0.0021	0
32	SLE QP 1			-0.01	12.82	33.57	-0.6119	-0.0021	0
32	SLE QP 2			-0.01	13.37	34.87	-0.6378	-0.0021	0
32	SLD 1			-0.03	18.44	43.35	-0.8796	-0.0108	0
32	SLD 2			-0.03	18.44	43.35	-0.8796	-0.0108	0





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
32	SLD 3	-0.02	14.31	37.88	-0.6813	-0.0054	0
32	SLD 4	-0.02	14.31	37.88	-0.6813	-0.0054	0
32	SLD 5	-0.03	21.17	45.71	-1.0112	-0.0128	0
32	SLD 6	-0.03	21.17	45.71	-1.0112	-0.0128	0
32	SLD 7	0.01	7.38	27.47	-0.35	0.005	0
32	SLD 8	0.01	7.38	27.47	-0.35	0.005	0
32	SLD 9	-0.02	19.36	42.26	-0.9256	-0.0092	0
32	SLD 10	-0.02	19.36	42.26	-0.9256	-0.0092	0
32	SLD 11	0.02	5.57	24.02	-0.2644	0.0086	0.0001
32	SLD 12	0.02	5.57	24.02	-0.2644	0.0086	0.0001
32	SLD 13	0	12.43	31.86	-0.5943	0.0013	0
32	SLD 14	0	12.43	31.86	-0.5943	0.0013	0
32	SLD 15	0.01	8.29	26.38	-0.396	0.0066	0.0001
32	SLD 16	0.01	8.29	26.38	-0.396	0.0066	0.0001
32	SLV 1	-0.05	25.3	54.82	-1.2061	-0.0232	-0.0001
32	SLV 2	-0.05	25.3	54.82	-1.2061	-0.0232	-0.0001
32	SLV 3	-0.03	15.58	41.9	-0.74	-0.0107	-0.0001
32	SLV 4	-0.03	15.58	41.9	-0.74	-0.0107	-0.0001
32	SLV 5	-0.06	31.68	60.44	-1.5152	-0.0274	-0.0001
32	SLV 6	-0.06	31.68	60.44	-1.5152	-0.0274	-0.0001
32	SLV 7	0.02	-0.7	17.39	0.0384	0.0143	0.0001
32	SLV 8	0.02	-0.7	17.39	0.0384	0.0143	0.0001
32	SLV 9	-0.04	27.44	52.34	-1.314	-0.0185	0
32	SLV 10	-0.04	27.44	52.34	-1.314	-0.0185	0
32	SLV 11	0.04	-4.94	9.3	0.2396	0.0233	0.0001
32	SLV 12	0.04	-4.94	9.3	0.2396	0.0233	0.0001
32	SLV 13	0.01	11.16	27.83	-0.5356	0.0066	0.0001
32	SLV 14	0.01	11.16	27.83	-0.5356	0.0066	0.0001
32	SLV 15	0.04	1.44	14.92	-0.0695	0.0191	0.0001
32	SLV 16	0.04	1.44	14.92	-0.0695	0.0191	0.0001
33	SLU 1	-0.06	6.54	30.12	-0.6286	-0.0161	-0.0006
33	SLU 2	-0.05	5.65	28.68	-0.5724	-0.0161	-0.0006
33	SLU 3	-0.06	6.66	30.39	-0.6396	-0.0162	-0.0006
33	SLU 4	-0.06	6.13	29.53	-0.6058	-0.0163	-0.0006
33	SLU 5	-0.06	5.72	28.84	-0.5799	-0.0163	-0.0006
33	SLU 6	-0.06	6.74	30.55	-0.6471	-0.0164	-0.0006
33	SLU 7	-0.06	6.2	29.69	-0.6134	-0.0164	-0.0006
33	SLU 8	-0.06	6.69	30.44	-0.6437	-0.0164	-0.0006
33	SLU 9	-0.06	6.16	29.57	-0.61	-0.0164	-0.0006
33	SLU 10	-0.06	6.52	30.76	-0.639	-0.0173	-0.0006
33	SLU 11	-0.06	7.54	32.47	-0.7062	-0.0174	-0.0007
33	SLU 12	-0.06	7	31.61	-0.6724	-0.0174	-0.0007
33	SLU 13	-0.06	6.6	30.92	-0.6465	-0.0174	-0.0006
33	SLU 14	-0.06	7.61	32.63	-0.7137	-0.0175	-0.0007
33	SLU 15	-0.06	7.08	31.77	-0.68	-0.0175	-0.0007
33	SLU 16	-0.06	7.57	32.52	-0.7103	-0.0175	-0.0007
33	SLU 17	-0.06	7.03	31.66	-0.6766	-0.0175	-0.0007
33	SLU 18	-0.06	7.79	33.09	-0.7238	-0.0177	-0.0007
33	SLU 19	-0.06	7.25	32.23	-0.69	-0.0177	-0.0007
33	SLU 20	-0.06	7.87	33.25	-0.7313	-0.0178	-0.0007
33	SLU 21	-0.06	7.33	32.39	-0.6976	-0.0179	-0.0007
33	SLU 22	-0.06	7.21	31.7	-0.679	-0.0167	-0.0006
33	SLU 23	-0.06	6.32	30.26	-0.6228	-0.0168	-0.0006
33	SLU 24	-0.06	7.33	31.97	-0.69	-0.0169	-0.0006
33	SLU 25	-0.06	6.8	31.11	-0.6562	-0.0169	-0.0006
33	SLU 26	-0.06	6.4	30.42	-0.6303	-0.0169	-0.0006
33	SLU 27	-0.06	7.41	32.13	-0.6975	-0.017	-0.0006
33	SLU 28	-0.06	6.87	31.27	-0.6638	-0.0171	-0.0006
33	SLU 29	-0.06	7.37	32.02	-0.6941	-0.017	-0.0006
33	SLU 30	-0.06	6.83	31.15	-0.6604	-0.0171	-0.0006
33	SLU 31	-0.06	7.19	32.34	-0.6894	-0.0179	-0.0007
33	SLU 32	-0.06	8.21	34.05	-0.7566	-0.018	-0.0007
33	SLU 33	-0.06	7.67	33.19	-0.7228	-0.018	-0.0007
33	SLU 34	-0.06	7.27	32.5	-0.6969	-0.018	-0.0007
33	SLU 35	-0.06	8.28	34.21	-0.7641	-0.0181	-0.0007
33	SLU 36	-0.06	7.75	33.35	-0.7304	-0.0182	-0.0007
33	SLU 37	-0.06	8.24	34.1	-0.7607	-0.0181	-0.0007
33	SLU 38	-0.06	7.7	33.24	-0.727	-0.0182	-0.0007
33	SLU 39	-0.07	8.46	34.67	-0.7742	-0.0183	-0.0007
33	SLU 40	-0.06	7.93	33.81	-0.7404	-0.0183	-0.0007
33	SLU 41	-0.07	8.54	34.83	-0.7817	-0.0185	-0.0007
33	SLU 42	-0.06	8	33.97	-0.748	-0.0185	-0.0007
33	SLU 43	-0.07	8.28	38.61	-0.7999	-0.0207	-0.0007
33	SLU 44	-0.07	7.38	37.17	-0.7437	-0.0207	-0.0007
33	SLU 45	-0.08	8.4	38.88	-0.8109	-0.0208	-0.0007
33	SLU 46	-0.07	7.86	38.02	-0.7771	-0.0209	-0.0007
33	SLU 47	-0.07	7.46	37.33	-0.7512	-0.0209	-0.0007
33	SLU 48	-0.08	8.47	39.04	-0.8184	-0.021	-0.0007
33	SLU 49	-0.07	7.93	38.18	-0.7847	-0.021	-0.0007
33	SLU 50	-0.08	8.43	38.93	-0.815	-0.021	-0.0007
33	SLU 51	-0.07	7.89	38.07	-0.7813	-0.021	-0.0007
33	SLU 52	-0.07	8.26	39.25	-0.8103	-0.0219	-0.0008
33	SLU 53	-0.08	9.27	40.97	-0.8775	-0.022	-0.0008
33	SLU 54	-0.08	8.73	40.1	-0.8437	-0.022	-0.0008
33	SLU 55	-0.08	8.33	39.41	-0.8178	-0.022	-0.0008
33	SLU 56	-0.08	9.34	41.13	-0.885	-0.0221	-0.0008
33	SLU 57	-0.08	8.81	40.26	-0.8513	-0.0221	-0.0008
33	SLU 58	-0.08	9.3	41.02	-0.8816	-0.0221	-0.0008



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
33	SLU 59	-0.08	8.76	40.15	-0.8479	-0.0221	-0.0008	
33	SLU 60	-0.08	9.52	41.59	-0.8951	-0.0223	-0.0008	
33	SLU 61	-0.08	8.99	40.72	-0.8613	-0.0223	-0.0008	
33	SLU 62	-0.08	9.6	41.75	-0.9026	-0.0224	-0.0008	
33	SLU 63	-0.08	9.06	40.88	-0.8689	-0.0225	-0.0008	
33	SLU 64	-0.08	8.95	40.19	-0.8503	-0.0213	-0.0008	
33	SLU 65	-0.07	8.05	38.75	-0.7941	-0.0214	-0.0008	
33	SLU 66	-0.08	9.07	40.46	-0.8613	-0.0215	-0.0008	
33	SLU 67	-0.08	8.53	39.6	-0.8275	-0.0215	-0.0008	
33	SLU 68	-0.07	8.13	38.91	-0.8016	-0.0215	-0.0008	
33	SLU 69	-0.08	9.14	40.62	-0.8688	-0.0216	-0.0008	
33	SLU 70	-0.08	8.61	39.76	-0.8351	-0.0217	-0.0008	
33	SLU 71	-0.08	9.1	40.51	-0.8654	-0.0216	-0.0008	
33	SLU 72	-0.08	8.56	39.65	-0.8317	-0.0217	-0.0008	
33	SLU 73	-0.08	8.93	40.83	-0.8607	-0.0225	-0.0008	
33	SLU 74	-0.08	9.94	42.55	-0.9279	-0.0226	-0.0009	
33	SLU 75	-0.08	9.4	41.68	-0.8941	-0.0226	-0.0009	
33	SLU 76	-0.08	9	40.99	-0.8682	-0.0226	-0.0009	
33	SLU 77	-0.08	10.02	42.71	-0.9354	-0.0228	-0.0009	
33	SLU 78	-0.08	9.48	41.84	-0.9017	-0.0228	-0.0009	
33	SLU 79	-0.08	9.97	42.59	-0.932	-0.0228	-0.0009	
33	SLU 80	-0.08	9.43	41.73	-0.8983	-0.0228	-0.0009	
33	SLU 81	-0.08	10.19	43.17	-0.9455	-0.0229	-0.0009	
33	SLU 82	-0.08	9.66	42.3	-0.9117	-0.023	-0.0009	
33	SLU 83	-0.08	10.27	43.33	-0.953	-0.0231	-0.0009	
33	SLU 84	-0.08	9.73	42.46	-0.9193	-0.0231	-0.0009	
33	SLE RA 1	-0.06	6.74	30.57	-0.643	-0.0163	-0.0006	
33	SLE RA 2	-0.06	6.14	29.61	-0.6055	-0.0163	-0.0006	
33	SLE RA 3	-0.06	6.81	30.75	-0.6503	-0.0164	-0.0006	
33	SLE RA 4	-0.06	6.46	30.17	-0.6278	-0.0164	-0.0006	
33	SLE RA 5	-0.06	6.19	29.72	-0.6106	-0.0164	-0.0006	
33	SLE RA 6	-0.06	6.87	30.86	-0.6554	-0.0165	-0.0006	
33	SLE RA 7	-0.06	6.51	30.28	-0.6329	-0.0165	-0.0006	
33	SLE RA 8	-0.06	6.84	30.78	-0.6531	-0.0165	-0.0006	
33	SLE RA 9	-0.06	6.48	30.21	-0.6306	-0.0165	-0.0006	
33	SLE RA 10	-0.06	6.72	31	-0.6499	-0.017	-0.0006	
33	SLE RA 11	-0.06	7.4	32.14	-0.6947	-0.0171	-0.0006	
33	SLE RA 12	-0.06	7.04	31.56	-0.6722	-0.0171	-0.0006	
33	SLE RA 13	-0.06	6.77	31.1	-0.655	-0.0171	-0.0006	
33	SLE RA 14	-0.06	7.45	32.25	-0.6998	-0.0172	-0.0006	
33	SLE RA 15	-0.06	7.09	31.67	-0.6773	-0.0172	-0.0006	
33	SLE RA 16	-0.06	7.42	32.17	-0.6975	-0.0172	-0.0006	
33	SLE RA 17	-0.06	7.06	31.6	-0.675	-0.0172	-0.0006	
33	SLE RA 18	-0.06	7.57	32.55	-0.7065	-0.0173	-0.0007	
33	SLE RA 19	-0.06	7.21	31.98	-0.684	-0.0174	-0.0007	
33	SLE RA 20	-0.06	7.62	32.66	-0.7115	-0.0174	-0.0007	
33	SLE RA 21	-0.06	7.26	32.08	-0.689	-0.0175	-0.0007	
33	SLE FR 1	-0.06	6.74	30.57	-0.643	-0.0163	-0.0006	
33	SLE FR 2	-0.06	6.62	30.38	-0.6355	-0.0163	-0.0006	
33	SLE FR 3	-0.06	6.76	30.61	-0.645	-0.0163	-0.0006	
33	SLE FR 4	-0.06	6.87	30.97	-0.6546	-0.0166	-0.0006	
33	SLE FR 5	-0.06	7	31.21	-0.6641	-0.0166	-0.0006	
33	SLE FR 6	-0.06	7.15	31.56	-0.6747	-0.0168	-0.0006	
33	SLE QP 1	-0.06	6.74	30.57	-0.643	-0.0163	-0.0006	
33	SLE QP 2	-0.06	6.98	31.16	-0.6621	-0.0166	-0.0006	
33	SLD 1	-0.04	7.54	26.86	-0.6486	-0.0108	-0.0005	
33	SLD 2	-0.04	7.54	26.86	-0.6486	-0.0108	-0.0005	
33	SLD 3	0	4.4	21.24	-0.4389	0.0009	-0.0005	
33	SLD 4	0	4.4	21.24	-0.4389	0.0009	-0.0005	
33	SLD 5	-0.11	11.92	38.38	-0.9761	-0.0327	-0.0007	
33	SLD 6	-0.11	11.92	38.38	-0.9761	-0.0327	-0.0007	
33	SLD 7	0.01	1.44	19.67	-0.2771	0.0065	-0.0005	
33	SLD 8	0.01	1.44	19.67	-0.2771	0.0065	-0.0005	
33	SLD 9	-0.13	12.53	42.65	-1.047	-0.0396	-0.0007	
33	SLD 10	-0.13	12.53	42.65	-1.047	-0.0396	-0.0007	
33	SLD 11	-0.01	2.05	23.94	-0.348	-0.0005	-0.0006	
33	SLD 12	-0.01	2.05	23.94	-0.348	-0.0005	-0.0006	
33	SLD 13	-0.11	9.57	41.08	-0.8852	-0.0341	-0.0007	
33	SLD 14	-0.11	9.57	41.08	-0.8852	-0.0341	-0.0007	
33	SLD 15	-0.08	6.43	35.47	-0.6755	-0.0223	-0.0007	
33	SLD 16	-0.08	6.43	35.47	-0.6755	-0.0223	-0.0007	
33	SLV 1	-0.01	8.38	21.43	-0.6412	-0.0035	-0.0004	
33	SLV 2	-0.01	8.38	21.43	-0.6412	-0.0035	-0.0004	
33	SLV 3	0.07	0.72	7.56	-0.1249	0.0247	-0.0003	
33	SLV 4	0.07	0.72	7.56	-0.1249	0.0247	-0.0003	
33	SLV 5	-0.17	19.01	49.28	-1.4389	-0.0553	-0.0007	
33	SLV 6	-0.17	19.01	49.28	-1.4389	-0.0553	-0.0007	
33	SLV 7	0.11	-6.51	3.05	0.2822	0.0385	-0.0003	
33	SLV 8	0.11	-6.51	3.05	0.2822	0.0385	-0.0003	
33	SLV 9	-0.22	20.48	59.28	-1.6063	-0.0716	-0.0009	
33	SLV 10	-0.22	20.48	59.28	-1.6063	-0.0716	-0.0009	
33	SLV 11	0.05	-5.04	13.04	0.1148	0.0222	-0.0005	
33	SLV 12	0.05	-5.04	13.04	0.1148	0.0222	-0.0005	
33	SLV 13	-0.19	13.25	54.76	-1.1992	-0.0578	-0.0009	
33	SLV 14	-0.19	13.25	54.76	-1.1992	-0.0578	-0.0009	
33	SLV 15	-0.11	5.59	40.89	-0.6829	-0.0297	-0.0008	
33	SLV 16	-0.11	5.59	40.89	-0.6829	-0.0297	-0.0008	
34	SLU 1	0.01	0.43	26.55	0.047	0.001	0.0001	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
34	SLU 2	0.01	-0.26	26.93	0.0925	0.0033	0.0001
34	SLU 3	0	0.42	26.69	0.0491	0.0009	0.0001
34	SLU 4	0.01	0.01	26.92	0.0765	0.0023	0.0001
34	SLU 5	0.01	-0.29	26.84	0.0951	0.0033	0.0001
34	SLU 6	0	0.4	26.6	0.0517	0.0009	0.0001
34	SLU 7	0.01	-0.02	26.83	0.079	0.0023	0.0001
34	SLU 8	0	0.38	26.37	0.0521	0.0009	0.0001
34	SLU 9	0.01	-0.04	26.6	0.0794	0.0023	0.0001
34	SLU 10	0.01	0	30	0.0919	0.0037	0.0001
34	SLU 11	0.01	0.69	29.76	0.0485	0.0013	0.0001
34	SLU 12	0.01	0.27	29.99	0.0758	0.0027	0.0001
34	SLU 13	0.01	-0.03	29.91	0.0944	0.0036	0.0001
34	SLU 14	0.01	0.66	29.67	0.051	0.0012	0.0001
34	SLU 15	0.01	0.24	29.9	0.0784	0.0026	0.0001
34	SLU 16	0.01	0.64	29.44	0.0514	0.0013	0.0001
34	SLU 17	0.01	0.22	29.67	0.0788	0.0026	0.0001
34	SLU 18	0.01	0.81	30.94	0.046	0.0015	0.0001
34	SLU 19	0.01	0.39	31.16	0.0734	0.0029	0.0001
34	SLU 20	0.01	0.78	30.85	0.0486	0.0015	0.0001
34	SLU 21	0.01	0.36	31.07	0.0759	0.0028	0.0001
34	SLU 22	0.01	0.62	28.87	0.0474	0.0012	0.0001
34	SLU 23	0.01	-0.07	29.24	0.093	0.0035	0.0001
34	SLU 24	0.01	0.62	29.01	0.0496	0.0011	0.0001
34	SLU 25	0.01	0.2	29.23	0.0769	0.0025	0.0001
34	SLU 26	0.01	-0.1	29.15	0.0956	0.0035	0.0001
34	SLU 27	0.01	0.59	28.92	0.0521	0.0011	0.0001
34	SLU 28	0.01	0.17	29.14	0.0795	0.0025	0.0001
34	SLU 29	0.01	0.57	28.69	0.0525	0.0011	0.0001
34	SLU 30	0.01	0.15	28.91	0.0799	0.0025	0.0001
34	SLU 31	0.01	0.19	32.31	0.0923	0.0039	0.0001
34	SLU 32	0.01	0.88	32.08	0.0489	0.0015	0.0001
34	SLU 33	0.01	0.46	32.3	0.0763	0.0029	0.0001
34	SLU 34	0.01	0.16	32.22	0.0949	0.0038	0.0001
34	SLU 35	0.01	0.85	31.99	0.0515	0.0015	0.0001
34	SLU 36	0.01	0.43	32.21	0.0788	0.0028	0.0001
34	SLU 37	0.01	0.83	31.76	0.0519	0.0015	0.0001
34	SLU 38	0.01	0.41	31.98	0.0792	0.0029	0.0001
34	SLU 39	0.01	1	33.25	0.0465	0.0017	0.0001
34	SLU 40	0.01	0.58	33.48	0.0738	0.0031	0.0001
34	SLU 41	0.01	0.97	33.16	0.049	0.0017	0.0001
34	SLU 42	0.01	0.55	33.39	0.0764	0.0031	0.0001
34	SLU 43	0.01	0.5	33.72	0.0609	0.0012	0.0001
34	SLU 44	0.01	-0.2	34.1	0.1065	0.0035	0.0001
34	SLU 45	0.01	0.49	33.86	0.0631	0.0012	0.0001
34	SLU 46	0.01	0.07	34.09	0.0904	0.0025	0.0001
34	SLU 47	0.01	-0.23	34.01	0.109	0.0035	0.0001
34	SLU 48	0.01	0.46	33.77	0.0656	0.0011	0.0001
34	SLU 49	0.01	0.04	34	0.093	0.0025	0.0001
34	SLU 50	0.01	0.44	33.55	0.066	0.0012	0.0001
34	SLU 51	0.01	0.02	33.77	0.0934	0.0025	0.0001
34	SLU 52	0.01	0.06	37.17	0.1058	0.0039	0.0001
34	SLU 53	0.01	0.75	36.93	0.0624	0.0015	0.0001
34	SLU 54	0.01	0.33	37.16	0.0898	0.0029	0.0001
34	SLU 55	0.01	0.04	37.08	0.1084	0.0038	0.0001
34	SLU 56	0.01	0.72	36.84	0.065	0.0015	0.0001
34	SLU 57	0.01	0.3	37.07	0.0923	0.0028	0.0001
34	SLU 58	0.01	0.7	36.62	0.0653	0.0015	0.0001
34	SLU 59	0.01	0.28	36.84	0.0927	0.0029	0.0001
34	SLU 60	0.01	0.87	38.11	0.06	0.0018	0.0001
34	SLU 61	0.01	0.45	38.33	0.0873	0.0031	0.0001
34	SLU 62	0.01	0.84	38.02	0.0625	0.0017	0.0001
34	SLU 63	0.01	0.42	38.24	0.0899	0.0031	0.0001
34	SLU 64	0.01	0.69	36.04	0.0613	0.0015	0.0001
34	SLU 65	0.01	-0.01	36.41	0.1069	0.0037	0.0001
34	SLU 66	0.01	0.68	36.18	0.0635	0.0014	0.0001
34	SLU 67	0.01	0.26	36.4	0.0909	0.0027	0.0001
34	SLU 68	0.01	-0.03	36.32	0.1095	0.0037	0.0001
34	SLU 69	0.01	0.65	36.09	0.0661	0.0013	0.0001
34	SLU 70	0.01	0.24	36.31	0.0934	0.0027	0.0001
34	SLU 71	0.01	0.63	35.86	0.0665	0.0014	0.0001
34	SLU 72	0.01	0.22	36.08	0.0938	0.0027	0.0001
34	SLU 73	0.01	0.26	39.48	0.1063	0.0041	0.0001
34	SLU 74	0.01	0.94	39.25	0.0629	0.0017	0.0001
34	SLU 75	0.01	0.52	39.47	0.0902	0.0031	0.0001
34	SLU 76	0.01	0.23	39.39	0.1088	0.0041	0.0001
34	SLU 77	0.01	0.91	39.16	0.0654	0.0017	0.0001
34	SLU 78	0.01	0.5	39.38	0.0928	0.0031	0.0001
34	SLU 79	0.01	0.89	38.93	0.0658	0.0017	0.0001
34	SLU 80	0.01	0.48	39.15	0.0932	0.0031	0.0001
34	SLU 81	0.01	1.06	40.43	0.0604	0.002	0.0001
34	SLU 82	0.01	0.65	40.65	0.0878	0.0033	0.0001
34	SLU 83	0.01	1.03	40.34	0.063	0.0019	0.0001
34	SLU 84	0.01	0.62	40.56	0.0903	0.0033	0.0001
34	SLE RA 1	0.01	0.49	27.21	0.0471	0.0011	0.0001
34	SLE RA 2	0.01	0.03	27.46	0.0775	0.0026	0.0001
34	SLE RA 3	0.01	0.48	27.31	0.0485	0.001	0.0001
34	SLE RA 4	0.01	0.2	27.46	0.0668	0.0019	0.0001
34	SLE RA 5	0.01	0.01	27.4	0.0792	0.0026	0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
34	SLE RA 6	0.01	0.46	27.25	0.0502	0.001	0.0001
34	SLE RA 7	0.01	0.19	27.4	0.0685	0.0019	0.0001
34	SLE RA 8	0.01	0.45	27.09	0.0505	0.001	0.0001
34	SLE RA 9	0.01	0.17	27.24	0.0687	0.0019	0.0001
34	SLE RA 10	0.01	0.2	29.51	0.077	0.0028	0.0001
34	SLE RA 11	0.01	0.66	29.35	0.0481	0.0013	0.0001
34	SLE RA 12	0.01	0.38	29.5	0.0663	0.0022	0.0001
34	SLE RA 13	0.01	0.18	29.45	0.0787	0.0028	0.0001
34	SLE RA 14	0.01	0.64	29.29	0.0498	0.0012	0.0001
34	SLE RA 15	0.01	0.36	29.44	0.068	0.0021	0.0001
34	SLE RA 16	0.01	0.62	29.14	0.0501	0.0013	0.0001
34	SLE RA 17	0.01	0.35	29.29	0.0683	0.0022	0.0001
34	SLE RA 18	0.01	0.74	30.14	0.0465	0.0014	0.0001
34	SLE RA 19	0.01	0.46	30.29	0.0647	0.0023	0.0001
34	SLE RA 20	0.01	0.72	30.08	0.0482	0.0014	0.0001
34	SLE RA 21	0.01	0.44	30.23	0.0664	0.0023	0.0001
34	SLE FR 1	0.01	0.49	27.21	0.0471	0.0011	0.0001
34	SLE FR 2	0.01	0.4	27.26	0.0532	0.0014	0.0001
34	SLE FR 3	0.01	0.48	27.19	0.0478	0.0011	0.0001
34	SLE FR 4	0.01	0.47	28.14	0.053	0.0015	0.0001
34	SLE FR 5	0.01	0.55	28.07	0.0476	0.0012	0.0001
34	SLE FR 6	0.01	0.61	28.68	0.0468	0.0012	0.0001
34	SLE QP 1	0.01	0.49	27.21	0.0471	0.0011	0.0001
34	SLE QP 2	0.01	0.56	28.09	0.0469	0.0012	0.0001
34	SLD 1	0.04	0.54	27.38	0.0451	0.0164	0.0002
34	SLD 2	0.04	0.54	27.38	0.0451	0.0164	0.0002
34	SLD 3	0.01	-1.46	24.52	0.1586	0.0034	0.0001
34	SLD 4	0.01	-1.46	24.52	0.1586	0.0034	0.0001
34	SLD 5	0.07	3.59	32.23	-0.1258	0.0255	0.0002
34	SLD 6	0.07	3.59	32.23	-0.1258	0.0255	0.0002
34	SLD 7	-0.05	-3.08	22.67	0.2526	-0.0179	0
34	SLD 8	-0.05	-3.08	22.67	0.2526	-0.0179	0
34	SLD 9	0.06	4.2	33.51	-0.1588	0.0203	0.0001
34	SLD 10	0.06	4.2	33.51	-0.1588	0.0203	0.0001
34	SLD 11	-0.06	-2.47	23.96	0.2196	-0.0231	0
34	SLD 12	-0.06	-2.47	23.96	0.2196	-0.0231	0
34	SLD 13	0.01	2.58	31.66	-0.0648	-0.001	0
34	SLD 14	0.01	2.58	31.66	-0.0648	-0.001	0
34	SLD 15	-0.03	0.58	28.8	0.0487	-0.0141	0
34	SLD 16	-0.03	0.58	28.8	0.0487	-0.0141	0
34	SLV 1	0.1	0.57	26.6	0.0396	0.0373	0.0003
34	SLV 2	0.1	0.57	26.6	0.0396	0.0373	0.0003
34	SLV 3	0.01	-4.24	19.52	0.3126	0.0059	0.0002
34	SLV 4	0.01	-4.24	19.52	0.3126	0.0059	0.0002
34	SLV 5	0.17	7.86	38.37	-0.3695	0.0596	0.0003
34	SLV 6	0.17	7.86	38.37	-0.3695	0.0596	0.0003
34	SLV 7	-0.13	-8.17	14.79	0.5408	-0.045	-0.0001
34	SLV 8	-0.13	-8.17	14.79	0.5408	-0.045	-0.0001
34	SLV 9	0.14	9.29	41.39	-0.447	0.0473	0.0002
34	SLV 10	0.14	9.29	41.39	-0.447	0.0473	0.0002
34	SLV 11	-0.16	-6.73	17.81	0.4633	-0.0572	-0.0002
34	SLV 12	-0.16	-6.73	17.81	0.4633	-0.0572	-0.0002
34	SLV 13	0.01	5.36	36.66	-0.2188	-0.0036	0
34	SLV 14	0.01	5.36	36.66	-0.2188	-0.0036	0
34	SLV 15	-0.09	0.55	29.59	0.0543	-0.035	-0.0002
34	SLV 16	-0.09	0.55	29.59	0.0543	-0.035	-0.0002
35	SLU 1	0.01	9.24	39.77	-0.3237	-0.0018	-0.0001
35	SLU 2	0.01	9.04	39.89	-0.3133	-0.0008	-0.0001
35	SLU 3	0.01	9.57	40.68	-0.3367	-0.0017	-0.0001
35	SLU 4	0.01	9.45	40.75	-0.3305	-0.0011	-0.0001
35	SLU 5	0.01	9.34	40.67	-0.3253	-0.0007	-0.0001
35	SLU 6	0.01	9.86	41.47	-0.3487	-0.0017	-0.0001
35	SLU 7	0.01	9.74	41.54	-0.3425	-0.0011	-0.0001
35	SLU 8	0.01	9.83	41.35	-0.3477	-0.0016	-0.0001
35	SLU 9	0.01	9.71	41.42	-0.3415	-0.001	-0.0001
35	SLU 10	0.02	10.87	46.15	-0.3787	-0.0013	-0.0001
35	SLU 11	0.01	11.39	46.95	-0.402	-0.0022	-0.0002
35	SLU 12	0.01	11.28	47.02	-0.3958	-0.0016	-0.0002
35	SLU 13	0.02	11.17	46.94	-0.3907	-0.0012	-0.0002
35	SLU 14	0.01	11.69	47.74	-0.414	-0.0021	-0.0002
35	SLU 15	0.01	11.57	47.81	-0.4078	-0.0015	-0.0002
35	SLU 16	0.01	11.66	47.61	-0.4131	-0.0021	-0.0002
35	SLU 17	0.01	11.54	47.68	-0.4068	-0.0015	-0.0002
35	SLU 18	0.01	11.85	48.72	-0.4171	-0.0025	-0.0002
35	SLU 19	0.01	11.73	48.79	-0.4109	-0.0019	-0.0002
35	SLU 20	0.01	12.15	49.51	-0.4291	-0.0024	-0.0002
35	SLU 21	0.01	12.03	49.58	-0.4228	-0.0018	-0.0002
35	SLU 22	0.01	10.31	43.29	-0.3618	-0.0021	-0.0001
35	SLU 23	0.02	10.12	43.41	-0.3514	-0.0012	-0.0001
35	SLU 24	0.01	10.64	44.2	-0.3748	-0.0021	-0.0002
35	SLU 25	0.01	10.52	44.27	-0.3685	-0.0015	-0.0001
35	SLU 26	0.02	10.41	44.19	-0.3634	-0.0011	-0.0001
35	SLU 27	0.01	10.94	44.99	-0.3868	-0.002	-0.0002
35	SLU 28	0.01	10.82	45.06	-0.3805	-0.0014	-0.0001
35	SLU 29	0.01	10.9	44.87	-0.3858	-0.002	-0.0002
35	SLU 30	0.01	10.79	44.94	-0.3796	-0.0014	-0.0001
35	SLU 31	0.02	11.94	49.67	-0.4168	-0.0016	-0.0002
35	SLU 32	0.01	12.47	50.47	-0.4401	-0.0026	-0.0002



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
35	SLU 33	0.02	12.35	50.54	-0.4339	-0.002	-0.0002	
35	SLU 34	0.02	12.24	50.46	-0.4288	-0.0015	-0.0002	
35	SLU 35	0.01	12.77	51.26	-0.4521	-0.0025	-0.0002	
35	SLU 36	0.02	12.65	51.33	-0.4459	-0.0019	-0.0002	
35	SLU 37	0.01	12.73	51.13	-0.4511	-0.0024	-0.0002	
35	SLU 38	0.02	12.62	51.2	-0.4449	-0.0019	-0.0002	
35	SLU 39	0.01	12.92	52.24	-0.4551	-0.0028	-0.0002	
35	SLU 40	0.02	12.81	52.31	-0.4489	-0.0022	-0.0002	
35	SLU 41	0.01	13.22	53.03	-0.4671	-0.0027	-0.0002	
35	SLU 42	0.02	13.1	53.1	-0.4609	-0.0021	-0.0002	
35	SLU 43	0.01	11.64	50.49	-0.4078	-0.0022	-0.0002	
35	SLU 44	0.02	11.44	50.61	-0.3974	-0.0012	-0.0002	
35	SLU 45	0.01	11.97	51.41	-0.4208	-0.0022	-0.0002	
35	SLU 46	0.02	11.85	51.47	-0.4145	-0.0016	-0.0002	
35	SLU 47	0.02	11.74	51.4	-0.4094	-0.0011	-0.0002	
35	SLU 48	0.01	12.26	52.19	-0.4328	-0.0021	-0.0002	
35	SLU 49	0.02	12.15	52.26	-0.4265	-0.0015	-0.0002	
35	SLU 50	0.01	12.23	52.07	-0.4318	-0.0021	-0.0002	
35	SLU 51	0.02	12.11	52.14	-0.4256	-0.0015	-0.0002	
35	SLU 52	0.02	13.27	56.88	-0.4628	-0.0017	-0.0002	
35	SLU 53	0.01	13.8	57.67	-0.4861	-0.0026	-0.0002	
35	SLU 54	0.02	13.68	57.74	-0.4799	-0.002	-0.0002	
35	SLU 55	0.02	13.57	57.67	-0.4748	-0.0016	-0.0002	
35	SLU 56	0.01	14.09	58.46	-0.4981	-0.0025	-0.0002	
35	SLU 57	0.02	13.98	58.53	-0.4919	-0.002	-0.0002	
35	SLU 58	0.01	14.06	58.34	-0.4971	-0.0025	-0.0002	
35	SLU 59	0.02	13.94	58.41	-0.4909	-0.0019	-0.0002	
35	SLU 60	0.02	14.25	59.45	-0.5011	-0.0029	-0.0002	
35	SLU 61	0.02	14.13	59.52	-0.4949	-0.0023	-0.0002	
35	SLU 62	0.02	14.55	60.23	-0.5131	-0.0028	-0.0002	
35	SLU 63	0.02	14.43	60.3	-0.5069	-0.0022	-0.0002	
35	SLU 64	0.01	12.71	54.01	-0.4458	-0.0026	-0.0002	
35	SLU 65	0.02	12.52	54.13	-0.4355	-0.0016	-0.0002	
35	SLU 66	0.01	13.04	54.93	-0.4588	-0.0025	-0.0002	
35	SLU 67	0.02	12.92	54.99	-0.4526	-0.0019	-0.0002	
35	SLU 68	0.02	12.81	54.92	-0.4475	-0.0015	-0.0002	
35	SLU 69	0.01	13.34	55.71	-0.4708	-0.0024	-0.0002	
35	SLU 70	0.02	13.22	55.78	-0.4646	-0.0018	-0.0002	
35	SLU 71	0.01	13.31	55.59	-0.4698	-0.0024	-0.0002	
35	SLU 72	0.02	13.19	55.66	-0.4636	-0.0018	-0.0002	
35	SLU 73	0.02	14.35	60.4	-0.5008	-0.0021	-0.0002	
35	SLU 74	0.02	14.87	61.19	-0.5242	-0.003	-0.0002	
35	SLU 75	0.02	14.75	61.26	-0.518	-0.0024	-0.0002	
35	SLU 76	0.02	14.64	61.19	-0.5128	-0.002	-0.0002	
35	SLU 77	0.02	15.17	61.98	-0.5362	-0.0029	-0.0002	
35	SLU 78	0.02	15.05	62.05	-0.5299	-0.0023	-0.0002	
35	SLU 79	0.02	15.14	61.86	-0.5352	-0.0029	-0.0002	
35	SLU 80	0.02	15.02	61.93	-0.529	-0.0023	-0.0002	
35	SLU 81	0.02	15.33	62.97	-0.5392	-0.0032	-0.0002	
35	SLU 82	0.02	15.21	63.04	-0.533	-0.0027	-0.0002	
35	SLU 83	0.02	15.62	63.75	-0.5512	-0.0032	-0.0002	
35	SLU 84	0.02	15.51	63.82	-0.545	-0.0026	-0.0002	
35	SLE RA 1	0.01	9.54	40.78	-0.3346	-0.0019	-0.0001	
35	SLE RA 2	0.01	9.41	40.85	-0.3277	-0.0012	-0.0001	
35	SLE RA 3	0.01	9.76	41.38	-0.3432	-0.0019	-0.0001	
35	SLE RA 4	0.01	9.68	41.43	-0.3391	-0.0015	-0.0001	
35	SLE RA 5	0.01	9.61	41.38	-0.3357	-0.0012	-0.0001	
35	SLE RA 6	0.01	9.96	41.91	-0.3512	-0.0018	-0.0001	
35	SLE RA 7	0.01	9.88	41.95	-0.3471	-0.0014	-0.0001	
35	SLE RA 8	0.01	9.94	41.83	-0.3506	-0.0018	-0.0001	
35	SLE RA 9	0.01	9.86	41.87	-0.3464	-0.0014	-0.0001	
35	SLE RA 10	0.01	10.63	45.03	-0.3712	-0.0016	-0.0001	
35	SLE RA 11	0.01	10.98	45.56	-0.3868	-0.0022	-0.0002	
35	SLE RA 12	0.01	10.9	45.61	-0.3827	-0.0018	-0.0002	
35	SLE RA 13	0.01	10.83	45.56	-0.3792	-0.0015	-0.0001	
35	SLE RA 14	0.01	11.18	46.09	-0.3948	-0.0021	-0.0002	
35	SLE RA 15	0.01	11.1	46.13	-0.3907	-0.0017	-0.0002	
35	SLE RA 16	0.01	11.16	46	-0.3942	-0.0021	-0.0002	
35	SLE RA 17	0.01	11.08	46.05	-0.39	-0.0017	-0.0002	
35	SLE RA 18	0.01	11.29	46.74	-0.3968	-0.0024	-0.0002	
35	SLE RA 19	0.01	11.21	46.79	-0.3927	-0.002	-0.0002	
35	SLE RA 20	0.01	11.48	47.27	-0.4048	-0.0023	-0.0002	
35	SLE RA 21	0.01	11.4	47.32	-0.4007	-0.0019	-0.0002	
35	SLE FR 1	0.01	9.54	40.78	-0.3346	-0.0019	-0.0001	
35	SLE FR 2	0.01	9.52	40.79	-0.3332	-0.0018	-0.0001	
35	SLE FR 3	0.01	9.62	40.99	-0.3378	-0.0019	-0.0001	
35	SLE FR 4	0.01	10.04	42.58	-0.3519	-0.0019	-0.0001	
35	SLE FR 5	0.01	10.14	42.78	-0.3565	-0.002	-0.0001	
35	SLE FR 6	0.01	10.41	43.76	-0.3657	-0.0021	-0.0002	
35	SLE QP 1	0.01	9.54	40.78	-0.3346	-0.0019	-0.0001	
35	SLE QP 2	0.01	10.07	42.57	-0.3533	-0.002	-0.0001	
35	SLD 1	0	14.83	37.94	-0.5497	-0.0055	-0.0003	
35	SLD 2	0	14.83	37.94	-0.5497	-0.0055	-0.0003	
35	SLD 3	-0.03	11.11	33.14	-0.3868	-0.0138	-0.0002	
35	SLD 4	-0.03	11.11	33.14	-0.3868	-0.0138	-0.0002	
35	SLD 5	0.04	17.15	48.46	-0.6593	0.0095	-0.0003	
35	SLD 6	0.04	17.15	48.46	-0.6593	0.0095	-0.0003	
35	SLD 7	-0.04	4.72	32.46	-0.1162	-0.0181	-0.0001	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
35	SLD 8			-0.04	4.72	32.46	-0.1162	-0.0181	-0.0001
35	SLD 9			0.06	15.41	52.67	-0.5903	0.014	-0.0002
35	SLD 10			0.06	15.41	52.67	-0.5903	0.014	-0.0002
35	SLD 11			-0.02	2.98	36.67	-0.0473	-0.0135	0
35	SLD 12			-0.02	2.98	36.67	-0.0473	-0.0135	0
35	SLD 13			0.05	9.02	51.99	-0.3197	0.0097	-0.0001
35	SLD 14			0.05	9.02	51.99	-0.3197	0.0097	-0.0001
35	SLD 15			0.03	5.3	47.19	-0.1568	0.0014	0
35	SLD 16			0.03	5.3	47.19	-0.1568	0.0014	0
35	SLV 1			-0.03	21.25	31.78	-0.8141	-0.011	-0.0005
35	SLV 2			-0.03	21.25	31.78	-0.8141	-0.011	-0.0005
35	SLV 3			-0.08	12.49	20.39	-0.4315	-0.0303	-0.0003
35	SLV 4			-0.08	12.49	20.39	-0.4315	-0.0303	-0.0003
35	SLV 5			0.08	26.71	56.6	-1.0719	0.0247	-0.0005
35	SLV 6			0.08	26.71	56.6	-1.0719	0.0247	-0.0005
35	SLV 7			-0.1	-2.49	18.64	0.2036	-0.0399	0
35	SLV 8			-0.1	-2.49	18.64	0.2036	-0.0399	0
35	SLV 9			0.12	22.62	66.49	-0.9102	0.0358	-0.0003
35	SLV 10			0.12	22.62	66.49	-0.9102	0.0358	-0.0003
35	SLV 11			-0.06	-6.58	28.53	0.3654	-0.0287	0.0002
35	SLV 12			-0.06	-6.58	28.53	0.3654	-0.0287	0.0002
35	SLV 13			0.1	7.64	64.74	-0.275	0.0263	0
35	SLV 14			0.1	7.64	64.74	-0.275	0.0263	0
35	SLV 15			0.05	-1.12	53.36	0.1076	0.0069	0.0002
35	SLV 16			0.05	-1.12	53.36	0.1076	0.0069	0.0002
36	SLU 1			-0.02	9.07	37.96	-0.3068	-0.0025	0.0001
36	SLU 2			-0.03	8.77	37.87	-0.2925	-0.0036	0.0001
36	SLU 3			-0.02	9.8	39.55	-0.3361	-0.0027	0.0001
36	SLU 4			-0.03	9.63	39.5	-0.3276	-0.0034	0.0001
36	SLU 5			-0.03	9.54	39.49	-0.3236	-0.0038	0.0001
36	SLU 6			-0.03	10.57	41.18	-0.3672	-0.003	0.0001
36	SLU 7			-0.03	10.39	41.12	-0.3586	-0.0036	0.0001
36	SLU 8			-0.03	10.6	41.2	-0.3689	-0.003	0.0001
36	SLU 9			-0.03	10.43	41.15	-0.3604	-0.0036	0.0001
36	SLU 10			-0.03	10.28	43.39	-0.3436	-0.0034	0.0001
36	SLU 11			-0.03	11.31	45.08	-0.3872	-0.0025	0.0001
36	SLU 12			-0.03	11.14	45.02	-0.3786	-0.0032	0.0001
36	SLU 13			-0.03	11.05	45.01	-0.3746	-0.0036	0.0001
36	SLU 14			-0.03	12.08	46.7	-0.4182	-0.0028	0.0001
36	SLU 15			-0.03	11.9	46.65	-0.4097	-0.0034	0.0001
36	SLU 16			-0.03	12.11	46.73	-0.4199	-0.0028	0.0001
36	SLU 17			-0.03	11.94	46.67	-0.4114	-0.0034	0.0001
36	SLU 18			-0.03	11.22	45.85	-0.3797	-0.0022	0.0001
36	SLU 19			-0.03	11.05	45.79	-0.3711	-0.0029	0.0001
36	SLU 20			-0.03	11.99	47.47	-0.4108	-0.0025	0.0001
36	SLU 21			-0.03	11.82	47.42	-0.4022	-0.0031	0.0001
36	SLU 22			-0.03	10.3	41.58	-0.3504	-0.0027	0.0001
36	SLU 23			-0.03	10.01	41.5	-0.3361	-0.0038	0.0001
36	SLU 24			-0.03	11.04	43.18	-0.3797	-0.0029	0.0001
36	SLU 25			-0.03	10.86	43.13	-0.3712	-0.0036	0.0001
36	SLU 26			-0.03	10.78	43.12	-0.3672	-0.004	0.0001
36	SLU 27			-0.03	11.8	44.8	-0.4108	-0.0032	0.0001
36	SLU 28			-0.03	11.63	44.75	-0.4023	-0.0038	0.0001
36	SLU 29			-0.03	11.84	44.83	-0.4125	-0.0032	0.0001
36	SLU 30			-0.03	11.66	44.78	-0.404	-0.0038	0.0001
36	SLU 31			-0.03	11.52	47.02	-0.3872	-0.0036	0.0001
36	SLU 32			-0.03	12.55	48.7	-0.4308	-0.0027	0.0001
36	SLU 33			-0.03	12.37	48.65	-0.4222	-0.0034	0.0001
36	SLU 34			-0.03	12.29	48.64	-0.4182	-0.0038	0.0001
36	SLU 35			-0.03	13.31	50.33	-0.4618	-0.003	0.0001
36	SLU 36			-0.03	13.14	50.27	-0.4533	-0.0036	0.0001
36	SLU 37			-0.03	13.35	50.35	-0.4636	-0.003	0.0001
36	SLU 38			-0.03	13.17	50.3	-0.455	-0.0036	0.0001
36	SLU 39			-0.03	12.46	49.47	-0.4233	-0.0024	0.0001
36	SLU 40			-0.03	12.28	49.42	-0.4148	-0.0031	0.0001
36	SLU 41			-0.03	13.23	51.1	-0.4544	-0.0026	0.0001
36	SLU 42			-0.03	13.05	51.04	-0.4458	-0.0033	0.0001
36	SLU 43			-0.03	11.36	48.1	-0.3838	-0.0032	0.0001
36	SLU 44			-0.03	11.07	48.01	-0.3696	-0.0043	0.0001
36	SLU 45			-0.03	12.1	49.7	-0.4132	-0.0034	0.0001
36	SLU 46			-0.03	11.92	49.64	-0.4046	-0.0041	0.0001
36	SLU 47			-0.03	11.84	49.63	-0.4007	-0.0045	0.0001
36	SLU 48			-0.03	12.86	51.32	-0.4442	-0.0037	0.0001
36	SLU 49			-0.03	12.69	51.27	-0.4357	-0.0043	0.0001
36	SLU 50			-0.03	12.9	51.35	-0.446	-0.0037	0.0001
36	SLU 51			-0.03	12.72	51.29	-0.4374	-0.0043	0.0001
36	SLU 52			-0.04	12.58	53.53	-0.4206	-0.0041	0.0001
36	SLU 53			-0.03	13.61	55.22	-0.4642	-0.0032	0.0001
36	SLU 54			-0.04	13.43	55.17	-0.4557	-0.0039	0.0001
36	SLU 55			-0.04	13.35	55.16	-0.4517	-0.0043	0.0001
36	SLU 56			-0.03	14.37	56.84	-0.4953	-0.0035	0.0001
36	SLU 57			-0.04	14.2	56.79	-0.4867	-0.0041	0.0001
36	SLU 58			-0.03	14.41	56.87	-0.497	-0.0035	0.0001
36	SLU 59			-0.04	14.23	56.82	-0.4885	-0.0041	0.0001
36	SLU 60			-0.03	13.52	55.99	-0.4568	-0.0029	0.0002
36	SLU 61			-0.04	13.34	55.94	-0.4482	-0.0036	0.0001
36	SLU 62			-0.03	14.29	57.61	-0.4878	-0.0031	0.0002
36	SLU 63			-0.04	14.11	57.56	-0.4793	-0.0038	0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
36	SLU 64	-0.03	12.6	51.73	-0.4275	-0.0034	0.0001
36	SLU 65	-0.04	12.31	51.64	-0.4132	-0.0045	0.0001
36	SLU 66	-0.03	13.33	53.32	-0.4568	-0.0036	0.0001
36	SLU 67	-0.04	13.16	53.27	-0.4483	-0.0043	0.0001
36	SLU 68	-0.04	13.07	53.26	-0.4443	-0.0047	0.0001
36	SLU 69	-0.03	14.1	54.95	-0.4879	-0.0038	0.0001
36	SLU 70	-0.04	13.93	54.89	-0.4793	-0.0045	0.0001
36	SLU 71	-0.03	14.13	54.97	-0.4896	-0.0038	0.0001
36	SLU 72	-0.04	13.96	54.92	-0.481	-0.0045	0.0001
36	SLU 73	-0.04	13.82	57.16	-0.4642	-0.0043	0.0001
36	SLU 74	-0.04	14.84	58.85	-0.5078	-0.0034	0.0002
36	SLU 75	-0.04	14.67	58.79	-0.4993	-0.0041	0.0001
36	SLU 76	-0.04	14.58	58.79	-0.4953	-0.0045	0.0001
36	SLU 77	-0.04	15.61	60.47	-0.5389	-0.0036	0.0002
36	SLU 78	-0.04	15.43	60.42	-0.5304	-0.0043	0.0002
36	SLU 79	-0.04	15.64	60.5	-0.5406	-0.0036	0.0002
36	SLU 80	-0.04	15.47	60.44	-0.5321	-0.0043	0.0002
36	SLU 81	-0.04	14.75	59.62	-0.5004	-0.0031	0.0002
36	SLU 82	-0.04	14.58	59.56	-0.4918	-0.0037	0.0002
36	SLU 83	-0.04	15.52	61.24	-0.5314	-0.0033	0.0002
36	SLU 84	-0.04	15.35	61.19	-0.5229	-0.004	0.0002
36	SLE RA 1	-0.02	9.42	38.99	-0.3192	-0.0026	0.0001
36	SLE RA 2	-0.03	9.22	38.93	-0.3097	-0.0033	0.0001
36	SLE RA 3	-0.03	9.91	40.06	-0.3388	-0.0027	0.0001
36	SLE RA 4	-0.03	9.79	40.02	-0.3331	-0.0032	0.0001
36	SLE RA 5	-0.03	9.74	40.02	-0.3304	-0.0034	0.0001
36	SLE RA 6	-0.03	10.42	41.14	-0.3595	-0.0029	0.0001
36	SLE RA 7	-0.03	10.3	41.1	-0.3538	-0.0033	0.0001
36	SLE RA 8	-0.03	10.44	41.16	-0.3607	-0.0029	0.0001
36	SLE RA 9	-0.03	10.33	41.12	-0.355	-0.0033	0.0001
36	SLE RA 10	-0.03	10.23	42.62	-0.3438	-0.0032	0.0001
36	SLE RA 11	-0.03	10.92	43.74	-0.3728	-0.0026	0.0001
36	SLE RA 12	-0.03	10.8	43.7	-0.3671	-0.003	0.0001
36	SLE RA 13	-0.03	10.74	43.7	-0.3645	-0.0033	0.0001
36	SLE RA 14	-0.03	11.43	44.82	-0.3935	-0.0027	0.0001
36	SLE RA 15	-0.03	11.31	44.79	-0.3878	-0.0032	0.0001
36	SLE RA 16	-0.03	11.45	44.84	-0.3947	-0.0027	0.0001
36	SLE RA 17	-0.03	11.33	44.8	-0.389	-0.0032	0.0001
36	SLE RA 18	-0.03	10.86	44.25	-0.3678	-0.0024	0.0001
36	SLE RA 19	-0.03	10.74	44.22	-0.3621	-0.0028	0.0001
36	SLE RA 20	-0.03	11.37	45.34	-0.3886	-0.0025	0.0001
36	SLE RA 21	-0.03	11.25	45.3	-0.3829	-0.003	0.0001
36	SLE FR 1	-0.02	9.42	38.99	-0.3192	-0.0026	0.0001
36	SLE FR 2	-0.02	9.38	38.98	-0.3173	-0.0027	0.0001
36	SLE FR 3	-0.02	9.62	39.43	-0.3275	-0.0026	0.0001
36	SLE FR 4	-0.03	9.81	40.56	-0.3319	-0.0026	0.0001
36	SLE FR 5	-0.03	10.06	41	-0.3421	-0.0026	0.0001
36	SLE FR 6	-0.03	10.14	41.62	-0.3435	-0.0025	0.0001
36	SLE QP 1	-0.02	9.42	38.99	-0.3192	-0.0026	0.0001
36	SLE QP 2	-0.02	9.85	40.57	-0.3338	-0.0025	0.0001
36	SLD 1	-0.08	14.06	49.39	-0.5035	-0.0101	0
36	SLD 2	-0.08	14.06	49.39	-0.5035	-0.0101	0
36	SLD 3	-0.05	10.35	44.4	-0.3445	-0.0196	0
36	SLD 4	-0.05	10.35	44.4	-0.3445	-0.0196	0
36	SLD 5	-0.08	16.74	50.79	-0.6259	0.0097	0.0002
36	SLD 6	-0.08	16.74	50.79	-0.6259	0.0097	0.0002
36	SLD 7	0.01	4.38	34.15	-0.0958	-0.0221	0
36	SLD 8	0.01	4.38	34.15	-0.0958	-0.0221	0
36	SLD 9	-0.06	15.33	47	-0.5718	0.0171	0.0003
36	SLD 10	-0.06	15.33	47	-0.5718	0.0171	0.0003
36	SLD 11	0.03	2.96	30.35	-0.0417	-0.0147	0
36	SLD 12	0.03	2.96	30.35	-0.0417	-0.0147	0
36	SLD 13	0	9.35	36.75	-0.3232	0.0146	0.0003
36	SLD 14	0	9.35	36.75	-0.3232	0.0146	0.0003
36	SLD 15	0.03	5.64	31.75	-0.1641	0.0051	0.0002
36	SLD 16	0.03	5.64	31.75	-0.1641	0.0051	0.0002
36	SLV 1	-0.15	19.73	61.32	-0.7323	-0.0221	-0.0001
36	SLV 2	-0.15	19.73	61.32	-0.7323	-0.0221	-0.0001
36	SLV 3	-0.09	11.04	49.53	-0.3596	-0.0444	-0.0002
36	SLV 4	-0.09	11.04	49.53	-0.3596	-0.0444	-0.0002
36	SLV 5	-0.16	26	64.68	-1.0186	0.0255	0.0003
36	SLV 6	-0.16	26	64.68	-1.0186	0.0255	0.0003
36	SLV 7	0.05	-2.98	25.38	0.2237	-0.0489	-0.0002
36	SLV 8	0.05	-2.98	25.38	0.2237	-0.0489	-0.0002
36	SLV 9	-0.1	22.68	55.77	-0.8913	0.0439	0.0005
36	SLV 10	-0.1	22.68	55.77	-0.8913	0.0439	0.0005
36	SLV 11	0.11	-6.3	16.47	0.351	-0.0305	-0.0001
36	SLV 12	0.11	-6.3	16.47	0.351	-0.0305	-0.0001
36	SLV 13	0.04	8.66	31.62	-0.308	0.0394	0.0004
36	SLV 14	0.04	8.66	31.62	-0.308	0.0394	0.0004
36	SLV 15	0.1	-0.03	19.83	0.0647	0.0171	0.0003
36	SLV 16	0.1	-0.03	19.83	0.0647	0.0171	0.0003
37	SLU 1	-0.08	-2.39	33.82	0.4863	-0.0201	0.0001
37	SLU 2	-0.08	-3.15	34.18	0.5224	-0.0221	0.0002
37	SLU 3	-0.08	-2.43	34.33	0.4963	-0.0204	0.0002
37	SLU 4	-0.08	-2.88	34.55	0.518	-0.0216	0.0002
37	SLU 5	-0.08	-3.18	34.53	0.5305	-0.0223	0.0002
37	SLU 6	-0.08	-2.47	34.68	0.5044	-0.0206	0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
37	SLU 7	-0.08	-2.92	34.89	0.526	-0.0218	0.0002
37	SLU 8	-0.08	-2.47	34.51	0.5024	-0.0206	0.0002
37	SLU 9	-0.08	-2.92	34.73	0.5241	-0.0217	0.0002
37	SLU 10	-0.09	-3.11	37.69	0.5657	-0.0246	0.0002
37	SLU 11	-0.09	-2.39	37.84	0.5396	-0.0228	0.0002
37	SLU 12	-0.09	-2.85	38.05	0.5613	-0.024	0.0002
37	SLU 13	-0.09	-3.15	38.04	0.5738	-0.0248	0.0002
37	SLU 14	-0.09	-2.43	38.18	0.5477	-0.0231	0.0002
37	SLU 15	-0.09	-2.88	38.4	0.5694	-0.0242	0.0002
37	SLU 16	-0.09	-2.43	38.02	0.5457	-0.023	0.0002
37	SLU 17	-0.09	-2.89	38.24	0.5674	-0.0242	0.0002
37	SLU 18	-0.09	-2.34	38.83	0.5482	-0.0236	0.0002
37	SLU 19	-0.09	-2.79	39.05	0.5698	-0.0248	0.0002
37	SLU 20	-0.09	-2.38	39.18	0.5562	-0.0239	0.0002
37	SLU 21	-0.1	-2.83	39.39	0.5779	-0.025	0.0002
37	SLU 22	-0.08	-2.37	36.61	0.5203	-0.0219	0.0002
37	SLU 23	-0.09	-3.12	36.97	0.5564	-0.0239	0.0002
37	SLU 24	-0.08	-2.4	37.12	0.5304	-0.0222	0.0002
37	SLU 25	-0.09	-2.86	37.33	0.552	-0.0233	0.0002
37	SLU 26	-0.09	-3.16	37.32	0.5645	-0.0241	0.0002
37	SLU 27	-0.09	-2.44	37.46	0.5384	-0.0224	0.0002
37	SLU 28	-0.09	-2.89	37.68	0.5601	-0.0235	0.0002
37	SLU 29	-0.09	-2.44	37.3	0.5364	-0.0223	0.0002
37	SLU 30	-0.09	-2.9	37.52	0.5581	-0.0235	0.0002
37	SLU 31	-0.1	-3.09	40.48	0.5998	-0.0263	0.0002
37	SLU 32	-0.1	-2.37	40.62	0.5737	-0.0246	0.0002
37	SLU 33	-0.1	-2.82	40.84	0.5953	-0.0258	0.0002
37	SLU 34	-0.1	-3.13	40.82	0.6078	-0.0265	0.0002
37	SLU 35	-0.1	-2.41	40.97	0.5817	-0.0248	0.0002
37	SLU 36	-0.1	-2.86	41.19	0.6034	-0.026	0.0002
37	SLU 37	-0.1	-2.41	40.81	0.5797	-0.0248	0.0002
37	SLU 38	-0.1	-2.86	41.02	0.6014	-0.0259	0.0002
37	SLU 39	-0.1	-2.32	41.62	0.5822	-0.0254	0.0002
37	SLU 40	-0.1	-2.77	41.83	0.6039	-0.0266	0.0002
37	SLU 41	-0.1	-2.36	41.96	0.5902	-0.0256	0.0002
37	SLU 42	-0.1	-2.81	42.18	0.6119	-0.0268	0.0002
37	SLU 43	-0.09	-3.12	43.01	0.6205	-0.0256	0.0002
37	SLU 44	-0.1	-3.87	43.38	0.6566	-0.0275	0.0002
37	SLU 45	-0.1	-3.15	43.52	0.6305	-0.0258	0.0002
37	SLU 46	-0.1	-3.61	43.74	0.6522	-0.027	0.0002
37	SLU 47	-0.1	-3.91	43.72	0.6647	-0.0278	0.0002
37	SLU 48	-0.1	-3.19	43.87	0.6386	-0.026	0.0002
37	SLU 49	-0.1	-3.64	44.09	0.6603	-0.0272	0.0002
37	SLU 50	-0.1	-3.19	43.71	0.6366	-0.026	0.0002
37	SLU 51	-0.1	-3.64	43.92	0.6583	-0.0272	0.0002
37	SLU 52	-0.11	-3.84	46.88	0.7	-0.03	0.0002
37	SLU 53	-0.11	-3.12	47.03	0.6739	-0.0283	0.0002
37	SLU 54	-0.11	-3.57	47.25	0.6955	-0.0295	0.0002
37	SLU 55	-0.11	-3.87	47.23	0.708	-0.0302	0.0002
37	SLU 56	-0.11	-3.16	47.37	0.6819	-0.0285	0.0002
37	SLU 57	-0.11	-3.61	47.59	0.7036	-0.0297	0.0002
37	SLU 58	-0.11	-3.16	47.21	0.6799	-0.0284	0.0002
37	SLU 59	-0.11	-3.61	47.43	0.7016	-0.0296	0.0002
37	SLU 60	-0.11	-3.07	48.02	0.6824	-0.0291	0.0002
37	SLU 61	-0.11	-3.52	48.24	0.7041	-0.0303	0.0002
37	SLU 62	-0.11	-3.11	48.37	0.6904	-0.0293	0.0002
37	SLU 63	-0.12	-3.56	48.59	0.7121	-0.0305	0.0002
37	SLU 64	-0.1	-3.09	45.8	0.6545	-0.0273	0.0002
37	SLU 65	-0.11	-3.85	46.16	0.6907	-0.0293	0.0002
37	SLU 66	-0.1	-3.13	46.31	0.6646	-0.0276	0.0002
37	SLU 67	-0.11	-3.58	46.53	0.6863	-0.0288	0.0002
37	SLU 68	-0.11	-3.89	46.51	0.6987	-0.0295	0.0002
37	SLU 69	-0.11	-3.17	46.65	0.6726	-0.0278	0.0002
37	SLU 70	-0.11	-3.62	46.87	0.6943	-0.029	0.0002
37	SLU 71	-0.1	-3.17	46.49	0.6706	-0.0278	0.0002
37	SLU 72	-0.11	-3.62	46.71	0.6923	-0.0289	0.0002
37	SLU 73	-0.12	-3.81	49.67	0.734	-0.0318	0.0003
37	SLU 74	-0.12	-3.1	49.81	0.7079	-0.03	0.0003
37	SLU 75	-0.12	-3.55	50.03	0.7296	-0.0312	0.0003
37	SLU 76	-0.12	-3.85	50.01	0.742	-0.032	0.0003
37	SLU 77	-0.12	-3.13	50.16	0.7159	-0.0303	0.0003
37	SLU 78	-0.12	-3.59	50.38	0.7376	-0.0314	0.0003
37	SLU 79	-0.12	-3.14	50	0.7139	-0.0302	0.0003
37	SLU 80	-0.12	-3.59	50.21	0.7356	-0.0314	0.0003
37	SLU 81	-0.12	-3.04	50.81	0.7164	-0.0308	0.0003
37	SLU 82	-0.12	-3.5	51.03	0.7381	-0.032	0.0003
37	SLU 83	-0.12	-3.08	51.15	0.7245	-0.031	0.0003
37	SLU 84	-0.12	-3.53	51.37	0.7461	-0.0322	0.0003
37	SLE RA 1	-0.08	-2.38	34.62	0.496	-0.0206	0.0002
37	SLE RA 2	-0.08	-2.89	34.86	0.5201	-0.022	0.0002
37	SLE RA 3	-0.08	-2.41	34.96	0.5027	-0.0208	0.0002
37	SLE RA 4	-0.08	-2.71	35.1	0.5172	-0.0216	0.0002
37	SLE RA 5	-0.08	-2.91	35.09	0.5255	-0.0221	0.0002
37	SLE RA 6	-0.08	-2.43	35.19	0.5081	-0.0209	0.0002
37	SLE RA 7	-0.08	-2.74	35.33	0.5225	-0.0217	0.0002
37	SLE RA 8	-0.08	-2.44	35.08	0.5067	-0.0209	0.0002
37	SLE RA 9	-0.08	-2.74	35.22	0.5212	-0.0217	0.0002
37	SLE RA 10	-0.09	-2.86	37.2	0.549	-0.0236	0.0002





Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
37	SLE RA 11	-0.09	-2.39	37.29	0.5316	-0.0224	0.0002
37	SLE RA 12	-0.09	-2.69	37.44	0.546	-0.0232	0.0002
37	SLE RA 13	-0.09	-2.89	37.43	0.5543	-0.0237	0.0002
37	SLE RA 14	-0.09	-2.41	37.53	0.5369	-0.0226	0.0002
37	SLE RA 15	-0.09	-2.71	37.67	0.5514	-0.0234	0.0002
37	SLE RA 16	-0.09	-2.41	37.42	0.5356	-0.0226	0.0002
37	SLE RA 17	-0.09	-2.71	37.56	0.5501	-0.0233	0.0002
37	SLE RA 18	-0.09	-2.35	37.96	0.5373	-0.023	0.0002
37	SLE RA 19	-0.09	-2.65	38.1	0.5517	-0.0238	0.0002
37	SLE RA 20	-0.09	-2.38	38.19	0.5426	-0.0231	0.0002
37	SLE RA 21	-0.09	-2.68	38.33	0.5571	-0.0239	0.0002
37	SLE FR 1	-0.08	-2.38	34.62	0.496	-0.0206	0.0002
37	SLE FR 2	-0.08	-2.49	34.67	0.5008	-0.0209	0.0002
37	SLE FR 3	-0.08	-2.39	34.71	0.4982	-0.0207	0.0002
37	SLE FR 4	-0.08	-2.48	35.67	0.5132	-0.0216	0.0002
37	SLE FR 5	-0.08	-2.39	35.71	0.5105	-0.0214	0.0002
37	SLE FR 6	-0.08	-2.37	36.29	0.5166	-0.0218	0.0002
37	SLE QP 1	-0.08	-2.38	34.62	0.496	-0.0206	0.0002
37	SLE QP 2	-0.08	-2.38	35.62	0.5084	-0.0213	0.0002
37	SLD 1	-0.13	0.54	32.76	0.4303	-0.0202	0.0003
37	SLD 2	-0.13	0.54	32.76	0.4303	-0.0202	0.0003
37	SLD 3	-0.08	-1.78	29.53	0.3165	-0.0029	0.0002
37	SLD 4	-0.08	-1.78	29.53	0.3165	-0.0029	0.0002
37	SLD 5	-0.17	2.02	39.67	0.6574	-0.0473	0.0004
37	SLD 6	-0.17	2.02	39.67	0.6574	-0.0473	0.0004
37	SLD 7	0	-5.72	28.89	0.2784	0.0105	0
37	SLD 8	0	-5.72	28.89	0.2784	0.0105	0
37	SLD 9	-0.16	0.97	42.36	0.7384	-0.0532	0.0003
37	SLD 10	-0.16	0.97	42.36	0.7384	-0.0532	0.0003
37	SLD 11	0.01	-6.77	31.57	0.3593	0.0046	0
37	SLD 12	0.01	-6.77	31.57	0.3593	0.0046	0
37	SLD 13	-0.08	-2.97	41.71	0.7002	-0.0398	0.0001
37	SLD 14	-0.08	-2.97	41.71	0.7002	-0.0398	0.0001
37	SLD 15	-0.03	-5.29	38.48	0.5865	-0.0225	0
37	SLD 16	-0.03	-5.29	38.48	0.5865	-0.0225	0
37	SLV 1	-0.19	4.49	29.09	0.3255	-0.019	0.0005
37	SLV 2	-0.19	4.49	29.09	0.3255	-0.019	0.0005
37	SLV 3	-0.07	-0.99	21.16	0.0588	0.0226	0.0003
37	SLV 4	-0.07	-0.99	21.16	0.0588	0.0226	0.0003
37	SLV 5	-0.3	8	45.67	0.858	-0.0838	0.0006
37	SLV 6	-0.3	8	45.67	0.858	-0.0838	0.0006
37	SLV 7	0.11	-10.27	19.27	-0.031	0.055	-0.0001
37	SLV 8	0.11	-10.27	19.27	-0.031	0.055	-0.0001
37	SLV 9	-0.27	5.52	51.97	1.0478	-0.0977	0.0005
37	SLV 10	-0.27	5.52	51.97	1.0478	-0.0977	0.0005
37	SLV 11	0.14	-12.75	25.57	0.1587	0.0411	-0.0003
37	SLV 12	0.14	-12.75	25.57	0.1587	0.0411	-0.0003
37	SLV 13	-0.09	-3.76	50.08	0.958	-0.0653	0
37	SLV 14	-0.09	-3.76	50.08	0.958	-0.0653	0
37	SLV 15	0.03	-9.24	42.15	0.6913	-0.0237	-0.0002
37	SLV 16	0.03	-9.24	42.15	0.6913	-0.0237	-0.0002
38	SLU 1	-0.02	-1.32	32.85	0.0682	-0.0044	0
38	SLU 2	-0.01	-2	34.71	0.1025	-0.0014	0
38	SLU 3	-0.02	-1.35	33.16	0.0694	-0.0044	0
38	SLU 4	-0.01	-1.75	34.27	0.0899	-0.0026	0
38	SLU 5	-0.01	-2.02	34.73	0.1036	-0.0013	0
38	SLU 6	-0.02	-1.37	33.17	0.0704	-0.0043	0
38	SLU 7	-0.01	-1.78	34.29	0.091	-0.0025	0
38	SLU 8	-0.02	-1.37	32.89	0.0703	-0.0042	0
38	SLU 9	-0.01	-1.78	34.01	0.0909	-0.0024	0
38	SLU 10	-0.01	-1.99	39.05	0.106	-0.0015	0
38	SLU 11	-0.02	-1.33	37.49	0.0729	-0.0046	0
38	SLU 12	-0.01	-1.74	38.61	0.0935	-0.0027	0
38	SLU 13	-0.01	-2.01	39.07	0.1071	-0.0014	0
38	SLU 14	-0.02	-1.36	37.51	0.0739	-0.0045	0
38	SLU 15	-0.01	-1.76	38.63	0.0945	-0.0026	0
38	SLU 16	-0.02	-1.36	37.22	0.0739	-0.0044	0
38	SLU 17	-0.01	-1.77	38.34	0.0944	-0.0025	0
38	SLU 18	-0.02	-1.31	39.05	0.0733	-0.0046	0
38	SLU 19	-0.01	-1.71	40.16	0.0938	-0.0028	0
38	SLU 20	-0.02	-1.33	39.06	0.0743	-0.0045	0
38	SLU 21	-0.01	-1.74	40.18	0.0949	-0.0027	0
38	SLU 22	-0.02	-1.32	36.19	0.0713	-0.0045	0
38	SLU 23	-0.01	-1.99	38.06	0.1055	-0.0014	0
38	SLU 24	-0.02	-1.34	36.5	0.0724	-0.0045	0
38	SLU 25	-0.01	-1.75	37.61	0.093	-0.0027	0
38	SLU 26	-0.01	-2.02	38.07	0.1066	-0.0013	0
38	SLU 27	-0.02	-1.37	36.52	0.0734	-0.0044	0
38	SLU 28	-0.01	-1.77	37.63	0.094	-0.0026	0
38	SLU 29	-0.02	-1.37	36.23	0.0734	-0.0043	0
38	SLU 30	-0.01	-1.77	37.35	0.0939	-0.0025	0
38	SLU 31	-0.01	-1.98	42.39	0.1091	-0.0016	0
38	SLU 32	-0.02	-1.33	40.83	0.0759	-0.0047	0
38	SLU 33	-0.01	-1.74	41.95	0.0965	-0.0028	0
38	SLU 34	-0.01	-2.01	42.41	0.1101	-0.0015	0
38	SLU 35	-0.02	-1.35	40.85	0.077	-0.0046	0
38	SLU 36	-0.01	-1.76	41.97	0.0975	-0.0027	0
38	SLU 37	-0.02	-1.36	40.57	0.0769	-0.0044	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
38	SLU 38			-0.01	-1.76	41.68	0.0975	-0.0026	0
38	SLU 39			-0.02	-1.3	42.39	0.0763	-0.0047	0
38	SLU 40			-0.01	-1.71	43.51	0.0969	-0.0029	0
38	SLU 41			-0.02	-1.33	42.41	0.0774	-0.0046	0
38	SLU 42			-0.01	-1.73	43.52	0.0979	-0.0028	0
38	SLU 43			-0.02	-1.72	41.56	0.0877	-0.0057	0
38	SLU 44			-0.01	-2.4	43.42	0.1219	-0.0027	0
38	SLU 45			-0.03	-1.74	41.86	0.0888	-0.0057	0
38	SLU 46			-0.02	-2.15	42.98	0.1094	-0.0039	0
38	SLU 47			-0.01	-2.42	43.44	0.123	-0.0025	0
38	SLU 48			-0.03	-1.77	41.88	0.0899	-0.0056	0
38	SLU 49			-0.02	-2.17	43	0.1104	-0.0038	0
38	SLU 50			-0.03	-1.77	41.6	0.0898	-0.0055	0
38	SLU 51			-0.02	-2.18	42.72	0.1103	-0.0037	0
38	SLU 52			-0.01	-2.38	47.76	0.1255	-0.0028	0
38	SLU 53			-0.03	-1.73	46.2	0.0923	-0.0059	0
38	SLU 54			-0.02	-2.14	47.32	0.1129	-0.004	0
38	SLU 55			-0.01	-2.41	47.78	0.1265	-0.0027	0
38	SLU 56			-0.03	-1.76	46.22	0.0934	-0.0058	0
38	SLU 57			-0.02	-2.16	47.34	0.1139	-0.0039	0
38	SLU 58			-0.03	-1.76	45.93	0.0933	-0.0057	0
38	SLU 59			-0.02	-2.16	47.05	0.1139	-0.0038	0
38	SLU 60			-0.03	-1.7	47.76	0.0927	-0.0059	0
38	SLU 61			-0.02	-2.11	48.87	0.1133	-0.0041	0
38	SLU 62			-0.03	-1.73	47.77	0.0938	-0.0058	0
38	SLU 63			-0.02	-2.13	48.89	0.1143	-0.004	0
38	SLU 64			-0.03	-1.72	44.9	0.0907	-0.0058	0
38	SLU 65			-0.01	-2.39	46.77	0.125	-0.0027	0
38	SLU 66			-0.03	-1.74	45.21	0.0918	-0.0058	0
38	SLU 67			-0.02	-2.15	46.32	0.1124	-0.004	0
38	SLU 68			-0.01	-2.42	46.78	0.126	-0.0026	0
38	SLU 69			-0.03	-1.77	45.22	0.0929	-0.0057	0
38	SLU 70			-0.02	-2.17	46.34	0.1134	-0.0039	0
38	SLU 71			-0.03	-1.77	44.94	0.0928	-0.0056	0
38	SLU 72			-0.02	-2.17	46.06	0.1134	-0.0038	0
38	SLU 73			-0.01	-2.38	51.1	0.1285	-0.0029	0
38	SLU 74			-0.03	-1.73	49.54	0.0954	-0.006	0
38	SLU 75			-0.02	-2.13	50.66	0.1159	-0.0041	0
38	SLU 76			-0.02	-2.41	51.12	0.1295	-0.0028	0
38	SLU 77			-0.03	-1.75	49.56	0.0964	-0.0058	0
38	SLU 78			-0.02	-2.16	50.68	0.117	-0.004	0
38	SLU 79			-0.03	-1.75	49.28	0.0963	-0.0057	0
38	SLU 80			-0.02	-2.16	50.39	0.1169	-0.0039	0
38	SLU 81			-0.03	-1.7	51.1	0.0957	-0.006	0
38	SLU 82			-0.02	-2.11	52.22	0.1163	-0.0042	0
38	SLU 83			-0.03	-1.73	51.12	0.0968	-0.0059	0
38	SLU 84			-0.02	-2.13	52.23	0.1174	-0.0041	0
38	SLE RA 1			-0.02	-1.32	33.81	0.0691	-0.0044	0
38	SLE RA 2			-0.01	-1.77	35.05	0.092	-0.0024	0
38	SLE RA 3			-0.02	-1.34	34.01	0.0699	-0.0044	0
38	SLE RA 4			-0.02	-1.61	34.75	0.0836	-0.0032	0
38	SLE RA 5			-0.01	-1.79	35.06	0.0927	-0.0023	0
38	SLE RA 6			-0.02	-1.35	34.02	0.0706	-0.0044	0
38	SLE RA 7			-0.02	-1.62	34.77	0.0843	-0.0032	0
38	SLE RA 8			-0.02	-1.36	33.83	0.0705	-0.0043	0
38	SLE RA 9			-0.02	-1.63	34.58	0.0842	-0.0031	0
38	SLE RA 10			-0.01	-1.76	37.94	0.0943	-0.0025	0
38	SLE RA 11			-0.02	-1.33	36.9	0.0722	-0.0045	0
38	SLE RA 12			-0.02	-1.6	37.65	0.0859	-0.0033	0
38	SLE RA 13			-0.01	-1.78	37.95	0.095	-0.0024	0
38	SLE RA 14			-0.02	-1.35	36.91	0.0729	-0.0045	0
38	SLE RA 15			-0.02	-1.62	37.66	0.0866	-0.0032	0
38	SLE RA 16			-0.02	-1.35	36.72	0.0729	-0.0044	0
38	SLE RA 17			-0.02	-1.62	37.47	0.0866	-0.0032	0
38	SLE RA 18			-0.02	-1.31	37.94	0.0725	-0.0046	0
38	SLE RA 19			-0.02	-1.58	38.68	0.0862	-0.0034	0
38	SLE RA 20			-0.02	-1.33	37.95	0.0732	-0.0045	0
38	SLE RA 21			-0.02	-1.6	38.69	0.0869	-0.0033	0
38	SLE FR 1			-0.02	-1.32	33.81	0.0691	-0.0044	0
38	SLE FR 2			-0.02	-1.41	34.05	0.0737	-0.004	0
38	SLE FR 3			-0.02	-1.33	33.81	0.0694	-0.0044	0
38	SLE FR 4			-0.02	-1.41	35.29	0.0747	-0.0041	0
38	SLE FR 5			-0.02	-1.33	35.05	0.0704	-0.0045	0
38	SLE FR 6			-0.02	-1.32	35.87	0.0708	-0.0045	0
38	SLE QP 1			-0.02	-1.32	33.81	0.0691	-0.0044	0
38	SLE QP 2			-0.02	-1.32	35.04	0.0701	-0.0045	0
38	SLD 1			0.02	-1.43	32.89	0.0735	0.0121	0
38	SLD 2			0.02	-1.43	32.89	0.0735	0.0121	0
38	SLD 3			-0.02	-3.31	29.82	0.1655	-0.0012	0
38	SLD 4			-0.02	-3.31	29.82	0.1655	-0.0012	0
38	SLD 5			0.06	1.49	39.05	-0.0683	0.0207	0.0001
38	SLD 6			0.06	1.49	39.05	-0.0683	0.0207	0.0001
38	SLD 7			-0.08	-4.76	28.82	0.2382	-0.0237	0
38	SLD 8			-0.08	-4.76	28.82	0.2382	-0.0237	0
38	SLD 9			0.05	2.13	41.26	-0.098	0.0147	0.0001
38	SLD 10			0.05	2.13	41.26	-0.098	0.0147	0.0001
38	SLD 11			-0.1	-4.13	31.04	0.2085	-0.0296	0
38	SLD 12			-0.1	-4.13	31.04	0.2085	-0.0296	0



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
38	SLD 13	-0.02	0.67	40.27	-0.0253	-0.0078	0.0001
38	SLD 14	-0.02	0.67	40.27	-0.0253	-0.0078	0.0001
38	SLD 15	-0.06	-1.2	37.2	0.0667	-0.0211	0
38	SLD 16	-0.06	-1.2	37.2	0.0667	-0.0211	0
38	SLV 1	0.08	-1.56	30.04	0.0765	0.0349	0
38	SLV 2	0.08	-1.56	30.04	0.0765	0.0349	0
38	SLV 3	-0.02	-6.02	22.73	0.2957	0.0027	-0.0001
38	SLV 4	-0.02	-6.02	22.73	0.2957	0.0027	-0.0001
38	SLV 5	0.17	5.38	44.63	-0.2605	0.0562	0.0001
38	SLV 6	0.17	5.38	44.63	-0.2605	0.0562	0.0001
38	SLV 7	-0.18	-9.5	20.27	0.4703	-0.0512	-0.0001
38	SLV 8	-0.18	-9.5	20.27	0.4703	-0.0512	-0.0001
38	SLV 9	0.14	6.87	49.82	-0.3301	0.0422	0.0002
38	SLV 10	0.14	6.87	49.82	-0.3301	0.0422	0.0002
38	SLV 11	-0.21	-8.02	25.46	0.4007	-0.0652	-0.0001
38	SLV 12	-0.21	-8.02	25.46	0.4007	-0.0652	-0.0001
38	SLV 13	-0.02	3.39	47.36	-0.1555	-0.0117	0.0001
38	SLV 14	-0.02	3.39	47.36	-0.1555	-0.0117	0.0001
38	SLV 15	-0.12	-1.08	40.05	0.0637	-0.0439	0
38	SLV 16	-0.12	-1.08	40.05	0.0637	-0.0439	0
39	SLU 1	-0.03	8.69	46.71	-0.3711	-0.0085	0.0003
39	SLU 2	-0.02	8.55	47.22	-0.3622	-0.008	0.0003
39	SLU 3	-0.03	8.99	47.65	-0.3852	-0.0085	0.0003
39	SLU 4	-0.03	8.91	47.96	-0.3798	-0.0082	0.0003
39	SLU 5	-0.03	8.81	47.95	-0.3751	-0.008	0.0003
39	SLU 6	-0.03	9.26	48.39	-0.3981	-0.0085	0.0003
39	SLU 7	-0.03	9.18	48.7	-0.3927	-0.0082	0.0003
39	SLU 8	-0.03	9.23	48.18	-0.397	-0.0084	0.0003
39	SLU 9	-0.03	9.14	48.49	-0.3916	-0.0082	0.0003
39	SLU 10	-0.03	10.27	55.02	-0.4342	-0.0096	0.0003
39	SLU 11	-0.03	10.72	55.45	-0.4572	-0.0101	0.0003
39	SLU 12	-0.03	10.64	55.76	-0.4519	-0.0098	0.0003
39	SLU 13	-0.03	10.54	55.75	-0.4472	-0.0096	0.0003
39	SLU 14	-0.04	10.99	56.19	-0.4702	-0.01	0.0003
39	SLU 15	-0.03	10.91	56.5	-0.4648	-0.0098	0.0003
39	SLU 16	-0.04	10.96	55.98	-0.4691	-0.01	0.0003
39	SLU 17	-0.03	10.87	56.29	-0.4637	-0.0097	0.0003
39	SLU 18	-0.04	11.16	57.85	-0.4741	-0.0107	0.0003
39	SLU 19	-0.03	11.07	58.15	-0.4687	-0.0104	0.0004
39	SLU 20	-0.04	11.43	58.59	-0.487	-0.0107	0.0004
39	SLU 21	-0.03	11.34	58.89	-0.4816	-0.0104	0.0004
39	SLU 22	-0.03	9.78	51.28	-0.4153	-0.0095	0.0003
39	SLU 23	-0.03	9.63	51.79	-0.4064	-0.0091	0.0003
39	SLU 24	-0.03	10.08	52.23	-0.4294	-0.0096	0.0003
39	SLU 25	-0.03	10	52.53	-0.424	-0.0093	0.0003
39	SLU 26	-0.03	9.9	52.53	-0.4193	-0.0091	0.0003
39	SLU 27	-0.03	10.35	52.96	-0.4423	-0.0095	0.0003
39	SLU 28	-0.03	10.26	53.27	-0.437	-0.0093	0.0003
39	SLU 29	-0.03	10.31	52.76	-0.4412	-0.0095	0.0003
39	SLU 30	-0.03	10.23	53.06	-0.4359	-0.0092	0.0003
39	SLU 31	-0.03	11.36	59.59	-0.4785	-0.0106	0.0004
39	SLU 32	-0.04	11.81	60.03	-0.5014	-0.0111	0.0004
39	SLU 33	-0.03	11.73	60.33	-0.4961	-0.0109	0.0004
39	SLU 34	-0.03	11.63	60.33	-0.4914	-0.0106	0.0004
39	SLU 35	-0.04	12.08	60.76	-0.5144	-0.0111	0.0004
39	SLU 36	-0.03	11.99	61.07	-0.509	-0.0108	0.0004
39	SLU 37	-0.04	12.04	60.56	-0.5133	-0.011	0.0004
39	SLU 38	-0.03	11.96	60.86	-0.5079	-0.0108	0.0004
39	SLU 39	-0.04	12.25	62.42	-0.5183	-0.0117	0.0004
39	SLU 40	-0.03	12.16	62.73	-0.5129	-0.0115	0.0004
39	SLU 41	-0.04	12.52	63.16	-0.5312	-0.0117	0.0004
39	SLU 42	-0.03	12.43	63.47	-0.5258	-0.0115	0.0004
39	SLU 43	-0.04	10.92	59.15	-0.4673	-0.0106	0.0003
39	SLU 44	-0.03	10.78	59.66	-0.4584	-0.0102	0.0004
39	SLU 45	-0.04	11.23	60.1	-0.4814	-0.0107	0.0004
39	SLU 46	-0.04	11.14	60.4	-0.476	-0.0104	0.0004
39	SLU 47	-0.03	11.05	60.4	-0.4713	-0.0102	0.0004
39	SLU 48	-0.04	11.5	60.84	-0.4943	-0.0107	0.0004
39	SLU 49	-0.04	11.41	61.14	-0.4889	-0.0104	0.0004
39	SLU 50	-0.04	11.46	60.63	-0.4932	-0.0106	0.0004
39	SLU 51	-0.04	11.37	60.93	-0.4878	-0.0103	0.0004
39	SLU 52	-0.04	12.51	67.46	-0.5304	-0.0117	0.0004
39	SLU 53	-0.04	12.96	67.9	-0.5534	-0.0122	0.0004
39	SLU 54	-0.04	12.87	68.2	-0.548	-0.012	0.0004
39	SLU 55	-0.04	12.78	68.2	-0.5434	-0.0117	0.0004
39	SLU 56	-0.04	13.23	68.63	-0.5663	-0.0122	0.0004
39	SLU 57	-0.04	13.14	68.94	-0.561	-0.012	0.0004
39	SLU 58	-0.04	13.19	68.43	-0.5652	-0.0122	0.0004
39	SLU 59	-0.04	13.1	68.73	-0.5599	-0.0119	0.0004
39	SLU 60	-0.04	13.39	70.29	-0.5702	-0.0129	0.0004
39	SLU 61	-0.04	13.31	70.6	-0.5649	-0.0126	0.0004
39	SLU 62	-0.04	13.66	71.03	-0.5832	-0.0128	0.0004
39	SLU 63	-0.04	13.58	71.34	-0.5778	-0.0126	0.0004
39	SLU 64	-0.04	12.01	63.72	-0.5115	-0.0117	0.0004
39	SLU 65	-0.03	11.87	64.23	-0.5026	-0.0112	0.0004
39	SLU 66	-0.04	12.32	64.67	-0.5256	-0.0117	0.0004
39	SLU 67	-0.04	12.23	64.98	-0.5202	-0.0115	0.0004
39	SLU 68	-0.03	12.14	64.97	-0.5155	-0.0112	0.0004



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
39	SLU 69			-0.04	12.58	65.41	-0.5385	-0.0117	0.0004
39	SLU 70			-0.04	12.5	65.71	-0.5331	-0.0115	0.0004
39	SLU 71			-0.04	12.55	65.2	-0.5374	-0.0117	0.0004
39	SLU 72			-0.04	12.46	65.51	-0.532	-0.0114	0.0004
39	SLU 73			-0.04	13.6	72.03	-0.5746	-0.0128	0.0004
39	SLU 74			-0.04	14.05	72.47	-0.5976	-0.0133	0.0004
39	SLU 75			-0.04	13.96	72.78	-0.5922	-0.013	0.0004
39	SLU 76			-0.04	13.87	72.77	-0.5876	-0.0128	0.0004
39	SLU 77			-0.04	14.31	73.21	-0.6105	-0.0133	0.0004
39	SLU 78			-0.04	14.23	73.51	-0.6052	-0.013	0.0004
39	SLU 79			-0.04	14.28	73	-0.6095	-0.0132	0.0004
39	SLU 80			-0.04	14.19	73.31	-0.6041	-0.013	0.0004
39	SLU 81			-0.04	14.48	74.87	-0.6145	-0.0139	0.0004
39	SLU 82			-0.04	14.4	75.17	-0.6091	-0.0136	0.0005
39	SLU 83			-0.05	14.75	75.6	-0.6274	-0.0139	0.0005
39	SLU 84			-0.04	14.66	75.91	-0.622	-0.0136	0.0005
39	SLE RA 1			-0.03	9	48.01	-0.3838	-0.0088	0.0003
39	SLE RA 2			-0.03	8.9	48.35	-0.3778	-0.0085	0.0003
39	SLE RA 3			-0.03	9.2	48.64	-0.3931	-0.0088	0.0003
39	SLE RA 4			-0.03	9.15	48.85	-0.3895	-0.0086	0.0003
39	SLE RA 5			-0.03	9.08	48.85	-0.3864	-0.0085	0.0003
39	SLE RA 6			-0.03	9.38	49.14	-0.4017	-0.0088	0.0003
39	SLE RA 7			-0.03	9.32	49.34	-0.3982	-0.0086	0.0003
39	SLE RA 8			-0.03	9.36	49	-0.401	-0.0087	0.0003
39	SLE RA 9			-0.03	9.3	49.2	-0.3974	-0.0086	0.0003
39	SLE RA 10			-0.03	10.06	53.55	-0.4258	-0.0095	0.0003
39	SLE RA 11			-0.03	10.36	53.84	-0.4412	-0.0098	0.0003
39	SLE RA 12			-0.03	10.3	54.05	-0.4376	-0.0096	0.0003
39	SLE RA 13			-0.03	10.24	54.04	-0.4345	-0.0095	0.0003
39	SLE RA 14			-0.03	10.54	54.34	-0.4498	-0.0098	0.0003
39	SLE RA 15			-0.03	10.48	54.54	-0.4462	-0.0096	0.0003
39	SLE RA 16			-0.03	10.51	54.2	-0.449	-0.0098	0.0003
39	SLE RA 17			-0.03	10.45	54.4	-0.4455	-0.0096	0.0003
39	SLE RA 18			-0.03	10.65	55.44	-0.4524	-0.0102	0.0003
39	SLE RA 19			-0.03	10.59	55.64	-0.4488	-0.0101	0.0003
39	SLE RA 20			-0.03	10.83	55.93	-0.461	-0.0102	0.0003
39	SLE RA 21			-0.03	10.77	56.14	-0.4574	-0.0101	0.0003
39	SLE FR 1			-0.03	9	48.01	-0.3838	-0.0088	0.0003
39	SLE FR 2			-0.03	8.98	48.08	-0.3826	-0.0087	0.0003
39	SLE FR 3			-0.03	9.07	48.21	-0.3872	-0.0088	0.0003
39	SLE FR 4			-0.03	9.48	50.31	-0.4032	-0.0091	0.0003
39	SLE FR 5			-0.03	9.57	50.44	-0.4078	-0.0092	0.0003
39	SLE FR 6			-0.03	9.82	51.73	-0.4181	-0.0095	0.0003
39	SLE QP 1			-0.03	9	48.01	-0.3838	-0.0088	0.0003
39	SLE QP 2			-0.03	9.49	50.24	-0.4044	-0.0092	0.0003
39	SLD 1			-0.08	14.14	44.42	-0.6118	-0.0063	0.0002
39	SLD 2			-0.08	14.14	44.42	-0.6118	-0.0063	0.0002
39	SLD 3			-0.05	10.52	40.28	-0.4436	0.0008	0.0001
39	SLD 4			-0.05	10.52	40.28	-0.4436	0.0008	0.0001
39	SLD 5			-0.09	16.39	54.77	-0.7217	-0.0191	0.0005
39	SLD 6			-0.09	16.39	54.77	-0.7217	-0.0191	0.0005
39	SLD 7			0.01	4.31	40.98	-0.161	0.0046	0
39	SLD 8			0.01	4.31	40.98	-0.161	0.0046	0
39	SLD 9			-0.07	14.68	59.5	-0.6477	-0.023	0.0006
39	SLD 10			-0.07	14.68	59.5	-0.6477	-0.023	0.0006
39	SLD 11			0.03	2.6	45.72	-0.087	0.0007	0.0001
39	SLD 12			0.03	2.6	45.72	-0.087	0.0007	0.0001
39	SLD 13			-0.01	8.47	60.2	-0.3651	-0.0192	0.0005
39	SLD 14			-0.01	8.47	60.2	-0.3651	-0.0192	0.0005
39	SLD 15			0.02	4.85	56.07	-0.1969	-0.0121	0.0004
39	SLD 16			0.02	4.85	56.07	-0.1969	-0.0121	0.0004
39	SLV 1			-0.15	20.4	36.62	-0.8912	-0.0015	0.0001
39	SLV 2			-0.15	20.4	36.62	-0.8912	-0.0015	0.0001
39	SLV 3			-0.09	11.89	26.8	-0.496	0.0151	-0.0002
39	SLV 4			-0.09	11.89	26.8	-0.496	0.0151	-0.0002
39	SLV 5			-0.17	25.68	61.05	-1.1498	-0.0321	0.0007
39	SLV 6			-0.17	25.68	61.05	-1.1498	-0.0321	0.0007
39	SLV 7			0.05	-2.7	28.31	0.1676	0.0233	-0.0003
39	SLV 8			0.05	-2.7	28.31	0.1676	0.0233	-0.0003
39	SLV 9			-0.11	21.69	72.17	-0.9763	-0.0417	0.0009
39	SLV 10			-0.11	21.69	72.17	-0.9763	-0.0417	0.0009
39	SLV 11			0.11	-6.69	39.43	0.3411	0.0137	-0.0001
39	SLV 12			0.11	-6.69	39.43	0.3411	0.0137	-0.0001
39	SLV 13			0.03	7.1	73.68	-0.3127	-0.0335	0.0008
39	SLV 14			0.03	7.1	73.68	-0.3127	-0.0335	0.0008
39	SLV 15			0.09	-1.41	63.86	0.0825	-0.0169	0.0005
39	SLV 16			0.09	-1.41	63.86	0.0825	-0.0169	0.0005
40	SLU 1			0.01	8.96	44.71	-0.4085	0.0042	-0.0004
40	SLU 2			0.01	8.73	44.93	-0.3965	0.0037	-0.0004
40	SLU 3			0.01	9.68	46.41	-0.4414	0.0042	-0.0004
40	SLU 4			0.01	9.53	46.55	-0.4342	0.0039	-0.0004
40	SLU 5			0.01	9.46	46.59	-0.4309	0.0037	-0.0004
40	SLU 6			0.01	10.41	48.07	-0.4759	0.0042	-0.0004
40	SLU 7			0.01	10.27	48.2	-0.4687	0.0039	-0.0004
40	SLU 8			0.01	10.44	48.02	-0.4775	0.0042	-0.0004
40	SLU 9			0.01	10.3	48.15	-0.4702	0.0039	-0.0004
40	SLU 10			0.01	10.31	51.82	-0.4666	0.0049	-0.0004
40	SLU 11			0.02	11.26	53.3	-0.5116	0.0055	-0.0004



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
40	SLU 12	0.01	11.12	53.43	-0.5044	0.0051	-0.0004	
40	SLU 13	0.01	11.05	53.47	-0.5011	0.0049	-0.0004	
40	SLU 14	0.02	12	54.95	-0.5461	0.0055	-0.0004	
40	SLU 15	0.02	11.85	55.09	-0.5388	0.0051	-0.0004	
40	SLU 16	0.02	12.02	54.9	-0.5476	0.0055	-0.0004	
40	SLU 17	0.02	11.88	55.04	-0.5404	0.0051	-0.0004	
40	SLU 18	0.02	11.22	54.55	-0.5087	0.006	-0.0004	
40	SLU 19	0.02	11.08	54.68	-0.5015	0.0057	-0.0004	
40	SLU 20	0.02	11.96	56.2	-0.5432	0.006	-0.0004	
40	SLU 21	0.02	11.82	56.33	-0.536	0.0057	-0.0004	
40	SLU 22	0.01	10.27	49.38	-0.4656	0.0048	-0.0004	
40	SLU 23	0.01	10.03	49.6	-0.4535	0.0042	-0.0004	
40	SLU 24	0.01	10.98	51.08	-0.4985	0.0048	-0.0004	
40	SLU 25	0.01	10.84	51.21	-0.4913	0.0044	-0.0004	
40	SLU 26	0.01	10.77	51.25	-0.488	0.0042	-0.0004	
40	SLU 27	0.01	11.72	52.73	-0.533	0.0048	-0.0004	
40	SLU 28	0.01	11.57	52.87	-0.5257	0.0044	-0.0004	
40	SLU 29	0.01	11.74	52.68	-0.5345	0.0048	-0.0004	
40	SLU 30	0.01	11.6	52.82	-0.5273	0.0044	-0.0004	
40	SLU 31	0.01	11.61	56.48	-0.5237	0.0055	-0.0004	
40	SLU 32	0.02	12.56	57.96	-0.5686	0.006	-0.0004	
40	SLU 33	0.01	12.42	58.1	-0.5614	0.0057	-0.0005	
40	SLU 34	0.01	12.35	58.14	-0.5581	0.0055	-0.0005	
40	SLU 35	0.02	13.3	59.62	-0.6031	0.006	-0.0005	
40	SLU 36	0.01	13.16	59.75	-0.5959	0.0057	-0.0005	
40	SLU 37	0.02	13.32	59.57	-0.6047	0.006	-0.0005	
40	SLU 38	0.02	13.18	59.7	-0.5974	0.0057	-0.0005	
40	SLU 39	0.02	12.53	59.21	-0.5658	0.0066	-0.0005	
40	SLU 40	0.02	12.38	59.35	-0.5586	0.0063	-0.0005	
40	SLU 41	0.02	13.26	60.87	-0.6003	0.0066	-0.0005	
40	SLU 42	0.02	13.12	61	-0.593	0.0062	-0.0005	
40	SLU 43	0.02	11.21	56.53	-0.5115	0.0053	-0.0004	
40	SLU 44	0.01	10.97	56.75	-0.4995	0.0048	-0.0005	
40	SLU 45	0.02	11.92	58.23	-0.5444	0.0053	-0.0005	
40	SLU 46	0.02	11.78	58.36	-0.5372	0.005	-0.0005	
40	SLU 47	0.01	11.71	58.4	-0.5339	0.0047	-0.0005	
40	SLU 48	0.02	12.66	59.88	-0.5789	0.0053	-0.0005	
40	SLU 49	0.02	12.51	60.02	-0.5717	0.005	-0.0005	
40	SLU 50	0.02	12.68	59.83	-0.5804	0.0053	-0.0005	
40	SLU 51	0.02	12.54	59.97	-0.5732	0.0049	-0.0005	
40	SLU 52	0.02	12.55	63.63	-0.5696	0.006	-0.0005	
40	SLU 53	0.02	13.5	65.11	-0.6146	0.0066	-0.0005	
40	SLU 54	0.02	13.36	65.25	-0.6073	0.0062	-0.0005	
40	SLU 55	0.02	13.29	65.29	-0.6041	0.006	-0.0005	
40	SLU 56	0.02	14.24	66.77	-0.649	0.0065	-0.0005	
40	SLU 57	0.02	14.1	66.9	-0.6418	0.0062	-0.0005	
40	SLU 58	0.02	14.26	66.72	-0.6506	0.0065	-0.0005	
40	SLU 59	0.02	14.12	66.85	-0.6434	0.0062	-0.0005	
40	SLU 60	0.02	13.47	66.36	-0.6117	0.0071	-0.0005	
40	SLU 61	0.02	13.32	66.49	-0.6045	0.0068	-0.0005	
40	SLU 62	0.02	14.2	68.01	-0.6462	0.0071	-0.0005	
40	SLU 63	0.02	14.06	68.15	-0.6389	0.0068	-0.0005	
40	SLU 64	0.02	12.51	61.19	-0.5686	0.0059	-0.0005	
40	SLU 65	0.01	12.27	61.41	-0.5565	0.0053	-0.0005	
40	SLU 66	0.02	13.22	62.89	-0.6015	0.0059	-0.0005	
40	SLU 67	0.01	13.08	63.03	-0.5943	0.0055	-0.0005	
40	SLU 68	0.01	13.01	63.07	-0.591	0.0053	-0.0005	
40	SLU 69	0.02	13.96	64.55	-0.636	0.0058	-0.0005	
40	SLU 70	0.02	13.82	64.68	-0.6287	0.0055	-0.0005	
40	SLU 71	0.02	13.98	64.5	-0.6375	0.0058	-0.0005	
40	SLU 72	0.02	13.84	64.63	-0.6303	0.0055	-0.0005	
40	SLU 73	0.02	13.85	68.3	-0.6267	0.0066	-0.0005	
40	SLU 74	0.02	14.8	69.78	-0.6716	0.0071	-0.0005	
40	SLU 75	0.02	14.66	69.91	-0.6644	0.0068	-0.0005	
40	SLU 76	0.02	14.59	69.95	-0.6611	0.0066	-0.0006	
40	SLU 77	0.02	15.54	71.43	-0.7061	0.0071	-0.0006	
40	SLU 78	0.02	15.4	71.56	-0.6989	0.0068	-0.0006	
40	SLU 79	0.02	15.57	71.38	-0.7076	0.0071	-0.0006	
40	SLU 80	0.02	15.42	71.52	-0.7004	0.0068	-0.0006	
40	SLU 81	0.02	14.77	71.03	-0.6688	0.0077	-0.0005	
40	SLU 82	0.02	14.63	71.16	-0.6615	0.0073	-0.0006	
40	SLU 83	0.02	15.51	72.68	-0.7032	0.0076	-0.0006	
40	SLU 84	0.02	15.36	72.81	-0.696	0.0073	-0.0006	
40	SLE RA 1	0.01	9.34	46.04	-0.4248	0.0044	-0.0004	
40	SLE RA 2	0.01	9.18	46.19	-0.4168	0.004	-0.0004	
40	SLE RA 3	0.01	9.81	47.18	-0.4468	0.0044	-0.0004	
40	SLE RA 4	0.01	9.72	47.27	-0.4419	0.0042	-0.0004	
40	SLE RA 5	0.01	9.67	47.3	-0.4398	0.004	-0.0004	
40	SLE RA 6	0.01	10.3	48.28	-0.4697	0.0044	-0.0004	
40	SLE RA 7	0.01	10.21	48.37	-0.4649	0.0042	-0.0004	
40	SLE RA 8	0.01	10.32	48.25	-0.4708	0.0044	-0.0004	
40	SLE RA 9	0.01	10.22	48.34	-0.466	0.0041	-0.0004	
40	SLE RA 10	0.01	10.23	50.78	-0.4635	0.0049	-0.0004	
40	SLE RA 11	0.02	10.87	51.77	-0.4935	0.0052	-0.0004	
40	SLE RA 12	0.01	10.77	51.86	-0.4887	0.005	-0.0004	
40	SLE RA 13	0.01	10.72	51.89	-0.4865	0.0048	-0.0004	
40	SLE RA 14	0.02	11.36	52.87	-0.5165	0.0052	-0.0004	
40	SLE RA 15	0.01	11.26	52.96	-0.5117	0.005	-0.0004	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
40	SLE RA 16	0.02	11.37	52.84	-0.5175	0.0052	-0.0004	
40	SLE RA 17	0.01	11.28	52.93	-0.5127	0.005	-0.0004	
40	SLE RA 18	0.02	10.84	52.6	-0.4916	0.0056	-0.0004	
40	SLE RA 19	0.01	10.75	52.69	-0.4868	0.0054	-0.0004	
40	SLE RA 20	0.02	11.33	53.7	-0.5146	0.0056	-0.0004	
40	SLE RA 21	0.02	11.24	53.79	-0.5098	0.0054	-0.0004	
40	SLE FR 1	0.01	9.34	46.04	-0.4248	0.0044	-0.0004	
40	SLE FR 2	0.01	9.3	46.07	-0.4232	0.0043	-0.0004	
40	SLE FR 3	0.01	9.53	46.49	-0.434	0.0044	-0.0004	
40	SLE FR 4	0.01	9.76	48.04	-0.4433	0.0047	-0.0004	
40	SLE FR 5	0.01	9.98	48.45	-0.4541	0.0047	-0.0004	
40	SLE FR 6	0.01	10.09	49.32	-0.4582	0.005	-0.0004	
40	SLE QP 1	0.01	9.34	46.04	-0.4248	0.0044	-0.0004	
40	SLE QP 2	0.01	9.79	48.01	-0.4449	0.0048	-0.0004	
40	SLD 1	-0.03	13.87	57.59	-0.6314	-0.0026	-0.0007	
40	SLD 2	-0.03	13.87	57.59	-0.6314	-0.0026	-0.0007	
40	SLD 3	-0.06	10.21	52.89	-0.4625	-0.0108	-0.0006	
40	SLD 4	-0.06	10.21	52.89	-0.4625	-0.0108	-0.0006	
40	SLD 5	0.05	16.56	58.01	-0.7571	0.0151	-0.0007	
40	SLD 6	0.05	16.56	58.01	-0.7571	0.0151	-0.0007	
40	SLD 7	-0.05	4.36	42.35	-0.1939	-0.0125	-0.0002	
40	SLD 8	-0.05	4.36	42.35	-0.1939	-0.0125	-0.0002	
40	SLD 9	0.08	15.21	53.68	-0.6959	0.022	-0.0006	
40	SLD 10	0.08	15.21	53.68	-0.6959	0.022	-0.0006	
40	SLD 11	-0.02	3.01	38.01	-0.1326	-0.0056	0	
40	SLD 12	-0.02	3.01	38.01	-0.1326	-0.0056	0	
40	SLD 13	0.08	9.37	43.13	-0.4273	0.0203	-0.0002	
40	SLD 14	0.08	9.37	43.13	-0.4273	0.0203	-0.0002	
40	SLD 15	0.05	5.71	38.43	-0.2583	0.0121	0	
40	SLD 16	0.05	5.71	38.43	-0.2583	0.0121	0	
40	SLV 1	-0.09	19.37	70.55	-0.8831	-0.0142	-0.0012	
40	SLV 2	-0.09	19.37	70.55	-0.8831	-0.0142	-0.0012	
40	SLV 3	-0.16	10.79	59.45	-0.4869	-0.0336	-0.0008	
40	SLV 4	-0.16	10.79	59.45	-0.4869	-0.0336	-0.0008	
40	SLV 5	0.09	25.68	71.61	-1.1772	0.0285	-0.0012	
40	SLV 6	0.09	25.68	71.61	-1.1772	0.0285	-0.0012	
40	SLV 7	-0.15	-2.93	34.6	0.1434	-0.0362	0.0001	
40	SLV 8	-0.15	-2.93	34.6	0.1434	-0.0362	0.0001	
40	SLV 9	0.17	22.5	61.42	-1.0332	0.0457	-0.0008	
40	SLV 10	0.17	22.5	61.42	-1.0332	0.0457	-0.0008	
40	SLV 11	-0.06	-6.1	24.41	0.2875	-0.019	0.0005	
40	SLV 12	-0.06	-6.1	24.41	0.2875	-0.019	0.0005	
40	SLV 13	0.19	8.79	36.58	-0.4028	0.0431	0.0001	
40	SLV 14	0.19	8.79	36.58	-0.4028	0.0431	0.0001	
40	SLV 15	0.11	0.21	25.47	-0.0066	0.0237	0.0005	
40	SLV 16	0.11	0.21	25.47	-0.0066	0.0237	0.0005	
41	SLU 1	0.38	1.16	37.99	-0.3652	0.0682	-0.0235	
41	SLU 2	0.36	0.19	40.03	-0.3066	0.066	-0.0229	
41	SLU 3	0.39	1.19	38.73	-0.3724	0.0696	-0.0239	
41	SLU 4	0.37	0.61	39.96	-0.3372	0.0683	-0.0236	
41	SLU 5	0.36	0.21	40.56	-0.3114	0.0668	-0.0232	
41	SLU 6	0.39	1.21	39.26	-0.3772	0.0705	-0.0242	
41	SLU 7	0.38	0.63	40.49	-0.342	0.0691	-0.0239	
41	SLU 8	0.39	1.19	39.04	-0.375	0.07	-0.0241	
41	SLU 9	0.37	0.61	40.27	-0.3398	0.0686	-0.0237	
41	SLU 10	0.41	0.5	45.01	-0.3476	0.0756	-0.0263	
41	SLU 11	0.44	1.5	43.7	-0.4134	0.0792	-0.0274	
41	SLU 12	0.43	0.92	44.93	-0.3782	0.0779	-0.027	
41	SLU 13	0.42	0.52	45.53	-0.3525	0.0765	-0.0266	
41	SLU 14	0.45	1.52	44.23	-0.4183	0.0801	-0.0277	
41	SLU 15	0.43	0.94	45.46	-0.3831	0.0788	-0.0273	
41	SLU 16	0.44	1.5	44.01	-0.416	0.0796	-0.0275	
41	SLU 17	0.43	0.92	45.24	-0.3808	0.0782	-0.0272	
41	SLU 18	0.46	1.6	45.09	-0.4239	0.082	-0.0284	
41	SLU 19	0.44	1.02	46.32	-0.3887	0.0806	-0.028	
41	SLU 20	0.46	1.62	45.62	-0.4287	0.0829	-0.0287	
41	SLU 21	0.45	1.04	46.85	-0.3935	0.0815	-0.0283	
41	SLU 22	0.42	1.38	42	-0.3956	0.0761	-0.0262	
41	SLU 23	0.4	0.42	44.05	-0.337	0.0739	-0.0257	
41	SLU 24	0.43	1.42	42.75	-0.4028	0.0775	-0.0267	
41	SLU 25	0.42	0.84	43.98	-0.3676	0.0762	-0.0263	
41	SLU 26	0.4	0.43	44.58	-0.3418	0.0747	-0.0259	
41	SLU 27	0.44	1.43	43.28	-0.4076	0.0784	-0.027	
41	SLU 28	0.42	0.85	44.51	-0.3724	0.077	-0.0266	
41	SLU 29	0.43	1.41	43.06	-0.4054	0.0779	-0.0268	
41	SLU 30	0.42	0.83	44.29	-0.3702	0.0765	-0.0265	
41	SLU 31	0.45	0.73	49.02	-0.378	0.0835	-0.0291	
41	SLU 32	0.49	1.73	47.72	-0.4438	0.0871	-0.0301	
41	SLU 33	0.47	1.15	48.95	-0.4086	0.0858	-0.0298	
41	SLU 34	0.46	0.74	49.55	-0.3829	0.0844	-0.0294	
41	SLU 35	0.49	1.74	48.25	-0.4487	0.088	-0.0304	
41	SLU 36	0.48	1.16	49.48	-0.4135	0.0867	-0.0301	
41	SLU 37	0.49	1.72	48.03	-0.4464	0.0875	-0.0302	
41	SLU 38	0.47	1.14	49.26	-0.4112	0.0861	-0.0299	
41	SLU 39	0.5	1.83	49.11	-0.4543	0.0899	-0.0311	
41	SLU 40	0.49	1.25	50.34	-0.4191	0.0885	-0.0308	
41	SLU 41	0.51	1.84	49.64	-0.4591	0.0908	-0.0314	
41	SLU 42	0.49	1.26	50.86	-0.4239	0.0894	-0.0311	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
41	SLU 43	0.48	1.43	48	-0.4644	0.086	-0.0296
41	SLU 44	0.45	0.46	50.05	-0.4057	0.0837	-0.029
41	SLU 45	0.48	1.46	48.75	-0.4715	0.0874	-0.03
41	SLU 46	0.47	0.88	49.98	-0.4363	0.086	-0.0297
41	SLU 47	0.46	0.48	50.58	-0.4106	0.0846	-0.0293
41	SLU 48	0.49	1.48	49.28	-0.4764	0.0882	-0.0303
41	SLU 49	0.48	0.9	50.51	-0.4412	0.0869	-0.03
41	SLU 50	0.49	1.46	49.06	-0.4741	0.0877	-0.0302
41	SLU 51	0.47	0.88	50.29	-0.4389	0.0864	-0.0298
41	SLU 52	0.51	0.77	55.02	-0.4468	0.0934	-0.0325
41	SLU 53	0.54	1.77	53.72	-0.5126	0.097	-0.0335
41	SLU 54	0.53	1.19	54.95	-0.4774	0.0957	-0.0331
41	SLU 55	0.51	0.79	55.55	-0.4516	0.0942	-0.0327
41	SLU 56	0.54	1.79	54.25	-0.5174	0.0979	-0.0338
41	SLU 57	0.53	1.21	55.48	-0.4822	0.0965	-0.0334
41	SLU 58	0.54	1.77	54.03	-0.5152	0.0973	-0.0336
41	SLU 59	0.53	1.19	55.26	-0.48	0.096	-0.0333
41	SLU 60	0.56	1.87	55.11	-0.523	0.0998	-0.0345
41	SLU 61	0.54	1.29	56.33	-0.4878	0.0984	-0.0341
41	SLU 62	0.56	1.89	55.63	-0.5279	0.1006	-0.0348
41	SLU 63	0.55	1.31	56.86	-0.4927	0.0993	-0.0344
41	SLU 64	0.52	1.66	52.02	-0.4948	0.0939	-0.0323
41	SLU 65	0.5	0.69	54.07	-0.4361	0.0916	-0.0318
41	SLU 66	0.53	1.69	52.77	-0.5019	0.0953	-0.0328
41	SLU 67	0.52	1.11	54	-0.4667	0.0939	-0.0324
41	SLU 68	0.5	0.7	54.6	-0.441	0.0925	-0.0321
41	SLU 69	0.53	1.7	53.3	-0.5068	0.0961	-0.0331
41	SLU 70	0.52	1.12	54.53	-0.4716	0.0948	-0.0327
41	SLU 71	0.53	1.68	53.08	-0.5045	0.0956	-0.0329
41	SLU 72	0.52	1.1	54.31	-0.4693	0.0943	-0.0326
41	SLU 73	0.55	1	59.04	-0.4772	0.1013	-0.0352
41	SLU 74	0.58	2	57.74	-0.543	0.1049	-0.0362
41	SLU 75	0.57	1.42	58.97	-0.5078	0.1036	-0.0359
41	SLU 76	0.56	1.01	59.57	-0.482	0.1021	-0.0355
41	SLU 77	0.59	2.01	58.27	-0.5478	0.1058	-0.0365
41	SLU 78	0.58	1.43	59.5	-0.5126	0.1044	-0.0362
41	SLU 79	0.59	1.99	58.05	-0.5456	0.1052	-0.0364
41	SLU 80	0.57	1.41	59.28	-0.5104	0.1039	-0.036
41	SLU 81	0.6	2.1	59.12	-0.5534	0.1077	-0.0372
41	SLU 82	0.59	1.52	60.35	-0.5182	0.1063	-0.0369
41	SLU 83	0.6	2.11	59.65	-0.5583	0.1085	-0.0375
41	SLU 84	0.59	1.53	60.88	-0.5231	0.1072	-0.0372
41	SLE RA 1	0.39	1.22	39.13	-0.3739	0.0705	-0.0243
41	SLE RA 2	0.38	0.58	40.5	-0.3348	0.069	-0.0239
41	SLE RA 3	0.4	1.25	39.63	-0.3787	0.0714	-0.0246
41	SLE RA 4	0.39	0.86	40.45	-0.3552	0.0705	-0.0243
41	SLE RA 5	0.38	0.59	40.85	-0.3381	0.0696	-0.0241
41	SLE RA 6	0.4	1.26	39.98	-0.3819	0.072	-0.0248
41	SLE RA 7	0.39	0.87	40.8	-0.3585	0.0711	-0.0245
41	SLE RA 8	0.4	1.24	39.84	-0.3804	0.0716	-0.0247
41	SLE RA 9	0.39	0.86	40.66	-0.3569	0.0707	-0.0244
41	SLE RA 10	0.41	0.79	43.81	-0.3622	0.0754	-0.0262
41	SLE RA 11	0.43	1.45	42.95	-0.4061	0.0778	-0.0269
41	SLE RA 12	0.42	1.07	43.76	-0.3826	0.0769	-0.0266
41	SLE RA 13	0.42	0.8	44.17	-0.3654	0.076	-0.0264
41	SLE RA 14	0.44	1.46	43.3	-0.4093	0.0784	-0.0271
41	SLE RA 15	0.43	1.07	44.12	-0.3858	0.0775	-0.0268
41	SLE RA 16	0.43	1.45	43.15	-0.4078	0.0781	-0.0269
41	SLE RA 17	0.43	1.06	43.97	-0.3843	0.0772	-0.0267
41	SLE RA 18	0.44	1.52	43.87	-0.413	0.0797	-0.0275
41	SLE RA 19	0.43	1.13	44.69	-0.3895	0.0788	-0.0273
41	SLE RA 20	0.45	1.53	44.22	-0.4163	0.0802	-0.0277
41	SLE RA 21	0.44	1.14	45.04	-0.3928	0.0793	-0.0275
41	SLE FR 1	0.39	1.22	39.13	-0.3739	0.0705	-0.0243
41	SLE FR 2	0.39	1.1	39.41	-0.3661	0.0702	-0.0242
41	SLE FR 3	0.39	1.23	39.28	-0.3752	0.0707	-0.0243
41	SLE FR 4	0.4	1.18	40.83	-0.3778	0.0729	-0.0252
41	SLE FR 5	0.41	1.32	40.7	-0.387	0.0735	-0.0253
41	SLE FR 6	0.42	1.37	41.5	-0.3935	0.0751	-0.0259
41	SLE QP 1	0.39	1.22	39.13	-0.3739	0.0705	-0.0243
41	SLE QP 2	0.41	1.31	40.55	-0.3857	0.0732	-0.0252
41	SLD 1	0.52	3.74	47.47	-0.3844	0.1007	-0.0307
41	SLD 2	0.52	3.74	47.47	-0.3844	0.1007	-0.0307
41	SLD 3	0.44	1.01	44.69	-0.2029	0.0874	-0.0261
41	SLD 4	0.44	1.01	44.69	-0.2029	0.0874	-0.0261
41	SLD 5	0.56	6.17	46.85	-0.6606	0.1017	-0.0339
41	SLD 6	0.56	6.17	46.85	-0.6606	0.1017	-0.0339
41	SLD 7	0.3	-2.91	37.57	-0.0555	0.0573	-0.0185
41	SLD 8	0.3	-2.91	37.57	-0.0555	0.0573	-0.0185
41	SLD 9	0.51	5.53	43.54	-0.7158	0.0892	-0.032
41	SLD 10	0.51	5.53	43.54	-0.7158	0.0892	-0.032
41	SLD 11	0.26	-3.54	34.25	-0.1107	0.0448	-0.0166
41	SLD 12	0.26	-3.54	34.25	-0.1107	0.0448	-0.0166
41	SLD 13	0.37	1.61	36.42	-0.5684	0.0591	-0.0244
41	SLD 14	0.37	1.61	36.42	-0.5684	0.0591	-0.0244
41	SLD 15	0.29	-1.11	33.64	-0.3869	0.0458	-0.0198
41	SLD 16	0.29	-1.11	33.64	-0.3869	0.0458	-0.0198
41	SLV 1	0.67	7.11	56.81	-0.3906	0.1379	-0.0381



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
41	SLV 2	0.67	7.11	56.81	-0.3906	0.1379	-0.0381
41	SLV 3	0.5	0.56	50.21	0.0542	0.1064	-0.0271
41	SLV 4	0.5	0.56	50.21	0.0542	0.1064	-0.0271
41	SLV 5	0.76	12.98	55.45	-1.0617	0.1404	-0.0459
41	SLV 6	0.76	12.98	55.45	-1.0617	0.1404	-0.0459
41	SLV 7	0.16	-8.84	33.44	0.4209	0.0354	-0.009
41	SLV 8	0.16	-8.84	33.44	0.4209	0.0354	-0.009
41	SLV 9	0.65	11.47	47.67	-1.1922	0.1111	-0.0414
41	SLV 10	0.65	11.47	47.67	-1.1922	0.1111	-0.0414
41	SLV 11	0.06	-10.36	25.66	0.2904	0.0061	-0.0046
41	SLV 12	0.06	-10.36	25.66	0.2904	0.0061	-0.0046
41	SLV 13	0.32	2.06	30.9	-0.8255	0.0401	-0.0234
41	SLV 14	0.32	2.06	30.9	-0.8255	0.0401	-0.0234
41	SLV 15	0.14	-4.49	24.3	-0.3808	0.0086	-0.0124
41	SLV 16	0.14	-4.49	24.3	-0.3808	0.0086	-0.0124
42	SLU 1	-0.05	-0.16	0.44	0.0124	-0.0118	0.0021
42	SLU 2	-0.05	-0.17	0.41	0.0128	-0.0122	0.0022
42	SLU 3	-0.05	-0.22	0.28	0.0143	-0.0119	0.0022
42	SLU 4	-0.05	-0.23	0.25	0.0146	-0.0121	0.0022
42	SLU 5	-0.05	-0.21	0.31	0.0141	-0.0122	0.0022
42	SLU 6	-0.05	-0.25	0.17	0.0156	-0.0119	0.0022
42	SLU 7	-0.05	-0.26	0.15	0.0159	-0.0121	0.0022
42	SLU 8	-0.05	-0.23	0.24	0.0149	-0.0118	0.0021
42	SLU 9	-0.05	-0.24	0.22	0.0152	-0.0121	0.0022
42	SLU 10	-0.08	0.28	2.55	0.005	-0.0229	0.004
42	SLU 11	-0.08	0.23	2.42	0.0066	-0.0226	0.004
42	SLU 12	-0.08	0.23	2.4	0.0068	-0.0229	0.004
42	SLU 13	-0.08	0.24	2.45	0.0063	-0.0229	0.004
42	SLU 14	-0.08	0.2	2.32	0.0078	-0.0226	0.004
42	SLU 15	-0.08	0.19	2.3	0.0081	-0.0229	0.004
42	SLU 16	-0.08	0.22	2.38	0.0071	-0.0225	0.004
42	SLU 17	-0.08	0.21	2.36	0.0074	-0.0228	0.004
42	SLU 18	-0.09	0.49	3.51	0.0013	-0.0271	0.0047
42	SLU 19	-0.09	0.48	3.48	0.0015	-0.0274	0.0048
42	SLU 20	-0.09	0.45	3.4	0.0025	-0.0271	0.0047
42	SLU 21	-0.1	0.44	3.38	0.0028	-0.0274	0.0048
42	SLU 22	-0.06	-0.3	0.14	0.018	-0.0141	0.0025
42	SLU 23	-0.06	-0.31	0.11	0.0185	-0.0146	0.0026
42	SLU 24	-0.06	-0.36	-0.02	0.02	-0.0142	0.0026
42	SLU 25	-0.06	-0.37	-0.05	0.0203	-0.0145	0.0026
42	SLU 26	-0.06	-0.35	0.01	0.0197	-0.0146	0.0026
42	SLU 27	-0.06	-0.4	-0.13	0.0213	-0.0142	0.0026
42	SLU 28	-0.06	-0.4	-0.15	0.0215	-0.0145	0.0026
42	SLU 29	-0.06	-0.37	-0.06	0.0205	-0.0142	0.0026
42	SLU 30	-0.06	-0.38	-0.08	0.0208	-0.0144	0.0026
42	SLU 31	-0.09	0.14	2.25	0.0107	-0.0253	0.0044
42	SLU 32	-0.09	0.09	2.12	0.0122	-0.025	0.0044
42	SLU 33	-0.09	0.09	2.1	0.0125	-0.0252	0.0044
42	SLU 34	-0.09	0.1	2.15	0.012	-0.0253	0.0045
42	SLU 35	-0.09	0.06	2.02	0.0135	-0.025	0.0044
42	SLU 36	-0.09	0.05	2	0.0138	-0.0252	0.0044
42	SLU 37	-0.09	0.08	2.08	0.0128	-0.0249	0.0044
42	SLU 38	-0.09	0.07	2.06	0.013	-0.0251	0.0044
42	SLU 39	-0.1	0.35	3.2	0.0069	-0.0295	0.0051
42	SLU 40	-0.1	0.34	3.18	0.0072	-0.0297	0.0052
42	SLU 41	-0.1	0.31	3.1	0.0082	-0.0295	0.0052
42	SLU 42	-0.1	0.3	3.08	0.0084	-0.0297	0.0052
42	SLU 43	-0.06	-0.16	0.68	0.0141	-0.0145	0.0026
42	SLU 44	-0.06	-0.17	0.64	0.0146	-0.0149	0.0027
42	SLU 45	-0.06	-0.22	0.51	0.0161	-0.0146	0.0026
42	SLU 46	-0.06	-0.22	0.49	0.0164	-0.0149	0.0027
42	SLU 47	-0.06	-0.21	0.54	0.0159	-0.0149	0.0027
42	SLU 48	-0.06	-0.25	0.41	0.0174	-0.0146	0.0027
42	SLU 49	-0.06	-0.26	0.39	0.0177	-0.0149	0.0027
42	SLU 50	-0.06	-0.23	0.48	0.0167	-0.0145	0.0026
42	SLU 51	-0.06	-0.24	0.45	0.017	-0.0148	0.0027
42	SLU 52	-0.09	0.28	2.79	0.0068	-0.0257	0.0045
42	SLU 53	-0.09	0.24	2.66	0.0084	-0.0253	0.0045
42	SLU 54	-0.09	0.23	2.63	0.0086	-0.0256	0.0045
42	SLU 55	-0.09	0.25	2.69	0.0081	-0.0257	0.0045
42	SLU 56	-0.09	0.2	2.55	0.0096	-0.0253	0.0045
42	SLU 57	-0.09	0.19	2.53	0.0099	-0.0256	0.0045
42	SLU 58	-0.09	0.22	2.62	0.0089	-0.0252	0.0045
42	SLU 59	-0.09	0.21	2.6	0.0092	-0.0255	0.0045
42	SLU 60	-0.11	0.49	3.74	0.003	-0.0298	0.0052
42	SLU 61	-0.11	0.48	3.72	0.0033	-0.0301	0.0053
42	SLU 62	-0.11	0.45	3.64	0.0043	-0.0298	0.0052
42	SLU 63	-0.11	0.44	3.62	0.0046	-0.0301	0.0053
42	SLU 64	-0.07	-0.3	0.38	0.0198	-0.0169	0.003
42	SLU 65	-0.07	-0.31	0.34	0.0202	-0.0173	0.0031
42	SLU 66	-0.07	-0.36	0.21	0.0218	-0.017	0.0031
42	SLU 67	-0.07	-0.37	0.19	0.022	-0.0172	0.0031
42	SLU 68	-0.07	-0.35	0.24	0.0215	-0.0173	0.0031
42	SLU 69	-0.07	-0.4	0.11	0.023	-0.017	0.0031
42	SLU 70	-0.07	-0.4	0.09	0.0233	-0.0172	0.0031
42	SLU 71	-0.07	-0.37	0.17	0.0223	-0.0169	0.0031
42	SLU 72	-0.07	-0.38	0.15	0.0226	-0.0171	0.0031
42	SLU 73	-0.1	0.14	2.49	0.0125	-0.028	0.0049





Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
42	SLU 74			-0.1	0.09	2.35	0.014	-0.0277	0.0049
42	SLU 75			-0.1	0.09	2.33	0.0143	-0.0279	0.0049
42	SLU 76			-0.1	0.1	2.39	0.0137	-0.028	0.0049
42	SLU 77			-0.1	0.06	2.25	0.0153	-0.0277	0.0049
42	SLU 78			-0.1	0.05	2.23	0.0155	-0.028	0.0049
42	SLU 79			-0.1	0.08	2.32	0.0145	-0.0276	0.0049
42	SLU 80			-0.1	0.07	2.3	0.0148	-0.0279	0.0049
42	SLU 81			-0.11	0.35	3.44	0.0087	-0.0322	0.0056
42	SLU 82			-0.11	0.34	3.42	0.0089	-0.0324	0.0057
42	SLU 83			-0.11	0.31	3.34	0.0099	-0.0322	0.0057
42	SLU 84			-0.12	0.3	3.32	0.0102	-0.0325	0.0057
42	SLE RA 1			-0.05	-0.2	0.36	0.014	-0.0124	0.0022
42	SLE RA 2			-0.05	-0.21	0.33	0.0143	-0.0127	0.0023
42	SLE RA 3			-0.05	-0.24	0.25	0.0153	-0.0125	0.0023
42	SLE RA 4			-0.05	-0.24	0.23	0.0155	-0.0127	0.0023
42	SLE RA 5			-0.05	-0.23	0.27	0.0151	-0.0127	0.0023
42	SLE RA 6			-0.05	-0.26	0.18	0.0161	-0.0125	0.0023
42	SLE RA 7			-0.05	-0.27	0.16	0.0163	-0.0127	0.0023
42	SLE RA 8			-0.05	-0.25	0.22	0.0157	-0.0125	0.0023
42	SLE RA 9			-0.05	-0.25	0.21	0.0159	-0.0126	0.0023
42	SLE RA 10			-0.07	0.09	1.76	0.0091	-0.0199	0.0035
42	SLE RA 11			-0.07	0.06	1.67	0.0101	-0.0197	0.0035
42	SLE RA 12			-0.07	0.06	1.66	0.0103	-0.0198	0.0035
42	SLE RA 13			-0.07	0.07	1.7	0.0099	-0.0199	0.0035
42	SLE RA 14			-0.07	0.04	1.61	0.011	-0.0197	0.0035
42	SLE RA 15			-0.07	0.03	1.59	0.0111	-0.0198	0.0035
42	SLE RA 16			-0.07	0.05	1.65	0.0105	-0.0196	0.0035
42	SLE RA 17			-0.07	0.05	1.64	0.0107	-0.0198	0.0035
42	SLE RA 18			-0.08	0.23	2.4	0.0066	-0.0227	0.004
42	SLE RA 19			-0.08	0.23	2.38	0.0068	-0.0228	0.004
42	SLE RA 20			-0.08	0.21	2.33	0.0074	-0.0227	0.004
42	SLE RA 21			-0.08	0.2	2.32	0.0076	-0.0228	0.004
42	SLE FR 1			-0.05	-0.2	0.36	0.014	-0.0124	0.0022
42	SLE FR 2			-0.05	-0.2	0.35	0.014	-0.0125	0.0023
42	SLE FR 3			-0.05	-0.21	0.33	0.0143	-0.0124	0.0022
42	SLE FR 4			-0.06	-0.07	0.96	0.0118	-0.0156	0.0028
42	SLE FR 5			-0.06	-0.08	0.94	0.0121	-0.0155	0.0028
42	SLE FR 6			-0.07	0.02	1.38	0.0103	-0.0176	0.0031
42	SLE QP 1			-0.05	-0.2	0.36	0.014	-0.0124	0.0022
42	SLE QP 2			-0.06	-0.07	0.97	0.0118	-0.0155	0.0028
42	SLD 1			-0.27	-0.27	0.47	0.019	-0.0484	0.0092
42	SLD 2			-0.27	-0.27	0.47	0.019	-0.0484	0.0092
42	SLD 3			-0.24	-1.58	-3	0.0644	-0.0439	0.0083
42	SLD 4			-0.24	-1.58	-3	0.0644	-0.0439	0.0083
42	SLD 5			-0.17	1.85	6.08	-0.0549	-0.0322	0.006
42	SLD 6			-0.17	1.85	6.08	-0.0549	-0.0322	0.006
42	SLD 7			-0.06	-2.5	-5.48	0.0964	-0.0172	0.003
42	SLD 8			-0.06	-2.5	-5.48	0.0964	-0.0172	0.003
42	SLD 9			-0.06	2.36	7.42	-0.0729	-0.0138	0.0025
42	SLD 10			-0.06	2.36	7.42	-0.0729	-0.0138	0.0025
42	SLD 11			0.05	-1.99	-4.14	0.0784	0.0011	-0.0005
42	SLD 12			0.05	-1.99	-4.14	0.0784	0.0011	-0.0005
42	SLD 13			0.12	1.44	4.94	-0.0409	0.0129	-0.0027
42	SLD 14			0.12	1.44	4.94	-0.0409	0.0129	-0.0027
42	SLD 15			0.15	0.13	1.47	0.0045	0.0174	-0.0036
42	SLD 16			0.15	0.13	1.47	0.0045	0.0174	-0.0036
42	SLV 1			-0.58	-0.54	-0.2	0.0285	-0.0981	0.0188
42	SLV 2			-0.58	-0.54	-0.2	0.0285	-0.0981	0.0188
42	SLV 3			-0.51	-3.6	-8.33	0.135	-0.0873	0.0166
42	SLV 4			-0.51	-3.6	-8.33	0.135	-0.0873	0.0166
42	SLV 5			-0.33	4.44	12.94	-0.1447	-0.0566	0.0109
42	SLV 6			-0.33	4.44	12.94	-0.1447	-0.0566	0.0109
42	SLV 7			-0.08	-5.78	-14.14	0.2103	-0.0207	0.0036
42	SLV 8			-0.08	-5.78	-14.14	0.2103	-0.0207	0.0036
42	SLV 9			-0.04	5.64	16.08	-0.1867	-0.0103	0.0019
42	SLV 10			-0.04	5.64	16.08	-0.1867	-0.0103	0.0019
42	SLV 11			0.21	-4.58	-11	0.1682	0.0256	-0.0053
42	SLV 12			0.21	-4.58	-11	0.1682	0.0256	-0.0053
42	SLV 13			0.39	3.46	10.27	-0.1115	0.0563	-0.0111
42	SLV 14			0.39	3.46	10.27	-0.1115	0.0563	-0.0111
42	SLV 15			0.46	0.4	2.14	-0.005	0.067	-0.0133
42	SLV 16			0.46	0.4	2.14	-0.005	0.067	-0.0133
44	SLU 1			6.71	9.84	70.24	-0.1718	0.11	0.0013
44	SLU 2			6.02	11.05	73.31	-0.2084	0.0627	0.0022
44	SLU 3			7.01	10.28	73.36	-0.1794	0.1151	0.0014
44	SLU 4			6.59	11.01	75.2	-0.2014	0.0867	0.0019
44	SLU 5			6.28	11.41	75.89	-0.2147	0.0677	0.0022
44	SLU 6			7.27	10.64	75.94	-0.1857	0.1201	0.0014
44	SLU 7			6.86	11.37	77.78	-0.2077	0.0918	0.0019
44	SLU 8			7.24	10.56	75.4	-0.1844	0.1201	0.0014
44	SLU 9			6.82	11.29	77.24	-0.2063	0.0917	0.0019
44	SLU 10			7.01	12.15	82.04	-0.2245	0.0825	0.0022
44	SLU 11			7.99	11.38	82.09	-0.1955	0.1349	0.0014
44	SLU 12			7.58	12.11	83.93	-0.2174	0.1065	0.0019
44	SLU 13			7.27	12.51	84.62	-0.2307	0.0875	0.0023
44	SLU 14			8.26	11.74	84.67	-0.2018	0.14	0.0015
44	SLU 15			7.84	12.46	86.51	-0.2237	0.1116	0.002
44	SLU 16			8.22	11.65	84.12	-0.2004	0.1399	0.0015



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
44	SLU 17	7.81	12.38	85.97	-0.2224	0.1115	0.002	
44	SLU 18	8.12	11.41	82.71	-0.1948	0.1383	0.0014	
44	SLU 19	7.71	12.13	84.55	-0.2167	0.1099	0.0019	
44	SLU 20	8.38	11.76	85.29	-0.201	0.1434	0.0014	
44	SLU 21	7.97	12.49	87.13	-0.223	0.115	0.002	
44	SLU 22	7.68	11.04	79.44	-0.1901	0.128	0.0014	
44	SLU 23	6.99	12.26	82.51	-0.2266	0.0806	0.0023	
44	SLU 24	7.98	11.49	82.56	-0.1976	0.133	0.0015	
44	SLU 25	7.56	12.21	84.4	-0.2196	0.1046	0.002	
44	SLU 26	7.25	12.61	85.09	-0.2329	0.0857	0.0023	
44	SLU 27	8.24	11.84	85.14	-0.2039	0.1381	0.0015	
44	SLU 28	7.82	12.57	86.98	-0.2259	0.1097	0.002	
44	SLU 29	8.2	11.76	84.6	-0.2026	0.1381	0.0015	
44	SLU 30	7.79	12.49	86.44	-0.2246	0.1097	0.002	
44	SLU 31	7.97	13.35	91.23	-0.2427	0.1004	0.0023	
44	SLU 32	8.96	12.58	91.28	-0.2137	0.1529	0.0015	
44	SLU 33	8.55	13.31	93.13	-0.2356	0.1245	0.0021	
44	SLU 34	8.24	13.71	93.81	-0.249	0.1055	0.0024	
44	SLU 35	9.22	12.94	93.86	-0.22	0.1579	0.0016	
44	SLU 36	8.81	13.67	95.71	-0.2419	0.1295	0.0021	
44	SLU 37	9.19	12.85	93.32	-0.2187	0.1579	0.0016	
44	SLU 38	8.77	13.58	95.16	-0.2406	0.1295	0.0021	
44	SLU 39	9.09	12.61	91.9	-0.213	0.1563	0.0015	
44	SLU 40	8.67	13.34	93.75	-0.2349	0.1279	0.002	
44	SLU 41	9.35	12.97	94.48	-0.2192	0.1613	0.0016	
44	SLU 42	8.93	13.69	96.32	-0.2412	0.1329	0.0021	
44	SLU 43	8.39	12.38	88.16	-0.2171	0.1368	0.0017	
44	SLU 44	7.7	13.6	91.23	-0.2537	0.0895	0.0025	
44	SLU 45	8.69	12.83	91.28	-0.2247	0.1419	0.0017	
44	SLU 46	8.28	13.55	93.12	-0.2467	0.1135	0.0022	
44	SLU 47	7.97	13.95	93.81	-0.26	0.0946	0.0026	
44	SLU 48	8.95	13.18	93.86	-0.231	0.147	0.0018	
44	SLU 49	8.54	13.91	95.7	-0.253	0.1186	0.0023	
44	SLU 50	8.92	13.1	93.32	-0.2297	0.147	0.0017	
44	SLU 51	8.5	13.83	95.16	-0.2517	0.1186	0.0023	
44	SLU 52	8.69	14.69	99.96	-0.2698	0.1093	0.0026	
44	SLU 53	9.68	13.92	100.01	-0.2408	0.1617	0.0018	
44	SLU 54	9.26	14.65	101.85	-0.2627	0.1333	0.0023	
44	SLU 55	8.95	15.05	102.53	-0.2761	0.1144	0.0026	
44	SLU 56	9.94	14.28	102.59	-0.2471	0.1668	0.0018	
44	SLU 57	9.52	15	104.43	-0.269	0.1384	0.0023	
44	SLU 58	9.9	14.19	102.04	-0.2457	0.1668	0.0018	
44	SLU 59	9.49	14.92	103.89	-0.2677	0.1384	0.0023	
44	SLU 60	9.8	13.95	100.63	-0.2401	0.1651	0.0018	
44	SLU 61	9.39	14.67	102.47	-0.262	0.1367	0.0023	
44	SLU 62	10.06	14.31	103.2	-0.2463	0.1702	0.0018	
44	SLU 63	9.65	15.03	105.05	-0.2683	0.1418	0.0023	
44	SLU 64	9.36	13.59	97.36	-0.2354	0.1548	0.0018	
44	SLU 65	8.67	14.8	100.43	-0.2719	0.1075	0.0026	
44	SLU 66	9.66	14.03	100.48	-0.243	0.1599	0.0018	
44	SLU 67	9.24	14.75	102.32	-0.2649	0.1315	0.0023	
44	SLU 68	8.93	15.15	103.01	-0.2782	0.1125	0.0027	
44	SLU 69	9.92	14.38	103.06	-0.2492	0.165	0.0019	
44	SLU 70	9.51	15.11	104.9	-0.2712	0.1366	0.0024	
44	SLU 71	9.89	14.3	102.51	-0.2479	0.1649	0.0019	
44	SLU 72	9.47	15.03	104.36	-0.2699	0.1365	0.0024	
44	SLU 73	9.66	15.89	109.15	-0.288	0.1273	0.0027	
44	SLU 74	10.64	15.12	109.2	-0.259	0.1797	0.0019	
44	SLU 75	10.23	15.85	111.05	-0.2809	0.1513	0.0024	
44	SLU 76	9.92	16.25	111.73	-0.2943	0.1324	0.0027	
44	SLU 77	10.91	15.48	111.78	-0.2653	0.1848	0.0019	
44	SLU 78	10.49	16.21	113.62	-0.2872	0.1564	0.0025	
44	SLU 79	10.87	15.4	111.24	-0.264	0.1847	0.0019	
44	SLU 80	10.46	16.12	113.08	-0.2859	0.1563	0.0024	
44	SLU 81	10.77	15.15	109.82	-0.2583	0.1831	0.0019	
44	SLU 82	10.35	15.88	111.66	-0.2802	0.1547	0.0024	
44	SLU 83	11.03	15.51	112.4	-0.2646	0.1882	0.0019	
44	SLU 84	10.62	16.23	114.24	-0.2865	0.1598	0.0024	
44	SLE RA 1	6.99	10.19	72.87	-0.177	0.1151	0.0013	
44	SLE RA 2	6.53	10.99	74.92	-0.2014	0.0836	0.0019	
44	SLE RA 3	7.19	10.48	74.95	-0.1821	0.1185	0.0014	
44	SLE RA 4	6.91	10.97	76.18	-0.1967	0.0996	0.0017	
44	SLE RA 5	6.7	11.23	76.63	-0.2056	0.087	0.0019	
44	SLE RA 6	7.36	10.72	76.67	-0.1863	0.1219	0.0014	
44	SLE RA 7	7.08	11.2	77.9	-0.2009	0.103	0.0018	
44	SLE RA 8	7.34	10.66	76.31	-0.1854	0.1219	0.0014	
44	SLE RA 9	7.06	11.15	77.53	-0.2001	0.103	0.0017	
44	SLE RA 10	7.19	11.72	80.73	-0.2121	0.0968	0.002	
44	SLE RA 11	7.84	11.21	80.77	-0.1928	0.1317	0.0014	
44	SLE RA 12	7.57	11.7	81.99	-0.2074	0.1128	0.0018	
44	SLE RA 13	7.36	11.96	82.45	-0.2163	0.1002	0.002	
44	SLE RA 14	8.02	11.45	82.49	-0.197	0.1351	0.0015	
44	SLE RA 15	7.74	11.93	83.71	-0.2116	0.1162	0.0018	
44	SLE RA 16	7.99	11.39	82.12	-0.1961	0.1351	0.0014	
44	SLE RA 17	7.72	11.88	83.35	-0.2107	0.1162	0.0018	
44	SLE RA 18	7.93	11.23	81.18	-0.1923	0.134	0.0014	
44	SLE RA 19	7.65	11.71	82.41	-0.207	0.1151	0.0017	
44	SLE RA 20	8.1	11.47	82.9	-0.1965	0.1374	0.0014	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
44	SLE RA 21	7.83	11.95	84.13	-0.2111	0.1184	0.0018		
44	SLE FR 1	6.99	10.19	72.87	-0.177	0.1151	0.0013		
44	SLE FR 2	6.9	10.35	73.28	-0.1819	0.1088	0.0015		
44	SLE FR 3	7.06	10.28	73.56	-0.1787	0.1165	0.0014		
44	SLE FR 4	7.18	10.66	75.77	-0.1865	0.1145	0.0015		
44	SLE FR 5	7.34	10.59	76.05	-0.1833	0.1221	0.0014		
44	SLE FR 6	7.46	10.71	77.02	-0.1847	0.1246	0.0014		
44	SLE QP 1	6.99	10.19	72.87	-0.177	0.1151	0.0013		
44	SLE QP 2	7.27	10.5	75.36	-0.1816	0.1208	0.0014		
44	SLD 1	12.17	14.15	107.09	-0.2558	0.2409	0.0007		
44	SLD 2	12.17	14.15	107.09	-0.2558	0.2409	0.0007		
44	SLD 3	11.08	11.56	94.74	-0.1705	0.2783	-0.0002		
44	SLD 4	11.08	11.56	94.74	-0.1705	0.2783	-0.0002		
44	SLD 5	10.4	15.53	103.6	-0.3333	0.1001	0.0025		
44	SLD 6	10.4	15.53	103.6	-0.3333	0.1001	0.0025		
44	SLD 7	6.76	6.88	62.45	-0.0489	0.2248	-0.0004		
44	SLD 8	6.76	6.88	62.45	-0.0489	0.2248	-0.0004		
44	SLD 9	7.79	14.11	88.27	-0.3144	0.0168	0.0031		
44	SLD 10	7.79	14.11	88.27	-0.3144	0.0168	0.0031		
44	SLD 11	4.14	5.47	47.12	-0.03	0.1415	0.0002		
44	SLD 12	4.14	5.47	47.12	-0.03	0.1415	0.0002		
44	SLD 13	3.46	9.44	55.98	-0.1928	-0.0368	0.0029		
44	SLD 14	3.46	9.44	55.98	-0.1928	-0.0368	0.0029		
44	SLD 15	2.37	6.84	43.64	-0.1075	0.0007	0.002		
44	SLD 16	2.37	6.84	43.64	-0.1075	0.0007	0.002		
44	SLV 1	18.81	19.05	149.82	-0.3565	0.3992	-0.0002		
44	SLV 2	18.81	19.05	149.82	-0.3565	0.3992	-0.0002		
44	SLV 3	16.16	12.98	120.76	-0.1573	0.494	-0.0023		
44	SLV 4	16.16	12.98	120.76	-0.1573	0.494	-0.0023		
44	SLV 5	14.75	22.28	141.78	-0.5361	0.0606	0.0041		
44	SLV 6	14.75	22.28	141.78	-0.5361	0.0606	0.0041		
44	SLV 7	5.92	2.03	44.9	0.1277	0.3765	-0.0029		
44	SLV 8	5.92	2.03	44.9	0.1277	0.3765	-0.0029		
44	SLV 9	8.62	18.97	105.82	-0.491	-0.1349	0.0056		
44	SLV 10	8.62	18.97	105.82	-0.491	-0.1349	0.0056		
44	SLV 11	-0.21	-1.28	8.94	0.1729	0.181	-0.0013		
44	SLV 12	-0.21	-1.28	8.94	0.1729	0.181	-0.0013		
44	SLV 13	-1.62	8.02	29.97	-0.2059	-0.2524	0.005		
44	SLV 14	-1.62	8.02	29.97	-0.2059	-0.2524	0.005		
44	SLV 15	-4.27	1.94	0.9	-0.0068	-0.1576	0.0029		
44	SLV 16	-4.27	1.94	0.9	-0.0068	-0.1576	0.0029		
45	SLU 1	3.04	0.13	51.93	-0.0123	0.2733	-0.0005		
45	SLU 2	1.26	0.14	54.2	-0.0471	0.2089	-0.0006		
45	SLU 3	3.18	0.13	54.11	-0.0128	0.2867	-0.0006		
45	SLU 4	2.11	0.14	55.47	-0.0337	0.248	-0.0006		
45	SLU 5	1.41	0.15	55.98	-0.0476	0.2212	-0.0006		
45	SLU 6	3.32	0.14	55.89	-0.0132	0.299	-0.0006		
45	SLU 7	2.26	0.15	57.25	-0.0341	0.2604	-0.0006		
45	SLU 8	3.33	0.14	55.49	-0.0132	0.298	-0.0006		
45	SLU 9	2.26	0.15	56.85	-0.0341	0.2594	-0.0006		
45	SLU 10	1.93	0.16	60.7	-0.0489	0.2552	-0.0006		
45	SLU 11	3.85	0.15	60.61	-0.0146	0.333	-0.0006		
45	SLU 12	2.78	0.16	61.97	-0.0355	0.2944	-0.0006		
45	SLU 13	2.07	0.17	62.47	-0.0494	0.2676	-0.0007		
45	SLU 14	3.99	0.16	62.39	-0.015	0.3454	-0.0006		
45	SLU 15	2.92	0.16	63.75	-0.0359	0.3067	-0.0007		
45	SLU 16	4	0.15	61.99	-0.015	0.3444	-0.0006		
45	SLU 17	2.93	0.16	63.35	-0.0359	0.3058	-0.0007		
45	SLU 18	4	0.15	61.22	-0.0149	0.3395	-0.0006		
45	SLU 19	2.93	0.16	62.57	-0.0358	0.3009	-0.0006		
45	SLU 20	4.14	0.16	62.99	-0.0153	0.3519	-0.0006		
45	SLU 21	3.07	0.17	64.35	-0.0362	0.3133	-0.0007		
45	SLU 22	3.61	0.15	58.67	-0.014	0.3176	-0.0006		
45	SLU 23	1.83	0.16	60.94	-0.0488	0.2532	-0.0006		
45	SLU 24	3.75	0.15	60.85	-0.0145	0.331	-0.0006		
45	SLU 25	2.68	0.16	62.21	-0.0354	0.2923	-0.0006		
45	SLU 26	1.98	0.17	62.72	-0.0493	0.2655	-0.0007		
45	SLU 27	3.9	0.16	62.63	-0.015	0.3433	-0.0006		
45	SLU 28	2.83	0.17	63.99	-0.0358	0.3047	-0.0007		
45	SLU 29	3.9	0.15	62.23	-0.0149	0.3424	-0.0006		
45	SLU 30	2.83	0.16	63.59	-0.0358	0.3037	-0.0007		
45	SLU 31	2.5	0.18	67.44	-0.0506	0.2995	-0.0007		
45	SLU 32	4.42	0.17	67.35	-0.0163	0.3773	-0.0007		
45	SLU 33	3.35	0.18	68.71	-0.0372	0.3387	-0.0007		
45	SLU 34	2.64	0.18	69.22	-0.0511	0.3119	-0.0007		
45	SLU 35	4.56	0.17	69.13	-0.0167	0.3897	-0.0007		
45	SLU 36	3.49	0.18	70.49	-0.0376	0.351	-0.0007		
45	SLU 37	4.57	0.17	68.73	-0.0167	0.3887	-0.0007		
45	SLU 38	3.5	0.18	70.09	-0.0376	0.3501	-0.0007		
45	SLU 39	4.57	0.17	67.96	-0.0166	0.3839	-0.0007		
45	SLU 40	3.5	0.18	69.32	-0.0375	0.3452	-0.0007		
45	SLU 41	4.71	0.17	69.74	-0.017	0.3962	-0.0007		
45	SLU 42	3.64	0.18	71.1	-0.0379	0.3576	-0.0007		
45	SLU 43	3.76	0.16	65.2	-0.0154	0.3401	-0.0007		
45	SLU 44	1.98	0.18	67.46	-0.0502	0.2757	-0.0007		
45	SLU 45	3.9	0.17	67.37	-0.0159	0.3535	-0.0007		
45	SLU 46	2.83	0.18	68.73	-0.0368	0.3148	-0.0007		
45	SLU 47	2.12	0.18	69.24	-0.0507	0.288	-0.0007		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
45	SLU 48	4.04	0.17	69.15		-0.0164	0.3658	-0.0007	
45	SLU 49	2.97	0.18	70.51		-0.0372	0.3272	-0.0007	
45	SLU 50	4.05	0.17	68.75		-0.0163	0.3649	-0.0007	
45	SLU 51	2.98	0.18	70.11		-0.0372	0.3262	-0.0007	
45	SLU 52	2.64	0.19	73.96		-0.052	0.322	-0.0008	
45	SLU 53	4.56	0.18	73.87		-0.0177	0.3998	-0.0008	
45	SLU 54	3.49	0.19	75.23		-0.0386	0.3612	-0.0008	
45	SLU 55	2.79	0.2	75.74		-0.0525	0.3344	-0.0008	
45	SLU 56	4.71	0.19	75.65		-0.0181	0.4122	-0.0008	
45	SLU 57	3.64	0.2	77.01		-0.039	0.3735	-0.0008	
45	SLU 58	4.72	0.19	75.25		-0.0181	0.4112	-0.0008	
45	SLU 59	3.65	0.2	76.61		-0.039	0.3726	-0.0008	
45	SLU 60	4.71	0.18	74.48		-0.018	0.4063	-0.0008	
45	SLU 61	3.64	0.19	75.84		-0.0389	0.3677	-0.0008	
45	SLU 62	4.86	0.19	76.26		-0.0184	0.4187	-0.0008	
45	SLU 63	3.79	0.2	77.62		-0.0393	0.3801	-0.0008	
45	SLU 64	4.33	0.18	71.94		-0.0171	0.3844	-0.0007	
45	SLU 65	2.55	0.19	74.21		-0.052	0.32	-0.0008	
45	SLU 66	4.47	0.18	74.12		-0.0176	0.3978	-0.0008	
45	SLU 67	3.4	0.19	75.48		-0.0385	0.3591	-0.0008	
45	SLU 68	2.69	0.2	75.99		-0.0524	0.3323	-0.0008	
45	SLU 69	4.61	0.19	75.9		-0.0181	0.4101	-0.0008	
45	SLU 70	3.54	0.2	77.26		-0.039	0.3715	-0.0008	
45	SLU 71	4.62	0.19	75.5		-0.018	0.4092	-0.0008	
45	SLU 72	3.55	0.2	76.86		-0.0389	0.3705	-0.0008	
45	SLU 73	3.22	0.21	80.71		-0.0537	0.3663	-0.0008	
45	SLU 74	5.13	0.2	80.62		-0.0194	0.4441	-0.0008	
45	SLU 75	4.07	0.21	81.98		-0.0403	0.4055	-0.0008	
45	SLU 76	3.36	0.21	82.49		-0.0542	0.3787	-0.0009	
45	SLU 77	5.28	0.2	82.4		-0.0199	0.4565	-0.0008	
45	SLU 78	4.21	0.21	83.76		-0.0407	0.4178	-0.0009	
45	SLU 79	5.29	0.2	82		-0.0198	0.4555	-0.0008	
45	SLU 80	4.22	0.21	83.36		-0.0407	0.4169	-0.0009	
45	SLU 81	5.28	0.2	81.23		-0.0197	0.4507	-0.0008	
45	SLU 82	4.21	0.21	82.59		-0.0406	0.412	-0.0009	
45	SLU 83	5.43	0.21	83		-0.0201	0.463	-0.0008	
45	SLU 84	4.36	0.22	84.36		-0.041	0.4244	-0.0009	
45	SLE RA 1	3.21	0.13	53.86		-0.0128	0.286	-0.0005	
45	SLE RA 2	2.02	0.14	55.37		-0.036	0.243	-0.0006	
45	SLE RA 3	3.3	0.14	55.31		-0.0131	0.2949	-0.0006	
45	SLE RA 4	2.58	0.14	56.22		-0.0271	0.2691	-0.0006	
45	SLE RA 5	2.11	0.15	56.55		-0.0363	0.2513	-0.0006	
45	SLE RA 6	3.39	0.14	56.49		-0.0134	0.3031	-0.0006	
45	SLE RA 7	2.68	0.15	57.4		-0.0274	0.2773	-0.0006	
45	SLE RA 8	3.4	0.14	56.23		-0.0134	0.3025	-0.0006	
45	SLE RA 9	2.69	0.15	57.14		-0.0273	0.2767	-0.0006	
45	SLE RA 10	2.46	0.15	59.7		-0.0372	0.2739	-0.0006	
45	SLE RA 11	3.74	0.15	59.64		-0.0143	0.3258	-0.0006	
45	SLE RA 12	3.03	0.15	60.55		-0.0282	0.3	-0.0006	
45	SLE RA 13	2.56	0.16	60.89		-0.0375	0.2822	-0.0006	
45	SLE RA 14	3.84	0.15	60.83		-0.0146	0.334	-0.0006	
45	SLE RA 15	3.13	0.16	61.73		-0.0285	0.3083	-0.0006	
45	SLE RA 16	3.84	0.15	60.56		-0.0146	0.3334	-0.0006	
45	SLE RA 17	3.13	0.16	61.47		-0.0285	0.3076	-0.0006	
45	SLE RA 18	3.84	0.15	60.05		-0.0145	0.3301	-0.0006	
45	SLE RA 19	3.13	0.16	60.95		-0.0284	0.3044	-0.0006	
45	SLE RA 20	3.94	0.15	61.23		-0.0148	0.3384	-0.0006	
45	SLE RA 21	3.22	0.16	62.14		-0.0287	0.3126	-0.0006	
45	SLE FR 1	3.21	0.13	53.86		-0.0128	0.286	-0.0005	
45	SLE FR 2	2.97	0.14	54.16		-0.0174	0.2774	-0.0006	
45	SLE FR 3	3.24	0.13	54.33		-0.0129	0.2893	-0.0006	
45	SLE FR 4	3.16	0.14	56.02		-0.018	0.2906	-0.0006	
45	SLE FR 5	3.43	0.14	56.19		-0.0134	0.3025	-0.0006	
45	SLE FR 6	3.52	0.14	56.95		-0.0137	0.308	-0.0006	
45	SLE QP 1	3.21	0.13	53.86		-0.0128	0.286	-0.0005	
45	SLE QP 2	3.4	0.14	55.71		-0.0133	0.2992	-0.0006	
45	SLD 1	7.9	0.22	76.33		-0.0051	0.5439	-0.0008	
45	SLD 2	7.9	0.22	76.33		-0.0051	0.5439	-0.0008	
45	SLD 3	9.03	0.19	68.15		0.0336	0.5992	-0.0007	
45	SLD 4	9.03	0.19	68.15		0.0336	0.5992	-0.0007	
45	SLD 5	3.03	0.21	74.3		-0.0696	0.2888	-0.0008	
45	SLD 6	3.03	0.21	74.3		-0.0696	0.2888	-0.0008	
45	SLD 7	6.8	0.11	47.05		0.0595	0.473	-0.0005	
45	SLD 8	6.8	0.11	47.05		0.0595	0.473	-0.0005	
45	SLD 9	-0.01	0.17	64.38		-0.0861	0.1254	-0.0007	
45	SLD 10	-0.01	0.17	64.38		-0.0861	0.1254	-0.0007	
45	SLD 11	3.76	0.07	37.13		0.043	0.3096	-0.0004	
45	SLD 12	3.76	0.07	37.13		0.043	0.3096	-0.0004	
45	SLD 13	-2.24	0.09	43.27		-0.0602	-0.0007	-0.0004	
45	SLD 14	-2.24	0.09	43.27		-0.0602	-0.0007	-0.0004	
45	SLD 15	-1.11	0.06	35.1		-0.0215	0.0545	-0.0003	
45	SLD 16	-1.11	0.06	35.1		-0.0215	0.0545	-0.0003	
45	SLV 1	13.87	0.33	104.1		0.0043	0.8693	-0.0011	
45	SLV 2	13.87	0.33	104.1		0.0043	0.8693	-0.0011	
45	SLV 3	16.7	0.26	84.87		0.1031	1.0066	-0.0009	
45	SLV 4	16.7	0.26	84.87		0.1031	1.0066	-0.0009	
45	SLV 5	2.24	0.3	99.39		-0.1578	0.262	-0.0011	
45	SLV 6	2.24	0.3	99.39		-0.1578	0.262	-0.0011	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
45	SLV 7	11.69	0.07	35.3	0.1714	0.7197	-0.0003
45	SLV 8	11.69	0.07	35.3	0.1714	0.7197	-0.0003
45	SLV 9	-4.89	0.2	76.13	-0.198	-0.1213	-0.0008
45	SLV 10	-4.89	0.2	76.13	-0.198	-0.1213	-0.0008
45	SLV 11	4.55	-0.02	12.03	0.1312	0.3365	-0.0001
45	SLV 12	4.55	-0.02	12.03	0.1312	0.3365	-0.0001
45	SLV 13	-9.91	0.01	26.56	-0.1297	-0.4082	-0.0002
45	SLV 14	-9.91	0.01	26.56	-0.1297	-0.4082	-0.0002
45	SLV 15	-7.07	-0.05	7.33	-0.0309	-0.2709	0
45	SLV 16	-7.07	-0.05	7.33	-0.0309	-0.2709	0
46	SLU 1	-0.46	-0.05	43.26	0.0389	-0.0544	0
46	SLU 2	-2.44	-0.02	45.07	-0.0281	-0.1436	0
46	SLU 3	-0.46	-0.05	44.91	0.0408	-0.0555	0
46	SLU 4	-1.64	-0.03	46	0.0006	-0.109	0
46	SLU 5	-2.39	-0.02	46.4	-0.0267	-0.1425	0
46	SLU 6	-0.41	-0.05	46.23	0.0422	-0.0545	0
46	SLU 7	-1.6	-0.03	47.32	0.002	-0.108	0
46	SLU 8	-0.37	-0.05	45.9	0.0416	-0.0523	0
46	SLU 9	-1.56	-0.03	46.99	0.0015	-0.1058	0
46	SLU 10	-2.23	-0.02	50.56	-0.0241	-0.1398	0
46	SLU 11	-0.25	-0.05	50.39	0.0448	-0.0517	0.0001
46	SLU 12	-1.44	-0.04	51.48	0.0046	-0.1052	0
46	SLU 13	-2.19	-0.03	51.88	-0.0227	-0.1387	0
46	SLU 14	-0.21	-0.05	51.71	0.0461	-0.0507	0.0001
46	SLU 15	-1.39	-0.04	52.8	0.006	-0.1042	0
46	SLU 16	-0.17	-0.05	51.39	0.0456	-0.0485	0.0001
46	SLU 17	-1.35	-0.04	52.48	0.0054	-0.102	0
46	SLU 18	-0.16	-0.05	51.1	0.0446	-0.049	0.0001
46	SLU 19	-1.35	-0.04	52.18	0.0044	-0.1025	0
46	SLU 20	-0.12	-0.05	52.42	0.0459	-0.0479	0.0001
46	SLU 21	-1.31	-0.04	53.5	0.0058	-0.1014	0
46	SLU 22	-0.36	-0.05	48.8	0.0436	-0.0554	0.0001
46	SLU 23	-2.34	-0.02	50.62	-0.0233	-0.1445	0
46	SLU 24	-0.36	-0.05	50.45	0.0455	-0.0565	0.0001
46	SLU 25	-1.55	-0.04	51.54	0.0053	-0.11	0
46	SLU 26	-2.3	-0.03	51.94	-0.022	-0.1435	0
46	SLU 27	-0.32	-0.06	51.77	0.0469	-0.0554	0.0001
46	SLU 28	-1.51	-0.04	52.86	0.0067	-0.1089	0
46	SLU 29	-0.28	-0.05	51.44	0.0464	-0.0532	0.0001
46	SLU 30	-1.46	-0.04	52.53	0.0062	-0.1067	0
46	SLU 31	-2.14	-0.03	56.1	-0.0194	-0.1407	0
46	SLU 32	-0.16	-0.06	55.93	0.0495	-0.0527	0.0001
46	SLU 33	-1.34	-0.04	57.02	0.0093	-0.1062	0
46	SLU 34	-2.09	-0.03	57.42	-0.018	-0.1397	0
46	SLU 35	-0.11	-0.06	57.25	0.0509	-0.0517	0.0001
46	SLU 36	-1.3	-0.04	58.34	0.0107	-0.1052	0.0001
46	SLU 37	-0.07	-0.06	56.93	0.0504	-0.0495	0.0001
46	SLU 38	-1.26	-0.04	58.02	0.0102	-0.103	0
46	SLU 39	-0.07	-0.06	56.64	0.0493	-0.05	0.0001
46	SLU 40	-1.26	-0.04	57.73	0.0091	-0.1035	0
46	SLU 41	-0.03	-0.06	57.96	0.0507	-0.0489	0.0001
46	SLU 42	-1.21	-0.04	59.05	0.0105	-0.1024	0
46	SLU 43	-0.63	-0.06	54.34	0.0489	-0.0704	0.0001
46	SLU 44	-2.61	-0.03	56.15	-0.018	-0.1595	0.0001
46	SLU 45	-0.63	-0.06	55.99	0.0508	-0.0715	0.0001
46	SLU 46	-1.81	-0.04	57.07	0.0106	-0.125	0.0001
46	SLU 47	-2.56	-0.03	57.47	-0.0167	-0.1585	0.0001
46	SLU 48	-0.58	-0.06	57.31	0.0522	-0.0704	0.0001
46	SLU 49	-1.77	-0.04	58.4	0.012	-0.124	0.0001
46	SLU 50	-0.54	-0.06	56.98	0.0517	-0.0683	0.0001
46	SLU 51	-1.73	-0.04	58.07	0.0115	-0.1218	0.0001
46	SLU 52	-2.4	-0.04	61.64	-0.0141	-0.1558	0.0001
46	SLU 53	-0.42	-0.07	61.47	0.0548	-0.0677	0.0001
46	SLU 54	-1.61	-0.05	62.56	0.0146	-0.1212	0.0001
46	SLU 55	-2.36	-0.04	62.96	-0.0127	-0.1547	0.0001
46	SLU 56	-0.38	-0.07	62.79	0.0562	-0.0667	0.0001
46	SLU 57	-1.56	-0.05	63.88	0.016	-0.1202	0.0001
46	SLU 58	-0.34	-0.07	62.47	0.0557	-0.0645	0.0001
46	SLU 59	-1.52	-0.05	63.55	0.0155	-0.118	0.0001
46	SLU 60	-0.33	-0.07	62.17	0.0546	-0.065	0.0001
46	SLU 61	-1.52	-0.05	63.26	0.0144	-0.1185	0.0001
46	SLU 62	-0.29	-0.07	63.49	0.056	-0.0639	0.0001
46	SLU 63	-1.48	-0.05	64.58	0.0158	-0.1174	0.0001
46	SLU 64	-0.53	-0.06	59.88	0.0537	-0.0713	0.0001
46	SLU 65	-2.51	-0.04	61.69	-0.0133	-0.1605	0.0001
46	SLU 66	-0.53	-0.07	61.53	0.0556	-0.0725	0.0001
46	SLU 67	-1.72	-0.05	62.62	0.0154	-0.126	0.0001
46	SLU 68	-2.47	-0.04	63.02	-0.0119	-0.1595	0.0001
46	SLU 69	-0.49	-0.07	62.85	0.0569	-0.0714	0.0001
46	SLU 70	-1.68	-0.05	63.94	0.0168	-0.1249	0.0001
46	SLU 71	-0.45	-0.07	62.52	0.0564	-0.0692	0.0001
46	SLU 72	-1.64	-0.05	63.61	0.0162	-0.1227	0.0001
46	SLU 73	-2.31	-0.04	67.18	-0.0093	-0.1567	0.0001
46	SLU 74	-0.33	-0.07	67.01	0.0595	-0.0687	0.0001
46	SLU 75	-1.51	-0.05	68.1	0.0194	-0.1222	0.0001
46	SLU 76	-2.26	-0.04	68.5	-0.0079	-0.1557	0.0001
46	SLU 77	-0.28	-0.07	68.33	0.0609	-0.0676	0.0001
46	SLU 78	-1.47	-0.06	69.42	0.0207	-0.1211	0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
46	SLU 79			-0.24	-0.07	68.01	0.0604	-0.0655	0.0001
46	SLU 80			-1.43	-0.06	69.1	0.0202	-0.119	0.0001
46	SLU 81			-0.24	-0.07	67.72	0.0593	-0.0659	0.0001
46	SLU 82			-1.43	-0.05	68.8	0.0192	-0.1194	0.0001
46	SLU 83			-0.2	-0.07	69.04	0.0607	-0.0649	0.0001
46	SLU 84			-1.38	-0.06	70.12	0.0206	-0.1184	0.0001
46	SLE RA 1			-0.43	-0.05	44.84	0.0402	-0.0547	0
46	SLE RA 2			-1.75	-0.03	46.05	-0.0044	-0.1141	0
46	SLE RA 3			-0.43	-0.05	45.94	0.0415	-0.0554	0
46	SLE RA 4			-1.22	-0.04	46.67	0.0147	-0.0911	0
46	SLE RA 5			-1.72	-0.03	46.93	-0.0035	-0.1134	0
46	SLE RA 6			-0.4	-0.05	46.82	0.0424	-0.0547	0
46	SLE RA 7			-1.19	-0.04	47.55	0.0156	-0.0904	0
46	SLE RA 8			-0.37	-0.05	46.61	0.0421	-0.0533	0
46	SLE RA 9			-1.17	-0.04	47.33	0.0153	-0.0889	0
46	SLE RA 10			-1.61	-0.03	49.71	-0.0018	-0.1116	0
46	SLE RA 11			-0.29	-0.05	49.6	0.0442	-0.0529	0.0001
46	SLE RA 12			-1.08	-0.04	50.32	0.0174	-0.0886	0
46	SLE RA 13			-1.58	-0.03	50.59	-0.0008	-0.1109	0
46	SLE RA 14			-0.26	-0.05	50.48	0.0451	-0.0522	0.0001
46	SLE RA 15			-1.06	-0.04	51.2	0.0183	-0.0879	0
46	SLE RA 16			-0.24	-0.05	50.26	0.0447	-0.0507	0.0001
46	SLE RA 17			-1.03	-0.04	50.99	0.0179	-0.0864	0
46	SLE RA 18			-0.23	-0.05	50.07	0.044	-0.0511	0.0001
46	SLE RA 19			-1.03	-0.04	50.79	0.0172	-0.0867	0
46	SLE RA 20			-0.21	-0.05	50.95	0.0449	-0.0504	0.0001
46	SLE RA 21			-1	-0.04	51.67	0.0182	-0.086	0
46	SLE FR 1			-0.43	-0.05	44.84	0.0402	-0.0547	0
46	SLE FR 2			-0.7	-0.04	45.09	0.0313	-0.0666	0
46	SLE FR 3			-0.42	-0.05	45.2	0.0406	-0.0544	0
46	SLE FR 4			-0.64	-0.05	46.65	0.0324	-0.0655	0
46	SLE FR 5			-0.36	-0.05	46.76	0.0417	-0.0533	0
46	SLE FR 6			-0.33	-0.05	47.46	0.0421	-0.0529	0
46	SLE QP 1			-0.43	-0.05	44.84	0.0402	-0.0547	0
46	SLE QP 2			-0.37	-0.05	46.41	0.0414	-0.0536	0
46	SLD 1			3.74	-0.15	60.53	0.0493	0.1223	-0.0002
46	SLD 2			3.74	-0.15	60.53	0.0493	0.1223	-0.0002
46	SLD 3			4.9	-0.11	54.65	0.1322	0.1777	-0.0002
46	SLD 4			4.9	-0.11	54.65	0.1322	0.1777	-0.0002
46	SLD 5			-0.89	-0.14	59.57	-0.082	-0.0849	0.0001
46	SLD 6			-0.89	-0.14	59.57	-0.082	-0.0849	0.0001
46	SLD 7			2.97	-0.01	39.96	0.1944	0.0999	-0.0001
46	SLD 8			2.97	-0.01	39.96	0.1944	0.0999	-0.0001
46	SLD 9			-3.71	-0.09	52.86	-0.1117	-0.207	0.0002
46	SLD 10			-3.71	-0.09	52.86	-0.1117	-0.207	0.0002
46	SLD 11			0.15	0.04	33.25	0.1648	-0.0223	0
46	SLD 12			0.15	0.04	33.25	0.1648	-0.0223	0
46	SLD 13			-5.65	0.01	38.18	-0.0495	-0.2849	0.0003
46	SLD 14			-5.65	0.01	38.18	-0.0495	-0.2849	0.0003
46	SLD 15			-4.49	0.05	32.29	0.0334	-0.2295	0.0003
46	SLD 16			-4.49	0.05	32.29	0.0334	-0.2295	0.0003
46	SLV 1			9.17	-0.29	79.55	0.056	0.3534	-0.0004
46	SLV 2			9.17	-0.29	79.55	0.056	0.3534	-0.0004
46	SLV 3			12.08	-0.19	65.72	0.2679	0.4931	-0.0006
46	SLV 4			12.08	-0.19	65.72	0.2679	0.4931	-0.0006
46	SLV 5			-1.93	-0.27	77.32	-0.2756	-0.1434	0.0001
46	SLV 6			-1.93	-0.27	77.32	-0.2756	-0.1434	0.0001
46	SLV 7			7.78	0.06	31.24	0.4307	0.3224	-0.0004
46	SLV 8			7.78	0.06	31.24	0.4307	0.3224	-0.0004
46	SLV 9			-8.53	-0.15	61.58	-0.348	-0.4295	0.0005
46	SLV 10			-8.53	-0.15	61.58	-0.348	-0.4295	0.0005
46	SLV 11			1.18	0.17	15.5	0.3583	0.0362	0
46	SLV 12			1.18	0.17	15.5	0.3583	0.0362	0
46	SLV 13			-12.83	0.1	27.1	-0.1852	-0.6003	0.0007
46	SLV 14			-12.83	0.1	27.1	-0.1852	-0.6003	0.0007
46	SLV 15			-9.91	0.19	13.27	0.0267	-0.4606	0.0005
46	SLV 16			-9.91	0.19	13.27	0.0267	-0.4606	0.0005
47	SLU 1			-0.23	-0.16	37.1	0.0853	0.0797	0.0006
47	SLU 2			-1.91	-0.1	38.5	-0.017	0.0161	0.0004
47	SLU 3			-0.18	-0.17	38.36	0.0893	0.0865	0.0006
47	SLU 4			-1.19	-0.13	39.2	0.028	0.0483	0.0005
47	SLU 5			-1.82	-0.11	39.49	-0.014	0.0236	0.0004
47	SLU 6			-0.1	-0.17	39.36	0.0923	0.094	0.0006
47	SLU 7			-1.1	-0.14	40.2	0.031	0.0559	0.0005
47	SLU 8			-0.06	-0.17	39.09	0.0913	0.0948	0.0006
47	SLU 9			-1.06	-0.14	39.93	0.0299	0.0566	0.0005
47	SLU 10			-1.71	-0.12	43.28	-0.0077	0.0359	0.0005
47	SLU 11			0.02	-0.19	43.15	0.0986	0.1063	0.0007
47	SLU 12			-0.99	-0.15	43.99	0.0372	0.0681	0.0006
47	SLU 13			-1.62	-0.13	44.28	-0.0047	0.0434	0.0005
47	SLU 14			0.11	-0.19	44.14	0.1016	0.1138	0.0007
47	SLU 15			-0.9	-0.16	44.98	0.0402	0.0757	0.0006
47	SLU 16			0.14	-0.19	43.88	0.1005	0.1145	0.0007
47	SLU 17			-0.86	-0.16	44.72	0.0392	0.0764	0.0006
47	SLU 18			0.06	-0.19	43.93	0.0985	0.108	0.0007
47	SLU 19			-0.95	-0.16	44.77	0.0372	0.0698	0.0006
47	SLU 20			0.14	-0.2	44.93	0.1015	0.1155	0.0007
47	SLU 21			-0.86	-0.16	45.77	0.0402	0.0773	0.0006



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
47	SLU 22	-0.1	-0.18	41.78	0.0959	0.0978	0.0007
47	SLU 23	-1.78	-0.13	43.18	-0.0063	0.0342	0.0005
47	SLU 24	-0.05	-0.19	43.05	0.0999	0.1046	0.0007
47	SLU 25	-1.06	-0.16	43.89	0.0386	0.0664	0.0006
47	SLU 26	-1.69	-0.13	44.18	-0.0034	0.0417	0.0005
47	SLU 27	0.03	-0.2	44.05	0.1029	0.1121	0.0007
47	SLU 28	-0.97	-0.16	44.89	0.0416	0.0739	0.0006
47	SLU 29	0.07	-0.19	43.78	0.1019	0.1128	0.0007
47	SLU 30	-0.94	-0.16	44.62	0.0405	0.0747	0.0006
47	SLU 31	-1.58	-0.15	47.97	0.0029	0.054	0.0006
47	SLU 32	0.15	-0.21	47.83	0.1092	0.1244	0.0008
47	SLU 33	-0.86	-0.18	48.67	0.0478	0.0862	0.0007
47	SLU 34	-1.49	-0.15	48.97	0.0059	0.0615	0.0006
47	SLU 35	0.23	-0.22	48.83	0.1122	0.1319	0.0008
47	SLU 36	-0.77	-0.18	49.67	0.0508	0.0937	0.0007
47	SLU 37	0.27	-0.21	48.56	0.1112	0.1326	0.0008
47	SLU 38	-0.73	-0.18	49.4	0.0498	0.0945	0.0007
47	SLU 39	0.19	-0.21	48.62	0.1092	0.126	0.0008
47	SLU 40	-0.82	-0.18	49.46	0.0478	0.0879	0.0007
47	SLU 41	0.27	-0.22	49.62	0.1121	0.1336	0.0008
47	SLU 42	-0.73	-0.18	50.46	0.0508	0.0954	0.0007
47	SLU 43	-0.34	-0.2	46.62	0.1073	0.0974	0.0008
47	SLU 44	-2.02	-0.15	48.02	0.005	0.0338	0.0006
47	SLU 45	-0.29	-0.21	47.88	0.1113	0.1042	0.0008
47	SLU 46	-1.3	-0.18	48.72	0.0499	0.0661	0.0007
47	SLU 47	-1.93	-0.15	49.02	0.008	0.0414	0.0006
47	SLU 48	-0.21	-0.22	48.88	0.1143	0.1117	0.0008
47	SLU 49	-1.21	-0.18	49.72	0.0529	0.0736	0.0007
47	SLU 50	-0.17	-0.21	48.61	0.1132	0.1125	0.0008
47	SLU 51	-1.18	-0.18	49.45	0.0519	0.0743	0.0007
47	SLU 52	-1.82	-0.17	52.8	0.0143	0.0536	0.0007
47	SLU 53	-0.09	-0.23	52.67	0.1205	0.124	0.0008
47	SLU 54	-1.1	-0.2	53.51	0.0592	0.0859	0.0007
47	SLU 55	-1.73	-0.17	53.8	0.0172	0.0611	0.0007
47	SLU 56	-0.01	-0.24	53.67	0.1235	0.1315	0.0009
47	SLU 57	-1.01	-0.2	54.51	0.0622	0.0934	0.0008
47	SLU 58	0.03	-0.23	53.4	0.1225	0.1323	0.0009
47	SLU 59	-0.98	-0.2	54.24	0.0611	0.0941	0.0008
47	SLU 60	-0.06	-0.23	53.45	0.1205	0.1257	0.0009
47	SLU 61	-1.06	-0.2	54.29	0.0591	0.0875	0.0008
47	SLU 62	0.03	-0.24	54.45	0.1235	0.1332	0.0009
47	SLU 63	-0.98	-0.2	55.29	0.0621	0.0951	0.0008
47	SLU 64	-0.22	-0.23	51.31	0.1179	0.1155	0.0008
47	SLU 65	-1.89	-0.17	52.71	0.0156	0.0519	0.0007
47	SLU 66	-0.17	-0.23	52.57	0.1219	0.1223	0.0009
47	SLU 67	-1.17	-0.2	53.41	0.0605	0.0841	0.0008
47	SLU 68	-1.81	-0.17	53.7	0.0186	0.0594	0.0007
47	SLU 69	-0.08	-0.24	53.57	0.1249	0.1298	0.0009
47	SLU 70	-1.09	-0.2	54.41	0.0635	0.0917	0.0008
47	SLU 71	-0.04	-0.24	53.3	0.1239	0.1305	0.0009
47	SLU 72	-1.05	-0.2	54.14	0.0625	0.0924	0.0008
47	SLU 73	-1.69	-0.19	57.49	0.0249	0.0717	0.0007
47	SLU 74	0.03	-0.25	57.36	0.1312	0.1421	0.0009
47	SLU 75	-0.97	-0.22	58.2	0.0698	0.1039	0.0008
47	SLU 76	-1.6	-0.19	58.49	0.0279	0.0792	0.0007
47	SLU 77	0.12	-0.26	58.35	0.1341	0.1496	0.0009
47	SLU 78	-0.89	-0.22	59.19	0.0728	0.1114	0.0008
47	SLU 79	0.16	-0.25	58.09	0.1331	0.1503	0.0009
47	SLU 80	-0.85	-0.22	58.93	0.0718	0.1122	0.0008
47	SLU 81	0.07	-0.25	58.14	0.1311	0.1437	0.0009
47	SLU 82	-0.93	-0.22	58.98	0.0697	0.1056	0.0008
47	SLU 83	0.16	-0.26	59.14	0.1341	0.1513	0.0009
47	SLU 84	-0.85	-0.22	59.98	0.0727	0.1131	0.0008
47	SLE RA 1	-0.19	-0.17	38.44	0.0883	0.0849	0.0006
47	SLE RA 2	-1.31	-0.13	39.37	0.0202	0.0425	0.0005
47	SLE RA 3	-0.16	-0.17	39.28	0.091	0.0894	0.0006
47	SLE RA 4	-0.83	-0.15	39.84	0.0501	0.064	0.0006
47	SLE RA 5	-1.25	-0.13	40.03	0.0222	0.0475	0.0005
47	SLE RA 6	-0.1	-0.18	39.94	0.093	0.0944	0.0006
47	SLE RA 7	-0.77	-0.15	40.5	0.0521	0.069	0.0006
47	SLE RA 8	-0.08	-0.18	39.77	0.0923	0.0949	0.0006
47	SLE RA 9	-0.75	-0.15	40.33	0.0514	0.0695	0.0006
47	SLE RA 10	-1.18	-0.14	42.56	0.0263	0.0557	0.0006
47	SLE RA 11	-0.03	-0.19	42.47	0.0972	0.1026	0.0007
47	SLE RA 12	-0.7	-0.16	43.03	0.0563	0.0772	0.0006
47	SLE RA 13	-1.12	-0.15	43.22	0.0283	0.0607	0.0006
47	SLE RA 14	0.03	-0.19	43.13	0.0992	0.1076	0.0007
47	SLE RA 15	-0.64	-0.17	43.69	0.0583	0.0822	0.0006
47	SLE RA 16	0.06	-0.19	42.96	0.0985	0.1081	0.0007
47	SLE RA 17	-0.62	-0.17	43.52	0.0576	0.0827	0.0006
47	SLE RA 18	0	-0.19	42.99	0.0972	0.1037	0.0007
47	SLE RA 19	-0.67	-0.16	43.55	0.0563	0.0783	0.0006
47	SLE RA 20	0.06	-0.19	43.66	0.0992	0.1087	0.0007
47	SLE RA 21	-0.62	-0.17	44.22	0.0582	0.0833	0.0006
47	SLE FR 1	-0.19	-0.17	38.44	0.0883	0.0849	0.0006
47	SLE FR 2	-0.42	-0.16	38.62	0.0747	0.0764	0.0006
47	SLE FR 3	-0.17	-0.17	38.7	0.0891	0.0869	0.0006
47	SLE FR 4	-0.36	-0.17	39.99	0.0774	0.082	0.0006



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
47	SLE FR 5	-0.11	-0.18	40.07		0.0918	0.0925	0.0006	
47	SLE FR 6	-0.1	-0.18	40.71		0.0928	0.0943	0.0007	
47	SLE QP 1	-0.19	-0.17	38.44		0.0883	0.0849	0.0006	
47	SLE QP 2	-0.14	-0.17	39.8		0.091	0.0905	0.0006	
47	SLD 1	4.62	-0.31	49.67		0.0893	0.3241	0.0011	
47	SLD 2	4.62	-0.31	49.67		0.0893	0.3241	0.0011	
47	SLD 3	5.65	-0.22	45.1		0.2224	0.3685	0.0008	
47	SLD 4	5.65	-0.22	45.1		0.2224	0.3685	0.0008	
47	SLD 5	-0.26	-0.36	49.68		-0.1115	0.0933	0.0012	
47	SLD 6	-0.26	-0.36	49.68		-0.1115	0.0933	0.0012	
47	SLD 7	3.15	-0.04	34.47		0.3324	0.2412	0.0002	
47	SLD 8	3.15	-0.04	34.47		0.3324	0.2412	0.0002	
47	SLD 9	-3.43	-0.3	45.14		-0.1504	-0.0601	0.001	
47	SLD 10	-3.43	-0.3	45.14		-0.1504	-0.0601	0.001	
47	SLD 11	-0.01	0.01	29.92		0.2935	0.0877	0	
47	SLD 12	-0.01	0.01	29.92		0.2935	0.0877	0	
47	SLD 13	-5.92	-0.13	34.5		-0.0405	-0.1875	0.0004	
47	SLD 14	-5.92	-0.13	34.5		-0.0405	-0.1875	0.0004	
47	SLD 15	-4.9	-0.04	29.94		0.0927	-0.1431	0.0001	
47	SLD 16	-4.9	-0.04	29.94		0.0927	-0.1431	0.0001	
47	SLV 1	10.93	-0.51	62.97		0.0797	0.6343	0.0019	
47	SLV 2	10.93	-0.51	62.97		0.0797	0.6343	0.0019	
47	SLV 3	13.5	-0.27	52.2		0.4196	0.7457	0.0011	
47	SLV 4	13.5	-0.27	52.2		0.4196	0.7457	0.0011	
47	SLV 5	-0.72	-0.64	63.09		-0.428	0.0847	0.0022	
47	SLV 6	-0.72	-0.64	63.09		-0.428	0.0847	0.0022	
47	SLV 7	7.85	0.16	27.19		0.7051	0.456	-0.0004	
47	SLV 8	7.85	0.16	27.19		0.7051	0.456	-0.0004	
47	SLV 9	-8.13	-0.51	52.42		-0.5231	-0.275	0.0017	
47	SLV 10	-8.13	-0.51	52.42		-0.5231	-0.275	0.0017	
47	SLV 11	0.44	0.29	16.51		0.6099	0.0963	-0.0009	
47	SLV 12	0.44	0.29	16.51		0.6099	0.0963	-0.0009	
47	SLV 13	-13.77	-0.08	27.4		-0.2376	-0.5647	0.0002	
47	SLV 14	-13.77	-0.08	27.4		-0.2376	-0.5647	0.0002	
47	SLV 15	-11.2	0.16	16.63		0.1023	-0.4533	-0.0006	
47	SLV 16	-11.2	0.16	16.63		0.1023	-0.4533	-0.0006	
48	SLU 1	-1.39	-0.22	31.82		0.1139	-0.0842	0.0011	
48	SLU 2	-2.88	-0.13	32.91		-0.0226	-0.1512	0.0007	
48	SLU 3	-1.37	-0.23	32.77		0.1192	-0.0842	0.0012	
48	SLU 4	-2.26	-0.17	33.43		0.0373	-0.1244	0.0009	
48	SLU 5	-2.81	-0.13	33.65		-0.0186	-0.1488	0.0008	
48	SLU 6	-1.29	-0.23	33.51		0.1231	-0.0818	0.0012	
48	SLU 7	-2.18	-0.18	34.16		0.0412	-0.122	0.001	
48	SLU 8	-1.24	-0.23	33.29		0.1218	-0.0795	0.0012	
48	SLU 9	-2.14	-0.18	33.95		0.0399	-0.1197	0.0009	
48	SLU 10	-2.88	-0.15	37.08		-0.0102	-0.1545	0.0009	
48	SLU 11	-1.36	-0.25	36.94		0.1315	-0.0874	0.0013	
48	SLU 12	-2.25	-0.2	37.6		0.0497	-0.1276	0.0011	
48	SLU 13	-2.8	-0.16	37.82		-0.0063	-0.1521	0.0009	
48	SLU 14	-1.29	-0.26	37.68		0.1355	-0.0851	0.0013	
48	SLU 15	-2.18	-0.2	38.34		0.0536	-0.1253	0.0011	
48	SLU 16	-1.24	-0.26	37.46		0.1341	-0.0827	0.0013	
48	SLU 17	-2.13	-0.2	38.12		0.0522	-0.1229	0.0011	
48	SLU 18	-1.38	-0.25	37.78		0.1315	-0.0889	0.0013	
48	SLU 19	-2.28	-0.2	38.43		0.0497	-0.1291	0.0011	
48	SLU 20	-1.31	-0.26	38.51		0.1355	-0.0865	0.0013	
48	SLU 21	-2.2	-0.21	39.17		0.0536	-0.1267	0.0011	
48	SLU 22	-1.44	-0.24	35.77		0.1279	-0.0899	0.0013	
48	SLU 23	-2.93	-0.15	36.87		-0.0085	-0.1568	0.0009	
48	SLU 24	-1.41	-0.25	36.73		0.1332	-0.0898	0.0013	
48	SLU 25	-2.31	-0.2	37.38		0.0514	-0.13	0.0011	
48	SLU 26	-2.85	-0.16	37.6		-0.0046	-0.1545	0.0009	
48	SLU 27	-1.34	-0.26	37.46		0.1372	-0.0874	0.0013	
48	SLU 28	-2.23	-0.21	38.12		0.0553	-0.1276	0.0011	
48	SLU 29	-1.29	-0.26	37.24		0.1358	-0.0851	0.0013	
48	SLU 30	-2.18	-0.2	37.9		0.054	-0.1253	0.0011	
48	SLU 31	-2.92	-0.18	41.04		0.0039	-0.1601	0.001	
48	SLU 32	-1.41	-0.28	40.9		0.1456	-0.0931	0.0014	
48	SLU 33	-2.3	-0.22	41.55		0.0637	-0.1333	0.0012	
48	SLU 34	-2.85	-0.19	41.77		0.0078	-0.1577	0.001	
48	SLU 35	-1.33	-0.29	41.63		0.1496	-0.0907	0.0015	
48	SLU 36	-2.23	-0.23	42.29		0.0677	-0.1309	0.0012	
48	SLU 37	-1.28	-0.28	41.41		0.1482	-0.0884	0.0015	
48	SLU 38	-2.18	-0.23	42.07		0.0663	-0.1286	0.0012	
48	SLU 39	-1.43	-0.28	41.73		0.1456	-0.0945	0.0015	
48	SLU 40	-2.32	-0.23	42.39		0.0637	-0.1347	0.0012	
48	SLU 41	-1.36	-0.29	42.47		0.1496	-0.0921	0.0015	
48	SLU 42	-2.25	-0.23	43.12		0.0677	-0.1323	0.0012	
48	SLU 43	-1.79	-0.27	40.01		0.1432	-0.1076	0.0014	
48	SLU 44	-3.28	-0.18	41.1		0.0067	-0.1746	0.001	
48	SLU 45	-1.77	-0.28	40.96		0.1485	-0.1075	0.0015	
48	SLU 46	-2.66	-0.23	41.62		0.0666	-0.1477	0.0012	
48	SLU 47	-3.21	-0.19	41.84		0.0107	-0.1722	0.001	
48	SLU 48	-1.69	-0.29	41.7		0.1524	-0.1051	0.0015	
48	SLU 49	-2.59	-0.23	42.36		0.0706	-0.1453	0.0012	
48	SLU 50	-1.64	-0.29	41.48		0.1511	-0.1028	0.0015	
48	SLU 51	-2.54	-0.23	42.14		0.0692	-0.143	0.0012	
48	SLU 52	-3.28	-0.21	45.27		0.0191	-0.1778	0.0011	





Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
48	SLU 53	-1.76	-0.31	45.13		0.1609	-0.1108	0.0016	
48	SLU 54	-2.66	-0.25	45.79		0.079	-0.151	0.0013	
48	SLU 55	-3.2	-0.21	46.01		0.0231	-0.1754	0.0012	
48	SLU 56	-1.69	-0.31	45.87		0.1648	-0.1084	0.0016	
48	SLU 57	-2.58	-0.26	46.53		0.0829	-0.1486	0.0014	
48	SLU 58	-1.64	-0.31	45.65		0.1635	-0.1061	0.0016	
48	SLU 59	-2.53	-0.26	46.31		0.0816	-0.1463	0.0014	
48	SLU 60	-1.79	-0.31	45.97		0.1609	-0.1122	0.0016	
48	SLU 61	-2.68	-0.25	46.62		0.079	-0.1524	0.0014	
48	SLU 62	-1.71	-0.32	46.7		0.1648	-0.1099	0.0016	
48	SLU 63	-2.6	-0.26	47.36		0.0829	-0.15	0.0014	
48	SLU 64	-1.84	-0.3	43.96		0.1573	-0.1132	0.0015	
48	SLU 65	-3.33	-0.21	45.06		0.0208	-0.1802	0.0012	
48	SLU 66	-1.81	-0.31	44.92		0.1626	-0.1132	0.0016	
48	SLU 67	-2.71	-0.25	45.57		0.0807	-0.1533	0.0014	
48	SLU 68	-3.25	-0.22	45.79		0.0248	-0.1778	0.0012	
48	SLU 69	-1.74	-0.32	45.65		0.1665	-0.1108	0.0016	
48	SLU 70	-2.63	-0.26	46.31		0.0846	-0.151	0.0014	
48	SLU 71	-1.69	-0.31	45.43		0.1652	-0.1085	0.0016	
48	SLU 72	-2.58	-0.26	46.09		0.0833	-0.1486	0.0014	
48	SLU 73	-3.32	-0.23	49.23		0.0332	-0.1834	0.0013	
48	SLU 74	-1.81	-0.33	49.09		0.1749	-0.1164	0.0017	
48	SLU 75	-2.7	-0.28	49.74		0.0931	-0.1566	0.0015	
48	SLU 76	-3.25	-0.24	49.96		0.0371	-0.1811	0.0013	
48	SLU 77	-1.73	-0.34	49.82		0.1789	-0.114	0.0018	
48	SLU 78	-2.63	-0.29	50.48		0.097	-0.1542	0.0015	
48	SLU 79	-1.69	-0.34	49.6		0.1775	-0.1117	0.0017	
48	SLU 80	-2.58	-0.28	50.26		0.0957	-0.1519	0.0015	
48	SLU 81	-1.83	-0.34	49.92		0.1749	-0.1179	0.0017	
48	SLU 82	-2.73	-0.28	50.58		0.0931	-0.1581	0.0015	
48	SLU 83	-1.76	-0.34	50.66		0.1789	-0.1155	0.0018	
48	SLU 84	-2.65	-0.29	51.31		0.097	-0.1557	0.0015	
48	SLE RA 1	-1.41	-0.22	32.95		0.1179	-0.0858	0.0012	
48	SLE RA 2	-2.4	-0.16	33.68		0.0269	-0.1305	0.0009	
48	SLE RA 3	-1.39	-0.23	33.58		0.1214	-0.0858	0.0012	
48	SLE RA 4	-1.98	-0.19	34.02		0.0668	-0.1126	0.001	
48	SLE RA 5	-2.35	-0.17	34.17		0.0296	-0.1289	0.0009	
48	SLE RA 6	-1.34	-0.24	34.07		0.1241	-0.0842	0.0012	
48	SLE RA 7	-1.93	-0.2	34.51		0.0695	-0.111	0.0011	
48	SLE RA 8	-1.31	-0.23	33.93		0.1232	-0.0827	0.0012	
48	SLE RA 9	-1.9	-0.2	34.37		0.0686	-0.1095	0.001	
48	SLE RA 10	-2.39	-0.18	36.46		0.0352	-0.1327	0.001	
48	SLE RA 11	-1.38	-0.25	36.36		0.1297	-0.088	0.0013	
48	SLE RA 12	-1.98	-0.21	36.8		0.0751	-0.1148	0.0011	
48	SLE RA 13	-2.34	-0.19	36.95		0.0378	-0.1311	0.001	
48	SLE RA 14	-1.33	-0.25	36.86		0.1323	-0.0864	0.0013	
48	SLE RA 15	-1.93	-0.22	37.29		0.0777	-0.1132	0.0011	
48	SLE RA 16	-1.3	-0.25	36.71		0.1314	-0.0849	0.0013	
48	SLE RA 17	-1.9	-0.21	37.15		0.0768	-0.1116	0.0011	
48	SLE RA 18	-1.4	-0.25	36.92		0.1297	-0.089	0.0013	
48	SLE RA 19	-2	-0.21	37.36		0.0751	-0.1157	0.0011	
48	SLE RA 20	-1.35	-0.25	37.41		0.1323	-0.0874	0.0013	
48	SLE RA 21	-1.95	-0.22	37.85		0.0777	-0.1142	0.0012	
48	SLE FR 1	-1.41	-0.22	32.95		0.1179	-0.0858	0.0012	
48	SLE FR 2	-1.6	-0.21	33.09		0.0997	-0.0948	0.0011	
48	SLE FR 3	-1.39	-0.23	33.14		0.1189	-0.0852	0.0012	
48	SLE FR 4	-1.6	-0.22	34.29		0.1032	-0.0957	0.0011	
48	SLE FR 5	-1.38	-0.23	34.34		0.1225	-0.0861	0.0012	
48	SLE FR 6	-1.4	-0.24	34.93		0.1238	-0.0874	0.0012	
48	SLE QP 1	-1.41	-0.22	32.95		0.1179	-0.0858	0.0012	
48	SLE QP 2	-1.4	-0.23	34.14		0.1214	-0.0868	0.0012	
48	SLD 1	3.71	-0.4	40.93		0.1048	0.1269	0.002	
48	SLD 2	3.71	-0.4	40.93		0.1048	0.1269	0.002	
48	SLD 3	4.74	-0.25	37.17		0.2865	0.1749	0.0013	
48	SLD 4	4.74	-0.25	37.17		0.2865	0.1749	0.0013	
48	SLD 5	-1.43	-0.51	41.87		-0.1591	-0.0955	0.0025	
48	SLD 6	-1.43	-0.51	41.87		-0.1591	-0.0955	0.0025	
48	SLD 7	2	-0.01	29.35		0.4465	0.0646	0.0002	
48	SLD 8	2	-0.01	29.35		0.4465	0.0646	0.0002	
48	SLD 9	-4.81	-0.45	38.93		-0.2036	-0.2381	0.0022	
48	SLD 10	-4.81	-0.45	38.93		-0.2036	-0.2381	0.0022	
48	SLD 11	-1.38	0.04	26.41		0.4019	-0.078	-0.0001	
48	SLD 12	-1.38	0.04	26.41		0.4019	-0.078	-0.0001	
48	SLD 13	-7.55	-0.21	31.11		-0.0436	-0.3485	0.0011	
48	SLD 14	-7.55	-0.21	31.11		-0.0436	-0.3485	0.0011	
48	SLD 15	-6.52	-0.07	27.35		0.138	-0.3004	0.0004	
48	SLD 16	-6.52	-0.07	27.35		0.138	-0.3004	0.0004	
48	SLV 1	10.5	-0.64	50.15		0.0714	0.4098	0.0031	
48	SLV 2	10.5	-0.64	50.15		0.0714	0.4098	0.0031	
48	SLV 3	13.06	-0.27	41.16		0.5348	0.5295	0.0014	
48	SLV 4	13.06	-0.27	41.16		0.5348	0.5295	0.0014	
48	SLV 5	-1.71	-0.93	52.58		-0.5963	-0.1195	0.0044	
48	SLV 6	-1.71	-0.93	52.58		-0.5963	-0.1195	0.0044	
48	SLV 7	6.82	0.33	22.61		0.9482	0.2798	-0.0013	
48	SLV 8	6.82	0.33	22.61		0.9482	0.2798	-0.0013	
48	SLV 9	-9.62	-0.79	45.67		-0.7053	-0.4533	0.0037	
48	SLV 10	-9.62	-0.79	45.67		-0.7053	-0.4533	0.0037	
48	SLV 11	-1.1	0.46	15.7		0.8392	-0.0541	-0.002	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
48	SLV 12			-1.1	0.46	15.7	0.8392	-0.0541	-0.002
48	SLV 13			-15.87	-0.2	27.12	-0.2919	-0.7031	0.001
48	SLV 14			-15.87	-0.2	27.12	-0.2919	-0.7031	0.001
48	SLV 15			-13.31	0.18	18.13	0.1714	-0.5833	-0.0007
48	SLV 16			-13.31	0.18	18.13	0.1714	-0.5833	-0.0007
49	SLU 1			0.24	-0.22	27.58	0.1256	0.0675	0.0013
49	SLU 2			-0.84	-0.1	28.44	-0.0399	0.0262	0.0007
49	SLU 3			0.37	-0.23	28.3	0.1313	0.0764	0.0014
49	SLU 4			-0.27	-0.16	28.81	0.032	0.0517	0.001
49	SLU 5			-0.67	-0.11	28.98	-0.0356	0.036	0.0008
49	SLU 6			0.54	-0.24	28.84	0.1355	0.0862	0.0014
49	SLU 7			-0.1	-0.17	29.36	0.0363	0.0614	0.0011
49	SLU 8			0.57	-0.24	28.67	0.1341	0.0871	0.0014
49	SLU 9			-0.07	-0.16	29.18	0.0348	0.0623	0.001
49	SLU 10			-0.66	-0.13	32.1	-0.0264	0.0413	0.0009
49	SLU 11			0.56	-0.26	31.97	0.1448	0.0915	0.0015
49	SLU 12			-0.09	-0.19	32.48	0.0456	0.0667	0.0012
49	SLU 13			-0.49	-0.13	32.64	-0.0221	0.051	0.0009
49	SLU 14			0.72	-0.26	32.51	0.1491	0.1012	0.0016
49	SLU 15			0.08	-0.19	33.02	0.0498	0.0765	0.0012
49	SLU 16			0.76	-0.26	32.33	0.1476	0.1021	0.0016
49	SLU 17			0.11	-0.19	32.85	0.0483	0.0773	0.0012
49	SLU 18			0.5	-0.26	32.82	0.1449	0.089	0.0015
49	SLU 19			-0.15	-0.19	33.33	0.0456	0.0642	0.0012
49	SLU 20			0.67	-0.27	33.36	0.1491	0.0988	0.0016
49	SLU 21			0.02	-0.19	33.87	0.0499	0.074	0.0012
49	SLU 22			0.41	-0.25	30.94	0.1409	0.0832	0.0015
49	SLU 23			-0.66	-0.13	31.8	-0.0246	0.042	0.0009
49	SLU 24			0.55	-0.26	31.66	0.1466	0.0922	0.0015
49	SLU 25			-0.1	-0.19	32.18	0.0474	0.0674	0.0012
49	SLU 26			-0.49	-0.14	32.34	-0.0203	0.0517	0.0009
49	SLU 27			0.72	-0.27	32.21	0.1509	0.1019	0.0016
49	SLU 28			0.07	-0.19	32.72	0.0516	0.0772	0.0012
49	SLU 29			0.75	-0.26	32.03	0.1494	0.1028	0.0016
49	SLU 30			0.1	-0.19	32.54	0.0501	0.078	0.0012
49	SLU 31			-0.48	-0.16	35.46	-0.011	0.057	0.0011
49	SLU 32			0.73	-0.29	35.33	0.1601	0.1072	0.0017
49	SLU 33			0.09	-0.21	35.84	0.0609	0.0824	0.0013
49	SLU 34			-0.31	-0.16	36.01	-0.0068	0.0668	0.0011
49	SLU 35			0.9	-0.29	35.87	0.1644	0.117	0.0017
49	SLU 36			0.25	-0.22	36.38	0.0651	0.0922	0.0014
49	SLU 37			0.93	-0.29	35.7	0.1629	0.1178	0.0017
49	SLU 38			0.29	-0.22	36.21	0.0636	0.0931	0.0014
49	SLU 39			0.67	-0.29	36.18	0.1602	0.1047	0.0017
49	SLU 40			0.03	-0.22	36.69	0.0609	0.0799	0.0014
49	SLU 41			0.84	-0.29	36.72	0.1644	0.1145	0.0018
49	SLU 42			0.2	-0.22	37.24	0.0652	0.0897	0.0014
49	SLU 43			0.25	-0.28	34.7	0.158	0.0824	0.0017
49	SLU 44			-0.83	-0.16	35.56	-0.0075	0.0411	0.0011
49	SLU 45			0.38	-0.29	35.42	0.1637	0.0913	0.0017
49	SLU 46			-0.26	-0.22	35.93	0.0645	0.0665	0.0014
49	SLU 47			-0.66	-0.17	36.1	-0.0032	0.0509	0.0011
49	SLU 48			0.55	-0.3	35.96	0.168	0.1011	0.0018
49	SLU 49			-0.09	-0.22	36.48	0.0687	0.0763	0.0014
49	SLU 50			0.58	-0.29	35.79	0.1665	0.1019	0.0017
49	SLU 51			-0.06	-0.22	36.3	0.0672	0.0771	0.0014
49	SLU 52			-0.65	-0.18	39.22	0.0061	0.0561	0.0012
49	SLU 53			0.57	-0.31	39.09	0.1772	0.1063	0.0019
49	SLU 54			-0.08	-0.24	39.6	0.078	0.0816	0.0015
49	SLU 55			-0.48	-0.19	39.77	0.0103	0.0659	0.0013
49	SLU 56			0.73	-0.32	39.63	0.1815	0.1161	0.0019
49	SLU 57			0.09	-0.25	40.14	0.0822	0.0913	0.0016
49	SLU 58			0.77	-0.32	39.45	0.18	0.1169	0.0019
49	SLU 59			0.12	-0.25	39.97	0.0807	0.0922	0.0015
49	SLU 60			0.51	-0.32	39.94	0.1773	0.1038	0.0019
49	SLU 61			-0.14	-0.24	40.45	0.078	0.0791	0.0015
49	SLU 62			0.68	-0.32	40.48	0.1815	0.1136	0.0019
49	SLU 63			0.03	-0.25	41	0.0823	0.0888	0.0016
49	SLU 64			0.42	-0.31	38.07	0.1733	0.0981	0.0018
49	SLU 65			-0.65	-0.19	38.92	0.0079	0.0568	0.0012
49	SLU 66			0.56	-0.32	38.78	0.179	0.107	0.0019
49	SLU 67			-0.09	-0.24	39.3	0.0798	0.0823	0.0015
49	SLU 68			-0.48	-0.19	39.46	0.0121	0.0666	0.0013
49	SLU 69			0.73	-0.32	39.33	0.1833	0.1168	0.0019
49	SLU 70			0.08	-0.25	39.84	0.084	0.092	0.0016
49	SLU 71			0.76	-0.32	39.15	0.1818	0.1176	0.0019
49	SLU 72			0.11	-0.25	39.66	0.0825	0.0929	0.0016
49	SLU 73			-0.47	-0.21	42.59	0.0214	0.0718	0.0014
49	SLU 74			0.74	-0.34	42.45	0.1926	0.1221	0.002
49	SLU 75			0.1	-0.27	42.96	0.0933	0.0973	0.0017
49	SLU 76			-0.3	-0.22	43.13	0.0256	0.0816	0.0014
49	SLU 77			0.91	-0.35	42.99	0.1968	0.1318	0.0021
49	SLU 78			0.26	-0.28	43.51	0.0975	0.1071	0.0017
49	SLU 79			0.94	-0.35	42.82	0.1953	0.1327	0.0021
49	SLU 80			0.3	-0.27	43.33	0.096	0.1079	0.0017
49	SLU 81			0.68	-0.34	43.3	0.1926	0.1196	0.0021
49	SLU 82			0.04	-0.27	43.82	0.0933	0.0948	0.0017
49	SLU 83			0.85	-0.35	43.85	0.1969	0.1293	0.0021



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
49	SLU 84	0.21	-0.28	44.36		0.0976	0.1046	0.0017	
49	SLE RA 1	0.29	-0.23	28.54		0.1299	0.072	0.0014	
49	SLE RA 2	-0.43	-0.15	29.11		0.0196	0.0445	0.001	
49	SLE RA 3	0.38	-0.24	29.02		0.1338	0.078	0.0014	
49	SLE RA 4	-0.05	-0.19	29.36		0.0676	0.0614	0.0012	
49	SLE RA 5	-0.32	-0.15	29.47		0.0225	0.051	0.001	
49	SLE RA 6	0.49	-0.24	29.38		0.1366	0.0845	0.0014	
49	SLE RA 7	0.06	-0.19	29.73		0.0704	0.068	0.0012	
49	SLE RA 8	0.51	-0.24	29.27		0.1356	0.085	0.0014	
49	SLE RA 9	0.08	-0.19	29.61		0.0694	0.0685	0.0012	
49	SLE RA 10	-0.31	-0.17	31.56		0.0287	0.0545	0.0011	
49	SLE RA 11	0.5	-0.25	31.47		0.1428	0.088	0.0015	
49	SLE RA 12	0.07	-0.21	31.81		0.0766	0.0715	0.0013	
49	SLE RA 13	-0.2	-0.17	31.92		0.0315	0.061	0.0011	
49	SLE RA 14	0.61	-0.26	31.83		0.1456	0.0945	0.0015	
49	SLE RA 15	0.18	-0.21	32.17		0.0794	0.078	0.0013	
49	SLE RA 16	0.63	-0.26	31.71		0.1446	0.0951	0.0015	
49	SLE RA 17	0.2	-0.21	32.05		0.0784	0.0785	0.0013	
49	SLE RA 18	0.46	-0.25	32.03		0.1428	0.0863	0.0015	
49	SLE RA 19	0.03	-0.21	32.38		0.0766	0.0698	0.0013	
49	SLE RA 20	0.57	-0.26	32.4		0.1456	0.0928	0.0015	
49	SLE RA 21	0.14	-0.21	32.74		0.0795	0.0763	0.0013	
49	SLE FR 1	0.29	-0.23	28.54		0.1299	0.072	0.0014	
49	SLE FR 2	0.14	-0.21	28.66		0.1079	0.0665	0.0013	
49	SLE FR 3	0.33	-0.23	28.69		0.1311	0.0746	0.0014	
49	SLE FR 4	0.2	-0.22	29.7		0.1117	0.0708	0.0013	
49	SLE FR 5	0.38	-0.24	29.73		0.1349	0.0789	0.0014	
49	SLE FR 6	0.37	-0.24	30.29		0.1364	0.0792	0.0014	
49	SLE QP 1	0.29	-0.23	28.54		0.1299	0.072	0.0014	
49	SLE QP 2	0.34	-0.24	29.59		0.1338	0.0763	0.0014	
49	SLD 1	6.63	-0.42	34.55		0.1014	0.3654	0.0024	
49	SLD 2	6.63	-0.42	34.55		0.1014	0.3654	0.0024	
49	SLD 3	7.59	-0.23	31.19		0.324	0.4093	0.0014	
49	SLD 4	7.59	-0.23	31.19		0.324	0.4093	0.0014	
49	SLD 5	0.76	-0.58	36.18		-0.2136	0.0963	0.0032	
49	SLD 6	0.76	-0.58	36.18		-0.2136	0.0963	0.0032	
49	SLD 7	3.98	0.05	24.97		0.5285	0.2429	-0.0001	
49	SLD 8	3.98	0.05	24.97		0.5285	0.2429	-0.0001	
49	SLD 9	-3.3	-0.53	34.21		-0.2609	-0.0903	0.0029	
49	SLD 10	-3.3	-0.53	34.21		-0.2609	-0.0903	0.0029	
49	SLD 11	-0.08	0.11	23		0.4812	0.0562	-0.0004	
49	SLD 12	-0.08	0.11	23		0.4812	0.0562	-0.0004	
49	SLD 13	-6.92	-0.24	27.99		-0.0564	-0.2567	0.0014	
49	SLD 14	-6.92	-0.24	27.99		-0.0564	-0.2567	0.0014	
49	SLD 15	-5.95	-0.05	24.63		0.1663	-0.2128	0.0004	
49	SLD 16	-5.95	-0.05	24.63		0.1663	-0.2128	0.0004	
49	SLV 1	15	-0.7	41.39		0.043	0.7507	0.0038	
49	SLV 2	15	-0.7	41.39		0.043	0.7507	0.0038	
49	SLV 3	17.39	-0.21	33.18		0.6107	0.8591	0.0013	
49	SLV 4	17.39	-0.21	33.18		0.6107	0.8591	0.0013	
49	SLV 5	1.11	-1.11	45.58		-0.7543	0.1143	0.0059	
49	SLV 6	1.11	-1.11	45.58		-0.7543	0.1143	0.0059	
49	SLV 7	9.08	0.51	18.22		1.1378	0.4754	-0.0024	
49	SLV 8	9.08	0.51	18.22		1.1378	0.4754	-0.0024	
49	SLV 9	-8.4	-0.98	40.96		-0.8701	-0.3229	0.0053	
49	SLV 10	-8.4	-0.98	40.96		-0.8701	-0.3229	0.0053	
49	SLV 11	-0.43	0.64	13.6		1.0219	0.0383	-0.0031	
49	SLV 12	-0.43	0.64	13.6		1.0219	0.0383	-0.0031	
49	SLV 13	-16.71	-0.26	26		-0.343	-0.7065	0.0015	
49	SLV 14	-16.71	-0.26	26		-0.343	-0.7065	0.0015	
49	SLV 15	-14.32	0.22	17.79		0.2246	-0.5982	-0.001	
49	SLV 16	-14.32	0.22	17.79		0.2246	-0.5982	-0.001	
50	SLU 1	0.65	-0.21	24.99		0.1297	0.0099	0.0012	
50	SLU 2	-0.18	-0.07	25.63		-0.0565	-0.0282	0.0005	
50	SLU 3	0.81	-0.22	25.56		0.1354	0.016	0.0012	
50	SLU 4	0.32	-0.14	25.94		0.0236	-0.0069	0.0008	
50	SLU 5	0.01	-0.08	26.05		-0.0524	-0.0207	0.0005	
50	SLU 6	1.01	-0.23	25.98		0.1395	0.0234	0.0012	
50	SLU 7	0.51	-0.14	26.37		0.0277	0.0006	0.0008	
50	SLU 8	1.04	-0.22	25.83		0.1379	0.0248	0.0012	
50	SLU 9	0.54	-0.14	26.22		0.0262	0.002	0.0008	
50	SLU 10	0.03	-0.1	29		-0.0425	-0.0213	0.0006	
50	SLU 11	1.03	-0.24	28.93		0.1494	0.0229	0.0013	
50	SLU 12	0.53	-0.16	29.31		0.0376	0.0001	0.0009	
50	SLU 13	0.23	-0.1	29.42		-0.0384	-0.0138	0.0007	
50	SLU 14	1.22	-0.25	29.35		0.1535	0.0304	0.0014	
50	SLU 15	0.73	-0.17	29.74		0.0418	0.0076	0.001	
50	SLU 16	1.25	-0.25	29.2		0.1519	0.0317	0.0014	
50	SLU 17	0.75	-0.16	29.58		0.0402	0.0089	0.001	
50	SLU 18	0.95	-0.25	29.8		0.1497	0.0198	0.0014	
50	SLU 19	0.46	-0.16	30.18		0.038	-0.0031	0.0009	
50	SLU 20	1.15	-0.25	30.22		0.1538	0.0272	0.0014	
50	SLU 21	0.65	-0.17	30.61		0.0421	0.0044	0.001	
50	SLU 22	0.87	-0.24	27.99		0.1453	0.0168	0.0013	
50	SLU 23	0.04	-0.1	28.63		-0.0409	-0.0213	0.0006	
50	SLU 24	1.04	-0.25	28.56		0.1509	0.0229	0.0014	
50	SLU 25	0.54	-0.16	28.95		0.0392	0.0001	0.0009	
50	SLU 26	0.23	-0.1	29.05		-0.0368	-0.0138	0.0007	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
50	SLU 27	1.23	-0.25	28.99	0.1551	0.0304	0.0014
50	SLU 28	0.73	-0.17	29.37	0.0433	0.0075	0.001
50	SLU 29	1.26	-0.25	28.84	0.1535	0.0317	0.0014
50	SLU 30	0.76	-0.17	29.22	0.0418	0.0089	0.001
50	SLU 31	0.25	-0.12	32	-0.0269	-0.0144	0.0008
50	SLU 32	1.25	-0.27	31.93	0.165	0.0298	0.0015
50	SLU 33	0.75	-0.19	32.32	0.0532	0.007	0.0011
50	SLU 34	0.45	-0.13	32.42	-0.0228	-0.0069	0.0008
50	SLU 35	1.45	-0.28	32.36	0.1691	0.0373	0.0015
50	SLU 36	0.95	-0.19	32.74	0.0573	0.0145	0.0011
50	SLU 37	1.47	-0.27	32.2	0.1675	0.0386	0.0015
50	SLU 38	0.97	-0.19	32.59	0.0558	0.0158	0.0011
50	SLU 39	1.18	-0.27	32.8	0.1653	0.0267	0.0015
50	SLU 40	0.68	-0.19	33.19	0.0536	0.0038	0.0011
50	SLU 41	1.37	-0.28	33.23	0.1694	0.0342	0.0015
50	SLU 42	0.87	-0.19	33.61	0.0577	0.0113	0.0011
50	SLU 43	0.77	-0.27	31.45	0.1632	0.0104	0.0015
50	SLU 44	-0.07	-0.13	32.09	-0.023	-0.0276	0.0008
50	SLU 45	0.93	-0.27	32.02	0.1689	0.0166	0.0015
50	SLU 46	0.43	-0.19	32.41	0.0572	-0.0063	0.0011
50	SLU 47	0.13	-0.13	32.51	-0.0189	-0.0202	0.0008
50	SLU 48	1.13	-0.28	32.45	0.173	0.024	0.0015
50	SLU 49	0.63	-0.2	32.83	0.0613	0.0012	0.0011
50	SLU 50	1.15	-0.28	32.3	0.1715	0.0254	0.0015
50	SLU 51	0.66	-0.19	32.68	0.0597	0.0025	0.0011
50	SLU 52	0.15	-0.15	35.46	-0.009	-0.0207	0.0009
50	SLU 53	1.15	-0.3	35.39	0.1829	0.0235	0.0016
50	SLU 54	0.65	-0.21	35.78	0.0712	0.0007	0.0012
50	SLU 55	0.34	-0.16	35.88	-0.0049	-0.0132	0.001
50	SLU 56	1.34	-0.31	35.82	0.187	0.031	0.0017
50	SLU 57	0.84	-0.22	36.2	0.0753	0.0081	0.0013
50	SLU 58	1.37	-0.3	35.67	0.1855	0.0323	0.0017
50	SLU 59	0.87	-0.22	36.05	0.0737	0.0095	0.0013
50	SLU 60	1.07	-0.3	36.26	0.1832	0.0204	0.0017
50	SLU 61	0.57	-0.22	36.65	0.0715	-0.0025	0.0012
50	SLU 62	1.27	-0.31	36.69	0.1874	0.0278	0.0017
50	SLU 63	0.77	-0.22	37.07	0.0756	0.005	0.0013
50	SLU 64	0.99	-0.29	34.45	0.1788	0.0173	0.0016
50	SLU 65	0.16	-0.15	35.1	-0.0074	-0.0207	0.0009
50	SLU 66	1.15	-0.3	35.03	0.1845	0.0235	0.0017
50	SLU 67	0.66	-0.22	35.41	0.0728	0.0006	0.0012
50	SLU 68	0.35	-0.16	35.52	-0.0033	-0.0132	0.001
50	SLU 69	1.35	-0.31	35.45	0.1886	0.0309	0.0017
50	SLU 70	0.85	-0.22	35.84	0.0769	0.0081	0.0013
50	SLU 71	1.38	-0.3	35.3	0.187	0.0323	0.0017
50	SLU 72	0.88	-0.22	35.68	0.0753	0.0095	0.0013
50	SLU 73	0.37	-0.18	38.47	0.0066	-0.0138	0.0011
50	SLU 74	1.37	-0.33	38.4	0.1985	0.0304	0.0018
50	SLU 75	0.87	-0.24	38.78	0.0868	0.0076	0.0014
50	SLU 76	0.57	-0.18	38.89	0.0107	-0.0063	0.0011
50	SLU 77	1.56	-0.33	38.82	0.2026	0.0379	0.0018
50	SLU 78	1.07	-0.25	39.21	0.0909	0.0151	0.0014
50	SLU 79	1.59	-0.33	38.67	0.2011	0.0392	0.0018
50	SLU 80	1.09	-0.24	39.05	0.0893	0.0164	0.0014
50	SLU 81	1.29	-0.33	39.27	0.1988	0.0273	0.0018
50	SLU 82	0.8	-0.24	39.65	0.0871	0.0044	0.0014
50	SLU 83	1.49	-0.33	39.69	0.2029	0.0347	0.0018
50	SLU 84	0.99	-0.25	40.08	0.0912	0.0119	0.0014
50	SLE RA 1	0.71	-0.22	25.84	0.1341	0.0118	0.0012
50	SLE RA 2	0.16	-0.13	26.27	0.01	-0.0135	0.0008
50	SLE RA 3	0.82	-0.22	26.23	0.1379	0.0159	0.0012
50	SLE RA 4	0.49	-0.17	26.48	0.0634	0.0007	0.001
50	SLE RA 5	0.29	-0.13	26.55	0.0127	-0.0086	0.0008
50	SLE RA 6	0.95	-0.23	26.51	0.1407	0.0209	0.0013
50	SLE RA 7	0.62	-0.17	26.76	0.0662	0.0057	0.001
50	SLE RA 8	0.97	-0.23	26.41	0.1396	0.0218	0.0013
50	SLE RA 9	0.64	-0.17	26.66	0.0651	0.0066	0.001
50	SLE RA 10	0.3	-0.14	28.52	0.0193	-0.0089	0.0008
50	SLE RA 11	0.97	-0.24	28.47	0.1473	0.0205	0.0013
50	SLE RA 12	0.63	-0.18	28.73	0.0728	0.0053	0.0011
50	SLE RA 13	0.43	-0.15	28.8	0.0221	-0.0039	0.0009
50	SLE RA 14	1.09	-0.25	28.75	0.15	0.0255	0.0013
50	SLE RA 15	0.76	-0.19	29.01	0.0755	0.0103	0.0011
50	SLE RA 16	1.11	-0.24	28.65	0.149	0.0264	0.0013
50	SLE RA 17	0.78	-0.19	28.91	0.0745	0.0112	0.0011
50	SLE RA 18	0.92	-0.24	29.05	0.1475	0.0184	0.0013
50	SLE RA 19	0.58	-0.19	29.31	0.073	0.0032	0.0011
50	SLE RA 20	1.05	-0.25	29.33	0.1502	0.0234	0.0014
50	SLE RA 21	0.71	-0.19	29.59	0.0757	0.0082	0.0011
50	SLE FR 1	0.71	-0.22	25.84	0.1341	0.0118	0.0012
50	SLE FR 2	0.6	-0.2	25.93	0.1093	0.0068	0.0011
50	SLE FR 3	0.76	-0.22	25.96	0.1352	0.0138	0.0012
50	SLE FR 4	0.66	-0.21	26.89	0.1133	0.0087	0.0012
50	SLE FR 5	0.82	-0.23	26.92	0.1392	0.0158	0.0013
50	SLE FR 6	0.81	-0.23	27.45	0.1408	0.0151	0.0013
50	SLE QP 1	0.71	-0.22	25.84	0.1341	0.0118	0.0012
50	SLE QP 2	0.77	-0.23	26.81	0.1381	0.0138	0.0012
50	SLD 1	7.55	-0.42	31.04	0.0921	0.2956	0.0022



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
50	SLD 2	7.55	-0.42	31.04	0.0921	0.2956	0.0022		
50	SLD 3	8.55	-0.2	27.83	0.3451	0.3389	0.0011		
50	SLD 4	8.55	-0.2	27.83	0.3451	0.3389	0.0011		
50	SLD 5	1.3	-0.62	32.96	-0.2593	0.0328	0.0032		
50	SLD 6	1.3	-0.62	32.96	-0.2593	0.0328	0.0032		
50	SLD 7	4.61	0.12	22.23	0.5838	0.1769	-0.0004		
50	SLD 8	4.61	0.12	22.23	0.5838	0.1769	-0.0004		
50	SLD 9	-3.07	-0.57	31.38	-0.3076	-0.1492	0.0029		
50	SLD 10	-3.07	-0.57	31.38	-0.3076	-0.1492	0.0029		
50	SLD 11	0.25	0.17	20.66	0.5356	-0.0052	-0.0007		
50	SLD 12	0.25	0.17	20.66	0.5356	-0.0052	-0.0007		
50	SLD 13	-7	-0.25	25.78	-0.0688	-0.3112	0.0014		
50	SLD 14	-7	-0.25	25.78	-0.0688	-0.3112	0.0014		
50	SLD 15	-6.01	-0.03	22.57	0.1841	-0.268	0.0003		
50	SLD 16	-6.01	-0.03	22.57	0.1841	-0.268	0.0003		
50	SLV 1	16.6	-0.72	36.96	0.0127	0.6713	0.0037		
50	SLV 2	16.6	-0.72	36.96	0.0127	0.6713	0.0037		
50	SLV 3	19.04	-0.15	29	0.6575	0.7776	0.0009		
50	SLV 4	19.04	-0.15	29	0.6575	0.7776	0.0009		
50	SLV 5	1.82	-1.23	41.93	-0.8774	0.0499	0.0062		
50	SLV 6	1.82	-1.23	41.93	-0.8774	0.0499	0.0062		
50	SLV 7	9.95	0.65	15.39	1.2719	0.4041	-0.0031		
50	SLV 8	9.95	0.65	15.39	1.2719	0.4041	-0.0031		
50	SLV 9	-8.4	-1.1	38.22	-0.9956	-0.3764	0.0055		
50	SLV 10	-8.4	-1.1	38.22	-0.9956	-0.3764	0.0055		
50	SLV 11	-0.28	0.78	11.68	1.1537	-0.0223	-0.0037		
50	SLV 12	-0.28	0.78	11.68	1.1537	-0.0223	-0.0037		
50	SLV 13	-17.49	-0.3	24.61	-0.3812	-0.7499	0.0016		
50	SLV 14	-17.49	-0.3	24.61	-0.3812	-0.7499	0.0016		
50	SLV 15	-15.05	0.26	16.65	0.2636	-0.6437	-0.0012		
50	SLV 16	-15.05	0.26	16.65	0.2636	-0.6437	-0.0012		
51	SLU 1	2.3	-0.21	23.73	0.1365	0.1215	0.0008		
51	SLU 2	1.83	-0.06	24.1	-0.0605	0.1058	0.0003		
51	SLU 3	2.56	-0.22	24.23	0.142	0.1341	0.0008		
51	SLU 4	2.27	-0.13	24.45	0.0239	0.1246	0.0005		
51	SLU 5	2.1	-0.07	24.46	-0.0566	0.1187	0.0003		
51	SLU 6	2.82	-0.23	24.58	0.1459	0.147	0.0008		
51	SLU 7	2.54	-0.14	24.81	0.0277	0.1375	0.0005		
51	SLU 8	2.84	-0.23	24.45	0.1442	0.1473	0.0008		
51	SLU 9	2.55	-0.14	24.67	0.026	0.1378	0.0005		
51	SLU 10	2.24	-0.09	27.36	-0.0453	0.126	0.0004		
51	SLU 11	2.97	-0.25	27.48	0.1572	0.1542	0.0009		
51	SLU 12	2.69	-0.16	27.71	0.039	0.1448	0.0006		
51	SLU 13	2.51	-0.1	27.71	-0.0414	0.1388	0.0004		
51	SLU 14	3.24	-0.25	27.84	0.1611	0.1671	0.0009		
51	SLU 15	2.96	-0.16	28.06	0.0429	0.1577	0.0006		
51	SLU 16	3.25	-0.25	27.7	0.1594	0.1674	0.0009		
51	SLU 17	2.97	-0.16	27.92	0.0412	0.158	0.0006		
51	SLU 18	2.9	-0.25	28.38	0.1582	0.1503	0.0009		
51	SLU 19	2.61	-0.16	28.61	0.04	0.1409	0.0006		
51	SLU 20	3.16	-0.26	28.74	0.162	0.1632	0.0009		
51	SLU 21	2.88	-0.17	28.96	0.0439	0.1538	0.0006		
51	SLU 22	2.75	-0.24	26.57	0.1528	0.1438	0.0009		
51	SLU 23	2.27	-0.09	26.94	-0.0442	0.1281	0.0004		
51	SLU 24	3	-0.25	27.07	0.1584	0.1563	0.0009		
51	SLU 25	2.72	-0.16	27.29	0.0402	0.1469	0.0006		
51	SLU 26	2.54	-0.1	27.3	-0.0403	0.1409	0.0004		
51	SLU 27	3.27	-0.25	27.42	0.1622	0.1692	0.0009		
51	SLU 28	2.98	-0.16	27.64	0.044	0.1598	0.0006		
51	SLU 29	3.28	-0.25	27.28	0.1605	0.1695	0.0009		
51	SLU 30	3	-0.16	27.5	0.0424	0.1601	0.0006		
51	SLU 31	2.69	-0.12	30.2	-0.029	0.1482	0.0005		
51	SLU 32	3.42	-0.27	30.32	0.1735	0.1765	0.001		
51	SLU 33	3.13	-0.18	30.54	0.0554	0.1671	0.0007		
51	SLU 34	2.96	-0.12	30.55	-0.0251	0.1611	0.0005		
51	SLU 35	3.68	-0.28	30.68	0.1774	0.1894	0.001		
51	SLU 36	3.4	-0.19	30.9	0.0592	0.1799	0.0007		
51	SLU 37	3.7	-0.28	30.54	0.1757	0.1897	0.001		
51	SLU 38	3.41	-0.19	30.76	0.0576	0.1803	0.0007		
51	SLU 39	3.34	-0.28	31.22	0.1745	0.1726	0.001		
51	SLU 40	3.06	-0.19	31.44	0.0563	0.1631	0.0007		
51	SLU 41	3.61	-0.28	31.58	0.1784	0.1854	0.001		
51	SLU 42	3.32	-0.19	31.8	0.0602	0.176	0.0007		
51	SLU 43	2.84	-0.27	29.88	0.1718	0.1503	0.001		
51	SLU 44	2.37	-0.12	30.25	-0.0251	0.1346	0.0005		
51	SLU 45	3.1	-0.28	30.38	0.1774	0.1629	0.001		
51	SLU 46	2.81	-0.19	30.6	0.0592	0.1535	0.0007		
51	SLU 47	2.63	-0.12	30.61	-0.0213	0.1475	0.0005		
51	SLU 48	3.36	-0.28	30.73	0.1812	0.1758	0.001		
51	SLU 49	3.08	-0.19	30.95	0.0631	0.1663	0.0007		
51	SLU 50	3.37	-0.28	30.59	0.1796	0.1761	0.001		
51	SLU 51	3.09	-0.19	30.81	0.0614	0.1667	0.0007		
51	SLU 52	2.78	-0.14	33.51	-0.01	0.1548	0.0006		
51	SLU 53	3.51	-0.3	33.63	0.1926	0.183	0.0011		
51	SLU 54	3.23	-0.21	33.85	0.0744	0.1736	0.0008		
51	SLU 55	3.05	-0.15	33.86	-0.0061	0.1677	0.0006		
51	SLU 56	3.78	-0.31	33.99	0.1964	0.1959	0.0011		
51	SLU 57	3.49	-0.22	34.21	0.0783	0.1865	0.0008		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
51	SLU 58	3.79	-0.31	33.85		0.1948	0.1962	0.0011	
51	SLU 59	3.51	-0.22	34.07		0.0766	0.1868	0.0008	
51	SLU 60	3.43	-0.31	34.53		0.1935	0.1791	0.0011	
51	SLU 61	3.15	-0.22	34.75		0.0753	0.1697	0.0008	
51	SLU 62	3.7	-0.31	34.89		0.1974	0.192	0.0011	
51	SLU 63	3.42	-0.22	35.11		0.0792	0.1826	0.0008	
51	SLU 64	3.29	-0.3	32.72		0.1882	0.1726	0.001	
51	SLU 65	2.81	-0.15	33.09		-0.0088	0.1569	0.0006	
51	SLU 66	3.54	-0.3	33.21		0.1937	0.1851	0.0011	
51	SLU 67	3.26	-0.21	33.44		0.0755	0.1757	0.0008	
51	SLU 68	3.08	-0.15	33.44		-0.0049	0.1698	0.0006	
51	SLU 69	3.81	-0.31	33.57		0.1976	0.198	0.0011	
51	SLU 70	3.52	-0.22	33.79		0.0794	0.1886	0.0008	
51	SLU 71	3.82	-0.31	33.43		0.1959	0.1984	0.0011	
51	SLU 72	3.53	-0.22	33.65		0.0777	0.1889	0.0008	
51	SLU 73	3.23	-0.17	36.34		0.0064	0.177	0.0007	
51	SLU 74	3.96	-0.33	36.47		0.2089	0.2053	0.0012	
51	SLU 75	3.67	-0.24	36.69		0.0907	0.1959	0.0009	
51	SLU 76	3.49	-0.18	36.7		0.0102	0.1899	0.0007	
51	SLU 77	4.22	-0.33	36.82		0.2128	0.2182	0.0012	
51	SLU 78	3.94	-0.24	37.05		0.0946	0.2088	0.0009	
51	SLU 79	4.23	-0.33	36.68		0.2111	0.2185	0.0012	
51	SLU 80	3.95	-0.24	36.91		0.0929	0.2091	0.0009	
51	SLU 81	3.88	-0.33	37.37		0.2099	0.2014	0.0012	
51	SLU 82	3.59	-0.24	37.59		0.0917	0.192	0.0009	
51	SLU 83	4.15	-0.34	37.72		0.2137	0.2143	0.0012	
51	SLU 84	3.86	-0.25	37.95		0.0955	0.2048	0.0009	
51	SLE RA 1	2.43	-0.22	24.54		0.1411	0.1279	0.0008	
51	SLE RA 2	2.11	-0.12	24.79		0.0098	0.1174	0.0005	
51	SLE RA 3	2.6	-0.23	24.87		0.1448	0.1362	0.0008	
51	SLE RA 4	2.41	-0.17	25.02		0.0661	0.13	0.0006	
51	SLE RA 5	2.29	-0.13	25.03		0.0124	0.126	0.0005	
51	SLE RA 6	2.78	-0.23	25.11		0.1474	0.1448	0.0008	
51	SLE RA 7	2.59	-0.17	25.26		0.0686	0.1385	0.0006	
51	SLE RA 8	2.79	-0.23	25.02		0.1463	0.145	0.0008	
51	SLE RA 9	2.6	-0.17	25.17		0.0675	0.1388	0.0006	
51	SLE RA 10	2.39	-0.14	26.96		0.02	0.1308	0.0005	
51	SLE RA 11	2.88	-0.24	27.04		0.155	0.1497	0.0009	
51	SLE RA 12	2.69	-0.18	27.19		0.0762	0.1434	0.0007	
51	SLE RA 13	2.57	-0.14	27.2		0.0225	0.1394	0.0005	
51	SLE RA 14	3.05	-0.25	27.28		0.1576	0.1583	0.0009	
51	SLE RA 15	2.86	-0.19	27.43		0.0788	0.152	0.0007	
51	SLE RA 16	3.06	-0.25	27.19		0.1564	0.1585	0.0009	
51	SLE RA 17	2.87	-0.19	27.34		0.0776	0.1522	0.0007	
51	SLE RA 18	2.83	-0.25	27.64		0.1556	0.1471	0.0009	
51	SLE RA 19	2.64	-0.19	27.79		0.0768	0.1408	0.0007	
51	SLE RA 20	3	-0.25	27.88		0.1582	0.1556	0.0009	
51	SLE RA 21	2.81	-0.19	28.03		0.0794	0.1494	0.0007	
51	SLE FR 1	2.43	-0.22	24.54		0.1411	0.1279	0.0008	
51	SLE FR 2	2.37	-0.2	24.59		0.1149	0.1258	0.0007	
51	SLE FR 3	2.5	-0.22	24.64		0.1422	0.1313	0.0008	
51	SLE FR 4	2.49	-0.21	25.52		0.1192	0.1315	0.0007	
51	SLE FR 5	2.62	-0.23	25.57		0.1465	0.1371	0.0008	
51	SLE FR 6	2.63	-0.23	26.09		0.1484	0.1375	0.0008	
51	SLE QP 1	2.43	-0.22	24.54		0.1411	0.1279	0.0008	
51	SLE QP 2	2.55	-0.23	25.47		0.1455	0.1336	0.0008	
51	SLD 1	11.09	-0.43	29.67		0.0904	0.5118	0.0015	
51	SLD 2	11.09	-0.43	29.67		0.0904	0.5118	0.0015	
51	SLD 3	10.01	-0.19	26.6		0.3617	0.4636	0.0007	
51	SLD 4	10.01	-0.19	26.6		0.3617	0.4636	0.0007	
51	SLD 5	6.75	-0.66	31.39		-0.2824	0.3202	0.0022	
51	SLD 6	6.75	-0.66	31.39		-0.2824	0.3202	0.0022	
51	SLD 7	3.14	0.15	21.15		0.6217	0.1595	-0.0004	
51	SLD 8	3.14	0.15	21.15		0.6217	0.1595	-0.0004	
51	SLD 9	1.95	-0.61	29.8		-0.3307	0.1078	0.002	
51	SLD 10	1.95	-0.61	29.8		-0.3307	0.1078	0.002	
51	SLD 11	-1.66	0.2	19.56		0.5734	-0.053	-0.0006	
51	SLD 12	-1.66	0.2	19.56		0.5734	-0.053	-0.0006	
51	SLD 13	-4.91	-0.27	24.35		-0.0707	-0.1963	0.0009	
51	SLD 14	-4.91	-0.27	24.35		-0.0707	-0.1963	0.0009	
51	SLD 15	-5.99	-0.02	21.28		0.2005	-0.2446	0.0001	
51	SLD 16	-5.99	-0.02	21.28		0.2005	-0.2446	0.0001	
51	SLV 1	22.59	-0.74	35.54		-0.0032	1.0212	0.0025	
51	SLV 2	22.59	-0.74	35.54		-0.0032	1.0212	0.0025	
51	SLV 3	19.97	-0.13	27.91		0.688	0.9049	0.0005	
51	SLV 4	19.97	-0.13	27.91		0.688	0.9049	0.0005	
51	SLV 5	12.54	-1.31	40.08		-0.9475	0.5763	0.0043	
51	SLV 6	12.54	-1.31	40.08		-0.9475	0.5763	0.0043	
51	SLV 7	3.8	0.73	14.62		1.3566	0.1886	-0.0023	
51	SLV 8	3.8	0.73	14.62		1.3566	0.1886	-0.0023	
51	SLV 9	1.3	-1.19	36.33		-1.0656	0.0786	0.0039	
51	SLV 10	1.3	-1.19	36.33		-1.0656	0.0786	0.0039	
51	SLV 11	-7.44	0.85	10.87		1.2385	-0.309	-0.0027	
51	SLV 12	-7.44	0.85	10.87		1.2385	-0.309	-0.0027	
51	SLV 13	-14.88	-0.33	23.04		-0.397	-0.6376	0.0011	
51	SLV 14	-14.88	-0.33	23.04		-0.397	-0.6376	0.0011	
51	SLV 15	-17.5	0.28	15.41		0.2942	-0.7539	-0.0008	
51	SLV 16	-17.5	0.28	15.41		0.2942	-0.7539	-0.0008	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
52	SLU 1	2.88	-0.24	23.97		0.1509	0.1075	0.0003	
52	SLU 2	2.67	-0.09	24		-0.0462	0.0976	0.0001	
52	SLU 3	3.15	-0.25	24.44		0.1564	0.1182	0.0003	
52	SLU 4	3.03	-0.16	24.46		0.0382	0.1122	0.0002	
52	SLU 5	2.95	-0.1	24.33		-0.0425	0.1086	0.0001	
52	SLU 6	3.43	-0.26	24.76		0.1601	0.1292	0.0003	
52	SLU 7	3.3	-0.17	24.78		0.0419	0.1232	0.0002	
52	SLU 8	3.43	-0.25	24.62		0.1582	0.1295	0.0003	
52	SLU 9	3.31	-0.16	24.64		0.04	0.1236	0.0002	
52	SLU 10	3.16	-0.12	27.35		-0.0285	0.1164	0.0001	
52	SLU 11	3.64	-0.28	27.79		0.1741	0.137	0.0003	
52	SLU 12	3.51	-0.19	27.81		0.0559	0.131	0.0002	
52	SLU 13	3.43	-0.13	27.68		-0.0248	0.1274	0.0001	
52	SLU 14	3.91	-0.29	28.11		0.1778	0.148	0.0004	
52	SLU 15	3.79	-0.2	28.14		0.0596	0.1421	0.0002	
52	SLU 16	3.92	-0.28	27.97		0.1759	0.1483	0.0003	
52	SLU 17	3.79	-0.19	27.99		0.0577	0.1424	0.0002	
52	SLU 18	3.58	-0.28	28.75		0.1761	0.1343	0.0004	
52	SLU 19	3.45	-0.2	28.78		0.0578	0.1284	0.0002	
52	SLU 20	3.85	-0.29	29.08		0.1798	0.1453	0.0004	
52	SLU 21	3.73	-0.2	29.1		0.0615	0.1394	0.0002	
52	SLU 22	3.39	-0.27	26.85		0.169	0.127	0.0003	
52	SLU 23	3.18	-0.12	26.88		-0.028	0.1171	0.0001	
52	SLU 24	3.66	-0.28	27.31		0.1746	0.1377	0.0003	
52	SLU 25	3.53	-0.19	27.34		0.0564	0.1317	0.0002	
52	SLU 26	3.45	-0.13	27.21		-0.0243	0.1281	0.0001	
52	SLU 27	3.93	-0.29	27.64		0.1783	0.1487	0.0004	
52	SLU 28	3.81	-0.2	27.66		0.0601	0.1428	0.0002	
52	SLU 29	3.94	-0.28	27.5		0.1764	0.149	0.0003	
52	SLU 30	3.81	-0.19	27.52		0.0582	0.1431	0.0002	
52	SLU 31	3.67	-0.15	30.23		-0.0104	0.1359	0.0002	
52	SLU 32	4.15	-0.31	30.67		0.1923	0.1565	0.0004	
52	SLU 33	4.02	-0.22	30.69		0.074	0.1505	0.0003	
52	SLU 34	3.94	-0.16	30.56		-0.0067	0.1469	0.0002	
52	SLU 35	4.42	-0.32	30.99		0.196	0.1675	0.0004	
52	SLU 36	4.29	-0.23	31.01		0.0777	0.1616	0.0003	
52	SLU 37	4.42	-0.31	30.85		0.1941	0.1678	0.0004	
52	SLU 38	4.3	-0.22	30.87		0.0758	0.1619	0.0003	
52	SLU 39	4.09	-0.32	31.63		0.1942	0.1538	0.0004	
52	SLU 40	3.96	-0.23	31.65		0.076	0.1479	0.0003	
52	SLU 41	4.36	-0.32	31.96		0.1979	0.1648	0.0004	
52	SLU 42	4.23	-0.23	31.98		0.0797	0.1589	0.0003	
52	SLU 43	3.58	-0.3	30.17		0.1899	0.133	0.0004	
52	SLU 44	3.37	-0.16	30.21		-0.0072	0.1231	0.0002	
52	SLU 45	3.85	-0.31	30.64		0.1955	0.1437	0.0004	
52	SLU 46	3.72	-0.22	30.66		0.0772	0.1378	0.0003	
52	SLU 47	3.64	-0.16	30.53		-0.0035	0.1341	0.0002	
52	SLU 48	4.12	-0.32	30.97		0.1992	0.1547	0.0004	
52	SLU 49	3.99	-0.23	30.99		0.0809	0.1488	0.0003	
52	SLU 50	4.12	-0.31	30.82		0.1973	0.155	0.0004	
52	SLU 51	4	-0.23	30.85		0.079	0.1491	0.0003	
52	SLU 52	3.85	-0.19	33.56		0.0105	0.1419	0.0002	
52	SLU 53	4.33	-0.34	33.99		0.2131	0.1625	0.0004	
52	SLU 54	4.2	-0.25	34.01		0.0949	0.1566	0.0003	
52	SLU 55	4.12	-0.19	33.88		0.0142	0.153	0.0002	
52	SLU 56	4.6	-0.35	34.32		0.2168	0.1735	0.0004	
52	SLU 57	4.48	-0.26	34.34		0.0986	0.1676	0.0003	
52	SLU 58	4.61	-0.34	34.17		0.2149	0.1738	0.0004	
52	SLU 59	4.48	-0.26	34.2		0.0967	0.1679	0.0003	
52	SLU 60	4.27	-0.35	34.96		0.2151	0.1599	0.0004	
52	SLU 61	4.14	-0.26	34.98		0.0969	0.1539	0.0003	
52	SLU 62	4.54	-0.35	35.28		0.2188	0.1709	0.0004	
52	SLU 63	4.42	-0.26	35.31		0.1006	0.165	0.0003	
52	SLU 64	4.08	-0.33	33.05		0.2081	0.1525	0.0004	
52	SLU 65	3.87	-0.19	33.08		0.011	0.1426	0.0002	
52	SLU 66	4.35	-0.34	33.52		0.2136	0.1632	0.0004	
52	SLU 67	4.23	-0.25	33.54		0.0954	0.1573	0.0003	
52	SLU 68	4.15	-0.19	33.41		0.0147	0.1537	0.0002	
52	SLU 69	4.63	-0.35	33.84		0.2173	0.1742	0.0004	
52	SLU 70	4.5	-0.26	33.87		0.0991	0.1683	0.0003	
52	SLU 71	4.63	-0.34	33.7		0.2154	0.1745	0.0004	
52	SLU 72	4.5	-0.26	33.72		0.0972	0.1686	0.0003	
52	SLU 73	4.36	-0.22	36.44		0.0287	0.1614	0.0002	
52	SLU 74	4.84	-0.37	36.87		0.2313	0.182	0.0005	
52	SLU 75	4.71	-0.28	36.89		0.1131	0.1761	0.0003	
52	SLU 76	4.63	-0.22	36.76		0.0324	0.1725	0.0002	
52	SLU 77	5.11	-0.38	37.2		0.235	0.193	0.0005	
52	SLU 78	4.99	-0.29	37.22		0.1168	0.1871	0.0003	
52	SLU 79	5.12	-0.37	37.05		0.2331	0.1933	0.0005	
52	SLU 80	4.99	-0.29	37.07		0.1149	0.1874	0.0003	
52	SLU 81	4.78	-0.38	37.84		0.2333	0.1794	0.0005	
52	SLU 82	4.65	-0.29	37.86		0.115	0.1735	0.0003	
52	SLU 83	5.05	-0.38	38.16		0.237	0.1904	0.0005	
52	SLU 84	4.92	-0.29	38.18		0.1187	0.1845	0.0003	
52	SLE RA 1	3.03	-0.25	24.79		0.1561	0.113	0.0003	
52	SLE RA 2	2.89	-0.15	24.81		0.0247	0.1064	0.0002	
52	SLE RA 3	3.21	-0.26	25.1		0.1598	0.1202	0.0003	
52	SLE RA 4	3.13	-0.2	25.12		0.081	0.1162	0.0002	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
52	SLE RA 5	3.07	-0.16	25.03	0.0272	0.1138	0.0002
52	SLE RA 6	3.39	-0.26	25.32	0.1622	0.1275	0.0003
52	SLE RA 7	3.31	-0.2	25.33	0.0834	0.1236	0.0002
52	SLE RA 8	3.39	-0.26	25.22	0.161	0.1277	0.0003
52	SLE RA 9	3.31	-0.2	25.24	0.0822	0.1238	0.0002
52	SLE RA 10	3.21	-0.17	27.05	0.0365	0.119	0.0002
52	SLE RA 11	3.53	-0.28	27.34	0.1715	0.1327	0.0003
52	SLE RA 12	3.45	-0.22	27.35	0.0927	0.1288	0.0003
52	SLE RA 13	3.4	-0.18	27.27	0.0389	0.1263	0.0002
52	SLE RA 14	3.71	-0.28	27.55	0.174	0.14	0.0003
52	SLE RA 15	3.63	-0.22	27.57	0.0952	0.1361	0.0003
52	SLE RA 16	3.72	-0.28	27.46	0.1727	0.1403	0.0003
52	SLE RA 17	3.63	-0.22	27.47	0.0939	0.1363	0.0003
52	SLE RA 18	3.49	-0.28	27.98	0.1729	0.1309	0.0003
52	SLE RA 19	3.41	-0.22	28	0.094	0.127	0.0003
52	SLE RA 20	3.67	-0.28	28.2	0.1753	0.1383	0.0003
52	SLE RA 21	3.59	-0.22	28.21	0.0965	0.1343	0.0003
52	SLE FR 1	3.03	-0.25	24.79	0.1561	0.113	0.0003
52	SLE FR 2	3	-0.23	24.79	0.1298	0.1117	0.0003
52	SLE FR 3	3.1	-0.25	24.88	0.157	0.116	0.0003
52	SLE FR 4	3.14	-0.24	25.75	0.1348	0.1171	0.0003
52	SLE FR 5	3.24	-0.26	25.83	0.1621	0.1213	0.0003
52	SLE FR 6	3.26	-0.26	26.39	0.1645	0.122	0.0003
52	SLE QP 1	3.03	-0.25	24.79	0.1561	0.113	0.0003
52	SLE QP 2	3.17	-0.26	25.75	0.1611	0.1184	0.0003
52	SLD 1	11.64	-0.47	30.2	0.1023	0.4741	0.0006
52	SLD 2	11.64	-0.47	30.2	0.1023	0.4741	0.0006
52	SLD 3	10.53	-0.22	27.32	0.3789	0.4287	0.0002
52	SLD 4	10.53	-0.22	27.32	0.3789	0.4287	0.0002
52	SLD 5	7.39	-0.7	31.45	-0.2761	0.2941	0.0009
52	SLD 6	7.39	-0.7	31.45	-0.2761	0.2941	0.0009
52	SLD 7	3.7	0.13	21.85	0.646	0.1425	-0.0002
52	SLD 8	3.7	0.13	21.85	0.646	0.1425	-0.0002
52	SLD 9	2.64	-0.65	29.64	-0.3238	0.0943	0.0008
52	SLD 10	2.64	-0.65	29.64	-0.3238	0.0943	0.0008
52	SLD 11	-1.05	0.18	20.05	0.5983	-0.0573	-0.0003
52	SLD 12	-1.05	0.18	20.05	0.5983	-0.0573	-0.0003
52	SLD 13	-4.2	-0.3	24.17	-0.0567	-0.1919	0.0004
52	SLD 14	-4.2	-0.3	24.17	-0.0567	-0.1919	0.0004
52	SLD 15	-5.3	-0.05	21.3	0.2199	-0.2373	0.0001
52	SLD 16	-5.3	-0.05	21.3	0.2199	-0.2373	0.0001
52	SLV 1	23.05	-0.78	36.38	0.0025	0.953	0.001
52	SLV 2	23.05	-0.78	36.38	0.0025	0.953	0.001
52	SLV 3	20.39	-0.15	29.25	0.7073	0.8439	0.0001
52	SLV 4	20.39	-0.15	29.25	0.7073	0.8439	0.0001
52	SLV 5	13.17	-1.37	39.75	-0.9555	0.5342	0.0018
52	SLV 6	13.17	-1.37	39.75	-0.9555	0.5342	0.0018
52	SLV 7	4.3	0.73	15.98	1.3939	0.1706	-0.001
52	SLV 8	4.3	0.73	15.98	1.3939	0.1706	-0.001
52	SLV 9	2.04	-1.25	35.51	-1.0717	0.0662	0.0016
52	SLV 10	2.04	-1.25	35.51	-1.0717	0.0662	0.0016
52	SLV 11	-6.83	0.85	11.74	1.2776	-0.2974	-0.0011
52	SLV 12	-6.83	0.85	11.74	1.2776	-0.2974	-0.0011
52	SLV 13	-14.05	-0.37	22.25	-0.3851	-0.6071	0.0005
52	SLV 14	-14.05	-0.37	22.25	-0.3851	-0.6071	0.0005
52	SLV 15	-16.71	0.26	15.12	0.3197	-0.7162	-0.0003
52	SLV 16	-16.71	0.26	15.12	0.3197	-0.7162	-0.0003
53	SLU 1	3.57	-0.29	24.96	0.1706	0.1565	0
53	SLU 2	3.78	-0.15	24.65	-0.016	0.17	-0.0001
53	SLU 3	3.87	-0.3	25.41	0.1763	0.1706	0
53	SLU 4	4	-0.22	25.23	0.0644	0.1787	-0.0001
53	SLU 5	4.08	-0.16	24.95	-0.0124	0.184	-0.0001
53	SLU 6	4.17	-0.3	25.72	0.1799	0.1846	0
53	SLU 7	4.3	-0.22	25.54	0.068	0.1926	-0.0001
53	SLU 8	4.17	-0.3	25.57	0.1778	0.1845	0
53	SLU 9	4.29	-0.22	25.38	0.0658	0.1926	-0.0001
53	SLU 10	4.32	-0.19	28.2	0.0049	0.1929	-0.0001
53	SLU 11	4.41	-0.33	28.96	0.1973	0.1935	0
53	SLU 12	4.54	-0.25	28.78	0.0853	0.2015	-0.0001
53	SLU 13	4.62	-0.19	28.5	0.0085	0.2068	-0.0001
53	SLU 14	4.71	-0.34	29.27	0.2009	0.2075	0
53	SLU 15	4.84	-0.26	29.08	0.0889	0.2155	-0.0001
53	SLU 16	4.71	-0.34	29.11	0.1987	0.2074	0
53	SLU 17	4.84	-0.25	28.93	0.0868	0.2155	-0.0001
53	SLU 18	4.34	-0.34	30.02	0.2005	0.1892	0
53	SLU 19	4.47	-0.26	29.84	0.0886	0.1973	-0.0001
53	SLU 20	4.64	-0.35	30.33	0.2041	0.2032	0
53	SLU 21	4.77	-0.27	30.15	0.0922	0.2113	-0.0001
53	SLU 22	4.14	-0.32	27.97	0.1914	0.1818	0
53	SLU 23	4.35	-0.19	27.66	0.0048	0.1952	-0.0001
53	SLU 24	4.45	-0.33	28.43	0.1971	0.1958	0
53	SLU 25	4.57	-0.25	28.24	0.0852	0.2039	-0.0001
53	SLU 26	4.65	-0.19	27.97	0.0084	0.2092	-0.0001
53	SLU 27	4.75	-0.34	28.73	0.2008	0.2098	0
53	SLU 28	4.87	-0.26	28.55	0.0888	0.2179	-0.0001
53	SLU 29	4.74	-0.33	28.58	0.1986	0.2098	0
53	SLU 30	4.87	-0.25	28.39	0.0866	0.2178	-0.0001
53	SLU 31	4.9	-0.23	31.21	0.0258	0.2181	-0.0001





Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
53	SLU 32			4.99	-0.37	31.98	0.2181	0.2187	0
53	SLU 33			5.11	-0.29	31.79	0.1062	0.2268	-0.0001
53	SLU 34			5.2	-0.23	31.51	0.0294	0.2321	-0.0001
53	SLU 35			5.29	-0.38	32.28	0.2217	0.2327	0
53	SLU 36			5.41	-0.29	32.1	0.1098	0.2408	-0.0001
53	SLU 37			5.28	-0.37	32.13	0.2196	0.2326	0
53	SLU 38			5.41	-0.29	31.94	0.1076	0.2407	-0.0001
53	SLU 39			4.92	-0.38	33.04	0.2213	0.2145	0
53	SLU 40			5.04	-0.3	32.85	0.1094	0.2225	-0.0001
53	SLU 41			5.22	-0.38	33.34	0.2249	0.2285	0
53	SLU 42			5.34	-0.3	33.16	0.113	0.2365	-0.0001
53	SLU 43			4.44	-0.36	31.41	0.2146	0.1949	0
53	SLU 44			4.65	-0.23	31.1	0.028	0.2083	-0.0001
53	SLU 45			4.75	-0.37	31.87	0.2203	0.2089	0
53	SLU 46			4.87	-0.29	31.68	0.1084	0.217	-0.0001
53	SLU 47			4.95	-0.23	31.41	0.0316	0.2223	-0.0001
53	SLU 48			5.05	-0.38	32.17	0.2239	0.2229	0
53	SLU 49			5.17	-0.29	31.99	0.112	0.231	-0.0001
53	SLU 50			5.04	-0.37	32.02	0.2218	0.2228	0
53	SLU 51			5.17	-0.29	31.83	0.1098	0.2309	-0.0001
53	SLU 52			5.2	-0.26	34.65	0.049	0.2312	-0.0001
53	SLU 53			5.29	-0.41	35.42	0.2413	0.2318	0
53	SLU 54			5.41	-0.33	35.23	0.1294	0.2399	-0.0001
53	SLU 55			5.49	-0.27	34.96	0.0526	0.2452	-0.0001
53	SLU 56			5.59	-0.41	35.72	0.2449	0.2458	0
53	SLU 57			5.71	-0.33	35.54	0.133	0.2538	-0.0001
53	SLU 58			5.58	-0.41	35.57	0.2428	0.2457	0
53	SLU 59			5.71	-0.33	35.38	0.1308	0.2538	-0.0001
53	SLU 60			5.22	-0.41	36.48	0.2445	0.2276	0
53	SLU 61			5.34	-0.33	36.29	0.1326	0.2356	-0.0001
53	SLU 62			5.52	-0.42	36.78	0.2481	0.2415	0
53	SLU 63			5.64	-0.34	36.6	0.1362	0.2496	-0.0001
53	SLU 64			5.02	-0.4	34.42	0.2354	0.2201	0
53	SLU 65			5.23	-0.26	34.11	0.0488	0.2335	-0.0001
53	SLU 66			5.32	-0.41	34.88	0.2412	0.2341	0
53	SLU 67			5.45	-0.33	34.7	0.1292	0.2422	-0.0001
53	SLU 68			5.53	-0.27	34.42	0.0524	0.2475	-0.0001
53	SLU 69			5.62	-0.41	35.19	0.2448	0.2481	0
53	SLU 70			5.75	-0.33	35	0.1328	0.2562	-0.0001
53	SLU 71			5.62	-0.41	35.03	0.2426	0.2481	0
53	SLU 72			5.74	-0.33	34.85	0.1307	0.2561	-0.0001
53	SLU 73			5.77	-0.3	37.66	0.0698	0.2564	-0.0001
53	SLU 74			5.86	-0.44	38.43	0.2621	0.257	0
53	SLU 75			5.99	-0.36	38.25	0.1502	0.2651	-0.0001
53	SLU 76			6.07	-0.3	37.97	0.0734	0.2704	-0.0001
53	SLU 77			6.16	-0.45	38.73	0.2657	0.271	0
53	SLU 78			6.29	-0.37	38.55	0.1538	0.2791	-0.0001
53	SLU 79			6.16	-0.45	38.58	0.2636	0.271	0
53	SLU 80			6.28	-0.36	38.4	0.1516	0.279	-0.0001
53	SLU 81			5.79	-0.45	39.49	0.2654	0.2528	0
53	SLU 82			5.92	-0.37	39.31	0.1534	0.2608	-0.0001
53	SLU 83			6.09	-0.46	39.8	0.269	0.2668	0
53	SLU 84			6.22	-0.38	39.61	0.157	0.2748	-0.0001
53	SLE RA 1			3.73	-0.3	25.82	0.1765	0.1638	0
53	SLE RA 2			3.87	-0.21	25.61	0.0521	0.1727	-0.0001
53	SLE RA 3			3.94	-0.3	26.12	0.1803	0.1731	0
53	SLE RA 4			4.02	-0.25	26	0.1057	0.1785	-0.0001
53	SLE RA 5			4.07	-0.21	25.81	0.0545	0.182	-0.0001
53	SLE RA 6			4.13	-0.31	26.33	0.1827	0.1825	0
53	SLE RA 7			4.22	-0.25	26.2	0.1081	0.1878	-0.0001
53	SLE RA 8			4.13	-0.31	26.22	0.1813	0.1824	0
53	SLE RA 9			4.22	-0.25	26.1	0.1067	0.1878	-0.0001
53	SLE RA 10			4.23	-0.23	27.98	0.0661	0.188	-0.0001
53	SLE RA 11			4.3	-0.33	28.49	0.1943	0.1884	0
53	SLE RA 12			4.38	-0.27	28.37	0.1197	0.1938	-0.0001
53	SLE RA 13			4.43	-0.24	28.18	0.0685	0.1973	-0.0001
53	SLE RA 14			4.5	-0.33	28.69	0.1967	0.1977	0
53	SLE RA 15			4.58	-0.28	28.57	0.1221	0.2031	-0.0001
53	SLE RA 16			4.49	-0.33	28.59	0.1953	0.1977	0
53	SLE RA 17			4.58	-0.28	28.47	0.1207	0.203	-0.0001
53	SLE RA 18			4.25	-0.33	29.2	0.1965	0.1855	0
53	SLE RA 19			4.33	-0.28	29.07	0.1218	0.1909	-0.0001
53	SLE RA 20			4.45	-0.34	29.4	0.1989	0.1949	0
53	SLE RA 21			4.53	-0.28	29.28	0.1242	0.2002	-0.0001
53	SLE FR 1			3.73	-0.3	25.82	0.1765	0.1638	0
53	SLE FR 2			3.76	-0.28	25.77	0.1516	0.1655	0
53	SLE FR 3			3.81	-0.3	25.9	0.1775	0.1675	0
53	SLE FR 4			3.92	-0.29	26.79	0.1576	0.1721	0
53	SLE FR 5			3.97	-0.31	26.91	0.1835	0.174	0
53	SLE FR 6			3.99	-0.32	27.51	0.1865	0.1747	0
53	SLE QP 1			3.73	-0.3	25.82	0.1765	0.1638	0
53	SLE QP 2			3.89	-0.31	26.83	0.1825	0.1703	0
53	SLD 1			12.41	-0.51	31.36	0.1248	0.5501	-0.0001
53	SLD 2			12.41	-0.51	31.36	0.1248	0.5501	-0.0001
53	SLD 3			11.25	-0.27	28.72	0.3932	0.4994	0
53	SLD 4			11.25	-0.27	28.72	0.3932	0.4994	0
53	SLD 5			8.21	-0.74	32.19	-0.2419	0.3612	-0.0002
53	SLD 6			8.21	-0.74	32.19	-0.2419	0.3612	-0.0002



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
53	SLD 7	4.33	0.07	23.39	0.6528	0.1921	0.0001		
53	SLD 8	4.33	0.07	23.39	0.6528	0.1921	0.0001		
53	SLD 9	3.44	-0.69	30.27	-0.2878	0.1485	-0.0002		
53	SLD 10	3.44	-0.69	30.27	-0.2878	0.1485	-0.0002		
53	SLD 11	-0.43	0.12	21.47	0.6069	-0.0206	0.0001		
53	SLD 12	-0.43	0.12	21.47	0.6069	-0.0206	0.0001		
53	SLD 13	-3.47	-0.35	24.94	-0.0282	-0.1588	0		
53	SLD 14	-3.47	-0.35	24.94	-0.0282	-0.1588	0		
53	SLD 15	-4.63	-0.1	22.3	0.2402	-0.2096	0.0001		
53	SLD 16	-4.63	-0.1	22.3	0.2402	-0.2096	0.0001		
53	SLV 1	23.87	-0.82	37.59	0.0267	1.061	-0.0002		
53	SLV 2	23.87	-0.82	37.59	0.0267	1.061	-0.0002		
53	SLV 3	21.1	-0.2	31.12	0.7103	0.9406	0		
53	SLV 4	21.1	-0.2	31.12	0.7103	0.9406	0		
53	SLV 5	14.08	-1.39	39.87	-0.9011	0.6201	-0.0004		
53	SLV 6	14.08	-1.39	39.87	-0.9011	0.6201	-0.0004		
53	SLV 7	4.86	0.66	18.3	1.3777	0.2187	0.0003		
53	SLV 8	4.86	0.66	18.3	1.3777	0.2187	0.0003		
53	SLV 9	2.92	-1.27	35.36	-1.0127	0.1218	-0.0004		
53	SLV 10	2.92	-1.27	35.36	-1.0127	0.1218	-0.0004		
53	SLV 11	-6.3	0.78	13.79	1.2661	-0.2795	0.0004		
53	SLV 12	-6.3	0.78	13.79	1.2661	-0.2795	0.0004		
53	SLV 13	-13.33	-0.42	22.54	-0.3454	-0.6	0		
53	SLV 14	-13.33	-0.42	22.54	-0.3454	-0.6	0		
53	SLV 15	-16.09	0.2	16.07	0.3383	-0.7204	0.0002		
53	SLV 16	-16.09	0.2	16.07	0.3383	-0.7204	0.0002		
54	SLU 1	3.57	-0.33	26.56	0.1882	0.1443	-0.0002		
54	SLU 2	4.14	-0.22	26	0.0217	0.1678	-0.0002		
54	SLU 3	3.86	-0.34	27.01	0.1941	0.1563	-0.0002		
54	SLU 4	4.2	-0.27	26.68	0.0942	0.1704	-0.0002		
54	SLU 5	4.42	-0.22	26.28	0.0253	0.1797	-0.0002		
54	SLU 6	4.14	-0.35	27.3	0.1977	0.1681	-0.0002		
54	SLU 7	4.48	-0.28	26.96	0.0978	0.1823	-0.0002		
54	SLU 8	4.13	-0.34	27.12	0.1953	0.1679	-0.0002		
54	SLU 9	4.48	-0.27	26.78	0.0954	0.1821	-0.0002		
54	SLU 10	4.66	-0.26	29.82	0.0458	0.1892	-0.0003		
54	SLU 11	4.37	-0.39	30.83	0.2182	0.1776	-0.0003		
54	SLU 12	4.72	-0.32	30.5	0.1183	0.1918	-0.0003		
54	SLU 13	4.94	-0.27	30.1	0.0493	0.201	-0.0003		
54	SLU 14	4.66	-0.39	31.11	0.2217	0.1894	-0.0003		
54	SLU 15	5	-0.32	30.78	0.1218	0.2036	-0.0003		
54	SLU 16	4.65	-0.39	30.93	0.2193	0.1892	-0.0003		
54	SLU 17	4.99	-0.32	30.6	0.1194	0.2034	-0.0003		
54	SLU 18	4.31	-0.4	32.01	0.2226	0.1747	-0.0003		
54	SLU 19	4.65	-0.33	31.67	0.1227	0.1889	-0.0003		
54	SLU 20	4.59	-0.4	32.29	0.2261	0.1866	-0.0003		
54	SLU 21	4.93	-0.33	31.95	0.1262	0.2007	-0.0003		
54	SLU 22	4.11	-0.37	29.77	0.2115	0.1666	-0.0003		
54	SLU 23	4.68	-0.26	29.21	0.045	0.1901	-0.0003		
54	SLU 24	4.4	-0.38	30.22	0.2174	0.1786	-0.0003		
54	SLU 25	4.74	-0.32	29.89	0.1175	0.1927	-0.0003		
54	SLU 26	4.97	-0.27	29.49	0.0485	0.2019	-0.0003		
54	SLU 27	4.68	-0.39	30.5	0.2209	0.1904	-0.0003		
54	SLU 28	5.03	-0.32	30.17	0.1211	0.2045	-0.0003		
54	SLU 29	4.68	-0.39	30.33	0.2186	0.1902	-0.0003		
54	SLU 30	5.02	-0.32	29.99	0.1187	0.2043	-0.0003		
54	SLU 31	5.2	-0.31	33.03	0.0691	0.2114	-0.0003		
54	SLU 32	4.92	-0.43	34.04	0.2415	0.1999	-0.0003		
54	SLU 33	5.26	-0.36	33.71	0.1416	0.214	-0.0003		
54	SLU 34	5.48	-0.31	33.31	0.0726	0.2232	-0.0003		
54	SLU 35	5.2	-0.43	34.32	0.245	0.2117	-0.0003		
54	SLU 36	5.54	-0.37	33.99	0.1451	0.2258	-0.0003		
54	SLU 37	5.19	-0.43	34.14	0.2426	0.2115	-0.0003		
54	SLU 38	5.54	-0.36	33.81	0.1427	0.2256	-0.0003		
54	SLU 39	4.85	-0.44	35.22	0.2459	0.197	-0.0003		
54	SLU 40	5.19	-0.37	34.88	0.146	0.2111	-0.0003		
54	SLU 41	5.13	-0.44	35.5	0.2494	0.2088	-0.0003		
54	SLU 42	5.47	-0.38	35.16	0.1495	0.223	-0.0003		
54	SLU 43	4.45	-0.42	33.42	0.2367	0.1799	-0.0003		
54	SLU 44	5.03	-0.3	32.87	0.0702	0.2035	-0.0003		
54	SLU 45	4.74	-0.43	33.88	0.2426	0.192	-0.0003		
54	SLU 46	5.09	-0.36	33.55	0.1427	0.2061	-0.0003		
54	SLU 47	5.31	-0.31	33.15	0.0737	0.2153	-0.0003		
54	SLU 48	5.03	-0.43	34.16	0.2461	0.2038	-0.0003		
54	SLU 49	5.37	-0.36	33.83	0.1462	0.2179	-0.0003		
54	SLU 50	5.02	-0.43	33.98	0.2437	0.2036	-0.0003		
54	SLU 51	5.36	-0.36	33.65	0.1438	0.2177	-0.0003		
54	SLU 52	5.54	-0.35	36.68	0.0943	0.2248	-0.0003		
54	SLU 53	5.26	-0.47	37.7	0.2667	0.2133	-0.0003		
54	SLU 54	5.6	-0.4	37.36	0.1668	0.2274	-0.0003		
54	SLU 55	5.83	-0.35	36.96	0.0978	0.2366	-0.0003		
54	SLU 56	5.54	-0.48	37.98	0.2702	0.2251	-0.0003		
54	SLU 57	5.89	-0.41	37.64	0.1703	0.2392	-0.0003		
54	SLU 58	5.54	-0.47	37.8	0.2678	0.2249	-0.0003		
54	SLU 59	5.88	-0.4	37.47	0.1679	0.239	-0.0003		
54	SLU 60	5.19	-0.48	38.87	0.2711	0.2104	-0.0003		
54	SLU 61	5.54	-0.41	38.54	0.1712	0.2245	-0.0003		
54	SLU 62	5.47	-0.49	39.16	0.2746	0.2222	-0.0003		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
54	SLU 63	5.82	-0.42	38.82	0.1747	0.2363	-0.0003
54	SLU 64	5	-0.46	36.63	0.26	0.2022	-0.0003
54	SLU 65	5.57	-0.35	36.08	0.0935	0.2258	-0.0003
54	SLU 66	5.28	-0.47	37.09	0.2659	0.2142	-0.0003
54	SLU 67	5.63	-0.4	36.76	0.166	0.2284	-0.0003
54	SLU 68	5.85	-0.35	36.36	0.097	0.2376	-0.0003
54	SLU 69	5.57	-0.47	37.37	0.2694	0.2261	-0.0003
54	SLU 70	5.91	-0.41	37.04	0.1695	0.2402	-0.0003
54	SLU 71	5.56	-0.47	37.19	0.267	0.2259	-0.0003
54	SLU 72	5.9	-0.4	36.86	0.1671	0.24	-0.0003
54	SLU 73	6.08	-0.39	39.89	0.1176	0.2471	-0.0004
54	SLU 74	5.8	-0.51	40.91	0.29	0.2356	-0.0003
54	SLU 75	6.14	-0.45	40.57	0.1901	0.2497	-0.0004
54	SLU 76	6.37	-0.4	40.17	0.1211	0.2589	-0.0004
54	SLU 77	6.08	-0.52	41.19	0.2935	0.2474	-0.0004
54	SLU 78	6.43	-0.45	40.85	0.1936	0.2615	-0.0004
54	SLU 79	6.08	-0.51	41.01	0.2911	0.2472	-0.0004
54	SLU 80	6.42	-0.45	40.68	0.1912	0.2613	-0.0004
54	SLU 81	5.73	-0.52	42.08	0.2944	0.2327	-0.0004
54	SLU 82	6.08	-0.45	41.75	0.1945	0.2468	-0.0004
54	SLU 83	6.02	-0.53	42.36	0.2979	0.2445	-0.0004
54	SLU 84	6.36	-0.46	42.03	0.198	0.2586	-0.0004
54	SLE RA 1	3.72	-0.34	27.47	0.1949	0.1507	-0.0002
54	SLE RA 2	4.11	-0.27	27.1	0.0839	0.1664	-0.0002
54	SLE RA 3	3.92	-0.35	27.78	0.1988	0.1587	-0.0002
54	SLE RA 4	4.15	-0.31	27.56	0.1322	0.1681	-0.0002
54	SLE RA 5	4.29	-0.27	27.29	0.0862	0.1742	-0.0002
54	SLE RA 6	4.1	-0.35	27.97	0.2012	0.1665	-0.0002
54	SLE RA 7	4.33	-0.31	27.74	0.1346	0.176	-0.0002
54	SLE RA 8	4.1	-0.35	27.85	0.1996	0.1664	-0.0002
54	SLE RA 9	4.33	-0.31	27.63	0.133	0.1758	-0.0002
54	SLE RA 10	4.45	-0.3	29.65	0.0999	0.1806	-0.0003
54	SLE RA 11	4.26	-0.38	30.32	0.2149	0.1729	-0.0003
54	SLE RA 12	4.49	-0.33	30.1	0.1483	0.1823	-0.0003
54	SLE RA 13	4.64	-0.3	29.83	0.1023	0.1884	-0.0003
54	SLE RA 14	4.45	-0.38	30.51	0.2172	0.1808	-0.0003
54	SLE RA 15	4.68	-0.34	30.29	0.1506	0.1902	-0.0003
54	SLE RA 16	4.44	-0.38	30.39	0.2156	0.1806	-0.0003
54	SLE RA 17	4.67	-0.34	30.17	0.149	0.19	-0.0003
54	SLE RA 18	4.22	-0.39	31.11	0.2178	0.171	-0.0003
54	SLE RA 19	4.44	-0.34	30.89	0.1512	0.1804	-0.0003
54	SLE RA 20	4.4	-0.39	31.29	0.2201	0.1788	-0.0003
54	SLE RA 21	4.63	-0.34	31.07	0.1535	0.1883	-0.0003
54	SLE FR 1	3.72	-0.34	27.47	0.1949	0.1507	-0.0002
54	SLE FR 2	3.8	-0.33	27.4	0.1727	0.1538	-0.0002
54	SLE FR 3	3.8	-0.35	27.55	0.1958	0.1538	-0.0002
54	SLE FR 4	3.95	-0.34	28.49	0.1795	0.1599	-0.0002
54	SLE FR 5	3.95	-0.36	28.64	0.2027	0.1599	-0.0002
54	SLE FR 6	3.97	-0.37	29.29	0.2063	0.1608	-0.0002
54	SLE QP 1	3.72	-0.34	27.47	0.1949	0.1507	-0.0002
54	SLE QP 2	3.87	-0.36	28.56	0.2017	0.1567	-0.0002
54	SLD 1	11.98	-0.55	32.88	0.1493	0.5051	-0.0003
54	SLD 2	11.98	-0.55	32.88	0.1493	0.5051	-0.0003
54	SLD 3	10.82	-0.32	30.39	0.3954	0.4561	-0.0003
54	SLD 4	10.82	-0.32	30.39	0.3954	0.4561	-0.0003
54	SLD 5	8.07	-0.75	33.64	-0.1874	0.3355	-0.0003
54	SLD 6	8.07	-0.75	33.64	-0.1874	0.3355	-0.0003
54	SLD 7	4.19	-0.01	25.34	0.6332	0.1723	-0.0002
54	SLD 8	4.19	-0.01	25.34	0.6332	0.1723	-0.0002
54	SLD 9	3.56	-0.7	31.79	-0.2297	0.1412	-0.0003
54	SLD 10	3.56	-0.7	31.79	-0.2297	0.1412	-0.0003
54	SLD 11	-0.33	0.04	23.49	0.5909	-0.022	-0.0002
54	SLD 12	-0.33	0.04	23.49	0.5909	-0.022	-0.0002
54	SLD 13	-3.07	-0.39	26.73	0.0081	-0.1427	-0.0002
54	SLD 14	-3.07	-0.39	26.73	0.0081	-0.1427	-0.0002
54	SLD 15	-4.24	-0.17	24.24	0.2542	-0.1916	-0.0002
54	SLD 16	-4.24	-0.17	24.24	0.2542	-0.1916	-0.0002
54	SLV 1	22.89	-0.83	38.78	0.0595	0.9735	-0.0004
54	SLV 2	22.89	-0.83	38.78	0.0595	0.9735	-0.0004
54	SLV 3	20.13	-0.26	32.79	0.6864	0.8577	-0.0004
54	SLV 4	20.13	-0.26	32.79	0.6864	0.8577	-0.0004
54	SLV 5	13.76	-1.35	40.73	-0.7918	0.5775	-0.0004
54	SLV 6	13.76	-1.35	40.73	-0.7918	0.5775	-0.0004
54	SLV 7	4.56	0.52	20.73	1.298	0.1914	-0.0002
54	SLV 8	4.56	0.52	20.73	1.298	0.1914	-0.0002
54	SLV 9	3.18	-1.24	36.4	-0.8945	0.1221	-0.0003
54	SLV 10	3.18	-1.24	36.4	-0.8945	0.1221	-0.0003
54	SLV 11	-6.02	0.64	16.4	1.1953	-0.264	-0.0001
54	SLV 12	-6.02	0.64	16.4	1.1953	-0.264	-0.0001
54	SLV 13	-12.39	-0.45	24.34	-0.2829	-0.5442	-0.0001
54	SLV 14	-12.39	-0.45	24.34	-0.2829	-0.5442	-0.0001
54	SLV 15	-15.15	0.11	18.34	0.344	-0.66	0
54	SLV 16	-15.15	0.11	18.34	0.344	-0.66	0
55	SLU 1	3.34	-0.35	28.24	0.1947	0.1352	-0.0003
55	SLU 2	4.36	-0.27	27.6	0.0563	0.1816	-0.0003
55	SLU 3	3.63	-0.36	28.68	0.2005	0.1484	-0.0003
55	SLU 4	4.24	-0.31	28.3	0.1175	0.1763	-0.0003
55	SLU 5	4.65	-0.28	27.84	0.0596	0.195	-0.0003



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
55	SLU 6	3.91	-0.37	28.92	0.2038	0.1618	-0.0003		
55	SLU 7	4.53	-0.32	28.54	0.1208	0.1897	-0.0003		
55	SLU 8	3.91	-0.36	28.72	0.2014	0.1619	-0.0003		
55	SLU 9	4.52	-0.32	28.33	0.1183	0.1898	-0.0003		
55	SLU 10	4.8	-0.32	31.67	0.0818	0.1987	-0.0004		
55	SLU 11	4.06	-0.41	32.75	0.2261	0.1655	-0.0003		
55	SLU 12	4.68	-0.36	32.37	0.143	0.1934	-0.0004		
55	SLU 13	5.08	-0.33	31.91	0.0852	0.2121	-0.0004		
55	SLU 14	4.35	-0.42	32.99	0.2294	0.1789	-0.0003		
55	SLU 15	4.97	-0.37	32.61	0.1464	0.2068	-0.0004		
55	SLU 16	4.35	-0.41	32.79	0.2269	0.179	-0.0003		
55	SLU 17	4.96	-0.36	32.41	0.1439	0.2069	-0.0004		
55	SLU 18	3.96	-0.42	34.06	0.2312	0.1595	-0.0003		
55	SLU 19	4.58	-0.37	33.67	0.1482	0.1874	-0.0004		
55	SLU 20	4.25	-0.43	34.3	0.2345	0.1729	-0.0004		
55	SLU 21	4.86	-0.38	33.91	0.1515	0.2008	-0.0004		
55	SLU 22	3.81	-0.4	31.63	0.219	0.1548	-0.0003		
55	SLU 23	4.84	-0.32	30.99	0.0806	0.2013	-0.0004		
55	SLU 24	4.1	-0.41	32.07	0.2248	0.1681	-0.0003		
55	SLU 25	4.72	-0.36	31.69	0.1418	0.196	-0.0004		
55	SLU 26	5.12	-0.32	31.23	0.084	0.2146	-0.0004		
55	SLU 27	4.39	-0.41	32.31	0.2282	0.1814	-0.0003		
55	SLU 28	5	-0.37	31.93	0.1452	0.2093	-0.0004		
55	SLU 29	4.39	-0.41	32.11	0.2257	0.1815	-0.0003		
55	SLU 30	5	-0.36	31.72	0.1427	0.2094	-0.0004		
55	SLU 31	5.27	-0.37	35.06	0.1062	0.2183	-0.0004		
55	SLU 32	4.54	-0.46	36.14	0.2504	0.1851	-0.0004		
55	SLU 33	5.15	-0.41	35.76	0.1674	0.213	-0.0004		
55	SLU 34	5.56	-0.37	35.3	0.1095	0.2317	-0.0004		
55	SLU 35	4.83	-0.46	36.38	0.2537	0.1985	-0.0004		
55	SLU 36	5.44	-0.41	36	0.1707	0.2264	-0.0004		
55	SLU 37	4.82	-0.46	36.18	0.2513	0.1986	-0.0004		
55	SLU 38	5.44	-0.41	35.8	0.1682	0.2265	-0.0004		
55	SLU 39	4.44	-0.47	37.45	0.2555	0.1792	-0.0004		
55	SLU 40	5.05	-0.42	37.06	0.1725	0.2071	-0.0004		
55	SLU 41	4.72	-0.47	37.69	0.2589	0.1925	-0.0004		
55	SLU 42	5.34	-0.42	37.3	0.1759	0.2204	-0.0004		
55	SLU 43	4.17	-0.44	35.55	0.2447	0.169	-0.0004		
55	SLU 44	5.2	-0.36	34.91	0.1063	0.2155	-0.0004		
55	SLU 45	4.46	-0.45	35.99	0.2505	0.1823	-0.0004		
55	SLU 46	5.08	-0.41	35.61	0.1675	0.2101	-0.0004		
55	SLU 47	5.49	-0.37	35.15	0.1097	0.2288	-0.0004		
55	SLU 48	4.75	-0.46	36.23	0.2539	0.1956	-0.0004		
55	SLU 49	5.37	-0.41	35.85	0.1709	0.2235	-0.0004		
55	SLU 50	4.75	-0.46	36.03	0.2514	0.1957	-0.0004		
55	SLU 51	5.36	-0.41	35.64	0.1684	0.2236	-0.0004		
55	SLU 52	5.64	-0.41	38.98	0.1319	0.2325	-0.0004		
55	SLU 53	4.9	-0.5	40.06	0.2761	0.1993	-0.0004		
55	SLU 54	5.52	-0.45	39.68	0.1931	0.2272	-0.0004		
55	SLU 55	5.92	-0.42	39.22	0.1353	0.2459	-0.0004		
55	SLU 56	5.19	-0.51	40.3	0.2795	0.2127	-0.0004		
55	SLU 57	5.8	-0.46	39.92	0.1964	0.2406	-0.0004		
55	SLU 58	5.18	-0.5	40.1	0.277	0.2128	-0.0004		
55	SLU 59	5.8	-0.45	39.72	0.194	0.2407	-0.0004		
55	SLU 60	4.8	-0.51	41.37	0.2812	0.1934	-0.0004		
55	SLU 61	5.41	-0.46	40.98	0.1982	0.2212	-0.0004		
55	SLU 62	5.09	-0.52	41.61	0.2846	0.2067	-0.0004		
55	SLU 63	5.7	-0.47	41.22	0.2016	0.2346	-0.0004		
55	SLU 64	4.65	-0.49	38.94	0.2691	0.1886	-0.0004		
55	SLU 65	5.67	-0.41	38.3	0.1307	0.2351	-0.0004		
55	SLU 66	4.94	-0.5	39.38	0.2749	0.2019	-0.0004		
55	SLU 67	5.56	-0.45	39	0.1919	0.2298	-0.0004		
55	SLU 68	5.96	-0.41	38.54	0.134	0.2485	-0.0004		
55	SLU 69	5.23	-0.51	39.62	0.2782	0.2153	-0.0004		
55	SLU 70	5.84	-0.46	39.24	0.1952	0.2431	-0.0004		
55	SLU 71	5.22	-0.5	39.42	0.2758	0.2154	-0.0004		
55	SLU 72	5.84	-0.45	39.03	0.1927	0.2433	-0.0004		
55	SLU 73	6.11	-0.46	42.37	0.1562	0.2522	-0.0005		
55	SLU 74	5.38	-0.55	43.45	0.3005	0.2189	-0.0004		
55	SLU 75	5.99	-0.5	43.07	0.2174	0.2468	-0.0005		
55	SLU 76	6.4	-0.46	42.61	0.1596	0.2655	-0.0005		
55	SLU 77	5.66	-0.55	43.69	0.3038	0.2323	-0.0005		
55	SLU 78	6.28	-0.5	43.31	0.2208	0.2602	-0.0005		
55	SLU 79	5.66	-0.55	43.49	0.3013	0.2324	-0.0005		
55	SLU 80	6.28	-0.5	43.11	0.2183	0.2603	-0.0005		
55	SLU 81	5.27	-0.56	44.76	0.3056	0.213	-0.0005		
55	SLU 82	5.89	-0.51	44.37	0.2226	0.2409	-0.0005		
55	SLU 83	5.56	-0.56	45	0.3089	0.2264	-0.0005		
55	SLU 84	6.18	-0.51	44.61	0.2259	0.2542	-0.0005		
55	SLE RA 1	3.47	-0.37	29.21	0.2016	0.1408	-0.0003		
55	SLE RA 2	4.16	-0.31	28.78	0.1094	0.1718	-0.0003		
55	SLE RA 3	3.67	-0.37	29.5	0.2055	0.1496	-0.0003		
55	SLE RA 4	4.08	-0.34	29.25	0.1502	0.1682	-0.0003		
55	SLE RA 5	4.35	-0.32	28.94	0.1116	0.1807	-0.0003		
55	SLE RA 6	3.86	-0.38	29.66	0.2077	0.1585	-0.0003		
55	SLE RA 7	4.27	-0.34	29.41	0.1524	0.1771	-0.0003		
55	SLE RA 8	3.85	-0.37	29.53	0.2061	0.1586	-0.0003		
55	SLE RA 9	4.26	-0.34	29.27	0.1507	0.1772	-0.0003		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
55	SLE RA 10	4.45	-0.34	31.49		0.1264	0.1831	-0.0003	
55	SLE RA 11	3.96	-0.41	32.22		0.2226	0.161	-0.0003	
55	SLE RA 12	4.37	-0.37	31.96		0.1672	0.1796	-0.0003	
55	SLE RA 13	4.64	-0.35	31.65		0.1286	0.192	-0.0003	
55	SLE RA 14	4.15	-0.41	32.38		0.2248	0.1699	-0.0003	
55	SLE RA 15	4.56	-0.38	32.12		0.1694	0.1885	-0.0003	
55	SLE RA 16	4.15	-0.41	32.24		0.2231	0.17	-0.0003	
55	SLE RA 17	4.56	-0.37	31.99		0.1678	0.1886	-0.0003	
55	SLE RA 18	3.89	-0.41	33.09		0.226	0.157	-0.0003	
55	SLE RA 19	4.3	-0.38	32.83		0.1706	0.1756	-0.0003	
55	SLE RA 20	4.08	-0.42	33.25		0.2282	0.1659	-0.0003	
55	SLE RA 21	4.49	-0.38	32.99		0.1729	0.1845	-0.0004	
55	SLE FR 1	3.47	-0.37	29.21		0.2016	0.1408	-0.0003	
55	SLE FR 2	3.61	-0.36	29.12		0.1832	0.147	-0.0003	
55	SLE FR 3	3.55	-0.37	29.27		0.2025	0.1443	-0.0003	
55	SLE FR 4	3.73	-0.37	30.29		0.1905	0.1518	-0.0003	
55	SLE FR 5	3.67	-0.38	30.44		0.2098	0.1492	-0.0003	
55	SLE FR 6	3.68	-0.39	31.15		0.2138	0.1489	-0.0003	
55	SLE QP 1	3.47	-0.37	29.21		0.2016	0.1408	-0.0003	
55	SLE QP 2	3.6	-0.38	30.37		0.2089	0.1456	-0.0003	
55	SLD 1	11.66	-0.54	34.19		0.1649	0.5078	-0.0004	
55	SLD 2	11.66	-0.54	34.19		0.1649	0.5078	-0.0004	
55	SLD 3	10.45	-0.36	31.68		0.3757	0.4558	-0.0004	
55	SLD 4	10.45	-0.36	31.68		0.3757	0.4558	-0.0004	
55	SLD 5	7.85	-0.71	35.32		-0.1241	0.3332	-0.0004	
55	SLD 6	7.85	-0.71	35.32		-0.1241	0.3332	-0.0004	
55	SLD 7	3.82	-0.1	26.96		0.5788	0.1598	-0.0003	
55	SLD 8	3.82	-0.1	26.96		0.5788	0.1598	-0.0003	
55	SLD 9	3.38	-0.67	33.78		-0.1609	0.1315	-0.0003	
55	SLD 10	3.38	-0.67	33.78		-0.1609	0.1315	-0.0003	
55	SLD 11	-0.65	-0.05	25.43		0.542	-0.0419	-0.0002	
55	SLD 12	-0.65	-0.05	25.43		0.542	-0.0419	-0.0002	
55	SLD 13	-3.25	-0.4	29.06		0.0421	-0.1645	-0.0003	
55	SLD 14	-3.25	-0.4	29.06		0.0421	-0.1645	-0.0003	
55	SLD 15	-4.46	-0.22	26.56		0.253	-0.2165	-0.0002	
55	SLD 16	-4.46	-0.22	26.56		0.253	-0.2165	-0.0002	
55	SLV 1	22.5	-0.77	39.37		0.089	0.9947	-0.0005	
55	SLV 2	22.5	-0.77	39.37		0.089	0.9947	-0.0005	
55	SLV 3	19.64	-0.31	33.43		0.6259	0.8716	-0.0004	
55	SLV 4	19.64	-0.31	33.43		0.6259	0.8716	-0.0004	
55	SLV 5	13.61	-1.2	42.09		-0.6414	0.5872	-0.0005	
55	SLV 6	13.61	-1.2	42.09		-0.6414	0.5872	-0.0005	
55	SLV 7	4.07	0.34	22.28		1.1484	0.1767	-0.0002	
55	SLV 8	4.07	0.34	22.28		1.1484	0.1767	-0.0002	
55	SLV 9	3.13	-1.11	38.47		-0.7305	0.1146	-0.0004	
55	SLV 10	3.13	-1.11	38.47		-0.7305	0.1146	-0.0004	
55	SLV 11	-6.41	0.44	18.66		1.0593	-0.2959	-0.0001	
55	SLV 12	-6.41	0.44	18.66		1.0593	-0.2959	-0.0001	
55	SLV 13	-12.44	-0.45	27.31		-0.208	-0.5803	-0.0002	
55	SLV 14	-12.44	-0.45	27.31		-0.208	-0.5803	-0.0002	
55	SLV 15	-15.3	0.01	21.37		0.3289	-0.7034	-0.0001	
55	SLV 16	-15.3	0.01	21.37		0.3289	-0.7034	-0.0001	
56	SLU 1	2.97	-0.33	30.07		0.1816	0.1249	-0.0002	
56	SLU 2	4.32	-0.29	29.58		0.0767	0.1813	-0.0003	
56	SLU 3	3.24	-0.34	30.5		0.1869	0.1367	-0.0002	
56	SLU 4	4.05	-0.32	30.2		0.124	0.1705	-0.0003	
56	SLU 5	4.59	-0.29	29.77		0.0797	0.193	-0.0003	
56	SLU 6	3.51	-0.35	30.68		0.1899	0.1483	-0.0002	
56	SLU 7	4.32	-0.32	30.39		0.127	0.1822	-0.0003	
56	SLU 8	3.51	-0.34	30.45		0.1876	0.1483	-0.0002	
56	SLU 9	4.32	-0.32	30.15		0.1247	0.1821	-0.0003	
56	SLU 10	4.68	-0.34	33.91		0.1009	0.1971	-0.0003	
56	SLU 11	3.6	-0.39	34.82		0.2112	0.1525	-0.0003	
56	SLU 12	4.42	-0.36	34.53		0.1482	0.1863	-0.0003	
56	SLU 13	4.95	-0.34	34.09		0.1039	0.2087	-0.0003	
56	SLU 14	3.87	-0.39	35.01		0.2142	0.1641	-0.0003	
56	SLU 15	4.69	-0.37	34.71		0.1512	0.1979	-0.0003	
56	SLU 16	3.87	-0.39	34.77		0.2119	0.164	-0.0003	
56	SLU 17	4.68	-0.36	34.48		0.1489	0.1979	-0.0003	
56	SLU 18	3.49	-0.4	36.25		0.2163	0.1475	-0.0003	
56	SLU 19	4.3	-0.37	35.96		0.1533	0.1813	-0.0003	
56	SLU 20	3.76	-0.41	36.44		0.2193	0.1591	-0.0003	
56	SLU 21	4.57	-0.38	36.14		0.1563	0.193	-0.0003	
56	SLU 22	3.37	-0.38	33.64		0.2045	0.1423	-0.0003	
56	SLU 23	4.72	-0.33	33.15		0.0995	0.1986	-0.0003	
56	SLU 24	3.64	-0.39	34.06		0.2098	0.154	-0.0003	
56	SLU 25	4.45	-0.36	33.77		0.1468	0.1878	-0.0003	
56	SLU 26	4.99	-0.34	33.33		0.1026	0.2103	-0.0003	
56	SLU 27	3.91	-0.39	34.25		0.2128	0.1657	-0.0003	
56	SLU 28	4.72	-0.36	33.95		0.1498	0.1995	-0.0003	
56	SLU 29	3.91	-0.39	34.01		0.2105	0.1656	-0.0003	
56	SLU 30	4.72	-0.36	33.72		0.1476	0.1994	-0.0003	
56	SLU 31	5.08	-0.38	37.47		0.1238	0.2144	-0.0004	
56	SLU 32	4	-0.43	38.39		0.2341	0.1698	-0.0003	
56	SLU 33	4.82	-0.41	38.09		0.1711	0.2036	-0.0003	
56	SLU 34	5.35	-0.38	37.66		0.1268	0.2261	-0.0004	
56	SLU 35	4.27	-0.44	38.57		0.2371	0.1814	-0.0003	
56	SLU 36	5.09	-0.41	38.28		0.1741	0.2153	-0.0003	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
56	SLU 37			4.27	-0.43	38.34	0.2348	0.1814	-0.0003
56	SLU 38			5.08	-0.41	38.04	0.1718	0.2152	-0.0003
56	SLU 39			3.89	-0.44	39.82	0.2392	0.1648	-0.0003
56	SLU 40			4.7	-0.42	39.52	0.1762	0.1986	-0.0003
56	SLU 41			4.16	-0.45	40	0.2422	0.1765	-0.0003
56	SLU 42			4.97	-0.42	39.71	0.1792	0.2103	-0.0003
56	SLU 43			3.72	-0.42	37.87	0.2283	0.1565	-0.0003
56	SLU 44			5.07	-0.37	37.38	0.1233	0.2129	-0.0004
56	SLU 45			3.99	-0.43	38.3	0.2336	0.1682	-0.0003
56	SLU 46			4.8	-0.4	38	0.1706	0.202	-0.0003
56	SLU 47			5.34	-0.38	37.57	0.1263	0.2245	-0.0004
56	SLU 48			4.26	-0.43	38.48	0.2366	0.1799	-0.0003
56	SLU 49			5.08	-0.41	38.19	0.1736	0.2137	-0.0003
56	SLU 50			4.26	-0.43	38.25	0.2343	0.1798	-0.0003
56	SLU 51			5.07	-0.4	37.95	0.1713	0.2136	-0.0003
56	SLU 52			5.44	-0.42	41.7	0.1476	0.2286	-0.0004
56	SLU 53			4.36	-0.48	42.62	0.2578	0.184	-0.0003
56	SLU 54			5.17	-0.45	42.33	0.1949	0.2178	-0.0004
56	SLU 55			5.71	-0.43	41.89	0.1506	0.2403	-0.0004
56	SLU 56			4.63	-0.48	42.81	0.2608	0.1957	-0.0003
56	SLU 57			5.44	-0.45	42.51	0.1979	0.2295	-0.0004
56	SLU 58			4.63	-0.48	42.57	0.2585	0.1956	-0.0003
56	SLU 59			5.44	-0.45	42.28	0.1956	0.2294	-0.0004
56	SLU 60			4.24	-0.49	44.05	0.2629	0.179	-0.0003
56	SLU 61			5.05	-0.46	43.76	0.1999	0.2128	-0.0004
56	SLU 62			4.51	-0.49	44.24	0.2659	0.1907	-0.0003
56	SLU 63			5.32	-0.46	43.94	0.203	0.2245	-0.0004
56	SLU 64			4.12	-0.46	41.44	0.2512	0.1738	-0.0003
56	SLU 65			5.47	-0.42	40.95	0.1462	0.2302	-0.0004
56	SLU 66			4.39	-0.47	41.86	0.2565	0.1856	-0.0003
56	SLU 67			5.2	-0.45	41.57	0.1935	0.2194	-0.0004
56	SLU 68			5.74	-0.42	41.13	0.1492	0.2418	-0.0004
56	SLU 69			4.66	-0.48	42.05	0.2595	0.1972	-0.0003
56	SLU 70			5.48	-0.45	41.75	0.1965	0.231	-0.0004
56	SLU 71			4.66	-0.47	41.81	0.2572	0.1971	-0.0003
56	SLU 72			5.47	-0.45	41.52	0.1942	0.231	-0.0004
56	SLU 73			5.84	-0.46	45.27	0.1704	0.246	-0.0004
56	SLU 74			4.76	-0.52	46.19	0.2807	0.2013	-0.0004
56	SLU 75			5.57	-0.49	45.89	0.2177	0.2351	-0.0004
56	SLU 76			6.11	-0.47	45.46	0.1735	0.2576	-0.0004
56	SLU 77			5.03	-0.52	46.37	0.2837	0.213	-0.0004
56	SLU 78			5.84	-0.5	46.08	0.2207	0.2468	-0.0004
56	SLU 79			5.03	-0.52	46.14	0.2814	0.2129	-0.0004
56	SLU 80			5.84	-0.49	45.84	0.2185	0.2467	-0.0004
56	SLU 81			4.64	-0.53	47.62	0.2858	0.1963	-0.0004
56	SLU 82			5.45	-0.5	47.32	0.2228	0.2302	-0.0004
56	SLU 83			4.91	-0.53	47.8	0.2888	0.208	-0.0004
56	SLU 84			5.72	-0.51	47.51	0.2258	0.2418	-0.0004
56	SLE RA 1			3.08	-0.35	31.09	0.1882	0.1299	-0.0002
56	SLE RA 2			3.98	-0.32	30.76	0.1182	0.1675	-0.0003
56	SLE RA 3			3.26	-0.35	31.38	0.1917	0.1377	-0.0002
56	SLE RA 4			3.8	-0.33	31.18	0.1497	0.1603	-0.0003
56	SLE RA 5			4.16	-0.32	30.89	0.1202	0.1753	-0.0003
56	SLE RA 6			3.44	-0.36	31.5	0.1937	0.1455	-0.0002
56	SLE RA 7			3.98	-0.34	31.3	0.1517	0.168	-0.0003
56	SLE RA 8			3.44	-0.35	31.34	0.1922	0.1454	-0.0002
56	SLE RA 9			3.98	-0.34	31.15	0.1502	0.168	-0.0003
56	SLE RA 10			4.23	-0.35	33.65	0.1344	0.178	-0.0003
56	SLE RA 11			3.51	-0.38	34.26	0.2079	0.1482	-0.0003
56	SLE RA 12			4.05	-0.37	34.06	0.1659	0.1708	-0.0003
56	SLE RA 13			4.41	-0.35	33.77	0.1364	0.1858	-0.0003
56	SLE RA 14			3.69	-0.39	34.38	0.2099	0.156	-0.0003
56	SLE RA 15			4.23	-0.37	34.19	0.1679	0.1786	-0.0003
56	SLE RA 16			3.69	-0.38	34.23	0.2083	0.156	-0.0003
56	SLE RA 17			4.23	-0.37	34.03	0.1664	0.1785	-0.0003
56	SLE RA 18			3.43	-0.39	35.21	0.2113	0.1449	-0.0003
56	SLE RA 19			3.97	-0.37	35.01	0.1693	0.1675	-0.0003
56	SLE RA 20			3.61	-0.39	35.34	0.2133	0.1527	-0.0003
56	SLE RA 21			4.15	-0.38	35.14	0.1713	0.1752	-0.0003
56	SLE FR 1			3.08	-0.35	31.09	0.1882	0.1299	-0.0002
56	SLE FR 2			3.26	-0.34	31.03	0.1742	0.1374	-0.0002
56	SLE FR 3			3.15	-0.35	31.14	0.189	0.133	-0.0002
56	SLE FR 4			3.37	-0.35	32.26	0.1811	0.1419	-0.0003
56	SLE FR 5			3.26	-0.36	32.38	0.1959	0.1375	-0.0002
56	SLE FR 6			3.26	-0.37	33.15	0.1997	0.1374	-0.0003
56	SLE QP 1			3.08	-0.35	31.09	0.1882	0.1299	-0.0002
56	SLE QP 2			3.19	-0.36	32.33	0.1951	0.1344	-0.0002
56	SLD 1			11.12	-0.48	35.62	0.3271	0.4822	-0.0003
56	SLD 2			11.12	-0.48	35.62	0.3271	0.4822	-0.0003
56	SLD 3			9.85	-0.35	32.86	0.1621	0.4265	-0.0003
56	SLD 4			9.85	-0.35	32.86	0.1621	0.4265	-0.0003
56	SLD 5			7.51	-0.59	37.51	0.485	0.3233	-0.0004
56	SLD 6			7.51	-0.59	37.51	0.485	0.3233	-0.0004
56	SLD 7			3.25	-0.16	28.29	-0.0651	0.1375	-0.0002
56	SLD 8			3.25	-0.16	28.29	-0.0651	0.1375	-0.0002
56	SLD 9			3.13	-0.56	36.37	0.4553	0.1313	-0.0003
56	SLD 10			3.13	-0.56	36.37	0.4553	0.1313	-0.0003
56	SLD 11			-1.13	-0.13	27.15	-0.0948	-0.0545	-0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
56	SLD 12			-1.13	-0.13	27.15	-0.0948	-0.0545	-0.0001
56	SLD 13			-3.47	-0.37	31.8	0.2281	-0.1577	-0.0002
56	SLD 14			-3.47	-0.37	31.8	0.2281	-0.1577	-0.0002
56	SLD 15			-4.75	-0.24	29.04	0.0631	-0.2134	-0.0002
56	SLD 16			-4.75	-0.24	29.04	0.0631	-0.2134	-0.0002
56	SLV 1			21.81	-0.65	40.12	0.5247	0.9506	-0.0004
56	SLV 2			21.81	-0.65	40.12	0.5247	0.9506	-0.0004
56	SLV 3			18.77	-0.32	33.61	0.1045	0.8176	-0.0003
56	SLV 4			18.77	-0.32	33.61	0.1045	0.8176	-0.0003
56	SLV 5			13.38	-0.94	44.55	0.9313	0.5809	-0.0005
56	SLV 6			13.38	-0.94	44.55	0.9313	0.5809	-0.0005
56	SLV 7			3.25	0.15	22.83	-0.4694	0.1377	0
56	SLV 8			3.25	0.15	22.83	-0.4694	0.1377	0
56	SLV 9			3.12	-0.87	41.83	0.8596	0.1311	-0.0005
56	SLV 10			3.12	-0.87	41.83	0.8596	0.1311	-0.0005
56	SLV 11			-7.01	0.22	20.1	-0.5411	-0.3121	0
56	SLV 12			-7.01	0.22	20.1	-0.5411	-0.3121	0
56	SLV 13			-12.4	-0.4	31.05	0.2857	-0.5488	-0.0002
56	SLV 14			-12.4	-0.4	31.05	0.2857	-0.5488	-0.0002
56	SLV 15			-15.44	-0.07	24.53	-0.1345	-0.6818	0
56	SLV 16			-15.44	-0.07	24.53	-0.1345	-0.6818	0
57	SLU 1			2.1	-0.26	31.77	0.1447	0.0771	-0.0001
57	SLU 2			3.73	-0.25	31.64	0.0744	0.1476	-0.0002
57	SLU 3			2.36	-0.27	32.16	0.149	0.0893	-0.0001
57	SLU 4			3.34	-0.26	32.08	0.1068	0.1316	-0.0002
57	SLU 5			4.01	-0.26	31.76	0.0769	0.1607	-0.0002
57	SLU 6			2.64	-0.27	32.28	0.1515	0.1025	-0.0001
57	SLU 7			3.62	-0.27	32.2	0.1093	0.1447	-0.0002
57	SLU 8			2.65	-0.27	32.01	0.1497	0.1034	-0.0001
57	SLU 9			3.63	-0.26	31.93	0.1075	0.1456	-0.0002
57	SLU 10			3.94	-0.29	36.18	0.0939	0.1545	-0.0002
57	SLU 11			2.57	-0.3	36.7	0.1684	0.0963	-0.0001
57	SLU 12			3.55	-0.3	36.62	0.1263	0.1386	-0.0002
57	SLU 13			4.22	-0.29	36.3	0.0964	0.1677	-0.0002
57	SLU 14			2.85	-0.3	36.82	0.1709	0.1094	-0.0001
57	SLU 15			3.83	-0.3	36.74	0.1288	0.1517	-0.0002
57	SLU 16			2.86	-0.3	36.55	0.1691	0.1103	-0.0001
57	SLU 17			3.84	-0.3	36.47	0.127	0.1526	-0.0002
57	SLU 18			2.4	-0.31	38.25	0.1725	0.087	-0.0001
57	SLU 19			3.38	-0.31	38.18	0.1304	0.1293	-0.0002
57	SLU 20			2.68	-0.31	38.37	0.175	0.1001	-0.0001
57	SLU 21			3.66	-0.31	38.3	0.1328	0.1424	-0.0002
57	SLU 22			2.36	-0.29	35.47	0.163	0.0872	-0.0001
57	SLU 23			3.99	-0.28	35.35	0.0928	0.1577	-0.0002
57	SLU 24			2.63	-0.3	35.86	0.1673	0.0994	-0.0001
57	SLU 25			3.61	-0.29	35.79	0.1252	0.1417	-0.0002
57	SLU 26			4.27	-0.29	35.46	0.0953	0.1708	-0.0002
57	SLU 27			2.9	-0.3	35.98	0.1698	0.1125	-0.0001
57	SLU 28			3.88	-0.3	35.91	0.1277	0.1548	-0.0002
57	SLU 29			2.92	-0.3	35.71	0.168	0.1134	-0.0001
57	SLU 30			3.89	-0.3	35.64	0.1259	0.1557	-0.0002
57	SLU 31			4.21	-0.32	39.88	0.1122	0.1646	-0.0002
57	SLU 32			2.84	-0.33	40.4	0.1868	0.1063	-0.0001
57	SLU 33			3.82	-0.33	40.32	0.1446	0.1486	-0.0002
57	SLU 34			4.48	-0.32	40	0.1147	0.1777	-0.0002
57	SLU 35			3.12	-0.34	40.52	0.1893	0.1195	-0.0001
57	SLU 36			4.1	-0.33	40.44	0.1471	0.1618	-0.0002
57	SLU 37			3.13	-0.33	40.25	0.1875	0.1204	-0.0001
57	SLU 38			4.11	-0.33	40.17	0.1453	0.1627	-0.0002
57	SLU 39			2.66	-0.34	41.96	0.1908	0.0971	-0.0001
57	SLU 40			3.64	-0.34	41.88	0.1487	0.1394	-0.0002
57	SLU 41			2.94	-0.35	42.08	0.1933	0.1102	-0.0001
57	SLU 42			3.92	-0.34	42	0.1512	0.1525	-0.0002
57	SLU 43			2.63	-0.32	40.03	0.1818	0.0968	-0.0001
57	SLU 44			4.27	-0.32	39.9	0.1115	0.1673	-0.0002
57	SLU 45			2.9	-0.33	40.42	0.1861	0.109	-0.0001
57	SLU 46			3.88	-0.33	40.34	0.1439	0.1513	-0.0002
57	SLU 47			4.54	-0.32	40.02	0.114	0.1804	-0.0002
57	SLU 48			3.18	-0.34	40.54	0.1886	0.1221	-0.0001
57	SLU 49			4.16	-0.33	40.46	0.1464	0.1644	-0.0002
57	SLU 50			3.19	-0.33	40.27	0.1868	0.123	-0.0001
57	SLU 51			4.17	-0.33	40.19	0.1446	0.1653	-0.0002
57	SLU 52			4.48	-0.35	44.44	0.131	0.1742	-0.0002
57	SLU 53			3.11	-0.37	44.96	0.2055	0.1159	-0.0001
57	SLU 54			4.09	-0.36	44.88	0.1634	0.1582	-0.0002
57	SLU 55			4.76	-0.36	44.56	0.1335	0.1873	-0.0002
57	SLU 56			3.39	-0.37	45.08	0.208	0.1291	-0.0001
57	SLU 57			4.37	-0.37	45	0.1659	0.1714	-0.0002
57	SLU 58			3.4	-0.37	44.81	0.2062	0.13	-0.0001
57	SLU 59			4.38	-0.36	44.73	0.1641	0.1723	-0.0002
57	SLU 60			2.94	-0.38	46.51	0.2096	0.1067	-0.0001
57	SLU 61			3.92	-0.37	46.44	0.1675	0.149	-0.0002
57	SLU 62			3.21	-0.38	46.63	0.2121	0.1198	-0.0001
57	SLU 63			4.19	-0.38	46.56	0.17	0.1621	-0.0002
57	SLU 64			2.9	-0.36	43.74	0.2001	0.1069	-0.0001
57	SLU 65			4.53	-0.35	43.61	0.1299	0.1774	-0.0002
57	SLU 66			3.16	-0.36	44.12	0.2044	0.1191	-0.0001
57	SLU 67			4.14	-0.36	44.05	0.1623	0.1614	-0.0002



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
57	SLU 68	4.81	-0.35	43.73	0.1324	0.1905	-0.0002	
57	SLU 69	3.44	-0.37	44.24	0.2069	0.1322	-0.0001	
57	SLU 70	4.42	-0.36	44.17	0.1648	0.1745	-0.0002	
57	SLU 71	3.45	-0.37	43.97	0.2051	0.1331	-0.0001	
57	SLU 72	4.43	-0.36	43.9	0.163	0.1754	-0.0002	
57	SLU 73	4.74	-0.39	48.14	0.1494	0.1843	-0.0002	
57	SLU 74	3.38	-0.4	48.66	0.2239	0.126	-0.0001	
57	SLU 75	4.36	-0.4	48.59	0.1817	0.1683	-0.0002	
57	SLU 76	5.02	-0.39	48.26	0.1519	0.1974	-0.0002	
57	SLU 77	3.65	-0.4	48.78	0.2264	0.1391	-0.0001	
57	SLU 78	4.63	-0.4	48.7	0.1842	0.1814	-0.0002	
57	SLU 79	3.67	-0.4	48.51	0.2246	0.14	-0.0001	
57	SLU 80	4.65	-0.4	48.44	0.1824	0.1823	-0.0002	
57	SLU 81	3.2	-0.41	50.22	0.2279	0.1168	-0.0001	
57	SLU 82	4.18	-0.4	50.14	0.1858	0.1591	-0.0002	
57	SLU 83	3.48	-0.41	50.34	0.2304	0.1299	-0.0001	
57	SLU 84	4.46	-0.41	50.26	0.1883	0.1722	-0.0002	
57	SLE RA 1	2.17	-0.27	32.83	0.1499	0.08	-0.0001	
57	SLE RA 2	3.26	-0.26	32.74	0.1031	0.127	-0.0002	
57	SLE RA 3	2.35	-0.27	33.09	0.1528	0.0881	-0.0001	
57	SLE RA 4	3	-0.27	33.04	0.1247	0.1163	-0.0001	
57	SLE RA 5	3.44	-0.27	32.82	0.1047	0.1357	-0.0002	
57	SLE RA 6	2.53	-0.28	33.17	0.1544	0.0969	-0.0001	
57	SLE RA 7	3.19	-0.27	33.12	0.1263	0.1251	-0.0001	
57	SLE RA 8	2.54	-0.27	32.99	0.1532	0.0975	-0.0001	
57	SLE RA 9	3.19	-0.27	32.94	0.1251	0.1257	-0.0001	
57	SLE RA 10	3.4	-0.29	35.77	0.1161	0.1316	-0.0002	
57	SLE RA 11	2.49	-0.3	36.11	0.1658	0.0928	-0.0001	
57	SLE RA 12	3.14	-0.29	36.06	0.1377	0.121	-0.0001	
57	SLE RA 13	3.59	-0.29	35.85	0.1177	0.1404	-0.0002	
57	SLE RA 14	2.67	-0.3	36.19	0.1674	0.1015	-0.0001	
57	SLE RA 15	3.33	-0.3	36.14	0.1393	0.1297	-0.0001	
57	SLE RA 16	2.68	-0.3	36.01	0.1662	0.1021	-0.0001	
57	SLE RA 17	3.34	-0.29	35.96	0.1381	0.1303	-0.0001	
57	SLE RA 18	2.37	-0.3	37.15	0.1685	0.0866	-0.0001	
57	SLE RA 19	3.03	-0.3	37.1	0.1404	0.1148	-0.0001	
57	SLE RA 20	2.56	-0.3	37.23	0.1701	0.0953	-0.0001	
57	SLE RA 21	3.21	-0.3	37.18	0.142	0.1235	-0.0001	
57	SLE FR 1	2.17	-0.27	32.83	0.1499	0.08	-0.0001	
57	SLE FR 2	2.39	-0.27	32.81	0.1405	0.0894	-0.0001	
57	SLE FR 3	2.25	-0.27	32.86	0.1506	0.0835	-0.0001	
57	SLE FR 4	2.45	-0.28	34.11	0.1461	0.0914	-0.0001	
57	SLE FR 5	2.31	-0.28	34.16	0.1561	0.0855	-0.0001	
57	SLE FR 6	2.27	-0.28	34.99	0.1592	0.0833	-0.0001	
57	SLE QP 1	2.17	-0.27	32.83	0.1499	0.08	-0.0001	
57	SLE QP 2	2.23	-0.28	34.13	0.1555	0.082	-0.0001	
57	SLD 1	10.37	-0.35	37.15	0.2487	0.45	-0.0002	
57	SLD 2	10.37	-0.35	37.15	0.2487	0.45	-0.0002	
57	SLD 3	9.04	-0.28	33.97	0.1352	0.3931	-0.0001	
57	SLD 4	9.04	-0.28	33.97	0.1352	0.3931	-0.0001	
57	SLD 5	6.69	-0.4	39.87	0.3556	0.2787	-0.0003	
57	SLD 6	6.69	-0.4	39.87	0.3556	0.2787	-0.0003	
57	SLD 7	2.25	-0.18	29.24	-0.0228	0.089	0.0001	
57	SLD 8	2.25	-0.18	29.24	-0.0228	0.089	0.0001	
57	SLD 9	2.21	-0.37	39.01	0.3337	0.0749	-0.0003	
57	SLD 10	2.21	-0.37	39.01	0.3337	0.0749	-0.0003	
57	SLD 11	-2.23	-0.16	28.38	-0.0447	-0.1147	0.0001	
57	SLD 12	-2.23	-0.16	28.38	-0.0447	-0.1147	0.0001	
57	SLD 13	-4.57	-0.27	34.28	0.1758	-0.2292	-0.0001	
57	SLD 14	-4.57	-0.27	34.28	0.1758	-0.2292	-0.0001	
57	SLD 15	-5.91	-0.21	31.1	0.0622	-0.286	0	
57	SLD 16	-5.91	-0.21	31.1	0.0622	-0.286	0	
57	SLV 1	21.33	-0.44	41.35	0.3878	0.9456	-0.0004	
57	SLV 2	21.33	-0.44	41.35	0.3878	0.9456	-0.0004	
57	SLV 3	18.14	-0.28	33.83	0.0988	0.8094	-0.0001	
57	SLV 4	18.14	-0.28	33.83	0.0988	0.8094	-0.0001	
57	SLV 5	12.8	-0.57	47.7	0.6636	0.5477	-0.0006	
57	SLV 6	12.8	-0.57	47.7	0.6636	0.5477	-0.0006	
57	SLV 7	2.17	-0.03	22.63	-0.3	0.0936	0.0004	
57	SLV 8	2.17	-0.03	22.63	-0.3	0.0936	0.0004	
57	SLV 9	2.3	-0.52	45.62	0.6109	0.0704	-0.0006	
57	SLV 10	2.3	-0.52	45.62	0.6109	0.0704	-0.0006	
57	SLV 11	-8.34	0.02	20.55	-0.3527	-0.3838	0.0005	
57	SLV 12	-8.34	0.02	20.55	-0.3527	-0.3838	0.0005	
57	SLV 13	-13.68	-0.27	34.42	0.2122	-0.6454	-0.0001	
57	SLV 14	-13.68	-0.27	34.42	0.2122	-0.6454	-0.0001	
57	SLV 15	-16.87	-0.11	26.9	-0.0769	-0.7817	0.0002	
57	SLV 16	-16.87	-0.11	26.9	-0.0769	-0.7817	0.0002	
58	SLU 1	1.34	-0.12	33.24	0.0869	0.057	0.0001	
58	SLU 2	3.12	-0.14	33.72	0.0469	0.1298	-0.0001	
58	SLU 3	1.58	-0.12	33.58	0.0899	0.0679	0.0001	
58	SLU 4	2.66	-0.14	33.87	0.0659	0.1116	0	
58	SLU 5	3.39	-0.14	33.76	0.0489	0.1417	-0.0001	
58	SLU 6	1.85	-0.12	33.61	0.0918	0.0798	0.0001	
58	SLU 7	2.93	-0.14	33.9	0.0678	0.1235	0	
58	SLU 8	1.88	-0.12	33.31	0.0908	0.0807	0.0001	
58	SLU 9	2.95	-0.14	33.6	0.0668	0.1244	0	
58	SLU 10	3.23	-0.16	38.42	0.0587	0.135	0	





Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
58	SLU 11	1.69	-0.14	38.28	0.1016	0.0731	0.0001
58	SLU 12	2.76	-0.15	38.57	0.0776	0.1168	0
58	SLU 13	3.5	-0.16	38.46	0.0606	0.1469	0
58	SLU 14	1.96	-0.14	38.32	0.1035	0.085	0.0001
58	SLU 15	3.03	-0.15	38.61	0.0795	0.1287	0
58	SLU 16	1.98	-0.14	38.01	0.1025	0.0859	0.0001
58	SLU 17	3.05	-0.15	38.3	0.0785	0.1296	0
58	SLU 18	1.49	-0.14	39.96	0.1037	0.0643	0.0001
58	SLU 19	2.56	-0.15	40.25	0.0797	0.108	0
58	SLU 20	1.76	-0.14	39.99	0.1056	0.0762	0.0001
58	SLU 21	2.83	-0.16	40.28	0.0816	0.1199	0
58	SLU 22	1.5	-0.13	37.03	0.0981	0.0645	0.0001
58	SLU 23	3.28	-0.16	37.52	0.0581	0.1374	0
58	SLU 24	1.74	-0.14	37.37	0.1011	0.0755	0.0001
58	SLU 25	2.82	-0.15	37.66	0.0771	0.1192	0
58	SLU 26	3.55	-0.16	37.55	0.0601	0.1492	0
58	SLU 27	2.01	-0.14	37.41	0.103	0.0874	0.0001
58	SLU 28	3.08	-0.15	37.7	0.079	0.1311	0
58	SLU 29	2.03	-0.14	37.1	0.102	0.0883	0.0001
58	SLU 30	3.11	-0.15	37.39	0.078	0.132	0
58	SLU 31	3.39	-0.17	42.22	0.0699	0.1425	0
58	SLU 32	1.85	-0.15	42.07	0.1128	0.0806	0.0001
58	SLU 33	2.92	-0.17	42.36	0.0888	0.1243	0
58	SLU 34	3.66	-0.17	42.26	0.0718	0.1544	0
58	SLU 35	2.12	-0.16	42.11	0.1147	0.0925	0.0001
58	SLU 36	3.19	-0.17	42.4	0.0907	0.1362	0
58	SLU 37	2.14	-0.15	41.81	0.1137	0.0935	0.0001
58	SLU 38	3.21	-0.17	42.1	0.0897	0.1372	0
58	SLU 39	1.65	-0.16	43.75	0.1149	0.0719	0.0001
58	SLU 40	2.72	-0.17	44.04	0.0909	0.1156	0
58	SLU 41	1.92	-0.16	43.79	0.1168	0.0838	0.0001
58	SLU 42	2.99	-0.17	44.08	0.0928	0.1275	0
58	SLU 43	1.68	-0.15	41.91	0.1092	0.0715	0.0001
58	SLU 44	3.47	-0.17	42.39	0.0692	0.1443	0
58	SLU 45	1.93	-0.15	42.24	0.1121	0.0824	0.0001
58	SLU 46	3	-0.17	42.54	0.0881	0.1261	0
58	SLU 47	3.74	-0.17	42.43	0.0711	0.1562	0
58	SLU 48	2.2	-0.15	42.28	0.114	0.0943	0.0001
58	SLU 49	3.27	-0.17	42.57	0.09	0.138	0
58	SLU 50	2.22	-0.15	41.98	0.113	0.0952	0.0001
58	SLU 51	3.29	-0.17	42.27	0.089	0.1389	0
58	SLU 52	3.58	-0.19	47.09	0.0809	0.1495	0
58	SLU 53	2.04	-0.17	46.95	0.1239	0.0876	0.0001
58	SLU 54	3.11	-0.18	47.24	0.0999	0.1313	0
58	SLU 55	3.85	-0.19	47.13	0.0828	0.1614	0
58	SLU 56	2.31	-0.17	46.98	0.1258	0.0995	0.0001
58	SLU 57	3.38	-0.18	47.28	0.1018	0.1432	0
58	SLU 58	2.33	-0.17	46.68	0.1247	0.1004	0.0001
58	SLU 59	3.4	-0.18	46.97	0.1007	0.1441	0
58	SLU 60	1.84	-0.17	48.63	0.126	0.0788	0.0001
58	SLU 61	2.91	-0.18	48.92	0.102	0.1225	0
58	SLU 62	2.11	-0.17	48.66	0.1279	0.0907	0.0001
58	SLU 63	3.18	-0.19	48.95	0.1039	0.1344	0
58	SLU 64	1.84	-0.16	45.7	0.1204	0.079	0.0001
58	SLU 65	3.63	-0.19	46.19	0.0804	0.1518	0
58	SLU 66	2.09	-0.17	46.04	0.1233	0.09	0.0001
58	SLU 67	3.16	-0.18	46.33	0.0993	0.1337	0
58	SLU 68	3.9	-0.19	46.22	0.0823	0.1637	0
58	SLU 69	2.36	-0.17	46.08	0.1252	0.1019	0.0001
58	SLU 70	3.43	-0.18	46.37	0.1012	0.1456	0
58	SLU 71	2.38	-0.17	45.77	0.1242	0.1028	0.0001
58	SLU 72	3.45	-0.18	46.06	0.1002	0.1465	0
58	SLU 73	3.73	-0.2	50.89	0.0921	0.157	0
58	SLU 74	2.2	-0.18	50.74	0.1351	0.0951	0.0001
58	SLU 75	3.27	-0.2	51.03	0.1111	0.1388	0.0001
58	SLU 76	4	-0.2	50.93	0.094	0.1689	0
58	SLU 77	2.47	-0.19	50.78	0.137	0.107	0.0001
58	SLU 78	3.54	-0.2	51.07	0.113	0.1507	0.0001
58	SLU 79	2.49	-0.18	50.48	0.136	0.1079	0.0001
58	SLU 80	3.56	-0.2	50.77	0.112	0.1517	0.0001
58	SLU 81	1.99	-0.19	52.42	0.1372	0.0864	0.0001
58	SLU 82	3.07	-0.2	52.71	0.1132	0.1301	0.0001
58	SLU 83	2.26	-0.19	52.46	0.1391	0.0983	0.0001
58	SLU 84	3.34	-0.2	52.75	0.1151	0.142	0.0001
58	SLE RA 1	1.38	-0.12	34.32	0.0901	0.0591	0.0001
58	SLE RA 2	2.57	-0.14	34.64	0.0635	0.1077	0
58	SLE RA 3	1.55	-0.13	34.55	0.0921	0.0664	0.0001
58	SLE RA 4	2.26	-0.13	34.74	0.0761	0.0956	0
58	SLE RA 5	2.75	-0.14	34.67	0.0647	0.1156	0
58	SLE RA 6	1.73	-0.13	34.57	0.0934	0.0743	0.0001
58	SLE RA 7	2.44	-0.14	34.76	0.0774	0.1035	0
58	SLE RA 8	1.74	-0.13	34.37	0.0927	0.075	0.0001
58	SLE RA 9	2.46	-0.13	34.56	0.0767	0.1041	0
58	SLE RA 10	2.64	-0.15	37.78	0.0713	0.1111	0
58	SLE RA 11	1.62	-0.14	37.68	0.0999	0.0699	0.0001
58	SLE RA 12	2.33	-0.14	37.88	0.0839	0.099	0
58	SLE RA 13	2.82	-0.15	37.8	0.0726	0.119	0
58	SLE RA 14	1.8	-0.14	37.71	0.1012	0.0778	0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
58	SLE RA 15	2.51	-0.15	37.9	0.0852	0.1069	0		
58	SLE RA 16	1.81	-0.14	37.5	0.1005	0.0784	0.0001		
58	SLE RA 17	2.53	-0.15	37.7	0.0845	0.1075	0		
58	SLE RA 18	1.48	-0.14	38.8	0.1013	0.064	0.0001		
58	SLE RA 19	2.2	-0.15	38.99	0.0853	0.0932	0		
58	SLE RA 20	1.66	-0.14	38.82	0.1026	0.072	0.0001		
58	SLE RA 21	2.38	-0.15	39.02	0.0866	0.1011	0		
58	SLE FR 1	1.38	-0.12	34.32	0.0901	0.0591	0.0001		
58	SLE FR 2	1.62	-0.13	34.38	0.0848	0.0688	0.0001		
58	SLE FR 3	1.45	-0.12	34.33	0.0907	0.0623	0.0001		
58	SLE FR 4	1.65	-0.13	35.73	0.0882	0.0703	0.0001		
58	SLE FR 5	1.48	-0.13	35.67	0.094	0.0638	0.0001		
58	SLE FR 6	1.43	-0.13	36.56	0.0957	0.0616	0.0001		
58	SLE QP 1	1.38	-0.12	34.32	0.0901	0.0591	0.0001		
58	SLE QP 2	1.41	-0.13	35.66	0.0935	0.0606	0.0001		
58	SLD 1	9.68	-0.16	35.92	0.0856	0.4254	-0.0001		
58	SLD 2	9.68	-0.16	35.92	0.0856	0.4254	-0.0001		
58	SLD 3	8.25	-0.15	32.2	0.1497	0.3627	0.0001		
58	SLD 4	8.25	-0.15	32.2	0.1497	0.3627	0.0001		
58	SLD 5	6.07	-0.15	41.39	-0.0061	0.2652	-0.0002		
58	SLD 6	6.07	-0.15	41.39	-0.0061	0.2652	-0.0002		
58	SLD 7	1.29	-0.12	28.98	0.2076	0.0561	0.0004		
58	SLD 8	1.29	-0.12	28.98	0.2076	0.0561	0.0004		
58	SLD 9	1.53	-0.13	42.35	-0.0206	0.0651	-0.0002		
58	SLD 10	1.53	-0.13	42.35	-0.0206	0.0651	-0.0002		
58	SLD 11	-3.24	-0.1	29.94	0.1931	-0.144	0.0004		
58	SLD 12	-3.24	-0.1	29.94	0.1931	-0.144	0.0004		
58	SLD 13	-5.43	-0.1	39.12	0.0373	-0.2415	0.0001		
58	SLD 14	-5.43	-0.1	39.12	0.0373	-0.2415	0.0001		
58	SLD 15	-6.86	-0.09	35.4	0.1014	-0.3042	0.0002		
58	SLD 16	-6.86	-0.09	35.4	0.1014	-0.3042	0.0002		
58	SLV 1	20.85	-0.2	36.19	0.0698	0.9178	-0.0003		
58	SLV 2	20.85	-0.2	36.19	0.0698	0.9178	-0.0003		
58	SLV 3	17.38	-0.18	27.38	0.2331	0.7656	0.0001		
58	SLV 4	17.38	-0.18	27.38	0.2331	0.7656	0.0001		
58	SLV 5	12.49	-0.19	49.19	-0.1613	0.5486	-0.0007		
58	SLV 6	12.49	-0.19	49.19	-0.1613	0.5486	-0.0007		
58	SLV 7	0.95	-0.11	19.81	0.3831	0.0413	0.0008		
58	SLV 8	0.95	-0.11	19.81	0.3831	0.0413	0.0008		
58	SLV 9	1.87	-0.15	51.51	-0.1961	0.0799	-0.0006		
58	SLV 10	1.87	-0.15	51.51	-0.1961	0.0799	-0.0006		
58	SLV 11	-9.67	-0.07	22.14	0.3483	-0.4274	0.0008		
58	SLV 12	-9.67	-0.07	22.14	0.3483	-0.4274	0.0008		
58	SLV 13	-14.56	-0.07	43.95	-0.0461	-0.6444	0		
58	SLV 14	-14.56	-0.07	43.95	-0.0461	-0.6444	0		
58	SLV 15	-18.02	-0.05	35.13	0.1172	-0.7966	0.0005		
58	SLV 16	-18.02	-0.05	35.13	0.1172	-0.7966	0.0005		
59	SLU 1	0.31	0.05	34.49	0.0277	0.0045	0.0002		
59	SLU 2	2.22	0.03	36.08	0.0073	0.0835	0.0003		
59	SLU 3	0.55	0.04	34.74	0.0295	0.0163	0.0002		
59	SLU 4	1.7	0.04	35.69	0.0172	0.0637	0.0002		
59	SLU 5	2.51	0.03	35.99	0.0088	0.0977	0.0003		
59	SLU 6	0.84	0.04	34.64	0.031	0.0305	0.0002		
59	SLU 7	1.98	0.03	35.6	0.0188	0.0779	0.0002		
59	SLU 8	0.88	0.04	34.31	0.0308	0.0329	0.0002		
59	SLU 9	2.03	0.03	35.26	0.0186	0.0803	0.0002		
59	SLU 10	2.18	0.04	40.89	0.0112	0.0805	0.0003		
59	SLU 11	0.51	0.05	39.55	0.0334	0.0134	0.0002		
59	SLU 12	1.66	0.04	40.5	0.0212	0.0607	0.0003		
59	SLU 13	2.47	0.04	40.8	0.0128	0.0947	0.0003		
59	SLU 14	0.8	0.05	39.46	0.035	0.0275	0.0002		
59	SLU 15	1.95	0.04	40.41	0.0227	0.0749	0.0002		
59	SLU 16	0.84	0.05	39.12	0.0348	0.0299	0.0002		
59	SLU 17	1.99	0.04	40.07	0.0225	0.0773	0.0002		
59	SLU 18	0.26	0.05	41.37	0.0333	0.0003	0.0002		
59	SLU 19	1.4	0.05	42.32	0.0211	0.0477	0.0003		
59	SLU 20	0.54	0.05	41.27	0.0349	0.0145	0.0002		
59	SLU 21	1.69	0.04	42.23	0.0227	0.0618	0.0003		
59	SLU 22	0.33	0.05	38.3	0.0318	0.0048	0.0002		
59	SLU 23	2.24	0.04	39.89	0.0114	0.0838	0.0003		
59	SLU 24	0.57	0.05	38.55	0.0336	0.0167	0.0002		
59	SLU 25	1.72	0.04	39.5	0.0214	0.064	0.0002		
59	SLU 26	2.52	0.03	39.8	0.013	0.098	0.0003		
59	SLU 27	0.85	0.04	38.46	0.0352	0.0308	0.0002		
59	SLU 28	2	0.04	39.41	0.0229	0.0782	0.0002		
59	SLU 29	0.9	0.04	38.12	0.035	0.0332	0.0002		
59	SLU 30	2.04	0.04	39.07	0.0227	0.0806	0.0002		
59	SLU 31	2.2	0.04	44.7	0.0154	0.0808	0.0003		
59	SLU 32	0.53	0.05	43.36	0.0376	0.0137	0.0002		
59	SLU 33	1.68	0.05	44.32	0.0253	0.0611	0.0003		
59	SLU 34	2.49	0.04	44.61	0.0169	0.095	0.0003		
59	SLU 35	0.82	0.05	43.27	0.0391	0.0278	0.0002		
59	SLU 36	1.96	0.04	44.22	0.0269	0.0752	0.0003		
59	SLU 37	0.86	0.05	42.93	0.0389	0.0302	0.0002		
59	SLU 38	2.01	0.04	43.88	0.0267	0.0776	0.0003		
59	SLU 39	0.28	0.06	45.18	0.0375	0.0006	0.0002		
59	SLU 40	1.42	0.05	46.13	0.0252	0.048	0.0003		
59	SLU 41	0.56	0.05	45.09	0.039	0.0148	0.0002		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
59	SLU 42		1.71	0.05	46.04	0.0268	0.0621	0.0003	
59	SLU 43		0.4	0.06	43.53	0.0346	0.0058	0.0003	
59	SLU 44		2.31	0.05	45.12	0.0142	0.0848	0.0003	
59	SLU 45		0.64	0.06	43.78	0.0363	0.0176	0.0002	
59	SLU 46		1.78	0.05	44.73	0.0241	0.065	0.0003	
59	SLU 47		2.59	0.04	45.02	0.0157	0.0989	0.0003	
59	SLU 48		0.92	0.05	43.68	0.0379	0.0318	0.0002	
59	SLU 49		2.07	0.05	44.64	0.0257	0.0792	0.0003	
59	SLU 50		0.97	0.05	43.34	0.0377	0.0341	0.0002	
59	SLU 51		2.11	0.04	44.3	0.0255	0.0815	0.0003	
59	SLU 52		2.27	0.05	49.93	0.0181	0.0818	0.0003	
59	SLU 53		0.6	0.06	48.59	0.0403	0.0146	0.0003	
59	SLU 54		1.75	0.05	49.54	0.028	0.062	0.0003	
59	SLU 55		2.55	0.05	49.84	0.0197	0.096	0.0003	
59	SLU 56		0.88	0.06	48.5	0.0419	0.0288	0.0003	
59	SLU 57		2.03	0.05	49.45	0.0296	0.0762	0.0003	
59	SLU 58		0.93	0.06	48.16	0.0417	0.0312	0.0003	
59	SLU 59		2.07	0.05	49.11	0.0294	0.0785	0.0003	
59	SLU 60		0.34	0.07	50.4	0.0402	0.0015	0.0003	
59	SLU 61		1.49	0.06	51.36	0.028	0.0489	0.0003	
59	SLU 62		0.63	0.06	50.31	0.0418	0.0157	0.0003	
59	SLU 63		1.77	0.06	51.26	0.0295	0.0631	0.0003	
59	SLU 64		0.42	0.06	47.34	0.0387	0.0061	0.0003	
59	SLU 65		2.33	0.05	48.93	0.0183	0.0851	0.0003	
59	SLU 66		0.66	0.06	47.59	0.0405	0.0179	0.0003	
59	SLU 67		1.8	0.05	48.54	0.0282	0.0653	0.0003	
59	SLU 68		2.61	0.05	48.84	0.0199	0.0993	0.0003	
59	SLU 69		0.94	0.06	47.5	0.0421	0.0321	0.0003	
59	SLU 70		2.09	0.05	48.45	0.0298	0.0795	0.0003	
59	SLU 71		0.98	0.06	47.16	0.0419	0.0344	0.0002	
59	SLU 72		2.13	0.05	48.11	0.0296	0.0818	0.0003	
59	SLU 73		2.29	0.06	53.74	0.0222	0.0821	0.0004	
59	SLU 74		0.62	0.07	52.4	0.0444	0.0149	0.0003	
59	SLU 75		1.77	0.06	53.36	0.0322	0.0623	0.0003	
59	SLU 76		2.57	0.05	53.65	0.0238	0.0963	0.0003	
59	SLU 77		0.9	0.06	52.31	0.046	0.0291	0.0003	
59	SLU 78		2.05	0.06	53.26	0.0338	0.0765	0.0003	
59	SLU 79		0.95	0.06	51.97	0.0458	0.0315	0.0003	
59	SLU 80		2.09	0.05	52.92	0.0336	0.0789	0.0003	
59	SLU 81		0.36	0.07	54.22	0.0444	0.0018	0.0003	
59	SLU 82		1.51	0.06	55.17	0.0321	0.0492	0.0003	
59	SLU 83		0.65	0.07	54.13	0.0459	0.016	0.0003	
59	SLU 84		1.79	0.06	55.08	0.0337	0.0634	0.0003	
59	SLE RA 1		0.32	0.05	35.58	0.0289	0.0046	0.0002	
59	SLE RA 2		1.59	0.04	36.64	0.0153	0.0573	0.0002	
59	SLE RA 3		0.48	0.04	35.74	0.0301	0.0125	0.0002	
59	SLE RA 4		1.24	0.04	36.38	0.0219	0.0441	0.0002	
59	SLE RA 5		1.78	0.04	36.58	0.0163	0.0667	0.0002	
59	SLE RA 6		0.67	0.04	35.68	0.0311	0.0219	0.0002	
59	SLE RA 7		1.43	0.04	36.32	0.0229	0.0535	0.0002	
59	SLE RA 8		0.69	0.04	35.46	0.031	0.0235	0.0002	
59	SLE RA 9		1.46	0.04	36.09	0.0228	0.0551	0.0002	
59	SLE RA 10		1.56	0.04	39.85	0.0179	0.0553	0.0003	
59	SLE RA 11		0.45	0.05	38.95	0.0327	0.0105	0.0002	
59	SLE RA 12		1.22	0.04	39.59	0.0245	0.0421	0.0002	
59	SLE RA 13		1.75	0.04	39.78	0.0189	0.0647	0.0003	
59	SLE RA 14		0.64	0.05	38.89	0.0337	0.02	0.0002	
59	SLE RA 15		1.41	0.04	39.53	0.0256	0.0515	0.0002	
59	SLE RA 16		0.67	0.05	38.66	0.0336	0.0215	0.0002	
59	SLE RA 17		1.43	0.04	39.3	0.0254	0.0531	0.0002	
59	SLE RA 18		0.28	0.05	40.16	0.0326	0.0018	0.0002	
59	SLE RA 19		1.04	0.05	40.8	0.0245	0.0334	0.0003	
59	SLE RA 20		0.47	0.05	40.1	0.0337	0.0112	0.0002	
59	SLE RA 21		1.23	0.05	40.74	0.0255	0.0428	0.0002	
59	SLE FR 1		0.32	0.05	35.58	0.0289	0.0046	0.0002	
59	SLE FR 2		0.57	0.04	35.79	0.0262	0.0152	0.0002	
59	SLE FR 3		0.39	0.05	35.56	0.0293	0.0084	0.0002	
59	SLE FR 4		0.56	0.05	37.17	0.0273	0.0143	0.0002	
59	SLE FR 5		0.38	0.05	36.93	0.0304	0.0076	0.0002	
59	SLE FR 6		0.3	0.05	37.87	0.0308	0.0032	0.0002	
59	SLE QP 1		0.32	0.05	35.58	0.0289	0.0046	0.0002	
59	SLE QP 2		0.3	0.05	36.96	0.03	0.0038	0.0002	
59	SLD 1		8.94	0.04	36.83	0.0302	0.3957	0.0002	
59	SLD 2		8.94	0.04	36.83	0.0302	0.3957	0.0002	
59	SLD 3		7.44	0	32.27	0.0578	0.3344	0.0001	
59	SLD 4		7.44	0	32.27	0.0578	0.3344	0.0001	
59	SLD 5		5.17	0.11	43.82	-0.0119	0.2143	0.0003	
59	SLD 6		5.17	0.11	43.82	-0.0119	0.2143	0.0003	
59	SLD 7		0.17	-0.03	28.65	0.0803	0.01	0	
59	SLD 8		0.17	-0.03	28.65	0.0803	0.01	0	
59	SLD 9		0.44	0.12	45.26	-0.0203	-0.0024	0.0004	
59	SLD 10		0.44	0.12	45.26	-0.0203	-0.0024	0.0004	
59	SLD 11		-4.56	-0.01	30.09	0.0719	-0.2068	0.0001	
59	SLD 12		-4.56	-0.01	30.09	0.0719	-0.2068	0.0001	
59	SLD 13		-6.83	0.09	41.64	0.0022	-0.3268	0.0003	
59	SLD 14		-6.83	0.09	41.64	0.0022	-0.3268	0.0003	
59	SLD 15		-8.33	0.05	37.08	0.0298	-0.3881	0.0003	
59	SLD 16		-8.33	0.05	37.08	0.0298	-0.3881	0.0003	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
59	SLV 1	20.59	0.04	36.58	0.0284	0.9242	0.0001		
59	SLV 2	20.59	0.04	36.58	0.0284	0.9242	0.0001		
59	SLV 3	16.95	-0.06	25.78	0.0986	0.7754	-0.0001		
59	SLV 4	16.95	-0.06	25.78	0.0986	0.7754	-0.0001		
59	SLV 5	11.91	0.19	53.23	-0.0769	0.5055	0.0005		
59	SLV 6	11.91	0.19	53.23	-0.0769	0.5055	0.0005		
59	SLV 7	-0.22	-0.13	17.22	0.157	0.0096	-0.0002		
59	SLV 8	-0.22	-0.13	17.22	0.157	0.0096	-0.0002		
59	SLV 9	0.83	0.23	56.69	-0.097	-0.0021	0.0006		
59	SLV 10	0.83	0.23	56.69	-0.097	-0.0021	0.0006		
59	SLV 11	-11.3	-0.1	20.68	0.1369	-0.498	0		
59	SLV 12	-11.3	-0.1	20.68	0.1369	-0.498	0		
59	SLV 13	-16.34	0.15	48.13	-0.0386	-0.7679	0.0005		
59	SLV 14	-16.34	0.15	48.13	-0.0386	-0.7679	0.0005		
59	SLV 15	-19.98	0.06	37.33	0.0316	-0.9167	0.0003		
59	SLV 16	-19.98	0.06	37.33	0.0316	-0.9167	0.0003		
60	SLU 1	-0.11	1.61	46.32	0.0666	-0.0231	-0.0001		
60	SLU 2	1.27	2.9	50.54	0.0164	0.033	-0.0002		
60	SLU 3	0.17	1.45	46.45	0.0764	-0.0112	-0.0001		
60	SLU 4	1	2.22	48.98	0.0463	0.0225	-0.0002		
60	SLU 5	1.61	2.69	50.17	0.0267	0.0478	-0.0002		
60	SLU 6	0.52	1.25	46.08	0.0867	0.0035	-0.0001		
60	SLU 7	1.35	2.02	48.61	0.0566	0.0372	-0.0002		
60	SLU 8	0.59	1.21	45.58	0.0871	0.0064	-0.0001		
60	SLU 9	1.41	1.98	48.11	0.057	0.0401	-0.0002		
60	SLU 10	1.26	3.01	56.86	0.0309	0.0305	-0.0002		
60	SLU 11	0.17	1.57	52.77	0.0909	-0.0137	-0.0001		
60	SLU 12	0.99	2.34	55.3	0.0608	0.02	-0.0002		
60	SLU 13	1.61	2.81	56.48	0.0411	0.0453	-0.0002		
60	SLU 14	0.52	1.36	52.4	0.1012	0.0011	-0.0001		
60	SLU 15	1.34	2.13	54.93	0.0711	0.0348	-0.0002		
60	SLU 16	0.58	1.32	51.9	0.1016	0.0039	-0.0001		
60	SLU 17	1.4	2.09	54.43	0.0715	0.0376	-0.0002		
60	SLU 18	-0.12	1.77	55.35	0.0872	-0.0267	-0.0001		
60	SLU 19	0.71	2.54	57.88	0.0571	0.007	-0.0002		
60	SLU 20	0.23	1.57	54.98	0.0975	-0.0119	-0.0001		
60	SLU 21	1.05	2.34	57.51	0.0674	0.0218	-0.0002		
60	SLU 22	-0.07	1.62	51.21	0.0829	-0.0231	-0.0001		
60	SLU 23	1.3	2.91	55.42	0.0327	0.0331	-0.0002		
60	SLU 24	0.21	1.47	51.34	0.0928	-0.0112	-0.0001		
60	SLU 25	1.04	2.24	53.87	0.0627	0.0225	-0.0002		
60	SLU 26	1.65	2.71	55.05	0.043	0.0479	-0.0002		
60	SLU 27	0.56	1.26	50.97	0.1031	0.0036	-0.0001		
60	SLU 28	1.39	2.03	53.49	0.0729	0.0373	-0.0002		
60	SLU 29	0.63	1.22	50.47	0.1035	0.0065	-0.0001		
60	SLU 30	1.45	1.99	53	0.0734	0.0402	-0.0002		
60	SLU 31	1.3	3.02	61.74	0.0472	0.0306	-0.0002		
60	SLU 32	0.21	1.58	57.66	0.1073	-0.0137	-0.0001		
60	SLU 33	1.03	2.35	60.18	0.0771	0.02	-0.0002		
60	SLU 34	1.65	2.82	61.37	0.0575	0.0454	-0.0002		
60	SLU 35	0.56	1.38	57.29	0.1175	0.0011	-0.0001		
60	SLU 36	1.38	2.15	59.81	0.0874	0.0348	-0.0002		
60	SLU 37	0.62	1.33	56.79	0.118	0.004	-0.0001		
60	SLU 38	1.44	2.1	59.32	0.0879	0.0377	-0.0002		
60	SLU 39	-0.08	1.79	60.24	0.1036	-0.0266	-0.0001		
60	SLU 40	0.75	2.56	62.77	0.0735	0.0071	-0.0002		
60	SLU 41	0.27	1.58	59.87	0.1139	-0.0119	-0.0001		
60	SLU 42	1.09	2.35	62.4	0.0838	0.0218	-0.0002		
60	SLU 43	-0.16	2.09	58.54	0.0809	-0.0301	-0.0001		
60	SLU 44	1.22	3.37	62.76	0.0307	0.0261	-0.0002		
60	SLU 45	0.13	1.93	58.67	0.0908	-0.0182	-0.0001		
60	SLU 46	0.95	2.7	61.2	0.0607	0.0155	-0.0002		
60	SLU 47	1.57	3.17	62.39	0.041	0.0408	-0.0002		
60	SLU 48	0.47	1.73	58.3	0.1011	-0.0034	-0.0001		
60	SLU 49	1.3	2.5	60.83	0.071	0.0303	-0.0002		
60	SLU 50	0.54	1.69	57.8	0.1015	-0.0006	-0.0001		
60	SLU 51	1.36	2.46	60.33	0.0714	0.0331	-0.0002		
60	SLU 52	1.21	3.49	69.08	0.0452	0.0236	-0.0002		
60	SLU 53	0.12	2.05	64.99	0.1053	-0.0207	-0.0001		
60	SLU 54	0.95	2.82	67.52	0.0752	0.013	-0.0002		
60	SLU 55	1.56	3.29	68.71	0.0555	0.0383	-0.0002		
60	SLU 56	0.47	1.84	64.62	0.1155	-0.0059	-0.0002		
60	SLU 57	1.29	2.61	67.15	0.0854	0.0278	-0.0002		
60	SLU 58	0.53	1.8	64.12	0.116	-0.003	-0.0002		
60	SLU 59	1.36	2.57	66.65	0.0859	0.0307	-0.0002		
60	SLU 60	-0.16	2.25	67.57	0.1016	-0.0337	-0.0001		
60	SLU 61	0.66	3.02	70.1	0.0715	0	-0.0002		
60	SLU 62	0.18	2.05	67.2	0.1119	-0.0189	-0.0001		
60	SLU 63	1.01	2.82	69.73	0.0818	0.0148	-0.0002		
60	SLU 64	-0.12	2.1	63.43	0.0973	-0.03	-0.0001		
60	SLU 65	1.26	3.39	67.65	0.0471	0.0261	-0.0002		
60	SLU 66	0.17	1.95	63.56	0.1071	-0.0181	-0.0001		
60	SLU 67	0.99	2.72	66.09	0.077	0.0156	-0.0002		
60	SLU 68	1.61	3.19	67.27	0.0574	0.0409	-0.0002		
60	SLU 69	0.51	1.74	63.19	0.1174	-0.0034	-0.0002		
60	SLU 70	1.34	2.51	65.72	0.0873	0.0303	-0.0002		
60	SLU 71	0.58	1.7	62.69	0.1178	-0.0005	-0.0002		
60	SLU 72	1.4	2.47	65.22	0.0877	0.0332	-0.0002		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
60	SLU 73	1.25	3.5	73.96		0.0616	0.0236	-0.0002	
60	SLU 74	0.16	2.06	69.88		0.1216	-0.0206	-0.0001	
60	SLU 75	0.99	2.83	72.41		0.0915	0.0131	-0.0002	
60	SLU 76	1.6	3.3	73.59		0.0719	0.0384	-0.0003	
60	SLU 77	0.51	1.86	69.51		0.1319	-0.0059	-0.0002	
60	SLU 78	1.33	2.63	72.03		0.1018	0.0279	-0.0002	
60	SLU 79	0.57	1.81	69.01		0.1323	-0.003	-0.0002	
60	SLU 80	1.4	2.58	71.54		0.1022	0.0307	-0.0002	
60	SLU 81	-0.12	2.27	72.46		0.118	-0.0336	-0.0001	
60	SLU 82	0.7	3.04	74.99		0.0879	0.0001	-0.0002	
60	SLU 83	0.22	2.06	72.09		0.1282	-0.0188	-0.0001	
60	SLU 84	1.05	2.83	74.62		0.0981	0.0149	-0.0002	
60	SLE RA 1	-0.1	1.62	47.72		0.0712	-0.0231	-0.0001	
60	SLE RA 2	0.82	2.47	50.53		0.0378	0.0143	-0.0002	
60	SLE RA 3	0.09	1.51	47.8		0.0778	-0.0152	-0.0001	
60	SLE RA 4	0.64	2.02	49.49		0.0577	0.0073	-0.0001	
60	SLE RA 5	1.05	2.34	50.28		0.0446	0.0242	-0.0002	
60	SLE RA 6	0.32	1.38	47.56		0.0847	-0.0053	-0.0001	
60	SLE RA 7	0.87	1.89	49.24		0.0646	0.0171	-0.0002	
60	SLE RA 8	0.37	1.35	47.23		0.0849	-0.0034	-0.0001	
60	SLE RA 9	0.92	1.86	48.91		0.0649	0.019	-0.0002	
60	SLE RA 10	0.81	2.55	54.74		0.0474	0.0127	-0.0002	
60	SLE RA 11	0.09	1.59	52.02		0.0875	-0.0168	-0.0001	
60	SLE RA 12	0.64	2.1	53.7		0.0674	0.0056	-0.0001	
60	SLE RA 13	1.05	2.41	54.49		0.0543	0.0225	-0.0002	
60	SLE RA 14	0.32	1.45	51.77		0.0943	-0.007	-0.0001	
60	SLE RA 15	0.87	1.96	53.45		0.0742	0.0155	-0.0002	
60	SLE RA 16	0.36	1.42	51.44		0.0946	-0.0051	-0.0001	
60	SLE RA 17	0.91	1.93	53.12		0.0745	0.0174	-0.0002	
60	SLE RA 18	-0.1	1.72	53.74		0.085	-0.0255	-0.0001	
60	SLE RA 19	0.45	2.24	55.42		0.065	-0.003	-0.0001	
60	SLE RA 20	0.13	1.59	53.49		0.0919	-0.0156	-0.0001	
60	SLE RA 21	0.68	2.1	55.18		0.0718	0.0068	-0.0001	
60	SLE FR 1	-0.1	1.62	47.72		0.0712	-0.0231	-0.0001	
60	SLE FR 2	0.09	1.79	48.28		0.0645	-0.0156	-0.0001	
60	SLE FR 3	-0.01	1.56	47.62		0.074	-0.0192	-0.0001	
60	SLE FR 4	0.08	1.82	50.09		0.0687	-0.0163	-0.0001	
60	SLE FR 5	-0.01	1.59	49.43		0.0781	-0.0199	-0.0001	
60	SLE FR 6	-0.1	1.67	50.73		0.0781	-0.0243	-0.0001	
60	SLE QP 1	-0.1	1.62	47.72		0.0712	-0.0231	-0.0001	
60	SLE QP 2	-0.1	1.65	49.52		0.0754	-0.0238	-0.0001	
60	SLD 1	8.35	1.46	48.65		0.0853	0.3549	-0.0007	
60	SLD 2	8.35	1.46	48.65		0.0853	0.3549	-0.0007	
60	SLD 3	7.16	-0.4	41.04		0.1638	0.2989	-0.0006	
60	SLD 4	7.16	-0.4	41.04		0.1638	0.2989	-0.0006	
60	SLD 5	4.25	4.42	60.8		-0.0408	0.1747	-0.0004	
60	SLD 6	4.25	4.42	60.8		-0.0408	0.1747	-0.0004	
60	SLD 7	0.26	-1.8	35.45		0.221	-0.0119	-0.0001	
60	SLD 8	0.26	-1.8	35.45		0.221	-0.0119	-0.0001	
60	SLD 9	-0.46	5.09	63.6		-0.0703	-0.0357	-0.0001	
60	SLD 10	-0.46	5.09	63.6		-0.0703	-0.0357	-0.0001	
60	SLD 11	-4.45	-1.12	38.25		0.1915	-0.2224	0.0002	
60	SLD 12	-4.45	-1.12	38.25		0.1915	-0.2224	0.0002	
60	SLD 13	-7.35	3.7	58.01		-0.0131	-0.3466	0.0004	
60	SLD 14	-7.35	3.7	58.01		-0.0131	-0.3466	0.0004	
60	SLD 15	-8.55	1.84	50.4		0.0655	-0.4026	0.0005	
60	SLD 16	-8.55	1.84	50.4		0.0655	-0.4026	0.0005	
60	SLV 1	19.76	1.17	47.36		0.1004	0.8663	-0.0015	
60	SLV 2	19.76	1.17	47.36		0.1004	0.8663	-0.0015	
60	SLV 3	16.81	-3.29	29.28		0.2878	0.7283	-0.0013	
60	SLV 4	16.81	-3.29	29.28		0.2878	0.7283	-0.0013	
60	SLV 5	10.32	8.25	76.3		-0.2015	0.4526	-0.0009	
60	SLV 6	10.32	8.25	76.3		-0.2015	0.4526	-0.0009	
60	SLV 7	0.51	-6.58	16.03		0.4234	-0.0076	-0.0001	
60	SLV 8	0.51	-6.58	16.03		0.4234	-0.0076	-0.0001	
60	SLV 9	-0.71	9.88	83.02		-0.2727	-0.04	-0.0001	
60	SLV 10	-0.71	9.88	83.02		-0.2727	-0.04	-0.0001	
60	SLV 11	-10.52	-4.96	22.75		0.3522	-0.5003	0.0007	
60	SLV 12	-10.52	-4.96	22.75		0.3522	-0.5003	0.0007	
60	SLV 13	-17.01	6.58	69.77		-0.1371	-0.7759	0.0011	
60	SLV 14	-17.01	6.58	69.77		-0.1371	-0.7759	0.0011	
60	SLV 15	-19.96	2.13	51.69		0.0504	-0.914	0.0014	
60	SLV 16	-19.96	2.13	51.69		0.0504	-0.914	0.0014	
61	SLU 1	0.26	0.07	35.76		-0.0116	0.0272	-0.0003	
61	SLU 2	1.23	0.06	38.21		-0.0091	0.0787	-0.0003	
61	SLU 3	0.61	0.07	36.03		-0.0112	0.0435	-0.0003	
61	SLU 4	1.19	0.06	37.5		-0.0097	0.0744	-0.0003	
61	SLU 5	1.66	0.05	38.14		-0.0085	0.0986	-0.0003	
61	SLU 6	1.04	0.06	35.96		-0.0105	0.0634	-0.0003	
61	SLU 7	1.62	0.06	37.43		-0.0091	0.0943	-0.0003	
61	SLU 8	1.12	0.06	35.61		-0.0103	0.0669	-0.0003	
61	SLU 9	1.7	0.06	37.08		-0.0088	0.0979	-0.0003	
61	SLU 10	1.37	0.06	43.3		-0.01	0.0856	-0.0003	
61	SLU 11	0.75	0.07	41.12		-0.0121	0.0504	-0.0003	
61	SLU 12	1.33	0.07	42.59		-0.0106	0.0813	-0.0003	
61	SLU 13	1.8	0.06	43.23		-0.0093	0.1055	-0.0003	
61	SLU 14	1.17	0.07	41.05		-0.0114	0.0703	-0.0003	
61	SLU 15	1.76	0.06	42.52		-0.0099	0.1012	-0.0003	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		N.br.	x	y	z	x	y	z
61	SLU 16		1.25	0.07	40.71	-0.0111	0.0738	-0.0003
61	SLU 17		1.84	0.06	42.18	-0.0096	0.1047	-0.0003
61	SLU 18		0.45	0.08	43.04	-0.0128	0.037	-0.0003
61	SLU 19		1.04	0.07	44.5	-0.0113	0.068	-0.0003
61	SLU 20		0.88	0.07	42.96	-0.0122	0.0569	-0.0003
61	SLU 21		1.47	0.07	44.43	-0.0107	0.0878	-0.0003
61	SLU 22		0.42	0.07	39.72	-0.0121	0.0354	-0.0003
61	SLU 23		1.39	0.06	42.17	-0.0096	0.0869	-0.0003
61	SLU 24		0.77	0.07	39.99	-0.0117	0.0517	-0.0003
61	SLU 25		1.35	0.06	41.46	-0.0102	0.0826	-0.0003
61	SLU 26		1.82	0.06	42.09	-0.0089	0.1068	-0.0003
61	SLU 27		1.2	0.07	39.92	-0.011	0.0716	-0.0003
61	SLU 28		1.78	0.06	41.38	-0.0095	0.1025	-0.0003
61	SLU 29		1.28	0.07	39.57	-0.0107	0.0751	-0.0003
61	SLU 30		1.86	0.06	41.04	-0.0093	0.106	-0.0003
61	SLU 31		1.52	0.07	47.26	-0.0104	0.0938	-0.0004
61	SLU 32		0.9	0.08	45.08	-0.0125	0.0586	-0.0004
61	SLU 33		1.49	0.07	46.55	-0.011	0.0895	-0.0004
61	SLU 34		1.95	0.07	47.19	-0.0098	0.1136	-0.0003
61	SLU 35		1.33	0.08	45.01	-0.0118	0.0784	-0.0003
61	SLU 36		1.91	0.07	46.48	-0.0103	0.1093	-0.0003
61	SLU 37		1.41	0.08	44.66	-0.0116	0.082	-0.0003
61	SLU 38		2	0.07	46.13	-0.0101	0.1129	-0.0003
61	SLU 39		0.61	0.08	46.99	-0.0133	0.0452	-0.0004
61	SLU 40		1.19	0.07	48.46	-0.0118	0.0761	-0.0004
61	SLU 41		1.04	0.08	46.92	-0.0126	0.0651	-0.0004
61	SLU 42		1.62	0.07	48.39	-0.0111	0.096	-0.0004
61	SLU 43		0.29	0.08	45.13	-0.015	0.0326	-0.0004
61	SLU 44		1.26	0.07	47.58	-0.0125	0.0841	-0.0004
61	SLU 45		0.63	0.08	45.4	-0.0145	0.0489	-0.0004
61	SLU 46		1.22	0.08	46.87	-0.0131	0.0798	-0.0004
61	SLU 47		1.68	0.07	47.51	-0.0118	0.104	-0.0004
61	SLU 48		1.06	0.08	45.33	-0.0139	0.0688	-0.0004
61	SLU 49		1.65	0.08	46.8	-0.0124	0.0997	-0.0004
61	SLU 50		1.14	0.08	44.98	-0.0136	0.0723	-0.0004
61	SLU 51		1.73	0.07	46.45	-0.0121	0.1032	-0.0004
61	SLU 52		1.39	0.08	52.67	-0.0133	0.091	-0.0004
61	SLU 53		0.77	0.09	50.49	-0.0154	0.0558	-0.0004
61	SLU 54		1.35	0.08	51.96	-0.0139	0.0867	-0.0004
61	SLU 55		1.82	0.08	52.6	-0.0127	0.1109	-0.0004
61	SLU 56		1.2	0.09	50.42	-0.0147	0.0756	-0.0004
61	SLU 57		1.78	0.08	51.89	-0.0132	0.1066	-0.0004
61	SLU 58		1.28	0.09	50.08	-0.0145	0.0792	-0.0004
61	SLU 59		1.86	0.08	51.55	-0.013	0.1101	-0.0004
61	SLU 60		0.48	0.09	52.41	-0.0162	0.0424	-0.0004
61	SLU 61		1.06	0.09	53.87	-0.0147	0.0733	-0.0004
61	SLU 62		0.91	0.09	52.33	-0.0155	0.0623	-0.0004
61	SLU 63		1.49	0.09	53.8	-0.014	0.0932	-0.0004
61	SLU 64		0.44	0.09	49.09	-0.0154	0.0407	-0.0004
61	SLU 65		1.41	0.08	51.54	-0.0129	0.0923	-0.0004
61	SLU 66		0.79	0.09	49.36	-0.015	0.0571	-0.0004
61	SLU 67		1.37	0.08	50.83	-0.0135	0.088	-0.0004
61	SLU 68		1.84	0.08	51.46	-0.0123	0.1121	-0.0004
61	SLU 69		1.22	0.09	49.29	-0.0143	0.0769	-0.0004
61	SLU 70		1.8	0.08	50.76	-0.0128	0.1078	-0.0004
61	SLU 71		1.3	0.09	48.94	-0.0141	0.0805	-0.0004
61	SLU 72		1.88	0.08	50.41	-0.0126	0.1114	-0.0004
61	SLU 73		1.55	0.09	56.63	-0.0138	0.0992	-0.0004
61	SLU 74		0.93	0.1	54.45	-0.0158	0.0639	-0.0004
61	SLU 75		1.51	0.09	55.92	-0.0143	0.0949	-0.0004
61	SLU 76		1.98	0.08	56.56	-0.0131	0.119	-0.0004
61	SLU 77		1.36	0.09	54.38	-0.0152	0.0838	-0.0004
61	SLU 78		1.94	0.09	55.85	-0.0137	0.1147	-0.0004
61	SLU 79		1.44	0.09	54.04	-0.0149	0.0873	-0.0004
61	SLU 80		2.02	0.09	55.5	-0.0134	0.1183	-0.0004
61	SLU 81		0.64	0.1	56.36	-0.0166	0.0506	-0.0004
61	SLU 82		1.22	0.09	57.83	-0.0151	0.0815	-0.0005
61	SLU 83		1.07	0.1	56.29	-0.0159	0.0704	-0.0004
61	SLU 84		1.65	0.09	57.76	-0.0145	0.1014	-0.0004
61	SLE RA 1		0.31	0.07	36.89	-0.0117	0.0295	-0.0003
61	SLE RA 2		0.95	0.06	38.52	-0.0101	0.0639	-0.0003
61	SLE RA 3		0.54	0.07	37.07	-0.0115	0.0404	-0.0003
61	SLE RA 4		0.93	0.06	38.05	-0.0105	0.061	-0.0003
61	SLE RA 5		1.24	0.06	38.47	-0.0097	0.0771	-0.0003
61	SLE RA 6		0.83	0.07	37.02	-0.011	0.0537	-0.0003
61	SLE RA 7		1.21	0.06	38	-0.01	0.0743	-0.0003
61	SLE RA 8		0.88	0.07	36.79	-0.0109	0.056	-0.0003
61	SLE RA 9		1.27	0.06	37.77	-0.0099	0.0766	-0.0003
61	SLE RA 10		1.04	0.06	41.92	-0.0107	0.0685	-0.0003
61	SLE RA 11		0.63	0.07	40.47	-0.012	0.045	-0.0003
61	SLE RA 12		1.02	0.07	41.45	-0.011	0.0656	-0.0003
61	SLE RA 13		1.33	0.06	41.87	-0.0102	0.0817	-0.0003
61	SLE RA 14		0.92	0.07	40.42	-0.0116	0.0583	-0.0003
61	SLE RA 15		1.3	0.07	41.4	-0.0106	0.0789	-0.0003
61	SLE RA 16		0.97	0.07	40.19	-0.0114	0.0606	-0.0003
61	SLE RA 17		1.36	0.07	41.17	-0.0104	0.0812	-0.0003
61	SLE RA 18		0.44	0.07	41.74	-0.0126	0.0361	-0.0003
61	SLE RA 19		0.82	0.07	42.72	-0.0116	0.0567	-0.0003



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
61	SLE RA 20	0.72	0.07	41.69	-0.0121	0.0493	-0.0003		
61	SLE RA 21	1.11	0.07	42.67	-0.0111	0.07	-0.0003		
61	SLE FR 1	0.31	0.07	36.89	-0.0117	0.0295	-0.0003		
61	SLE FR 2	0.44	0.07	37.22	-0.0114	0.0364	-0.0003		
61	SLE FR 3	0.42	0.07	36.87	-0.0116	0.0348	-0.0003		
61	SLE FR 4	0.47	0.07	38.67	-0.0117	0.0384	-0.0003		
61	SLE FR 5	0.46	0.07	38.33	-0.0118	0.0368	-0.0003		
61	SLE FR 6	0.37	0.07	39.32	-0.0122	0.0328	-0.0003		
61	SLE QP 1	0.31	0.07	36.89	-0.0117	0.0295	-0.0003		
61	SLE QP 2	0.35	0.07	38.35	-0.012	0.0315	-0.0003		
61	SLD 1	7.47	0.07	37.16	-0.0273	0.3649	-0.0003		
61	SLD 2	7.47	0.07	37.16	-0.0273	0.3649	-0.0003		
61	SLD 3	8.69	0.01	33.07	-0.0121	0.4195	-0.0001		
61	SLD 4	8.69	0.01	33.07	-0.0121	0.4195	-0.0001		
61	SLD 5	0.62	0.15	44.19	-0.0396	0.0488	-0.0005		
61	SLD 6	0.62	0.15	44.19	-0.0396	0.0488	-0.0005		
61	SLD 7	4.71	-0.03	30.56	0.011	0.2306	0		
61	SLD 8	4.71	-0.03	30.56	0.011	0.2306	0		
61	SLD 9	-4.02	0.17	46.13	-0.035	-0.1676	-0.0006		
61	SLD 10	-4.02	0.17	46.13	-0.035	-0.1676	-0.0006		
61	SLD 11	0.07	-0.01	32.5	0.0157	0.0142	-0.0001		
61	SLD 12	0.07	-0.01	32.5	0.0157	0.0142	-0.0001		
61	SLD 13	-8	0.13	43.62	-0.0119	-0.3564	-0.0005		
61	SLD 14	-8	0.13	43.62	-0.0119	-0.3564	-0.0005		
61	SLD 15	-6.78	0.07	39.54	0.0033	-0.3019	-0.0003		
61	SLD 16	-6.78	0.07	39.54	0.0033	-0.3019	-0.0003		
61	SLV 1	16.94	0.07	35.57	-0.0492	0.8086	-0.0003		
61	SLV 2	16.94	0.07	35.57	-0.0492	0.8086	-0.0003		
61	SLV 3	19.94	-0.07	25.84	-0.0116	0.9424	0.0001		
61	SLV 4	19.94	-0.07	25.84	-0.0116	0.9424	0.0001		
61	SLV 5	0.77	0.27	52.27	-0.0801	0.0617	-0.0009		
61	SLV 6	0.77	0.27	52.27	-0.0801	0.0617	-0.0009		
61	SLV 7	10.78	-0.17	19.83	0.0451	0.5077	0.0004		
61	SLV 8	10.78	-0.17	19.83	0.0451	0.5077	0.0004		
61	SLV 9	-10.09	0.31	56.86	-0.0691	-0.4447	-0.001		
61	SLV 10	-10.09	0.31	56.86	-0.0691	-0.4447	-0.001		
61	SLV 11	-0.08	-0.13	24.42	0.0562	0.0013	0.0003		
61	SLV 12	-0.08	-0.13	24.42	0.0562	0.0013	0.0003		
61	SLV 13	-19.25	0.21	50.86	-0.0124	-0.8794	-0.0007		
61	SLV 14	-19.25	0.21	50.86	-0.0124	-0.8794	-0.0007		
61	SLV 15	-16.25	0.07	41.12	0.0252	-0.7456	-0.0004		
61	SLV 16	-16.25	0.07	41.12	0.0252	-0.7456	-0.0004		
62	SLU 1	0.15	0.02	39.18	-0.0041	-0.0671	0		
62	SLU 2	1.15	0	41.63	0.0035	-0.0321	0.0001		
62	SLU 3	0.45	0.03	39.58	-0.0041	-0.0558	0		
62	SLU 4	1.05	0.01	41.05	0.0004	-0.0348	0.0001		
62	SLU 5	1.53	0	41.67	0.0036	-0.0171	0.0001		
62	SLU 6	0.84	0.03	39.62	-0.0041	-0.0409	0		
62	SLU 7	1.44	0.01	41.09	0.0005	-0.0199	0.0001		
62	SLU 8	0.91	0.03	39.26	-0.004	-0.0371	0		
62	SLU 9	1.51	0.01	40.74	0.0006	-0.0161	0.0001		
62	SLU 10	1.32	0	47.4	0.0036	-0.0355	0.0001		
62	SLU 11	0.63	0.03	45.35	-0.0041	-0.0592	0		
62	SLU 12	1.23	0.01	46.82	0.0005	-0.0382	0.0001		
62	SLU 13	1.71	0	47.45	0.0036	-0.0205	0.0001		
62	SLU 14	1.01	0.03	45.39	-0.004	-0.0443	0		
62	SLU 15	1.61	0.01	46.86	0.0006	-0.0233	0.0001		
62	SLU 16	1.09	0.03	45.04	-0.0039	-0.0405	0		
62	SLU 17	1.69	0.01	46.51	0.0007	-0.0195	0.0001		
62	SLU 18	0.4	0.03	47.43	-0.004	-0.0719	0		
62	SLU 19	1	0.01	48.9	0.0006	-0.0509	0.0001		
62	SLU 20	0.78	0.03	47.47	-0.0039	-0.0569	0		
62	SLU 21	1.38	0.01	48.94	0.0006	-0.0359	0.0001		
62	SLU 22	0.32	0.03	43.67	-0.004	-0.0689	0		
62	SLU 23	1.32	0	46.12	0.0036	-0.0339	0.0001		
62	SLU 24	0.62	0.03	44.07	-0.004	-0.0576	0		
62	SLU 25	1.22	0.01	45.54	0.0005	-0.0366	0.0001		
62	SLU 26	1.7	0	46.16	0.0037	-0.0189	0.0001		
62	SLU 27	1.01	0.03	44.11	-0.004	-0.0427	0		
62	SLU 28	1.6	0.01	45.58	0.0006	-0.0217	0.0001		
62	SLU 29	1.08	0.03	43.75	-0.0039	-0.0389	0		
62	SLU 30	1.68	0.01	45.23	0.0007	-0.0179	0.0001		
62	SLU 31	1.49	0	51.89	0.0037	-0.0373	0.0001		
62	SLU 32	0.8	0.03	49.84	-0.004	-0.061	0		
62	SLU 33	1.4	0.01	51.31	0.0006	-0.04	0		
62	SLU 34	1.87	0	51.94	0.0038	-0.0223	0.0001		
62	SLU 35	1.18	0.03	49.88	-0.0039	-0.0461	0		
62	SLU 36	1.78	0.02	51.35	0.0007	-0.0251	0		
62	SLU 37	1.26	0.03	49.53	-0.0038	-0.0423	0		
62	SLU 38	1.86	0.02	51	0.0008	-0.0213	0		
62	SLU 39	0.57	0.03	51.92	-0.0039	-0.0737	0		
62	SLU 40	1.17	0.01	53.39	0.0007	-0.0527	0		
62	SLU 41	0.95	0.03	51.96	-0.0038	-0.0588	0		
62	SLU 42	1.55	0.02	53.43	0.0007	-0.0378	0		
62	SLU 43	0.13	0.03	49.39	-0.0054	-0.0865	0		
62	SLU 44	1.13	0.01	51.84	0.0022	-0.0516	0.0001		
62	SLU 45	0.44	0.03	49.79	-0.0054	-0.0753	0		
62	SLU 46	1.04	0.02	51.26	-0.0008	-0.0543	0		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
62	SLU 47	1.51	0.01	51.89	0.0023	-0.0366	0.0001
62	SLU 48	0.82	0.03	49.83	-0.0053	-0.0603	0
62	SLU 49	1.42	0.02	51.3	-0.0008	-0.0394	0
62	SLU 50	0.9	0.03	49.48	-0.0052	-0.0566	0
62	SLU 51	1.5	0.02	50.95	-0.0007	-0.0356	0
62	SLU 52	1.31	0.01	57.62	0.0023	-0.055	0.0001
62	SLU 53	0.62	0.03	55.56	-0.0053	-0.0787	-0.0001
62	SLU 54	1.22	0.02	57.03	-0.0008	-0.0577	0
62	SLU 55	1.69	0.01	57.66	0.0024	-0.04	0.0001
62	SLU 56	1	0.04	55.61	-0.0053	-0.0638	-0.0001
62	SLU 57	1.6	0.02	57.08	-0.0007	-0.0428	0
62	SLU 58	1.07	0.04	55.25	-0.0052	-0.06	-0.0001
62	SLU 59	1.67	0.02	56.72	-0.0006	-0.039	0
62	SLU 60	0.39	0.03	57.64	-0.0053	-0.0914	0
62	SLU 61	0.99	0.02	59.11	-0.0007	-0.0704	0
62	SLU 62	0.77	0.04	57.68	-0.0052	-0.0764	-0.0001
62	SLU 63	1.37	0.02	59.16	-0.0006	-0.0554	0
62	SLU 64	0.3	0.03	53.88	-0.0053	-0.0884	0
62	SLU 65	1.3	0.01	56.33	0.0023	-0.0534	0.0001
62	SLU 66	0.61	0.03	54.28	-0.0053	-0.0771	-0.0001
62	SLU 67	1.21	0.02	55.75	-0.0007	-0.0561	0
62	SLU 68	1.68	0.01	56.38	0.0024	-0.0384	0.0001
62	SLU 69	0.99	0.04	54.32	-0.0052	-0.0622	-0.0001
62	SLU 70	1.59	0.02	55.79	-0.0007	-0.0412	0
62	SLU 71	1.07	0.04	53.97	-0.0051	-0.0584	-0.0001
62	SLU 72	1.67	0.02	55.44	-0.0006	-0.0374	0
62	SLU 73	1.48	0.01	62.11	0.0024	-0.0568	0.0001
62	SLU 74	0.79	0.04	60.05	-0.0052	-0.0805	-0.0001
62	SLU 75	1.39	0.02	61.52	-0.0007	-0.0595	0
62	SLU 76	1.86	0.01	62.15	0.0025	-0.0418	0.0001
62	SLU 77	1.17	0.04	60.1	-0.0052	-0.0656	-0.0001
62	SLU 78	1.77	0.02	61.57	-0.0006	-0.0446	0
62	SLU 79	1.24	0.04	59.74	-0.0051	-0.0618	-0.0001
62	SLU 80	1.84	0.02	61.21	-0.0005	-0.0408	0
62	SLU 81	0.56	0.04	62.13	-0.0052	-0.0932	-0.0001
62	SLU 82	1.15	0.02	63.6	-0.0006	-0.0722	0
62	SLU 83	0.94	0.04	62.17	-0.0051	-0.0782	-0.0001
62	SLU 84	1.54	0.02	63.65	-0.0005	-0.0573	0
62	SLE RA 1	0.2	0.03	40.46	-0.0041	-0.0676	0
62	SLE RA 2	0.86	0.01	42.1	0.001	-0.0442	0.0001
62	SLE RA 3	0.4	0.03	40.73	-0.0041	-0.0601	0
62	SLE RA 4	0.8	0.02	41.71	-0.0011	-0.0461	0
62	SLE RA 5	1.12	0.01	42.12	0.001	-0.0343	0.0001
62	SLE RA 6	0.65	0.03	40.76	-0.004	-0.0501	0
62	SLE RA 7	1.05	0.02	41.74	-0.001	-0.0361	0
62	SLE RA 8	0.71	0.03	40.52	-0.004	-0.0476	0
62	SLE RA 9	1.1	0.02	41.5	-0.0009	-0.0336	0
62	SLE RA 10	0.98	0.01	45.95	0.001	-0.0465	0.0001
62	SLE RA 11	0.52	0.03	44.58	-0.0041	-0.0624	0
62	SLE RA 12	0.92	0.02	45.56	-0.001	-0.0484	0
62	SLE RA 13	1.23	0.01	45.97	0.0011	-0.0365	0.0001
62	SLE RA 14	0.77	0.03	44.6	-0.004	-0.0524	0
62	SLE RA 15	1.17	0.02	45.58	-0.001	-0.0384	0
62	SLE RA 16	0.82	0.03	44.37	-0.0039	-0.0499	0
62	SLE RA 17	1.22	0.02	45.35	-0.0009	-0.0359	0
62	SLE RA 18	0.36	0.03	45.96	-0.004	-0.0708	0
62	SLE RA 19	0.76	0.02	46.94	-0.001	-0.0568	0
62	SLE RA 20	0.62	0.03	45.99	-0.004	-0.0608	0
62	SLE RA 21	1.02	0.02	46.97	-0.0009	-0.0468	0
62	SLE FR 1	0.2	0.03	40.46	-0.0041	-0.0676	0
62	SLE FR 2	0.33	0.02	40.79	-0.0031	-0.0629	0
62	SLE FR 3	0.3	0.03	40.47	-0.0041	-0.0636	0
62	SLE FR 4	0.38	0.02	42.44	-0.003	-0.0639	0
62	SLE FR 5	0.35	0.03	42.12	-0.004	-0.0645	0
62	SLE FR 6	0.28	0.03	43.21	-0.004	-0.0692	0
62	SLE QP 1	0.2	0.03	40.46	-0.0041	-0.0676	0
62	SLE QP 2	0.25	0.03	42.11	-0.0041	-0.0685	0
62	SLD 1	6.69	0.07	39.72	-0.0205	0.2199	-0.0001
62	SLD 2	6.69	0.07	39.72	-0.0205	0.2199	-0.0001
62	SLD 3	7.94	0.02	36.27	-0.0032	0.2749	-0.0003
62	SLD 4	7.94	0.02	36.27	-0.0032	0.2749	-0.0003
62	SLD 5	0.29	0.12	46.63	-0.0352	-0.0653	0.0003
62	SLD 6	0.29	0.12	46.63	-0.0352	-0.0653	0.0003
62	SLD 7	4.44	-0.05	35.12	0.0224	0.1178	-0.0004
62	SLD 8	4.44	-0.05	35.12	0.0224	0.1178	-0.0004
62	SLD 9	-3.95	0.1	49.1	-0.0305	-0.2549	0.0004
62	SLD 10	-3.95	0.1	49.1	-0.0305	-0.2549	0.0004
62	SLD 11	0.2	-0.07	37.59	0.0271	-0.0717	-0.0004
62	SLD 12	0.2	-0.07	37.59	0.0271	-0.0717	-0.0004
62	SLD 13	-7.45	0.03	47.96	-0.0049	-0.412	0.0002
62	SLD 14	-7.45	0.03	47.96	-0.0049	-0.412	0.0002
62	SLD 15	-6.2	-0.02	44.5	0.0124	-0.357	0
62	SLD 16	-6.2	-0.02	44.5	0.0124	-0.357	0
62	SLV 1	15.25	0.14	36.57	-0.0441	0.6027	-0.0001
62	SLV 2	15.25	0.14	36.57	-0.0441	0.6027	-0.0001
62	SLV 3	18.33	0.01	28.32	-0.0012	0.7391	-0.0006
62	SLV 4	18.33	0.01	28.32	-0.0012	0.7391	-0.0006
62	SLV 5	0.07	0.25	52.96	-0.0812	-0.0739	0.0008





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
62	SLV 6	0.07	0.25	52.96	-0.0812	-0.0739	0.0008
62	SLV 7	10.35	-0.17	25.47	0.0619	0.3805	-0.0011
62	SLV 8	10.35	-0.17	25.47	0.0619	0.3805	-0.0011
62	SLV 9	-9.86	0.22	58.76	-0.07	-0.5176	0.001
62	SLV 10	-9.86	0.22	58.76	-0.07	-0.5176	0.001
62	SLV 11	0.42	-0.2	31.27	0.0731	-0.0631	-0.0009
62	SLV 12	0.42	-0.2	31.27	0.0731	-0.0631	-0.0009
62	SLV 13	-17.84	0.04	55.9	-0.0069	-0.8761	0.0006
62	SLV 14	-17.84	0.04	55.9	-0.0069	-0.8761	0.0006
62	SLV 15	-14.76	-0.09	47.65	0.036	-0.7398	0
62	SLV 16	-14.76	-0.09	47.65	0.036	-0.7398	0
63	SLU 1	1.14	-0.04	45.1	0.0103	0.0793	0.0001
63	SLU 2	2.37	-0.06	48.31	0.017	0.1395	0.0002
63	SLU 3	1.45	-0.04	45.6	0.0103	0.0955	0.0001
63	SLU 4	2.19	-0.05	47.53	0.0144	0.1316	0.0002
63	SLU 5	2.74	-0.05	48.41	0.017	0.1586	0.0002
63	SLU 6	1.83	-0.04	45.69	0.0103	0.1146	0.0001
63	SLU 7	2.56	-0.05	47.62	0.0143	0.1507	0.0002
63	SLU 8	1.89	-0.04	45.29	0.0102	0.1175	0.0001
63	SLU 9	2.62	-0.05	47.22	0.0143	0.1537	0.0002
63	SLU 10	2.7	-0.06	55.14	0.0187	0.1575	0.0002
63	SLU 11	1.78	-0.05	52.42	0.012	0.1134	0.0001
63	SLU 12	2.52	-0.05	54.35	0.016	0.1495	0.0002
63	SLU 13	3.07	-0.06	55.23	0.0187	0.1766	0.0002
63	SLU 14	2.16	-0.04	52.52	0.0119	0.1325	0.0001
63	SLU 15	2.89	-0.05	54.45	0.016	0.1686	0.0002
63	SLU 16	2.22	-0.04	52.11	0.0119	0.1355	0.0001
63	SLU 17	2.96	-0.05	54.04	0.0159	0.1716	0.0002
63	SLU 18	1.61	-0.05	54.85	0.0127	0.1049	0.0001
63	SLU 19	2.35	-0.06	56.78	0.0167	0.1411	0.0002
63	SLU 20	1.99	-0.05	54.94	0.0126	0.124	0.0001
63	SLU 21	2.72	-0.06	56.87	0.0167	0.1602	0.0002
63	SLU 22	1.44	-0.05	50.41	0.0116	0.0958	0.0001
63	SLU 23	2.66	-0.06	53.62	0.0184	0.156	0.0002
63	SLU 24	1.75	-0.04	50.91	0.0117	0.1119	0.0001
63	SLU 25	2.48	-0.05	52.83	0.0157	0.148	0.0002
63	SLU 26	3.04	-0.06	53.71	0.0184	0.1751	0.0002
63	SLU 27	2.12	-0.04	51	0.0116	0.131	0.0001
63	SLU 28	2.86	-0.05	52.93	0.0157	0.1671	0.0002
63	SLU 29	2.19	-0.04	50.6	0.0116	0.134	0.0001
63	SLU 30	2.92	-0.05	52.52	0.0156	0.1701	0.0002
63	SLU 31	3	-0.07	60.45	0.0201	0.1739	0.0003
63	SLU 32	2.08	-0.05	57.73	0.0134	0.1298	0.0001
63	SLU 33	2.82	-0.06	59.66	0.0174	0.166	0.0002
63	SLU 34	3.37	-0.06	60.54	0.0201	0.193	0.0002
63	SLU 35	2.45	-0.05	57.83	0.0133	0.1489	0.0001
63	SLU 36	3.19	-0.06	59.75	0.0174	0.1851	0.0002
63	SLU 37	2.52	-0.05	57.42	0.0133	0.1519	0.0001
63	SLU 38	3.25	-0.06	59.35	0.0173	0.188	0.0002
63	SLU 39	1.91	-0.05	60.16	0.014	0.1214	0.0001
63	SLU 40	2.65	-0.06	62.09	0.0181	0.1575	0.0002
63	SLU 41	2.29	-0.05	60.25	0.014	0.1405	0.0001
63	SLU 42	3.02	-0.06	62.18	0.0181	0.1766	0.0002
63	SLU 43	1.38	-0.05	56.81	0.0129	0.0975	0.0001
63	SLU 44	2.61	-0.07	60.02	0.0196	0.1577	0.0003
63	SLU 45	1.69	-0.05	57.31	0.0129	0.1136	0.0001
63	SLU 46	2.43	-0.06	59.24	0.017	0.1497	0.0002
63	SLU 47	2.98	-0.06	60.12	0.0196	0.1768	0.0003
63	SLU 48	2.07	-0.05	57.4	0.0129	0.1327	0.0001
63	SLU 49	2.8	-0.06	59.33	0.0169	0.1689	0.0002
63	SLU 50	2.13	-0.05	57	0.0128	0.1357	0.0001
63	SLU 51	2.87	-0.06	58.93	0.0169	0.1718	0.0002
63	SLU 52	2.94	-0.07	66.85	0.0213	0.1756	0.0003
63	SLU 53	2.02	-0.06	64.13	0.0146	0.1316	0.0001
63	SLU 54	2.76	-0.07	66.06	0.0187	0.1677	0.0002
63	SLU 55	3.31	-0.07	66.94	0.0213	0.1947	0.0003
63	SLU 56	2.4	-0.06	64.23	0.0146	0.1507	0.0001
63	SLU 57	3.13	-0.06	66.16	0.0186	0.1868	0.0002
63	SLU 58	2.46	-0.05	63.82	0.0145	0.1536	0.0001
63	SLU 59	3.2	-0.06	65.75	0.0186	0.1898	0.0002
63	SLU 60	1.85	-0.06	66.56	0.0153	0.1231	0.0001
63	SLU 61	2.59	-0.07	68.49	0.0193	0.1592	0.0002
63	SLU 62	2.23	-0.06	66.65	0.0152	0.1422	0.0001
63	SLU 63	2.96	-0.07	68.58	0.0193	0.1783	0.0002
63	SLU 64	1.68	-0.06	62.12	0.0142	0.1139	0.0001
63	SLU 65	2.9	-0.07	65.33	0.021	0.1741	0.0003
63	SLU 66	1.99	-0.06	62.62	0.0143	0.1301	0.0001
63	SLU 67	2.73	-0.06	64.54	0.0183	0.1662	0.0002
63	SLU 68	3.28	-0.07	65.42	0.021	0.1932	0.0003
63	SLU 69	2.36	-0.05	62.71	0.0142	0.1492	0.0001
63	SLU 70	3.1	-0.06	64.64	0.0183	0.1853	0.0002
63	SLU 71	2.43	-0.05	62.31	0.0142	0.1521	0.0001
63	SLU 72	3.16	-0.06	64.23	0.0182	0.1883	0.0002
63	SLU 73	3.24	-0.08	72.16	0.0227	0.1921	0.0003
63	SLU 74	2.32	-0.06	69.44	0.016	0.148	0.0001
63	SLU 75	3.06	-0.07	71.37	0.02	0.1841	0.0002
63	SLU 76	3.61	-0.08	72.25	0.0227	0.2112	0.0003
63	SLU 77	2.69	-0.06	69.54	0.0159	0.1671	0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
63	SLU 78	3.43	-0.07	71.46	0.02	0.2032	0.0002		
63	SLU 79	2.76	-0.06	69.13	0.0159	0.1701	0.0001		
63	SLU 80	3.49	-0.07	71.06	0.0199	0.2062	0.0002		
63	SLU 81	2.15	-0.06	71.87	0.0166	0.1395	0.0001		
63	SLU 82	2.89	-0.07	73.79	0.0207	0.1757	0.0002		
63	SLU 83	2.53	-0.06	71.96	0.0166	0.1586	0.0001		
63	SLU 84	3.26	-0.07	73.89	0.0207	0.1948	0.0002		
63	SLE RA 1	1.23	-0.04	46.62	0.0107	0.084	0.0001		
63	SLE RA 2	2.04	-0.05	48.76	0.0152	0.1242	0.0002		
63	SLE RA 3	1.43	-0.04	46.95	0.0107	0.0948	0.0001		
63	SLE RA 4	1.92	-0.05	48.23	0.0134	0.1189	0.0001		
63	SLE RA 5	2.29	-0.05	48.82	0.0151	0.1369	0.0002		
63	SLE RA 6	1.68	-0.04	47.01	0.0107	0.1075	0.0001		
63	SLE RA 7	2.17	-0.05	48.3	0.0134	0.1316	0.0001		
63	SLE RA 8	1.72	-0.04	46.74	0.0106	0.1095	0.0001		
63	SLE RA 9	2.22	-0.05	48.03	0.0133	0.1336	0.0001		
63	SLE RA 10	2.26	-0.06	53.31	0.0163	0.1361	0.0002		
63	SLE RA 11	1.65	-0.05	51.5	0.0118	0.1067	0.0001		
63	SLE RA 12	2.14	-0.05	52.78	0.0145	0.1308	0.0001		
63	SLE RA 13	2.51	-0.05	53.37	0.0163	0.1489	0.0002		
63	SLE RA 14	1.9	-0.04	51.56	0.0118	0.1195	0.0001		
63	SLE RA 15	2.39	-0.05	52.85	0.0145	0.1436	0.0001		
63	SLE RA 16	1.95	-0.04	51.29	0.0117	0.1214	0.0001		
63	SLE RA 17	2.44	-0.05	52.58	0.0144	0.1455	0.0001		
63	SLE RA 18	1.54	-0.05	53.12	0.0123	0.1011	0.0001		
63	SLE RA 19	2.03	-0.05	54.4	0.015	0.1252	0.0002		
63	SLE RA 20	1.79	-0.05	53.18	0.0122	0.1138	0.0001		
63	SLE RA 21	2.28	-0.05	54.46	0.0149	0.1379	0.0002		
63	SLE FR 1	1.23	-0.04	46.62	0.0107	0.084	0.0001		
63	SLE FR 2	1.39	-0.04	47.04	0.0116	0.092	0.0001		
63	SLE FR 3	1.33	-0.04	46.64	0.0106	0.0891	0.0001		
63	SLE FR 4	1.48	-0.05	48.99	0.012	0.0972	0.0001		
63	SLE FR 5	1.42	-0.04	48.59	0.0111	0.0942	0.0001		
63	SLE FR 6	1.38	-0.04	49.87	0.0115	0.0926	0.0001		
63	SLE QP 1	1.23	-0.04	46.62	0.0107	0.084	0.0001		
63	SLE QP 2	1.32	-0.04	48.57	0.0111	0.0891	0.0001		
63	SLD 1	7.11	-0.04	44.19	-0.002	0.3842	0.0001		
63	SLD 2	7.11	-0.04	44.19	-0.002	0.3842	0.0001		
63	SLD 3	8.35	-0.01	40.42	0.0107	0.4402	-0.0001		
63	SLD 4	8.35	-0.01	40.42	0.0107	0.4402	-0.0001		
63	SLD 5	1.18	-0.1	52.97	-0.0121	0.0928	0.0004		
63	SLD 6	1.18	-0.1	52.97	-0.0121	0.0928	0.0004		
63	SLD 7	5.31	0.02	40.41	0.0303	0.2793	-0.0003		
63	SLD 8	5.31	0.02	40.41	0.0303	0.2793	-0.0003		
63	SLD 9	-2.67	-0.11	56.72	-0.008	-0.101	0.0005		
63	SLD 10	-2.67	-0.11	56.72	-0.008	-0.101	0.0005		
63	SLD 11	1.46	0.01	44.16	0.0344	0.0854	-0.0002		
63	SLD 12	1.46	0.01	44.16	0.0344	0.0854	-0.0002		
63	SLD 13	-5.71	-0.08	56.71	0.0115	-0.2619	0.0003		
63	SLD 14	-5.71	-0.08	56.71	0.0115	-0.2619	0.0003		
63	SLD 15	-4.47	-0.05	52.94	0.0243	-0.206	0.0001		
63	SLD 16	-4.47	-0.05	52.94	0.0243	-0.206	0.0001		
63	SLV 1	14.78	-0.04	38.41	-0.0203	0.7755	0.0001		
63	SLV 2	14.78	-0.04	38.41	-0.0203	0.7755	0.0001		
63	SLV 3	17.86	0.04	29.39	0.0106	0.9147	-0.0004		
63	SLV 4	17.86	0.04	29.39	0.0106	0.9147	-0.0004		
63	SLV 5	0.68	-0.17	59.2	-0.0451	0.0839	0.0009		
63	SLV 6	0.68	-0.17	59.2	-0.0451	0.0839	0.0009		
63	SLV 7	10.97	0.11	29.13	0.0577	0.5479	-0.0008		
63	SLV 8	10.97	0.11	29.13	0.0577	0.5479	-0.0008		
63	SLV 9	-8.32	-0.2	68	-0.0355	-0.3697	0.001		
63	SLV 10	-8.32	-0.2	68	-0.0355	-0.3697	0.001		
63	SLV 11	1.97	0.08	37.93	0.0674	0.0944	-0.0007		
63	SLV 12	1.97	0.08	37.93	0.0674	0.0944	-0.0007		
63	SLV 13	-15.22	-0.13	67.74	0.0117	-0.7364	0.0006		
63	SLV 14	-15.22	-0.13	67.74	0.0117	-0.7364	0.0006		
63	SLV 15	-12.13	-0.05	58.72	0.0426	-0.5972	0.0001		
63	SLV 16	-12.13	-0.05	58.72	0.0426	-0.5972	0.0001		
64	SLU 1	-4.27	-5.95	86.24	-4.4119	-0.351	-0.0069		
64	SLU 2	-3.64	-6.81	93.06	-4.7801	-0.3366	-0.0053		
64	SLU 3	-4.1	-6.03	87.06	-4.461	-0.3456	-0.0068		
64	SLU 4	-3.72	-6.55	91.15	-4.6819	-0.3369	-0.0058		
64	SLU 5	-3.36	-6.85	93.05	-4.7911	-0.3252	-0.0051		
64	SLU 6	-3.82	-6.07	87.06	-4.472	-0.3341	-0.0066		
64	SLU 7	-3.44	-6.59	91.15	-4.6929	-0.3255	-0.0056		
64	SLU 8	-3.73	-6.02	86.24	-4.4338	-0.3281	-0.0064		
64	SLU 9	-3.35	-6.54	90.33	-4.6548	-0.3195	-0.0055		
64	SLU 10	-4.11	-7.55	105.99	-5.3898	-0.3827	-0.006		
64	SLU 11	-4.57	-6.77	99.99	-5.0707	-0.3917	-0.0075		
64	SLU 12	-4.19	-7.29	104.08	-5.2916	-0.383	-0.0065		
64	SLU 13	-3.84	-7.59	105.98	-5.4007	-0.3713	-0.0058		
64	SLU 14	-4.3	-6.81	99.99	-5.0817	-0.3802	-0.0073		
64	SLU 15	-3.92	-7.32	104.08	-5.3026	-0.3716	-0.0063		
64	SLU 16	-4.2	-6.76	99.17	-5.0435	-0.3742	-0.0071		
64	SLU 17	-3.82	-7.28	103.26	-5.2644	-0.3655	-0.0062		
64	SLU 18	-4.95	-7	104.72	-5.2828	-0.4169	-0.0079		
64	SLU 19	-4.56	-7.52	108.8	-5.5038	-0.4082	-0.0069		
64	SLU 20	-4.67	-7.04	104.71	-5.2938	-0.4054	-0.0076		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
64	SLU 21	-4.29	-7.56	108.8	-5.5148	-0.3968	-0.0067
64	SLU 22	-4.62	-6.53	96.29	-4.8859	-0.3869	-0.0074
64	SLU 23	-3.99	-7.39	103.1	-5.2541	-0.3725	-0.0058
64	SLU 24	-4.45	-6.61	97.11	-4.935	-0.3814	-0.0073
64	SLU 25	-4.07	-7.13	101.19	-5.1559	-0.3728	-0.0063
64	SLU 26	-3.71	-7.43	103.1	-5.2651	-0.361	-0.0056
64	SLU 27	-4.17	-6.65	97.1	-4.946	-0.37	-0.0071
64	SLU 28	-3.79	-7.17	101.19	-5.1669	-0.3613	-0.0061
64	SLU 29	-4.08	-6.61	96.28	-4.9078	-0.3639	-0.007
64	SLU 30	-3.7	-7.12	100.37	-5.1288	-0.3553	-0.006
64	SLU 31	-4.46	-8.13	116.03	-5.8638	-0.4185	-0.0065
64	SLU 32	-4.92	-7.35	110.04	-5.5447	-0.4275	-0.008
64	SLU 33	-4.54	-7.87	114.12	-5.7656	-0.4189	-0.007
64	SLU 34	-4.19	-8.17	116.03	-5.8748	-0.4071	-0.0063
64	SLU 35	-4.65	-7.39	110.03	-5.5557	-0.416	-0.0078
64	SLU 36	-4.27	-7.9	114.12	-5.7766	-0.4074	-0.0068
64	SLU 37	-4.55	-7.34	109.21	-5.5175	-0.41	-0.0077
64	SLU 38	-4.17	-7.86	113.3	-5.7385	-0.4014	-0.0067
64	SLU 39	-5.3	-7.58	114.76	-5.7569	-0.4527	-0.0084
64	SLU 40	-4.91	-8.1	118.85	-5.9778	-0.4441	-0.0074
64	SLU 41	-5.02	-7.62	114.76	-5.7678	-0.4412	-0.0082
64	SLU 42	-4.64	-8.14	118.85	-5.9888	-0.4326	-0.0072
64	SLU 43	-5.43	-7.53	108.67	-5.5729	-0.444	-0.0087
64	SLU 44	-4.8	-8.4	115.49	-5.9411	-0.4296	-0.0072
64	SLU 45	-5.26	-7.62	109.49	-5.622	-0.4386	-0.0087
64	SLU 46	-4.88	-8.14	113.58	-5.843	-0.43	-0.0077
64	SLU 47	-4.53	-8.44	115.48	-5.9521	-0.4182	-0.007
64	SLU 48	-4.99	-7.65	109.49	-5.633	-0.4271	-0.0085
64	SLU 49	-4.6	-8.17	113.57	-5.8539	-0.4185	-0.0075
64	SLU 50	-4.89	-7.61	108.67	-5.5949	-0.4211	-0.0083
64	SLU 51	-4.51	-8.13	112.76	-5.8158	-0.4125	-0.0074
64	SLU 52	-5.27	-9.14	128.42	-6.5508	-0.4757	-0.0079
64	SLU 53	-5.73	-8.35	122.42	-6.2317	-0.4847	-0.0094
64	SLU 54	-5.35	-8.87	126.51	-6.4526	-0.4761	-0.0084
64	SLU 55	-5	-9.17	128.41	-6.5618	-0.4643	-0.0077
64	SLU 56	-5.46	-8.39	122.42	-6.2427	-0.4732	-0.0092
64	SLU 57	-5.08	-8.91	126.5	-6.4636	-0.4646	-0.0082
64	SLU 58	-5.36	-8.35	121.6	-6.2046	-0.4672	-0.009
64	SLU 59	-4.98	-8.87	125.69	-6.4255	-0.4586	-0.0081
64	SLU 60	-6.11	-8.59	127.15	-6.4439	-0.5099	-0.0097
64	SLU 61	-5.73	-9.11	131.23	-6.6648	-0.5012	-0.0088
64	SLU 62	-5.84	-8.62	127.14	-6.4549	-0.4984	-0.0095
64	SLU 63	-5.45	-9.14	131.23	-6.6758	-0.4898	-0.0086
64	SLU 64	-5.78	-8.11	118.72	-6.0469	-0.4799	-0.0092
64	SLU 65	-5.15	-8.98	125.53	-6.4151	-0.4655	-0.0077
64	SLU 66	-5.61	-8.2	119.54	-6.096	-0.4744	-0.0092
64	SLU 67	-5.23	-8.72	123.62	-6.317	-0.4658	-0.0082
64	SLU 68	-4.88	-9.02	125.53	-6.4261	-0.454	-0.0075
64	SLU 69	-5.34	-8.23	119.53	-6.107	-0.463	-0.009
64	SLU 70	-4.95	-8.75	123.62	-6.328	-0.4543	-0.008
64	SLU 71	-5.24	-8.19	118.71	-6.0689	-0.457	-0.0088
64	SLU 72	-4.86	-8.71	122.8	-6.2898	-0.4483	-0.0079
64	SLU 73	-5.62	-9.72	138.46	-7.0248	-0.5116	-0.0084
64	SLU 74	-6.08	-8.93	132.47	-6.7057	-0.5205	-0.0099
64	SLU 75	-5.7	-9.45	136.55	-6.9267	-0.5119	-0.0089
64	SLU 76	-5.35	-9.75	138.46	-7.0358	-0.5001	-0.0082
64	SLU 77	-5.81	-8.97	132.46	-6.7167	-0.5091	-0.0097
64	SLU 78	-5.43	-9.49	136.55	-6.9377	-0.5004	-0.0087
64	SLU 79	-5.71	-8.93	131.64	-6.6786	-0.503	-0.0095
64	SLU 80	-5.33	-9.45	135.73	-6.8995	-0.4944	-0.0086
64	SLU 81	-6.46	-9.17	137.19	-6.9179	-0.5457	-0.0102
64	SLU 82	-6.08	-9.69	141.28	-7.1388	-0.5371	-0.0093
64	SLU 83	-6.19	-9.2	137.19	-6.9289	-0.5343	-0.01
64	SLU 84	-5.8	-9.72	141.28	-7.1498	-0.5256	-0.0091
64	SLE RA 1	-4.37	-6.11	89.12	-4.5473	-0.3613	-0.007
64	SLE RA 2	-3.95	-6.69	93.66	-4.7928	-0.3517	-0.006
64	SLE RA 3	-4.25	-6.17	89.66	-4.58	-0.3576	-0.0069
64	SLE RA 4	-4	-6.52	92.38	-4.7273	-0.3519	-0.0063
64	SLE RA 5	-3.77	-6.72	93.65	-4.8001	-0.344	-0.0058
64	SLE RA 6	-4.07	-6.19	89.66	-4.5874	-0.35	-0.0068
64	SLE RA 7	-3.82	-6.54	92.38	-4.7347	-0.3442	-0.0062
64	SLE RA 8	-4.01	-6.17	89.11	-4.5619	-0.346	-0.0067
64	SLE RA 9	-3.75	-6.51	91.84	-4.7092	-0.3402	-0.0061
64	SLE RA 10	-4.26	-7.18	102.28	-5.1992	-0.3824	-0.0064
64	SLE RA 11	-4.57	-6.66	98.28	-4.9865	-0.3884	-0.0074
64	SLE RA 12	-4.32	-7.01	101	-5.1338	-0.3826	-0.0068
64	SLE RA 13	-4.08	-7.21	102.27	-5.2065	-0.3747	-0.0063
64	SLE RA 14	-4.39	-6.69	98.28	-4.9938	-0.3807	-0.0073
64	SLE RA 15	-4.13	-7.03	101	-5.1411	-0.375	-0.0067
64	SLE RA 16	-4.32	-6.66	97.73	-4.9684	-0.3767	-0.0072
64	SLE RA 17	-4.07	-7	100.46	-5.1157	-0.3709	-0.0066
64	SLE RA 18	-4.82	-6.82	101.43	-5.1279	-0.4052	-0.0077
64	SLE RA 19	-4.57	-7.16	104.15	-5.2752	-0.3994	-0.007
64	SLE RA 20	-4.64	-6.84	101.43	-5.1353	-0.3975	-0.0075
64	SLE RA 21	-4.39	-7.19	104.15	-5.2826	-0.3918	-0.0069
64	SLE FR 1	-4.37	-6.11	89.12	-4.5473	-0.3613	-0.007
64	SLE FR 2	-4.28	-6.23	90.02	-4.5964	-0.3593	-0.0068
64	SLE FR 3	-4.3	-6.12	89.11	-4.5502	-0.3582	-0.0069



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
64	SLE FR 4			-4.42	-6.44	93.72	-4.7706	-0.3725	-0.007
64	SLE FR 5			-4.43	-6.34	92.81	-4.7244	-0.3714	-0.0071
64	SLE FR 6			-4.59	-6.47	95.27	-4.8376	-0.3832	-0.0073
64	SLE QP 1			-4.37	-6.11	89.12	-4.5473	-0.3613	-0.007
64	SLE QP 2			-4.5	-6.32	92.81	-4.7215	-0.3744	-0.0072
64	SLD 1			0.88	-6.03	78.83	-4.3713	-0.0867	-0.0022
64	SLD 2			0.88	-6.03	78.83	-4.3713	-0.0867	-0.0022
64	SLD 3			2.15	-4.28	70.16	-3.8135	-0.0182	0.0019
64	SLD 4			2.15	-4.28	70.16	-3.8135	-0.0182	0.0019
64	SLD 5			-4.82	-8.89	101.77	-5.4624	-0.3921	-0.012
64	SLD 6			-4.82	-8.89	101.77	-5.4624	-0.3921	-0.012
64	SLD 7			-0.58	-3.06	72.86	-3.6031	-0.1636	0.0018
64	SLD 8			-0.58	-3.06	72.86	-3.6031	-0.1636	0.0018
64	SLD 9			-8.43	-9.59	112.76	-5.8399	-0.5852	-0.0162
64	SLD 10			-8.43	-9.59	112.76	-5.8399	-0.5852	-0.0162
64	SLD 11			-4.19	-3.76	83.85	-3.9805	-0.3568	-0.0024
64	SLD 12			-4.19	-3.76	83.85	-3.9805	-0.3568	-0.0024
64	SLD 13			-11.16	-8.36	115.46	-5.6295	-0.7307	-0.0163
64	SLD 14			-11.16	-8.36	115.46	-5.6295	-0.7307	-0.0163
64	SLD 15			-9.89	-6.62	106.79	-5.0717	-0.6621	-0.0122
64	SLD 16			-9.89	-6.62	106.79	-5.0717	-0.6621	-0.0122
64	SLV 1			8.01	-5.66	60.24	-3.9063	0.294	0.0042
64	SLV 2			8.01	-5.66	60.24	-3.9063	0.294	0.0042
64	SLV 3			11.17	-1.52	39.54	-2.5853	0.4643	0.0145
64	SLV 4			11.17	-1.52	39.54	-2.5853	0.4643	0.0145
64	SLV 5			-5.55	-12.42	114.44	-6.4804	-0.4323	-0.0194
64	SLV 6			-5.55	-12.42	114.44	-6.4804	-0.4323	-0.0194
64	SLV 7			5	1.41	45.42	-2.0772	0.1356	0.0149
64	SLV 8			5	1.41	45.42	-2.0772	0.1356	0.0149
64	SLV 9			-14.01	-14.06	140.19	-7.3658	-0.8844	-0.0293
64	SLV 10			-14.01	-14.06	140.19	-7.3658	-0.8844	-0.0293
64	SLV 11			-3.46	-0.23	71.18	-2.9626	-0.3166	0.005
64	SLV 12			-3.46	-0.23	71.18	-2.9626	-0.3166	0.005
64	SLV 13			-20.18	-11.13	146.08	-6.8576	-1.2132	-0.0289
64	SLV 14			-20.18	-11.13	146.08	-6.8576	-1.2132	-0.0289
64	SLV 15			-17.02	-6.99	125.38	-5.5367	-1.0428	-0.0186
64	SLV 16			-17.02	-6.99	125.38	-5.5367	-1.0428	-0.0186
65	SLU 1			-8.41	-0.02	47.97	0.0117	-0.1738	0.0012
65	SLU 2			-8.47	-0.01	51.16	0.0119	-0.1626	0.0011
65	SLU 3			-8.32	-0.02	48.2	0.0122	-0.1677	0.0013
65	SLU 4			-8.36	-0.01	50.11	0.0124	-0.161	0.0012
65	SLU 5			-8.26	-0.01	50.86	0.0124	-0.1528	0.0012
65	SLU 6			-8.11	-0.02	47.9	0.0127	-0.158	0.0013
65	SLU 7			-8.15	-0.02	49.81	0.0129	-0.1512	0.0013
65	SLU 8			-7.99	-0.02	47.37	0.0127	-0.1543	0.0013
65	SLU 9			-8.03	-0.02	49.28	0.0128	-0.1475	0.0013
65	SLU 10			-9.69	-0.01	58.55	0.013	-0.1861	0.0012
65	SLU 11			-9.54	-0.02	55.59	0.0133	-0.1913	0.0013
65	SLU 12			-9.58	-0.02	57.51	0.0135	-0.1845	0.0013
65	SLU 13			-9.48	-0.01	58.25	0.0135	-0.1763	0.0013
65	SLU 14			-9.33	-0.02	55.29	0.0138	-0.1815	0.0014
65	SLU 15			-9.37	-0.02	57.21	0.014	-0.1748	0.0014
65	SLU 16			-9.2	-0.02	54.76	0.0138	-0.1779	0.0014
65	SLU 17			-9.24	-0.02	56.68	0.0139	-0.1711	0.0014
65	SLU 18			-10.14	-0.02	58.53	0.0133	-0.2075	0.0013
65	SLU 19			-10.18	-0.01	60.44	0.0134	-0.2007	0.0013
65	SLU 20			-9.93	-0.02	58.23	0.0138	-0.1977	0.0014
65	SLU 21			-9.97	-0.02	60.15	0.0139	-0.1909	0.0013
65	SLU 22			-9.33	-0.02	53.69	0.0125	-0.191	0.0012
65	SLU 23			-9.39	-0.01	56.88	0.0128	-0.1797	0.0012
65	SLU 24			-9.24	-0.02	53.92	0.013	-0.1849	0.0013
65	SLU 25			-9.28	-0.01	55.84	0.0132	-0.1781	0.0013
65	SLU 26			-9.19	-0.01	56.58	0.0133	-0.1699	0.0012
65	SLU 27			-9.03	-0.02	53.62	0.0135	-0.1751	0.0014
65	SLU 28			-9.07	-0.02	55.54	0.0137	-0.1684	0.0013
65	SLU 29			-8.91	-0.02	53.09	0.0135	-0.1715	0.0014
65	SLU 30			-8.95	-0.02	55.01	0.0137	-0.1647	0.0013
65	SLU 31			-10.61	-0.01	64.28	0.0139	-0.2033	0.0012
65	SLU 32			-10.46	-0.02	61.32	0.0142	-0.2085	0.0014
65	SLU 33			-10.5	-0.02	63.23	0.0143	-0.2017	0.0014
65	SLU 34			-10.4	-0.01	63.98	0.0144	-0.1935	0.0013
65	SLU 35			-10.25	-0.02	61.02	0.0146	-0.1987	0.0015
65	SLU 36			-10.29	-0.02	62.93	0.0148	-0.1919	0.0014
65	SLU 37			-10.12	-0.02	60.49	0.0146	-0.195	0.0015
65	SLU 38			-10.16	-0.02	62.4	0.0148	-0.1882	0.0014
65	SLU 39			-11.06	-0.02	64.26	0.0141	-0.2246	0.0014
65	SLU 40			-11.1	-0.01	66.17	0.0142	-0.2179	0.0013
65	SLU 41			-10.85	-0.02	63.96	0.0146	-0.2149	0.0014
65	SLU 42			-10.89	-0.02	65.87	0.0147	-0.2081	0.0014
65	SLU 43			-10.61	-0.02	60.4	0.0149	-0.2201	0.0015
65	SLU 44			-10.68	-0.02	63.59	0.0152	-0.2088	0.0014
65	SLU 45			-10.53	-0.02	60.63	0.0155	-0.214	0.0016
65	SLU 46			-10.57	-0.02	62.54	0.0156	-0.2072	0.0015
65	SLU 47			-10.47	-0.02	63.29	0.0157	-0.1991	0.0015
65	SLU 48			-10.32	-0.03	60.33	0.0159	-0.2042	0.0017
65	SLU 49			-10.36	-0.02	62.24	0.0161	-0.1975	0.0016
65	SLU 50			-10.19	-0.03	59.8	0.0159	-0.2006	0.0017
65	SLU 51			-10.23	-0.02	61.71	0.0161	-0.1938	0.0016



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
65	SLU 52	-11.89	-0.02	70.98	0.0163	-0.2324	0.0015
65	SLU 53	-11.74	-0.03	68.02	0.0166	-0.2376	0.0017
65	SLU 54	-11.78	-0.02	69.93	0.0167	-0.2308	0.0016
65	SLU 55	-11.68	-0.02	70.68	0.0168	-0.2226	0.0016
65	SLU 56	-11.53	-0.03	67.72	0.0171	-0.2278	0.0017
65	SLU 57	-11.57	-0.02	69.63	0.0172	-0.221	0.0017
65	SLU 58	-11.41	-0.03	67.19	0.017	-0.2241	0.0017
65	SLU 59	-11.45	-0.02	69.11	0.0172	-0.2174	0.0017
65	SLU 60	-12.35	-0.02	70.96	0.0165	-0.2538	0.0016
65	SLU 61	-12.39	-0.02	72.87	0.0166	-0.247	0.0016
65	SLU 62	-12.14	-0.03	70.66	0.017	-0.244	0.0017
65	SLU 63	-12.18	-0.02	72.57	0.0171	-0.2372	0.0017
65	SLU 64	-11.53	-0.02	66.12	0.0157	-0.2373	0.0016
65	SLU 65	-11.6	-0.02	69.31	0.016	-0.226	0.0015
65	SLU 66	-11.45	-0.02	66.35	0.0163	-0.2312	0.0016
65	SLU 67	-11.49	-0.02	68.26	0.0164	-0.2244	0.0016
65	SLU 68	-11.39	-0.02	69.01	0.0165	-0.2162	0.0016
65	SLU 69	-11.24	-0.03	66.05	0.0168	-0.2214	0.0017
65	SLU 70	-11.28	-0.02	67.96	0.0169	-0.2146	0.0017
65	SLU 71	-11.12	-0.03	65.52	0.0167	-0.2177	0.0017
65	SLU 72	-11.15	-0.02	67.44	0.0169	-0.211	0.0017
65	SLU 73	-12.81	-0.02	76.7	0.0171	-0.2495	0.0016
65	SLU 74	-12.66	-0.03	73.74	0.0174	-0.2547	0.0017
65	SLU 75	-12.7	-0.02	75.66	0.0175	-0.2479	0.0017
65	SLU 76	-12.61	-0.02	76.4	0.0176	-0.2398	0.0017
65	SLU 77	-12.45	-0.03	73.44	0.0179	-0.245	0.0018
65	SLU 78	-12.49	-0.02	75.36	0.018	-0.2382	0.0018
65	SLU 79	-12.33	-0.03	72.92	0.0178	-0.2413	0.0018
65	SLU 80	-12.37	-0.02	74.83	0.018	-0.2345	0.0018
65	SLU 81	-13.27	-0.02	76.68	0.0173	-0.2709	0.0017
65	SLU 82	-13.31	-0.02	78.6	0.0175	-0.2641	0.0017
65	SLU 83	-13.06	-0.03	76.38	0.0178	-0.2611	0.0018
65	SLU 84	-13.1	-0.02	78.3	0.018	-0.2544	0.0017
65	SLE RA 1	-8.67	-0.02	49.6	0.0119	-0.1787	0.0012
65	SLE RA 2	-8.71	-0.01	51.73	0.0121	-0.1712	0.0011
65	SLE RA 3	-8.61	-0.02	49.76	0.0123	-0.1747	0.0012
65	SLE RA 4	-8.64	-0.02	51.03	0.0124	-0.1702	0.0012
65	SLE RA 5	-8.57	-0.01	51.53	0.0124	-0.1647	0.0012
65	SLE RA 6	-8.47	-0.02	49.56	0.0126	-0.1682	0.0013
65	SLE RA 7	-8.5	-0.02	50.83	0.0127	-0.1637	0.0013
65	SLE RA 8	-8.39	-0.02	49.21	0.0126	-0.1657	0.0013
65	SLE RA 9	-8.42	-0.02	50.48	0.0127	-0.1612	0.0013
65	SLE RA 10	-9.52	-0.01	56.66	0.0128	-0.1869	0.0012
65	SLE RA 11	-9.42	-0.02	54.69	0.013	-0.1904	0.0013
65	SLE RA 12	-9.45	-0.02	55.96	0.0131	-0.1859	0.0013
65	SLE RA 13	-9.38	-0.01	56.46	0.0132	-0.1804	0.0012
65	SLE RA 14	-9.28	-0.02	54.49	0.0133	-0.1839	0.0014
65	SLE RA 15	-9.31	-0.02	55.76	0.0134	-0.1794	0.0013
65	SLE RA 16	-9.2	-0.02	54.13	0.0133	-0.1814	0.0014
65	SLE RA 17	-9.23	-0.02	55.41	0.0134	-0.1769	0.0013
65	SLE RA 18	-9.83	-0.02	56.65	0.013	-0.2012	0.0013
65	SLE RA 19	-9.85	-0.02	57.92	0.0131	-0.1967	0.0012
65	SLE RA 20	-9.69	-0.02	56.45	0.0133	-0.1947	0.0013
65	SLE RA 21	-9.71	-0.02	57.72	0.0134	-0.1901	0.0013
65	SLE FR 1	-8.67	-0.02	49.6	0.0119	-0.1787	0.0012
65	SLE FR 2	-8.68	-0.02	50.03	0.012	-0.1772	0.0012
65	SLE FR 3	-8.61	-0.02	49.52	0.0121	-0.1761	0.0012
65	SLE FR 4	-9.03	-0.02	52.14	0.0123	-0.184	0.0012
65	SLE FR 5	-8.96	-0.02	51.64	0.0124	-0.1829	0.0012
65	SLE FR 6	-9.25	-0.02	53.13	0.0125	-0.19	0.0012
65	SLE QP 1	-8.67	-0.02	49.6	0.0119	-0.1787	0.0012
65	SLE QP 2	-9.02	-0.02	51.72	0.0122	-0.1855	0.0012
65	SLD 1	-3.75	-0.01	36.91	0.0105	0.0158	0.0009
65	SLD 2	-3.75	-0.01	36.91	0.0105	0.0158	0.0009
65	SLD 3	-2.56	-0.06	32.33	0.0245	0.0536	0.003
65	SLD 4	-2.56	-0.06	32.33	0.0245	0.0536	0.003
65	SLD 5	-9.24	0.07	54.22	-0.0096	-0.1823	-0.002
65	SLD 6	-9.24	0.07	54.22	-0.0096	-0.1823	-0.002
65	SLD 7	-5.28	-0.11	38.95	0.0372	-0.0565	0.0049
65	SLD 8	-5.28	-0.11	38.95	0.0372	-0.0565	0.0049
65	SLD 9	-12.76	0.08	64.48	-0.0128	-0.3144	-0.0024
65	SLD 10	-12.76	0.08	64.48	-0.0128	-0.3144	-0.0024
65	SLD 11	-8.8	-0.1	49.21	0.0341	-0.1886	0.0045
65	SLD 12	-8.8	-0.1	49.21	0.0341	-0.1886	0.0045
65	SLD 13	-15.47	0.03	71.11	0	-0.4245	-0.0005
65	SLD 14	-15.47	0.03	71.11	0	-0.4245	-0.0005
65	SLD 15	-14.29	-0.03	66.53	0.014	-0.3868	0.0015
65	SLD 16	-14.29	-0.03	66.53	0.014	-0.3868	0.0015
65	SLV 1	3.28	0	17.15	0.0076	0.2845	0.0004
65	SLV 2	3.28	0	17.15	0.0076	0.2845	0.0004
65	SLV 3	6.13	-0.13	6.18	0.0415	0.3753	0.0054
65	SLV 4	6.13	-0.13	6.18	0.0415	0.3753	0.0054
65	SLV 5	-9.66	0.19	57.99	-0.0405	-0.1821	-0.0066
65	SLV 6	-9.66	0.19	57.99	-0.0405	-0.1821	-0.0066
65	SLV 7	-0.14	-0.25	21.42	0.0724	0.1204	0.01
65	SLV 8	-0.14	-0.25	21.42	0.0724	0.1204	0.01
65	SLV 9	-17.89	0.21	82.02	-0.0479	-0.4913	-0.0076
65	SLV 10	-17.89	0.21	82.02	-0.0479	-0.4913	-0.0076



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
65	SLV 11	-8.38	-0.22	45.45	0.065	-0.1888	0.009	
65	SLV 12	-8.38	-0.22	45.45	0.065	-0.1888	0.009	
65	SLV 13	-24.17	0.09	97.25	-0.017	-0.7462	-0.003	
65	SLV 14	-24.17	0.09	97.25	-0.017	-0.7462	-0.003	
65	SLV 15	-21.31	-0.04	86.28	0.0168	-0.6554	0.002	
65	SLV 16	-21.31	-0.04	86.28	0.0168	-0.6554	0.002	
66	SLU 1	-1.82	0.05	22.79	0.0351	-0.3161	0.0167	
66	SLU 2	-2.3	0.07	21.59	0.0343	-0.3402	0.0179	
66	SLU 3	-1.71	0.05	23.71	0.0369	-0.3156	0.0166	
66	SLU 4	-2	0.05	22.99	0.0364	-0.33	0.0173	
66	SLU 5	-2.15	0.06	22.52	0.0363	-0.3365	0.0176	
66	SLU 6	-1.56	0.04	24.64	0.0389	-0.312	0.0163	
66	SLU 7	-1.85	0.05	23.92	0.0385	-0.3264	0.017	
66	SLU 8	-1.52	0.04	24.65	0.0391	-0.3088	0.0161	
66	SLU 9	-1.8	0.04	23.93	0.0386	-0.3233	0.0168	
66	SLU 10	-2.78	0.09	25.52	0.0386	-0.4086	0.0217	
66	SLU 11	-2.19	0.07	27.65	0.0413	-0.384	0.0205	
66	SLU 12	-2.48	0.08	26.92	0.0408	-0.3985	0.0211	
66	SLU 13	-2.63	0.08	26.45	0.0406	-0.4049	0.0214	
66	SLU 14	-2.04	0.06	28.58	0.0433	-0.3804	0.0202	
66	SLU 15	-2.33	0.07	27.85	0.0428	-0.3948	0.0209	
66	SLU 16	-1.99	0.06	28.59	0.0434	-0.3773	0.02	
66	SLU 17	-2.28	0.07	27.87	0.0429	-0.3917	0.0207	
66	SLU 18	-2.5	0.09	28.41	0.0413	-0.4139	0.0222	
66	SLU 19	-2.79	0.09	27.69	0.0408	-0.4283	0.0229	
66	SLU 20	-2.35	0.08	29.34	0.0433	-0.4102	0.0219	
66	SLU 21	-2.64	0.09	28.62	0.0428	-0.4247	0.0226	
66	SLU 22	-2.46	0.09	23.97	0.0346	-0.3701	0.0201	
66	SLU 23	-2.94	0.1	22.77	0.0338	-0.3942	0.0213	
66	SLU 24	-2.35	0.08	24.89	0.0365	-0.3696	0.02	
66	SLU 25	-2.64	0.09	24.17	0.036	-0.384	0.0207	
66	SLU 26	-2.79	0.09	23.7	0.0358	-0.3905	0.021	
66	SLU 27	-2.2	0.07	25.82	0.0385	-0.366	0.0197	
66	SLU 28	-2.48	0.08	25.1	0.038	-0.3804	0.0204	
66	SLU 29	-2.15	0.07	25.83	0.0386	-0.3628	0.0195	
66	SLU 30	-2.44	0.08	25.11	0.0381	-0.3772	0.0202	
66	SLU 31	-3.42	0.12	26.7	0.0381	-0.4626	0.0251	
66	SLU 32	-2.83	0.1	28.82	0.0408	-0.438	0.0238	
66	SLU 33	-3.11	0.11	28.1	0.0403	-0.4525	0.0245	
66	SLU 34	-3.26	0.11	27.63	0.0402	-0.4589	0.0248	
66	SLU 35	-2.67	0.09	29.75	0.0428	-0.4344	0.0236	
66	SLU 36	-2.96	0.1	29.03	0.0423	-0.4488	0.0243	
66	SLU 37	-2.63	0.09	29.77	0.043	-0.4313	0.0234	
66	SLU 38	-2.92	0.1	29.04	0.0425	-0.4457	0.0241	
66	SLU 39	-3.14	0.12	29.59	0.0408	-0.4679	0.0256	
66	SLU 40	-3.43	0.13	28.87	0.0403	-0.4823	0.0263	
66	SLU 41	-2.99	0.11	30.52	0.0428	-0.4642	0.0253	
66	SLU 42	-3.28	0.12	29.8	0.0423	-0.4787	0.026	
66	SLU 43	-2.15	0.06	29.23	0.0457	-0.3925	0.0206	
66	SLU 44	-2.63	0.07	28.02	0.0449	-0.4165	0.0217	
66	SLU 45	-2.04	0.05	30.14	0.0476	-0.392	0.0204	
66	SLU 46	-2.33	0.06	29.42	0.0471	-0.4064	0.0211	
66	SLU 47	-2.48	0.06	28.95	0.0469	-0.4129	0.0214	
66	SLU 48	-1.89	0.04	31.07	0.0496	-0.3883	0.0202	
66	SLU 49	-2.17	0.05	30.35	0.0491	-0.4027	0.0209	
66	SLU 50	-1.84	0.04	31.09	0.0498	-0.3852	0.02	
66	SLU 51	-2.13	0.05	30.36	0.0493	-0.3996	0.0207	
66	SLU 52	-3.11	0.09	31.96	0.0493	-0.4849	0.0256	
66	SLU 53	-2.52	0.08	34.08	0.0519	-0.4604	0.0243	
66	SLU 54	-2.8	0.08	33.36	0.0515	-0.4748	0.025	
66	SLU 55	-2.95	0.09	32.89	0.0513	-0.4813	0.0253	
66	SLU 56	-2.36	0.07	35.01	0.054	-0.4567	0.024	
66	SLU 57	-2.65	0.07	34.29	0.0535	-0.4711	0.0247	
66	SLU 58	-2.32	0.06	35.02	0.0541	-0.4536	0.0239	
66	SLU 59	-2.61	0.07	34.3	0.0536	-0.468	0.0246	
66	SLU 60	-2.83	0.09	34.85	0.0519	-0.4902	0.0261	
66	SLU 61	-3.12	0.1	34.13	0.0514	-0.5046	0.0268	
66	SLU 62	-2.68	0.08	35.78	0.0539	-0.4866	0.0258	
66	SLU 63	-2.97	0.09	35.06	0.0535	-0.501	0.0265	
66	SLU 64	-2.78	0.09	30.4	0.0453	-0.4465	0.0239	
66	SLU 65	-3.26	0.1	29.2	0.0445	-0.4705	0.0251	
66	SLU 66	-2.67	0.08	31.32	0.0472	-0.4459	0.0238	
66	SLU 67	-2.96	0.09	30.6	0.0467	-0.4604	0.0245	
66	SLU 68	-3.11	0.09	30.13	0.0465	-0.4668	0.0248	
66	SLU 69	-2.52	0.08	32.25	0.0492	-0.4423	0.0236	
66	SLU 70	-2.81	0.08	31.53	0.0487	-0.4567	0.0242	
66	SLU 71	-2.48	0.07	32.26	0.0493	-0.4392	0.0234	
66	SLU 72	-2.77	0.08	31.54	0.0488	-0.4536	0.0241	
66	SLU 73	-3.74	0.13	33.14	0.0488	-0.5389	0.029	
66	SLU 74	-3.15	0.11	35.26	0.0515	-0.5144	0.0277	
66	SLU 75	-3.44	0.11	34.53	0.051	-0.5288	0.0284	
66	SLU 76	-3.59	0.12	34.07	0.0508	-0.5353	0.0287	
66	SLU 77	-3	0.1	36.19	0.0535	-0.5107	0.0274	
66	SLU 78	-3.29	0.11	35.47	0.053	-0.5251	0.0281	
66	SLU 79	-2.96	0.1	36.2	0.0536	-0.5076	0.0273	
66	SLU 80	-3.25	0.1	35.48	0.0532	-0.522	0.0279	
66	SLU 81	-3.47	0.12	36.03	0.0515	-0.5442	0.0295	
66	SLU 82	-3.75	0.13	35.3	0.051	-0.5586	0.0302	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
66	SLU 83	-3.31	0.11	36.96	0.0535	-0.5406	0.0292
66	SLU 84	-3.6	0.12	36.23	0.053	-0.555	0.0299
66	SLE RA 1	-2	0.06	23.13	0.0349	-0.3316	0.0177
66	SLE RA 2	-2.32	0.07	22.33	0.0344	-0.3476	0.0184
66	SLE RA 3	-1.93	0.06	23.74	0.0362	-0.3312	0.0176
66	SLE RA 4	-2.12	0.06	23.26	0.0359	-0.3408	0.0181
66	SLE RA 5	-2.22	0.07	22.95	0.0357	-0.3452	0.0183
66	SLE RA 6	-1.83	0.05	24.36	0.0375	-0.3288	0.0174
66	SLE RA 7	-2.02	0.06	23.88	0.0372	-0.3384	0.0179
66	SLE RA 8	-1.8	0.05	24.37	0.0376	-0.3267	0.0173
66	SLE RA 9	-1.99	0.06	23.89	0.0373	-0.3363	0.0178
66	SLE RA 10	-2.64	0.09	24.95	0.0373	-0.3932	0.021
66	SLE RA 11	-2.25	0.07	26.36	0.0391	-0.3768	0.0202
66	SLE RA 12	-2.44	0.08	25.88	0.0388	-0.3865	0.0206
66	SLE RA 13	-2.54	0.08	25.57	0.0386	-0.3908	0.0208
66	SLE RA 14	-2.15	0.07	26.98	0.0404	-0.3744	0.02
66	SLE RA 15	-2.34	0.07	26.5	0.0401	-0.384	0.0205
66	SLE RA 16	-2.12	0.07	26.99	0.0405	-0.3723	0.0199
66	SLE RA 17	-2.31	0.07	26.51	0.0402	-0.3819	0.0203
66	SLE RA 18	-2.46	0.08	26.88	0.0391	-0.3967	0.0214
66	SLE RA 19	-2.65	0.09	26.4	0.0387	-0.4063	0.0218
66	SLE RA 20	-2.35	0.08	27.5	0.0404	-0.3943	0.0212
66	SLE RA 21	-2.55	0.08	27.02	0.0401	-0.4039	0.0216
66	SLE FR 1	-2	0.06	23.13	0.0349	-0.3316	0.0177
66	SLE FR 2	-2.06	0.06	22.97	0.0348	-0.3348	0.0178
66	SLE FR 3	-1.96	0.06	23.38	0.0355	-0.3306	0.0176
66	SLE FR 4	-2.2	0.07	24.09	0.0361	-0.3543	0.0189
66	SLE FR 5	-2.1	0.07	24.5	0.0367	-0.3501	0.0187
66	SLE FR 6	-2.23	0.07	25	0.037	-0.3642	0.0195
66	SLE QP 1	-2	0.06	23.13	0.0349	-0.3316	0.0177
66	SLE QP 2	-2.14	0.07	24.25	0.0362	-0.3511	0.0188
66	SLD 1	0.84	-0.16	34.35	0.0785	-0.2271	0.0139
66	SLD 2	0.84	-0.16	34.35	0.0785	-0.2271	0.0139
66	SLD 3	0.28	-0.02	31.63	0.0518	-0.1955	0.0084
66	SLD 4	0.28	-0.02	31.63	0.0518	-0.1955	0.0084
66	SLD 5	-0.38	-0.22	31.41	0.0894	-0.3618	0.0256
66	SLD 6	-0.38	-0.22	31.41	0.0894	-0.3618	0.0256
66	SLD 7	-2.28	0.26	22.34	0.0004	-0.2565	0.0074
66	SLD 8	-2.28	0.26	22.34	0.0004	-0.2565	0.0074
66	SLD 9	-2	-0.12	26.16	0.072	-0.4457	0.0302
66	SLD 10	-2	-0.12	26.16	0.072	-0.4457	0.0302
66	SLD 11	-3.89	0.36	17.1	-0.017	-0.3405	0.0119
66	SLD 12	-3.89	0.36	17.1	-0.017	-0.3405	0.0119
66	SLD 13	-4.55	0.16	16.87	0.0206	-0.5067	0.0292
66	SLD 14	-4.55	0.16	16.87	0.0206	-0.5067	0.0292
66	SLD 15	-5.12	0.3	14.15	-0.0061	-0.4752	0.0237
66	SLD 16	-5.12	0.3	14.15	-0.0061	-0.4752	0.0237
66	SLV 1	4.85	-0.49	47.89	0.1376	-0.0617	0.007
66	SLV 2	4.85	-0.49	47.89	0.1376	-0.0617	0.007
66	SLV 3	3.48	-0.15	41.44	0.0751	0.0138	-0.0058
66	SLV 4	3.48	-0.15	41.44	0.0751	0.0138	-0.0058
66	SLV 5	2.03	-0.61	41.13	0.1614	-0.3789	0.0347
66	SLV 6	2.03	-0.61	41.13	0.1614	-0.3789	0.0347
66	SLV 7	-2.52	0.52	19.63	-0.0469	-0.127	-0.0081
66	SLV 8	-2.52	0.52	19.63	-0.0469	-0.127	-0.0081
66	SLV 9	-1.75	-0.38	28.88	0.1193	-0.5752	0.0456
66	SLV 10	-1.75	-0.38	28.88	0.1193	-0.5752	0.0456
66	SLV 11	-6.3	0.75	7.38	-0.089	-0.3233	0.0028
66	SLV 12	-6.3	0.75	7.38	-0.089	-0.3233	0.0028
66	SLV 13	-7.76	0.29	7.06	-0.0027	-0.7161	0.0434
66	SLV 14	-7.76	0.29	7.06	-0.0027	-0.7161	0.0434
66	SLV 15	-9.12	0.62	0.61	-0.0652	-0.6405	0.0305
66	SLV 16	-9.12	0.62	0.61	-0.0652	-0.6405	0.0305
67	SLU 1	-8.42	1.91	91.77	-0.5586	-0.2516	-0.0761
67	SLU 2	-8.73	1.56	92.74	-0.5398	-0.277	-0.0795
67	SLU 3	-8.53	2.13	93.63	-0.5801	-0.2505	-0.077
67	SLU 4	-8.72	1.92	94.22	-0.5689	-0.2658	-0.079
67	SLU 5	-8.79	1.78	94.16	-0.5599	-0.2731	-0.0799
67	SLU 6	-8.59	2.35	95.05	-0.6002	-0.2467	-0.0773
67	SLU 7	-8.78	2.14	95.63	-0.5889	-0.2619	-0.0794
67	SLU 8	-8.53	2.36	94.6	-0.5987	-0.2439	-0.0768
67	SLU 9	-8.72	2.14	95.18	-0.5874	-0.2591	-0.0788
67	SLU 10	-10.18	1.99	108.69	-0.6418	-0.31	-0.0924
67	SLU 11	-9.98	2.57	109.58	-0.6821	-0.2836	-0.0899
67	SLU 12	-10.17	2.35	110.17	-0.6708	-0.2988	-0.0919
67	SLU 13	-10.24	2.21	110.1	-0.6618	-0.3061	-0.0927
67	SLU 14	-10.04	2.79	111	-0.7021	-0.2797	-0.0902
67	SLU 15	-10.23	2.57	111.58	-0.6908	-0.2949	-0.0922
67	SLU 16	-9.99	2.79	110.54	-0.7006	-0.2769	-0.0897
67	SLU 17	-10.17	2.58	111.13	-0.6893	-0.2921	-0.0917
67	SLU 18	-10.49	2.53	114.55	-0.7042	-0.2988	-0.0945
67	SLU 19	-10.68	2.32	115.14	-0.693	-0.314	-0.0965
67	SLU 20	-10.55	2.76	115.97	-0.7243	-0.2949	-0.0948
67	SLU 21	-10.74	2.54	116.55	-0.713	-0.3101	-0.0969
67	SLU 22	-9.48	2.2	101.01	-0.6152	-0.2921	-0.0861
67	SLU 23	-9.79	1.85	101.98	-0.5964	-0.3175	-0.0895
67	SLU 24	-9.59	2.42	102.88	-0.6367	-0.291	-0.087
67	SLU 25	-9.78	2.21	103.46	-0.6255	-0.3063	-0.089



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
67	SLU 26	-9.85	2.07	103.4	-0.6165	-0.3136	-0.0899
67	SLU 27	-9.65	2.64	104.29	-0.6567	-0.2872	-0.0873
67	SLU 28	-9.84	2.43	104.87	-0.6455	-0.3024	-0.0894
67	SLU 29	-9.6	2.65	103.84	-0.6553	-0.2843	-0.0868
67	SLU 30	-9.79	2.43	104.42	-0.644	-0.2996	-0.0888
67	SLU 31	-11.25	2.28	117.93	-0.6984	-0.3505	-0.1024
67	SLU 32	-11.04	2.86	118.83	-0.7387	-0.3241	-0.0999
67	SLU 33	-11.23	2.64	119.41	-0.7274	-0.3393	-0.1019
67	SLU 34	-11.31	2.5	119.35	-0.7184	-0.3466	-0.1027
67	SLU 35	-11.1	3.08	120.24	-0.7587	-0.3202	-0.1002
67	SLU 36	-11.29	2.86	120.82	-0.7474	-0.3354	-0.1022
67	SLU 37	-11.05	3.08	119.79	-0.7572	-0.3174	-0.0997
67	SLU 38	-11.24	2.87	120.37	-0.7459	-0.3326	-0.1017
67	SLU 39	-11.55	2.82	123.79	-0.7608	-0.3393	-0.1045
67	SLU 40	-11.74	2.61	124.38	-0.7496	-0.3545	-0.1066
67	SLU 41	-11.61	3.05	125.21	-0.7809	-0.3354	-0.1049
67	SLU 42	-11.8	2.83	125.79	-0.7696	-0.3506	-0.1069
67	SLU 43	-10.58	2.39	116.13	-0.7068	-0.3132	-0.0955
67	SLU 44	-10.89	2.03	117.1	-0.688	-0.3386	-0.0989
67	SLU 45	-10.69	2.61	118	-0.7283	-0.3121	-0.0964
67	SLU 46	-10.88	2.39	118.58	-0.717	-0.3274	-0.0984
67	SLU 47	-10.95	2.26	118.52	-0.708	-0.3347	-0.0993
67	SLU 48	-10.75	2.83	119.41	-0.7483	-0.3083	-0.0967
67	SLU 49	-10.94	2.62	119.99	-0.7371	-0.3235	-0.0988
67	SLU 50	-10.69	2.83	118.96	-0.7468	-0.3054	-0.0962
67	SLU 51	-10.88	2.62	119.54	-0.7356	-0.3207	-0.0982
67	SLU 52	-12.34	2.47	133.05	-0.7899	-0.3716	-0.1118
67	SLU 53	-12.14	3.04	133.94	-0.8302	-0.3452	-0.1093
67	SLU 54	-12.33	2.83	134.53	-0.819	-0.3604	-0.1113
67	SLU 55	-12.4	2.69	134.47	-0.81	-0.3677	-0.1121
67	SLU 56	-12.2	3.26	135.36	-0.8503	-0.3413	-0.1096
67	SLU 57	-12.39	3.05	135.94	-0.839	-0.3565	-0.1116
67	SLU 58	-12.15	3.27	134.91	-0.8488	-0.3385	-0.1091
67	SLU 59	-12.34	3.05	135.49	-0.8375	-0.3537	-0.1111
67	SLU 60	-12.65	3.01	138.91	-0.8524	-0.3604	-0.1139
67	SLU 61	-12.84	2.8	139.5	-0.8411	-0.3756	-0.116
67	SLU 62	-12.71	3.23	140.33	-0.8724	-0.3565	-0.1142
67	SLU 63	-12.9	3.02	140.91	-0.8612	-0.3717	-0.1163
67	SLU 64	-11.64	2.68	125.37	-0.7634	-0.3537	-0.1056
67	SLU 65	-11.95	2.32	126.35	-0.7446	-0.3791	-0.109
67	SLU 66	-11.75	2.9	127.24	-0.7849	-0.3526	-0.1064
67	SLU 67	-11.94	2.68	127.82	-0.7736	-0.3679	-0.1085
67	SLU 68	-12.01	2.55	127.76	-0.7646	-0.3752	-0.1093
67	SLU 69	-11.81	3.12	128.65	-0.8049	-0.3487	-0.1067
67	SLU 70	-12	2.91	129.24	-0.7937	-0.364	-0.1088
67	SLU 71	-11.76	3.12	128.2	-0.8034	-0.3459	-0.1062
67	SLU 72	-11.95	2.91	128.78	-0.7922	-0.3612	-0.1083
67	SLU 73	-13.41	2.76	142.29	-0.8465	-0.4121	-0.1218
67	SLU 74	-13.2	3.33	143.19	-0.8868	-0.3856	-0.1193
67	SLU 75	-13.39	3.12	143.77	-0.8756	-0.4009	-0.1213
67	SLU 76	-13.47	2.98	143.71	-0.8666	-0.4082	-0.1221
67	SLU 77	-13.26	3.55	144.6	-0.9069	-0.3818	-0.1196
67	SLU 78	-13.45	3.34	145.19	-0.8956	-0.397	-0.1216
67	SLU 79	-13.21	3.56	144.15	-0.9054	-0.379	-0.1191
67	SLU 80	-13.4	3.34	144.73	-0.8941	-0.3942	-0.1211
67	SLU 81	-13.71	3.3	148.16	-0.909	-0.4009	-0.1239
67	SLU 82	-13.9	3.09	148.74	-0.8977	-0.4161	-0.126
67	SLU 83	-13.77	3.52	149.57	-0.929	-0.397	-0.1243
67	SLU 84	-13.96	3.31	150.15	-0.9178	-0.4122	-0.1263
67	SLE RA 1	-8.72	2	94.41	-0.5748	-0.2632	-0.079
67	SLE RA 2	-8.93	1.76	95.06	-0.5623	-0.2801	-0.0813
67	SLE RA 3	-8.79	2.14	95.65	-0.5891	-0.2625	-0.0796
67	SLE RA 4	-8.92	2	96.04	-0.5816	-0.2726	-0.0809
67	SLE RA 5	-8.97	1.91	96	-0.5756	-0.2775	-0.0815
67	SLE RA 6	-8.83	2.29	96.6	-0.6025	-0.2599	-0.0798
67	SLE RA 7	-8.96	2.15	96.98	-0.595	-0.27	-0.0812
67	SLE RA 8	-8.8	2.29	96.29	-0.6015	-0.258	-0.0794
67	SLE RA 9	-8.92	2.15	96.68	-0.594	-0.2682	-0.0808
67	SLE RA 10	-9.9	2.05	105.69	-0.6302	-0.3021	-0.0898
67	SLE RA 11	-9.76	2.43	106.29	-0.6571	-0.2845	-0.0881
67	SLE RA 12	-9.89	2.29	106.67	-0.6496	-0.2946	-0.0895
67	SLE RA 13	-9.94	2.2	106.63	-0.6436	-0.2995	-0.0901
67	SLE RA 14	-9.8	2.58	107.23	-0.6704	-0.2819	-0.0884
67	SLE RA 15	-9.93	2.44	107.62	-0.6629	-0.292	-0.0897
67	SLE RA 16	-9.77	2.58	106.93	-0.6694	-0.28	-0.088
67	SLE RA 17	-9.89	2.44	107.32	-0.6619	-0.2902	-0.0894
67	SLE RA 18	-10.1	2.41	109.6	-0.6719	-0.2946	-0.0912
67	SLE RA 19	-10.23	2.27	109.99	-0.6644	-0.3048	-0.0926
67	SLE RA 20	-10.14	2.56	110.54	-0.6852	-0.292	-0.0915
67	SLE RA 21	-10.27	2.42	110.93	-0.6777	-0.3022	-0.0928
67	SLE FR 1	-8.72	2	94.41	-0.5748	-0.2632	-0.079
67	SLE FR 2	-8.76	1.95	94.54	-0.5723	-0.2666	-0.0794
67	SLE FR 3	-8.73	2.06	94.79	-0.5801	-0.2621	-0.0791
67	SLE FR 4	-9.18	2.07	99.09	-0.6014	-0.276	-0.0831
67	SLE FR 5	-9.15	2.18	99.34	-0.6092	-0.2716	-0.0828
67	SLE FR 6	-9.41	2.2	102	-0.6233	-0.2789	-0.0851
67	SLE QP 1	-8.72	2	94.41	-0.5748	-0.2632	-0.079
67	SLE QP 2	-9.13	2.12	98.96	-0.6039	-0.2726	-0.0827





Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
67	SLD 1	-7.76	5.69	89.12	-0.8351	-0.145	-0.0661
67	SLD 2	-7.76	5.69	89.12	-0.8351	-0.145	-0.0661
67	SLD 3	-7.29	2.05	83.06	-0.6343	-0.1199	-0.0613
67	SLD 4	-7.29	2.05	83.06	-0.6343	-0.1199	-0.0613
67	SLD 5	-9.43	8.71	105.2	-0.9778	-0.2724	-0.0849
67	SLD 6	-9.43	8.71	105.2	-0.9778	-0.2724	-0.0849
67	SLD 7	-7.87	-3.42	85	-0.3085	-0.1887	-0.069
67	SLD 8	-7.87	-3.42	85	-0.3085	-0.1887	-0.069
67	SLD 9	-10.39	7.67	112.93	-0.8993	-0.3565	-0.0963
67	SLD 10	-10.39	7.67	112.93	-0.8993	-0.3565	-0.0963
67	SLD 11	-8.84	-4.47	92.73	-0.23	-0.2728	-0.0804
67	SLD 12	-8.84	-4.47	92.73	-0.23	-0.2728	-0.0804
67	SLD 13	-10.97	2.2	114.87	-0.5735	-0.4253	-0.104
67	SLD 14	-10.97	2.2	114.87	-0.5735	-0.4253	-0.104
67	SLD 15	-10.51	-1.44	108.81	-0.3727	-0.4002	-0.0993
67	SLD 16	-10.51	-1.44	108.81	-0.3727	-0.4002	-0.0993
67	SLV 1	-5.93	10.49	75.91	-1.1466	0.025	-0.0439
67	SLV 2	-5.93	10.49	75.91	-1.1466	0.025	-0.0439
67	SLV 3	-4.81	1.96	61.53	-0.6747	0.0861	-0.0325
67	SLV 4	-4.81	1.96	61.53	-0.6747	0.0861	-0.0325
67	SLV 5	-9.87	17.58	113.86	-1.4824	-0.2761	-0.0884
67	SLV 6	-9.87	17.58	113.86	-1.4824	-0.2761	-0.0884
67	SLV 7	-6.14	-10.88	65.92	0.0906	-0.0723	-0.0503
67	SLV 8	-6.14	-10.88	65.92	0.0906	-0.0723	-0.0503
67	SLV 9	-12.13	15.12	132.01	-1.2984	-0.4729	-0.1151
67	SLV 10	-12.13	15.12	132.01	-1.2984	-0.4729	-0.1151
67	SLV 11	-8.4	-13.34	84.07	0.2746	-0.2692	-0.0769
67	SLV 12	-8.4	-13.34	84.07	0.2746	-0.2692	-0.0769
67	SLV 13	-13.46	2.29	136.4	-0.5331	-0.6313	-0.1329
67	SLV 14	-13.46	2.29	136.4	-0.5331	-0.6313	-0.1329
67	SLV 15	-12.34	-6.25	122.02	-0.0612	-0.5702	-0.1214
67	SLV 16	-12.34	-6.25	122.02	-0.0612	-0.5702	-0.1214
68	SLU 1	7.96	2.15	85.92	-0.5201	0.2497	0.0745
68	SLU 2	8.2	1.76	86.33	-0.4978	0.2693	0.0771
68	SLU 3	8.19	2.64	89.03	-0.5595	0.2535	0.0766
68	SLU 4	8.33	2.41	89.28	-0.5461	0.2653	0.0782
68	SLU 5	8.4	2.29	89.27	-0.5387	0.2715	0.079
68	SLU 6	8.39	3.17	91.97	-0.6005	0.2557	0.0785
68	SLU 7	8.53	2.94	92.21	-0.5871	0.2675	0.0801
68	SLU 8	8.36	3.21	91.79	-0.602	0.2541	0.0782
68	SLU 9	8.5	2.98	92.04	-0.5886	0.2659	0.0798
68	SLU 10	9.63	2.24	99.92	-0.5833	0.3242	0.0908
68	SLU 11	9.62	3.12	102.62	-0.6451	0.3084	0.0903
68	SLU 12	9.76	2.89	102.87	-0.6317	0.3202	0.0919
68	SLU 13	9.83	2.77	102.85	-0.6242	0.3264	0.0927
68	SLU 14	9.82	3.65	105.55	-0.686	0.3107	0.0922
68	SLU 15	9.96	3.42	105.8	-0.6726	0.3224	0.0937
68	SLU 16	9.79	3.69	105.38	-0.6875	0.309	0.0919
68	SLU 17	9.93	3.46	105.62	-0.6741	0.3208	0.0935
68	SLU 18	10.01	2.84	105.33	-0.6423	0.3281	0.0941
68	SLU 19	10.15	2.6	105.58	-0.6289	0.3399	0.0956
68	SLU 20	10.2	3.37	108.27	-0.6832	0.3303	0.0959
68	SLU 21	10.35	3.13	108.51	-0.6698	0.3421	0.0975
68	SLU 22	8.98	2.65	95.11	-0.5836	0.2894	0.0844
68	SLU 23	9.21	2.27	95.52	-0.5612	0.309	0.087
68	SLU 24	9.2	3.15	98.22	-0.623	0.2933	0.0865
68	SLU 25	9.34	2.91	98.47	-0.6096	0.3051	0.0881
68	SLU 26	9.41	2.8	98.45	-0.6022	0.3113	0.0889
68	SLU 27	9.4	3.68	101.16	-0.6639	0.2955	0.0884
68	SLU 28	9.54	3.44	101.4	-0.6505	0.3073	0.0899
68	SLU 29	9.38	3.71	100.98	-0.6654	0.2939	0.0881
68	SLU 30	9.52	3.48	101.22	-0.652	0.3057	0.0897
68	SLU 31	10.64	2.74	109.11	-0.6468	0.364	0.1007
68	SLU 32	10.63	3.63	111.81	-0.7085	0.3482	0.1002
68	SLU 33	10.77	3.39	112.06	-0.6951	0.36	0.1018
68	SLU 34	10.84	3.27	112.04	-0.6877	0.3662	0.1025
68	SLU 35	10.83	4.16	114.74	-0.7494	0.3504	0.1021
68	SLU 36	10.97	3.92	114.99	-0.736	0.3622	0.1036
68	SLU 37	10.81	4.19	114.57	-0.7509	0.3488	0.1018
68	SLU 38	10.95	3.96	114.81	-0.7375	0.3606	0.1034
68	SLU 39	11.02	3.34	114.52	-0.7058	0.3679	0.104
68	SLU 40	11.16	3.1	114.77	-0.6924	0.3797	0.1055
68	SLU 41	11.22	3.87	117.46	-0.7467	0.3701	0.1058
68	SLU 42	11.36	3.64	117.7	-0.7333	0.3819	0.1074
68	SLU 43	10	2.62	108.55	-0.6544	0.3109	0.0935
68	SLU 44	10.24	2.24	108.96	-0.6321	0.3305	0.0961
68	SLU 45	10.23	3.12	111.66	-0.6938	0.3148	0.0956
68	SLU 46	10.37	2.88	111.91	-0.6804	0.3265	0.0972
68	SLU 47	10.44	2.77	111.89	-0.673	0.3327	0.098
68	SLU 48	10.43	3.65	114.59	-0.7347	0.317	0.0975
68	SLU 49	10.57	3.42	114.84	-0.7213	0.3287	0.099
68	SLU 50	10.4	3.68	114.42	-0.7363	0.3154	0.0972
68	SLU 51	10.54	3.45	114.66	-0.7228	0.3271	0.0988
68	SLU 52	11.67	2.72	122.55	-0.7176	0.3854	0.1098
68	SLU 53	11.66	3.6	125.25	-0.7794	0.3697	0.1093
68	SLU 54	11.8	3.36	125.49	-0.7659	0.3814	0.1109
68	SLU 55	11.87	3.25	125.48	-0.7585	0.3877	0.1116
68	SLU 56	11.86	4.13	128.18	-0.8203	0.3719	0.1112



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
68	SLU 57	12	3.89	128.43	-0.8069	0.3837	0.1127
68	SLU 58	11.83	4.16	128	-0.8218	0.3703	0.1109
68	SLU 59	11.97	3.93	128.25	-0.8084	0.3821	0.1125
68	SLU 60	12.05	3.31	127.96	-0.7766	0.3894	0.1131
68	SLU 61	12.19	3.08	128.21	-0.7632	0.4011	0.1146
68	SLU 62	12.25	3.84	130.89	-0.8175	0.3916	0.1149
68	SLU 63	12.39	3.61	131.14	-0.8041	0.4034	0.1165
68	SLU 64	11.02	3.13	117.74	-0.7179	0.3507	0.1034
68	SLU 65	11.26	2.74	118.15	-0.6955	0.3703	0.106
68	SLU 66	11.24	3.62	120.85	-0.7573	0.3545	0.1055
68	SLU 67	11.39	3.39	121.09	-0.7439	0.3663	0.1071
68	SLU 68	11.45	3.27	121.08	-0.7365	0.3725	0.1078
68	SLU 69	11.44	4.15	123.78	-0.7982	0.3568	0.1073
68	SLU 70	11.59	3.92	124.03	-0.7848	0.3685	0.1089
68	SLU 71	11.42	4.19	123.61	-0.7997	0.3552	0.1071
68	SLU 72	11.56	3.95	123.85	-0.7863	0.3669	0.1086
68	SLU 73	12.69	3.22	131.74	-0.7811	0.4252	0.1197
68	SLU 74	12.67	4.1	134.44	-0.8428	0.4095	0.1192
68	SLU 75	12.82	3.87	134.68	-0.8294	0.4212	0.1207
68	SLU 76	12.88	3.75	134.67	-0.822	0.4275	0.1215
68	SLU 77	12.87	4.63	137.37	-0.8837	0.4117	0.121
68	SLU 78	13.02	4.4	137.62	-0.8703	0.4235	0.1226
68	SLU 79	12.85	4.67	137.19	-0.8852	0.4101	0.1208
68	SLU 80	12.99	4.43	137.44	-0.8718	0.4218	0.1223
68	SLU 81	13.06	3.81	137.15	-0.8401	0.4292	0.1229
68	SLU 82	13.2	3.58	137.39	-0.8266	0.4409	0.1245
68	SLU 83	13.26	4.34	140.08	-0.881	0.4314	0.1248
68	SLU 84	13.4	4.11	140.33	-0.8676	0.4431	0.1263
68	SLE RA 1	8.25	2.29	88.55	-0.5383	0.261	0.0774
68	SLE RA 2	8.41	2.04	88.82	-0.5234	0.2741	0.0791
68	SLE RA 3	8.4	2.62	90.62	-0.5645	0.2636	0.0788
68	SLE RA 4	8.5	2.47	90.79	-0.5556	0.2714	0.0798
68	SLE RA 5	8.54	2.39	90.78	-0.5506	0.2756	0.0803
68	SLE RA 6	8.54	2.98	92.58	-0.5918	0.2651	0.08
68	SLE RA 7	8.63	2.82	92.74	-0.5829	0.2729	0.081
68	SLE RA 8	8.52	3	92.46	-0.5928	0.264	0.0798
68	SLE RA 9	8.61	2.85	92.62	-0.5839	0.2718	0.0809
68	SLE RA 10	9.36	2.36	97.88	-0.5804	0.3107	0.0882
68	SLE RA 11	9.36	2.94	99.68	-0.6216	0.3002	0.0879
68	SLE RA 12	9.45	2.79	99.84	-0.6126	0.308	0.0889
68	SLE RA 13	9.5	2.71	99.84	-0.6077	0.3122	0.0894
68	SLE RA 14	9.49	3.3	101.64	-0.6488	0.3017	0.0891
68	SLE RA 15	9.58	3.14	101.8	-0.6399	0.3095	0.0902
68	SLE RA 16	9.47	3.32	101.52	-0.6498	0.3006	0.0889
68	SLE RA 17	9.57	3.17	101.68	-0.6409	0.3084	0.09
68	SLE RA 18	9.61	2.75	101.49	-0.6197	0.3133	0.0904
68	SLE RA 19	9.71	2.6	101.65	-0.6108	0.3212	0.0914
68	SLE RA 20	9.75	3.1	103.44	-0.647	0.3148	0.0916
68	SLE RA 21	9.84	2.95	103.61	-0.6381	0.3227	0.0927
68	SLE FR 1	8.25	2.29	88.55	-0.5383	0.261	0.0774
68	SLE FR 2	8.28	2.24	88.6	-0.5353	0.2636	0.0777
68	SLE FR 3	8.31	2.44	89.33	-0.5492	0.2616	0.0778
68	SLE FR 4	8.69	2.38	92.49	-0.5597	0.2793	0.0816
68	SLE FR 5	8.71	2.57	93.21	-0.5736	0.2773	0.0818
68	SLE FR 6	8.93	2.52	95.02	-0.579	0.2872	0.0839
68	SLE QP 1	8.25	2.29	88.55	-0.5383	0.261	0.0774
68	SLE QP 2	8.66	2.43	92.43	-0.5627	0.2767	0.0813
68	SLD 1	10.36	2.85	108.18	-0.5402	0.4109	0.1011
68	SLD 2	10.36	2.85	108.18	-0.5402	0.4109	0.1011
68	SLD 3	9.8	-0.34	100.87	-0.3572	0.3914	0.095
68	SLD 4	9.8	-0.34	100.87	-0.3572	0.3914	0.095
68	SLD 5	10.02	7.39	108.24	-0.8336	0.3465	0.0965
68	SLD 6	10.02	7.39	108.24	-0.8336	0.3465	0.0965
68	SLD 7	8.15	-3.24	83.87	-0.2234	0.2816	0.0761
68	SLD 8	8.15	-3.24	83.87	-0.2234	0.2816	0.0761
68	SLD 9	9.17	8.1	100.99	-0.902	0.2718	0.0864
68	SLD 10	9.17	8.1	100.99	-0.902	0.2718	0.0864
68	SLD 11	7.3	-2.53	76.62	-0.2918	0.207	0.0661
68	SLD 12	7.3	-2.53	76.62	-0.2918	0.207	0.0661
68	SLD 13	7.52	5.2	83.99	-0.7682	0.162	0.0675
68	SLD 14	7.52	5.2	83.99	-0.7682	0.162	0.0675
68	SLD 15	6.96	2.02	76.68	-0.5852	0.1426	0.0614
68	SLD 16	6.96	2.02	76.68	-0.5852	0.1426	0.0614
68	SLV 1	12.66	3.39	129.49	-0.5098	0.5914	0.1279
68	SLV 2	12.66	3.39	129.49	-0.5098	0.5914	0.1279
68	SLV 3	11.33	-4.07	112.23	-0.0804	0.5447	0.1135
68	SLV 4	11.33	-4.07	112.23	-0.0804	0.5447	0.1135
68	SLV 5	11.88	14.03	129.74	-1.1981	0.4419	0.1171
68	SLV 6	11.88	14.03	129.74	-1.1981	0.4419	0.1171
68	SLV 7	7.44	-10.83	72.18	0.2333	0.2863	0.0691
68	SLV 8	7.44	-10.83	72.18	0.2333	0.2863	0.0691
68	SLV 9	9.88	15.7	112.68	-1.3587	0.2671	0.0935
68	SLV 10	9.88	15.7	112.68	-1.3587	0.2671	0.0935
68	SLV 11	5.44	-9.17	55.13	0.0727	0.1115	0.0454
68	SLV 12	5.44	-9.17	55.13	0.0727	0.1115	0.0454
68	SLV 13	5.99	8.93	72.63	-1.045	0.0087	0.049
68	SLV 14	5.99	8.93	72.63	-1.045	0.0087	0.049
68	SLV 15	4.66	1.47	55.37	-0.6156	-0.0379	0.0346



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
68	SLV 16	4.66	1.47	55.37	-0.6156	-0.0379	0.0346
69	SLU 1	1.29	-0.02	23.12	0.0483	0.2432	-0.0146
69	SLU 2	1.75	-0.01	21.94	0.0477	0.2647	-0.0159
69	SLU 3	1.21	-0.03	24.28	0.0504	0.2462	-0.0147
69	SLU 4	1.48	-0.03	23.57	0.0501	0.2591	-0.0154
69	SLU 5	1.64	-0.02	23.13	0.0498	0.2661	-0.0158
69	SLU 6	1.1	-0.04	25.46	0.0526	0.2476	-0.0147
69	SLU 7	1.38	-0.03	24.76	0.0522	0.2605	-0.0154
69	SLU 8	1.07	-0.04	25.49	0.0525	0.246	-0.0146
69	SLU 9	1.35	-0.03	24.79	0.0522	0.2589	-0.0153
69	SLU 10	2.17	0.01	24.96	0.0518	0.3105	-0.0192
69	SLU 11	1.63	-0.01	27.3	0.0545	0.292	-0.0181
69	SLU 12	1.9	-0.01	26.59	0.0542	0.3049	-0.0188
69	SLU 13	2.06	0	26.15	0.0539	0.3119	-0.0192
69	SLU 14	1.52	-0.02	28.49	0.0566	0.2934	-0.0181
69	SLU 15	1.79	-0.01	27.78	0.0563	0.3063	-0.0188
69	SLU 16	1.49	-0.02	28.52	0.0566	0.2918	-0.018
69	SLU 17	1.77	-0.02	27.81	0.0562	0.3047	-0.0187
69	SLU 18	1.89	0	27.44	0.0541	0.3086	-0.0194
69	SLU 19	2.16	0.01	26.73	0.0537	0.3215	-0.0202
69	SLU 20	1.78	-0.01	28.63	0.0562	0.31	-0.0194
69	SLU 21	2.05	0	27.92	0.0558	0.3229	-0.0201
69	SLU 22	1.77	-0.01	24.67	0.0502	0.2847	-0.0175
69	SLU 23	2.23	0.01	23.49	0.0496	0.3062	-0.0187
69	SLU 24	1.69	-0.01	25.83	0.0524	0.2877	-0.0176
69	SLU 25	1.97	-0.01	25.12	0.052	0.3006	-0.0183
69	SLU 26	2.13	0	24.68	0.0518	0.3076	-0.0187
69	SLU 27	1.59	-0.02	27.02	0.0545	0.2892	-0.0176
69	SLU 28	1.86	-0.02	26.31	0.0542	0.302	-0.0183
69	SLU 29	1.56	-0.02	27.05	0.0545	0.2876	-0.0175
69	SLU 30	1.83	-0.02	26.34	0.0541	0.3005	-0.0182
69	SLU 31	2.65	0.02	26.52	0.0537	0.352	-0.0221
69	SLU 32	2.11	0	28.85	0.0564	0.3335	-0.0209
69	SLU 33	2.39	0.01	28.15	0.0561	0.3464	-0.0217
69	SLU 34	2.54	0.02	27.71	0.0558	0.3535	-0.0221
69	SLU 35	2	0	30.04	0.0586	0.335	-0.0209
69	SLU 36	2.28	0	29.33	0.0582	0.3478	-0.0217
69	SLU 37	1.98	0	30.07	0.0585	0.3334	-0.0208
69	SLU 38	2.25	0	29.36	0.0582	0.3463	-0.0216
69	SLU 39	2.37	0.02	28.99	0.056	0.3502	-0.0223
69	SLU 40	2.65	0.03	28.28	0.0557	0.3631	-0.023
69	SLU 41	2.26	0.01	30.18	0.0581	0.3516	-0.0223
69	SLU 42	2.54	0.02	29.47	0.0578	0.3645	-0.023
69	SLU 43	1.51	-0.04	29.52	0.0621	0.3019	-0.018
69	SLU 44	1.97	-0.03	28.35	0.0615	0.3234	-0.0193
69	SLU 45	1.43	-0.05	30.68	0.0642	0.3049	-0.0181
69	SLU 46	1.7	-0.04	29.97	0.0639	0.3178	-0.0188
69	SLU 47	1.86	-0.03	29.53	0.0636	0.3248	-0.0192
69	SLU 48	1.32	-0.05	31.87	0.0664	0.3063	-0.0181
69	SLU 49	1.6	-0.05	31.16	0.066	0.3192	-0.0188
69	SLU 50	1.29	-0.06	31.9	0.0663	0.3047	-0.018
69	SLU 51	1.57	-0.05	31.19	0.066	0.3176	-0.0187
69	SLU 52	2.39	-0.01	31.37	0.0656	0.3692	-0.0226
69	SLU 53	1.85	-0.03	33.7	0.0683	0.3507	-0.0215
69	SLU 54	2.12	-0.02	33	0.068	0.3636	-0.0222
69	SLU 55	2.28	-0.02	32.56	0.0677	0.3706	-0.0226
69	SLU 56	1.74	-0.04	34.89	0.0704	0.3521	-0.0215
69	SLU 57	2.01	-0.03	34.18	0.0701	0.365	-0.0222
69	SLU 58	1.71	-0.04	34.92	0.0704	0.3505	-0.0214
69	SLU 59	1.99	-0.03	34.21	0.0701	0.3634	-0.0221
69	SLU 60	2.11	-0.01	33.84	0.0679	0.3673	-0.0228
69	SLU 61	2.38	0	33.13	0.0675	0.3802	-0.0236
69	SLU 62	2	-0.02	35.03	0.07	0.3687	-0.0228
69	SLU 63	2.27	-0.01	34.32	0.0697	0.3816	-0.0236
69	SLU 64	1.99	-0.02	31.08	0.064	0.3435	-0.0209
69	SLU 65	2.45	-0.01	29.9	0.0634	0.3649	-0.0221
69	SLU 66	1.91	-0.03	32.23	0.0662	0.3464	-0.0221
69	SLU 67	2.19	-0.02	31.53	0.0658	0.3593	-0.0217
69	SLU 68	2.35	-0.02	31.09	0.0656	0.3664	-0.0221
69	SLU 69	1.81	-0.04	33.42	0.0683	0.3479	-0.0221
69	SLU 70	2.08	-0.03	32.71	0.068	0.3608	-0.0217
69	SLU 71	1.78	-0.04	33.45	0.0683	0.3463	-0.0209
69	SLU 72	2.05	-0.03	32.74	0.0679	0.3592	-0.0216
69	SLU 73	2.87	0.01	32.92	0.0675	0.4107	-0.0255
69	SLU 74	2.33	-0.01	35.26	0.0702	0.3923	-0.0243
69	SLU 75	2.61	0	34.55	0.0699	0.4051	-0.0251
69	SLU 76	2.76	0	34.11	0.0696	0.4122	-0.0255
69	SLU 77	2.22	-0.02	36.44	0.0724	0.3937	-0.0243
69	SLU 78	2.5	-0.01	35.74	0.072	0.4066	-0.0251
69	SLU 79	2.2	-0.02	36.47	0.0723	0.3921	-0.0243
69	SLU 80	2.47	-0.01	35.77	0.072	0.405	-0.025
69	SLU 81	2.59	0.01	35.39	0.0698	0.4089	-0.0257
69	SLU 82	2.87	0.01	34.69	0.0695	0.4218	-0.0264
69	SLU 83	2.48	0	36.58	0.0719	0.4103	-0.0257
69	SLU 84	2.76	0.01	35.87	0.0716	0.4232	-0.0264
69	SLE RA 1	1.43	-0.02	23.56	0.0488	0.2551	-0.0155
69	SLE RA 2	1.73	-0.01	22.78	0.0484	0.2694	-0.0163
69	SLE RA 3	1.37	-0.02	24.33	0.0503	0.2571	-0.0155



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
69	SLE RA 4	1.56	-0.02	23.86	0.05	0.2657	-0.016	
69	SLE RA 5	1.66	-0.02	23.57	0.0499	0.2703	-0.0163	
69	SLE RA 6	1.3	-0.03	25.13	0.0517	0.258	-0.0155	
69	SLE RA 7	1.49	-0.03	24.65	0.0515	0.2666	-0.016	
69	SLE RA 8	1.28	-0.03	25.15	0.0517	0.2569	-0.0154	
69	SLE RA 9	1.47	-0.03	24.67	0.0514	0.2655	-0.0159	
69	SLE RA 10	2.01	0	24.79	0.0511	0.2999	-0.0185	
69	SLE RA 11	1.65	-0.01	26.35	0.053	0.2876	-0.0177	
69	SLE RA 12	1.84	-0.01	25.88	0.0527	0.2962	-0.0182	
69	SLE RA 13	1.94	0	25.58	0.0526	0.3009	-0.0185	
69	SLE RA 14	1.58	-0.02	27.14	0.0544	0.2885	-0.0177	
69	SLE RA 15	1.76	-0.01	26.67	0.0542	0.2971	-0.0182	
69	SLE RA 16	1.56	-0.02	27.16	0.0544	0.2875	-0.0177	
69	SLE RA 17	1.75	-0.01	26.69	0.0541	0.2961	-0.0182	
69	SLE RA 18	1.83	0	26.44	0.0527	0.2987	-0.0187	
69	SLE RA 19	2.01	0	25.97	0.0524	0.3073	-0.0191	
69	SLE RA 20	1.75	-0.01	27.23	0.0541	0.2996	-0.0186	
69	SLE RA 21	1.94	0	26.76	0.0539	0.3082	-0.0191	
69	SLE FR 1	1.43	-0.02	23.56	0.0488	0.2551	-0.0155	
69	SLE FR 2	1.49	-0.02	23.41	0.0487	0.2579	-0.0156	
69	SLE FR 3	1.4	-0.02	23.88	0.0494	0.2554	-0.0155	
69	SLE FR 4	1.61	-0.01	24.27	0.0499	0.271	-0.0166	
69	SLE FR 5	1.52	-0.02	24.74	0.0505	0.2685	-0.0164	
69	SLE FR 6	1.63	-0.01	25	0.0507	0.2769	-0.0171	
69	SLE QP 1	1.43	-0.02	23.56	0.0488	0.2551	-0.0155	
69	SLE QP 2	1.55	-0.01	24.43	0.05	0.2681	-0.0164	
69	SLD 1	3.81	0.34	17.28	-0.0139	0.4108	-0.0305	
69	SLD 2	3.81	0.34	17.28	-0.0139	0.4108	-0.0305	
69	SLD 3	4.43	0.16	14.47	0.0199	0.3733	-0.0232	
69	SLD 4	4.43	0.16	14.47	0.0199	0.3733	-0.0232	
69	SLD 5	1.28	0.37	26.55	-0.0206	0.3679	-0.0317	
69	SLD 6	1.28	0.37	26.55	-0.0206	0.3679	-0.0317	
69	SLD 7	3.36	-0.24	17.18	0.0923	0.2427	-0.0074	
69	SLD 8	3.36	-0.24	17.18	0.0923	0.2427	-0.0074	
69	SLD 9	-0.26	0.21	31.68	0.0076	0.2936	-0.0254	
69	SLD 10	-0.26	0.21	31.68	0.0076	0.2936	-0.0254	
69	SLD 11	1.81	-0.4	22.31	0.1205	0.1684	-0.0011	
69	SLD 12	1.81	-0.4	22.31	0.1205	0.1684	-0.0011	
69	SLD 13	-1.34	-0.18	34.38	0.08	0.163	-0.0096	
69	SLD 14	-1.34	-0.18	34.38	0.08	0.163	-0.0096	
69	SLD 15	-0.72	-0.37	31.57	0.1139	0.1255	-0.0023	
69	SLD 16	-0.72	-0.37	31.57	0.1139	0.1255	-0.0023	
69	SLV 1	6.84	0.85	7.76	-0.1067	0.6028	-0.0506	
69	SLV 2	6.84	0.85	7.76	-0.1067	0.6028	-0.0506	
69	SLV 3	8.31	0.42	1.12	-0.0273	0.514	-0.0335	
69	SLV 4	8.31	0.42	1.12	-0.0273	0.514	-0.0335	
69	SLV 5	0.89	0.9	29.48	-0.1175	0.5034	-0.0527	
69	SLV 6	0.89	0.9	29.48	-0.1175	0.5034	-0.0527	
69	SLV 7	5.82	-0.54	7.38	0.1473	0.2071	0.0045	
69	SLV 8	5.82	-0.54	7.38	0.1473	0.2071	0.0045	
69	SLV 9	-2.72	0.51	41.48	-0.0473	0.3292	-0.0373	
69	SLV 10	-2.72	0.51	41.48	-0.0473	0.3292	-0.0373	
69	SLV 11	2.2	-0.93	19.37	0.2175	0.0329	0.0198	
69	SLV 12	2.2	-0.93	19.37	0.2175	0.0329	0.0198	
69	SLV 13	-5.22	-0.45	47.73	0.1272	0.0223	0.0006	
69	SLV 14	-5.22	-0.45	47.73	0.1272	0.0223	0.0006	
69	SLV 15	-3.74	-0.88	41.1	0.2067	-0.0665	0.0177	
69	SLV 16	-3.74	-0.88	41.1	0.2067	-0.0665	0.0177	
70	SLU 1	7.48	-0.02	39.84	0.0124	0.1778	-0.0011	
70	SLU 2	7.62	-0.01	42.6	0.0121	0.1735	-0.001	
70	SLU 3	7.58	-0.02	40.67	0.013	0.1792	-0.0012	
70	SLU 4	7.67	-0.01	42.32	0.0128	0.1766	-0.0011	
70	SLU 5	7.65	-0.01	43.13	0.0127	0.1728	-0.001	
70	SLU 6	7.62	-0.02	41.19	0.0135	0.1785	-0.0013	
70	SLU 7	7.7	-0.02	42.85	0.0133	0.1759	-0.0012	
70	SLU 8	7.55	-0.02	40.9	0.0134	0.1764	-0.0013	
70	SLU 9	7.63	-0.02	42.55	0.0133	0.1739	-0.0012	
70	SLU 10	8.68	-0.01	48.69	0.014	0.1968	-0.0011	
70	SLU 11	8.64	-0.02	46.76	0.0148	0.2024	-0.0014	
70	SLU 12	8.72	-0.02	48.41	0.0147	0.1999	-0.0013	
70	SLU 13	8.71	-0.01	49.22	0.0145	0.1961	-0.0012	
70	SLU 14	8.68	-0.02	47.28	0.0154	0.2017	-0.0014	
70	SLU 15	8.76	-0.02	48.94	0.0152	0.1992	-0.0013	
70	SLU 16	8.61	-0.02	46.99	0.0153	0.1997	-0.0014	
70	SLU 17	8.69	-0.02	48.64	0.0151	0.1971	-0.0013	
70	SLU 18	8.99	-0.02	48.55	0.0151	0.2111	-0.0014	
70	SLU 19	9.07	-0.02	50.2	0.0149	0.2085	-0.0013	
70	SLU 20	9.02	-0.02	49.07	0.0156	0.2104	-0.0015	
70	SLU 21	9.11	-0.02	50.73	0.0154	0.2078	-0.0013	
70	SLU 22	8.4	-0.02	44.92	0.0139	0.1993	-0.0013	
70	SLU 23	8.54	-0.01	47.67	0.0136	0.195	-0.0011	
70	SLU 24	8.5	-0.02	45.74	0.0144	0.2007	-0.0013	
70	SLU 25	8.59	-0.02	47.39	0.0143	0.1981	-0.0012	
70	SLU 26	8.57	-0.01	48.2	0.0141	0.1943	-0.0012	
70	SLU 27	8.54	-0.02	46.26	0.0149	0.2	-0.0014	
70	SLU 28	8.62	-0.02	47.92	0.0148	0.1974	-0.0013	
70	SLU 29	8.47	-0.02	45.97	0.0149	0.1979	-0.0014	
70	SLU 30	8.55	-0.02	47.62	0.0147	0.1953	-0.0013	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
70	SLU 31	9.59	-0.01	53.76		0.0154	0.2183	-0.0013	
70	SLU 32	9.56	-0.02	51.83		0.0163	0.2239	-0.0015	
70	SLU 33	9.64	-0.02	53.48		0.0161	0.2214	-0.0014	
70	SLU 34	9.63	-0.02	54.29		0.0159	0.2176	-0.0013	
70	SLU 35	9.59	-0.03	52.36		0.0168	0.2232	-0.0016	
70	SLU 36	9.68	-0.02	54.01		0.0166	0.2207	-0.0015	
70	SLU 37	9.52	-0.03	52.06		0.0167	0.2212	-0.0016	
70	SLU 38	9.61	-0.02	53.72		0.0165	0.2186	-0.0015	
70	SLU 39	9.91	-0.02	53.62		0.0165	0.2325	-0.0015	
70	SLU 40	9.99	-0.02	55.27		0.0163	0.23	-0.0014	
70	SLU 41	9.94	-0.02	54.14		0.017	0.2318	-0.0016	
70	SLU 42	10.03	-0.02	55.8		0.0168	0.2293	-0.0015	
70	SLU 43	9.4	-0.02	50.06		0.0157	0.2238	-0.0014	
70	SLU 44	9.54	-0.01	52.82		0.0154	0.2195	-0.0013	
70	SLU 45	9.51	-0.02	50.88		0.0162	0.2252	-0.0015	
70	SLU 46	9.59	-0.02	52.54		0.0161	0.2226	-0.0014	
70	SLU 47	9.58	-0.02	53.34		0.0159	0.2188	-0.0013	
70	SLU 48	9.55	-0.03	51.41		0.0167	0.2245	-0.0016	
70	SLU 49	9.63	-0.02	53.06		0.0166	0.2219	-0.0015	
70	SLU 50	9.47	-0.03	51.11		0.0167	0.2224	-0.0016	
70	SLU 51	9.56	-0.02	52.77		0.0165	0.2198	-0.0015	
70	SLU 52	10.6	-0.02	58.91		0.0172	0.2428	-0.0014	
70	SLU 53	10.57	-0.03	56.97		0.0181	0.2484	-0.0017	
70	SLU 54	10.65	-0.02	58.63		0.0179	0.2459	-0.0016	
70	SLU 55	10.64	-0.02	59.43		0.0177	0.2421	-0.0015	
70	SLU 56	10.6	-0.03	57.5		0.0186	0.2477	-0.0017	
70	SLU 57	10.69	-0.02	59.15		0.0184	0.2452	-0.0016	
70	SLU 58	10.53	-0.03	57.2		0.0185	0.2457	-0.0017	
70	SLU 59	10.62	-0.02	58.86		0.0183	0.2431	-0.0016	
70	SLU 60	10.92	-0.03	58.76		0.0183	0.257	-0.0017	
70	SLU 61	11	-0.02	60.41		0.0181	0.2545	-0.0016	
70	SLU 62	10.95	-0.03	59.29		0.0188	0.2563	-0.0018	
70	SLU 63	11.04	-0.02	60.94		0.0186	0.2538	-0.0016	
70	SLU 64	10.32	-0.03	55.13		0.0171	0.2453	-0.0016	
70	SLU 65	10.46	-0.02	57.89		0.0168	0.241	-0.0014	
70	SLU 66	10.43	-0.03	55.95		0.0177	0.2466	-0.0016	
70	SLU 67	10.51	-0.02	57.61		0.0175	0.2441	-0.0015	
70	SLU 68	10.5	-0.02	58.41		0.0173	0.2403	-0.0015	
70	SLU 69	10.46	-0.03	56.48		0.0182	0.2459	-0.0017	
70	SLU 70	10.55	-0.02	58.13		0.018	0.2434	-0.0016	
70	SLU 71	10.39	-0.03	56.19		0.0181	0.2439	-0.0017	
70	SLU 72	10.48	-0.02	57.84		0.0179	0.2413	-0.0016	
70	SLU 73	11.52	-0.02	63.98		0.0187	0.2643	-0.0016	
70	SLU 74	11.49	-0.03	62.04		0.0195	0.2699	-0.0018	
70	SLU 75	11.57	-0.02	63.7		0.0193	0.2673	-0.0017	
70	SLU 76	11.56	-0.02	64.51		0.0192	0.2636	-0.0016	
70	SLU 77	11.52	-0.03	62.57		0.02	0.2692	-0.0019	
70	SLU 78	11.61	-0.02	64.22		0.0199	0.2666	-0.0018	
70	SLU 79	11.45	-0.03	62.28		0.0199	0.2671	-0.0019	
70	SLU 80	11.54	-0.02	63.93		0.0198	0.2646	-0.0018	
70	SLU 81	11.83	-0.03	63.83		0.0197	0.2785	-0.0018	
70	SLU 82	11.92	-0.02	65.49		0.0196	0.2759	-0.0017	
70	SLU 83	11.87	-0.03	64.36		0.0202	0.2778	-0.0019	
70	SLU 84	11.95	-0.02	66.01		0.0201	0.2752	-0.0018	
70	SLE RA 1	7.74	-0.02	41.29		0.0128	0.184	-0.0012	
70	SLE RA 2	7.83	-0.01	43.13		0.0126	0.1811	-0.0011	
70	SLE RA 3	7.81	-0.02	41.84		0.0132	0.1849	-0.0012	
70	SLE RA 4	7.87	-0.02	42.94		0.0131	0.1832	-0.0012	
70	SLE RA 5	7.86	-0.01	43.48		0.013	0.1806	-0.0011	
70	SLE RA 6	7.83	-0.02	42.19		0.0136	0.1844	-0.0013	
70	SLE RA 7	7.89	-0.02	43.3		0.0134	0.1827	-0.0012	
70	SLE RA 8	7.79	-0.02	42		0.0135	0.183	-0.0013	
70	SLE RA 9	7.84	-0.02	43.1		0.0134	0.1813	-0.0012	
70	SLE RA 10	8.54	-0.01	47.19		0.0139	0.1966	-0.0012	
70	SLE RA 11	8.51	-0.02	45.9		0.0144	0.2004	-0.0013	
70	SLE RA 12	8.57	-0.02	47		0.0143	0.1987	-0.0013	
70	SLE RA 13	8.56	-0.02	47.54		0.0142	0.1961	-0.0012	
70	SLE RA 14	8.54	-0.02	46.25		0.0148	0.1999	-0.0014	
70	SLE RA 15	8.59	-0.02	47.36		0.0147	0.1982	-0.0013	
70	SLE RA 16	8.49	-0.02	46.06		0.0147	0.1985	-0.0014	
70	SLE RA 17	8.55	-0.02	47.16		0.0146	0.1968	-0.0013	
70	SLE RA 18	8.75	-0.02	47.09		0.0146	0.2061	-0.0013	
70	SLE RA 19	8.8	-0.02	48.2		0.0145	0.2044	-0.0013	
70	SLE RA 20	8.77	-0.02	47.45		0.0149	0.2056	-0.0014	
70	SLE RA 21	8.83	-0.02	48.55		0.0148	0.2039	-0.0013	
70	SLE FR 1	7.74	-0.02	41.29		0.0128	0.184	-0.0012	
70	SLE FR 2	7.76	-0.02	41.66		0.0128	0.1834	-0.0012	
70	SLE FR 3	7.75	-0.02	41.43		0.013	0.1838	-0.0012	
70	SLE FR 4	8.06	-0.02	43.4		0.0133	0.19	-0.0012	
70	SLE FR 5	8.05	-0.02	43.17		0.0135	0.1904	-0.0012	
70	SLE FR 6	8.24	-0.02	44.19		0.0137	0.195	-0.0013	
70	SLE QP 1	7.74	-0.02	41.29		0.0128	0.184	-0.0012	
70	SLE QP 2	8.04	-0.02	43.03		0.0134	0.1906	-0.0012	
70	SLD 1	14.24	0.06	61.58		-0.0076	0.4083	0.0017	
70	SLD 2	14.24	0.06	61.58		-0.0076	0.4083	0.0017	
70	SLD 3	13.23	-0.02	57.79		0.013	0.379	-0.0012	
70	SLD 4	13.23	-0.02	57.79		0.013	0.379	-0.0012	
70	SLD 5	11.42	0.13	54.34		-0.0242	0.3004	0.004	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
70	SLD 6	11.42	0.13	54.34	-0.0242	0.3004	0.004		
70	SLD 7	8.08	-0.14	41.72	0.0445	0.2026	-0.0056		
70	SLD 8	8.08	-0.14	41.72	0.0445	0.2026	-0.0056		
70	SLD 9	8.01	0.1	44.35	-0.0178	0.1786	0.0032		
70	SLD 10	8.01	0.1	44.35	-0.0178	0.1786	0.0032		
70	SLD 11	4.66	-0.16	31.73	0.0509	0.0808	-0.0065		
70	SLD 12	4.66	-0.16	31.73	0.0509	0.0808	-0.0065		
70	SLD 13	2.85	-0.02	28.28	0.0137	0.0022	-0.0012		
70	SLD 14	2.85	-0.02	28.28	0.0137	0.0022	-0.0012		
70	SLD 15	1.85	-0.1	24.49	0.0343	-0.0271	-0.0041		
70	SLD 16	1.85	-0.1	24.49	0.0343	-0.0271	-0.0041		
70	SLV 1	22.59	0.17	86.59	-0.0367	0.7016	0.0057		
70	SLV 2	22.59	0.17	86.59	-0.0367	0.7016	0.0057		
70	SLV 3	20.14	-0.02	77.45	0.0129	0.6299	-0.0013		
70	SLV 4	20.14	-0.02	77.45	0.0129	0.6299	-0.0013		
70	SLV 5	16.12	0.33	69.95	-0.0769	0.4526	0.0114		
70	SLV 6	16.12	0.33	69.95	-0.0769	0.4526	0.0114		
70	SLV 7	7.96	-0.31	39.51	0.0884	0.2137	-0.0118		
70	SLV 8	7.96	-0.31	39.51	0.0884	0.2137	-0.0118		
70	SLV 9	8.12	0.27	46.56	-0.0617	0.1675	0.0093		
70	SLV 10	8.12	0.27	46.56	-0.0617	0.1675	0.0093		
70	SLV 11	-0.03	-0.37	16.12	0.1036	-0.0714	-0.0139		
70	SLV 12	-0.03	-0.37	16.12	0.1036	-0.0714	-0.0139		
70	SLV 13	-4.06	-0.02	8.61	0.0138	-0.2487	-0.0012		
70	SLV 14	-4.06	-0.02	8.61	0.0138	-0.2487	-0.0012		
70	SLV 15	-6.51	-0.21	-0.52	0.0634	-0.3204	-0.0082		
70	SLV 16	-6.51	-0.21	-0.52	0.0634	-0.3204	-0.0082		
71	SLU 1	4.26	-7.33	78.28	0.376	0.0708	-0.0514		
71	SLU 2	3.71	-8.15	84.87	0.4051	0.0329	-0.0568		
71	SLU 3	4.25	-7.49	80	0.3843	0.068	-0.0525		
71	SLU 4	3.92	-7.98	83.95	0.4018	0.0452	-0.0557		
71	SLU 5	3.65	-8.27	86.08	0.4116	0.0278	-0.0576		
71	SLU 6	4.18	-7.61	81.21	0.3908	0.0629	-0.0534		
71	SLU 7	3.85	-8.1	85.16	0.4083	0.0401	-0.0566		
71	SLU 8	4.12	-7.57	80.69	0.3889	0.0606	-0.0531		
71	SLU 9	3.79	-8.06	84.65	0.4064	0.0378	-0.0564		
71	SLU 10	4.22	-9.04	96.54	0.4473	0.0415	-0.063		
71	SLU 11	4.75	-8.38	91.67	0.4265	0.0766	-0.0587		
71	SLU 12	4.43	-8.87	95.62	0.444	0.0538	-0.0619		
71	SLU 13	4.15	-9.16	97.75	0.4538	0.0364	-0.0638		
71	SLU 14	4.68	-8.5	92.88	0.4329	0.0715	-0.0596		
71	SLU 15	4.36	-8.99	96.83	0.4504	0.0487	-0.0628		
71	SLU 16	4.62	-8.46	92.36	0.4311	0.0692	-0.0593		
71	SLU 17	4.3	-8.95	96.32	0.4486	0.0464	-0.0626		
71	SLU 18	4.97	-8.6	94.96	0.4362	0.0831	-0.0602		
71	SLU 19	4.65	-9.09	98.91	0.4537	0.0603	-0.0635		
71	SLU 20	4.91	-8.72	96.16	0.4427	0.078	-0.0611		
71	SLU 21	4.58	-9.22	100.11	0.4602	0.0552	-0.0643		
71	SLU 22	4.73	-8.05	87.85	0.4097	0.0813	-0.0564		
71	SLU 23	4.19	-8.87	94.44	0.4388	0.0434	-0.0618		
71	SLU 24	4.73	-8.21	89.57	0.418	0.0785	-0.0575		
71	SLU 25	4.4	-8.7	93.52	0.4355	0.0557	-0.0607		
71	SLU 26	4.12	-8.99	95.64	0.4453	0.0383	-0.0626		
71	SLU 27	4.66	-8.33	90.77	0.4245	0.0734	-0.0584		
71	SLU 28	4.33	-8.83	94.72	0.442	0.0506	-0.0616		
71	SLU 29	4.6	-8.3	90.26	0.4226	0.0711	-0.0581		
71	SLU 30	4.27	-8.79	94.21	0.4401	0.0483	-0.0614		
71	SLU 31	4.69	-9.76	106.11	0.481	0.052	-0.068		
71	SLU 32	5.23	-9.1	101.24	0.4602	0.0871	-0.0637		
71	SLU 33	4.9	-9.6	105.19	0.4776	0.0643	-0.0669		
71	SLU 34	4.62	-9.89	107.31	0.4875	0.0469	-0.0688		
71	SLU 35	5.16	-9.23	102.44	0.4666	0.082	-0.0646		
71	SLU 36	4.83	-9.72	106.39	0.4841	0.0592	-0.0678		
71	SLU 37	5.1	-9.19	101.93	0.4648	0.0797	-0.0643		
71	SLU 38	4.77	-9.68	105.88	0.4823	0.0569	-0.0676		
71	SLU 39	5.45	-9.33	104.52	0.4699	0.0936	-0.0652		
71	SLU 40	5.13	-9.82	108.47	0.4874	0.0708	-0.0685		
71	SLU 41	5.38	-9.45	105.73	0.4764	0.0885	-0.0661		
71	SLU 42	5.06	-9.94	109.68	0.4939	0.0657	-0.0694		
71	SLU 43	5.37	-9.28	98.49	0.4772	0.0885	-0.0651		
71	SLU 44	4.83	-10.1	105.08	0.5064	0.0505	-0.0705		
71	SLU 45	5.36	-9.44	100.21	0.4855	0.0856	-0.0662		
71	SLU 46	5.04	-9.93	104.16	0.503	0.0628	-0.0694		
71	SLU 47	4.76	-10.22	106.28	0.5129	0.0454	-0.0713		
71	SLU 48	5.29	-9.56	101.41	0.492	0.0805	-0.0671		
71	SLU 49	4.97	-10.05	105.36	0.5095	0.0577	-0.0703		
71	SLU 50	5.23	-9.52	100.9	0.4902	0.0783	-0.0668		
71	SLU 51	4.91	-10.01	104.85	0.5077	0.0555	-0.0701		
71	SLU 52	5.33	-10.99	116.75	0.5485	0.0591	-0.0767		
71	SLU 53	5.86	-10.33	111.88	0.5277	0.0942	-0.0724		
71	SLU 54	5.54	-10.82	115.83	0.5452	0.0714	-0.0756		
71	SLU 55	5.26	-11.11	117.95	0.555	0.054	-0.0775		
71	SLU 56	5.8	-10.45	113.08	0.5342	0.0891	-0.0733		
71	SLU 57	5.47	-10.94	117.03	0.5517	0.0663	-0.0765		
71	SLU 58	5.73	-10.41	112.57	0.5324	0.0869	-0.073		
71	SLU 59	5.41	-10.9	116.52	0.5498	0.0641	-0.0763		
71	SLU 60	6.09	-10.55	115.16	0.5375	0.1008	-0.0739		
71	SLU 61	5.76	-11.04	119.11	0.555	0.078	-0.0772		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
71	SLU 62	6.02	-10.67	116.37	0.544	0.0957	-0.0748
71	SLU 63	5.69	-11.17	120.32	0.5614	0.0729	-0.078
71	SLU 64	5.85	-10	108.06	0.5109	0.099	-0.0701
71	SLU 65	5.3	-10.82	114.64	0.5401	0.061	-0.0755
71	SLU 66	5.84	-10.16	109.77	0.5192	0.0961	-0.0712
71	SLU 67	5.51	-10.65	113.72	0.5367	0.0733	-0.0744
71	SLU 68	5.24	-10.94	115.85	0.5465	0.0559	-0.0763
71	SLU 69	5.77	-10.28	110.98	0.5257	0.091	-0.0721
71	SLU 70	5.45	-10.77	114.93	0.5432	0.0682	-0.0753
71	SLU 71	5.71	-10.25	110.47	0.5239	0.0888	-0.0718
71	SLU 72	5.38	-10.74	114.42	0.5414	0.066	-0.0751
71	SLU 73	5.81	-11.71	126.31	0.5822	0.0696	-0.0817
71	SLU 74	6.34	-11.05	121.44	0.5614	0.1047	-0.0774
71	SLU 75	6.02	-11.55	125.39	0.5789	0.0819	-0.0806
71	SLU 76	5.74	-11.84	127.52	0.5887	0.0645	-0.0825
71	SLU 77	6.27	-11.18	122.65	0.5679	0.0996	-0.0783
71	SLU 78	5.95	-11.67	126.6	0.5854	0.0768	-0.0815
71	SLU 79	6.21	-11.14	122.14	0.566	0.0974	-0.078
71	SLU 80	5.89	-11.63	126.09	0.5835	0.0746	-0.0813
71	SLU 81	6.56	-11.28	124.73	0.5712	0.1113	-0.0789
71	SLU 82	6.24	-11.77	128.68	0.5887	0.0885	-0.0822
71	SLU 83	6.5	-11.4	125.93	0.5776	0.1062	-0.0798
71	SLU 84	6.17	-11.89	129.88	0.5951	0.0834	-0.083
71	SLE RA 1	4.39	-7.54	81.02	0.3856	0.0738	-0.0528
71	SLE RA 2	4.03	-8.08	85.41	0.405	0.0485	-0.0564
71	SLE RA 3	4.39	-7.64	82.16	0.3912	0.0719	-0.0536
71	SLE RA 4	4.17	-7.97	84.8	0.4028	0.0567	-0.0557
71	SLE RA 5	3.99	-8.16	86.21	0.4094	0.0451	-0.057
71	SLE RA 6	4.34	-7.72	82.96	0.3955	0.0685	-0.0541
71	SLE RA 7	4.13	-8.05	85.6	0.4071	0.0533	-0.0563
71	SLE RA 8	4.3	-7.7	82.62	0.3942	0.067	-0.054
71	SLE RA 9	4.08	-8.03	85.26	0.4059	0.0518	-0.0561
71	SLE RA 10	4.37	-8.68	93.19	0.4332	0.0543	-0.0605
71	SLE RA 11	4.72	-8.24	89.94	0.4193	0.0777	-0.0577
71	SLE RA 12	4.51	-8.56	92.58	0.4309	0.0625	-0.0598
71	SLE RA 13	4.32	-8.76	93.99	0.4375	0.0509	-0.0611
71	SLE RA 14	4.68	-8.32	90.74	0.4236	0.0743	-0.0583
71	SLE RA 15	4.46	-8.64	93.38	0.4352	0.0591	-0.0604
71	SLE RA 16	4.64	-8.29	90.4	0.4224	0.0728	-0.0581
71	SLE RA 17	4.42	-8.62	93.04	0.434	0.0576	-0.0603
71	SLE RA 18	4.87	-8.39	92.13	0.4258	0.082	-0.0587
71	SLE RA 19	4.65	-8.71	94.77	0.4374	0.0668	-0.0609
71	SLE RA 20	4.83	-8.47	92.93	0.4301	0.0786	-0.0593
71	SLE RA 21	4.61	-8.79	95.57	0.4418	0.0634	-0.0615
71	SLE FR 1	4.39	-7.54	81.02	0.3856	0.0738	-0.0528
71	SLE FR 2	4.32	-7.64	81.9	0.3895	0.0688	-0.0535
71	SLE FR 3	4.37	-7.57	81.34	0.3873	0.0725	-0.053
71	SLE FR 4	4.46	-7.9	85.23	0.4016	0.0712	-0.0553
71	SLE FR 5	4.52	-7.82	84.67	0.3994	0.0749	-0.0548
71	SLE FR 6	4.63	-7.96	86.57	0.4057	0.0779	-0.0558
71	SLE QP 1	4.39	-7.54	81.02	0.3856	0.0738	-0.0528
71	SLE QP 2	4.54	-7.79	84.35	0.3977	0.0763	-0.0546
71	SLD 1	11.4	-10.02	107.85	0.3542	0.4235	-0.0501
71	SLD 2	11.4	-10.02	107.85	0.3542	0.4235	-0.0501
71	SLD 3	10.28	-8.51	99.79	0.2868	0.3686	-0.0404
71	SLD 4	10.28	-8.51	99.79	0.2868	0.3686	-0.0404
71	SLD 5	8.3	-10.76	103.64	0.4869	0.2637	-0.0679
71	SLD 6	8.3	-10.76	103.64	0.4869	0.2637	-0.0679
71	SLD 7	4.56	-5.71	76.75	0.2621	0.0808	-0.0356
71	SLD 8	4.56	-5.71	76.75	0.2621	0.0808	-0.0356
71	SLD 9	4.51	-9.87	91.96	0.5332	0.0718	-0.0735
71	SLD 10	4.51	-9.87	91.96	0.5332	0.0718	-0.0735
71	SLD 11	0.78	-4.82	65.07	0.3084	-0.111	-0.0412
71	SLD 12	0.78	-4.82	65.07	0.3084	-0.111	-0.0412
71	SLD 13	-1.21	-7.07	68.92	0.5085	-0.216	-0.0688
71	SLD 14	-1.21	-7.07	68.92	0.5085	-0.216	-0.0688
71	SLD 15	-2.33	-5.56	60.85	0.4411	-0.2709	-0.0591
71	SLD 16	-2.33	-5.56	60.85	0.4411	-0.2709	-0.0591
71	SLV 1	20.66	-13.05	139.65	0.296	0.8916	-0.044
71	SLV 2	20.66	-13.05	139.65	0.296	0.8916	-0.044
71	SLV 3	17.9	-9.46	120.28	0.1377	0.7573	-0.0212
71	SLV 4	17.9	-9.46	120.28	0.1377	0.7573	-0.0212
71	SLV 5	13.56	-14.8	130.32	0.6072	0.5246	-0.0861
71	SLV 6	13.56	-14.8	130.32	0.6072	0.5246	-0.0861
71	SLV 7	4.36	-2.86	65.75	0.0797	0.0769	-0.0099
71	SLV 8	4.36	-2.86	65.75	0.0797	0.0769	-0.0099
71	SLV 9	4.71	-12.72	102.95	0.7156	0.0757	-0.0993
71	SLV 10	4.71	-12.72	102.95	0.7156	0.0757	-0.0993
71	SLV 11	-4.49	-0.78	38.38	0.1882	-0.372	-0.0231
71	SLV 12	-4.49	-0.78	38.38	0.1882	-0.372	-0.0231
71	SLV 13	-8.83	-6.12	48.42	0.6576	-0.6046	-0.088
71	SLV 14	-8.83	-6.12	48.42	0.6576	-0.6046	-0.088
71	SLV 15	-11.59	-2.54	29.05	0.4994	-0.7389	-0.0652
71	SLV 16	-11.59	-2.54	29.05	0.4994	-0.7389	-0.0652
72	SLU 1	0.23	-0.07	39.17	0.0078	0.0131	-0.0001
72	SLU 2	-0.83	-0.08	42.22	0.0143	-0.0338	-0.0002
72	SLU 3	0.11	-0.07	40.02	0.0079	0.0072	-0.0001
72	SLU 4	-0.53	-0.08	41.85	0.0118	-0.0209	-0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
72	SLU 5	-1	-0.09	42.81	0.0144	-0.0416	-0.0002
72	SLU 6	-0.06	-0.07	40.6	0.0079	-0.0006	-0.0001
72	SLU 7	-0.7	-0.08	42.43	0.0118	-0.0287	-0.0002
72	SLU 8	-0.1	-0.07	40.34	0.0079	-0.0025	-0.0001
72	SLU 9	-0.74	-0.08	42.17	0.0118	-0.0307	-0.0002
72	SLU 10	-0.95	-0.09	48.04	0.0154	-0.0395	-0.0002
72	SLU 11	-0.02	-0.08	45.84	0.0089	0.0016	-0.0001
72	SLU 12	-0.66	-0.09	47.67	0.0128	-0.0266	-0.0002
72	SLU 13	-1.12	-0.09	48.63	0.0154	-0.0473	-0.0002
72	SLU 14	-0.19	-0.08	46.43	0.009	-0.0062	-0.0001
72	SLU 15	-0.83	-0.09	48.26	0.0129	-0.0344	-0.0002
72	SLU 16	-0.23	-0.08	46.16	0.009	-0.0082	-0.0001
72	SLU 17	-0.87	-0.09	48	0.0129	-0.0363	-0.0002
72	SLU 18	0.05	-0.08	47.49	0.0093	0.005	-0.0001
72	SLU 19	-0.58	-0.09	49.32	0.0132	-0.0232	-0.0002
72	SLU 20	-0.12	-0.08	48.07	0.0094	-0.0028	-0.0001
72	SLU 21	-0.75	-0.09	49.9	0.0133	-0.031	-0.0002
72	SLU 22	0.21	-0.08	43.91	0.0087	0.0125	-0.0001
72	SLU 23	-0.85	-0.09	46.96	0.0152	-0.0344	-0.0002
72	SLU 24	0.09	-0.08	44.75	0.0087	0.0067	-0.0001
72	SLU 25	-0.55	-0.09	46.58	0.0126	-0.0214	-0.0002
72	SLU 26	-1.02	-0.09	47.54	0.0152	-0.0422	-0.0002
72	SLU 27	-0.08	-0.08	45.34	0.0088	-0.0011	-0.0001
72	SLU 28	-0.72	-0.09	47.17	0.0127	-0.0292	-0.0002
72	SLU 29	-0.13	-0.08	45.08	0.0088	-0.0031	-0.0001
72	SLU 30	-0.76	-0.09	46.91	0.0127	-0.0312	-0.0002
72	SLU 31	-0.98	-0.1	52.78	0.0163	-0.04	-0.0002
72	SLU 32	-0.04	-0.09	50.58	0.0098	0.001	-0.0001
72	SLU 33	-0.68	-0.1	52.41	0.0137	-0.0271	-0.0002
72	SLU 34	-1.15	-0.1	53.37	0.0163	-0.0478	-0.0002
72	SLU 35	-0.21	-0.09	51.16	0.0099	-0.0068	-0.0001
72	SLU 36	-0.85	-0.1	52.99	0.0138	-0.0349	-0.0002
72	SLU 37	-0.25	-0.09	50.9	0.0099	-0.0087	-0.0001
72	SLU 38	-0.89	-0.09	52.73	0.0138	-0.0369	-0.0002
72	SLU 39	0.03	-0.09	52.22	0.0102	0.0044	-0.0001
72	SLU 40	-0.61	-0.1	54.05	0.0141	-0.0237	-0.0002
72	SLU 41	-0.14	-0.09	52.81	0.0103	-0.0034	-0.0001
72	SLU 42	-0.78	-0.1	54.64	0.0142	-0.0315	-0.0002
72	SLU 43	0.31	-0.09	49.3	0.0098	0.0172	-0.0001
72	SLU 44	-0.75	-0.1	52.35	0.0163	-0.0297	-0.0002
72	SLU 45	0.18	-0.09	50.14	0.0099	0.0113	-0.0001
72	SLU 46	-0.45	-0.1	51.97	0.0138	-0.0168	-0.0002
72	SLU 47	-0.92	-0.1	52.93	0.0164	-0.0375	-0.0002
72	SLU 48	0.02	-0.09	50.73	0.01	0.0035	-0.0001
72	SLU 49	-0.62	-0.1	52.56	0.0139	-0.0246	-0.0002
72	SLU 50	-0.03	-0.09	50.47	0.01	0.0016	-0.0001
72	SLU 51	-0.66	-0.1	52.3	0.0139	-0.0265	-0.0002
72	SLU 52	-0.88	-0.11	58.17	0.0174	-0.0354	-0.0002
72	SLU 53	0.06	-0.1	55.97	0.011	0.0057	-0.0001
72	SLU 54	-0.58	-0.11	57.8	0.0149	-0.0225	-0.0002
72	SLU 55	-1.05	-0.11	58.76	0.0175	-0.0432	-0.0002
72	SLU 56	-0.11	-0.1	56.55	0.011	-0.0021	-0.0001
72	SLU 57	-0.75	-0.11	58.38	0.0149	-0.0303	-0.0002
72	SLU 58	-0.16	-0.1	56.29	0.011	-0.0041	-0.0001
72	SLU 59	-0.79	-0.11	58.12	0.0149	-0.0322	-0.0002
72	SLU 60	0.13	-0.1	57.62	0.0114	0.0091	-0.0001
72	SLU 61	-0.51	-0.11	59.45	0.0153	-0.0191	-0.0002
72	SLU 62	-0.04	-0.1	58.2	0.0114	0.0013	-0.0001
72	SLU 63	-0.68	-0.11	60.03	0.0153	-0.0269	-0.0002
72	SLU 64	0.29	-0.1	54.03	0.0107	0.0166	-0.0001
72	SLU 65	-0.77	-0.11	57.08	0.0172	-0.0303	-0.0002
72	SLU 66	0.16	-0.1	54.88	0.0108	0.0108	-0.0001
72	SLU 67	-0.47	-0.11	56.71	0.0147	-0.0173	-0.0002
72	SLU 68	-0.94	-0.11	57.67	0.0173	-0.0381	-0.0002
72	SLU 69	-0.01	-0.1	55.47	0.0108	0.003	-0.0001
72	SLU 70	-0.64	-0.11	57.3	0.0147	-0.0251	-0.0002
72	SLU 71	-0.05	-0.1	55.21	0.0109	0.001	-0.0001
72	SLU 72	-0.69	-0.1	57.04	0.0147	-0.0271	-0.0002
72	SLU 73	-0.9	-0.12	62.91	0.0183	-0.0359	-0.0002
72	SLU 74	0.03	-0.1	60.7	0.0119	0.0051	-0.0001
72	SLU 75	-0.6	-0.11	62.53	0.0157	-0.023	-0.0002
72	SLU 76	-1.07	-0.12	63.49	0.0184	-0.0437	-0.0002
72	SLU 77	-0.13	-0.1	61.29	0.0119	-0.0027	-0.0001
72	SLU 78	-0.77	-0.11	63.12	0.0158	-0.0308	-0.0002
72	SLU 79	-0.18	-0.1	61.03	0.0119	-0.0046	-0.0001
72	SLU 80	-0.81	-0.11	62.86	0.0158	-0.0328	-0.0002
72	SLU 81	0.11	-0.11	62.35	0.0123	0.0085	-0.0001
72	SLU 82	-0.53	-0.12	64.18	0.0161	-0.0196	-0.0002
72	SLU 83	-0.06	-0.11	62.94	0.0123	0.0007	-0.0001
72	SLU 84	-0.7	-0.12	64.77	0.0162	-0.0274	-0.0002
72	SLE RA 1	0.23	-0.07	40.52	0.0081	0.0129	-0.0001
72	SLE RA 2	-0.48	-0.08	42.56	0.0124	-0.0183	-0.0002
72	SLE RA 3	0.14	-0.07	41.09	0.0081	0.009	-0.0001
72	SLE RA 4	-0.28	-0.08	42.31	0.0107	-0.0097	-0.0001
72	SLE RA 5	-0.59	-0.08	42.95	0.0124	-0.0235	-0.0002
72	SLE RA 6	0.03	-0.07	41.48	0.0081	0.0038	-0.0001
72	SLE RA 7	-0.39	-0.08	42.7	0.0107	-0.0149	-0.0001
72	SLE RA 8	0	-0.07	41.3	0.0081	0.0025	-0.0001





Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
72	SLE RA 9	-0.42	-0.08	42.52		0.0107	-0.0162	-0.0001	
72	SLE RA 10	-0.56	-0.09	46.44		0.0131	-0.0221	-0.0002	
72	SLE RA 11	0.06	-0.08	44.97		0.0088	0.0052	-0.0001	
72	SLE RA 12	-0.37	-0.08	46.19		0.0114	-0.0135	-0.0001	
72	SLE RA 13	-0.68	-0.09	46.83		0.0131	-0.0273	-0.0002	
72	SLE RA 14	-0.06	-0.08	45.36		0.0088	0	-0.0001	
72	SLE RA 15	-0.48	-0.08	46.58		0.0114	-0.0187	-0.0001	
72	SLE RA 16	-0.08	-0.08	45.19		0.0089	-0.0013	-0.0001	
72	SLE RA 17	-0.51	-0.08	46.41		0.0114	-0.02	-0.0001	
72	SLE RA 18	0.11	-0.08	46.07		0.0091	0.0075	-0.0001	
72	SLE RA 19	-0.32	-0.09	47.29		0.0117	-0.0113	-0.0001	
72	SLE RA 20	-0.01	-0.08	46.46		0.0091	0.0023	-0.0001	
72	SLE RA 21	-0.43	-0.09	47.68		0.0117	-0.0164	-0.0001	
72	SLE FR 1	0.23	-0.07	40.52		0.0081	0.0129	-0.0001	
72	SLE FR 2	0.09	-0.07	40.93		0.0089	0.0067	-0.0001	
72	SLE FR 3	0.18	-0.07	40.68		0.0081	0.0108	-0.0001	
72	SLE FR 4	0.05	-0.08	42.59		0.0092	0.005	-0.0001	
72	SLE FR 5	0.15	-0.07	42.34		0.0084	0.0092	-0.0001	
72	SLE FR 6	0.17	-0.08	43.3		0.0086	0.0102	-0.0001	
72	SLE QP 1	0.23	-0.07	40.52		0.0081	0.0129	-0.0001	
72	SLE QP 2	0.19	-0.07	42.19		0.0084	0.0113	-0.0001	
72	SLD 1	7.26	-0.12	50.27		0.0224	0.3532	-0.0001	
72	SLD 2	7.26	-0.12	50.27		0.0224	0.3532	-0.0001	
72	SLD 3	5.93	-0.08	46.55		0.0095	0.2964	0.0001	
72	SLD 4	5.93	-0.08	46.55		0.0095	0.2964	0.0001	
72	SLD 5	4.32	-0.15	50.27		0.0323	0.2	-0.0005	
72	SLD 6	4.32	-0.15	50.27		0.0323	0.2	-0.0005	
72	SLD 7	-0.1	-0.01	37.84		-0.011	0.0107	0.0003	
72	SLD 8	-0.1	-0.01	37.84		-0.011	0.0107	0.0003	
72	SLD 9	0.48	-0.14	46.53		0.0277	0.0119	-0.0005	
72	SLD 10	0.48	-0.14	46.53		0.0277	0.0119	-0.0005	
72	SLD 11	-3.94	0	34.11		-0.0156	-0.1774	0.0003	
72	SLD 12	-3.94	0	34.11		-0.0156	-0.1774	0.0003	
72	SLD 13	-5.55	-0.07	37.83		0.0073	-0.2738	-0.0003	
72	SLD 14	-5.55	-0.07	37.83		0.0073	-0.2738	-0.0003	
72	SLD 15	-6.87	-0.03	34.1		-0.0057	-0.3306	-0.0001	
72	SLD 16	-6.87	-0.03	34.1		-0.0057	-0.3306	-0.0001	
72	SLV 1	16.76	-0.18	61.25		0.0425	0.8131	-0.0002	
72	SLV 2	16.76	-0.18	61.25		0.0425	0.8131	-0.0002	
72	SLV 3	13.58	-0.08	52.3		0.0109	0.6764	0.0005	
72	SLV 4	13.58	-0.08	52.3		0.0109	0.6764	0.0005	
72	SLV 5	10	-0.26	61.47		0.0666	0.4592	-0.0011	
72	SLV 6	10	-0.26	61.47		0.0666	0.4592	-0.0011	
72	SLV 7	-0.63	0.08	31.65		-0.0389	0.0034	0.001	
72	SLV 8	-0.63	0.08	31.65		-0.0389	0.0034	0.001	
72	SLV 9	1.01	-0.23	52.72		0.0556	0.0191	-0.0012	
72	SLV 10	1.01	-0.23	52.72		0.0556	0.0191	-0.0012	
72	SLV 11	-9.62	0.11	22.9		-0.0499	-0.4366	0.0009	
72	SLV 12	-9.62	0.11	22.9		-0.0499	-0.4366	0.0009	
72	SLV 13	-13.19	-0.07	32.07		0.0058	-0.6538	-0.0007	
72	SLV 14	-13.19	-0.07	32.07		0.0058	-0.6538	-0.0007	
72	SLV 15	-16.38	0.03	23.13		-0.0258	-0.7905	0	
72	SLV 16	-16.38	0.03	23.13		-0.0258	-0.7905	0	
73	SLU 1	1.18	0.05	35.67		-0.014	0.0867	0.0001	
73	SLU 2	0.3	0.02	38.12		-0.0063	0.0512	-0.0001	
73	SLU 3	1.07	0.05	36.38		-0.0144	0.0832	0.0001	
73	SLU 4	0.54	0.03	37.84		-0.0098	0.062	0	
73	SLU 5	0.14	0.02	38.56		-0.0065	0.0455	-0.0001	
73	SLU 6	0.91	0.05	36.82		-0.0145	0.0775	0.0001	
73	SLU 7	0.38	0.03	38.29		-0.0099	0.0562	0	
73	SLU 8	0.86	0.05	36.57		-0.0143	0.0752	0.0001	
73	SLU 9	0.33	0.03	38.03		-0.0096	0.054	0	
73	SLU 10	0.35	0.03	43.26		-0.0081	0.0599	-0.0001	
73	SLU 11	1.11	0.05	41.52		-0.0161	0.0919	0.0001	
73	SLU 12	0.59	0.04	42.99		-0.0115	0.0706	0	
73	SLU 13	0.18	0.03	43.71		-0.0082	0.0541	-0.0001	
73	SLU 14	0.95	0.05	41.97		-0.0163	0.0861	0.0001	
73	SLU 15	0.42	0.04	43.44		-0.0117	0.0649	0	
73	SLU 16	0.9	0.05	41.71		-0.016	0.0839	0.0001	
73	SLU 17	0.37	0.04	43.18		-0.0114	0.0626	0	
73	SLU 18	1.24	0.05	43.02		-0.0166	0.099	0.0001	
73	SLU 19	0.72	0.04	44.49		-0.012	0.0777	0	
73	SLU 20	1.08	0.06	43.47		-0.0167	0.0933	0.0001	
73	SLU 21	0.55	0.04	44.94		-0.0121	0.072	0	
73	SLU 22	1.3	0.05	39.86		-0.0155	0.0972	0.0001	
73	SLU 23	0.42	0.03	42.3		-0.0079	0.0618	-0.0001	
73	SLU 24	1.19	0.05	40.56		-0.0159	0.0938	0.0001	
73	SLU 25	0.66	0.04	42.03		-0.0113	0.0725	0	
73	SLU 26	0.26	0.03	42.75		-0.008	0.0561	-0.0001	
73	SLU 27	1.03	0.05	41.01		-0.016	0.0881	0.0001	
73	SLU 28	0.5	0.04	42.48		-0.0114	0.0668	0	
73	SLU 29	0.98	0.05	40.75		-0.0158	0.0858	0.0001	
73	SLU 30	0.45	0.04	42.22		-0.0112	0.0645	0	
73	SLU 31	0.46	0.03	47.45		-0.0096	0.0704	-0.0001	
73	SLU 32	1.23	0.06	45.71		-0.0177	0.1024	0.0001	
73	SLU 33	0.71	0.04	47.17		-0.0131	0.0812	0	
73	SLU 34	0.3	0.03	47.9		-0.0098	0.0647	-0.0001	
73	SLU 35	1.07	0.06	46.16		-0.0178	0.0967	0.0001	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
73	SLU 36	0.54	0.04	47.62	-0.0132	0.0755	0	
73	SLU 37	1.02	0.06	45.9	-0.0175	0.0944	0.0001	
73	SLU 38	0.49	0.04	47.37	-0.0129	0.0732	0	
73	SLU 39	1.36	0.06	47.21	-0.0181	0.1096	0.0001	
73	SLU 40	0.84	0.04	48.67	-0.0135	0.0883	0	
73	SLU 41	1.2	0.06	47.66	-0.0182	0.1039	0.0001	
73	SLU 42	0.67	0.05	49.12	-0.0136	0.0826	0	
73	SLU 43	1.5	0.06	44.94	-0.0177	0.109	0.0001	
73	SLU 44	0.62	0.03	47.38	-0.01	0.0736	-0.0001	
73	SLU 45	1.39	0.06	45.64	-0.018	0.1056	0.0001	
73	SLU 46	0.86	0.04	47.11	-0.0134	0.0843	0	
73	SLU 47	0.45	0.03	47.83	-0.0101	0.0679	-0.0001	
73	SLU 48	1.22	0.06	46.09	-0.0182	0.0999	0.0001	
73	SLU 49	0.69	0.04	47.56	-0.0136	0.0786	0	
73	SLU 50	1.17	0.06	45.83	-0.0179	0.0976	0.0001	
73	SLU 51	0.64	0.04	47.3	-0.0133	0.0763	0	
73	SLU 52	0.66	0.04	52.53	-0.0118	0.0822	0	
73	SLU 53	1.43	0.07	50.79	-0.0198	0.1142	0.0001	
73	SLU 54	0.9	0.05	52.25	-0.0152	0.093	0	
73	SLU 55	0.5	0.04	52.97	-0.0119	0.0765	0	
73	SLU 56	1.27	0.07	51.23	-0.0199	0.1085	0.0001	
73	SLU 57	0.74	0.05	52.7	-0.0153	0.0873	0	
73	SLU 58	1.22	0.07	50.98	-0.0197	0.1062	0.0001	
73	SLU 59	0.69	0.05	52.44	-0.0151	0.085	0	
73	SLU 60	1.56	0.07	52.29	-0.0202	0.1214	0.0001	
73	SLU 61	1.03	0.05	53.75	-0.0156	0.1001	0	
73	SLU 62	1.4	0.07	52.73	-0.0204	0.1157	0.0001	
73	SLU 63	0.87	0.05	54.2	-0.0158	0.0944	0	
73	SLU 64	1.62	0.06	49.12	-0.0192	0.1196	0.0001	
73	SLU 65	0.74	0.04	51.57	-0.0115	0.0842	0	
73	SLU 66	1.51	0.06	49.83	-0.0196	0.1162	0.0001	
73	SLU 67	0.98	0.05	51.3	-0.015	0.0949	0	
73	SLU 68	0.57	0.04	52.02	-0.0117	0.0784	0	
73	SLU 69	1.34	0.07	50.28	-0.0197	0.1105	0.0001	
73	SLU 70	0.81	0.05	51.74	-0.0151	0.0892	0	
73	SLU 71	1.29	0.07	50.02	-0.0195	0.1082	0.0001	
73	SLU 72	0.76	0.05	51.49	-0.0148	0.0869	0	
73	SLU 73	0.78	0.04	56.71	-0.0133	0.0928	0	
73	SLU 74	1.55	0.07	54.97	-0.0213	0.1248	0.0001	
73	SLU 75	1.02	0.06	56.44	-0.0167	0.1035	0	
73	SLU 76	0.62	0.04	57.16	-0.0134	0.0871	0	
73	SLU 77	1.39	0.07	55.42	-0.0215	0.1191	0.0002	
73	SLU 78	0.86	0.06	56.89	-0.0169	0.0978	0	
73	SLU 79	1.33	0.07	55.16	-0.0212	0.1168	0.0001	
73	SLU 80	0.81	0.06	56.63	-0.0166	0.0955	0	
73	SLU 81	1.68	0.07	56.47	-0.0218	0.132	0.0001	
73	SLU 82	1.15	0.06	57.94	-0.0172	0.1107	0	
73	SLU 83	1.52	0.07	56.92	-0.0219	0.1262	0.0002	
73	SLU 84	0.99	0.06	58.39	-0.0173	0.105	0	
73	SLE RA 1	1.22	0.05	36.87	-0.0144	0.0897	0.0001	
73	SLE RA 2	0.63	0.03	38.5	-0.0093	0.0661	0	
73	SLE RA 3	1.14	0.05	37.34	-0.0147	0.0874	0.0001	
73	SLE RA 4	0.79	0.04	38.32	-0.0116	0.0732	0	
73	SLE RA 5	0.52	0.03	38.8	-0.0094	0.0622	0	
73	SLE RA 6	1.03	0.05	37.64	-0.0148	0.0836	0.0001	
73	SLE RA 7	0.68	0.04	38.61	-0.0117	0.0694	0	
73	SLE RA 8	1	0.05	37.46	-0.0146	0.0821	0.0001	
73	SLE RA 9	0.65	0.04	38.44	-0.0115	0.0679	0	
73	SLE RA 10	0.66	0.03	41.93	-0.0105	0.0718	0	
73	SLE RA 11	1.17	0.05	40.77	-0.0159	0.0932	0.0001	
73	SLE RA 12	0.82	0.04	41.74	-0.0128	0.079	0	
73	SLE RA 13	0.55	0.03	42.23	-0.0106	0.068	0	
73	SLE RA 14	1.06	0.05	41.07	-0.0159	0.0893	0.0001	
73	SLE RA 15	0.71	0.04	42.04	-0.0129	0.0752	0	
73	SLE RA 16	1.03	0.05	40.89	-0.0158	0.0878	0.0001	
73	SLE RA 17	0.68	0.04	41.87	-0.0127	0.0736	0	
73	SLE RA 18	1.26	0.05	41.77	-0.0161	0.0979	0.0001	
73	SLE RA 19	0.91	0.04	42.74	-0.0131	0.0837	0	
73	SLE RA 20	1.15	0.05	42.07	-0.0162	0.0941	0.0001	
73	SLE RA 21	0.8	0.04	43.04	-0.0132	0.0799	0	
73	SLE FR 1	1.22	0.05	36.87	-0.0144	0.0897	0.0001	
73	SLE FR 2	1.1	0.04	37.19	-0.0134	0.085	0.0001	
73	SLE FR 3	1.17	0.05	36.99	-0.0145	0.0882	0.0001	
73	SLE FR 4	1.11	0.05	38.66	-0.0139	0.0874	0.0001	
73	SLE FR 5	1.19	0.05	38.46	-0.015	0.0906	0.0001	
73	SLE FR 6	1.24	0.05	39.32	-0.0153	0.0938	0.0001	
73	SLE QP 1	1.22	0.05	36.87	-0.0144	0.0897	0.0001	
73	SLE QP 2	1.23	0.05	38.34	-0.015	0.0922	0.0001	
73	SLD 1	9.13	0.05	44.3	-0.0134	0.4472	-0.0001	
73	SLD 2	9.13	0.05	44.3	-0.0134	0.4472	-0.0001	
73	SLD 3	7.81	-0.02	40.84	0.0059	0.3938	0.0001	
73	SLD 4	7.81	-0.02	40.84	0.0059	0.3938	0.0001	
73	SLD 5	5.61	0.14	45.38	-0.0437	0.2797	-0.0003	
73	SLD 6	5.61	0.14	45.38	-0.0437	0.2797	-0.0003	
73	SLD 7	1.2	-0.06	33.83	0.0205	0.1016	0.0004	
73	SLD 8	1.2	-0.06	33.83	0.0205	0.1016	0.0004	
73	SLD 9	1.27	0.16	42.84	-0.0504	0.0827	-0.0002	
73	SLD 10	1.27	0.16	42.84	-0.0504	0.0827	-0.0002	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
73	SLD 11	-3.15	-0.04	31.29	0.0138	-0.0954	0.0005	
73	SLD 12	-3.15	-0.04	31.29	0.0138	-0.0954	0.0005	
73	SLD 13	-5.35	0.11	35.84	-0.0358	-0.2095	0.0001	
73	SLD 14	-5.35	0.11	35.84	-0.0358	-0.2095	0.0001	
73	SLD 15	-6.67	0.05	32.37	-0.0165	-0.2629	0.0003	
73	SLD 16	-6.67	0.05	32.37	-0.0165	-0.2629	0.0003	
73	SLV 1	19.75	0.04	52.4	-0.0116	0.9248	-0.0005	
73	SLV 2	19.75	0.04	52.4	-0.0116	0.9248	-0.0005	
73	SLV 3	16.59	-0.11	44.14	0.0363	0.796	0	
73	SLV 4	16.59	-0.11	44.14	0.0363	0.796	0	
73	SLV 5	11.59	0.28	55.08	-0.0866	0.5373	-0.0009	
73	SLV 6	11.59	0.28	55.08	-0.0866	0.5373	-0.0009	
73	SLV 7	1.03	-0.23	27.55	0.0731	0.108	0.0009	
73	SLV 8	1.03	-0.23	27.55	0.0731	0.108	0.0009	
73	SLV 9	1.43	0.33	49.12	-0.103	0.0763	-0.0007	
73	SLV 10	1.43	0.33	49.12	-0.103	0.0763	-0.0007	
73	SLV 11	-9.13	-0.18	21.59	0.0567	-0.353	0.0011	
73	SLV 12	-9.13	-0.18	21.59	0.0567	-0.353	0.0011	
73	SLV 13	-14.13	0.21	32.54	-0.0663	-0.6117	0.0002	
73	SLV 14	-14.13	0.21	32.54	-0.0663	-0.6117	0.0002	
73	SLV 15	-17.29	0.06	24.28	-0.0183	-0.7405	0.0007	
73	SLV 16	-17.29	0.06	24.28	-0.0183	-0.7405	0.0007	
74	SLU 1	1.34	0.12	35	-0.0281	0.0374	0.0004	
74	SLU 2	0.55	0.11	37.68	-0.0262	-0.0042	0.0004	
74	SLU 3	1.22	0.12	35.6	-0.0284	0.0316	0.0004	
74	SLU 4	0.74	0.12	37.21	-0.0272	0.0066	0.0004	
74	SLU 5	0.38	0.11	38	-0.026	-0.0121	0.0004	
74	SLU 6	1.04	0.12	35.92	-0.0282	0.0237	0.0004	
74	SLU 7	0.57	0.12	37.52	-0.0271	-0.0013	0.0004	
74	SLU 8	0.99	0.12	35.63	-0.0278	0.0216	0.0004	
74	SLU 9	0.52	0.12	37.24	-0.0266	-0.0034	0.0004	
74	SLU 10	0.65	0.13	42.58	-0.0298	-0.0032	0.0005	
74	SLU 11	1.31	0.14	40.5	-0.032	0.0326	0.0005	
74	SLU 12	0.84	0.14	42.1	-0.0309	0.0076	0.0005	
74	SLU 13	0.47	0.13	42.89	-0.0297	-0.0111	0.0005	
74	SLU 14	1.14	0.14	40.81	-0.0319	0.0247	0.0005	
74	SLU 15	0.67	0.14	42.42	-0.0307	-0.0003	0.0005	
74	SLU 16	1.08	0.14	40.52	-0.0314	0.0226	0.0005	
74	SLU 17	0.61	0.13	42.13	-0.0303	-0.0023	0.0005	
74	SLU 18	1.48	0.15	41.99	-0.0333	0.0389	0.0005	
74	SLU 19	1.01	0.14	43.6	-0.0322	0.0139	0.0005	
74	SLU 20	1.3	0.15	42.31	-0.0332	0.031	0.0005	
74	SLU 21	0.83	0.14	43.92	-0.032	0.006	0.0005	
74	SLU 22	1.5	0.14	39.01	-0.0312	0.0419	0.0005	
74	SLU 23	0.71	0.13	41.69	-0.0292	0.0003	0.0005	
74	SLU 24	1.38	0.14	39.61	-0.0315	0.0361	0.0005	
74	SLU 25	0.91	0.13	41.21	-0.0303	0.0111	0.0005	
74	SLU 26	0.54	0.13	42	-0.0291	-0.0076	0.0005	
74	SLU 27	1.2	0.14	39.92	-0.0313	0.0282	0.0005	
74	SLU 28	0.73	0.13	41.53	-0.0302	0.0032	0.0005	
74	SLU 29	1.15	0.14	39.63	-0.0309	0.0261	0.0005	
74	SLU 30	0.68	0.13	41.24	-0.0297	0.0011	0.0005	
74	SLU 31	0.81	0.14	46.58	-0.0329	0.0013	0.0006	
74	SLU 32	1.47	0.16	44.5	-0.0351	0.0371	0.0005	
74	SLU 33	1	0.15	46.11	-0.034	0.0121	0.0005	
74	SLU 34	0.63	0.14	46.9	-0.0328	-0.0066	0.0006	
74	SLU 35	1.3	0.16	44.82	-0.035	0.0292	0.0005	
74	SLU 36	0.83	0.15	46.42	-0.0338	0.0042	0.0005	
74	SLU 37	1.25	0.15	44.53	-0.0345	0.0271	0.0005	
74	SLU 38	0.77	0.15	46.14	-0.0334	0.0022	0.0005	
74	SLU 39	1.64	0.16	46	-0.0364	0.0434	0.0006	
74	SLU 40	1.17	0.15	47.61	-0.0352	0.0184	0.0006	
74	SLU 41	1.46	0.16	46.31	-0.0362	0.0355	0.0006	
74	SLU 42	0.99	0.15	47.92	-0.0351	0.0105	0.0006	
74	SLU 43	1.68	0.15	44.13	-0.0354	0.0471	0.0005	
74	SLU 44	0.9	0.14	46.81	-0.0335	0.0055	0.0006	
74	SLU 45	1.56	0.16	44.73	-0.0357	0.0413	0.0005	
74	SLU 46	1.09	0.15	46.34	-0.0346	0.0163	0.0005	
74	SLU 47	0.72	0.14	47.12	-0.0334	-0.0024	0.0006	
74	SLU 48	1.39	0.16	45.04	-0.0356	0.0334	0.0005	
74	SLU 49	0.92	0.15	46.65	-0.0344	0.0084	0.0005	
74	SLU 50	1.33	0.16	44.76	-0.0351	0.0313	0.0005	
74	SLU 51	0.86	0.15	46.36	-0.034	0.0063	0.0005	
74	SLU 52	1	0.16	51.7	-0.0372	0.0065	0.0006	
74	SLU 53	1.66	0.17	49.62	-0.0394	0.0423	0.0006	
74	SLU 54	1.19	0.17	51.23	-0.0382	0.0173	0.0006	
74	SLU 55	0.82	0.16	52.02	-0.037	-0.0014	0.0006	
74	SLU 56	1.48	0.17	49.94	-0.0392	0.0344	0.0006	
74	SLU 57	1.01	0.17	51.55	-0.0381	0.0094	0.0006	
74	SLU 58	1.43	0.17	49.65	-0.0388	0.0323	0.0006	
74	SLU 59	0.96	0.17	51.26	-0.0377	0.0073	0.0006	
74	SLU 60	1.82	0.18	51.12	-0.0407	0.0486	0.0006	
74	SLU 61	1.35	0.17	52.73	-0.0395	0.0236	0.0006	
74	SLU 62	1.65	0.18	51.43	-0.0405	0.0407	0.0006	
74	SLU 63	1.18	0.17	53.04	-0.0394	0.0157	0.0006	
74	SLU 64	1.85	0.17	48.13	-0.0385	0.0516	0.0006	
74	SLU 65	1.06	0.16	50.81	-0.0366	0.01	0.0006	
74	SLU 66	1.72	0.17	48.73	-0.0388	0.0458	0.0006	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
74	SLU 67	1.25	0.16	50.34	-0.0377	0.0208	0.0006		
74	SLU 68	0.88	0.16	51.13	-0.0365	0.0021	0.0006		
74	SLU 69	1.55	0.17	49.05	-0.0387	0.0379	0.0006		
74	SLU 70	1.08	0.17	50.66	-0.0375	0.0129	0.0006		
74	SLU 71	1.49	0.17	48.76	-0.0382	0.0358	0.0006		
74	SLU 72	1.02	0.16	50.37	-0.0371	0.0108	0.0006		
74	SLU 73	1.16	0.18	55.71	-0.0403	0.011	0.0007		
74	SLU 74	1.82	0.19	53.63	-0.0425	0.0468	0.0006		
74	SLU 75	1.35	0.18	55.24	-0.0413	0.0218	0.0007		
74	SLU 76	0.98	0.18	56.02	-0.0401	0.0031	0.0007		
74	SLU 77	1.64	0.19	53.94	-0.0423	0.0389	0.0006		
74	SLU 78	1.17	0.18	55.55	-0.0412	0.0139	0.0007		
74	SLU 79	1.59	0.19	53.66	-0.0419	0.0368	0.0006		
74	SLU 80	1.12	0.18	55.27	-0.0407	0.0118	0.0007		
74	SLU 81	1.98	0.19	55.12	-0.0438	0.0531	0.0007		
74	SLU 82	1.51	0.19	56.73	-0.0426	0.0281	0.0007		
74	SLU 83	1.81	0.19	55.44	-0.0436	0.0452	0.0007		
74	SLU 84	1.34	0.19	57.05	-0.0425	0.0202	0.0007		
74	SLE RA 1	1.38	0.13	36.14	-0.029	0.0387	0.0004		
74	SLE RA 2	0.86	0.12	37.93	-0.0277	0.0109	0.0005		
74	SLE RA 3	1.3	0.13	36.54	-0.0292	0.0348	0.0004		
74	SLE RA 4	0.99	0.12	37.62	-0.0284	0.0182	0.0004		
74	SLE RA 5	0.74	0.12	38.14	-0.0276	0.0057	0.0004		
74	SLE RA 6	1.19	0.13	36.75	-0.0291	0.0296	0.0004		
74	SLE RA 7	0.87	0.12	37.83	-0.0283	0.0129	0.0004		
74	SLE RA 8	1.15	0.13	36.56	-0.0288	0.0282	0.0004		
74	SLE RA 9	0.84	0.12	37.64	-0.028	0.0115	0.0004		
74	SLE RA 10	0.92	0.13	41.19	-0.0301	0.0116	0.0005		
74	SLE RA 11	1.37	0.14	39.81	-0.0316	0.0355	0.0005		
74	SLE RA 12	1.05	0.13	40.88	-0.0308	0.0189	0.0005		
74	SLE RA 13	0.81	0.13	41.4	-0.03	0.0064	0.0005		
74	SLE RA 14	1.25	0.14	40.02	-0.0315	0.0302	0.0005		
74	SLE RA 15	0.94	0.14	41.09	-0.0307	0.0136	0.0005		
74	SLE RA 16	1.22	0.14	39.83	-0.0312	0.0289	0.0005		
74	SLE RA 17	0.9	0.13	40.9	-0.0304	0.0122	0.0005		
74	SLE RA 18	1.48	0.14	40.81	-0.0324	0.0397	0.0005		
74	SLE RA 19	1.16	0.14	41.88	-0.0317	0.023	0.0005		
74	SLE RA 20	1.36	0.14	41.02	-0.0323	0.0344	0.0005		
74	SLE RA 21	1.05	0.14	42.09	-0.0316	0.0178	0.0005		
74	SLE FR 1	1.38	0.13	36.14	-0.029	0.0387	0.0004		
74	SLE FR 2	1.28	0.13	36.5	-0.0287	0.0332	0.0004		
74	SLE FR 3	1.34	0.13	36.23	-0.0289	0.0366	0.0004		
74	SLE FR 4	1.31	0.13	37.9	-0.0297	0.0335	0.0005		
74	SLE FR 5	1.37	0.13	37.63	-0.03	0.0369	0.0005		
74	SLE FR 6	1.43	0.13	38.48	-0.0307	0.0392	0.0005		
74	SLE QP 1	1.38	0.13	36.14	-0.029	0.0387	0.0004		
74	SLE QP 2	1.41	0.13	37.54	-0.03	0.039	0.0005		
74	SLD 1	9.86	0.19	43.18	-0.0472	0.4249	0.0005		
74	SLD 2	9.86	0.19	43.18	-0.0472	0.4249	0.0005		
74	SLD 3	8.53	0.14	39.03	-0.0318	0.3684	0.0003		
74	SLD 4	8.53	0.14	39.03	-0.0318	0.3684	0.0003		
74	SLD 5	5.97	0.23	45.53	-0.0587	0.2404	0.0007		
74	SLD 6	5.97	0.23	45.53	-0.0587	0.2404	0.0007		
74	SLD 7	1.52	0.05	31.69	-0.007	0.0522	0.0002		
74	SLD 8	1.52	0.05	31.69	-0.007	0.0522	0.0002		
74	SLD 9	1.3	0.21	43.39	-0.053	0.0258	0.0007		
74	SLD 10	1.3	0.21	43.39	-0.053	0.0258	0.0007		
74	SLD 11	-3.15	0.03	29.56	-0.0013	-0.1624	0.0002		
74	SLD 12	-3.15	0.03	29.56	-0.0013	-0.1624	0.0002		
74	SLD 13	-5.71	0.12	36.06	-0.0282	-0.2904	0.0006		
74	SLD 14	-5.71	0.12	36.06	-0.0282	-0.2904	0.0006		
74	SLD 15	-7.04	0.07	31.91	-0.0128	-0.3469	0.0004		
74	SLD 16	-7.04	0.07	31.91	-0.0128	-0.3469	0.0004		
74	SLV 1	21.21	0.28	50.84	-0.0726	0.9432	0.0005		
74	SLV 2	21.21	0.28	50.84	-0.0726	0.9432	0.0005		
74	SLV 3	18.04	0.15	41.02	-0.0343	0.8083	0.0001		
74	SLV 4	18.04	0.15	41.02	-0.0343	0.8083	0.0001		
74	SLV 5	12.16	0.38	56.42	-0.1008	0.5149	0.001		
74	SLV 6	12.16	0.38	56.42	-0.1008	0.5149	0.001		
74	SLV 7	1.6	-0.07	23.69	0.0267	0.0652	-0.0002		
74	SLV 8	1.6	-0.07	23.69	0.0267	0.0652	-0.0002		
74	SLV 9	1.23	0.33	51.39	-0.0867	0.0129	0.0011		
74	SLV 10	1.23	0.33	51.39	-0.0867	0.0129	0.0011		
74	SLV 11	-9.33	-0.12	18.66	0.0408	-0.4369	-0.0001		
74	SLV 12	-9.33	-0.12	18.66	0.0408	-0.4369	-0.0001		
74	SLV 13	-15.22	0.11	34.06	-0.0257	-0.7303	0.0008		
74	SLV 14	-15.22	0.11	34.06	-0.0257	-0.7303	0.0008		
74	SLV 15	-18.39	-0.02	24.25	0.0126	-0.8652	0.0004		
74	SLV 16	-18.39	-0.02	24.25	0.0126	-0.8652	0.0004		
75	SLU 1	0.55	5.06	52.32	-0.1065	0.0502	0.0001		
75	SLU 2	-0.84	6.66	57.47	-0.1721	-0.0068	0.0002		
75	SLU 3	0.46	5.06	53.08	-0.1031	0.0467	0.0002		
75	SLU 4	-0.38	6.02	56.17	-0.1425	0.0125	0.0002		
75	SLU 5	-0.97	6.58	57.73	-0.1662	-0.0116	0.0003		
75	SLU 6	0.33	4.98	53.34	-0.0972	0.0419	0.0002		
75	SLU 7	-0.51	5.94	56.42	-0.1366	0.0077	0.0002		
75	SLU 8	0.31	4.9	52.84	-0.0946	0.0407	0.0002		
75	SLU 9	-0.53	5.86	55.93	-0.134	0.0065	0.0002		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
75	SLU 10	-0.76	7.32	64.62	-0.1844	0.0013	0.0003
75	SLU 11	0.54	5.72	60.23	-0.1154	0.0548	0.0002
75	SLU 12	-0.3	6.68	63.32	-0.1548	0.0206	0.0002
75	SLU 13	-0.88	7.24	64.88	-0.1785	-0.0035	0.0003
75	SLU 14	0.41	5.64	60.49	-0.1094	0.05	0.0002
75	SLU 15	-0.42	6.6	63.58	-0.1489	0.0158	0.0002
75	SLU 16	0.39	5.56	59.99	-0.1069	0.0488	0.0002
75	SLU 17	-0.45	6.52	63.08	-0.1463	0.0146	0.0002
75	SLU 18	0.67	6.01	62.54	-0.124	0.0617	0.0002
75	SLU 19	-0.17	6.97	65.63	-0.1634	0.0275	0.0002
75	SLU 20	0.55	5.92	62.8	-0.118	0.057	0.0002
75	SLU 21	-0.29	6.88	65.89	-0.1575	0.0228	0.0002
75	SLU 22	0.68	5.61	58.24	-0.1156	0.0594	0.0002
75	SLU 23	-0.71	7.21	63.39	-0.1813	0.0024	0.0003
75	SLU 24	0.59	5.61	59	-0.1122	0.0559	0.0002
75	SLU 25	-0.25	6.57	62.09	-0.1516	0.0217	0.0002
75	SLU 26	-0.84	7.12	63.65	-0.1753	-0.0024	0.0003
75	SLU 27	0.46	5.53	59.26	-0.1063	0.0511	0.0002
75	SLU 28	-0.38	6.48	62.35	-0.1457	0.0169	0.0002
75	SLU 29	0.44	5.44	58.76	-0.1037	0.0499	0.0002
75	SLU 30	-0.4	6.4	61.85	-0.1431	0.0157	0.0002
75	SLU 31	-0.63	7.87	70.54	-0.1935	0.0105	0.0003
75	SLU 32	0.67	6.27	66.15	-0.1245	0.064	0.0002
75	SLU 33	-0.17	7.23	69.24	-0.1639	0.0297	0.0003
75	SLU 34	-0.75	7.78	70.8	-0.1876	0.0057	0.0003
75	SLU 35	0.54	6.19	66.41	-0.1186	0.0592	0.0002
75	SLU 36	-0.29	7.14	69.5	-0.158	0.025	0.0003
75	SLU 37	0.52	6.1	65.91	-0.116	0.058	0.0002
75	SLU 38	-0.32	7.06	69	-0.1554	0.0237	0.0003
75	SLU 39	0.8	6.55	68.46	-0.1331	0.0709	0.0002
75	SLU 40	-0.04	7.51	71.55	-0.1725	0.0367	0.0003
75	SLU 41	0.68	6.47	68.72	-0.1272	0.0662	0.0002
75	SLU 42	-0.16	7.43	71.81	-0.1666	0.032	0.0003
75	SLU 43	0.68	6.4	65.99	-0.1353	0.0621	0.0002
75	SLU 44	-0.72	7.99	71.14	-0.201	0.0051	0.0003
75	SLU 45	0.58	6.39	66.74	-0.1319	0.0586	0.0002
75	SLU 46	-0.26	7.35	69.83	-0.1713	0.0244	0.0003
75	SLU 47	-0.84	7.91	71.39	-0.195	0.0003	0.0003
75	SLU 48	0.45	6.31	67	-0.126	0.0538	0.0002
75	SLU 49	-0.38	7.27	70.09	-0.1654	0.0196	0.0003
75	SLU 50	0.43	6.23	66.5	-0.1234	0.0526	0.0002
75	SLU 51	-0.41	7.19	69.59	-0.1628	0.0184	0.0003
75	SLU 52	-0.64	8.65	78.29	-0.2132	0.0132	0.0003
75	SLU 53	0.66	7.05	73.9	-0.1442	0.0667	0.0002
75	SLU 54	-0.18	8.01	76.98	-0.1836	0.0325	0.0003
75	SLU 55	-0.76	8.57	78.55	-0.2073	0.0084	0.0003
75	SLU 56	0.54	6.97	74.15	-0.1383	0.0619	0.0002
75	SLU 57	-0.3	7.93	77.24	-0.1777	0.0277	0.0003
75	SLU 58	0.51	6.89	73.66	-0.1357	0.0607	0.0002
75	SLU 59	-0.33	7.85	76.74	-0.1751	0.0265	0.0003
75	SLU 60	0.79	7.34	76.2	-0.1528	0.0737	0.0002
75	SLU 61	-0.04	8.3	79.29	-0.1922	0.0395	0.0003
75	SLU 62	0.67	7.26	76.46	-0.1469	0.0689	0.0002
75	SLU 63	-0.17	8.21	79.55	-0.1863	0.0347	0.0003
75	SLU 64	0.81	6.94	71.91	-0.1444	0.0713	0.0002
75	SLU 65	-0.59	8.54	77.06	-0.2101	0.0143	0.0003
75	SLU 66	0.71	6.94	72.67	-0.141	0.0678	0.0002
75	SLU 67	-0.13	7.9	75.76	-0.1805	0.0336	0.0003
75	SLU 68	-0.71	8.46	77.32	-0.2042	0.0095	0.0003
75	SLU 69	0.58	6.86	72.92	-0.1351	0.063	0.0002
75	SLU 70	-0.25	7.82	76.01	-0.1745	0.0288	0.0003
75	SLU 71	0.56	6.78	72.43	-0.1325	0.0618	0.0002
75	SLU 72	-0.28	7.73	75.51	-0.1719	0.0276	0.0003
75	SLU 73	-0.51	9.2	84.21	-0.2223	0.0224	0.0003
75	SLU 74	0.79	7.6	79.82	-0.1533	0.0759	0.0002
75	SLU 75	-0.05	8.56	82.91	-0.1927	0.0417	0.0003
75	SLU 76	-0.63	9.12	84.47	-0.2164	0.0176	0.0003
75	SLU 77	0.67	7.52	80.08	-0.1474	0.0711	0.0002
75	SLU 78	-0.17	8.48	83.17	-0.1868	0.0369	0.0003
75	SLU 79	0.64	7.44	79.58	-0.1448	0.0699	0.0002
75	SLU 80	-0.2	8.39	82.67	-0.1842	0.0357	0.0003
75	SLU 81	0.92	7.88	82.13	-0.1619	0.0828	0.0002
75	SLU 82	0.09	8.84	85.22	-0.2013	0.0486	0.0003
75	SLU 83	0.8	7.8	82.39	-0.156	0.0781	0.0002
75	SLU 84	-0.04	8.76	85.47	-0.1954	0.0439	0.0003
75	SLE RA 1	0.59	5.22	54.01	-0.1091	0.0528	0.0001
75	SLE RA 2	-0.34	6.29	57.45	-0.1529	0.0148	0.0002
75	SLE RA 3	0.53	5.22	54.52	-0.1068	0.0505	0.0002
75	SLE RA 4	-0.03	5.86	56.58	-0.1331	0.0277	0.0002
75	SLE RA 5	-0.42	6.23	57.62	-0.1489	0.0116	0.0002
75	SLE RA 6	0.44	5.16	54.69	-0.1029	0.0473	0.0002
75	SLE RA 7	-0.12	5.8	56.75	-0.1292	0.0245	0.0002
75	SLE RA 8	0.43	5.11	54.36	-0.1012	0.0465	0.0002
75	SLE RA 9	-0.13	5.75	56.42	-0.1274	0.0237	0.0002
75	SLE RA 10	-0.28	6.73	62.21	-0.161	0.0202	0.0002
75	SLE RA 11	0.58	5.66	59.29	-0.115	0.0559	0.0002
75	SLE RA 12	0.02	6.3	61.35	-0.1413	0.0331	0.0002
75	SLE RA 13	-0.37	6.67	62.39	-0.1571	0.017	0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
75	SLE RA 14	0.5	5.6	59.46	-0.1111	0.0527	0.0002
75	SLE RA 15	-0.06	6.24	61.52	-0.1373	0.0299	0.0002
75	SLE RA 16	0.48	5.55	59.13	-0.1093	0.0519	0.0002
75	SLE RA 17	-0.08	6.19	61.19	-0.1356	0.0291	0.0002
75	SLE RA 18	0.67	5.85	60.83	-0.1207	0.0605	0.0002
75	SLE RA 19	0.11	6.49	62.88	-0.147	0.0377	0.0002
75	SLE RA 20	0.59	5.79	61	-0.1168	0.0573	0.0002
75	SLE RA 21	0.03	6.43	63.06	-0.1431	0.0345	0.0002
75	SLE FR 1	0.59	5.22	54.01	-0.1091	0.0528	0.0001
75	SLE FR 2	0.41	5.43	54.7	-0.1178	0.0452	0.0002
75	SLE FR 3	0.56	5.2	54.08	-0.1075	0.0515	0.0001
75	SLE FR 4	0.43	5.62	56.74	-0.1213	0.0475	0.0002
75	SLE FR 5	0.58	5.39	56.13	-0.111	0.0539	0.0002
75	SLE FR 6	0.63	5.53	57.42	-0.1149	0.0567	0.0002
75	SLE QP 1	0.59	5.22	54.01	-0.1091	0.0528	0.0001
75	SLE QP 2	0.62	5.41	56.06	-0.1126	0.0551	0.0002
75	SLD 1	8.19	7.39	65.34	-0.1942	0.393	-0.0003
75	SLD 2	8.19	7.39	65.34	-0.1942	0.393	-0.0003
75	SLD 3	9.3	5.43	57.32	-0.1118	0.4422	-0.0004
75	SLD 4	9.3	5.43	57.32	-0.1118	0.4422	-0.0004
75	SLD 5	1.19	8.97	71.02	-0.262	0.082	0.0001
75	SLD 6	1.19	8.97	71.02	-0.262	0.082	0.0001
75	SLD 7	4.92	2.44	44.26	0.0126	0.2457	-0.0002
75	SLD 8	4.92	2.44	44.26	0.0126	0.2457	-0.0002
75	SLD 9	-3.69	8.37	67.86	-0.2377	-0.1355	0.0005
75	SLD 10	-3.69	8.37	67.86	-0.2377	-0.1355	0.0005
75	SLD 11	0.04	1.84	41.1	0.0368	0.0283	0.0002
75	SLD 12	0.04	1.84	41.1	0.0368	0.0283	0.0002
75	SLD 13	-8.07	5.39	54.8	-0.1133	-0.3319	0.0007
75	SLD 14	-8.07	5.39	54.8	-0.1133	-0.3319	0.0007
75	SLD 15	-6.95	3.43	46.77	-0.031	-0.2828	0.0007
75	SLD 16	-6.95	3.43	46.77	-0.031	-0.2828	0.0007
75	SLV 1	18.27	10.17	78.06	-0.3092	0.8433	-0.001
75	SLV 2	18.27	10.17	78.06	-0.3092	0.8433	-0.001
75	SLV 3	21	5.51	59.13	-0.1134	0.9635	-0.0013
75	SLV 4	21	5.51	59.13	-0.1134	0.9635	-0.0013
75	SLV 5	1.78	13.89	91.37	-0.4686	0.1093	0.0002
75	SLV 6	1.78	13.89	91.37	-0.4686	0.1093	0.0002
75	SLV 7	10.86	-1.62	28.26	0.1842	0.5099	-0.0006
75	SLV 8	10.86	-1.62	28.26	0.1842	0.5099	-0.0006
75	SLV 9	-9.63	12.43	83.85	-0.4093	-0.3997	0.0009
75	SLV 10	-9.63	12.43	83.85	-0.4093	-0.3997	0.0009
75	SLV 11	-0.55	-3.08	20.74	0.2434	0.001	0.0001
75	SLV 12	-0.55	-3.08	20.74	0.2434	0.001	0.0001
75	SLV 13	-19.77	5.3	52.99	-0.1118	-0.8532	0.0016
75	SLV 14	-19.77	5.3	52.99	-0.1118	-0.8532	0.0016
75	SLV 15	-17.04	0.65	34.06	0.0841	-0.733	0.0013
75	SLV 16	-17.04	0.65	34.06	0.0841	-0.733	0.0013
76	SLU 1	-1.38	0.04	36.97	0.0195	-0.0528	-0.0003
76	SLU 2	-3.48	0.02	38.93	-0.0063	-0.1354	-0.0004
76	SLU 3	-1.49	0.04	37.55	0.021	-0.058	-0.0003
76	SLU 4	-2.75	0.03	38.72	0.0055	-0.1076	-0.0004
76	SLU 5	-3.58	0.02	39.19	-0.0049	-0.1404	-0.0004
76	SLU 6	-1.59	0.03	37.81	0.0223	-0.063	-0.0003
76	SLU 7	-2.85	0.03	38.98	0.0069	-0.1126	-0.0004
76	SLU 8	-1.58	0.03	37.49	0.0223	-0.0628	-0.0003
76	SLU 9	-2.84	0.02	38.67	0.0068	-0.1124	-0.0004
76	SLU 10	-3.62	0.03	44.04	-0.0035	-0.1416	-0.0005
76	SLU 11	-1.63	0.04	42.65	0.0237	-0.0642	-0.0004
76	SLU 12	-2.89	0.03	43.83	0.0082	-0.1138	-0.0005
76	SLU 13	-3.72	0.03	44.3	-0.0021	-0.1466	-0.0005
76	SLU 14	-1.73	0.04	42.91	0.0251	-0.0692	-0.0004
76	SLU 15	-2.99	0.03	44.09	0.0096	-0.1188	-0.0005
76	SLU 16	-1.72	0.04	42.6	0.025	-0.0691	-0.0004
76	SLU 17	-2.98	0.03	43.77	0.0096	-0.1186	-0.0004
76	SLU 18	-1.58	0.04	44.27	0.0234	-0.0617	-0.0004
76	SLU 19	-2.84	0.03	45.44	0.008	-0.1113	-0.0005
76	SLU 20	-1.68	0.04	44.53	0.0248	-0.0667	-0.0004
76	SLU 21	-2.94	0.03	45.7	0.0094	-0.1163	-0.0005
76	SLU 22	-1.46	0.04	41.2	0.0224	-0.056	-0.0004
76	SLU 23	-3.55	0.03	43.15	-0.0033	-0.1386	-0.0005
76	SLU 24	-1.57	0.04	41.77	0.0239	-0.0612	-0.0004
76	SLU 25	-2.83	0.03	42.95	0.0084	-0.1108	-0.0004
76	SLU 26	-3.65	0.02	43.41	-0.002	-0.1436	-0.0005
76	SLU 27	-1.67	0.04	42.03	0.0253	-0.0662	-0.0004
76	SLU 28	-2.92	0.03	43.2	0.0098	-0.1158	-0.0004
76	SLU 29	-1.65	0.04	41.72	0.0252	-0.066	-0.0004
76	SLU 30	-2.91	0.03	42.89	0.0097	-0.1156	-0.0004
76	SLU 31	-3.69	0.03	48.26	-0.0006	-0.1448	-0.0005
76	SLU 32	-1.71	0.04	46.88	0.0266	-0.0674	-0.0004
76	SLU 33	-2.96	0.04	48.05	0.0112	-0.117	-0.0005
76	SLU 34	-3.79	0.03	48.52	0.0008	-0.1498	-0.0005
76	SLU 35	-1.8	0.04	47.14	0.028	-0.0724	-0.0004
76	SLU 36	-3.06	0.03	48.31	0.0126	-0.122	-0.0005
76	SLU 37	-1.79	0.04	46.82	0.0279	-0.0722	-0.0004
76	SLU 38	-3.05	0.03	48	0.0125	-0.1218	-0.0005
76	SLU 39	-1.65	0.05	48.49	0.0264	-0.0649	-0.0005
76	SLU 40	-2.91	0.04	49.67	0.0109	-0.1145	-0.0005



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
76	SLU 41	-1.75	0.04	48.75		0.0277	-0.0699	-0.0005	
76	SLU 42	-3.01	0.04	49.93		0.0123	-0.1195	-0.0005	
76	SLU 43	-1.77	0.05	46.62		0.0244	-0.0676	-0.0004	
76	SLU 44	-3.87	0.03	48.58		-0.0014	-0.1502	-0.0005	
76	SLU 45	-1.88	0.05	47.19		0.0258	-0.0728	-0.0004	
76	SLU 46	-3.14	0.04	48.37		0.0104	-0.1223	-0.0005	
76	SLU 47	-3.97	0.03	48.84		0	-0.1552	-0.0005	
76	SLU 48	-1.98	0.04	47.45		0.0272	-0.0778	-0.0004	
76	SLU 49	-3.24	0.04	48.63		0.0117	-0.1273	-0.0005	
76	SLU 50	-1.97	0.04	47.14		0.0271	-0.0776	-0.0004	
76	SLU 51	-3.23	0.03	48.31		0.0117	-0.1271	-0.0005	
76	SLU 52	-4.01	0.04	53.68		0.0013	-0.1564	-0.0006	
76	SLU 53	-2.02	0.05	52.3		0.0286	-0.079	-0.0005	
76	SLU 54	-3.28	0.04	53.47		0.0131	-0.1286	-0.0005	
76	SLU 55	-4.11	0.04	53.94		0.0027	-0.1614	-0.0006	
76	SLU 56	-2.12	0.05	52.56		0.0299	-0.084	-0.0005	
76	SLU 57	-3.38	0.04	53.73		0.0145	-0.1336	-0.0005	
76	SLU 58	-2.11	0.05	52.24		0.0299	-0.0838	-0.0005	
76	SLU 59	-3.37	0.04	53.42		0.0144	-0.1334	-0.0005	
76	SLU 60	-1.97	0.05	53.91		0.0283	-0.0765	-0.0005	
76	SLU 61	-3.23	0.04	55.09		0.0128	-0.126	-0.0006	
76	SLU 62	-2.07	0.05	54.17		0.0297	-0.0815	-0.0005	
76	SLU 63	-3.33	0.04	55.35		0.0142	-0.131	-0.0006	
76	SLU 64	-1.85	0.05	50.84		0.0273	-0.0708	-0.0005	
76	SLU 65	-3.94	0.04	52.8		0.0015	-0.1534	-0.0006	
76	SLU 66	-1.96	0.05	51.41		0.0287	-0.076	-0.0005	
76	SLU 67	-3.22	0.04	52.59		0.0133	-0.1255	-0.0005	
76	SLU 68	-4.04	0.03	53.06		0.0029	-0.1584	-0.0006	
76	SLU 69	-2.06	0.05	51.67		0.0301	-0.081	-0.0005	
76	SLU 70	-3.31	0.04	52.85		0.0147	-0.1305	-0.0005	
76	SLU 71	-2.04	0.05	51.36		0.03	-0.0808	-0.0005	
76	SLU 72	-3.3	0.04	52.53		0.0146	-0.1303	-0.0005	
76	SLU 73	-4.08	0.04	57.91		0.0043	-0.1596	-0.0006	
76	SLU 74	-2.1	0.05	56.52		0.0315	-0.0822	-0.0005	
76	SLU 75	-3.35	0.04	57.7		0.016	-0.1317	-0.0006	
76	SLU 76	-4.18	0.04	58.17		0.0056	-0.1646	-0.0006	
76	SLU 77	-2.19	0.05	56.78		0.0329	-0.0872	-0.0005	
76	SLU 78	-3.45	0.04	57.96		0.0174	-0.1367	-0.0006	
76	SLU 79	-2.18	0.05	56.47		0.0328	-0.087	-0.0005	
76	SLU 80	-3.44	0.04	57.64		0.0173	-0.1365	-0.0006	
76	SLU 81	-2.05	0.06	58.14		0.0312	-0.0797	-0.0005	
76	SLU 82	-3.3	0.05	59.31		0.0157	-0.1292	-0.0006	
76	SLU 83	-2.14	0.05	58.4		0.0326	-0.0847	-0.0005	
76	SLU 84	-3.4	0.05	59.57		0.0171	-0.1342	-0.0006	
76	SLE RA 1	-1.41	0.04	38.18		0.0203	-0.0537	-0.0004	
76	SLE RA 2	-2.8	0.03	39.49		0.0032	-0.1088	-0.0004	
76	SLE RA 3	-1.48	0.04	38.56		0.0213	-0.0572	-0.0004	
76	SLE RA 4	-2.32	0.03	39.35		0.011	-0.0902	-0.0004	
76	SLE RA 5	-2.87	0.03	39.66		0.0041	-0.1121	-0.0004	
76	SLE RA 6	-1.54	0.04	38.74		0.0222	-0.0605	-0.0004	
76	SLE RA 7	-2.38	0.03	39.52		0.0119	-0.0936	-0.0004	
76	SLE RA 8	-1.54	0.03	38.53		0.0222	-0.0604	-0.0004	
76	SLE RA 9	-2.37	0.03	39.31		0.0119	-0.0934	-0.0004	
76	SLE RA 10	-2.9	0.03	42.89		0.005	-0.1129	-0.0004	
76	SLE RA 11	-1.57	0.04	41.97		0.0231	-0.0613	-0.0004	
76	SLE RA 12	-2.41	0.03	42.75		0.0128	-0.0944	-0.0004	
76	SLE RA 13	-2.96	0.03	43.06		0.0059	-0.1163	-0.0004	
76	SLE RA 14	-1.64	0.04	42.14		0.0241	-0.0647	-0.0004	
76	SLE RA 15	-2.47	0.03	42.92		0.0138	-0.0977	-0.0004	
76	SLE RA 16	-1.63	0.04	41.93		0.024	-0.0646	-0.0004	
76	SLE RA 17	-2.47	0.03	42.71		0.0137	-0.0976	-0.0004	
76	SLE RA 18	-1.54	0.04	43.04		0.023	-0.0597	-0.0004	
76	SLE RA 19	-2.38	0.04	43.83		0.0127	-0.0927	-0.0004	
76	SLE RA 20	-1.6	0.04	43.22		0.0239	-0.063	-0.0004	
76	SLE RA 21	-2.44	0.04	44		0.0136	-0.096	-0.0004	
76	SLE FR 1	-1.41	0.04	38.18		0.0203	-0.0537	-0.0004	
76	SLE FR 2	-1.68	0.04	38.44		0.0169	-0.0648	-0.0004	
76	SLE FR 3	-1.43	0.04	38.25		0.0207	-0.0551	-0.0004	
76	SLE FR 4	-1.72	0.04	39.9		0.0177	-0.0665	-0.0004	
76	SLE FR 5	-1.47	0.04	39.71		0.0215	-0.0569	-0.0004	
76	SLE FR 6	-1.47	0.04	40.61		0.0216	-0.0567	-0.0004	
76	SLE QP 1	-1.41	0.04	38.18		0.0203	-0.0537	-0.0004	
76	SLE QP 2	-1.44	0.04	39.64		0.0211	-0.0555	-0.0004	
76	SLD 1	6.19	0.08	44.79		-0.0135	0.2879	-0.0005	
76	SLD 2	6.19	0.08	44.79		-0.0135	0.2879	-0.0005	
76	SLD 3	7.56	0.04	39.94		0.0204	0.343	-0.0004	
76	SLD 4	7.56	0.04	39.94		0.0204	0.343	-0.0004	
76	SLD 5	-1.23	0.11	48.53		-0.0406	-0.0361	-0.0005	
76	SLD 6	-1.23	0.11	48.53		-0.0406	-0.0361	-0.0005	
76	SLD 7	3.33	-0.02	32.39		0.0722	0.1476	-0.0003	
76	SLD 8	3.33	-0.02	32.39		0.0722	0.1476	-0.0003	
76	SLD 9	-6.22	0.09	46.89		-0.03	-0.2587	-0.0005	
76	SLD 10	-6.22	0.09	46.89		-0.03	-0.2587	-0.0005	
76	SLD 11	-1.66	-0.03	30.75		0.0828	-0.075	-0.0002	
76	SLD 12	-1.66	-0.03	30.75		0.0828	-0.075	-0.0002	
76	SLD 13	-10.45	0.03	39.33		0.0219	-0.4541	-0.0003	
76	SLD 14	-10.45	0.03	39.33		0.0219	-0.4541	-0.0003	
76	SLD 15	-9.08	0	34.49		0.0557	-0.399	-0.0002	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
76	SLD 16	-9.08	0	34.49	0.0557	-0.399	-0.0002		
76	SLV 1	16.35	0.15	51.82	-0.0649	0.7451	-0.0007		
76	SLV 2	16.35	0.15	51.82	-0.0649	0.7451	-0.0007		
76	SLV 3	19.71	0.05	40.42	0.0212	0.8806	-0.0005		
76	SLV 4	19.71	0.05	40.42	0.0212	0.8806	-0.0005		
76	SLV 5	-1.21	0.21	60.59	-0.1352	-0.0207	-0.0008		
76	SLV 6	-1.21	0.21	60.59	-0.1352	-0.0207	-0.0008		
76	SLV 7	10	-0.1	22.58	0.1517	0.4307	-0.0001		
76	SLV 8	10	-0.1	22.58	0.1517	0.4307	-0.0001		
76	SLV 9	-12.89	0.17	56.7	-0.1095	-0.5418	-0.0006		
76	SLV 10	-12.89	0.17	56.7	-0.1095	-0.5418	-0.0006		
76	SLV 11	-1.68	-0.13	18.69	0.1775	-0.0903	0		
76	SLV 12	-1.68	-0.13	18.69	0.1775	-0.0903	0		
76	SLV 13	-22.6	0.02	38.86	0.0211	-0.9916	-0.0002		
76	SLV 14	-22.6	0.02	38.86	0.0211	-0.9916	-0.0002		
76	SLV 15	-19.24	-0.07	27.46	0.1072	-0.8562	0		
76	SLV 16	-19.24	-0.07	27.46	0.1072	-0.8562	0		
77	SLU 1	-1.99	-0.14	34.01	0.0798	-0.0606	-0.0003		
77	SLU 2	-3.94	-0.16	34.59	0.0282	-0.1387	-0.0002		
77	SLU 3	-2.11	-0.15	34.57	0.0827	-0.0652	-0.0003		
77	SLU 4	-3.28	-0.16	34.92	0.0518	-0.112	-0.0003		
77	SLU 5	-4.04	-0.16	34.88	0.0304	-0.1425	-0.0002		
77	SLU 6	-2.21	-0.15	34.87	0.0849	-0.069	-0.0004		
77	SLU 7	-3.38	-0.16	35.21	0.054	-0.1158	-0.0003		
77	SLU 8	-2.18	-0.15	34.6	0.0841	-0.0683	-0.0004		
77	SLU 9	-3.35	-0.16	34.95	0.0532	-0.1151	-0.0003		
77	SLU 10	-4.13	-0.18	39.36	0.039	-0.1429	-0.0002		
77	SLU 11	-2.3	-0.17	39.34	0.0935	-0.0695	-0.0004		
77	SLU 12	-3.47	-0.18	39.68	0.0626	-0.1163	-0.0003		
77	SLU 13	-4.23	-0.18	39.65	0.0411	-0.1467	-0.0002		
77	SLU 14	-2.4	-0.17	39.63	0.0957	-0.0733	-0.0004		
77	SLU 15	-3.57	-0.18	39.98	0.0648	-0.1201	-0.0003		
77	SLU 16	-2.38	-0.17	39.37	0.0949	-0.0725	-0.0004		
77	SLU 17	-3.55	-0.18	39.71	0.0639	-0.1193	-0.0003		
77	SLU 18	-2.27	-0.17	40.82	0.0952	-0.0667	-0.0004		
77	SLU 19	-3.44	-0.18	41.17	0.0642	-0.1135	-0.0003		
77	SLU 20	-2.36	-0.17	41.12	0.0973	-0.0705	-0.0004		
77	SLU 21	-3.53	-0.18	41.46	0.0664	-0.1174	-0.0003		
77	SLU 22	-2.14	-0.16	37.96	0.0901	-0.0637	-0.0004		
77	SLU 23	-4.09	-0.18	38.54	0.0385	-0.1418	-0.0002		
77	SLU 24	-2.26	-0.17	38.52	0.0931	-0.0683	-0.0004		
77	SLU 25	-3.43	-0.18	38.86	0.0621	-0.1151	-0.0003		
77	SLU 26	-4.18	-0.18	38.83	0.0407	-0.1456	-0.0002		
77	SLU 27	-2.35	-0.17	38.81	0.0952	-0.0721	-0.0004		
77	SLU 28	-3.52	-0.18	39.16	0.0643	-0.1189	-0.0003		
77	SLU 29	-2.33	-0.17	38.55	0.0944	-0.0714	-0.0004		
77	SLU 30	-3.5	-0.18	38.9	0.0635	-0.1182	-0.0003		
77	SLU 31	-4.28	-0.2	43.3	0.0493	-0.146	-0.0003		
77	SLU 32	-2.45	-0.19	43.29	0.1038	-0.0726	-0.0004		
77	SLU 33	-3.62	-0.2	43.63	0.0729	-0.1194	-0.0004		
77	SLU 34	-4.38	-0.2	43.6	0.0514	-0.1499	-0.0003		
77	SLU 35	-2.54	-0.19	43.58	0.106	-0.0764	-0.0005		
77	SLU 36	-3.72	-0.2	43.93	0.0751	-0.1232	-0.0004		
77	SLU 37	-2.52	-0.19	43.32	0.1052	-0.0756	-0.0004		
77	SLU 38	-3.69	-0.2	43.66	0.0743	-0.1225	-0.0004		
77	SLU 39	-2.41	-0.19	44.77	0.1055	-0.0698	-0.0004		
77	SLU 40	-3.58	-0.2	45.12	0.0745	-0.1167	-0.0004		
77	SLU 41	-2.51	-0.19	45.07	0.1076	-0.0737	-0.0005		
77	SLU 42	-3.68	-0.2	45.41	0.0767	-0.1205	-0.0004		
77	SLU 43	-2.54	-0.18	42.87	0.1001	-0.0778	-0.0004		
77	SLU 44	-4.49	-0.2	43.44	0.0486	-0.1558	-0.0003		
77	SLU 45	-2.66	-0.18	43.42	0.1031	-0.0823	-0.0004		
77	SLU 46	-3.83	-0.19	43.77	0.0722	-0.1291	-0.0003		
77	SLU 47	-4.58	-0.2	43.73	0.0507	-0.1596	-0.0003		
77	SLU 48	-2.75	-0.19	43.72	0.1053	-0.0861	-0.0004		
77	SLU 49	-3.92	-0.2	44.06	0.0744	-0.1329	-0.0004		
77	SLU 50	-2.73	-0.18	43.45	0.1045	-0.0854	-0.0004		
77	SLU 51	-3.9	-0.2	43.8	0.0736	-0.1322	-0.0003		
77	SLU 52	-4.68	-0.22	48.21	0.0593	-0.16	-0.0003		
77	SLU 53	-2.85	-0.2	48.19	0.1139	-0.0866	-0.0005		
77	SLU 54	-4.02	-0.21	48.53	0.083	-0.1334	-0.0004		
77	SLU 55	-4.78	-0.22	48.5	0.0615	-0.1639	-0.0003		
77	SLU 56	-2.95	-0.21	48.48	0.1161	-0.0904	-0.0005		
77	SLU 57	-4.12	-0.22	48.83	0.0851	-0.1372	-0.0004		
77	SLU 58	-2.92	-0.2	48.22	0.1153	-0.0896	-0.0005		
77	SLU 59	-4.09	-0.22	48.56	0.0843	-0.1365	-0.0004		
77	SLU 60	-2.81	-0.21	49.67	0.1155	-0.0838	-0.0005		
77	SLU 61	-3.98	-0.22	50.02	0.0846	-0.1307	-0.0004		
77	SLU 62	-2.91	-0.21	49.97	0.1177	-0.0877	-0.0005		
77	SLU 63	-4.08	-0.22	50.31	0.0868	-0.1345	-0.0004		
77	SLU 64	-2.68	-0.2	46.81	0.1105	-0.0809	-0.0005		
77	SLU 65	-4.63	-0.21	47.39	0.0589	-0.1589	-0.0003		
77	SLU 66	-2.8	-0.2	47.37	0.1135	-0.0854	-0.0005		
77	SLU 67	-3.97	-0.21	47.72	0.0825	-0.1322	-0.0004		
77	SLU 68	-4.73	-0.22	47.68	0.0611	-0.1627	-0.0003		
77	SLU 69	-2.9	-0.21	47.66	0.1156	-0.0892	-0.0005		
77	SLU 70	-4.07	-0.22	48.01	0.0847	-0.1361	-0.0004		
77	SLU 71	-2.88	-0.2	47.4	0.1148	-0.0885	-0.0005		





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
77	SLU 72			-4.05	-0.21	47.75	0.0839	-0.1353	-0.0004
77	SLU 73			-4.83	-0.23	52.15	0.0697	-0.1632	-0.0004
77	SLU 74			-3	-0.22	52.14	0.1242	-0.0897	-0.0005
77	SLU 75			-4.17	-0.23	52.48	0.0933	-0.1365	-0.0004
77	SLU 76			-4.92	-0.24	52.45	0.0718	-0.167	-0.0004
77	SLU 77			-3.09	-0.23	52.43	0.1264	-0.0935	-0.0005
77	SLU 78			-4.26	-0.24	52.78	0.0955	-0.1403	-0.0004
77	SLU 79			-3.07	-0.22	52.17	0.1256	-0.0928	-0.0005
77	SLU 80			-4.24	-0.23	52.51	0.0946	-0.1396	-0.0004
77	SLU 81			-2.96	-0.23	53.62	0.1259	-0.087	-0.0005
77	SLU 82			-4.13	-0.24	53.97	0.0949	-0.1338	-0.0004
77	SLU 83			-3.05	-0.23	53.92	0.128	-0.0908	-0.0005
77	SLU 84			-4.23	-0.24	54.26	0.0971	-0.1376	-0.0005
77	SLE RA 1			-2.03	-0.15	35.14	0.0827	-0.0615	-0.0003
77	SLE RA 2			-3.33	-0.16	35.53	0.0483	-0.1135	-0.0002
77	SLE RA 3			-2.11	-0.15	35.51	0.0847	-0.0646	-0.0004
77	SLE RA 4			-2.89	-0.16	35.74	0.0641	-0.0958	-0.0003
77	SLE RA 5			-3.4	-0.16	35.72	0.0498	-0.1161	-0.0003
77	SLE RA 6			-2.18	-0.15	35.71	0.0861	-0.0671	-0.0004
77	SLE RA 7			-2.96	-0.16	35.94	0.0655	-0.0983	-0.0003
77	SLE RA 8			-2.16	-0.15	35.53	0.0856	-0.0666	-0.0004
77	SLE RA 9			-2.94	-0.16	35.76	0.065	-0.0978	-0.0003
77	SLE RA 10			-3.46	-0.17	38.7	0.0555	-0.1164	-0.0003
77	SLE RA 11			-2.24	-0.16	38.69	0.0919	-0.0674	-0.0004
77	SLE RA 12			-3.02	-0.17	38.92	0.0713	-0.0986	-0.0003
77	SLE RA 13			-3.53	-0.17	38.9	0.057	-0.1189	-0.0003
77	SLE RA 14			-2.3	-0.17	38.89	0.0933	-0.0699	-0.0004
77	SLE RA 15			-3.08	-0.17	39.12	0.0727	-0.1012	-0.0003
77	SLE RA 16			-2.29	-0.17	38.71	0.0928	-0.0694	-0.0004
77	SLE RA 17			-3.07	-0.17	38.94	0.0722	-0.1007	-0.0003
77	SLE RA 18			-2.22	-0.17	39.68	0.093	-0.0656	-0.0004
77	SLE RA 19			-3	-0.17	39.91	0.0723	-0.0968	-0.0003
77	SLE RA 20			-2.28	-0.17	39.88	0.0944	-0.0681	-0.0004
77	SLE RA 21			-3.06	-0.18	40.11	0.0738	-0.0993	-0.0003
77	SLE FR 1			-2.03	-0.15	35.14	0.0827	-0.0615	-0.0003
77	SLE FR 2			-2.29	-0.15	35.22	0.0758	-0.0719	-0.0003
77	SLE FR 3			-2.06	-0.15	35.22	0.0833	-0.0625	-0.0003
77	SLE FR 4			-2.35	-0.16	36.58	0.0789	-0.0731	-0.0003
77	SLE FR 5			-2.11	-0.15	36.58	0.0864	-0.0638	-0.0004
77	SLE FR 6			-2.12	-0.16	37.41	0.0878	-0.0636	-0.0004
77	SLE QP 1			-2.03	-0.15	35.14	0.0827	-0.0615	-0.0003
77	SLE QP 2			-2.09	-0.15	36.5	0.0858	-0.0627	-0.0004
77	SLD 1			5.25	-0.12	40.06	0.0142	0.2568	-0.0003
77	SLD 2			5.25	-0.12	40.06	0.0142	0.2568	-0.0003
77	SLD 3			6.54	-0.11	36.18	0.0917	0.31	-0.0006
77	SLD 4			6.54	-0.11	36.18	0.0917	0.31	-0.0006
77	SLD 5			-1.84	-0.17	43.45	-0.0532	-0.0476	0
77	SLD 6			-1.84	-0.17	43.45	-0.0532	-0.0476	0
77	SLD 7			2.46	-0.11	30.53	0.205	0.1298	-0.0008
77	SLD 8			2.46	-0.11	30.53	0.205	0.1298	-0.0008
77	SLD 9			-6.63	-0.19	42.48	-0.0335	-0.2553	0.0001
77	SLD 10			-6.63	-0.19	42.48	-0.0335	-0.2553	0.0001
77	SLD 11			-2.33	-0.14	29.56	0.2247	-0.0779	-0.0007
77	SLD 12			-2.33	-0.14	29.56	0.2247	-0.0779	-0.0007
77	SLD 13			-10.72	-0.2	36.82	0.0799	-0.4355	-0.0001
77	SLD 14			-10.72	-0.2	36.82	0.0799	-0.4355	-0.0001
77	SLD 15			-9.43	-0.18	32.95	0.1573	-0.3823	-0.0004
77	SLD 16			-9.43	-0.18	32.95	0.1573	-0.3823	-0.0004
77	SLV 1			15.04	-0.08	44.93	-0.0929	0.6828	-0.0003
77	SLV 2			15.04	-0.08	44.93	-0.0929	0.6828	-0.0003
77	SLV 3			18.18	-0.04	35.81	0.1047	0.8125	-0.0009
77	SLV 4			18.18	-0.04	35.81	0.1047	0.8125	-0.0009
77	SLV 5			-1.7	-0.19	52.86	-0.2676	-0.0358	0.0006
77	SLV 6			-1.7	-0.19	52.86	-0.2676	-0.0358	0.0006
77	SLV 7			8.75	-0.06	22.47	0.3912	0.3965	-0.0015
77	SLV 8			8.75	-0.06	22.47	0.3912	0.3965	-0.0015
77	SLV 9			-12.92	-0.25	50.54	-0.2196	-0.522	0.0008
77	SLV 10			-12.92	-0.25	50.54	-0.2196	-0.522	0.0008
77	SLV 11			-2.47	-0.11	20.15	0.4392	-0.0897	-0.0013
77	SLV 12			-2.47	-0.11	20.15	0.4392	-0.0897	-0.0013
77	SLV 13			-22.35	-0.26	37.19	0.0669	-0.938	0.0002
77	SLV 14			-22.35	-0.26	37.19	0.0669	-0.938	0.0002
77	SLV 15			-19.22	-0.22	28.08	0.2645	-0.8083	-0.0004
77	SLV 16			-19.22	-0.22	28.08	0.2645	-0.8083	-0.0004
78	SLU 1			-3.01	-0.25	31.65	0.1258	-0.1272	-0.0008
78	SLU 2			-4.73	-0.22	31.48	0.0357	-0.1981	-0.0006
78	SLU 3			-3.15	-0.26	32.18	0.1302	-0.1336	-0.0008
78	SLU 4			-4.19	-0.24	32.08	0.0761	-0.1762	-0.0007
78	SLU 5			-4.85	-0.23	31.78	0.0387	-0.2034	-0.0006
78	SLU 6			-3.27	-0.26	32.48	0.1331	-0.1389	-0.0009
78	SLU 7			-4.3	-0.25	32.38	0.079	-0.1814	-0.0007
78	SLU 8			-3.23	-0.26	32.26	0.1317	-0.1376	-0.0008
78	SLU 9			-4.27	-0.24	32.15	0.0776	-0.1802	-0.0007
78	SLU 10			-5.1	-0.26	35.98	0.0525	-0.2148	-0.0007
78	SLU 11			-3.52	-0.29	36.68	0.1469	-0.1503	-0.0009
78	SLU 12			-4.56	-0.28	36.58	0.0929	-0.1928	-0.0008
78	SLU 13			-5.21	-0.26	36.28	0.0554	-0.22	-0.0007
78	SLU 14			-3.63	-0.3	36.98	0.1498	-0.1555	-0.001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
78	SLU 15	-4.67	-0.28	36.88	0.0958	-0.1981	-0.0008		
78	SLU 16	-3.6	-0.29	36.75	0.1485	-0.1543	-0.001		
78	SLU 17	-4.64	-0.28	36.65	0.0944	-0.1969	-0.0008		
78	SLU 18	-3.53	-0.3	38.08	0.1498	-0.1509	-0.001		
78	SLU 19	-4.57	-0.28	37.98	0.0957	-0.1935	-0.0008		
78	SLU 20	-3.64	-0.3	38.38	0.1527	-0.1562	-0.001		
78	SLU 21	-4.68	-0.29	38.28	0.0987	-0.1987	-0.0009		
78	SLU 22	-3.31	-0.28	35.38	0.1418	-0.1408	-0.0009		
78	SLU 23	-5.04	-0.26	35.21	0.0517	-0.2118	-0.0007		
78	SLU 24	-3.46	-0.29	35.91	0.1461	-0.1473	-0.0009		
78	SLU 25	-4.49	-0.27	35.8	0.092	-0.1898	-0.0008		
78	SLU 26	-5.15	-0.26	35.51	0.0546	-0.217	-0.0007		
78	SLU 27	-3.57	-0.29	36.21	0.149	-0.1525	-0.001		
78	SLU 28	-4.61	-0.28	36.1	0.095	-0.1951	-0.0008		
78	SLU 29	-3.54	-0.29	35.98	0.1476	-0.1513	-0.0009		
78	SLU 30	-4.57	-0.28	35.88	0.0936	-0.1938	-0.0008		
78	SLU 31	-5.4	-0.29	39.7	0.0684	-0.2284	-0.0008		
78	SLU 32	-3.82	-0.32	40.41	0.1628	-0.1639	-0.0011		
78	SLU 33	-4.86	-0.31	40.3	0.1088	-0.2065	-0.0009		
78	SLU 34	-5.52	-0.3	40	0.0714	-0.2336	-0.0008		
78	SLU 35	-3.94	-0.33	40.71	0.1658	-0.1691	-0.0011		
78	SLU 36	-4.97	-0.31	40.6	0.1117	-0.2117	-0.0009		
78	SLU 37	-3.91	-0.32	40.48	0.1644	-0.1679	-0.0011		
78	SLU 38	-4.94	-0.31	40.38	0.1103	-0.2105	-0.0009		
78	SLU 39	-3.84	-0.33	41.81	0.1657	-0.1646	-0.0011		
78	SLU 40	-4.87	-0.31	41.7	0.1117	-0.2071	-0.0009		
78	SLU 41	-3.95	-0.33	42.11	0.1687	-0.1698	-0.0011		
78	SLU 42	-4.98	-0.32	42	0.1146	-0.2124	-0.001		
78	SLU 43	-3.81	-0.31	39.87	0.1581	-0.1607	-0.001		
78	SLU 44	-5.53	-0.29	39.7	0.068	-0.2316	-0.0008		
78	SLU 45	-3.95	-0.32	40.4	0.1624	-0.1671	-0.001		
78	SLU 46	-4.99	-0.3	40.3	0.1084	-0.2097	-0.0009		
78	SLU 47	-5.64	-0.29	40	0.071	-0.2368	-0.0008		
78	SLU 48	-4.06	-0.32	40.7	0.1654	-0.1723	-0.0011		
78	SLU 49	-5.1	-0.31	40.6	0.1113	-0.2149	-0.0009		
78	SLU 50	-4.03	-0.32	40.47	0.164	-0.1711	-0.0011		
78	SLU 51	-5.07	-0.31	40.37	0.1099	-0.2137	-0.0009		
78	SLU 52	-5.9	-0.32	44.2	0.0848	-0.2482	-0.0009		
78	SLU 53	-4.32	-0.35	44.9	0.1792	-0.1837	-0.0012		
78	SLU 54	-5.35	-0.34	44.79	0.1252	-0.2263	-0.001		
78	SLU 55	-6.01	-0.33	44.5	0.0877	-0.2535	-0.0009		
78	SLU 56	-4.43	-0.36	45.2	0.1821	-0.189	-0.0012		
78	SLU 57	-5.47	-0.34	45.1	0.1281	-0.2315	-0.001		
78	SLU 58	-4.4	-0.36	44.97	0.1808	-0.1878	-0.0012		
78	SLU 59	-5.43	-0.34	44.87	0.1267	-0.2303	-0.001		
78	SLU 60	-4.33	-0.36	46.3	0.1821	-0.1844	-0.0012		
78	SLU 61	-5.36	-0.35	46.19	0.128	-0.227	-0.001		
78	SLU 62	-4.44	-0.37	46.6	0.185	-0.1896	-0.0012		
78	SLU 63	-5.48	-0.35	46.5	0.131	-0.2322	-0.0011		
78	SLU 64	-4.11	-0.34	43.6	0.1741	-0.1743	-0.0011		
78	SLU 65	-5.84	-0.32	43.42	0.084	-0.2452	-0.0009		
78	SLU 66	-4.26	-0.35	44.13	0.1784	-0.1807	-0.0011		
78	SLU 67	-5.29	-0.34	44.02	0.1243	-0.2233	-0.001		
78	SLU 68	-5.95	-0.32	43.72	0.0869	-0.2505	-0.0009		
78	SLU 69	-4.37	-0.36	44.43	0.1813	-0.186	-0.0012		
78	SLU 70	-5.4	-0.34	44.32	0.1272	-0.2285	-0.001		
78	SLU 71	-4.34	-0.35	44.2	0.1799	-0.1847	-0.0012		
78	SLU 72	-5.37	-0.34	44.1	0.1259	-0.2273	-0.001		
78	SLU 73	-6.2	-0.35	47.92	0.1007	-0.2619	-0.001		
78	SLU 74	-4.62	-0.39	48.63	0.1951	-0.1974	-0.0013		
78	SLU 75	-5.66	-0.37	48.52	0.1411	-0.2399	-0.0011		
78	SLU 76	-6.32	-0.36	48.22	0.1037	-0.2671	-0.001		
78	SLU 77	-4.74	-0.39	48.93	0.1981	-0.2026	-0.0013		
78	SLU 78	-5.77	-0.38	48.82	0.144	-0.2452	-0.0011		
78	SLU 79	-4.7	-0.39	48.7	0.1967	-0.2014	-0.0013		
78	SLU 80	-5.74	-0.37	48.59	0.1426	-0.244	-0.0011		
78	SLU 81	-4.63	-0.39	50.03	0.198	-0.198	-0.0013		
78	SLU 82	-5.67	-0.38	49.92	0.144	-0.2406	-0.0011		
78	SLU 83	-4.75	-0.4	50.33	0.201	-0.2033	-0.0013		
78	SLU 84	-5.78	-0.38	50.22	0.1469	-0.2458	-0.0012		
78	SLE RA 1	-3.09	-0.26	32.72	0.1304	-0.1311	-0.0008		
78	SLE RA 2	-4.25	-0.24	32.6	0.0703	-0.1784	-0.0007		
78	SLE RA 3	-3.19	-0.26	33.07	0.1333	-0.1354	-0.0009		
78	SLE RA 4	-3.88	-0.25	33	0.0972	-0.1638	-0.0008		
78	SLE RA 5	-4.32	-0.24	32.8	0.0723	-0.1819	-0.0007		
78	SLE RA 6	-3.27	-0.27	33.27	0.1352	-0.1389	-0.0009		
78	SLE RA 7	-3.96	-0.26	33.2	0.0992	-0.1672	-0.0008		
78	SLE RA 8	-3.25	-0.26	33.12	0.1343	-0.138	-0.0009		
78	SLE RA 9	-3.94	-0.25	33.05	0.0983	-0.1664	-0.0008		
78	SLE RA 10	-4.49	-0.26	35.6	0.0815	-0.1895	-0.0008		
78	SLE RA 11	-3.44	-0.29	36.07	0.1444	-0.1465	-0.0009		
78	SLE RA 12	-4.13	-0.28	36	0.1084	-0.1748	-0.0008		
78	SLE RA 13	-4.57	-0.27	35.8	0.0835	-0.1929	-0.0008		
78	SLE RA 14	-3.51	-0.29	36.27	0.1464	-0.1499	-0.0009		
78	SLE RA 15	-4.2	-0.28	36.2	0.1104	-0.1783	-0.0009		
78	SLE RA 16	-3.49	-0.29	36.12	0.1455	-0.1491	-0.0009		
78	SLE RA 17	-4.18	-0.28	36.05	0.1094	-0.1775	-0.0008		
78	SLE RA 18	-3.44	-0.29	37	0.1464	-0.1469	-0.0009		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
78	SLE RA 19	-4.13	-0.28	36.93	0.1103	-0.1753	-0.0009
78	SLE RA 20	-3.52	-0.29	37.2	0.1483	-0.1504	-0.001
78	SLE RA 21	-4.21	-0.28	37.13	0.1123	-0.1788	-0.0009
78	SLE FR 1	-3.09	-0.26	32.72	0.1304	-0.1311	-0.0008
78	SLE FR 2	-3.32	-0.25	32.7	0.1184	-0.1405	-0.0008
78	SLE FR 3	-3.13	-0.26	32.8	0.1312	-0.1325	-0.0008
78	SLE FR 4	-3.43	-0.26	33.98	0.1232	-0.1453	-0.0008
78	SLE FR 5	-3.23	-0.27	34.08	0.136	-0.1372	-0.0009
78	SLE FR 6	-3.27	-0.27	34.86	0.1384	-0.139	-0.0009
78	SLE QP 1	-3.09	-0.26	32.72	0.1304	-0.1311	-0.0008
78	SLE QP 2	-3.2	-0.27	34	0.1352	-0.1358	-0.0009
78	SLD 1	4.08	-0.26	34.45	0.0191	0.1862	-0.0013
78	SLD 2	4.08	-0.26	34.45	0.0191	0.1862	-0.0013
78	SLD 3	5.29	-0.17	31.21	0.154	0.2368	-0.0008
78	SLD 4	5.29	-0.17	31.21	0.154	0.2368	-0.0008
78	SLD 5	-2.86	-0.4	39.06	-0.1043	-0.116	-0.0017
78	SLD 6	-2.86	-0.4	39.06	-0.1043	-0.116	-0.0017
78	SLD 7	1.19	-0.11	28.24	0.3454	0.0528	-0.0002
78	SLD 8	1.19	-0.11	28.24	0.3454	0.0528	-0.0002
78	SLD 9	-7.59	-0.43	39.77	-0.0751	-0.3244	-0.0016
78	SLD 10	-7.59	-0.43	39.77	-0.0751	-0.3244	-0.0016
78	SLD 11	-3.54	-0.14	28.95	0.3746	-0.1556	-0.0001
78	SLD 12	-3.54	-0.14	28.95	0.3746	-0.1556	-0.0001
78	SLD 13	-11.69	-0.36	36.8	0.1164	-0.5084	-0.0009
78	SLD 14	-11.69	-0.36	36.8	0.1164	-0.5084	-0.0009
78	SLD 15	-10.48	-0.27	33.56	0.2513	-0.4578	-0.0005
78	SLD 16	-10.48	-0.27	33.56	0.2513	-0.4578	-0.0005
78	SLV 1	13.81	-0.25	34.99	-0.1554	0.6165	-0.0019
78	SLV 2	13.81	-0.25	34.99	-0.1554	0.6165	-0.0019
78	SLV 3	16.73	-0.04	27.36	0.1887	0.7383	-0.0007
78	SLV 4	16.73	-0.04	27.36	0.1887	0.7383	-0.0007
78	SLV 5	-2.53	-0.59	45.87	-0.4738	-0.095	-0.0029
78	SLV 6	-2.53	-0.59	45.87	-0.4738	-0.095	-0.0029
78	SLV 7	7.21	0.13	20.44	0.6731	0.3112	0.0009
78	SLV 8	7.21	0.13	20.44	0.6731	0.3112	0.0009
78	SLV 9	-13.61	-0.67	47.56	-0.4027	-0.5829	-0.0027
78	SLV 10	-13.61	-0.67	47.56	-0.4027	-0.5829	-0.0027
78	SLV 11	-3.87	0.06	22.14	0.7442	-0.1767	0.0012
78	SLV 12	-3.87	0.06	22.14	0.7442	-0.1767	0.0012
78	SLV 13	-23.13	-0.5	40.65	0.0817	-1.01	-0.001
78	SLV 14	-23.13	-0.5	40.65	0.0817	-1.01	-0.001
78	SLV 15	-20.21	-0.28	33.02	0.4257	-0.8881	0.0001
78	SLV 16	-20.21	-0.28	33.02	0.4257	-0.8881	0.0001
79	SLU 1	-3.36	-0.29	29.32	0.1488	-0.122	-0.0012
79	SLU 2	-4.76	-0.22	28.7	0.0167	-0.1806	-0.0008
79	SLU 3	-3.51	-0.3	29.81	0.1538	-0.1278	-0.0013
79	SLU 4	-4.35	-0.26	29.44	0.0746	-0.163	-0.001
79	SLU 5	-4.87	-0.23	29	0.0201	-0.1851	-0.0008
79	SLU 6	-3.62	-0.31	30.11	0.1572	-0.1323	-0.0013
79	SLU 7	-4.46	-0.27	29.74	0.0779	-0.1675	-0.0011
79	SLU 8	-3.58	-0.31	29.92	0.1555	-0.1309	-0.0013
79	SLU 9	-4.42	-0.26	29.55	0.0763	-0.1661	-0.001
79	SLU 10	-5.18	-0.26	32.92	0.0362	-0.1951	-0.001
79	SLU 11	-3.94	-0.34	34.03	0.1733	-0.1423	-0.0015
79	SLU 12	-4.77	-0.3	33.66	0.094	-0.1775	-0.0012
79	SLU 13	-5.3	-0.27	33.22	0.0395	-0.1995	-0.001
79	SLU 14	-4.05	-0.35	34.33	0.1766	-0.1467	-0.0015
79	SLU 15	-4.89	-0.31	33.96	0.0974	-0.1819	-0.0012
79	SLU 16	-4.01	-0.35	34.13	0.1749	-0.1453	-0.0015
79	SLU 17	-4.85	-0.3	33.76	0.0957	-0.1805	-0.0012
79	SLU 18	-3.97	-0.35	35.34	0.1766	-0.1426	-0.0015
79	SLU 19	-4.81	-0.31	34.97	0.0973	-0.1778	-0.0012
79	SLU 20	-4.08	-0.36	35.64	0.1799	-0.1471	-0.0015
79	SLU 21	-4.92	-0.31	35.27	0.1007	-0.1823	-0.0013
79	SLU 22	-3.73	-0.33	32.81	0.1673	-0.1347	-0.0014
79	SLU 23	-5.12	-0.26	32.2	0.0353	-0.1934	-0.001
79	SLU 24	-3.88	-0.34	33.31	0.1724	-0.1406	-0.0014
79	SLU 25	-4.71	-0.3	32.94	0.0931	-0.1758	-0.0012
79	SLU 26	-5.24	-0.27	32.49	0.0386	-0.1978	-0.001
79	SLU 27	-3.99	-0.35	33.6	0.1757	-0.145	-0.0015
79	SLU 28	-4.83	-0.3	33.23	0.0965	-0.1802	-0.0012
79	SLU 29	-3.95	-0.34	33.41	0.174	-0.1436	-0.0015
79	SLU 30	-4.79	-0.3	33.04	0.0948	-0.1788	-0.0012
79	SLU 31	-5.55	-0.3	36.41	0.0547	-0.2078	-0.0011
79	SLU 32	-4.3	-0.38	37.52	0.1918	-0.155	-0.0016
79	SLU 33	-5.14	-0.34	37.15	0.1125	-0.1902	-0.0014
79	SLU 34	-5.66	-0.31	36.71	0.058	-0.2123	-0.0012
79	SLU 35	-4.42	-0.39	37.82	0.1951	-0.1595	-0.0016
79	SLU 36	-5.25	-0.34	37.45	0.1159	-0.1947	-0.0014
79	SLU 37	-4.38	-0.38	37.62	0.1935	-0.1581	-0.0016
79	SLU 38	-5.22	-0.34	37.25	0.1142	-0.1933	-0.0014
79	SLU 39	-4.34	-0.39	38.83	0.1951	-0.1554	-0.0016
79	SLU 40	-5.18	-0.35	38.46	0.1158	-0.1906	-0.0014
79	SLU 41	-4.45	-0.39	39.13	0.1984	-0.1598	-0.0017
79	SLU 42	-5.29	-0.35	38.76	0.1192	-0.195	-0.0014
79	SLU 43	-4.24	-0.37	36.92	0.1871	-0.1542	-0.0016
79	SLU 44	-5.64	-0.3	36.3	0.055	-0.2129	-0.0011
79	SLU 45	-4.39	-0.38	37.41	0.1921	-0.1601	-0.0016



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
79	SLU 46	-5.23	-0.34	37.04		0.1129	-0.1953	-0.0013	
79	SLU 47	-5.75	-0.3	36.6		0.0584	-0.2173	-0.0012	
79	SLU 48	-4.5	-0.38	37.71		0.1955	-0.1645	-0.0016	
79	SLU 49	-5.34	-0.34	37.34		0.1162	-0.1997	-0.0014	
79	SLU 50	-4.47	-0.38	37.52		0.1938	-0.1631	-0.0016	
79	SLU 51	-5.3	-0.34	37.15		0.1146	-0.1983	-0.0014	
79	SLU 52	-6.06	-0.34	40.52		0.0745	-0.2273	-0.0013	
79	SLU 53	-4.82	-0.42	41.63		0.2115	-0.1745	-0.0018	
79	SLU 54	-5.65	-0.38	41.26		0.1323	-0.2097	-0.0015	
79	SLU 55	-6.18	-0.34	40.82		0.0778	-0.2318	-0.0013	
79	SLU 56	-4.93	-0.42	41.93		0.2149	-0.179	-0.0018	
79	SLU 57	-5.77	-0.38	41.56		0.1357	-0.2142	-0.0015	
79	SLU 58	-4.89	-0.42	41.73		0.2132	-0.1776	-0.0018	
79	SLU 59	-5.73	-0.38	41.36		0.134	-0.2128	-0.0015	
79	SLU 60	-4.85	-0.43	42.94		0.2149	-0.1749	-0.0018	
79	SLU 61	-5.69	-0.38	42.57		0.1356	-0.21	-0.0015	
79	SLU 62	-4.96	-0.43	43.24		0.2182	-0.1793	-0.0018	
79	SLU 63	-5.8	-0.39	42.87		0.139	-0.2145	-0.0016	
79	SLU 64	-4.61	-0.41	40.41		0.2056	-0.167	-0.0017	
79	SLU 65	-6.01	-0.34	39.8		0.0736	-0.2256	-0.0013	
79	SLU 66	-4.76	-0.42	40.91		0.2106	-0.1728	-0.0018	
79	SLU 67	-5.6	-0.37	40.54		0.1314	-0.208	-0.0015	
79	SLU 68	-6.12	-0.34	40.09		0.0769	-0.2301	-0.0013	
79	SLU 69	-4.87	-0.42	41.2		0.214	-0.1773	-0.0018	
79	SLU 70	-5.71	-0.38	40.83		0.1348	-0.2125	-0.0015	
79	SLU 71	-4.83	-0.42	41.01		0.2123	-0.1759	-0.0018	
79	SLU 72	-5.67	-0.38	40.64		0.1331	-0.211	-0.0015	
79	SLU 73	-6.43	-0.38	44.01		0.093	-0.2401	-0.0015	
79	SLU 74	-5.19	-0.46	45.12		0.2301	-0.1873	-0.0019	
79	SLU 75	-6.02	-0.41	44.75		0.1508	-0.2224	-0.0017	
79	SLU 76	-6.55	-0.38	44.31		0.0963	-0.2445	-0.0015	
79	SLU 77	-5.3	-0.46	45.42		0.2334	-0.1917	-0.002	
79	SLU 78	-6.14	-0.42	45.05		0.1542	-0.2269	-0.0017	
79	SLU 79	-5.26	-0.46	45.22		0.2318	-0.1903	-0.0019	
79	SLU 80	-6.1	-0.42	44.85		0.1525	-0.2255	-0.0017	
79	SLU 81	-5.22	-0.46	46.43		0.2334	-0.1876	-0.002	
79	SLU 82	-6.06	-0.42	46.06		0.1541	-0.2228	-0.0017	
79	SLU 83	-5.33	-0.47	46.73		0.2367	-0.1921	-0.002	
79	SLU 84	-6.17	-0.43	46.36		0.1575	-0.2272	-0.0017	
79	SLE RA 1	-3.46	-0.3	30.32		0.1541	-0.1256	-0.0013	
79	SLE RA 2	-4.39	-0.26	29.91		0.0661	-0.1647	-0.001	
79	SLE RA 3	-3.56	-0.31	30.65		0.1575	-0.1295	-0.0013	
79	SLE RA 4	-4.12	-0.28	30.4		0.1046	-0.153	-0.0011	
79	SLE RA 5	-4.47	-0.26	30.11		0.0683	-0.1677	-0.001	
79	SLE RA 6	-3.64	-0.32	30.85		0.1597	-0.1325	-0.0013	
79	SLE RA 7	-4.2	-0.29	30.6		0.1069	-0.156	-0.0012	
79	SLE RA 8	-3.61	-0.31	30.72		0.1586	-0.1316	-0.0013	
79	SLE RA 9	-4.17	-0.28	30.47		0.1057	-0.155	-0.0012	
79	SLE RA 10	-4.68	-0.28	32.72		0.079	-0.1744	-0.0011	
79	SLE RA 11	-3.85	-0.34	33.46		0.1704	-0.1392	-0.0014	
79	SLE RA 12	-4.41	-0.31	33.21		0.1176	-0.1626	-0.0013	
79	SLE RA 13	-4.76	-0.29	32.92		0.0812	-0.1773	-0.0011	
79	SLE RA 14	-3.92	-0.34	33.66		0.1726	-0.1421	-0.0014	
79	SLE RA 15	-4.48	-0.31	33.41		0.1198	-0.1656	-0.0013	
79	SLE RA 16	-3.9	-0.34	33.53		0.1715	-0.1412	-0.0014	
79	SLE RA 17	-4.46	-0.31	33.28		0.1187	-0.1647	-0.0013	
79	SLE RA 18	-3.87	-0.34	34.33		0.1726	-0.1394	-0.0014	
79	SLE RA 19	-4.43	-0.31	34.09		0.1198	-0.1628	-0.0013	
79	SLE RA 20	-3.95	-0.35	34.53		0.1748	-0.1424	-0.0015	
79	SLE RA 21	-4.5	-0.32	34.28		0.122	-0.1658	-0.0013	
79	SLE FR 1	-3.46	-0.3	30.32		0.1541	-0.1256	-0.0013	
79	SLE FR 2	-3.65	-0.3	30.24		0.1365	-0.1334	-0.0012	
79	SLE FR 3	-3.49	-0.31	30.4		0.155	-0.1268	-0.0013	
79	SLE FR 4	-3.77	-0.31	31.44		0.142	-0.1376	-0.0013	
79	SLE FR 5	-3.62	-0.32	31.6		0.1606	-0.1309	-0.0013	
79	SLE FR 6	-3.67	-0.32	32.33		0.1634	-0.1325	-0.0014	
79	SLE QP 1	-3.46	-0.3	30.32		0.1541	-0.1256	-0.0013	
79	SLE QP 2	-3.59	-0.32	31.52		0.1597	-0.1298	-0.0013	
79	SLD 1	3.62	-0.33	31.21		-0.0001	0.1831	-0.0015	
79	SLD 2	3.62	-0.33	31.21		-0.0001	0.1831	-0.0015	
79	SLD 3	4.78	-0.17	28.47		0.1928	0.2314	-0.0006	
79	SLD 4	4.78	-0.17	28.47		0.1928	0.2314	-0.0006	
79	SLD 5	-3.18	-0.56	35.59		-0.1808	-0.1092	-0.0026	
79	SLD 6	-3.18	-0.56	35.59		-0.1808	-0.1092	-0.0026	
79	SLD 7	0.68	-0.03	26.45		0.4621	0.0519	0.0001	
79	SLD 8	0.68	-0.03	26.45		0.4621	0.0519	0.0001	
79	SLD 9	-7.85	-0.6	36.6		-0.1428	-0.3114	-0.0028	
79	SLD 10	-7.85	-0.6	36.6		-0.1428	-0.3114	-0.0028	
79	SLD 11	-3.99	-0.07	27.46		0.5001	-0.1504	-0.0001	
79	SLD 12	-3.99	-0.07	27.46		0.5001	-0.1504	-0.0001	
79	SLD 13	-11.95	-0.46	34.58		0.1265	-0.491	-0.002	
79	SLD 14	-11.95	-0.46	34.58		0.1265	-0.491	-0.002	
79	SLD 15	-10.79	-0.3	31.84		0.3194	-0.4426	-0.0012	
79	SLD 16	-10.79	-0.3	31.84		0.3194	-0.4426	-0.0012	
79	SLV 1	13.28	-0.36	30.77		-0.2408	0.6022	-0.0017	
79	SLV 2	13.28	-0.36	30.77		-0.2408	0.6022	-0.0017	
79	SLV 3	16.02	0.04	24.32		0.251	0.717	0.0004	
79	SLV 4	16.02	0.04	24.32		0.251	0.717	0.0004	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
79	SLV 5	-2.69	-0.94	41.08	-0.7064	-0.0844	-0.0046	
79	SLV 6	-2.69	-0.94	41.08	-0.7064	-0.0844	-0.0046	
79	SLV 7	6.46	0.4	19.59	0.933	0.2985	0.0024	
79	SLV 8	6.46	0.4	19.59	0.933	0.2985	0.0024	
79	SLV 9	-13.64	-1.03	43.46	-0.6137	-0.558	-0.005	
79	SLV 10	-13.64	-1.03	43.46	-0.6137	-0.558	-0.005	
79	SLV 11	-4.48	0.3	21.97	1.0258	-0.1751	0.0019	
79	SLV 12	-4.48	0.3	21.97	1.0258	-0.1751	0.0019	
79	SLV 13	-23.2	-0.68	38.72	0.0683	-0.9765	-0.0031	
79	SLV 14	-23.2	-0.68	38.72	0.0683	-0.9765	-0.0031	
79	SLV 15	-20.45	-0.28	32.28	0.5601	-0.8617	-0.001	
79	SLV 16	-20.45	-0.28	32.28	0.5601	-0.8617	-0.001	
80	SLU 1	-3.85	-0.29	27.16	0.1502	-0.165	-0.0016	
80	SLU 2	-4.8	-0.18	26.4	-0.02	-0.2048	-0.0009	
80	SLU 3	-4.01	-0.3	27.62	0.1553	-0.1721	-0.0016	
80	SLU 4	-4.58	-0.23	27.16	0.0532	-0.196	-0.0012	
80	SLU 5	-4.92	-0.18	26.69	-0.0165	-0.2104	-0.0009	
80	SLU 6	-4.14	-0.31	27.91	0.1588	-0.1776	-0.0017	
80	SLU 7	-4.71	-0.24	27.45	0.0567	-0.2016	-0.0012	
80	SLU 8	-4.1	-0.3	27.74	0.1571	-0.1761	-0.0016	
80	SLU 9	-4.67	-0.24	27.29	0.055	-0.2	-0.0012	
80	SLU 10	-5.36	-0.22	30.33	-0.001	-0.2297	-0.0011	
80	SLU 11	-4.57	-0.34	31.55	0.1743	-0.1969	-0.0018	
80	SLU 12	-5.14	-0.27	31.09	0.0722	-0.2209	-0.0014	
80	SLU 13	-5.48	-0.22	30.62	0.0025	-0.2353	-0.0011	
80	SLU 14	-4.7	-0.35	31.84	0.1778	-0.2025	-0.0019	
80	SLU 15	-5.26	-0.28	31.38	0.0757	-0.2264	-0.0014	
80	SLU 16	-4.66	-0.34	31.67	0.1761	-0.201	-0.0019	
80	SLU 17	-5.23	-0.28	31.21	0.074	-0.2249	-0.0014	
80	SLU 18	-4.65	-0.35	32.77	0.1773	-0.2005	-0.0019	
80	SLU 19	-5.22	-0.28	32.31	0.0752	-0.2244	-0.0014	
80	SLU 20	-4.77	-0.35	33.06	0.1808	-0.2061	-0.0019	
80	SLU 21	-5.34	-0.29	32.6	0.0787	-0.23	-0.0015	
80	SLU 22	-4.33	-0.33	30.42	0.1685	-0.1862	-0.0018	
80	SLU 23	-5.28	-0.22	29.66	-0.0016	-0.2261	-0.0011	
80	SLU 24	-4.49	-0.34	30.88	0.1737	-0.1933	-0.0018	
80	SLU 25	-5.06	-0.27	30.42	0.0716	-0.2172	-0.0014	
80	SLU 26	-5.4	-0.22	29.95	0.0018	-0.2316	-0.0011	
80	SLU 27	-4.62	-0.34	31.17	0.1771	-0.1989	-0.0019	
80	SLU 28	-5.19	-0.28	30.71	0.075	-0.2228	-0.0014	
80	SLU 29	-4.58	-0.34	31	0.1754	-0.1973	-0.0018	
80	SLU 30	-5.15	-0.27	30.54	0.0733	-0.2212	-0.0014	
80	SLU 31	-5.84	-0.25	33.58	0.0174	-0.251	-0.0013	
80	SLU 32	-5.05	-0.38	34.8	0.1927	-0.2182	-0.002	
80	SLU 33	-5.62	-0.31	34.35	0.0906	-0.2421	-0.0016	
80	SLU 34	-5.96	-0.26	33.87	0.0208	-0.2565	-0.0013	
80	SLU 35	-5.18	-0.38	35.09	0.1961	-0.2237	-0.0021	
80	SLU 36	-5.74	-0.32	34.64	0.094	-0.2477	-0.0016	
80	SLU 37	-5.14	-0.38	34.92	0.1944	-0.2222	-0.0021	
80	SLU 38	-5.71	-0.31	34.47	0.0923	-0.2461	-0.0016	
80	SLU 39	-5.13	-0.38	36.03	0.1957	-0.2217	-0.0021	
80	SLU 40	-5.7	-0.32	35.57	0.0936	-0.2457	-0.0016	
80	SLU 41	-5.25	-0.39	36.32	0.1991	-0.2273	-0.0021	
80	SLU 42	-5.82	-0.32	35.86	0.097	-0.2512	-0.0017	
80	SLU 43	-4.84	-0.37	34.19	0.189	-0.2072	-0.002	
80	SLU 44	-5.79	-0.25	33.43	0.0188	-0.2471	-0.0013	
80	SLU 45	-5.01	-0.38	34.65	0.1941	-0.2143	-0.002	
80	SLU 46	-5.57	-0.31	34.2	0.092	-0.2382	-0.0016	
80	SLU 47	-5.91	-0.26	33.72	0.0223	-0.2526	-0.0013	
80	SLU 48	-5.13	-0.38	34.94	0.1976	-0.2198	-0.0021	
80	SLU 49	-5.7	-0.31	34.49	0.0955	-0.2438	-0.0016	
80	SLU 50	-5.09	-0.38	34.78	0.1958	-0.2183	-0.002	
80	SLU 51	-5.66	-0.31	34.32	0.0937	-0.2422	-0.0016	
80	SLU 52	-6.35	-0.29	37.36	0.0378	-0.2719	-0.0015	
80	SLU 53	-5.56	-0.42	38.58	0.2131	-0.2392	-0.0022	
80	SLU 54	-6.13	-0.35	38.12	0.111	-0.2631	-0.0018	
80	SLU 55	-6.47	-0.3	37.65	0.0412	-0.2775	-0.0015	
80	SLU 56	-5.69	-0.42	38.87	0.2165	-0.2447	-0.0023	
80	SLU 57	-6.26	-0.35	38.41	0.1144	-0.2687	-0.0019	
80	SLU 58	-5.65	-0.42	38.7	0.2148	-0.2432	-0.0023	
80	SLU 59	-6.22	-0.35	38.24	0.1127	-0.2671	-0.0018	
80	SLU 60	-5.64	-0.42	39.8	0.2161	-0.2427	-0.0023	
80	SLU 61	-6.21	-0.35	39.35	0.114	-0.2666	-0.0019	
80	SLU 62	-5.77	-0.43	40.09	0.2196	-0.2483	-0.0023	
80	SLU 63	-6.33	-0.36	39.64	0.1175	-0.2722	-0.0019	
80	SLU 64	-5.32	-0.4	37.45	0.2073	-0.2284	-0.0022	
80	SLU 65	-6.27	-0.29	36.69	0.0371	-0.2683	-0.0015	
80	SLU 66	-5.49	-0.41	37.91	0.2124	-0.2355	-0.0022	
80	SLU 67	-6.05	-0.35	37.45	0.1103	-0.2594	-0.0018	
80	SLU 68	-6.39	-0.3	36.98	0.0406	-0.2738	-0.0015	
80	SLU 69	-5.61	-0.42	38.2	0.2159	-0.2411	-0.0023	
80	SLU 70	-6.18	-0.35	37.74	0.1138	-0.265	-0.0018	
80	SLU 71	-5.57	-0.42	38.03	0.2142	-0.2395	-0.0022	
80	SLU 72	-6.14	-0.35	37.57	0.1121	-0.2635	-0.0018	
80	SLU 73	-6.83	-0.33	40.61	0.0561	-0.2932	-0.0017	
80	SLU 74	-6.04	-0.45	41.84	0.2314	-0.2604	-0.0024	
80	SLU 75	-6.61	-0.38	41.38	0.1293	-0.2843	-0.002	
80	SLU 76	-6.95	-0.34	40.9	0.0596	-0.2987	-0.0017	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
80	SLU 77	-6.17	-0.46	42.13	0.2349	-0.2659	-0.0025
80	SLU 78	-6.74	-0.39	41.67	0.1328	-0.2899	-0.0021
80	SLU 79	-6.13	-0.46	41.96	0.2332	-0.2644	-0.0025
80	SLU 80	-6.7	-0.39	41.5	0.1311	-0.2883	-0.002
80	SLU 81	-6.12	-0.46	43.06	0.2345	-0.2639	-0.0025
80	SLU 82	-6.69	-0.39	42.6	0.1323	-0.2879	-0.0021
80	SLU 83	-6.25	-0.47	43.35	0.2379	-0.2695	-0.0025
80	SLU 84	-6.81	-0.4	42.89	0.1358	-0.2934	-0.0021
80	SLE RA 1	-3.99	-0.3	28.09	0.1555	-0.171	-0.0016
80	SLE RA 2	-4.62	-0.23	27.58	0.0442	-0.1976	-0.0012
80	SLE RA 3	-4.1	-0.31	28.4	0.1589	-0.1758	-0.0017
80	SLE RA 4	-4.48	-0.26	28.09	0.0908	-0.1917	-0.0014
80	SLE RA 5	-4.7	-0.23	27.78	0.0443	-0.2013	-0.0012
80	SLE RA 6	-4.18	-0.31	28.59	0.1612	-0.1795	-0.0017
80	SLE RA 7	-4.56	-0.27	28.29	0.0931	-0.1954	-0.0014
80	SLE RA 8	-4.15	-0.31	28.48	0.16	-0.1784	-0.0017
80	SLE RA 9	-4.53	-0.27	28.17	0.0919	-0.1944	-0.0014
80	SLE RA 10	-4.99	-0.25	30.2	0.0547	-0.2142	-0.0013
80	SLE RA 11	-4.47	-0.33	31.02	0.1715	-0.1924	-0.0018
80	SLE RA 12	-4.85	-0.29	30.71	0.1035	-0.2083	-0.0015
80	SLE RA 13	-5.08	-0.26	30.4	0.0569	-0.2179	-0.0013
80	SLE RA 14	-4.55	-0.34	31.21	0.1738	-0.1961	-0.0018
80	SLE RA 15	-4.93	-0.29	30.9	0.1057	-0.212	-0.0015
80	SLE RA 16	-4.53	-0.34	31.1	0.1727	-0.195	-0.0018
80	SLE RA 17	-4.91	-0.29	30.79	0.1046	-0.211	-0.0015
80	SLE RA 18	-4.52	-0.34	31.83	0.1735	-0.1947	-0.0018
80	SLE RA 19	-4.9	-0.29	31.53	0.1055	-0.2107	-0.0015
80	SLE RA 20	-4.6	-0.34	32.03	0.1758	-0.1984	-0.0019
80	SLE RA 21	-4.98	-0.3	31.72	0.1078	-0.2144	-0.0016
80	SLE FR 1	-3.99	-0.3	28.09	0.1555	-0.171	-0.0016
80	SLE FR 2	-4.12	-0.29	27.99	0.1328	-0.1763	-0.0015
80	SLE FR 3	-4.02	-0.3	28.17	0.1564	-0.1725	-0.0016
80	SLE FR 4	-4.28	-0.3	29.11	0.1382	-0.1835	-0.0016
80	SLE FR 5	-4.18	-0.32	29.29	0.1618	-0.1796	-0.0017
80	SLE FR 6	-4.26	-0.32	29.96	0.1645	-0.1829	-0.0017
80	SLE QP 1	-3.99	-0.3	28.09	0.1555	-0.171	-0.0016
80	SLE QP 2	-4.15	-0.31	29.21	0.1609	-0.1781	-0.0017
80	SLD 1	3.22	-0.34	27.98	-0.0354	0.1443	-0.0019
80	SLD 2	3.22	-0.34	27.98	-0.0354	0.1443	-0.0019
80	SLD 3	4.32	-0.13	25.54	0.2069	0.1893	-0.0006
80	SLD 4	4.32	-0.13	25.54	0.2069	0.1893	-0.0006
80	SLD 5	-3.6	-0.65	32.54	-0.2654	-0.1497	-0.0037
80	SLD 6	-3.6	-0.65	32.54	-0.2654	-0.1497	-0.0037
80	SLD 7	0.05	0.07	24.41	0.5421	0.0004	0.0006
80	SLD 8	0.05	0.07	24.41	0.5421	0.0004	0.0006
80	SLD 9	-8.35	-0.69	34.02	-0.2203	-0.3567	-0.004
80	SLD 10	-8.35	-0.69	34.02	-0.2203	-0.3567	-0.004
80	SLD 11	-4.7	0.02	25.89	0.5872	-0.2065	0.0003
80	SLD 12	-4.7	0.02	25.89	0.5872	-0.2065	0.0003
80	SLD 13	-12.61	-0.5	32.89	0.1149	-0.5456	-0.0028
80	SLD 14	-12.61	-0.5	32.89	0.1149	-0.5456	-0.0028
80	SLD 15	-11.52	-0.28	30.45	0.3572	-0.5006	-0.0015
80	SLD 16	-11.52	-0.28	30.45	0.3572	-0.5006	-0.0015
80	SLV 1	13.11	-0.4	26.34	-0.3317	0.5767	-0.0023
80	SLV 2	13.11	-0.4	26.34	-0.3317	0.5767	-0.0023
80	SLV 3	15.69	0.15	20.54	0.2861	0.683	0.001
80	SLV 4	15.69	0.15	20.54	0.2861	0.683	0.001
80	SLV 5	-2.88	-1.16	37.15	-0.9238	-0.113	-0.0068
80	SLV 6	-2.88	-1.16	37.15	-0.9238	-0.113	-0.0068
80	SLV 7	5.71	0.65	17.82	1.1354	0.2415	0.0041
80	SLV 8	5.71	0.65	17.82	1.1354	0.2415	0.0041
80	SLV 9	-14.01	-1.27	40.61	-0.8136	-0.5978	-0.0075
80	SLV 10	-14.01	-1.27	40.61	-0.8136	-0.5978	-0.0075
80	SLV 11	-5.42	0.53	21.28	1.2456	-0.2433	0.0034
80	SLV 12	-5.42	0.53	21.28	1.2456	-0.2433	0.0034
80	SLV 13	-23.99	-0.77	37.88	0.0357	-1.0393	-0.0044
80	SLV 14	-23.99	-0.77	37.88	0.0357	-1.0393	-0.0044
80	SLV 15	-21.41	-0.23	32.08	0.6535	-0.9329	-0.0011
80	SLV 16	-21.41	-0.23	32.08	0.6535	-0.9329	-0.0011
81	SLU 1	-3.7	-0.26	25.2	0.1367	-0.1403	-0.0017
81	SLU 2	-4.19	-0.11	24.55	-0.0632	-0.1635	-0.0007
81	SLU 3	-3.85	-0.27	25.62	0.1415	-0.1464	-0.0018
81	SLU 4	-4.15	-0.18	25.23	0.0216	-0.1603	-0.0012
81	SLU 5	-4.31	-0.12	24.83	-0.0599	-0.1682	-0.0007
81	SLU 6	-3.97	-0.27	25.9	0.1448	-0.1511	-0.0018
81	SLU 7	-4.26	-0.19	25.51	0.0249	-0.165	-0.0012
81	SLU 8	-3.93	-0.27	25.76	0.1432	-0.1497	-0.0018
81	SLU 9	-4.23	-0.18	25.37	0.0233	-0.1636	-0.0012
81	SLU 10	-4.75	-0.15	28.18	-0.0467	-0.1838	-0.0009
81	SLU 11	-4.41	-0.3	29.25	0.158	-0.1668	-0.002
81	SLU 12	-4.71	-0.21	28.86	0.0381	-0.1807	-0.0014
81	SLU 13	-4.87	-0.15	28.46	-0.0435	-0.1885	-0.001
81	SLU 14	-4.53	-0.31	29.53	0.1613	-0.1715	-0.002
81	SLU 15	-4.83	-0.22	29.14	0.0413	-0.1854	-0.0014
81	SLU 16	-4.49	-0.3	29.39	0.1597	-0.17	-0.002
81	SLU 17	-4.79	-0.22	29	0.0398	-0.1839	-0.0014
81	SLU 18	-4.5	-0.31	30.38	0.1602	-0.1693	-0.002
81	SLU 19	-4.8	-0.22	29.99	0.0403	-0.1832	-0.0014



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
81	SLU 20	-4.62	-0.31	30.66	0.1635	-0.174	-0.0021	
81	SLU 21	-4.91	-0.23	30.27	0.0435	-0.1879	-0.0015	
81	SLU 22	-4.18	-0.29	28.21	0.1529	-0.1582	-0.0019	
81	SLU 23	-4.68	-0.15	27.57	-0.047	-0.1814	-0.0009	
81	SLU 24	-4.34	-0.3	28.64	0.1578	-0.1644	-0.002	
81	SLU 25	-4.63	-0.21	28.25	0.0378	-0.1783	-0.0014	
81	SLU 26	-4.8	-0.15	27.85	-0.0437	-0.1861	-0.0009	
81	SLU 27	-4.45	-0.3	28.92	0.161	-0.1691	-0.002	
81	SLU 28	-4.75	-0.22	28.53	0.0411	-0.183	-0.0014	
81	SLU 29	-4.42	-0.3	28.78	0.1594	-0.1676	-0.002	
81	SLU 30	-4.71	-0.22	28.39	0.0395	-0.1815	-0.0014	
81	SLU 31	-5.24	-0.18	31.2	-0.0305	-0.2017	-0.0011	
81	SLU 32	-4.9	-0.33	32.27	0.1742	-0.1847	-0.0022	
81	SLU 33	-5.2	-0.25	31.88	0.0543	-0.1986	-0.0016	
81	SLU 34	-5.36	-0.19	31.48	-0.0272	-0.2064	-0.0012	
81	SLU 35	-5.02	-0.34	32.55	0.1775	-0.1894	-0.0023	
81	SLU 36	-5.31	-0.25	32.16	0.0575	-0.2033	-0.0016	
81	SLU 37	-4.98	-0.34	32.41	0.1759	-0.1879	-0.0022	
81	SLU 38	-5.28	-0.25	32.02	0.056	-0.2019	-0.0016	
81	SLU 39	-4.99	-0.34	33.4	0.1764	-0.1873	-0.0023	
81	SLU 40	-5.28	-0.25	33.01	0.0565	-0.2012	-0.0016	
81	SLU 41	-5.1	-0.34	33.68	0.1797	-0.192	-0.0023	
81	SLU 42	-5.4	-0.26	33.29	0.0598	-0.2059	-0.0017	
81	SLU 43	-4.64	-0.32	31.72	0.1722	-0.1762	-0.0022	
81	SLU 44	-5.14	-0.18	31.07	-0.0277	-0.1994	-0.0011	
81	SLU 45	-4.79	-0.33	32.15	0.177	-0.1824	-0.0022	
81	SLU 46	-5.09	-0.25	31.76	0.0571	-0.1963	-0.0016	
81	SLU 47	-5.25	-0.19	31.35	-0.0245	-0.2041	-0.0012	
81	SLU 48	-4.91	-0.34	32.43	0.1803	-0.1871	-0.0023	
81	SLU 49	-5.21	-0.25	32.04	0.0603	-0.201	-0.0016	
81	SLU 50	-4.87	-0.34	32.28	0.1787	-0.1856	-0.0022	
81	SLU 51	-5.17	-0.25	31.89	0.0588	-0.1995	-0.0016	
81	SLU 52	-5.7	-0.21	34.7	-0.0113	-0.2197	-0.0014	
81	SLU 53	-5.36	-0.37	35.78	0.1935	-0.2027	-0.0025	
81	SLU 54	-5.65	-0.28	35.39	0.0735	-0.2166	-0.0018	
81	SLU 55	-5.81	-0.22	34.98	-0.008	-0.2244	-0.0014	
81	SLU 56	-5.47	-0.37	36.06	0.1967	-0.2074	-0.0025	
81	SLU 57	-5.77	-0.29	35.67	0.0768	-0.2213	-0.0019	
81	SLU 58	-5.44	-0.37	35.91	0.1951	-0.2059	-0.0025	
81	SLU 59	-5.73	-0.28	35.52	0.0752	-0.2199	-0.0019	
81	SLU 60	-5.44	-0.37	36.91	0.1957	-0.2053	-0.0025	
81	SLU 61	-5.74	-0.29	36.52	0.0757	-0.2192	-0.0019	
81	SLU 62	-5.56	-0.38	37.19	0.1989	-0.21	-0.0025	
81	SLU 63	-5.86	-0.29	36.8	0.079	-0.2239	-0.0019	
81	SLU 64	-5.13	-0.36	34.74	0.1884	-0.1941	-0.0024	
81	SLU 65	-5.62	-0.21	34.09	-0.0115	-0.2173	-0.0014	
81	SLU 66	-5.28	-0.37	35.16	0.1932	-0.2003	-0.0024	
81	SLU 67	-5.58	-0.28	34.78	0.0733	-0.2142	-0.0018	
81	SLU 68	-5.74	-0.22	34.37	-0.0082	-0.222	-0.0014	
81	SLU 69	-5.4	-0.37	35.45	0.1965	-0.205	-0.0025	
81	SLU 70	-5.69	-0.28	35.06	0.0765	-0.2189	-0.0019	
81	SLU 71	-5.36	-0.37	35.3	0.1949	-0.2035	-0.0025	
81	SLU 72	-5.66	-0.28	34.91	0.075	-0.2175	-0.0018	
81	SLU 73	-6.18	-0.25	37.72	0.005	-0.2377	-0.0016	
81	SLU 74	-5.84	-0.4	38.79	0.2097	-0.2206	-0.0027	
81	SLU 75	-6.14	-0.31	38.41	0.0897	-0.2346	-0.002	
81	SLU 76	-6.3	-0.25	38	0.0082	-0.2424	-0.0016	
81	SLU 77	-5.96	-0.4	39.08	0.2129	-0.2253	-0.0027	
81	SLU 78	-6.25	-0.32	38.69	0.093	-0.2392	-0.0021	
81	SLU 79	-5.92	-0.4	38.93	0.2113	-0.2239	-0.0027	
81	SLU 80	-6.22	-0.32	38.54	0.0914	-0.2378	-0.0021	
81	SLU 81	-5.93	-0.4	39.92	0.2119	-0.2232	-0.0027	
81	SLU 82	-6.23	-0.32	39.53	0.092	-0.2371	-0.0021	
81	SLU 83	-6.05	-0.41	40.2	0.2151	-0.2279	-0.0027	
81	SLU 84	-6.34	-0.32	39.82	0.0952	-0.2418	-0.0021	
81	SLE RA 1	-3.84	-0.27	26.06	0.1413	-0.1454	-0.0018	
81	SLE RA 2	-4.17	-0.17	25.63	0.0081	-0.1609	-0.0011	
81	SLE RA 3	-3.94	-0.27	26.34	0.1446	-0.1495	-0.0018	
81	SLE RA 4	-4.14	-0.22	26.08	0.0646	-0.1588	-0.0014	
81	SLE RA 5	-4.24	-0.18	25.81	0.0103	-0.164	-0.0011	
81	SLE RA 6	-4.02	-0.28	26.53	0.1467	-0.1526	-0.0019	
81	SLE RA 7	-4.21	-0.22	26.27	0.0668	-0.1619	-0.0014	
81	SLE RA 8	-3.99	-0.27	26.43	0.1457	-0.1517	-0.0018	
81	SLE RA 9	-4.19	-0.22	26.17	0.0657	-0.1609	-0.0014	
81	SLE RA 10	-4.54	-0.19	28.05	0.0191	-0.1744	-0.0012	
81	SLE RA 11	-4.31	-0.3	28.76	0.1555	-0.1631	-0.002	
81	SLE RA 12	-4.51	-0.24	28.5	0.0756	-0.1723	-0.0016	
81	SLE RA 13	-4.62	-0.2	28.23	0.0212	-0.1776	-0.0013	
81	SLE RA 14	-4.39	-0.3	28.95	0.1577	-0.1662	-0.002	
81	SLE RA 15	-4.59	-0.24	28.69	0.0778	-0.1755	-0.0016	
81	SLE RA 16	-4.37	-0.3	28.85	0.1567	-0.1652	-0.002	
81	SLE RA 17	-4.56	-0.24	28.59	0.0767	-0.1745	-0.0016	
81	SLE RA 18	-4.37	-0.3	29.52	0.157	-0.1648	-0.002	
81	SLE RA 19	-4.57	-0.24	29.26	0.0771	-0.174	-0.0016	
81	SLE RA 20	-4.45	-0.3	29.7	0.1592	-0.1679	-0.002	
81	SLE RA 21	-4.65	-0.25	29.44	0.0792	-0.1772	-0.0016	
81	SLE FR 1	-3.84	-0.27	26.06	0.1413	-0.1454	-0.0018	
81	SLE FR 2	-3.9	-0.25	25.97	0.1147	-0.1485	-0.0017	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
81	SLE FR 3	-3.87	-0.27	26.13	0.1422	-0.1467	-0.0018
81	SLE FR 4	-4.06	-0.26	27.01	0.1194	-0.1543	-0.0017
81	SLE FR 5	-4.03	-0.28	27.17	0.1469	-0.1525	-0.0019
81	SLE FR 6	-4.11	-0.28	27.79	0.1492	-0.1551	-0.0019
81	SLE QP 1	-3.84	-0.27	26.06	0.1413	-0.1454	-0.0018
81	SLE QP 2	-4	-0.28	27.1	0.146	-0.1512	-0.0019
81	SLD 1	3.64	-0.32	25.35	-0.0761	0.1817	-0.0022
81	SLD 2	3.64	-0.32	25.35	-0.0761	0.1817	-0.0022
81	SLD 3	4.71	-0.07	22.95	0.2019	0.2266	-0.0004
81	SLD 4	4.71	-0.07	22.95	0.2019	0.2266	-0.0004
81	SLD 5	-3.33	-0.67	30.22	-0.3422	-0.1194	-0.0046
81	SLD 6	-3.33	-0.67	30.22	-0.3422	-0.1194	-0.0046
81	SLD 7	0.23	0.16	22.2	0.5844	0.0302	0.0012
81	SLD 8	0.23	0.16	22.2	0.5844	0.0302	0.0012
81	SLD 9	-8.23	-0.72	31.99	-0.2923	-0.3327	-0.0049
81	SLD 10	-8.23	-0.72	31.99	-0.2923	-0.3327	-0.0049
81	SLD 11	-4.67	0.11	23.97	0.6343	-0.183	0.0009
81	SLD 12	-4.67	0.11	23.97	0.6343	-0.183	0.0009
81	SLD 13	-12.7	-0.49	31.24	0.0902	-0.5291	-0.0033
81	SLD 14	-12.7	-0.49	31.24	0.0902	-0.5291	-0.0033
81	SLD 15	-11.63	-0.24	28.84	0.3682	-0.4842	-0.0015
81	SLD 16	-11.63	-0.24	28.84	0.3682	-0.4842	-0.0015
81	SLV 1	13.88	-0.39	23.11	-0.4121	0.6283	-0.0027
81	SLV 2	13.88	-0.39	23.11	-0.4121	0.6283	-0.0027
81	SLV 3	16.41	0.24	17.27	0.2968	0.7343	0.0017
81	SLV 4	16.41	0.24	17.27	0.2968	0.7343	0.0017
81	SLV 5	-2.47	-1.27	34.76	-1.0965	-0.0782	-0.0089
81	SLV 6	-2.47	-1.27	34.76	-1.0965	-0.0782	-0.0089
81	SLV 7	5.96	0.84	15.29	1.2664	0.2752	0.006
81	SLV 8	5.96	0.84	15.29	1.2664	0.2752	0.006
81	SLV 9	-13.95	-1.4	38.9	-0.9743	-0.5776	-0.0097
81	SLV 10	-13.95	-1.4	38.9	-0.9743	-0.5776	-0.0097
81	SLV 11	-5.53	0.72	19.43	1.3886	-0.2243	0.0052
81	SLV 12	-5.53	0.72	19.43	1.3886	-0.2243	0.0052
81	SLV 13	-24.4	-0.8	36.92	-0.0047	-1.0367	-0.0054
81	SLV 14	-24.4	-0.8	36.92	-0.0047	-1.0367	-0.0054
81	SLV 15	-21.87	-0.16	31.08	0.7042	-0.9307	-0.001
81	SLV 16	-21.87	-0.16	31.08	0.7042	-0.9307	-0.001
82	SLU 1	-3.61	-0.21	23.65	0.1176	-0.1586	-0.0017
82	SLU 2	-3.64	-0.05	23.29	-0.101	-0.1615	-0.0004
82	SLU 3	-3.76	-0.22	24.05	0.122	-0.1651	-0.0018
82	SLU 4	-3.78	-0.12	23.84	-0.0091	-0.1668	-0.001
82	SLU 5	-3.76	-0.05	23.57	-0.0979	-0.1665	-0.0004
82	SLU 6	-3.87	-0.23	24.33	0.125	-0.1701	-0.0018
82	SLU 7	-3.89	-0.13	24.12	-0.0061	-0.1718	-0.001
82	SLU 8	-3.83	-0.22	24.2	0.1236	-0.1687	-0.0018
82	SLU 9	-3.85	-0.12	23.99	-0.0075	-0.1705	-0.001
82	SLU 10	-4.25	-0.08	26.66	-0.0878	-0.189	-0.0006
82	SLU 11	-4.37	-0.25	27.42	0.1352	-0.1926	-0.002
82	SLU 12	-4.39	-0.15	27.21	0.0041	-0.1943	-0.0012
82	SLU 13	-4.37	-0.08	26.93	-0.0848	-0.1941	-0.0006
82	SLU 14	-4.48	-0.25	27.7	0.1382	-0.1976	-0.002
82	SLU 15	-4.5	-0.15	27.48	0.0071	-0.1993	-0.0012
82	SLU 16	-4.45	-0.25	27.57	0.1368	-0.1963	-0.002
82	SLU 17	-4.47	-0.15	27.35	0.0057	-0.198	-0.0012
82	SLU 18	-4.48	-0.25	28.45	0.1364	-0.1979	-0.002
82	SLU 19	-4.5	-0.15	28.24	0.0053	-0.1997	-0.0012
82	SLU 20	-4.6	-0.26	28.73	0.1395	-0.203	-0.002
82	SLU 21	-4.62	-0.16	28.52	0.0083	-0.2047	-0.0013
82	SLU 22	-4.13	-0.24	26.46	0.1311	-0.1818	-0.0019
82	SLU 23	-4.16	-0.08	26.1	-0.0875	-0.1847	-0.0006
82	SLU 24	-4.27	-0.25	26.87	0.1355	-0.1882	-0.002
82	SLU 25	-4.29	-0.15	26.65	0.0043	-0.1899	-0.0012
82	SLU 26	-4.27	-0.08	26.38	-0.0845	-0.1897	-0.0006
82	SLU 27	-4.38	-0.25	27.15	0.1385	-0.1933	-0.002
82	SLU 28	-4.4	-0.15	26.93	0.0074	-0.195	-0.0012
82	SLU 29	-4.35	-0.25	27.01	0.1371	-0.1919	-0.002
82	SLU 30	-4.37	-0.15	26.8	0.006	-0.1936	-0.0012
82	SLU 31	-4.77	-0.1	29.47	-0.0743	-0.2122	-0.0008
82	SLU 32	-4.88	-0.27	30.23	0.1487	-0.2158	-0.0022
82	SLU 33	-4.9	-0.17	30.02	0.0175	-0.2175	-0.0014
82	SLU 34	-4.88	-0.11	29.75	-0.0713	-0.2172	-0.0009
82	SLU 35	-4.99	-0.28	30.51	0.1517	-0.2208	-0.0022
82	SLU 36	-5.01	-0.18	30.3	0.0205	-0.2225	-0.0014
82	SLU 37	-4.96	-0.28	30.38	0.1503	-0.2194	-0.0022
82	SLU 38	-4.98	-0.18	30.17	0.0192	-0.2211	-0.0014
82	SLU 39	-5	-0.28	31.27	0.1499	-0.2211	-0.0022
82	SLU 40	-5.02	-0.18	31.06	0.0188	-0.2228	-0.0014
82	SLU 41	-5.11	-0.28	31.55	0.1529	-0.2262	-0.0022
82	SLU 42	-5.13	-0.18	31.33	0.0218	-0.2279	-0.0015
82	SLU 43	-4.52	-0.27	29.77	0.1483	-0.1983	-0.0021
82	SLU 44	-4.55	-0.1	29.42	-0.0703	-0.2011	-0.0008
82	SLU 45	-4.66	-0.28	30.18	0.1527	-0.2047	-0.0022
82	SLU 46	-4.68	-0.18	29.97	0.0215	-0.2064	-0.0014
82	SLU 47	-4.66	-0.11	29.69	-0.0673	-0.2062	-0.0009
82	SLU 48	-4.77	-0.28	30.46	0.1557	-0.2098	-0.0022
82	SLU 49	-4.79	-0.18	30.25	0.0246	-0.2115	-0.0015
82	SLU 50	-4.74	-0.28	30.33	0.1543	-0.2084	-0.0022





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
82	SLU 51			-4.76	-0.18	30.11	0.0232	-0.2101	-0.0014
82	SLU 52			-5.16	-0.13	32.78	-0.0571	-0.2286	-0.001
82	SLU 53			-5.27	-0.3	33.55	0.1659	-0.2322	-0.0024
82	SLU 54			-5.29	-0.2	33.33	0.0347	-0.2339	-0.0016
82	SLU 55			-5.27	-0.14	33.06	-0.0541	-0.2337	-0.0011
82	SLU 56			-5.38	-0.31	33.82	0.1689	-0.2373	-0.0024
82	SLU 57			-5.4	-0.21	33.61	0.0377	-0.239	-0.0017
82	SLU 58			-5.35	-0.3	33.69	0.1675	-0.2359	-0.0024
82	SLU 59			-5.37	-0.21	33.48	0.0364	-0.2376	-0.0016
82	SLU 60			-5.39	-0.31	34.58	0.1671	-0.2376	-0.0024
82	SLU 61			-5.41	-0.21	34.37	0.036	-0.2393	-0.0017
82	SLU 62			-5.5	-0.31	34.86	0.1701	-0.2426	-0.0025
82	SLU 63			-5.52	-0.21	34.65	0.039	-0.2444	-0.0017
82	SLU 64			-5.03	-0.29	32.59	0.1617	-0.2215	-0.0023
82	SLU 65			-5.07	-0.13	32.23	-0.0568	-0.2243	-0.001
82	SLU 66			-5.18	-0.3	33	0.1661	-0.2279	-0.0024
82	SLU 67			-5.2	-0.2	32.78	0.035	-0.2296	-0.0016
82	SLU 68			-5.18	-0.14	32.51	-0.0538	-0.2294	-0.0011
82	SLU 69			-5.29	-0.31	33.27	0.1692	-0.2329	-0.0024
82	SLU 70			-5.31	-0.21	33.06	0.038	-0.2346	-0.0017
82	SLU 71			-5.26	-0.3	33.14	0.1678	-0.2316	-0.0024
82	SLU 72			-5.28	-0.21	32.93	0.0366	-0.2333	-0.0016
82	SLU 73			-5.68	-0.16	35.6	-0.0436	-0.2518	-0.0013
82	SLU 74			-5.79	-0.33	36.36	0.1793	-0.2554	-0.0026
82	SLU 75			-5.81	-0.23	36.15	0.0482	-0.2571	-0.0018
82	SLU 76			-5.79	-0.16	35.88	-0.0406	-0.2569	-0.0013
82	SLU 77			-5.9	-0.33	36.64	0.1823	-0.2604	-0.0027
82	SLU 78			-5.92	-0.23	36.43	0.0512	-0.2622	-0.0019
82	SLU 79			-5.87	-0.33	36.51	0.181	-0.2591	-0.0026
82	SLU 80			-5.89	-0.23	36.29	0.0498	-0.2608	-0.0019
82	SLU 81			-5.91	-0.33	37.4	0.1806	-0.2608	-0.0026
82	SLU 82			-5.93	-0.23	37.18	0.0494	-0.2625	-0.0019
82	SLU 83			-6.02	-0.34	37.67	0.1836	-0.2658	-0.0027
82	SLU 84			-6.04	-0.24	37.46	0.0524	-0.2675	-0.0019
82	SLE RA 1			-3.76	-0.22	24.45	0.1214	-0.1653	-0.0018
82	SLE RA 2			-3.78	-0.11	24.21	-0.0243	-0.1672	-0.0009
82	SLE RA 3			-3.86	-0.23	24.72	0.1244	-0.1695	-0.0018
82	SLE RA 4			-3.87	-0.16	24.58	0.037	-0.1707	-0.0013
82	SLE RA 5			-3.86	-0.11	24.4	-0.0222	-0.1705	-0.0009
82	SLE RA 6			-3.93	-0.23	24.91	0.1264	-0.1729	-0.0018
82	SLE RA 7			-3.94	-0.16	24.76	0.039	-0.174	-0.0013
82	SLE RA 8			-3.91	-0.23	24.82	0.1255	-0.172	-0.0018
82	SLE RA 9			-3.92	-0.16	24.68	0.0381	-0.1731	-0.0013
82	SLE RA 10			-4.19	-0.13	26.46	-0.0155	-0.1855	-0.001
82	SLE RA 11			-4.26	-0.24	26.97	0.1332	-0.1879	-0.0019
82	SLE RA 12			-4.28	-0.18	26.82	0.0457	-0.189	-0.0014
82	SLE RA 13			-4.26	-0.13	26.64	-0.0135	-0.1889	-0.0011
82	SLE RA 14			-4.34	-0.25	27.15	0.1352	-0.1913	-0.002
82	SLE RA 15			-4.35	-0.18	27.01	0.0478	-0.1924	-0.0014
82	SLE RA 16			-4.32	-0.24	27.06	0.1343	-0.1903	-0.0019
82	SLE RA 17			-4.33	-0.18	26.92	0.0468	-0.1915	-0.0014
82	SLE RA 18			-4.34	-0.25	27.66	0.134	-0.1915	-0.002
82	SLE RA 19			-4.35	-0.18	27.51	0.0466	-0.1926	-0.0014
82	SLE RA 20			-4.42	-0.25	27.84	0.136	-0.1948	-0.002
82	SLE RA 21			-4.43	-0.18	27.7	0.0486	-0.196	-0.0015
82	SLE FR 1			-3.76	-0.22	24.45	0.1214	-0.1653	-0.0018
82	SLE FR 2			-3.76	-0.2	24.4	0.0923	-0.1656	-0.0016
82	SLE FR 3			-3.79	-0.22	24.52	0.1222	-0.1666	-0.0018
82	SLE FR 4			-3.94	-0.21	25.36	0.0961	-0.1735	-0.0016
82	SLE FR 5			-3.96	-0.23	25.49	0.126	-0.1745	-0.0018
82	SLE FR 6			-4.05	-0.23	26.05	0.1277	-0.1784	-0.0019
82	SLE OP 1			-3.76	-0.22	24.45	0.1214	-0.1653	-0.0018
82	SLE OP 2			-3.93	-0.23	25.41	0.1252	-0.1731	-0.0018
82	SLD 1			3.92	-0.28	23.63	-0.1112	0.1646	-0.0022
82	SLD 2			3.92	-0.28	23.63	-0.1112	0.1646	-0.0022
82	SLD 3			4.94	-0.01	21.06	0.1866	0.2061	-0.0001
82	SLD 4			4.94	-0.01	21.06	0.1866	0.2061	-0.0001
82	SLD 5			-3.13	-0.65	28.76	-0.3974	-0.1347	-0.0051
82	SLD 6			-3.13	-0.65	28.76	-0.3974	-0.1347	-0.0051
82	SLD 7			0.28	0.24	20.22	0.5953	0.0036	0.0019
82	SLD 8			0.28	0.24	20.22	0.5953	0.0036	0.0019
82	SLD 9			-8.15	-0.7	30.6	-0.3449	-0.3498	-0.0055
82	SLD 10			-8.15	-0.7	30.6	-0.3449	-0.3498	-0.0055
82	SLD 11			-4.73	0.19	22.06	0.6478	-0.2115	0.0015
82	SLD 12			-4.73	0.19	22.06	0.6478	-0.2115	0.0015
82	SLD 13			-12.81	-0.45	29.76	0.0638	-0.5523	-0.0035
82	SLD 14			-12.81	-0.45	29.76	0.0638	-0.5523	-0.0035
82	SLD 15			-11.78	-0.18	27.2	0.3616	-0.5108	-0.0014
82	SLD 16			-11.78	-0.18	27.2	0.3616	-0.5108	-0.0014
82	SLV 1			14.43	-0.36	21.39	-0.4695	0.6173	-0.0029
82	SLV 2			14.43	-0.36	21.39	-0.4695	0.6173	-0.0029
82	SLV 3			16.88	0.32	15.06	0.2901	0.7159	0.0025
82	SLV 4			16.88	0.32	15.06	0.2901	0.7159	0.0025
82	SLV 5			-2.13	-1.29	33.81	-1.2052	-0.0854	-0.0102
82	SLV 6			-2.13	-1.29	33.81	-1.2052	-0.0854	-0.0102
82	SLV 7			6.01	0.96	12.71	1.3267	0.243	0.0076
82	SLV 8			6.01	0.96	12.71	1.3267	0.243	0.0076
82	SLV 9			-13.88	-1.42	38.12	-1.0763	-0.5893	-0.0112



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
82	SLV 10	-13.88	-1.42	38.12	-1.0763	-0.5893	-0.0112		
82	SLV 11	-5.74	0.84	17.02	1.4557	-0.2608	0.0066		
82	SLV 12	-5.74	0.84	17.02	1.4557	-0.2608	0.0066		
82	SLV 13	-24.74	-0.78	35.76	-0.0397	-1.0621	-0.0061		
82	SLV 14	-24.74	-0.78	35.76	-0.0397	-1.0621	-0.0061		
82	SLV 15	-22.3	-0.1	29.43	0.7199	-0.9636	-0.0008		
82	SLV 16	-22.3	-0.1	29.43	0.7199	-0.9636	-0.0008		
83	SLU 1	-2.7	-0.18	22.79	0.102	-0.1038	-0.0017		
83	SLU 2	-2.36	-0.01	22.79	-0.1227	-0.0921	-0.0002		
83	SLU 3	-2.81	-0.19	23.2	0.1061	-0.1083	-0.0017		
83	SLU 4	-2.6	-0.08	23.2	-0.0287	-0.1013	-0.0008		
83	SLU 5	-2.45	-0.01	23.08	-0.1198	-0.0957	-0.0002		
83	SLU 6	-2.89	-0.19	23.48	0.109	-0.1119	-0.0018		
83	SLU 7	-2.69	-0.09	23.49	-0.0258	-0.1049	-0.0009		
83	SLU 8	-2.87	-0.19	23.36	0.1078	-0.111	-0.0017		
83	SLU 9	-2.67	-0.08	23.36	-0.027	-0.1039	-0.0009		
83	SLU 10	-2.85	-0.03	25.97	-0.1122	-0.11	-0.0004		
83	SLU 11	-3.3	-0.21	26.38	0.1167	-0.1262	-0.0019		
83	SLU 12	-3.09	-0.1	26.38	-0.0181	-0.1192	-0.001		
83	SLU 13	-2.94	-0.03	26.26	-0.1093	-0.1136	-0.0004		
83	SLU 14	-3.38	-0.21	26.66	0.1196	-0.1298	-0.002		
83	SLU 15	-3.18	-0.11	26.67	-0.0153	-0.1228	-0.0011		
83	SLU 16	-3.36	-0.21	26.54	0.1183	-0.1289	-0.0019		
83	SLU 17	-3.16	-0.1	26.54	-0.0165	-0.1219	-0.001		
83	SLU 18	-3.4	-0.21	27.33	0.1171	-0.1293	-0.0019		
83	SLU 19	-3.19	-0.1	27.33	-0.0178	-0.1223	-0.001		
83	SLU 20	-3.48	-0.21	27.62	0.12	-0.1329	-0.002		
83	SLU 21	-3.28	-0.11	27.62	-0.0149	-0.1259	-0.0011		
83	SLU 22	-3.1	-0.2	25.48	0.1133	-0.1189	-0.0019		
83	SLU 23	-2.76	-0.03	25.49	-0.1114	-0.1071	-0.0004		
83	SLU 24	-3.21	-0.21	25.89	0.1175	-0.1234	-0.0019		
83	SLU 25	-3.01	-0.1	25.89	-0.0174	-0.1164	-0.001		
83	SLU 26	-2.85	-0.03	25.77	-0.1085	-0.1108	-0.0004		
83	SLU 27	-3.3	-0.21	26.17	0.1204	-0.127	-0.002		
83	SLU 28	-3.09	-0.11	26.18	-0.0145	-0.12	-0.0011		
83	SLU 29	-3.27	-0.21	26.05	0.1191	-0.1261	-0.0019		
83	SLU 30	-3.07	-0.11	26.05	-0.0157	-0.119	-0.0011		
83	SLU 31	-3.25	-0.05	28.67	-0.1008	-0.1251	-0.0006		
83	SLU 32	-3.7	-0.23	29.07	0.128	-0.1413	-0.0021		
83	SLU 33	-3.5	-0.12	29.07	-0.0068	-0.1343	-0.0012		
83	SLU 34	-3.34	-0.05	28.95	-0.0979	-0.1287	-0.0006		
83	SLU 35	-3.79	-0.23	29.35	0.1309	-0.1449	-0.0022		
83	SLU 36	-3.58	-0.13	29.36	-0.0039	-0.1379	-0.0013		
83	SLU 37	-3.76	-0.23	29.23	0.1297	-0.144	-0.0021		
83	SLU 38	-3.56	-0.13	29.23	-0.0052	-0.1369	-0.0012		
83	SLU 39	-3.8	-0.23	30.02	0.1284	-0.1444	-0.0021		
83	SLU 40	-3.6	-0.13	30.03	-0.0064	-0.1374	-0.0012		
83	SLU 41	-3.89	-0.23	30.31	0.1313	-0.148	-0.0022		
83	SLU 42	-3.68	-0.13	30.31	-0.0035	-0.141	-0.0013		
83	SLU 43	-3.37	-0.22	28.7	0.1287	-0.1297	-0.0021		
83	SLU 44	-3.03	-0.05	28.71	-0.096	-0.118	-0.0006		
83	SLU 45	-3.48	-0.23	29.11	0.1329	-0.1343	-0.0021		
83	SLU 46	-3.27	-0.13	29.12	-0.002	-0.1273	-0.0013		
83	SLU 47	-3.12	-0.06	28.99	-0.0931	-0.1216	-0.0006		
83	SLU 48	-3.56	-0.24	29.4	0.1358	-0.1379	-0.0022		
83	SLU 49	-3.36	-0.13	29.4	0.0009	-0.1309	-0.0013		
83	SLU 50	-3.54	-0.23	29.27	0.1345	-0.1369	-0.0022		
83	SLU 51	-3.34	-0.13	29.28	-0.0003	-0.1299	-0.0013		
83	SLU 52	-3.52	-0.07	31.89	-0.0854	-0.1359	-0.0008		
83	SLU 53	-3.97	-0.25	32.29	0.1434	-0.1522	-0.0023		
83	SLU 54	-3.76	-0.15	32.3	0.0086	-0.1452	-0.0014		
83	SLU 55	-3.61	-0.08	32.17	-0.0825	-0.1395	-0.0008		
83	SLU 56	-4.05	-0.26	32.58	0.1463	-0.1558	-0.0024		
83	SLU 57	-3.85	-0.15	32.58	0.0115	-0.1488	-0.0015		
83	SLU 58	-4.03	-0.25	32.45	0.1451	-0.1548	-0.0024		
83	SLU 59	-3.83	-0.15	32.46	0.0102	-0.1478	-0.0015		
83	SLU 60	-4.07	-0.25	33.25	0.1438	-0.1553	-0.0024		
83	SLU 61	-3.86	-0.15	33.25	0.009	-0.1483	-0.0015		
83	SLU 62	-4.15	-0.26	33.53	0.1467	-0.1589	-0.0024		
83	SLU 63	-3.95	-0.16	33.53	0.0119	-0.1519	-0.0015		
83	SLU 64	-3.77	-0.25	31.4	0.1401	-0.1448	-0.0023		
83	SLU 65	-3.43	-0.07	31.4	-0.0847	-0.1331	-0.0008		
83	SLU 66	-3.88	-0.25	31.8	0.1442	-0.1494	-0.0023		
83	SLU 67	-3.68	-0.15	31.81	0.0094	-0.1423	-0.0015		
83	SLU 68	-3.52	-0.08	31.68	-0.0818	-0.1367	-0.0008		
83	SLU 69	-3.97	-0.26	32.09	0.1471	-0.153	-0.0024		
83	SLU 70	-3.76	-0.15	32.09	0.0123	-0.1459	-0.0015		
83	SLU 71	-3.94	-0.25	31.96	0.1459	-0.152	-0.0024		
83	SLU 72	-3.74	-0.15	31.97	0.011	-0.145	-0.0015		
83	SLU 73	-3.92	-0.09	34.58	-0.0741	-0.151	-0.001		
83	SLU 74	-4.37	-0.27	34.98	0.1547	-0.1673	-0.0025		
83	SLU 75	-4.17	-0.17	34.99	0.0199	-0.1603	-0.0016		
83	SLU 76	-4.01	-0.1	34.86	-0.0712	-0.1546	-0.001		
83	SLU 77	-4.46	-0.28	35.27	0.1576	-0.1709	-0.0026		
83	SLU 78	-4.25	-0.17	35.27	0.0228	-0.1639	-0.0017		
83	SLU 79	-4.43	-0.28	35.14	0.1564	-0.1699	-0.0026		
83	SLU 80	-4.23	-0.17	35.15	0.0216	-0.1629	-0.0017		
83	SLU 81	-4.47	-0.28	35.94	0.1551	-0.1704	-0.0026		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
83	SLU 82	-4.27	-0.17	35.94	0.0203	-0.1634	-0.0017	
83	SLU 83	-4.56	-0.28	36.22	0.158	-0.174	-0.0026	
83	SLU 84	-4.35	-0.18	36.22	0.0232	-0.167	-0.0017	
83	SLE RA 1	-2.81	-0.18	23.56	0.1053	-0.1081	-0.0017	
83	SLE RA 2	-2.59	-0.07	23.56	-0.0446	-0.1003	-0.0007	
83	SLE RA 3	-2.88	-0.19	23.83	0.108	-0.1111	-0.0018	
83	SLE RA 4	-2.75	-0.12	23.83	0.0181	-0.1064	-0.0012	
83	SLE RA 5	-2.65	-0.07	23.75	-0.0426	-0.1027	-0.0008	
83	SLE RA 6	-2.94	-0.19	24.02	0.1099	-0.1135	-0.0018	
83	SLE RA 7	-2.81	-0.12	24.02	0.02	-0.1088	-0.0012	
83	SLE RA 8	-2.93	-0.19	23.94	0.1091	-0.1129	-0.0018	
83	SLE RA 9	-2.79	-0.12	23.94	0.0192	-0.1082	-0.0012	
83	SLE RA 10	-2.91	-0.08	25.68	-0.0375	-0.1122	-0.0009	
83	SLE RA 11	-3.21	-0.2	25.95	0.115	-0.1231	-0.0019	
83	SLE RA 12	-3.08	-0.13	25.95	0.0251	-0.1184	-0.0013	
83	SLE RA 13	-2.97	-0.09	25.87	-0.0356	-0.1146	-0.0009	
83	SLE RA 14	-3.27	-0.21	26.14	0.117	-0.1255	-0.0019	
83	SLE RA 15	-3.13	-0.14	26.14	0.0271	-0.1208	-0.0013	
83	SLE RA 16	-3.25	-0.2	26.06	0.1161	-0.1248	-0.0019	
83	SLE RA 17	-3.12	-0.14	26.06	0.0263	-0.1201	-0.0013	
83	SLE RA 18	-3.28	-0.2	26.59	0.1153	-0.1251	-0.0019	
83	SLE RA 19	-3.14	-0.14	26.59	0.0254	-0.1204	-0.0013	
83	SLE RA 20	-3.34	-0.21	26.78	0.1172	-0.1275	-0.0019	
83	SLE RA 21	-3.2	-0.14	26.78	0.0273	-0.1229	-0.0013	
83	SLE FR 1	-2.81	-0.18	23.56	0.1053	-0.1081	-0.0017	
83	SLE FR 2	-2.77	-0.16	23.56	0.0753	-0.1065	-0.0015	
83	SLE FR 3	-2.83	-0.19	23.64	0.106	-0.109	-0.0017	
83	SLE FR 4	-2.91	-0.17	24.47	0.0783	-0.1116	-0.0016	
83	SLE FR 5	-2.97	-0.19	24.54	0.109	-0.1142	-0.0018	
83	SLE FR 6	-3.04	-0.19	25.07	0.1103	-0.1166	-0.0018	
83	SLE QP 1	-2.81	-0.18	23.56	0.1053	-0.1081	-0.0017	
83	SLE QP 2	-2.95	-0.19	24.47	0.1083	-0.1132	-0.0018	
83	SLD 1	5.02	0.03	23	-0.1316	0.2316	0.0002	
83	SLD 2	5.02	0.03	23	-0.1316	0.2316	0.0002	
83	SLD 3	6.04	-0.24	20.23	0.1698	0.2759	-0.0022	
83	SLD 4	6.04	-0.24	20.23	0.1698	0.2759	-0.0022	
83	SLD 5	-2.1	0.28	28.24	-0.4209	-0.0769	0.0023	
83	SLD 6	-2.1	0.28	28.24	-0.4209	-0.0769	0.0023	
83	SLD 7	1.29	-0.61	18.98	0.5839	0.0707	-0.0054	
83	SLD 8	1.29	-0.61	18.98	0.5839	0.0707	-0.0054	
83	SLD 9	-7.19	0.23	29.95	-0.3674	-0.2971	0.0019	
83	SLD 10	-7.19	0.23	29.95	-0.3674	-0.2971	0.0019	
83	SLD 11	-3.8	-0.66	20.69	0.6374	-0.1495	-0.0059	
83	SLD 12	-3.8	-0.66	20.69	0.6374	-0.1495	-0.0059	
83	SLD 13	-11.94	-0.14	28.71	0.0467	-0.5023	-0.0014	
83	SLD 14	-11.94	-0.14	28.71	0.0467	-0.5023	-0.0014	
83	SLD 15	-10.93	-0.41	25.93	0.3481	-0.458	-0.0037	
83	SLD 16	-10.93	-0.41	25.93	0.3481	-0.458	-0.0037	
83	SLV 1	15.69	0.36	21.24	-0.4956	0.6928	0.0031	
83	SLV 2	15.69	0.36	21.24	-0.4956	0.6928	0.0031	
83	SLV 3	18.15	-0.32	14.32	0.2735	0.7999	-0.0029	
83	SLV 4	18.15	-0.32	14.32	0.2735	0.7999	-0.0029	
83	SLV 5	-1.08	1.01	33.99	-1.2393	-0.0338	0.0086	
83	SLV 6	-1.08	1.01	33.99	-1.2393	-0.0338	0.0086	
83	SLV 7	7.1	-1.26	10.93	1.3242	0.3231	-0.0111	
83	SLV 8	7.1	-1.26	10.93	1.3242	0.3231	-0.0111	
83	SLV 9	-13.01	0.88	38.01	-1.1077	-0.5495	0.0075	
83	SLV 10	-13.01	0.88	38.01	-1.1077	-0.5495	0.0075	
83	SLV 11	-4.82	-1.39	14.94	1.4558	-0.1926	-0.0122	
83	SLV 12	-4.82	-1.39	14.94	1.4558	-0.1926	-0.0122	
83	SLV 13	-24.05	-0.06	34.61	-0.057	-1.0263	-0.0007	
83	SLV 14	-24.05	-0.06	34.61	-0.057	-1.0263	-0.0007	
83	SLV 15	-21.59	-0.74	27.7	0.7121	-0.9192	-0.0066	
83	SLV 16	-21.59	-0.74	27.7	0.7121	-0.9192	-0.0066	
84	SLU 1	-1.7	-0.17	23.29	0.0956	-0.0871	-0.0016	
84	SLU 2	-1.04	0	23.59	-0.122	-0.0599	-0.0002	
84	SLU 3	-1.76	-0.18	23.74	0.0997	-0.0904	-0.0017	
84	SLU 4	-1.37	-0.08	23.92	-0.0308	-0.0741	-0.0008	
84	SLU 5	-1.09	-0.01	23.91	-0.1191	-0.0628	-0.0002	
84	SLU 6	-1.82	-0.18	24.07	0.1027	-0.0932	-0.0017	
84	SLU 7	-1.42	-0.08	24.25	-0.0279	-0.0769	-0.0009	
84	SLU 8	-1.81	-0.18	23.93	0.1015	-0.0927	-0.0017	
84	SLU 9	-1.41	-0.08	24.11	-0.0291	-0.0764	-0.0008	
84	SLU 10	-1.43	-0.02	26.78	-0.1127	-0.0793	-0.0004	
84	SLU 11	-2.16	-0.19	26.93	0.1091	-0.1097	-0.0019	
84	SLU 12	-1.76	-0.09	27.11	-0.0215	-0.0934	-0.001	
84	SLU 13	-1.48	-0.03	27.1	-0.1097	-0.0821	-0.0004	
84	SLU 14	-2.21	-0.2	27.25	0.1121	-0.1125	-0.0019	
84	SLU 15	-1.81	-0.1	27.43	-0.0185	-0.0963	-0.001	
84	SLU 16	-2.2	-0.2	27.12	0.1109	-0.112	-0.0019	
84	SLU 17	-1.8	-0.1	27.3	-0.0197	-0.0958	-0.001	
84	SLU 18	-2.26	-0.2	27.84	0.109	-0.1147	-0.0019	
84	SLU 19	-1.86	-0.1	28.02	-0.0216	-0.0984	-0.001	
84	SLU 20	-2.31	-0.2	28.17	0.1119	-0.1175	-0.0019	
84	SLU 21	-1.91	-0.1	28.35	-0.0186	-0.1012	-0.0011	
84	SLU 22	-1.99	-0.19	26.04	0.1062	-0.1018	-0.0018	
84	SLU 23	-1.33	-0.02	26.34	-0.1115	-0.0747	-0.0004	
84	SLU 24	-2.05	-0.2	26.5	0.1103	-0.1051	-0.0019	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
84	SLU 25			-1.66	-0.1	26.68	-0.0203	-0.0888	-0.001
84	SLU 26			-1.38	-0.03	26.67	-0.1085	-0.0775	-0.0004
84	SLU 27			-2.11	-0.2	26.82	0.1133	-0.1079	-0.0019
84	SLU 28			-1.71	-0.1	27	-0.0173	-0.0917	-0.0011
84	SLU 29			-2.1	-0.2	26.69	0.1121	-0.1074	-0.0019
84	SLU 30			-1.7	-0.1	26.87	-0.0185	-0.0912	-0.001
84	SLU 31			-1.72	-0.04	29.53	-0.1021	-0.094	-0.0006
84	SLU 32			-2.44	-0.21	29.69	0.1197	-0.1245	-0.0021
84	SLU 33			-2.05	-0.11	29.87	-0.0109	-0.1082	-0.0012
84	SLU 34			-1.77	-0.05	29.85	-0.0991	-0.0968	-0.0006
84	SLU 35			-2.5	-0.22	30.01	0.1226	-0.1273	-0.0021
84	SLU 36			-2.1	-0.12	30.19	-0.0079	-0.111	-0.0012
84	SLU 37			-2.49	-0.22	29.88	0.1215	-0.1268	-0.0021
84	SLU 38			-2.09	-0.12	30.06	-0.0091	-0.1105	-0.0012
84	SLU 39			-2.55	-0.22	30.6	0.1196	-0.1294	-0.0021
84	SLU 40			-2.15	-0.12	30.78	-0.011	-0.1132	-0.0012
84	SLU 41			-2.6	-0.22	30.92	0.1225	-0.1323	-0.0021
84	SLU 42			-2.2	-0.12	31.1	-0.0081	-0.116	-0.0013
84	SLU 43			-2.11	-0.21	29.33	0.1207	-0.1081	-0.002
84	SLU 44			-1.45	-0.05	29.63	-0.097	-0.081	-0.0006
84	SLU 45			-2.18	-0.22	29.78	0.1248	-0.1114	-0.0021
84	SLU 46			-1.78	-0.12	29.96	-0.0058	-0.0952	-0.0012
84	SLU 47			-1.5	-0.05	29.95	-0.094	-0.0838	-0.0006
84	SLU 48			-2.23	-0.22	30.11	0.1277	-0.1142	-0.0021
84	SLU 49			-1.83	-0.12	30.29	-0.0028	-0.098	-0.0013
84	SLU 50			-2.22	-0.22	29.97	0.1266	-0.1137	-0.0021
84	SLU 51			-1.82	-0.12	30.15	-0.004	-0.0975	-0.0013
84	SLU 52			-1.84	-0.06	32.82	-0.0876	-0.1003	-0.0008
84	SLU 53			-2.57	-0.24	32.97	0.1342	-0.1308	-0.0023
84	SLU 54			-2.17	-0.14	33.15	0.0036	-0.1145	-0.0014
84	SLU 55			-1.89	-0.07	33.14	-0.0846	-0.1032	-0.0008
84	SLU 56			-2.62	-0.24	33.3	0.1371	-0.1336	-0.0023
84	SLU 57			-2.22	-0.14	33.48	0.0065	-0.1173	-0.0015
84	SLU 58			-2.61	-0.24	33.16	0.1359	-0.1331	-0.0023
84	SLU 59			-2.21	-0.14	33.34	0.0054	-0.1168	-0.0014
84	SLU 60			-2.67	-0.24	33.88	0.134	-0.1358	-0.0023
84	SLU 61			-2.27	-0.14	34.06	0.0035	-0.1195	-0.0014
84	SLU 62			-2.72	-0.24	34.21	0.137	-0.1386	-0.0023
84	SLU 63			-2.33	-0.14	34.39	0.0064	-0.1223	-0.0015
84	SLU 64			-2.4	-0.23	32.08	0.1312	-0.1229	-0.0022
84	SLU 65			-1.74	-0.07	32.38	-0.0864	-0.0957	-0.0008
84	SLU 66			-2.46	-0.24	32.54	0.1354	-0.1262	-0.0023
84	SLU 67			-2.07	-0.14	32.72	0.0048	-0.1099	-0.0014
84	SLU 68			-1.79	-0.07	32.71	-0.0834	-0.0986	-0.0008
84	SLU 69			-2.52	-0.24	32.86	0.1383	-0.129	-0.0023
84	SLU 70			-2.12	-0.14	33.04	0.0077	-0.1127	-0.0015
84	SLU 71			-2.51	-0.24	32.73	0.1371	-0.1285	-0.0023
84	SLU 72			-2.11	-0.14	32.91	0.0066	-0.1122	-0.0015
84	SLU 73			-2.13	-0.08	35.57	-0.077	-0.1151	-0.001
84	SLU 74			-2.86	-0.26	35.73	0.1447	-0.1455	-0.0025
84	SLU 75			-2.46	-0.16	35.91	0.0142	-0.1293	-0.0016
84	SLU 76			-2.18	-0.09	35.9	-0.0741	-0.1179	-0.001
84	SLU 77			-2.91	-0.26	36.05	0.1477	-0.1483	-0.0025
84	SLU 78			-2.51	-0.16	36.23	0.0171	-0.1321	-0.0017
84	SLU 79			-2.9	-0.26	35.92	0.1465	-0.1478	-0.0025
84	SLU 80			-2.5	-0.16	36.1	0.0159	-0.1316	-0.0016
84	SLU 81			-2.96	-0.26	36.64	0.1446	-0.1505	-0.0025
84	SLU 82			-2.56	-0.16	36.82	0.014	-0.1342	-0.0016
84	SLU 83			-3.01	-0.26	36.96	0.1476	-0.1533	-0.0025
84	SLU 84			-2.62	-0.16	37.14	0.017	-0.137	-0.0017
84	SLE RA 1			-1.78	-0.17	24.07	0.0986	-0.0913	-0.0017
84	SLE RA 2			-1.34	-0.06	24.27	-0.0465	-0.0732	-0.0007
84	SLE RA 3			-1.83	-0.18	24.38	0.1014	-0.0935	-0.0017
84	SLE RA 4			-1.56	-0.11	24.5	0.0143	-0.0826	-0.0011
84	SLE RA 5			-1.38	-0.07	24.49	-0.0445	-0.0751	-0.0007
84	SLE RA 6			-1.86	-0.18	24.59	0.1033	-0.0954	-0.0017
84	SLE RA 7			-1.6	-0.12	24.71	0.0163	-0.0845	-0.0012
84	SLE RA 8			-1.86	-0.18	24.5	0.1026	-0.095	-0.0017
84	SLE RA 9			-1.59	-0.11	24.62	0.0155	-0.0842	-0.0012
84	SLE RA 10			-1.6	-0.08	26.4	-0.0402	-0.0861	-0.0008
84	SLE RA 11			-2.09	-0.19	26.5	0.1076	-0.1064	-0.0018
84	SLE RA 12			-1.82	-0.12	26.62	0.0206	-0.0955	-0.0013
84	SLE RA 13			-1.64	-0.08	26.62	-0.0382	-0.088	-0.0009
84	SLE RA 14			-2.12	-0.19	26.72	0.1096	-0.1083	-0.0019
84	SLE RA 15			-1.86	-0.13	26.84	0.0225	-0.0974	-0.0013
84	SLE RA 16			-2.12	-0.19	26.63	0.1088	-0.1079	-0.0019
84	SLE RA 17			-1.85	-0.13	26.75	0.0218	-0.0971	-0.0013
84	SLE RA 18			-2.15	-0.19	27.11	0.1075	-0.1097	-0.0018
84	SLE RA 19			-1.89	-0.13	27.23	0.0205	-0.0988	-0.0013
84	SLE RA 20			-2.19	-0.2	27.33	0.1095	-0.1116	-0.0019
84	SLE RA 21			-1.93	-0.13	27.45	0.0225	-0.1007	-0.0013
84	SLE FR 1			-1.78	-0.17	24.07	0.0986	-0.0913	-0.0017
84	SLE FR 2			-1.69	-0.15	24.11	0.0696	-0.0877	-0.0015
84	SLE FR 3			-1.8	-0.18	24.16	0.0994	-0.092	-0.0017
84	SLE FR 4			-1.81	-0.16	25.02	0.0723	-0.0932	-0.0015
84	SLE FR 5			-1.91	-0.18	25.07	0.1021	-0.0975	-0.0017
84	SLE FR 6			-1.97	-0.18	25.59	0.1031	-0.1005	-0.0018
84	SLE QP 1			-1.78	-0.17	24.07	0.0986	-0.0913	-0.0017



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
84	SLE QP 2			-1.89	-0.18	24.98	0.1013	-0.0968	-0.0017
84	SLD 1			6.59	0.04	23.71	-0.1324	0.2627	0.0002
84	SLD 2			6.59	0.04	23.71	-0.1324	0.2627	0.0002
84	SLD 3			5.66	-0.22	20.78	0.1569	0.2245	-0.0021
84	SLD 4			5.66	-0.22	20.78	0.1569	0.2245	-0.0021
84	SLD 5			2.06	0.27	29.06	-0.4075	0.0691	0.0022
84	SLD 6			2.06	0.27	29.06	-0.4075	0.0691	0.0022
84	SLD 7			-1.03	-0.58	19.27	0.5567	-0.0585	-0.0052
84	SLD 8			-1.03	-0.58	19.27	0.5567	-0.0585	-0.0052
84	SLD 9			-2.75	0.22	30.7	-0.3541	-0.1351	0.0018
84	SLD 10			-2.75	0.22	30.7	-0.3541	-0.1351	0.0018
84	SLD 11			-5.85	-0.63	20.91	0.6101	-0.2627	-0.0057
84	SLD 12			-5.85	-0.63	20.91	0.6101	-0.2627	-0.0057
84	SLD 13			-9.45	-0.14	29.19	0.0457	-0.418	-0.0014
84	SLD 14			-9.45	-0.14	29.19	0.0457	-0.418	-0.0014
84	SLD 15			-10.38	-0.39	26.26	0.335	-0.4563	-0.0036
84	SLD 16			-10.38	-0.39	26.26	0.335	-0.4563	-0.0036
84	SLV 1			18.02	0.36	22.21	-0.4869	0.7473	0.003
84	SLV 2			18.02	0.36	22.21	-0.4869	0.7473	0.003
84	SLV 3			15.76	-0.29	14.91	0.2514	0.654	-0.0027
84	SLV 4			15.76	-0.29	14.91	0.2514	0.654	-0.0027
84	SLV 5			7.52	0.97	35.22	-1.1948	0.2979	0.0083
84	SLV 6			7.52	0.97	35.22	-1.1948	0.2979	0.0083
84	SLV 7			-0.04	-1.2	10.89	1.2659	-0.0131	-0.0106
84	SLV 8			-0.04	-1.2	10.89	1.2659	-0.0131	-0.0106
84	SLV 9			-3.75	0.84	39.08	-1.0633	-0.1805	0.0072
84	SLV 10			-3.75	0.84	39.08	-1.0633	-0.1805	0.0072
84	SLV 11			-11.3	-1.33	14.75	1.3974	-0.4915	-0.0118
84	SLV 12			-11.3	-1.33	14.75	1.3974	-0.4915	-0.0118
84	SLV 13			-19.54	-0.07	35.06	-0.0488	-0.8475	-0.0008
84	SLV 14			-19.54	-0.07	35.06	-0.0488	-0.8475	-0.0008
84	SLV 15			-21.81	-0.72	27.76	0.6894	-0.9408	-0.0065
84	SLV 16			-21.81	-0.72	27.76	0.6894	-0.9408	-0.0065
85	SLU 1			-0.35	-0.18	25.37	0.0968	-0.0277	-0.0015
85	SLU 2			0.66	-0.03	25.91	-0.1004	0.0157	-0.0005
85	SLU 3			-0.36	-0.19	25.94	0.1012	-0.0286	-0.0016
85	SLU 4			0.25	-0.1	26.26	-0.0172	-0.0026	-0.0009
85	SLU 5			0.64	-0.04	26.31	-0.0973	0.0147	-0.0005
85	SLU 6			-0.37	-0.2	26.34	0.1043	-0.0297	-0.0016
85	SLU 7			0.23	-0.11	26.66	-0.014	-0.0036	-0.001
85	SLU 8			-0.38	-0.19	26.18	0.1031	-0.0297	-0.0016
85	SLU 9			0.23	-0.1	26.5	-0.0152	-0.0037	-0.001
85	SLU 10			0.44	-0.05	29.32	-0.0909	0.0056	-0.0006
85	SLU 11			-0.58	-0.21	29.35	0.1107	-0.0387	-0.0017
85	SLU 12			0.03	-0.12	29.67	-0.0076	-0.0127	-0.0011
85	SLU 13			0.43	-0.06	29.72	-0.0877	0.0046	-0.0007
85	SLU 14			-0.59	-0.22	29.75	0.1139	-0.0398	-0.0018
85	SLU 15			0.02	-0.13	30.07	-0.0045	-0.0137	-0.0012
85	SLU 16			-0.6	-0.21	29.6	0.1127	-0.0398	-0.0018
85	SLU 17			0.01	-0.13	29.92	-0.0057	-0.0138	-0.0011
85	SLU 18			-0.66	-0.21	30.25	0.1105	-0.0421	-0.0017
85	SLU 19			-0.06	-0.12	30.57	-0.0079	-0.0161	-0.0011
85	SLU 20			-0.68	-0.22	30.65	0.1136	-0.0431	-0.0018
85	SLU 21			-0.07	-0.13	30.97	-0.0047	-0.0171	-0.0012
85	SLU 22			-0.47	-0.21	28.41	0.1078	-0.0339	-0.0017
85	SLU 23			0.54	-0.06	28.94	-0.0894	0.0095	-0.0006
85	SLU 24			-0.47	-0.21	28.97	0.1122	-0.0349	-0.0017
85	SLU 25			0.13	-0.12	29.29	-0.0062	-0.0089	-0.0011
85	SLU 26			0.53	-0.06	29.35	-0.0863	0.0084	-0.0007
85	SLU 27			-0.48	-0.22	29.38	0.1153	-0.0359	-0.0018
85	SLU 28			0.12	-0.13	29.7	-0.003	-0.0099	-0.0012
85	SLU 29			-0.49	-0.22	29.22	0.1141	-0.036	-0.0018
85	SLU 30			0.11	-0.13	29.54	-0.0042	-0.01	-0.0011
85	SLU 31			0.33	-0.08	32.36	-0.0798	-0.0006	-0.0008
85	SLU 32			-0.69	-0.23	32.39	0.1217	-0.045	-0.0019
85	SLU 33			-0.08	-0.14	32.71	0.0034	-0.019	-0.0013
85	SLU 34			0.31	-0.08	32.76	-0.0767	-0.0017	-0.0009
85	SLU 35			-0.7	-0.24	32.79	0.1249	-0.046	-0.002
85	SLU 36			-0.1	-0.15	33.11	0.0065	-0.02	-0.0013
85	SLU 37			-0.71	-0.24	32.63	0.1237	-0.0461	-0.0019
85	SLU 38			-0.1	-0.15	32.95	0.0053	-0.0201	-0.0013
85	SLU 39			-0.78	-0.23	33.29	0.1215	-0.0484	-0.0019
85	SLU 40			-0.17	-0.15	33.61	0.0032	-0.0223	-0.0013
85	SLU 41			-0.79	-0.24	33.69	0.1246	-0.0494	-0.002
85	SLU 42			-0.18	-0.15	34.01	0.0063	-0.0233	-0.0013
85	SLU 43			-0.42	-0.23	31.94	0.1221	-0.0338	-0.0019
85	SLU 44			0.59	-0.08	32.48	-0.0751	0.0096	-0.0008
85	SLU 45			-0.43	-0.24	32.51	0.1264	-0.0348	-0.0019
85	SLU 46			0.18	-0.15	32.83	0.0081	-0.0088	-0.0013
85	SLU 47			0.57	-0.09	32.88	-0.072	0.0085	-0.0009
85	SLU 48			-0.44	-0.24	32.91	0.1296	-0.0358	-0.002
85	SLU 49			0.17	-0.15	33.23	0.0112	-0.0098	-0.0014
85	SLU 50			-0.45	-0.24	32.75	0.1284	-0.0359	-0.002
85	SLU 51			0.16	-0.15	33.07	0.01	-0.0099	-0.0013
85	SLU 52			0.37	-0.1	35.89	-0.0656	-0.0005	-0.001
85	SLU 53			-0.65	-0.26	35.92	0.136	-0.0449	-0.0021
85	SLU 54			-0.04	-0.17	36.24	0.0177	-0.0189	-0.0015
85	SLU 55			0.36	-0.11	36.29	-0.0624	-0.0016	-0.0011



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
85	SLU 56	-0.66	-0.26	36.33	0.1391	-0.0459	-0.0022	
85	SLU 57	-0.05	-0.17	36.65	0.0208	-0.0199	-0.0015	
85	SLU 58	-0.66	-0.26	36.17	0.1379	-0.046	-0.0021	
85	SLU 59	-0.06	-0.17	36.49	0.0196	-0.02	-0.0015	
85	SLU 60	-0.73	-0.26	36.82	0.1358	-0.0483	-0.0021	
85	SLU 61	-0.13	-0.17	37.14	0.0174	-0.0222	-0.0015	
85	SLU 62	-0.74	-0.26	37.23	0.1389	-0.0493	-0.0022	
85	SLU 63	-0.14	-0.18	37.55	0.0206	-0.0233	-0.0015	
85	SLU 64	-0.53	-0.25	34.98	0.1331	-0.0401	-0.0021	
85	SLU 65	0.48	-0.1	35.51	-0.0641	0.0033	-0.001	
85	SLU 66	-0.54	-0.26	35.54	0.1375	-0.0411	-0.0021	
85	SLU 67	0.07	-0.17	35.86	0.0191	-0.015	-0.0015	
85	SLU 68	0.46	-0.11	35.92	-0.061	0.0023	-0.0011	
85	SLU 69	-0.55	-0.27	35.95	0.1406	-0.0421	-0.0022	
85	SLU 70	0.05	-0.18	36.27	0.0222	-0.0161	-0.0016	
85	SLU 71	-0.56	-0.26	35.79	0.1394	-0.0422	-0.0022	
85	SLU 72	0.05	-0.17	36.11	0.021	-0.0161	-0.0015	
85	SLU 73	0.26	-0.12	38.93	-0.0546	-0.0068	-0.0012	
85	SLU 74	-0.76	-0.28	38.96	0.147	-0.0512	-0.0023	
85	SLU 75	-0.15	-0.19	39.28	0.0287	-0.0251	-0.0017	
85	SLU 76	0.25	-0.13	39.33	-0.0514	-0.0078	-0.0012	
85	SLU 77	-0.77	-0.29	39.36	0.1502	-0.0522	-0.0023	
85	SLU 78	-0.16	-0.2	39.68	0.0318	-0.0261	-0.0017	
85	SLU 79	-0.78	-0.28	39.2	0.1489	-0.0522	-0.0023	
85	SLU 80	-0.17	-0.19	39.52	0.0306	-0.0262	-0.0017	
85	SLU 81	-0.84	-0.28	39.86	0.1468	-0.0545	-0.0023	
85	SLU 82	-0.24	-0.19	40.18	0.0284	-0.0285	-0.0017	
85	SLU 83	-0.86	-0.29	40.26	0.1499	-0.0555	-0.0024	
85	SLU 84	-0.25	-0.2	40.58	0.0316	-0.0295	-0.0017	
85	SLE RA 1	-0.39	-0.19	26.24	0.1	-0.0295	-0.0016	
85	SLE RA 2	0.29	-0.09	26.6	-0.0315	-0.0005	-0.0009	
85	SLE RA 3	-0.39	-0.19	26.62	0.1029	-0.0301	-0.0016	
85	SLE RA 4	0.01	-0.13	26.83	0.024	-0.0128	-0.0012	
85	SLE RA 5	0.28	-0.09	26.87	-0.0294	-0.0012	-0.0009	
85	SLE RA 6	-0.4	-0.2	26.89	0.105	-0.0308	-0.0016	
85	SLE RA 7	0.01	-0.14	27.1	0.0261	-0.0134	-0.0012	
85	SLE RA 8	-0.4	-0.2	26.78	0.1042	-0.0308	-0.0016	
85	SLE RA 9	0	-0.14	26.99	0.0253	-0.0135	-0.0012	
85	SLE RA 10	0.14	-0.1	28.87	-0.0251	-0.0073	-0.001	
85	SLE RA 11	-0.54	-0.21	28.89	0.1092	-0.0368	-0.0017	
85	SLE RA 12	-0.13	-0.15	29.11	0.0303	-0.0195	-0.0013	
85	SLE RA 13	0.13	-0.11	29.14	-0.0231	-0.008	-0.001	
85	SLE RA 14	-0.54	-0.21	29.16	0.1113	-0.0375	-0.0017	
85	SLE RA 15	-0.14	-0.15	29.38	0.0324	-0.0202	-0.0013	
85	SLE RA 16	-0.55	-0.21	29.06	0.1105	-0.0376	-0.0017	
85	SLE RA 17	-0.14	-0.15	29.27	0.0316	-0.0202	-0.0013	
85	SLE RA 18	-0.59	-0.21	29.49	0.1091	-0.0391	-0.0017	
85	SLE RA 19	-0.19	-0.15	29.71	0.0302	-0.0217	-0.0013	
85	SLE RA 20	-0.6	-0.21	29.76	0.1112	-0.0398	-0.0017	
85	SLE RA 21	-0.2	-0.15	29.98	0.0323	-0.0224	-0.0013	
85	SLE FR 1	-0.39	-0.19	26.24	0.1	-0.0295	-0.0016	
85	SLE FR 2	-0.25	-0.17	26.31	0.0737	-0.0237	-0.0014	
85	SLE FR 3	-0.39	-0.19	26.35	0.1008	-0.0297	-0.0016	
85	SLE FR 4	-0.31	-0.18	27.29	0.0764	-0.0266	-0.0015	
85	SLE FR 5	-0.45	-0.2	27.32	0.1035	-0.0326	-0.0016	
85	SLE FR 6	-0.49	-0.2	27.87	0.1045	-0.0343	-0.0016	
85	SLE QP 1	-0.39	-0.19	26.24	0.1	-0.0295	-0.0016	
85	SLE QP 2	-0.45	-0.19	27.22	0.1027	-0.0324	-0.0016	
85	SLD 1	7.43	-0.22	25.51	-0.1153	0.3177	-0.0018	
85	SLD 2	7.43	-0.22	25.51	-0.1153	0.3177	-0.0018	
85	SLD 3	6.46	0.01	22.43	0.1463	0.2726	-0.0001	
85	SLD 4	6.46	0.01	22.43	0.1463	0.2726	-0.0001	
85	SLD 5	3.38	-0.55	31.38	-0.3594	0.1411	-0.0042	
85	SLD 6	3.38	-0.55	31.38	-0.3594	0.1411	-0.0042	
85	SLD 7	0.16	0.22	21.11	0.5125	-0.0093	0.0014	
85	SLD 8	0.16	0.22	21.11	0.5125	-0.0093	0.0014	
85	SLD 9	-1.05	-0.61	33.33	-0.3071	-0.0554	-0.0046	
85	SLD 10	-1.05	-0.61	33.33	-0.3071	-0.0554	-0.0046	
85	SLD 11	-4.28	0.16	23.05	0.5649	-0.2058	0.001	
85	SLD 12	-4.28	0.16	23.05	0.5649	-0.2058	0.001	
85	SLD 13	-7.36	-0.4	32	0.0591	-0.3373	-0.0031	
85	SLD 14	-7.36	-0.4	32	0.0591	-0.3373	-0.0031	
85	SLD 15	-8.33	-0.17	28.92	0.3207	-0.3824	-0.0015	
85	SLD 16	-8.33	-0.17	28.92	0.3207	-0.3824	-0.0015	
85	SLV 1	18.07	-0.26	23.39	-0.4453	0.7908	-0.0021	
85	SLV 2	18.07	-0.26	23.39	-0.4453	0.7908	-0.0021	
85	SLV 3	15.68	0.32	15.84	0.2225	0.6788	0.0022	
85	SLV 4	15.68	0.32	15.84	0.2225	0.6788	0.0022	
85	SLV 5	8.73	-1.1	37.52	-1.0745	0.3844	-0.0082	
85	SLV 6	8.73	-1.1	37.52	-1.0745	0.3844	-0.0082	
85	SLV 7	0.76	0.85	12.35	1.1515	0.0111	0.006	
85	SLV 8	0.76	0.85	12.35	1.1515	0.0111	0.006	
85	SLV 9	-1.66	-1.24	42.08	-0.9461	-0.0758	-0.0092	
85	SLV 10	-1.66	-1.24	42.08	-0.9461	-0.0758	-0.0092	
85	SLV 11	-9.63	0.71	16.92	1.2799	-0.4491	0.005	
85	SLV 12	-9.63	0.71	16.92	1.2799	-0.4491	0.005	
85	SLV 13	-16.57	-0.71	38.6	-0.0171	-0.7435	-0.0054	
85	SLV 14	-16.57	-0.71	38.6	-0.0171	-0.7435	-0.0054	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
85	SLV 15	-18.96	-0.13	31.05	0.6507	-0.8555	-0.0011
85	SLV 16	-18.96	-0.13	31.05	0.6507	-0.8555	-0.0011
86	SLU 1	0.67	-0.2	29.36	0.0968	0.0046	-0.0012
86	SLU 2	1.98	-0.08	30.09	-0.0682	0.0571	-0.0006
86	SLU 3	0.72	-0.21	30.11	0.1012	0.0057	-0.0012
86	SLU 4	1.51	-0.14	30.55	0.0022	0.0372	-0.0009
86	SLU 5	2.01	-0.09	30.63	-0.065	0.0575	-0.0006
86	SLU 6	0.75	-0.21	30.65	0.1043	0.0062	-0.0012
86	SLU 7	1.54	-0.14	31.09	0.0053	0.0377	-0.0009
86	SLU 8	0.73	-0.21	30.44	0.1031	0.0055	-0.0012
86	SLU 9	1.51	-0.14	30.88	0.0041	0.037	-0.0009
86	SLU 10	1.86	-0.1	33.99	-0.0582	0.0486	-0.0007
86	SLU 11	0.6	-0.23	34.01	0.1111	-0.0027	-0.0014
86	SLU 12	1.39	-0.16	34.45	0.0121	0.0288	-0.001
86	SLU 13	1.89	-0.11	34.53	-0.0551	0.0491	-0.0008
86	SLU 14	0.63	-0.23	34.55	0.1143	-0.0023	-0.0014
86	SLU 15	1.42	-0.16	34.99	0.0153	0.0292	-0.001
86	SLU 16	0.6	-0.23	34.34	0.113	-0.003	-0.0014
86	SLU 17	1.39	-0.16	34.78	0.0141	0.0285	-0.001
86	SLU 18	0.49	-0.23	34.94	0.111	-0.0075	-0.0014
86	SLU 19	1.28	-0.16	35.37	0.012	0.024	-0.001
86	SLU 20	0.52	-0.24	35.48	0.1141	-0.007	-0.0014
86	SLU 21	1.31	-0.17	35.91	0.0152	0.0245	-0.0011
86	SLU 22	0.68	-0.22	32.95	0.1082	0.0016	-0.0013
86	SLU 23	1.99	-0.11	33.67	-0.0568	0.0541	-0.0007
86	SLU 24	0.73	-0.23	33.7	0.1125	0.0028	-0.0014
86	SLU 25	1.52	-0.16	34.13	0.0136	0.0343	-0.001
86	SLU 26	2.02	-0.11	34.21	-0.0536	0.0546	-0.0008
86	SLU 27	0.76	-0.24	34.24	0.1157	0.0032	-0.0014
86	SLU 28	1.55	-0.17	34.67	0.0167	0.0347	-0.0011
86	SLU 29	0.73	-0.23	34.03	0.1145	0.0025	-0.0014
86	SLU 30	1.52	-0.16	34.46	0.0155	0.034	-0.001
86	SLU 31	1.87	-0.13	37.57	-0.0468	0.0457	-0.0009
86	SLU 32	0.61	-0.25	37.6	0.1225	-0.0056	-0.0015
86	SLU 33	1.4	-0.18	38.03	0.0235	0.0258	-0.0012
86	SLU 34	1.9	-0.13	38.11	-0.0437	0.0461	-0.0009
86	SLU 35	0.63	-0.26	38.14	0.1256	-0.0052	-0.0015
86	SLU 36	1.42	-0.19	38.57	0.0267	0.0263	-0.0012
86	SLU 37	0.61	-0.26	37.93	0.1244	-0.0059	-0.0015
86	SLU 38	1.4	-0.19	38.36	0.0255	0.0256	-0.0012
86	SLU 39	0.5	-0.25	38.52	0.1224	-0.0104	-0.0015
86	SLU 40	1.29	-0.18	38.95	0.0234	0.0211	-0.0012
86	SLU 41	0.53	-0.26	39.06	0.1255	-0.01	-0.0015
86	SLU 42	1.32	-0.19	39.49	0.0266	0.0215	-0.0012
86	SLU 43	0.86	-0.25	36.94	0.1219	0.007	-0.0015
86	SLU 44	2.18	-0.13	37.67	-0.043	0.0595	-0.0009
86	SLU 45	0.92	-0.26	37.69	0.1263	0.0081	-0.0015
86	SLU 46	1.71	-0.19	38.13	0.0273	0.0396	-0.0012
86	SLU 47	2.21	-0.14	38.21	-0.0399	0.0599	-0.0009
86	SLU 48	0.94	-0.26	38.23	0.1294	0.0086	-0.0015
86	SLU 49	1.73	-0.19	38.67	0.0305	0.0401	-0.0012
86	SLU 50	0.92	-0.26	38.02	0.1282	0.0079	-0.0015
86	SLU 51	1.71	-0.19	38.46	0.0293	0.0394	-0.0012
86	SLU 52	2.06	-0.15	41.57	-0.0331	0.051	-0.001
86	SLU 53	0.79	-0.28	41.59	0.1362	-0.0003	-0.0016
86	SLU 54	1.58	-0.21	42.03	0.0372	0.0312	-0.0013
86	SLU 55	2.09	-0.16	42.11	-0.0299	0.0515	-0.0011
86	SLU 56	0.82	-0.28	42.13	0.1394	0.0001	-0.0017
86	SLU 57	1.61	-0.21	42.57	0.0404	0.0316	-0.0013
86	SLU 58	0.8	-0.28	41.92	0.1382	-0.0006	-0.0017
86	SLU 59	1.59	-0.21	42.36	0.0392	0.0309	-0.0013
86	SLU 60	0.69	-0.28	42.52	0.1361	-0.0051	-0.0017
86	SLU 61	1.48	-0.21	42.95	0.0371	0.0264	-0.0013
86	SLU 62	0.72	-0.29	43.06	0.1393	-0.0046	-0.0017
86	SLU 63	1.51	-0.22	43.49	0.0403	0.0269	-0.0014
86	SLU 64	0.87	-0.27	40.53	0.1333	0.004	-0.0016
86	SLU 65	2.19	-0.16	41.25	-0.0317	0.0565	-0.001
86	SLU 66	0.92	-0.28	41.28	0.1377	0.0052	-0.0017
86	SLU 67	1.71	-0.21	41.71	0.0387	0.0367	-0.0013
86	SLU 68	2.22	-0.16	41.79	-0.0285	0.057	-0.0011
86	SLU 69	0.95	-0.29	41.82	0.1408	0.0056	-0.0017
86	SLU 70	1.74	-0.22	42.25	0.0419	0.0371	-0.0014
86	SLU 71	0.93	-0.28	41.61	0.1396	0.0049	-0.0017
86	SLU 72	1.72	-0.21	42.04	0.0407	0.0364	-0.0013
86	SLU 73	2.07	-0.18	45.15	-0.0217	0.0481	-0.0012
86	SLU 74	0.8	-0.3	45.18	0.1476	-0.0033	-0.0018
86	SLU 75	1.59	-0.23	45.61	0.0486	0.0282	-0.0015
86	SLU 76	2.1	-0.18	45.69	-0.0186	0.0485	-0.0012
86	SLU 77	0.83	-0.31	45.72	0.1508	-0.0028	-0.0018
86	SLU 78	1.62	-0.24	46.15	0.0518	0.0287	-0.0015
86	SLU 79	0.81	-0.31	45.51	0.1496	-0.0035	-0.0018
86	SLU 80	1.6	-0.24	45.94	0.0506	0.028	-0.0015
86	SLU 81	0.7	-0.3	46.1	0.1475	-0.008	-0.0018
86	SLU 82	1.49	-0.23	46.53	0.0485	0.0235	-0.0015
86	SLU 83	0.73	-0.31	46.64	0.1507	-0.0076	-0.0018
86	SLU 84	1.52	-0.24	47.07	0.0517	0.0239	-0.0015
86	SLE RA 1	0.67	-0.2	30.39	0.1	0.0037	-0.0012
86	SLE RA 2	1.55	-0.13	30.87	-0.0099	0.0387	-0.0008



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
86	SLE RA 3	0.7	-0.21	30.89	0.103	0.0045	-0.0012
86	SLE RA 4	1.23	-0.16	31.18	0.037	0.0255	-0.001
86	SLE RA 5	1.57	-0.13	31.23	-0.0078	0.039	-0.0008
86	SLE RA 6	0.72	-0.21	31.25	0.1051	0.0048	-0.0013
86	SLE RA 7	1.25	-0.17	31.54	0.0391	0.0258	-0.001
86	SLE RA 8	0.71	-0.21	31.11	0.1043	0.0043	-0.0013
86	SLE RA 9	1.24	-0.17	31.4	0.0383	0.0253	-0.001
86	SLE RA 10	1.47	-0.14	33.47	-0.0033	0.0331	-0.0009
86	SLE RA 11	0.62	-0.22	33.49	0.1096	-0.0011	-0.0013
86	SLE RA 12	1.15	-0.18	33.78	0.0436	0.0199	-0.0011
86	SLE RA 13	1.49	-0.15	33.83	-0.0012	0.0334	-0.0009
86	SLE RA 14	0.64	-0.23	33.85	0.1117	-0.0008	-0.0014
86	SLE RA 15	1.17	-0.18	34.14	0.0457	0.0202	-0.0011
86	SLE RA 16	0.63	-0.23	33.71	0.1109	-0.0013	-0.0013
86	SLE RA 17	1.15	-0.18	34	0.0449	0.0197	-0.0011
86	SLE RA 18	0.55	-0.23	34.1	0.1095	-0.0043	-0.0013
86	SLE RA 19	1.08	-0.18	34.39	0.0435	0.0167	-0.0011
86	SLE RA 20	0.57	-0.23	34.46	0.1116	-0.004	-0.0014
86	SLE RA 21	1.1	-0.18	34.75	0.0456	0.017	-0.0011
86	SLE FR 1	0.67	-0.2	30.39	0.1	0.0037	-0.0012
86	SLE FR 2	0.85	-0.19	30.49	0.078	0.0107	-0.0011
86	SLE FR 3	0.68	-0.21	30.53	0.1009	0.0039	-0.0012
86	SLE FR 4	0.81	-0.19	31.6	0.0809	0.0083	-0.0012
86	SLE FR 5	0.64	-0.21	31.65	0.1037	0.0015	-0.0013
86	SLE FR 6	0.61	-0.21	32.25	0.1048	-0.0003	-0.0013
86	SLE QP 1	0.67	-0.2	30.39	0.1	0.0037	-0.0012
86	SLE QP 2	0.63	-0.21	31.5	0.1029	0.0013	-0.0012
86	SLD 1	7.41	-0.21	28.41	-0.0891	0.2928	-0.0012
86	SLD 2	7.41	-0.21	28.41	-0.0891	0.2928	-0.0012
86	SLD 3	6.42	-0.02	24.96	0.13	0.2522	-0.0002
86	SLD 4	6.42	-0.02	24.96	0.13	0.2522	-0.0002
86	SLD 5	4.17	-0.49	35.81	-0.2871	0.1504	-0.0027
86	SLD 6	4.17	-0.49	35.81	-0.2871	0.1504	-0.0027
86	SLD 7	0.86	0.13	24.3	0.4434	0.0149	0.0005
86	SLD 8	0.86	0.13	24.3	0.4434	0.0149	0.0005
86	SLD 9	0.41	-0.55	38.7	-0.2377	-0.0123	-0.003
86	SLD 10	0.41	-0.55	38.7	-0.2377	-0.0123	-0.003
86	SLD 11	-2.91	0.07	27.19	0.4929	-0.1478	0.0002
86	SLD 12	-2.91	0.07	27.19	0.4929	-0.1478	0.0002
86	SLD 13	-5.15	-0.4	38.05	0.0757	-0.2495	-0.0023
86	SLD 14	-5.15	-0.4	38.05	0.0757	-0.2495	-0.0023
86	SLD 15	-6.14	-0.21	34.59	0.2949	-0.2902	-0.0013
86	SLD 16	-6.14	-0.21	34.59	0.2949	-0.2902	-0.0013
86	SLV 1	16.57	-0.21	24.36	-0.3788	0.6868	-0.0012
86	SLV 2	16.57	-0.21	24.36	-0.3788	0.6868	-0.0012
86	SLV 3	14.12	0.26	16.09	0.1808	0.5861	0.0012
86	SLV 4	14.12	0.26	16.09	0.1808	0.5861	0.0012
86	SLV 5	9.14	-0.93	41.89	-0.8904	0.3597	-0.005
86	SLV 6	9.14	-0.93	41.89	-0.8904	0.3597	-0.005
86	SLV 7	0.96	0.65	14.34	0.9751	0.024	0.0032
86	SLV 8	0.96	0.65	14.34	0.9751	0.024	0.0032
86	SLV 9	0.31	-1.08	48.66	-0.7693	-0.0213	-0.0057
86	SLV 10	0.31	-1.08	48.66	-0.7693	-0.0213	-0.0057
86	SLV 11	-7.87	0.51	21.11	1.0962	-0.3571	0.0025
86	SLV 12	-7.87	0.51	21.11	1.0962	-0.3571	0.0025
86	SLV 13	-12.85	-0.68	46.92	0.0249	-0.5834	-0.0037
86	SLV 14	-12.85	-0.68	46.92	0.0249	-0.5834	-0.0037
86	SLV 15	-15.3	-0.21	38.65	0.5846	-0.6842	-0.0013
86	SLV 16	-15.3	-0.21	38.65	0.5846	-0.6842	-0.0013
87	SLU 1	0.97	-0.18	34.91	0.0842	0.0068	-0.0007
87	SLU 2	2.67	-0.1	35.91	-0.04	0.0792	-0.0005
87	SLU 3	1.05	-0.19	35.92	0.088	0.0087	-0.0007
87	SLU 4	2.07	-0.14	36.52	0.0135	0.0521	-0.0006
87	SLU 5	2.73	-0.11	36.64	-0.0372	0.0803	-0.0005
87	SLU 6	1.1	-0.19	36.65	0.0907	0.0098	-0.0007
87	SLU 7	2.13	-0.15	37.25	0.0162	0.0532	-0.0006
87	SLU 8	1.07	-0.19	36.37	0.0896	0.009	-0.0007
87	SLU 9	2.1	-0.15	36.97	0.0152	0.0524	-0.0006
87	SLU 10	2.55	-0.13	40.47	-0.031	0.0701	-0.0005
87	SLU 11	0.93	-0.21	40.49	0.0969	-0.0003	-0.0008
87	SLU 12	1.95	-0.16	41.08	0.0224	0.0431	-0.0007
87	SLU 13	2.6	-0.13	41.2	-0.0283	0.0712	-0.0006
87	SLU 14	0.98	-0.21	41.22	0.0996	0.0008	-0.0008
87	SLU 15	2	-0.17	41.81	0.0251	0.0442	-0.0007
87	SLU 16	0.95	-0.21	40.94	0.0986	0	-0.0008
87	SLU 17	1.97	-0.17	41.53	0.0241	0.0434	-0.0007
87	SLU 18	0.79	-0.21	41.43	0.0969	-0.0061	-0.0008
87	SLU 19	1.81	-0.17	42.03	0.0225	0.0373	-0.0007
87	SLU 20	0.84	-0.22	42.17	0.0997	-0.005	-0.0008
87	SLU 21	1.87	-0.17	42.76	0.0252	0.0384	-0.0007
87	SLU 22	1	-0.2	39.25	0.0943	0.0037	-0.0008
87	SLU 23	2.71	-0.13	40.24	-0.0298	0.0761	-0.0006
87	SLU 24	1.08	-0.21	40.26	0.0981	0.0056	-0.0008
87	SLU 25	2.11	-0.17	40.85	0.0236	0.049	-0.0007
87	SLU 26	2.76	-0.13	40.97	-0.0271	0.0772	-0.0006
87	SLU 27	1.14	-0.22	40.99	0.1009	0.0067	-0.0008
87	SLU 28	2.16	-0.17	41.58	0.0264	0.0501	-0.0007
87	SLU 29	1.11	-0.21	40.71	0.0998	0.0059	-0.0008





Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
87	SLU 30	2.13	-0.17	41.3	0.0253	0.0493	-0.0007		
87	SLU 31	2.58	-0.15	44.81	-0.0209	0.067	-0.0006		
87	SLU 32	0.96	-0.23	44.82	0.1071	-0.0034	-0.0009		
87	SLU 33	1.98	-0.19	45.42	0.0326	0.04	-0.0007		
87	SLU 34	2.64	-0.15	45.54	-0.0181	0.0682	-0.0007		
87	SLU 35	1.01	-0.24	45.55	0.1098	-0.0023	-0.0009		
87	SLU 36	2.04	-0.19	46.15	0.0353	0.0411	-0.0008		
87	SLU 37	0.98	-0.24	45.27	0.1087	-0.0031	-0.0009		
87	SLU 38	2.01	-0.19	45.87	0.0343	0.0403	-0.0008		
87	SLU 39	0.82	-0.23	45.77	0.1071	-0.0092	-0.0009		
87	SLU 40	1.85	-0.19	46.37	0.0326	0.0342	-0.0007		
87	SLU 41	0.88	-0.24	46.5	0.1098	-0.0081	-0.0009		
87	SLU 42	1.9	-0.19	47.1	0.0354	0.0354	-0.0008		
87	SLU 43	1.24	-0.23	43.9	0.1059	0.0099	-0.0008		
87	SLU 44	2.95	-0.15	44.89	-0.0182	0.0823	-0.0006		
87	SLU 45	1.33	-0.23	44.91	0.1097	0.0118	-0.0009		
87	SLU 46	2.35	-0.19	45.51	0.0352	0.0552	-0.0007		
87	SLU 47	3	-0.16	45.62	-0.0155	0.0834	-0.0007		
87	SLU 48	1.38	-0.24	45.64	0.1125	0.0129	-0.0009		
87	SLU 49	2.41	-0.19	46.24	0.038	0.0563	-0.0008		
87	SLU 50	1.35	-0.24	45.36	0.1114	0.0121	-0.0009		
87	SLU 51	2.38	-0.19	45.96	0.0369	0.0555	-0.0008		
87	SLU 52	2.83	-0.17	49.46	-0.0093	0.0732	-0.0007		
87	SLU 53	1.2	-0.25	49.48	0.1186	0.0028	-0.0009		
87	SLU 54	2.23	-0.21	50.07	0.0442	0.0462	-0.0008		
87	SLU 55	2.88	-0.18	50.19	-0.0065	0.0743	-0.0007		
87	SLU 56	1.26	-0.26	50.21	0.1214	0.0039	-0.001		
87	SLU 57	2.28	-0.21	50.8	0.0469	0.0473	-0.0008		
87	SLU 58	1.23	-0.26	49.93	0.1203	0.0031	-0.001		
87	SLU 59	2.25	-0.21	50.52	0.0459	0.0465	-0.0008		
87	SLU 60	1.07	-0.26	50.42	0.1187	-0.003	-0.001		
87	SLU 61	2.09	-0.21	51.02	0.0442	0.0404	-0.0008		
87	SLU 62	1.12	-0.26	51.15	0.1214	-0.0019	-0.001		
87	SLU 63	2.15	-0.22	51.75	0.047	0.0415	-0.0009		
87	SLU 64	1.28	-0.25	48.24	0.1161	0.0068	-0.0009		
87	SLU 65	2.98	-0.17	49.23	-0.008	0.0792	-0.0007		
87	SLU 66	1.36	-0.26	49.25	0.1199	0.0087	-0.001		
87	SLU 67	2.39	-0.21	49.84	0.0454	0.0521	-0.0008		
87	SLU 68	3.04	-0.18	49.96	-0.0053	0.0803	-0.0007		
87	SLU 69	1.42	-0.26	49.98	0.1226	0.0098	-0.001		
87	SLU 70	2.44	-0.22	50.57	0.0481	0.0533	-0.0009		
87	SLU 71	1.39	-0.26	49.7	0.1216	0.009	-0.001		
87	SLU 72	2.41	-0.21	50.29	0.0471	0.0525	-0.0008		
87	SLU 73	2.86	-0.2	53.79	0.0009	0.0701	-0.0008		
87	SLU 74	1.24	-0.28	53.81	0.1288	-0.0003	-0.001		
87	SLU 75	2.26	-0.23	54.41	0.0543	0.0431	-0.0009		
87	SLU 76	2.92	-0.2	54.52	0.0036	0.0713	-0.0008		
87	SLU 77	1.29	-0.28	54.54	0.1316	0.0008	-0.0011		
87	SLU 78	2.32	-0.24	55.14	0.0571	0.0442	-0.0009		
87	SLU 79	1.26	-0.28	54.26	0.1305	0	-0.001		
87	SLU 80	2.29	-0.24	54.86	0.056	0.0434	-0.0009		
87	SLU 81	1.1	-0.28	54.76	0.1289	-0.0061	-0.001		
87	SLU 82	2.13	-0.23	55.35	0.0544	0.0373	-0.0009		
87	SLU 83	1.16	-0.28	55.49	0.1316	-0.005	-0.0011		
87	SLU 84	2.18	-0.24	56.08	0.0571	0.0385	-0.0009		
87	SLE RA 1	0.98	-0.19	36.15	0.0871	0.0059	-0.0007		
87	SLE RA 2	2.11	-0.14	36.81	0.0043	0.0542	-0.0006		
87	SLE RA 3	1.03	-0.19	36.83	0.0896	0.0072	-0.0007		
87	SLE RA 4	1.71	-0.16	37.22	0.0399	0.0361	-0.0006		
87	SLE RA 5	2.15	-0.14	37.3	0.0061	0.0549	-0.0006		
87	SLE RA 6	1.07	-0.19	37.31	0.0914	0.0079	-0.0007		
87	SLE RA 7	1.75	-0.16	37.71	0.0418	0.0369	-0.0006		
87	SLE RA 8	1.05	-0.19	37.13	0.0907	0.0074	-0.0007		
87	SLE RA 9	1.73	-0.16	37.52	0.0411	0.0363	-0.0006		
87	SLE RA 10	2.03	-0.15	39.86	0.0103	0.0481	-0.0006		
87	SLE RA 11	0.95	-0.21	39.87	0.0955	0.0012	-0.0008		
87	SLE RA 12	1.63	-0.18	40.27	0.0459	0.0301	-0.0007		
87	SLE RA 13	2.07	-0.15	40.34	0.0121	0.0489	-0.0006		
87	SLE RA 14	0.99	-0.21	40.36	0.0974	0.0019	-0.0008		
87	SLE RA 15	1.67	-0.18	40.75	0.0477	0.0309	-0.0007		
87	SLE RA 16	0.97	-0.21	40.17	0.0967	0.0014	-0.0008		
87	SLE RA 17	1.65	-0.18	40.57	0.047	0.0303	-0.0007		
87	SLE RA 18	0.86	-0.21	40.5	0.0956	-0.0027	-0.0008		
87	SLE RA 19	1.54	-0.18	40.9	0.0459	0.0263	-0.0007		
87	SLE RA 20	0.89	-0.21	40.99	0.0974	-0.0019	-0.0008		
87	SLE RA 21	1.58	-0.18	41.38	0.0478	0.027	-0.0007		
87	SLE FR 1	0.98	-0.19	36.15	0.0871	0.0059	-0.0007		
87	SLE FR 2	1.2	-0.18	36.29	0.0705	0.0156	-0.0007		
87	SLE FR 3	0.99	-0.19	36.35	0.0878	0.0062	-0.0007		
87	SLE FR 4	1.17	-0.18	37.59	0.0731	0.013	-0.0007		
87	SLE FR 5	0.95	-0.19	37.65	0.0904	0.0036	-0.0007		
87	SLE FR 6	0.92	-0.2	38.33	0.0913	0.0016	-0.0007		
87	SLE QP 1	0.98	-0.19	36.15	0.0871	0.0059	-0.0007		
87	SLE QP 2	0.94	-0.19	37.46	0.0896	0.0034	-0.0007		
87	SLD 1	7.1	-0.16	31.9	-0.0659	0.2859	-0.0006		
87	SLD 2	7.1	-0.16	31.9	-0.0659	0.2859	-0.0006		
87	SLD 3	5.93	-0.03	27.57	0.099	0.2334	-0.0002		
87	SLD 4	5.93	-0.03	27.57	0.099	0.2334	-0.0002		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
87	SLD 5	4.56	-0.38	42.35	-0.2071	0.1677	-0.0013	
87	SLD 6	4.56	-0.38	42.35	-0.2071	0.1677	-0.0013	
87	SLD 7	0.67	0.05	27.93	0.3425	-0.0072	0	
87	SLD 8	0.67	0.05	27.93	0.3425	-0.0072	0	
87	SLD 9	1.21	-0.44	46.98	-0.1632	0.0139	-0.0015	
87	SLD 10	1.21	-0.44	46.98	-0.1632	0.0139	-0.0015	
87	SLD 11	-2.67	-0.01	32.57	0.3863	-0.161	-0.0002	
87	SLD 12	-2.67	-0.01	32.57	0.3863	-0.161	-0.0002	
87	SLD 13	-4.05	-0.35	47.34	0.0803	-0.2267	-0.0013	
87	SLD 14	-4.05	-0.35	47.34	0.0803	-0.2267	-0.0013	
87	SLD 15	-5.21	-0.23	43.02	0.2451	-0.2792	-0.0009	
87	SLD 16	-5.21	-0.23	43.02	0.2451	-0.2792	-0.0009	
87	SLV 1	15.44	-0.12	24.46	-0.2993	0.6696	-0.0004	
87	SLV 2	15.44	-0.12	24.46	-0.2993	0.6696	-0.0004	
87	SLV 3	12.54	0.21	14.28	0.1218	0.5377	0.0006	
87	SLV 4	12.54	0.21	14.28	0.1218	0.5377	0.0006	
87	SLV 5	9.69	-0.67	49	-0.6658	0.4032	-0.0021	
87	SLV 6	9.69	-0.67	49	-0.6658	0.4032	-0.0021	
87	SLV 7	0.02	0.42	15.06	0.738	-0.0363	0.0012	
87	SLV 8	0.02	0.42	15.06	0.738	-0.0363	0.0012	
87	SLV 9	1.86	-0.81	59.86	-0.5587	0.043	-0.0026	
87	SLV 10	1.86	-0.81	59.86	-0.5587	0.043	-0.0026	
87	SLV 11	-7.81	0.28	25.91	0.845	-0.3965	0.0007	
87	SLV 12	-7.81	0.28	25.91	0.845	-0.3965	0.0007	
87	SLV 13	-10.66	-0.59	60.64	0.0575	-0.531	-0.0021	
87	SLV 14	-10.66	-0.59	60.64	0.0575	-0.531	-0.0021	
87	SLV 15	-13.56	-0.26	50.45	0.4786	-0.6629	-0.0011	
87	SLV 16	-13.56	-0.26	50.45	0.4786	-0.6629	-0.0011	
88	SLU 1	0.35	-0.11	41.72	0.052	-0.0179	-0.0003	
88	SLU 2	2.23	-0.08	43.09	-0.0281	0.0565	-0.0003	
88	SLU 3	0.43	-0.12	43.05	0.0544	-0.016	-0.0003	
88	SLU 4	1.56	-0.1	43.88	0.0063	0.0286	-0.0003	
88	SLU 5	2.28	-0.08	44.06	-0.0264	0.0575	-0.0003	
88	SLU 6	0.48	-0.12	44.02	0.0561	-0.015	-0.0003	
88	SLU 7	1.61	-0.1	44.85	0.008	0.0296	-0.0003	
88	SLU 8	0.45	-0.12	43.66	0.0555	-0.0158	-0.0003	
88	SLU 9	1.58	-0.1	44.48	0.0074	0.0288	-0.0003	
88	SLU 10	1.98	-0.09	48.46	-0.0226	0.0423	-0.0003	
88	SLU 11	0.19	-0.13	48.42	0.0599	-0.0302	-0.0003	
88	SLU 12	1.31	-0.11	49.25	0.0118	0.0144	-0.0003	
88	SLU 13	2.04	-0.09	49.43	-0.0209	0.0434	-0.0003	
88	SLU 14	0.24	-0.13	49.39	0.0616	-0.0291	-0.0003	
88	SLU 15	1.37	-0.11	50.22	0.0135	0.0155	-0.0003	
88	SLU 16	0.21	-0.13	49.03	0.061	-0.0299	-0.0003	
88	SLU 17	1.34	-0.11	49.85	0.0129	0.0147	-0.0003	
88	SLU 18	0	-0.13	49.39	0.0599	-0.0381	-0.0003	
88	SLU 19	1.13	-0.11	50.21	0.0118	0.0066	-0.0003	
88	SLU 20	0.06	-0.13	50.36	0.0616	-0.037	-0.0003	
88	SLU 21	1.18	-0.11	51.18	0.0135	0.0076	-0.0003	
88	SLU 22	0.29	-0.12	46.97	0.0584	-0.0248	-0.0003	
88	SLU 23	2.16	-0.09	48.34	-0.0218	0.0495	-0.0003	
88	SLU 24	0.37	-0.13	48.3	0.0607	-0.023	-0.0003	
88	SLU 25	1.5	-0.11	49.13	0.0126	0.0216	-0.0003	
88	SLU 26	2.22	-0.1	49.31	-0.0201	0.0506	-0.0003	
88	SLU 27	0.42	-0.13	49.27	0.0625	-0.0219	-0.0003	
88	SLU 28	1.55	-0.11	50.1	0.0144	0.0227	-0.0003	
88	SLU 29	0.39	-0.13	48.91	0.0618	-0.0227	-0.0003	
88	SLU 30	1.52	-0.11	49.73	0.0137	0.0219	-0.0003	
88	SLU 31	1.92	-0.11	53.71	-0.0163	0.0354	-0.0004	
88	SLU 32	0.13	-0.14	53.68	0.0663	-0.0371	-0.0003	
88	SLU 33	1.25	-0.12	54.5	0.0182	0.0075	-0.0004	
88	SLU 34	1.98	-0.11	54.68	-0.0146	0.0364	-0.0004	
88	SLU 35	0.18	-0.15	54.64	0.068	-0.0361	-0.0004	
88	SLU 36	1.31	-0.13	55.47	0.0199	0.0085	-0.0004	
88	SLU 37	0.15	-0.14	54.28	0.0673	-0.0369	-0.0004	
88	SLU 38	1.28	-0.13	55.1	0.0192	0.0077	-0.0004	
88	SLU 39	-0.06	-0.14	54.64	0.0663	-0.045	-0.0004	
88	SLU 40	1.07	-0.12	55.46	0.0182	-0.0004	-0.0004	
88	SLU 41	0	-0.15	55.61	0.068	-0.044	-0.0004	
88	SLU 42	1.12	-0.13	56.43	0.0199	0.0007	-0.0004	
88	SLU 43	0.47	-0.14	52.43	0.0655	-0.0209	-0.0003	
88	SLU 44	2.35	-0.11	53.8	-0.0147	0.0535	-0.0004	
88	SLU 45	0.56	-0.14	53.77	0.0678	-0.019	-0.0004	
88	SLU 46	1.68	-0.12	54.59	0.0197	0.0256	-0.0004	
88	SLU 47	2.4	-0.11	54.77	-0.013	0.0545	-0.0004	
88	SLU 48	0.61	-0.15	54.74	0.0696	-0.018	-0.0004	
88	SLU 49	1.73	-0.13	55.56	0.0215	0.0266	-0.0004	
88	SLU 50	0.58	-0.15	54.37	0.0689	-0.0188	-0.0004	
88	SLU 51	1.71	-0.13	55.19	0.0208	0.0258	-0.0004	
88	SLU 52	2.11	-0.12	59.18	-0.0092	0.0394	-0.0004	
88	SLU 53	0.31	-0.16	59.14	0.0734	-0.0331	-0.0004	
88	SLU 54	1.44	-0.14	59.96	0.0253	0.0115	-0.0004	
88	SLU 55	2.16	-0.12	60.14	-0.0075	0.0404	-0.0004	
88	SLU 56	0.37	-0.16	60.11	0.0751	-0.0321	-0.0004	
88	SLU 57	1.49	-0.14	60.93	0.027	0.0125	-0.0004	
88	SLU 58	0.34	-0.16	59.74	0.0744	-0.0329	-0.0004	
88	SLU 59	1.46	-0.14	60.57	0.0263	0.0117	-0.0004	
88	SLU 60	0.13	-0.16	60.11	0.0734	-0.041	-0.0004	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
88	SLU 61	1.25	-0.14	60.93	0.0253	0.0036	-0.0004		
88	SLU 62	0.18	-0.16	61.08	0.0751	-0.04	-0.0004		
88	SLU 63	1.31	-0.14	61.9	0.027	0.0046	-0.0004		
88	SLU 64	0.41	-0.15	57.68	0.0718	-0.0278	-0.0004		
88	SLU 65	2.29	-0.12	59.06	-0.0084	0.0465	-0.0004		
88	SLU 66	0.5	-0.16	59.02	0.0742	-0.026	-0.0004		
88	SLU 67	1.62	-0.14	59.84	0.0261	0.0187	-0.0004		
88	SLU 68	2.34	-0.12	60.02	-0.0066	0.0476	-0.0004		
88	SLU 69	0.55	-0.16	59.99	0.0759	-0.0249	-0.0004		
88	SLU 70	1.67	-0.14	60.81	0.0278	0.0197	-0.0004		
88	SLU 71	0.52	-0.16	59.62	0.0752	-0.0257	-0.0004		
88	SLU 72	1.65	-0.14	60.44	0.0271	0.0189	-0.0004		
88	SLU 73	2.05	-0.13	64.43	-0.0028	0.0324	-0.0004		
88	SLU 74	0.25	-0.17	64.39	0.0797	-0.0401	-0.0004		
88	SLU 75	1.38	-0.15	65.21	0.0316	0.0045	-0.0004		
88	SLU 76	2.1	-0.14	65.39	-0.0011	0.0335	-0.0004		
88	SLU 77	0.31	-0.17	65.36	0.0814	-0.039	-0.0004		
88	SLU 78	1.43	-0.15	66.18	0.0333	0.0056	-0.0004		
88	SLU 79	0.28	-0.17	64.99	0.0808	-0.0398	-0.0004		
88	SLU 80	1.4	-0.15	65.82	0.0327	0.0048	-0.0004		
88	SLU 81	0.07	-0.17	65.36	0.0797	-0.048	-0.0004		
88	SLU 82	1.19	-0.15	66.18	0.0316	-0.0034	-0.0004		
88	SLU 83	0.12	-0.18	66.33	0.0814	-0.0469	-0.0004		
88	SLU 84	1.25	-0.16	67.15	0.0333	-0.0023	-0.0004		
88	SLE RA 1	0.33	-0.11	43.22	0.0538	-0.0199	-0.0003		
88	SLE RA 2	1.58	-0.09	44.13	0.0004	0.0297	-0.0003		
88	SLE RA 3	0.39	-0.12	44.11	0.0554	-0.0186	-0.0003		
88	SLE RA 4	1.14	-0.1	44.66	0.0234	0.0111	-0.0003		
88	SLE RA 5	1.62	-0.1	44.78	0.0015	0.0304	-0.0003		
88	SLE RA 6	0.42	-0.12	44.75	0.0566	-0.0179	-0.0003		
88	SLE RA 7	1.17	-0.11	45.3	0.0245	0.0118	-0.0003		
88	SLE RA 8	0.4	-0.12	44.51	0.0561	-0.0185	-0.0003		
88	SLE RA 9	1.15	-0.11	45.06	0.0241	0.0113	-0.0003		
88	SLE RA 10	1.42	-0.1	47.71	0.0041	0.0203	-0.0003		
88	SLE RA 11	0.23	-0.13	47.69	0.0591	-0.028	-0.0003		
88	SLE RA 12	0.98	-0.11	48.24	0.027	0.0017	-0.0003		
88	SLE RA 13	1.46	-0.1	48.36	0.0052	0.021	-0.0003		
88	SLE RA 14	0.26	-0.13	48.34	0.0602	-0.0274	-0.0003		
88	SLE RA 15	1.01	-0.12	48.88	0.0282	0.0024	-0.0003		
88	SLE RA 16	0.24	-0.13	48.09	0.0598	-0.0279	-0.0003		
88	SLE RA 17	0.99	-0.11	48.64	0.0277	0.0018	-0.0003		
88	SLE RA 18	0.1	-0.13	48.33	0.0591	-0.0333	-0.0003		
88	SLE RA 19	0.85	-0.11	48.88	0.027	-0.0036	-0.0003		
88	SLE RA 20	0.14	-0.13	48.98	0.0602	-0.0326	-0.0003		
88	SLE RA 21	0.89	-0.12	49.53	0.0282	-0.0029	-0.0003		
88	SLE FR 1	0.33	-0.11	43.22	0.0538	-0.0199	-0.0003		
88	SLE FR 2	0.58	-0.11	43.4	0.0432	-0.0099	-0.0003		
88	SLE FR 3	0.35	-0.12	43.48	0.0543	-0.0196	-0.0003		
88	SLE FR 4	0.51	-0.11	44.94	0.0447	-0.014	-0.0003		
88	SLE FR 5	0.28	-0.12	45.01	0.0559	-0.0236	-0.0003		
88	SLE FR 6	0.22	-0.12	45.78	0.0565	-0.0266	-0.0003		
88	SLE QP 1	0.33	-0.11	43.22	0.0538	-0.0199	-0.0003		
88	SLE QP 2	0.26	-0.12	44.75	0.0554	-0.0239	-0.0003		
88	SLD 1	5.92	-0.06	35.81	-0.0538	0.2293	-0.0001		
88	SLD 2	5.92	-0.06	35.81	-0.0538	0.2293	-0.0001		
88	SLD 3	4.68	0	30.06	0.0512	0.1794	0		
88	SLD 4	4.68	0	30.06	0.0512	0.1794	0		
88	SLD 5	3.83	-0.2	50.79	-0.1367	0.1278	-0.0004		
88	SLD 6	3.83	-0.2	50.79	-0.1367	0.1278	-0.0004		
88	SLD 7	-0.28	0.01	31.62	0.2135	-0.0387	-0.0001		
88	SLD 8	-0.28	0.01	31.62	0.2135	-0.0387	-0.0001		
88	SLD 9	0.81	-0.25	57.88	-0.1026	-0.0091	-0.0005		
88	SLD 10	0.81	-0.25	57.88	-0.1026	-0.0091	-0.0005		
88	SLD 11	-3.31	-0.04	38.72	0.2475	-0.1756	-0.0002		
88	SLD 12	-3.31	-0.04	38.72	0.2475	-0.1756	-0.0002		
88	SLD 13	-4.16	-0.24	59.45	0.0596	-0.2271	-0.0006		
88	SLD 14	-4.16	-0.24	59.45	0.0596	-0.2271	-0.0006		
88	SLD 15	-5.39	-0.18	53.7	0.1647	-0.2771	-0.0005		
88	SLD 16	-5.39	-0.18	53.7	0.1647	-0.2771	-0.0005		
88	SLV 1	13.59	0.02	23.79	-0.2169	0.5732	0.0001		
88	SLV 2	13.59	0.02	23.79	-0.2169	0.5732	0.0001		
88	SLV 3	10.52	0.18	10.3	0.0515	0.4482	0.0003		
88	SLV 4	10.52	0.18	10.3	0.0515	0.4482	0.0003		
88	SLV 5	8.92	-0.32	58.93	-0.4334	0.3449	-0.0005		
88	SLV 6	8.92	-0.32	58.93	-0.4334	0.3449	-0.0005		
88	SLV 7	-1.32	0.21	13.95	0.4614	-0.0719	0.0002		
88	SLV 8	-1.32	0.21	13.95	0.4614	-0.0719	0.0002		
88	SLV 9	1.84	-0.45	75.56	-0.3506	0.0241	-0.0008		
88	SLV 10	1.84	-0.45	75.56	-0.3506	0.0241	-0.0008		
88	SLV 11	-8.4	0.08	30.57	0.5443	-0.3927	-0.0001		
88	SLV 12	-8.4	0.08	30.57	0.5443	-0.3927	-0.0001		
88	SLV 13	-10	-0.42	79.21	0.0593	-0.496	-0.0009		
88	SLV 14	-10	-0.42	79.21	0.0593	-0.496	-0.0009		
88	SLV 15	-13.07	-0.26	65.71	0.3278	-0.621	-0.0007		
88	SLV 16	-13.07	-0.26	65.71	0.3278	-0.621	-0.0007		
89	SLU 1	-1.41	0.05	51.81	0.0008	-0.1425	0.0004		
89	SLU 2	0.52	0.06	53.62	-0.0392	-0.063	0.0004		
89	SLU 3	-1.38	0.05	53.61	0.001	-0.1449	0.0004		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
89	SLU 4	-0.22	0.06	54.69	-0.023	-0.0972	0.0005	
89	SLU 5	0.54	0.06	54.93	-0.039	-0.0649	0.0005	
89	SLU 6	-1.36	0.05	54.92	0.0011	-0.1468	0.0005	
89	SLU 7	-0.2	0.06	56	-0.0229	-0.0991	0.0005	
89	SLU 8	-1.38	0.05	54.43	0.0011	-0.1464	0.0005	
89	SLU 9	-0.22	0.06	55.51	-0.0229	-0.0987	0.0005	
89	SLU 10	0.05	0.07	60.24	-0.0395	-0.0932	0.0005	
89	SLU 11	-1.85	0.06	60.23	0.0007	-0.1751	0.0005	
89	SLU 12	-0.69	0.07	61.31	-0.0233	-0.1274	0.0005	
89	SLU 13	0.07	0.07	61.55	-0.0394	-0.0951	0.0005	
89	SLU 14	-1.83	0.06	61.54	0.0008	-0.1771	0.0005	
89	SLU 15	-0.67	0.07	62.62	-0.0232	-0.1293	0.0005	
89	SLU 16	-1.84	0.06	61.05	0.0008	-0.1766	0.0005	
89	SLU 17	-0.69	0.07	62.13	-0.0232	-0.1289	0.0005	
89	SLU 18	-2.08	0.06	61.27	0.0004	-0.1857	0.0005	
89	SLU 19	-0.92	0.07	62.35	-0.0236	-0.138	0.0005	
89	SLU 20	-2.06	0.06	62.58	0.0005	-0.1876	0.0005	
89	SLU 21	-0.9	0.07	63.66	-0.0235	-0.1399	0.0005	
89	SLU 22	-1.7	0.06	58.42	0.0008	-0.1658	0.0005	
89	SLU 23	0.23	0.07	60.23	-0.0392	-0.0863	0.0005	
89	SLU 24	-1.67	0.06	60.22	0.001	-0.1682	0.0005	
89	SLU 25	-0.51	0.07	61.31	-0.023	-0.1205	0.0005	
89	SLU 26	0.25	0.07	61.54	-0.0391	-0.0882	0.0005	
89	SLU 27	-1.65	0.06	61.53	0.0011	-0.1701	0.0005	
89	SLU 28	-0.49	0.07	62.62	-0.0229	-0.1224	0.0005	
89	SLU 29	-1.66	0.06	61.04	0.001	-0.1697	0.0005	
89	SLU 30	-0.51	0.07	62.13	-0.023	-0.122	0.0005	
89	SLU 31	-0.23	0.07	66.85	-0.0395	-0.1165	0.0006	
89	SLU 32	-2.14	0.07	66.84	0.0007	-0.1984	0.0006	
89	SLU 33	-0.98	0.07	67.93	-0.0233	-0.1507	0.0006	
89	SLU 34	-0.22	0.08	68.16	-0.0394	-0.1184	0.0006	
89	SLU 35	-2.12	0.07	68.15	0.0008	-0.2004	0.0006	
89	SLU 36	-0.96	0.07	69.24	-0.0232	-0.1527	0.0006	
89	SLU 37	-2.13	0.07	67.66	0.0007	-0.1999	0.0006	
89	SLU 38	-0.97	0.07	68.75	-0.0233	-0.1522	0.0006	
89	SLU 39	-2.37	0.07	67.88	0.0003	-0.209	0.0006	
89	SLU 40	-1.21	0.07	68.97	-0.0237	-0.1613	0.0006	
89	SLU 41	-2.35	0.07	69.19	0.0005	-0.2109	0.0006	
89	SLU 42	-1.19	0.07	70.27	-0.0235	-0.1632	0.0006	
89	SLU 43	-1.73	0.06	65.08	0.0011	-0.1773	0.0005	
89	SLU 44	0.2	0.08	66.89	-0.0389	-0.0977	0.0006	
89	SLU 45	-1.7	0.07	66.88	0.0013	-0.1797	0.0006	
89	SLU 46	-0.54	0.07	67.97	-0.0227	-0.1319	0.0006	
89	SLU 47	0.22	0.08	68.2	-0.0388	-0.0997	0.0006	
89	SLU 48	-1.69	0.07	68.19	0.0014	-0.1816	0.0006	
89	SLU 49	-0.53	0.07	69.28	-0.0226	-0.1339	0.0006	
89	SLU 50	-1.7	0.07	67.7	0.0014	-0.1811	0.0006	
89	SLU 51	-0.54	0.07	68.79	-0.0226	-0.1334	0.0006	
89	SLU 52	-0.27	0.08	73.51	-0.0392	-0.128	0.0006	
89	SLU 53	-2.17	0.07	73.5	0.001	-0.2099	0.0006	
89	SLU 54	-1.01	0.08	74.59	-0.023	-0.1622	0.0006	
89	SLU 55	-0.25	0.08	74.82	-0.0391	-0.1299	0.0006	
89	SLU 56	-2.16	0.07	74.81	0.0011	-0.2118	0.0006	
89	SLU 57	-1	0.08	75.9	-0.0229	-0.1641	0.0006	
89	SLU 58	-2.17	0.07	74.32	0.001	-0.2114	0.0006	
89	SLU 59	-1.01	0.08	75.41	-0.023	-0.1636	0.0006	
89	SLU 60	-2.4	0.07	74.54	0.0007	-0.2204	0.0006	
89	SLU 61	-1.24	0.08	75.63	-0.0233	-0.1727	0.0006	
89	SLU 62	-2.39	0.08	75.85	0.0008	-0.2224	0.0006	
89	SLU 63	-1.23	0.08	76.94	-0.0232	-0.1747	0.0006	
89	SLU 64	-2.02	0.07	71.7	0.0011	-0.2006	0.0006	
89	SLU 65	-0.09	0.08	73.51	-0.0389	-0.121	0.0006	
89	SLU 66	-1.99	0.07	73.5	0.0012	-0.203	0.0006	
89	SLU 67	-0.83	0.08	74.58	-0.0228	-0.1552	0.0006	
89	SLU 68	-0.07	0.08	74.82	-0.0388	-0.123	0.0006	
89	SLU 69	-1.97	0.07	74.81	0.0014	-0.2049	0.0006	
89	SLU 70	-0.82	0.08	75.89	-0.0226	-0.1572	0.0006	
89	SLU 71	-1.99	0.07	74.32	0.0013	-0.2044	0.0006	
89	SLU 72	-0.83	0.08	75.4	-0.0227	-0.1567	0.0006	
89	SLU 73	-0.56	0.09	80.13	-0.0393	-0.1513	0.0007	
89	SLU 74	-2.46	0.08	80.12	0.0009	-0.2332	0.0007	
89	SLU 75	-1.3	0.09	81.2	-0.0231	-0.1855	0.0007	
89	SLU 76	-0.54	0.09	81.44	-0.0391	-0.1532	0.0007	
89	SLU 77	-2.44	0.08	81.43	0.0011	-0.2351	0.0007	
89	SLU 78	-1.29	0.09	82.51	-0.0229	-0.1874	0.0007	
89	SLU 79	-2.46	0.08	80.94	0.001	-0.2347	0.0007	
89	SLU 80	-1.3	0.09	82.02	-0.023	-0.187	0.0007	
89	SLU 81	-2.69	0.08	81.15	0.0006	-0.2438	0.0007	
89	SLU 82	-1.53	0.09	82.24	-0.0234	-0.196	0.0007	
89	SLU 83	-2.67	0.08	82.46	0.0007	-0.2457	0.0007	
89	SLU 84	-1.51	0.09	83.55	-0.0233	-0.198	0.0007	
89	SLE RA 1	-1.49	0.05	53.7	0.0008	-0.1492	0.0004	
89	SLE RA 2	-0.2	0.06	54.9	-0.0258	-0.0961	0.0005	
89	SLE RA 3	-1.47	0.05	54.9	0.0009	-0.1508	0.0005	
89	SLE RA 4	-0.7	0.06	55.62	-0.0151	-0.1189	0.0005	
89	SLE RA 5	-0.19	0.06	55.78	-0.0258	-0.0974	0.0005	
89	SLE RA 6	-1.46	0.06	55.77	0.001	-0.1521	0.0005	
89	SLE RA 7	-0.69	0.06	56.5	-0.015	-0.1202	0.0005	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
89	SLE RA 8	-1.47	0.06	55.44	0.001	-0.1517	0.0005		
89	SLE RA 9	-0.7	0.06	56.17	-0.015	-0.1199	0.0005		
89	SLE RA 10	-0.52	0.06	59.32	-0.0261	-0.1163	0.0005		
89	SLE RA 11	-1.78	0.06	59.31	0.0007	-0.1709	0.0005		
89	SLE RA 12	-1.01	0.06	60.04	-0.0153	-0.1391	0.0005		
89	SLE RA 13	-0.5	0.07	60.19	-0.026	-0.1176	0.0005		
89	SLE RA 14	-1.77	0.06	60.19	0.0008	-0.1722	0.0005		
89	SLE RA 15	-1	0.06	60.91	-0.0152	-0.1404	0.0005		
89	SLE RA 16	-1.78	0.06	59.86	0.0008	-0.1719	0.0005		
89	SLE RA 17	-1.01	0.06	60.58	-0.0152	-0.1401	0.0005		
89	SLE RA 18	-1.94	0.06	60	0.0005	-0.178	0.0005		
89	SLE RA 19	-1.16	0.06	60.73	-0.0155	-0.1461	0.0005		
89	SLE RA 20	-1.93	0.06	60.88	0.0006	-0.1792	0.0005		
89	SLE RA 21	-1.15	0.06	61.6	-0.0154	-0.1474	0.0005		
89	SLE FR 1	-1.49	0.05	53.7	0.0008	-0.1492	0.0004		
89	SLE FR 2	-1.23	0.05	53.94	-0.0045	-0.1386	0.0004		
89	SLE FR 3	-1.49	0.05	54.05	0.0009	-0.1497	0.0004		
89	SLE FR 4	-1.37	0.06	55.83	-0.0046	-0.1472	0.0005		
89	SLE FR 5	-1.62	0.06	55.94	0.0008	-0.1583	0.0005		
89	SLE FR 6	-1.71	0.06	56.85	0.0007	-0.1636	0.0005		
89	SLE QP 1	-1.49	0.05	53.7	0.0008	-0.1492	0.0004		
89	SLE QP 2	-1.62	0.06	55.59	0.0007	-0.1578	0.0005		
89	SLD 1	4.1	0.01	41.42	-0.0544	0.1326	0.0003		
89	SLD 2	4.1	0.01	41.42	-0.0544	0.1326	0.0003		
89	SLD 3	2.72	-0.02	33.32	-0.0052	0.0701	0.0002		
89	SLD 4	2.72	-0.02	33.32	-0.0052	0.0701	0.0002		
89	SLD 5	2.19	0.08	63.62	-0.0904	0.024	0.0005		
89	SLD 6	2.19	0.08	63.62	-0.0904	0.024	0.0005		
89	SLD 7	-2.42	-0.01	36.63	0.0736	-0.1841	0.0003		
89	SLD 8	-2.42	-0.01	36.63	0.0736	-0.1841	0.0003		
89	SLD 9	-0.83	0.12	74.55	-0.0721	-0.1315	0.0006		
89	SLD 10	-0.83	0.12	74.55	-0.0721	-0.1315	0.0006		
89	SLD 11	-5.44	0.03	47.56	0.0919	-0.3396	0.0004		
89	SLD 12	-5.44	0.03	47.56	0.0919	-0.3396	0.0004		
89	SLD 13	-5.97	0.13	77.86	0.0067	-0.3857	0.0007		
89	SLD 14	-5.97	0.13	77.86	0.0067	-0.3857	0.0007		
89	SLD 15	-7.35	0.11	69.76	0.0559	-0.4482	0.0006		
89	SLD 16	-7.35	0.11	69.76	0.0559	-0.4482	0.0006		
89	SLV 1	11.89	-0.06	22.4	-0.1365	0.528	0.0001		
89	SLV 2	11.89	-0.06	22.4	-0.1365	0.528	0.0001		
89	SLV 3	8.45	-0.13	3.35	-0.0108	0.3708	-0.0001		
89	SLV 4	8.45	-0.13	3.35	-0.0108	0.3708	-0.0001		
89	SLV 5	7.66	0.11	74.52	-0.231	0.2864	0.0006		
89	SLV 6	7.66	0.11	74.52	-0.231	0.2864	0.0006		
89	SLV 7	-3.83	-0.09	11.03	0.1879	-0.2377	0.0001		
89	SLV 8	-3.83	-0.09	11.03	0.1879	-0.2377	0.0001		
89	SLV 9	0.58	0.2	100.15	-0.1864	-0.0779	0.0009		
89	SLV 10	0.58	0.2	100.15	-0.1864	-0.0779	0.0009		
89	SLV 11	-10.9	0	36.66	0.2325	-0.602	0.0003		
89	SLV 12	-10.9	0	36.66	0.2325	-0.602	0.0003		
89	SLV 13	-11.7	0.24	107.83	0.0123	-0.6864	0.001		
89	SLV 14	-11.7	0.24	107.83	0.0123	-0.6864	0.001		
89	SLV 15	-15.14	0.18	88.78	0.1379	-0.8436	0.0008		
89	SLV 16	-15.14	0.18	88.78	0.1379	-0.8436	0.0008		
90	SLU 1	-6.42	11.24	68.98	-0.3001	-0.1496	-0.0018		
90	SLU 2	-5.7	12.38	71.44	-0.3443	-0.1093	-0.0026		
90	SLU 3	-6.61	11.68	71.48	-0.3121	-0.1536	-0.0019		
90	SLU 4	-6.18	12.36	72.96	-0.3386	-0.1294	-0.0024		
90	SLU 5	-5.85	12.7	73.26	-0.353	-0.1123	-0.0027		
90	SLU 6	-6.76	11.99	73.3	-0.3208	-0.1566	-0.002		
90	SLU 7	-6.33	12.68	74.78	-0.3474	-0.1324	-0.0025		
90	SLU 8	-6.71	11.87	72.62	-0.3175	-0.1557	-0.002		
90	SLU 9	-6.28	12.56	74.1	-0.344	-0.1315	-0.0024		
90	SLU 10	-6.67	13.74	80.26	-0.3798	-0.1348	-0.0028		
90	SLU 11	-7.58	13.03	80.31	-0.3476	-0.1792	-0.0021		
90	SLU 12	-7.15	13.72	81.78	-0.3741	-0.155	-0.0025		
90	SLU 13	-6.82	14.05	82.08	-0.3885	-0.1379	-0.0028		
90	SLU 14	-7.73	13.35	82.13	-0.3563	-0.1822	-0.0021		
90	SLU 15	-7.3	14.04	83.61	-0.3829	-0.158	-0.0026		
90	SLU 16	-7.68	13.23	81.45	-0.353	-0.1812	-0.0021		
90	SLU 17	-7.25	13.91	82.92	-0.3795	-0.157	-0.0026		
90	SLU 18	-7.81	13.17	81.58	-0.3508	-0.1861	-0.002		
90	SLU 19	-7.38	13.86	83.06	-0.3773	-0.1619	-0.0025		
90	SLU 20	-7.95	13.49	83.41	-0.3595	-0.1892	-0.0021		
90	SLU 21	-7.52	14.18	84.88	-0.386	-0.1649	-0.0026		
90	SLU 22	-7.31	12.66	77.88	-0.3377	-0.1716	-0.002		
90	SLU 23	-6.59	13.8	80.34	-0.3819	-0.1313	-0.0028		
90	SLU 24	-7.5	13.1	80.38	-0.3497	-0.1756	-0.0021		
90	SLU 25	-7.07	13.79	81.86	-0.3762	-0.1514	-0.0026		
90	SLU 26	-6.73	14.12	82.16	-0.3906	-0.1343	-0.0029		
90	SLU 27	-7.64	13.41	82.21	-0.3584	-0.1786	-0.0022		
90	SLU 28	-7.21	14.1	83.68	-0.385	-0.1544	-0.0027		
90	SLU 29	-7.59	13.29	81.52	-0.3551	-0.1777	-0.0022		
90	SLU 30	-7.16	13.98	83	-0.3816	-0.1535	-0.0026		
90	SLU 31	-7.56	15.16	89.16	-0.4174	-0.1568	-0.003		
90	SLU 32	-8.47	14.45	89.21	-0.3852	-0.2011	-0.0023		
90	SLU 33	-8.04	15.14	90.69	-0.4117	-0.1769	-0.0028		
90	SLU 34	-7.71	15.48	90.99	-0.4261	-0.1598	-0.003		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
90	SLU 35	-8.62	14.77	91.03	-0.3939	-0.2042	-0.0023	
90	SLU 36	-8.19	15.46	92.51	-0.4205	-0.18	-0.0028	
90	SLU 37	-8.57	14.65	90.35	-0.3906	-0.2032	-0.0023	
90	SLU 38	-8.14	15.33	91.82	-0.4171	-0.179	-0.0028	
90	SLU 39	-8.69	14.59	90.49	-0.3884	-0.2081	-0.0022	
90	SLU 40	-8.26	15.28	91.96	-0.4149	-0.1839	-0.0027	
90	SLU 41	-8.84	14.91	92.31	-0.3971	-0.2111	-0.0023	
90	SLU 42	-8.41	15.6	93.78	-0.4236	-0.1869	-0.0028	
90	SLU 43	-8.04	14.12	86.62	-0.3772	-0.187	-0.0023	
90	SLU 44	-7.32	15.27	89.08	-0.4214	-0.1467	-0.0031	
90	SLU 45	-8.23	14.56	89.12	-0.3892	-0.191	-0.0024	
90	SLU 46	-7.8	15.25	90.6	-0.4158	-0.1668	-0.0029	
90	SLU 47	-7.47	15.58	90.9	-0.4301	-0.1497	-0.0032	
90	SLU 48	-8.38	14.88	90.94	-0.398	-0.194	-0.0025	
90	SLU 49	-7.95	15.57	92.42	-0.4245	-0.1698	-0.0029	
90	SLU 50	-8.33	14.75	90.26	-0.3946	-0.193	-0.0024	
90	SLU 51	-7.9	15.44	91.74	-0.4212	-0.1688	-0.0029	
90	SLU 52	-8.3	16.62	97.9	-0.4569	-0.1722	-0.0032	
90	SLU 53	-9.2	15.91	97.95	-0.4247	-0.2165	-0.0025	
90	SLU 54	-8.78	16.6	99.42	-0.4513	-0.1923	-0.003	
90	SLU 55	-8.44	16.94	99.72	-0.4656	-0.1752	-0.0033	
90	SLU 56	-9.35	16.23	99.77	-0.4335	-0.2195	-0.0026	
90	SLU 57	-8.92	16.92	101.25	-0.46	-0.1953	-0.0031	
90	SLU 58	-9.3	16.11	99.09	-0.4301	-0.2186	-0.0026	
90	SLU 59	-8.87	16.8	100.56	-0.4567	-0.1944	-0.0031	
90	SLU 60	-9.43	16.05	99.22	-0.4279	-0.2235	-0.0025	
90	SLU 61	-9	16.74	100.7	-0.4545	-0.1993	-0.003	
90	SLU 62	-9.57	16.37	101.05	-0.4366	-0.2265	-0.0026	
90	SLU 63	-9.14	17.06	102.52	-0.4632	-0.2023	-0.0031	
90	SLU 64	-8.93	15.54	95.52	-0.4148	-0.209	-0.0025	
90	SLU 65	-8.21	16.69	97.98	-0.459	-0.1686	-0.0033	
90	SLU 66	-9.12	15.98	98.02	-0.4268	-0.2129	-0.0026	
90	SLU 67	-8.69	16.67	99.5	-0.4534	-0.1887	-0.0031	
90	SLU 68	-8.36	17.01	99.8	-0.4677	-0.1717	-0.0034	
90	SLU 69	-9.26	16.3	99.85	-0.4356	-0.216	-0.0027	
90	SLU 70	-8.84	16.99	101.32	-0.4621	-0.1918	-0.0031	
90	SLU 71	-9.21	16.18	99.16	-0.4322	-0.215	-0.0026	
90	SLU 72	-8.79	16.86	100.64	-0.4588	-0.1908	-0.0031	
90	SLU 73	-9.18	18.04	106.8	-0.4945	-0.1942	-0.0035	
90	SLU 74	-10.09	17.34	106.85	-0.4623	-0.2385	-0.0028	
90	SLU 75	-9.66	18.02	108.33	-0.4889	-0.2143	-0.0032	
90	SLU 76	-9.33	18.36	108.63	-0.5032	-0.1972	-0.0035	
90	SLU 77	-10.24	17.65	108.67	-0.4711	-0.2415	-0.0028	
90	SLU 78	-9.81	18.34	110.15	-0.4976	-0.2173	-0.0033	
90	SLU 79	-10.19	17.53	107.99	-0.4677	-0.2406	-0.0028	
90	SLU 80	-9.76	18.22	109.46	-0.4943	-0.2164	-0.0033	
90	SLU 81	-10.31	17.48	108.13	-0.4655	-0.2455	-0.0027	
90	SLU 82	-9.89	18.16	109.6	-0.492	-0.2213	-0.0032	
90	SLU 83	-10.46	17.79	109.95	-0.4742	-0.2485	-0.0028	
90	SLU 84	-10.03	18.48	111.42	-0.5008	-0.2243	-0.0033	
90	SLE RA 1	-6.67	11.64	71.52	-0.3108	-0.1559	-0.0019	
90	SLE RA 2	-6.19	12.41	73.16	-0.3403	-0.129	-0.0024	
90	SLE RA 3	-6.8	11.94	73.19	-0.3188	-0.1586	-0.0019	
90	SLE RA 4	-6.51	12.39	74.17	-0.3365	-0.1424	-0.0023	
90	SLE RA 5	-6.29	12.62	74.38	-0.3461	-0.131	-0.0025	
90	SLE RA 6	-6.9	12.15	74.4	-0.3247	-0.1606	-0.002	
90	SLE RA 7	-6.61	12.61	75.39	-0.3423	-0.1444	-0.0023	
90	SLE RA 8	-6.86	12.07	73.95	-0.3224	-0.1599	-0.002	
90	SLE RA 9	-6.58	12.52	74.93	-0.3401	-0.1438	-0.0023	
90	SLE RA 10	-6.84	13.31	79.04	-0.364	-0.1461	-0.0025	
90	SLE RA 11	-7.45	12.84	79.07	-0.3425	-0.1756	-0.002	
90	SLE RA 12	-7.16	13.3	80.06	-0.3602	-0.1595	-0.0024	
90	SLE RA 13	-6.94	13.52	80.26	-0.3698	-0.1481	-0.0026	
90	SLE RA 14	-7.54	13.05	80.29	-0.3483	-0.1776	-0.0021	
90	SLE RA 15	-7.26	13.51	81.27	-0.366	-0.1615	-0.0024	
90	SLE RA 16	-7.51	12.97	79.83	-0.3461	-0.177	-0.0021	
90	SLE RA 17	-7.23	13.43	80.82	-0.3638	-0.1608	-0.0024	
90	SLE RA 18	-7.6	12.93	79.92	-0.3446	-0.1802	-0.002	
90	SLE RA 19	-7.31	13.39	80.91	-0.3623	-0.1641	-0.0023	
90	SLE RA 20	-7.69	13.14	81.14	-0.3504	-0.1823	-0.0021	
90	SLE RA 21	-7.41	13.6	82.12	-0.3681	-0.1661	-0.0024	
90	SLE FR 1	-6.67	11.64	71.52	-0.3108	-0.1559	-0.0019	
90	SLE FR 2	-6.58	11.8	71.85	-0.3167	-0.1505	-0.002	
90	SLE FR 3	-6.71	11.73	72.01	-0.3131	-0.1567	-0.0019	
90	SLE FR 4	-6.85	12.18	74.37	-0.3269	-0.1578	-0.002	
90	SLE FR 5	-6.99	12.11	74.53	-0.3233	-0.164	-0.0019	
90	SLE FR 6	-7.13	12.29	75.72	-0.3277	-0.1681	-0.002	
90	SLE QP 1	-6.67	11.64	71.52	-0.3108	-0.1559	-0.0019	
90	SLE QP 2	-6.95	12.03	74.04	-0.321	-0.1632	-0.0019	
90	SLD 1	-2.87	10.04	52.2	-0.292	-0.0255	-0.0032	
90	SLD 2	-2.87	10.04	52.2	-0.292	-0.0255	-0.0032	
90	SLD 3	-1.79	7.67	40.61	-0.2101	0.0132	-0.0024	
90	SLD 4	-1.79	7.67	40.61	-0.2101	0.0132	-0.0024	
90	SLD 5	-7.37	15.04	85.06	-0.4364	-0.1807	-0.0036	
90	SLD 6	-7.37	15.04	85.06	-0.4364	-0.1807	-0.0036	
90	SLD 7	-3.76	7.11	46.44	-0.1636	-0.0515	-0.0007	
90	SLD 8	-3.76	7.11	46.44	-0.1636	-0.0515	-0.0007	
90	SLD 9	-10.14	16.95	101.65	-0.4784	-0.2749	-0.0031	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
90	SLD 10	-10.14	16.95	101.65	-0.4784	-0.2749	-0.0031	
90	SLD 11	-6.53	9.02	63.02	-0.2055	-0.1457	-0.0002	
90	SLD 12	-6.53	9.02	63.02	-0.2055	-0.1457	-0.0002	
90	SLD 13	-12.11	16.39	107.47	-0.4318	-0.3397	-0.0015	
90	SLD 14	-12.11	16.39	107.47	-0.4318	-0.3397	-0.0015	
90	SLD 15	-11.02	14.02	95.88	-0.3499	-0.3009	-0.0006	
90	SLD 16	-11.02	14.02	95.88	-0.3499	-0.3009	-0.0006	
90	SLV 1	2.55	7.38	22.89	-0.2535	0.1566	-0.005	
90	SLV 2	2.55	7.38	22.89	-0.2535	0.1566	-0.005	
90	SLV 3	5.19	1.8	-4.4	-0.0611	0.2536	-0.0029	
90	SLV 4	5.19	1.8	-4.4	-0.0611	0.2536	-0.0029	
90	SLV 5	-8.1	19.1	100.08	-0.5925	-0.2145	-0.006	
90	SLV 6	-8.1	19.1	100.08	-0.5925	-0.2145	-0.006	
90	SLV 7	0.7	0.5	9.12	0.0487	0.1091	0.0009	
90	SLV 8	0.7	0.5	9.12	0.0487	0.1091	0.0009	
90	SLV 9	-14.6	23.56	138.96	-0.6907	-0.4355	-0.0048	
90	SLV 10	-14.6	23.56	138.96	-0.6907	-0.4355	-0.0048	
90	SLV 11	-5.8	4.96	48	-0.0495	-0.1119	0.0022	
90	SLV 12	-5.8	4.96	48	-0.0495	-0.1119	0.0022	
90	SLV 13	-19.09	22.26	152.48	-0.5808	-0.5801	-0.0009	
90	SLV 14	-19.09	22.26	152.48	-0.5808	-0.5801	-0.0009	
90	SLV 15	-16.45	16.68	125.2	-0.3884	-0.483	0.0012	
90	SLV 16	-16.45	16.68	125.2	-0.3884	-0.483	0.0012	
91	SLU 1	-0.03	-0.35	2.3	0.0369	-0.014	0.0004	
91	SLU 2	-0.03	-0.36	2.26	0.0377	-0.0146	0.0004	
91	SLU 3	-0.03	-0.4	2.09	0.0404	-0.0139	0.0004	
91	SLU 4	-0.03	-0.41	2.07	0.0409	-0.0143	0.0004	
91	SLU 5	-0.03	-0.4	2.13	0.0398	-0.0144	0.0004	
91	SLU 6	-0.03	-0.44	1.96	0.0424	-0.0138	0.0004	
91	SLU 7	-0.03	-0.44	1.94	0.0429	-0.0141	0.0004	
91	SLU 8	-0.03	-0.42	2.05	0.041	-0.0137	0.0004	
91	SLU 9	-0.03	-0.42	2.02	0.0415	-0.014	0.0004	
91	SLU 10	-0.06	-0.28	6.05	0.029	-0.0312	0.0007	
91	SLU 11	-0.06	-0.32	5.89	0.0317	-0.0305	0.0007	
91	SLU 12	-0.06	-0.32	5.86	0.0322	-0.0309	0.0007	
91	SLU 13	-0.06	-0.31	5.93	0.0311	-0.031	0.0007	
91	SLU 14	-0.06	-0.35	5.76	0.0337	-0.0304	0.0007	
91	SLU 15	-0.06	-0.36	5.73	0.0342	-0.0307	0.0007	
91	SLU 16	-0.06	-0.33	5.84	0.0323	-0.0302	0.0007	
91	SLU 17	-0.06	-0.34	5.82	0.0328	-0.0306	0.0007	
91	SLU 18	-0.07	-0.23	7.72	0.0245	-0.0377	0.0008	
91	SLU 19	-0.07	-0.23	7.7	0.025	-0.038	0.0009	
91	SLU 20	-0.07	-0.26	7.59	0.0265	-0.0375	0.0009	
91	SLU 21	-0.07	-0.27	7.57	0.027	-0.0379	0.0009	
91	SLU 22	-0.03	-0.52	2.07	0.048	-0.0172	0.0005	
91	SLU 23	-0.03	-0.53	2.02	0.0488	-0.0178	0.0005	
91	SLU 24	-0.03	-0.57	1.85	0.0515	-0.0172	0.0005	
91	SLU 25	-0.03	-0.58	1.83	0.052	-0.0175	0.0005	
91	SLU 26	-0.03	-0.56	1.9	0.0509	-0.0177	0.0005	
91	SLU 27	-0.03	-0.6	1.73	0.0535	-0.017	0.0005	
91	SLU 28	-0.03	-0.61	1.7	0.054	-0.0174	0.0005	
91	SLU 29	-0.03	-0.58	1.81	0.0521	-0.0169	0.0005	
91	SLU 30	-0.03	-0.59	1.79	0.0525	-0.0173	0.0005	
91	SLU 31	-0.06	-0.44	5.82	0.0401	-0.0344	0.0008	
91	SLU 32	-0.06	-0.48	5.65	0.0428	-0.0337	0.0008	
91	SLU 33	-0.06	-0.49	5.62	0.0432	-0.0341	0.0008	
91	SLU 34	-0.06	-0.48	5.69	0.0421	-0.0343	0.0008	
91	SLU 35	-0.06	-0.51	5.52	0.0448	-0.0336	0.0008	
91	SLU 36	-0.06	-0.52	5.5	0.0453	-0.034	0.0008	
91	SLU 37	-0.06	-0.49	5.61	0.0433	-0.0335	0.0008	
91	SLU 38	-0.06	-0.5	5.58	0.0438	-0.0338	0.0008	
91	SLU 39	-0.08	-0.39	7.48	0.0356	-0.0409	0.0009	
91	SLU 40	-0.08	-0.4	7.46	0.0361	-0.0413	0.0009	
91	SLU 41	-0.07	-0.43	7.36	0.0376	-0.0407	0.0009	
91	SLU 42	-0.08	-0.43	7.33	0.0381	-0.0411	0.0009	
91	SLU 43	-0.03	-0.4	3.07	0.0442	-0.0171	0.0005	
91	SLU 44	-0.03	-0.41	3.03	0.045	-0.0177	0.0005	
91	SLU 45	-0.03	-0.45	2.86	0.0477	-0.017	0.0005	
91	SLU 46	-0.03	-0.46	2.84	0.0482	-0.0174	0.0005	
91	SLU 47	-0.03	-0.44	2.9	0.0471	-0.0175	0.0005	
91	SLU 48	-0.03	-0.48	2.74	0.0497	-0.0169	0.0005	
91	SLU 49	-0.03	-0.49	2.71	0.0502	-0.0172	0.0005	
91	SLU 50	-0.03	-0.46	2.82	0.0483	-0.0167	0.0005	
91	SLU 51	-0.03	-0.47	2.79	0.0488	-0.0171	0.0005	
91	SLU 52	-0.06	-0.32	6.83	0.0363	-0.0343	0.0008	
91	SLU 53	-0.06	-0.36	6.66	0.039	-0.0336	0.0008	
91	SLU 54	-0.06	-0.37	6.63	0.0394	-0.034	0.0008	
91	SLU 55	-0.06	-0.36	6.7	0.0383	-0.0341	0.0008	
91	SLU 56	-0.06	-0.4	6.53	0.041	-0.0334	0.0008	
91	SLU 57	-0.06	-0.4	6.51	0.0415	-0.0338	0.0008	
91	SLU 58	-0.06	-0.38	6.61	0.0395	-0.0333	0.0008	
91	SLU 59	-0.06	-0.38	6.59	0.04	-0.0337	0.0008	
91	SLU 60	-0.08	-0.27	8.49	0.0318	-0.0408	0.0009	
91	SLU 61	-0.08	-0.28	8.47	0.0323	-0.0411	0.001	
91	SLU 62	-0.08	-0.31	8.37	0.0338	-0.0406	0.0009	
91	SLU 63	-0.08	-0.31	8.34	0.0343	-0.041	0.001	
91	SLU 64	-0.04	-0.56	2.84	0.0553	-0.0203	0.0006	
91	SLU 65	-0.04	-0.58	2.79	0.0561	-0.0209	0.0006	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
91	SLU 66	-0.04	-0.62	2.63	0.0587	-0.0202	0.0006		
91	SLU 67	-0.04	-0.62	2.6	0.0592	-0.0206	0.0006		
91	SLU 68	-0.04	-0.61	2.67	0.0581	-0.0207	0.0006		
91	SLU 69	-0.04	-0.65	2.5	0.0608	-0.0201	0.0006		
91	SLU 70	-0.04	-0.66	2.47	0.0613	-0.0205	0.0006		
91	SLU 71	-0.04	-0.63	2.58	0.0593	-0.02	0.0006		
91	SLU 72	-0.04	-0.64	2.56	0.0598	-0.0203	0.0006		
91	SLU 73	-0.07	-0.49	6.59	0.0474	-0.0375	0.0009		
91	SLU 74	-0.07	-0.53	6.42	0.05	-0.0368	0.0009		
91	SLU 75	-0.07	-0.54	6.4	0.0505	-0.0372	0.0009		
91	SLU 76	-0.07	-0.52	6.46	0.0494	-0.0373	0.0009		
91	SLU 77	-0.07	-0.56	6.29	0.0521	-0.0367	0.0009		
91	SLU 78	-0.07	-0.57	6.27	0.0525	-0.037	0.0009		
91	SLU 79	-0.07	-0.54	6.38	0.0506	-0.0366	0.0009		
91	SLU 80	-0.07	-0.55	6.35	0.0511	-0.0369	0.0009		
91	SLU 81	-0.08	-0.44	8.26	0.0428	-0.044	0.001		
91	SLU 82	-0.08	-0.45	8.23	0.0433	-0.0444	0.001		
91	SLU 83	-0.08	-0.47	8.13	0.0449	-0.0438	0.001		
91	SLU 84	-0.08	-0.48	8.1	0.0454	-0.0442	0.001		
91	SLE RA 1	-0.03	-0.4	2.23	0.0401	-0.0149	0.0004		
91	SLE RA 2	-0.03	-0.41	2.21	0.0406	-0.0153	0.0004		
91	SLE RA 3	-0.03	-0.43	2.09	0.0424	-0.0149	0.0004		
91	SLE RA 4	-0.03	-0.44	2.08	0.0427	-0.0151	0.0004		
91	SLE RA 5	-0.03	-0.43	2.12	0.042	-0.0152	0.0004		
91	SLE RA 6	-0.03	-0.45	2.01	0.0438	-0.0148	0.0004		
91	SLE RA 7	-0.03	-0.46	1.99	0.0441	-0.015	0.0004		
91	SLE RA 8	-0.03	-0.44	2.07	0.0428	-0.0147	0.0004		
91	SLE RA 9	-0.03	-0.45	2.05	0.0431	-0.0149	0.0004		
91	SLE RA 10	-0.05	-0.35	4.74	0.0348	-0.0264	0.0006		
91	SLE RA 11	-0.05	-0.37	4.62	0.0366	-0.0259	0.0006		
91	SLE RA 12	-0.05	-0.38	4.61	0.0369	-0.0262	0.0006		
91	SLE RA 13	-0.05	-0.37	4.65	0.0362	-0.0263	0.0006		
91	SLE RA 14	-0.05	-0.4	4.54	0.0379	-0.0258	0.0006		
91	SLE RA 15	-0.05	-0.4	4.52	0.0383	-0.0261	0.0006		
91	SLE RA 16	-0.05	-0.38	4.59	0.037	-0.0257	0.0006		
91	SLE RA 17	-0.05	-0.39	4.58	0.0373	-0.026	0.0006		
91	SLE RA 18	-0.06	-0.32	5.85	0.0318	-0.0307	0.0007		
91	SLE RA 19	-0.06	-0.32	5.83	0.0321	-0.0309	0.0007		
91	SLE RA 20	-0.06	-0.34	5.76	0.0331	-0.0306	0.0007		
91	SLE RA 21	-0.06	-0.34	5.75	0.0335	-0.0308	0.0007		
91	SLE FR 1	-0.03	-0.4	2.23	0.0401	-0.0149	0.0004		
91	SLE FR 2	-0.03	-0.4	2.23	0.0402	-0.015	0.0004		
91	SLE FR 3	-0.03	-0.41	2.2	0.0406	-0.0149	0.0004		
91	SLE FR 4	-0.04	-0.37	3.31	0.0377	-0.0197	0.0005		
91	SLE FR 5	-0.04	-0.38	3.28	0.0381	-0.0196	0.0005		
91	SLE FR 6	-0.04	-0.36	4.04	0.0359	-0.0228	0.0006		
91	SLE QP 1	-0.03	-0.4	2.23	0.0401	-0.0149	0.0004		
91	SLE QP 2	-0.04	-0.37	3.32	0.0376	-0.0196	0.0005		
91	SLD 1	-0.1	-0.59	2.69	0.0499	0.001	0.0019		
91	SLD 2	-0.1	-0.59	2.69	0.0499	0.001	0.0019		
91	SLD 3	-0.09	-1.92	-1.48	0.1352	0.0037	0.0017		
91	SLD 4	-0.09	-1.92	-1.48	0.1352	0.0037	0.0017		
91	SLD 5	-0.07	1.58	9.45	-0.0881	-0.0175	0.0012		
91	SLD 6	-0.07	1.58	9.45	-0.0881	-0.0175	0.0012		
91	SLD 7	-0.04	-2.85	-4.44	0.1963	-0.0086	0.0006		
91	SLD 8	-0.04	-2.85	-4.44	0.1963	-0.0086	0.0006		
91	SLD 9	-0.03	2.11	11.07	-0.1211	-0.0307	0.0004		
91	SLD 10	-0.03	2.11	11.07	-0.1211	-0.0307	0.0004		
91	SLD 11	-0.01	-2.33	-2.81	0.1633	-0.0218	-0.0002		
91	SLD 12	-0.01	-2.33	-2.81	0.1633	-0.0218	-0.0002		
91	SLD 13	0.02	1.17	8.11	-0.06	-0.0429	-0.0007		
91	SLD 14	0.02	1.17	8.11	-0.06	-0.0429	-0.0007		
91	SLD 15	0.03	-0.16	3.95	0.0253	-0.0403	-0.0009		
91	SLD 16	0.03	-0.16	3.95	0.0253	-0.0403	-0.0009		
91	SLV 1	-0.2	-0.87	1.86	0.0662	0.032	0.004		
91	SLV 2	-0.2	-0.87	1.86	0.0662	0.032	0.004		
91	SLV 3	-0.18	-4	-7.91	0.2663	0.0385	0.0035		
91	SLV 4	-0.18	-4	-7.91	0.2663	0.0385	0.0035		
91	SLV 5	-0.11	4.21	17.69	-0.2573	-0.0139	0.0022		
91	SLV 6	-0.11	4.21	17.69	-0.2573	-0.0139	0.0022		
91	SLV 7	-0.05	-6.19	-14.86	0.4097	0.0076	0.0007		
91	SLV 8	-0.05	-6.19	-14.86	0.4097	0.0076	0.0007		
91	SLV 9	-0.02	5.45	21.5	-0.3345	-0.0469	0.0003		
91	SLV 10	-0.02	5.45	21.5	-0.3345	-0.0469	0.0003		
91	SLV 11	0.04	-4.96	-11.05	0.3325	-0.0253	-0.0012		
91	SLV 12	0.04	-4.96	-11.05	0.3325	-0.0253	-0.0012		
91	SLV 13	0.11	3.25	14.55	-0.1911	-0.0778	-0.0025		
91	SLV 14	0.11	3.25	14.55	-0.1911	-0.0778	-0.0025		
91	SLV 15	0.13	0.13	4.78	0.009	-0.0713	-0.003		
91	SLV 16	0.13	0.13	4.78	0.009	-0.0713	-0.003		
92	SLU 1	0.03	1.4	44.83	-0.1001	0.0183	0.0002		
92	SLU 2	0.04	0.92	45.1	-0.0802	0.0199	0.0002		
92	SLU 3	0.03	1.87	46.42	-0.1229	0.0188	0.0002		
92	SLU 4	0.04	1.59	46.58	-0.111	0.0198	0.0002		
92	SLU 5	0.04	1.44	46.54	-0.105	0.0203	0.0002		
92	SLU 6	0.03	2.39	47.85	-0.1477	0.0192	0.0002		
92	SLU 7	0.04	2.11	48.01	-0.1358	0.0201	0.0002		
92	SLU 8	0.03	2.43	47.7	-0.1497	0.0191	0.0002		





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
92	SLU 9	0.04	2.15	47.86	-0.1378	0.02	0.0002
92	SLU 10	0.04	1.25	52.43	-0.1008	0.0215	0.0003
92	SLU 11	0.04	2.21	53.74	-0.1434	0.0204	0.0002
92	SLU 12	0.04	1.92	53.9	-0.1315	0.0214	0.0003
92	SLU 13	0.05	1.77	53.86	-0.1255	0.0219	0.0003
92	SLU 14	0.04	2.72	55.18	-0.1682	0.0208	0.0002
92	SLU 15	0.04	2.44	55.34	-0.1563	0.0218	0.0003
92	SLU 16	0.04	2.76	55.03	-0.1702	0.0207	0.0002
92	SLU 17	0.04	2.48	55.19	-0.1583	0.0216	0.0003
92	SLU 18	0.04	1.87	55.3	-0.1294	0.0206	0.0002
92	SLU 19	0.05	1.59	55.46	-0.1175	0.0215	0.0003
92	SLU 20	0.04	2.39	56.73	-0.1542	0.021	0.0002
92	SLU 21	0.05	2.1	56.89	-0.1423	0.0219	0.0003
92	SLU 22	0.04	1.75	49.8	-0.1206	0.0208	0.0002
92	SLU 23	0.04	1.28	50.07	-0.1007	0.0224	0.0003
92	SLU 24	0.04	2.23	51.39	-0.1434	0.0214	0.0002
92	SLU 25	0.04	1.95	51.55	-0.1315	0.0223	0.0003
92	SLU 26	0.04	1.8	51.51	-0.1255	0.0228	0.0003
92	SLU 27	0.04	2.75	52.82	-0.1682	0.0217	0.0002
92	SLU 28	0.04	2.46	52.99	-0.1563	0.0227	0.0003
92	SLU 29	0.04	2.79	52.67	-0.1702	0.0216	0.0002
92	SLU 30	0.04	2.5	52.84	-0.1583	0.0226	0.0003
92	SLU 31	0.05	1.61	57.4	-0.1212	0.024	0.0003
92	SLU 32	0.05	2.57	58.71	-0.1639	0.023	0.0003
92	SLU 33	0.05	2.28	58.88	-0.152	0.0239	0.0003
92	SLU 34	0.05	2.13	58.83	-0.146	0.0244	0.0003
92	SLU 35	0.05	3.08	60.15	-0.1887	0.0234	0.0003
92	SLU 36	0.05	2.8	60.31	-0.1768	0.0243	0.0003
92	SLU 37	0.05	3.12	60	-0.1907	0.0232	0.0003
92	SLU 38	0.05	2.84	60.16	-0.1788	0.0242	0.0003
92	SLU 39	0.05	2.23	60.27	-0.1499	0.0231	0.0003
92	SLU 40	0.05	1.95	60.43	-0.138	0.0241	0.0003
92	SLU 41	0.05	2.75	61.7	-0.1747	0.0235	0.0003
92	SLU 42	0.05	2.46	61.86	-0.1628	0.0245	0.0003
92	SLU 43	0.04	1.69	56.58	-0.1231	0.0229	0.0002
92	SLU 44	0.05	1.22	56.85	-0.1033	0.0245	0.0003
92	SLU 45	0.04	2.17	58.16	-0.1459	0.0234	0.0002
92	SLU 46	0.04	1.88	58.32	-0.134	0.0244	0.0002
92	SLU 47	0.05	1.73	58.28	-0.1281	0.0249	0.0003
92	SLU 48	0.04	2.69	59.6	-0.1707	0.0238	0.0002
92	SLU 49	0.04	2.4	59.76	-0.1588	0.0248	0.0002
92	SLU 50	0.04	2.73	59.45	-0.1727	0.0237	0.0002
92	SLU 51	0.04	2.44	59.61	-0.1608	0.0246	0.0002
92	SLU 52	0.05	1.55	64.17	-0.1238	0.0261	0.0003
92	SLU 53	0.05	2.5	65.49	-0.1665	0.025	0.0003
92	SLU 54	0.05	2.22	65.65	-0.1545	0.026	0.0003
92	SLU 55	0.05	2.07	65.61	-0.1486	0.0265	0.0003
92	SLU 56	0.05	3.02	66.93	-0.1912	0.0254	0.0003
92	SLU 57	0.05	2.73	67.09	-0.1793	0.0264	0.0003
92	SLU 58	0.05	3.06	66.78	-0.1932	0.0253	0.0003
92	SLU 59	0.05	2.77	66.94	-0.1813	0.0262	0.0003
92	SLU 60	0.05	2.17	67.04	-0.1524	0.0252	0.0003
92	SLU 61	0.05	1.88	67.2	-0.1405	0.0261	0.0003
92	SLU 62	0.05	2.69	68.48	-0.1772	0.0256	0.0003
92	SLU 63	0.05	2.4	68.64	-0.1653	0.0265	0.0003
92	SLU 64	0.05	2.05	61.55	-0.1436	0.0254	0.0003
92	SLU 65	0.05	1.57	61.82	-0.1237	0.027	0.0003
92	SLU 66	0.05	2.53	63.13	-0.1664	0.026	0.0003
92	SLU 67	0.05	2.24	63.29	-0.1545	0.0269	0.0003
92	SLU 68	0.05	2.09	63.25	-0.1485	0.0274	0.0003
92	SLU 69	0.05	3.05	64.57	-0.1912	0.0264	0.0003
92	SLU 70	0.05	2.76	64.73	-0.1793	0.0273	0.0003
92	SLU 71	0.05	3.09	64.42	-0.1932	0.0262	0.0003
92	SLU 72	0.05	2.8	64.58	-0.1813	0.0272	0.0003
92	SLU 73	0.06	1.91	69.14	-0.1443	0.0286	0.0004
92	SLU 74	0.05	2.86	70.46	-0.1869	0.0276	0.0003
92	SLU 75	0.06	2.58	70.62	-0.175	0.0285	0.0003
92	SLU 76	0.06	2.43	70.58	-0.169	0.029	0.0004
92	SLU 77	0.05	3.38	71.9	-0.2117	0.028	0.0003
92	SLU 78	0.06	3.09	72.06	-0.1998	0.0289	0.0003
92	SLU 79	0.05	3.42	71.75	-0.2137	0.0278	0.0003
92	SLU 80	0.06	3.13	71.91	-0.2018	0.0288	0.0003
92	SLU 81	0.06	2.53	72.01	-0.1729	0.0277	0.0003
92	SLU 82	0.06	2.24	72.17	-0.161	0.0287	0.0004
92	SLU 83	0.06	3.04	73.45	-0.1977	0.0281	0.0003
92	SLU 84	0.06	2.76	73.61	-0.1858	0.0291	0.0004
92	SLE RA 1	0.03	1.5	46.25	-0.106	0.019	0.0002
92	SLE RA 2	0.04	1.18	46.43	-0.0927	0.0201	0.0002
92	SLE RA 3	0.03	1.82	47.31	-0.1212	0.0194	0.0002
92	SLE RA 4	0.04	1.63	47.42	-0.1132	0.02	0.0002
92	SLE RA 5	0.04	1.53	47.39	-0.1093	0.0203	0.0002
92	SLE RA 6	0.03	2.16	48.27	-0.1377	0.0196	0.0002
92	SLE RA 7	0.04	1.97	48.37	-0.1298	0.0203	0.0002
92	SLE RA 8	0.03	2.19	48.17	-0.139	0.0195	0.0002
92	SLE RA 9	0.04	2	48.27	-0.1311	0.0202	0.0002
92	SLE RA 10	0.04	1.4	51.31	-0.1064	0.0211	0.0003
92	SLE RA 11	0.04	2.04	52.19	-0.1349	0.0204	0.0002
92	SLE RA 12	0.04	1.85	52.3	-0.1269	0.0211	0.0002



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
92	SLE RA 13	0.04	1.75	52.27	-0.1229	0.0214	0.0003
92	SLE RA 14	0.04	2.38	53.15	-0.1514	0.0207	0.0002
92	SLE RA 15	0.04	2.19	53.26	-0.1434	0.0213	0.0002
92	SLE RA 16	0.04	2.41	53.05	-0.1527	0.0206	0.0002
92	SLE RA 17	0.04	2.22	53.16	-0.1448	0.0212	0.0002
92	SLE RA 18	0.04	1.82	53.23	-0.1255	0.0205	0.0002
92	SLE RA 19	0.04	1.63	53.34	-0.1176	0.0212	0.0003
92	SLE RA 20	0.04	2.16	54.19	-0.142	0.0208	0.0002
92	SLE RA 21	0.04	1.97	54.29	-0.1341	0.0214	0.0003
92	SLE FR 1	0.03	1.5	46.25	-0.106	0.019	0.0002
92	SLE FR 2	0.03	1.43	46.29	-0.1033	0.0192	0.0002
92	SLE FR 3	0.03	1.64	46.64	-0.1126	0.0191	0.0002
92	SLE FR 4	0.04	1.53	48.38	-0.1092	0.0197	0.0002
92	SLE FR 5	0.04	1.73	48.73	-0.1184	0.0196	0.0002
92	SLE FR 6	0.04	1.66	49.74	-0.1157	0.0198	0.0002
92	SLE QP 1	0.03	1.5	46.25	-0.106	0.019	0.0002
92	SLE QP 2	0.04	1.59	48.35	-0.1118	0.0195	0.0002
92	SLD 1	0.08	1.94	56.54	-0.1289	0.0511	0.0004
92	SLD 2	0.08	1.94	56.54	-0.1289	0.0511	0.0004
92	SLD 3	0.06	-1.16	53.27	0.0161	0.0422	0.0006
92	SLD 4	0.06	-1.16	53.27	0.0161	0.0422	0.0006
92	SLD 5	0.09	6.39	55.77	-0.3369	0.0425	0
92	SLD 6	0.09	6.39	55.77	-0.3369	0.0425	0
92	SLD 7	0	-3.93	44.86	0.1465	0.0128	0.0006
92	SLD 8	0	-3.93	44.86	0.1465	0.0128	0.0006
92	SLD 9	0.07	7.12	51.83	-0.3702	0.0261	-0.0002
92	SLD 10	0.07	7.12	51.83	-0.3702	0.0261	-0.0002
92	SLD 11	-0.02	-3.21	40.92	0.1132	-0.0035	0.0004
92	SLD 12	-0.02	-3.21	40.92	0.1132	-0.0035	0.0004
92	SLD 13	0.01	4.34	43.42	-0.2398	-0.0033	-0.0002
92	SLD 14	0.01	4.34	43.42	-0.2398	-0.0033	-0.0002
92	SLD 15	-0.01	1.25	40.15	-0.0948	-0.0122	0
92	SLD 16	-0.01	1.25	40.15	-0.0948	-0.0122	0
92	SLV 1	0.15	2.4	67.64	-0.1515	0.0978	0.0006
92	SLV 2	0.15	2.4	67.64	-0.1515	0.0978	0.0006
92	SLV 3	0.09	-4.85	59.9	0.188	0.0768	0.0011
92	SLV 4	0.09	-4.85	59.9	0.188	0.0768	0.0011
92	SLV 5	0.16	12.83	65.87	-0.6386	0.0747	-0.0003
92	SLV 6	0.16	12.83	65.87	-0.6386	0.0747	-0.0003
92	SLV 7	-0.04	-11.33	40.08	0.493	0.0049	0.0012
92	SLV 8	-0.04	-11.33	40.08	0.493	0.0049	0.0012
92	SLV 9	0.11	14.52	56.61	-0.7167	0.034	-0.0007
92	SLV 10	0.11	14.52	56.61	-0.7167	0.034	-0.0007
92	SLV 11	-0.09	-9.64	30.82	0.4149	-0.0358	0.0008
92	SLV 12	-0.09	-9.64	30.82	0.4149	-0.0358	0.0008
92	SLV 13	-0.02	8.04	36.79	-0.4117	-0.0379	-0.0007
92	SLV 14	-0.02	8.04	36.79	-0.4117	-0.0379	-0.0007
92	SLV 15	-0.07	0.79	29.05	-0.0722	-0.0588	-0.0002
92	SLV 16	-0.07	0.79	29.05	-0.0722	-0.0588	-0.0002
93	SLU 1	0	-0.89	3.66	0.0358	-0.0012	0.0001
93	SLU 2	0	-0.91	3.64	0.0365	-0.0015	0.0001
93	SLU 3	0	-0.96	3.53	0.0385	-0.0009	0.0001
93	SLU 4	0	-0.97	3.52	0.0389	-0.0011	0.0001
93	SLU 5	0	-0.96	3.56	0.0383	-0.0011	0.0001
93	SLU 6	0	-1.01	3.45	0.0403	-0.0006	0.0001
93	SLU 7	0	-1.02	3.44	0.0407	-0.0007	0.0001
93	SLU 8	0	-0.98	3.51	0.0394	-0.0005	0.0001
93	SLU 9	0	-0.99	3.49	0.0398	-0.0007	0.0001
93	SLU 10	-0.01	-1.13	7.13	0.0449	-0.0108	0.0004
93	SLU 11	-0.01	-1.18	7.03	0.0469	-0.0103	0.0004
93	SLU 12	-0.01	-1.19	7.01	0.0472	-0.0104	0.0004
93	SLU 13	-0.01	-1.17	7.05	0.0466	-0.0105	0.0004
93	SLU 14	-0.01	-1.22	6.95	0.0486	-0.0099	0.0004
93	SLU 15	-0.01	-1.23	6.93	0.049	-0.0101	0.0004
93	SLU 16	-0.01	-1.2	7	0.0477	-0.0099	0.0004
93	SLU 17	-0.01	-1.21	6.98	0.0481	-0.01	0.0004
93	SLU 18	-0.02	-1.2	8.66	0.0478	-0.0146	0.0006
93	SLU 19	-0.02	-1.21	8.64	0.0482	-0.0148	0.0006
93	SLU 20	-0.02	-1.25	8.58	0.0496	-0.0143	0.0006
93	SLU 21	-0.02	-1.26	8.56	0.05	-0.0144	0.0006
93	SLU 22	0	-1.15	3.67	0.0456	-0.0024	0.0002
93	SLU 23	0	-1.17	3.64	0.0462	-0.0026	0.0002
93	SLU 24	0	-1.22	3.54	0.0482	-0.002	0.0002
93	SLU 25	0	-1.23	3.52	0.0486	-0.0022	0.0002
93	SLU 26	0	-1.21	3.56	0.048	-0.0023	0.0002
93	SLU 27	0	-1.26	3.46	0.05	-0.0017	0.0001
93	SLU 28	0	-1.27	3.44	0.0504	-0.0018	0.0001
93	SLU 29	0	-1.24	3.51	0.0491	-0.0017	0.0001
93	SLU 30	0	-1.25	3.5	0.0495	-0.0018	0.0001
93	SLU 31	-0.01	-1.38	7.14	0.0546	-0.012	0.0005
93	SLU 32	-0.01	-1.43	7.03	0.0566	-0.0114	0.0005
93	SLU 33	-0.01	-1.44	7.02	0.057	-0.0115	0.0005
93	SLU 34	-0.01	-1.43	7.06	0.0564	-0.0116	0.0005
93	SLU 35	-0.01	-1.48	6.95	0.0584	-0.011	0.0005
93	SLU 36	-0.01	-1.49	6.94	0.0588	-0.0112	0.0005
93	SLU 37	-0.01	-1.46	7.01	0.0575	-0.011	0.0005
93	SLU 38	-0.01	-1.47	6.99	0.0579	-0.0112	0.0005
93	SLU 39	-0.02	-1.46	8.66	0.0575	-0.0158	0.0006



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
93	SLU 40	-0.02	-1.47	8.65	0.0579	-0.0159	0.0006
93	SLU 41	-0.02	-1.5	8.58	0.0593	-0.0154	0.0006
93	SLU 42	-0.02	-1.51	8.57	0.0597	-0.0155	0.0006
93	SLU 43	0	-1.07	4.76	0.0432	-0.0012	0.0001
93	SLU 44	0	-1.09	4.73	0.0439	-0.0015	0.0001
93	SLU 45	0	-1.14	4.63	0.0459	-0.0009	0.0001
93	SLU 46	0	-1.15	4.61	0.0463	-0.001	0.0001
93	SLU 47	0	-1.14	4.65	0.0457	-0.0011	0.0001
93	SLU 48	0	-1.19	4.55	0.0477	-0.0005	0.0001
93	SLU 49	0	-1.2	4.53	0.0481	-0.0007	0.0001
93	SLU 50	0	-1.16	4.6	0.0468	-0.0005	0.0001
93	SLU 51	0	-1.17	4.59	0.0472	-0.0007	0.0001
93	SLU 52	-0.01	-1.31	8.23	0.0523	-0.0108	0.0005
93	SLU 53	-0.01	-1.36	8.12	0.0543	-0.0102	0.0004
93	SLU 54	-0.01	-1.37	8.11	0.0547	-0.0104	0.0005
93	SLU 55	-0.01	-1.35	8.15	0.054	-0.0105	0.0005
93	SLU 56	-0.01	-1.4	8.05	0.056	-0.0099	0.0004
93	SLU 57	-0.01	-1.41	8.03	0.0564	-0.01	0.0004
93	SLU 58	-0.01	-1.38	8.1	0.0551	-0.0099	0.0004
93	SLU 59	-0.01	-1.39	8.08	0.0555	-0.01	0.0004
93	SLU 60	-0.02	-1.38	9.75	0.0552	-0.0146	0.0006
93	SLU 61	-0.02	-1.39	9.74	0.0556	-0.0147	0.0006
93	SLU 62	-0.02	-1.43	9.67	0.057	-0.0142	0.0006
93	SLU 63	-0.02	-1.44	9.66	0.0574	-0.0144	0.0006
93	SLU 64	0	-1.33	4.76	0.053	-0.0024	0.0002
93	SLU 65	0	-1.35	4.74	0.0536	-0.0026	0.0002
93	SLU 66	0	-1.4	4.63	0.0556	-0.002	0.0002
93	SLU 67	0	-1.41	4.62	0.056	-0.0022	0.0002
93	SLU 68	0	-1.39	4.66	0.0554	-0.0023	0.0002
93	SLU 69	0	-1.44	4.56	0.0574	-0.0017	0.0002
93	SLU 70	0	-1.45	4.54	0.0578	-0.0018	0.0002
93	SLU 71	0	-1.42	4.61	0.0565	-0.0017	0.0002
93	SLU 72	0	-1.43	4.59	0.0569	-0.0018	0.0002
93	SLU 73	-0.01	-1.56	8.23	0.062	-0.012	0.0005
93	SLU 74	-0.01	-1.61	8.13	0.064	-0.0114	0.0005
93	SLU 75	-0.01	-1.62	8.11	0.0644	-0.0115	0.0005
93	SLU 76	-0.01	-1.61	8.16	0.0638	-0.0116	0.0005
93	SLU 77	-0.01	-1.66	8.05	0.0658	-0.011	0.0005
93	SLU 78	-0.01	-1.67	8.04	0.0662	-0.0112	0.0005
93	SLU 79	-0.01	-1.64	8.1	0.0649	-0.011	0.0005
93	SLU 80	-0.01	-1.65	8.09	0.0653	-0.0112	0.0005
93	SLU 81	-0.02	-1.64	9.76	0.0649	-0.0157	0.0006
93	SLU 82	-0.02	-1.65	9.74	0.0653	-0.0159	0.0006
93	SLU 83	-0.02	-1.68	9.68	0.0667	-0.0154	0.0006
93	SLU 84	-0.02	-1.69	9.66	0.0671	-0.0155	0.0006
93	SLE RA 1	0	-0.97	3.66	0.0386	-0.0016	0.0001
93	SLE RA 2	0	-0.98	3.65	0.039	-0.0017	0.0001
93	SLE RA 3	0	-1.01	3.58	0.0404	-0.0013	0.0001
93	SLE RA 4	0	-1.02	3.57	0.0406	-0.0014	0.0001
93	SLE RA 5	0	-1.01	3.59	0.0402	-0.0015	0.0001
93	SLE RA 6	0	-1.04	3.52	0.0416	-0.0011	0.0001
93	SLE RA 7	0	-1.05	3.51	0.0418	-0.0012	0.0001
93	SLE RA 8	0	-1.03	3.56	0.041	-0.0011	0.0001
93	SLE RA 9	0	-1.03	3.55	0.0412	-0.0012	0.0001
93	SLE RA 10	-0.01	-1.12	5.98	0.0446	-0.008	0.0003
93	SLE RA 11	-0.01	-1.16	5.91	0.046	-0.0076	0.0003
93	SLE RA 12	-0.01	-1.16	5.9	0.0462	-0.0077	0.0003
93	SLE RA 13	-0.01	-1.15	5.92	0.0458	-0.0077	0.0003
93	SLE RA 14	-0.01	-1.19	5.85	0.0471	-0.0073	0.0003
93	SLE RA 15	-0.01	-1.19	5.84	0.0474	-0.0074	0.0003
93	SLE RA 16	-0.01	-1.17	5.89	0.0465	-0.0073	0.0003
93	SLE RA 17	-0.01	-1.18	5.88	0.0468	-0.0074	0.0003
93	SLE RA 18	-0.01	-1.17	6.99	0.0466	-0.0105	0.0004
93	SLE RA 19	-0.01	-1.18	6.98	0.0468	-0.0106	0.0004
93	SLE RA 20	-0.01	-1.2	6.94	0.0478	-0.0102	0.0004
93	SLE RA 21	-0.01	-1.21	6.93	0.048	-0.0103	0.0004
93	SLE FR 1	0	-0.97	3.66	0.0386	-0.0016	0.0001
93	SLE FR 2	0	-0.97	3.66	0.0387	-0.0016	0.0001
93	SLE FR 3	0	-0.98	3.64	0.0391	-0.0015	0.0001
93	SLE FR 4	0	-1.03	4.66	0.0411	-0.0043	0.0002
93	SLE FR 5	0	-1.04	4.64	0.0415	-0.0042	0.0002
93	SLE FR 6	-0.01	-1.07	5.33	0.0426	-0.006	0.0003
93	SLE QP 1	0	-0.97	3.66	0.0386	-0.0016	0.0001
93	SLE QP 2	0	-1.03	4.66	0.041	-0.0042	0.0002
93	SLD 1	0.02	-1.31	4.22	0.0516	0.0227	0
93	SLD 2	0.02	-1.31	4.22	0.0516	0.0227	0
93	SLD 3	0.03	-3.16	1.76	0.1208	0.0298	-0.0001
93	SLD 4	0.03	-3.16	1.76	0.1208	0.0298	-0.0001
93	SLD 5	-0.01	1.69	8.26	-0.0607	-0.0069	0.0003
93	SLD 6	-0.01	1.69	8.26	-0.0607	-0.0069	0.0003
93	SLD 7	0.02	-4.47	0.06	0.1699	0.0167	0
93	SLD 8	0.02	-4.47	0.06	0.1699	0.0167	0
93	SLD 9	-0.03	2.41	9.27	-0.0879	-0.0252	0.0005
93	SLD 10	-0.03	2.41	9.27	-0.0879	-0.0252	0.0005
93	SLD 11	0	-3.74	1.06	0.1427	-0.0016	0.0001
93	SLD 12	0	-3.74	1.06	0.1427	-0.0016	0.0001
93	SLD 13	-0.04	1.1	7.56	-0.0388	-0.0382	0.0005
93	SLD 14	-0.04	1.1	7.56	-0.0388	-0.0382	0.0005



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		x	y	z	x	y	z		
93	SLD 15	-0.03	-0.74	5.1	0.0303	-0.0312	0.0004		
93	SLD 16	-0.03	-0.74	5.1	0.0303	-0.0312	0.0004		
93	SLV 1	0.05	-1.69	3.64	0.0658	0.0635	-0.0002		
93	SLV 2	0.05	-1.69	3.64	0.0658	0.0635	-0.0002		
93	SLV 3	0.08	-6.02	-2.13	0.2281	0.0803	-0.0005		
93	SLV 4	0.08	-6.02	-2.13	0.2281	0.0803	-0.0005		
93	SLV 5	-0.02	5.35	13.11	-0.1977	-0.0094	0.0005		
93	SLV 6	-0.02	5.35	13.11	-0.1977	-0.0094	0.0005		
93	SLV 7	0.05	-9.1	-6.13	0.3433	0.0466	-0.0004		
93	SLV 8	0.05	-9.1	-6.13	0.3433	0.0466	-0.0004		
93	SLV 9	-0.06	7.04	15.45	-0.2613	-0.0551	0.0008		
93	SLV 10	-0.06	7.04	15.45	-0.2613	-0.0551	0.0008		
93	SLV 11	0.01	-7.4	-3.78	0.2797	0.0009	-0.0001		
93	SLV 12	0.01	-7.4	-3.78	0.2797	0.0009	-0.0001		
93	SLV 13	-0.09	3.97	11.46	-0.1461	-0.0888	0.0009		
93	SLV 14	-0.09	3.97	11.46	-0.1461	-0.0888	0.0009		
93	SLV 15	-0.06	-0.37	5.69	0.0162	-0.072	0.0007		
93	SLV 16	-0.06	-0.37	5.69	0.0162	-0.072	0.0007		
94	SLU 1	-0.04	2.29	21.94	-0.2985	0.0089	0		
94	SLU 2	-0.04	4.86	23.41	-0.439	0.0144	-0.0001		
94	SLU 3	-0.04	2.04	22.1	-0.2912	0.0093	0		
94	SLU 4	-0.04	3.58	22.97	-0.3755	0.0126	-0.0001		
94	SLU 5	-0.04	4.53	23.33	-0.4253	0.0147	-0.0001		
94	SLU 6	-0.04	1.71	22.02	-0.2774	0.0096	0		
94	SLU 7	-0.04	3.26	22.9	-0.3618	0.0129	-0.0001		
94	SLU 8	-0.04	1.63	21.79	-0.2711	0.0095	0		
94	SLU 9	-0.04	3.17	22.67	-0.3554	0.0128	-0.0001		
94	SLU 10	-0.04	4.99	26.29	-0.4735	0.016	-0.0001		
94	SLU 11	-0.05	2.17	24.98	-0.3256	0.0109	0		
94	SLU 12	-0.05	3.72	25.86	-0.4099	0.0142	-0.0001		
94	SLU 13	-0.04	4.66	26.22	-0.4598	0.0163	-0.0001		
94	SLU 14	-0.05	1.85	24.91	-0.3119	0.0112	0		
94	SLU 15	-0.05	3.39	25.78	-0.3962	0.0145	-0.0001		
94	SLU 16	-0.05	1.76	24.68	-0.3055	0.0111	0		
94	SLU 17	-0.05	3.3	25.55	-0.3898	0.0144	-0.0001		
94	SLU 18	-0.05	2.48	26.06	-0.3477	0.0112	0		
94	SLU 19	-0.05	4.02	26.94	-0.432	0.0145	-0.0001		
94	SLU 20	-0.05	2.15	25.99	-0.334	0.0115	0		
94	SLU 21	-0.05	3.69	26.87	-0.4183	0.0148	-0.0001		
94	SLU 22	-0.05	2.29	24.26	-0.3234	0.0103	0		
94	SLU 23	-0.04	4.86	25.73	-0.4639	0.0158	-0.0001		
94	SLU 24	-0.05	2.05	24.42	-0.3161	0.0107	0		
94	SLU 25	-0.05	3.59	25.29	-0.4004	0.014	-0.0001		
94	SLU 26	-0.04	4.53	25.65	-0.4502	0.0161	-0.0001		
94	SLU 27	-0.05	1.72	24.34	-0.3023	0.011	0		
94	SLU 28	-0.05	3.26	25.22	-0.3866	0.0143	-0.0001		
94	SLU 29	-0.05	1.63	24.11	-0.2959	0.0109	0		
94	SLU 30	-0.05	3.18	24.99	-0.3803	0.0142	-0.0001		
94	SLU 31	-0.05	5	28.61	-0.4984	0.0174	-0.0001		
94	SLU 32	-0.06	2.18	27.3	-0.3505	0.0123	-0.0001		
94	SLU 33	-0.05	3.72	28.18	-0.4348	0.0156	-0.0001		
94	SLU 34	-0.05	4.67	28.54	-0.4846	0.0177	-0.0001		
94	SLU 35	-0.06	1.85	27.23	-0.3368	0.0126	0		
94	SLU 36	-0.05	3.39	28.1	-0.4211	0.0159	-0.0001		
94	SLU 37	-0.06	1.77	27	-0.3304	0.0125	0		
94	SLU 38	-0.05	3.31	27.87	-0.4147	0.0158	-0.0001		
94	SLU 39	-0.06	2.48	28.38	-0.3726	0.0126	-0.0001		
94	SLU 40	-0.05	4.02	29.26	-0.4569	0.0159	-0.0001		
94	SLU 41	-0.06	2.15	28.31	-0.3589	0.0129	-0.0001		
94	SLU 42	-0.05	3.7	29.19	-0.4432	0.0162	-0.0001		
94	SLU 43	-0.05	2.97	27.73	-0.3796	0.011	-0.0001		
94	SLU 44	-0.05	5.54	29.19	-0.5201	0.0165	-0.0001		
94	SLU 45	-0.05	2.73	27.88	-0.3722	0.0114	-0.0001		
94	SLU 46	-0.05	4.27	28.76	-0.4565	0.0147	-0.0001		
94	SLU 47	-0.05	5.21	29.12	-0.5063	0.0168	-0.0001		
94	SLU 48	-0.05	2.4	27.81	-0.3585	0.0117	0		
94	SLU 49	-0.05	3.94	28.69	-0.4428	0.015	-0.0001		
94	SLU 50	-0.05	2.31	27.58	-0.3521	0.0116	0		
94	SLU 51	-0.05	3.86	28.46	-0.4364	0.0149	-0.0001		
94	SLU 52	-0.05	5.67	32.08	-0.5545	0.0181	-0.0001		
94	SLU 53	-0.06	2.86	30.77	-0.4066	0.013	-0.0001		
94	SLU 54	-0.06	4.4	31.65	-0.491	0.0163	-0.0001		
94	SLU 55	-0.05	5.35	32	-0.5408	0.0184	-0.0001		
94	SLU 56	-0.06	2.53	30.69	-0.3929	0.0133	-0.0001		
94	SLU 57	-0.06	4.07	31.57	-0.4772	0.0166	-0.0001		
94	SLU 58	-0.06	2.45	30.46	-0.3865	0.0132	-0.0001		
94	SLU 59	-0.06	3.99	31.34	-0.4708	0.0165	-0.0001		
94	SLU 60	-0.06	3.16	31.85	-0.4288	0.0133	-0.0001		
94	SLU 61	-0.06	4.7	32.73	-0.5131	0.0166	-0.0001		
94	SLU 62	-0.06	2.83	31.78	-0.415	0.0136	-0.0001		
94	SLU 63	-0.06	4.37	32.65	-0.4993	0.0169	-0.0001		
94	SLU 64	-0.06	2.98	30.05	-0.4044	0.0125	-0.0001		
94	SLU 65	-0.05	5.55	31.51	-0.545	0.018	-0.0001		
94	SLU 66	-0.06	2.73	30.2	-0.3971	0.0129	-0.0001		
94	SLU 67	-0.06	4.27	31.08	-0.4814	0.0162	-0.0001		
94	SLU 68	-0.05	5.22	31.44	-0.5312	0.0183	-0.0001		
94	SLU 69	-0.06	2.4	30.13	-0.3834	0.0132	-0.0001		
94	SLU 70	-0.06	3.95	31.01	-0.4677	0.0165	-0.0001		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
94	SLU 71	-0.06	2.32	29.9	-0.377	0.0131	-0.0001		
94	SLU 72	-0.06	3.86	30.78	-0.4613	0.0164	-0.0001		
94	SLU 73	-0.06	5.68	34.4	-0.5794	0.0196	-0.0001		
94	SLU 74	-0.07	2.86	33.09	-0.4315	0.0145	-0.0001		
94	SLU 75	-0.06	4.41	33.97	-0.5158	0.0178	-0.0001		
94	SLU 76	-0.06	5.35	34.32	-0.5657	0.0199	-0.0001		
94	SLU 77	-0.07	2.54	33.01	-0.4178	0.0148	-0.0001		
94	SLU 78	-0.06	4.08	33.89	-0.5021	0.0181	-0.0001		
94	SLU 79	-0.07	2.45	32.78	-0.4114	0.0147	-0.0001		
94	SLU 80	-0.06	3.99	33.66	-0.4957	0.018	-0.0001		
94	SLU 81	-0.07	3.17	34.17	-0.4536	0.0148	-0.0001		
94	SLU 82	-0.07	4.71	35.05	-0.5379	0.0181	-0.0001		
94	SLU 83	-0.07	2.84	34.1	-0.4399	0.0151	-0.0001		
94	SLU 84	-0.07	4.38	34.97	-0.5242	0.0184	-0.0001		
94	SLE RA 1	-0.04	2.29	22.6	-0.3056	0.0093	0		
94	SLE RA 2	-0.04	4	23.58	-0.3993	0.0129	-0.0001		
94	SLE RA 3	-0.05	2.13	22.71	-0.3007	0.0095	0		
94	SLE RA 4	-0.04	3.15	23.29	-0.3569	0.0117	-0.0001		
94	SLE RA 5	-0.04	3.78	23.53	-0.3902	0.0131	-0.0001		
94	SLE RA 6	-0.05	1.91	22.66	-0.2916	0.0097	0		
94	SLE RA 7	-0.04	2.93	23.24	-0.3478	0.0119	0		
94	SLE RA 8	-0.04	1.85	22.5	-0.2873	0.0097	0		
94	SLE RA 9	-0.04	2.88	23.09	-0.3435	0.0119	0		
94	SLE RA 10	-0.04	4.09	25.5	-0.4223	0.014	-0.0001		
94	SLE RA 11	-0.05	2.21	24.63	-0.3237	0.0106	0		
94	SLE RA 12	-0.05	3.24	25.22	-0.3799	0.0128	-0.0001		
94	SLE RA 13	-0.05	3.87	25.45	-0.4131	0.0142	-0.0001		
94	SLE RA 14	-0.05	1.99	24.58	-0.3145	0.0108	0		
94	SLE RA 15	-0.05	3.02	25.17	-0.3707	0.013	-0.0001		
94	SLE RA 16	-0.05	1.94	24.43	-0.3103	0.0108	0		
94	SLE RA 17	-0.05	2.97	25.01	-0.3665	0.013	-0.0001		
94	SLE RA 18	-0.05	2.41	25.35	-0.3384	0.0108	0		
94	SLE RA 19	-0.05	3.44	25.94	-0.3946	0.013	-0.0001		
94	SLE RA 20	-0.05	2.2	25.3	-0.3293	0.011	0		
94	SLE RA 21	-0.05	3.22	25.89	-0.3855	0.0132	-0.0001		
94	SLE FR 1	-0.04	2.29	22.6	-0.3056	0.0093	0		
94	SLE FR 2	-0.04	2.63	22.8	-0.3244	0.01	0		
94	SLE FR 3	-0.04	2.2	22.58	-0.302	0.0094	0		
94	SLE FR 4	-0.05	2.67	23.62	-0.3342	0.0105	0		
94	SLE FR 5	-0.05	2.24	23.41	-0.3118	0.0098	0		
94	SLE FR 6	-0.05	2.35	23.98	-0.322	0.01	0		
94	SLE QP 1	-0.04	2.29	22.6	-0.3056	0.0093	0		
94	SLE QP 2	-0.05	2.33	23.43	-0.3155	0.0097	0		
94	SLD 1	-0.02	2.08	22.95	-0.3092	0.0236	0		
94	SLD 2	-0.02	2.08	22.95	-0.3092	0.0236	0		
94	SLD 3	-0.01	-1.24	20.15	-0.1385	0.0161	0		
94	SLD 4	-0.01	-1.24	20.15	-0.1385	0.0161	0		
94	SLD 5	-0.06	7.29	27.54	-0.5725	0.0252	-0.0001		
94	SLD 6	-0.06	7.29	27.54	-0.5725	0.0252	-0.0001		
94	SLD 7	-0.02	-3.78	18.19	-0.0034	0.0003	0		
94	SLD 8	-0.02	-3.78	18.19	-0.0034	0.0003	0		
94	SLD 9	-0.07	8.43	28.67	-0.6275	0.0192	-0.0001		
94	SLD 10	-0.07	8.43	28.67	-0.6275	0.0192	-0.0001		
94	SLD 11	-0.04	-2.64	19.32	-0.0584	-0.0057	0		
94	SLD 12	-0.04	-2.64	19.32	-0.0584	-0.0057	0		
94	SLD 13	-0.08	5.89	26.71	-0.4924	0.0033	-0.0001		
94	SLD 14	-0.08	5.89	26.71	-0.4924	0.0033	-0.0001		
94	SLD 15	-0.07	2.57	23.9	-0.3217	-0.0041	-0.0001		
94	SLD 16	-0.07	2.57	23.9	-0.3217	-0.0041	-0.0001		
94	SLV 1	0	1.69	22.3	-0.2973	0.043	0		
94	SLV 2	0	1.69	22.3	-0.2973	0.043	0		
94	SLV 3	0.03	-6.27	15.63	0.1119	0.0241	0.0001		
94	SLV 4	0.03	-6.27	15.63	0.1119	0.0241	0.0001		
94	SLV 5	-0.07	14.2	33.21	-0.9307	0.0485	-0.0001		
94	SLV 6	-0.07	14.2	33.21	-0.9307	0.0485	-0.0001		
94	SLV 7	0.02	-12.31	10.97	0.4334	-0.0147	0.0001		
94	SLV 8	0.02	-12.31	10.97	0.4334	-0.0147	0.0001		
94	SLV 9	-0.11	16.97	35.89	-1.0644	0.0342	-0.0002		
94	SLV 10	-0.11	16.97	35.89	-1.0644	0.0342	-0.0002		
94	SLV 11	-0.02	-9.54	13.65	0.2998	-0.029	0		
94	SLV 12	-0.02	-9.54	13.65	0.2998	-0.029	0		
94	SLV 13	-0.13	10.92	31.23	-0.7429	-0.0046	-0.0002		
94	SLV 14	-0.13	10.92	31.23	-0.7429	-0.0046	-0.0002		
94	SLV 15	-0.1	2.97	24.56	-0.3336	-0.0236	-0.0001		
94	SLV 16	-0.1	2.97	24.56	-0.3336	-0.0236	-0.0001		
95	SLU 1	-0.05	-0.71	50.11	0.1379	-0.0076	0.0024		
95	SLU 2	-0.05	-1.21	50.77	0.1731	-0.0093	0.0024		
95	SLU 3	-0.05	-0.52	51.09	0.1267	-0.0075	0.0024		
95	SLU 4	-0.05	-0.81	51.48	0.1478	-0.0085	0.0024		
95	SLU 5	-0.05	-0.99	51.43	0.1592	-0.0092	0.0024		
95	SLU 6	-0.04	-0.3	51.75	0.1128	-0.0074	0.0025		
95	SLU 7	-0.05	-0.6	52.15	0.1339	-0.0084	0.0025		
95	SLU 8	-0.04	-0.28	51.44	0.1101	-0.0073	0.0024		
95	SLU 9	-0.05	-0.58	51.84	0.1312	-0.0083	0.0024		
95	SLU 10	-0.06	-1.32	59.43	0.2012	-0.0106	0.0028		
95	SLU 11	-0.05	-0.63	59.75	0.1548	-0.0088	0.0029		
95	SLU 12	-0.06	-0.92	60.15	0.1759	-0.0099	0.0028		
95	SLU 13	-0.06	-1.11	60.1	0.1873	-0.0105	0.0028		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
95	SLU 14	-0.05	-0.41	60.42		0.1409	-0.0087	0.0029	
95	SLU 15	-0.06	-0.71	60.81		0.162	-0.0097	0.0029	
95	SLU 16	-0.05	-0.39	60.11		0.1382	-0.0086	0.0029	
95	SLU 17	-0.06	-0.69	60.5		0.1593	-0.0096	0.0028	
95	SLU 18	-0.06	-0.87	62.49		0.1781	-0.0095	0.003	
95	SLU 19	-0.06	-1.17	62.89		0.1992	-0.0105	0.003	
95	SLU 20	-0.06	-0.66	63.16		0.1642	-0.0093	0.003	
95	SLU 21	-0.06	-0.96	63.55		0.1853	-0.0104	0.003	
95	SLU 22	-0.05	-0.81	55.24		0.1586	-0.009	0.0027	
95	SLU 23	-0.06	-1.3	55.9		0.1937	-0.0107	0.0027	
95	SLU 24	-0.05	-0.61	56.22		0.1473	-0.0089	0.0027	
95	SLU 25	-0.06	-0.91	56.61		0.1685	-0.0099	0.0027	
95	SLU 26	-0.06	-1.09	56.57		0.1798	-0.0105	0.0027	
95	SLU 27	-0.05	-0.39	56.88		0.1335	-0.0087	0.0027	
95	SLU 28	-0.06	-0.69	57.28		0.1546	-0.0098	0.0027	
95	SLU 29	-0.05	-0.38	56.58		0.1308	-0.0087	0.0027	
95	SLU 30	-0.06	-0.68	56.97		0.1519	-0.0097	0.0027	
95	SLU 31	-0.07	-1.41	64.57		0.2219	-0.012	0.0031	
95	SLU 32	-0.06	-0.72	64.88		0.1755	-0.0102	0.0031	
95	SLU 33	-0.07	-1.02	65.28		0.1966	-0.0112	0.0031	
95	SLU 34	-0.07	-1.2	65.23		0.208	-0.0119	0.0031	
95	SLU 35	-0.06	-0.51	65.55		0.1616	-0.0101	0.0032	
95	SLU 36	-0.07	-0.8	65.94		0.1827	-0.0111	0.0032	
95	SLU 37	-0.06	-0.49	65.24		0.1589	-0.01	0.0031	
95	SLU 38	-0.06	-0.79	65.63		0.18	-0.011	0.0031	
95	SLU 39	-0.07	-0.97	67.62		0.1988	-0.0109	0.0033	
95	SLU 40	-0.07	-1.26	68.02		0.2199	-0.0119	0.0033	
95	SLU 41	-0.07	-0.75	68.29		0.1849	-0.0107	0.0033	
95	SLU 42	-0.07	-1.05	68.68		0.206	-0.0117	0.0033	
95	SLU 43	-0.06	-0.89	63.39		0.1721	-0.0094	0.003	
95	SLU 44	-0.06	-1.39	64.04		0.2073	-0.0111	0.003	
95	SLU 45	-0.06	-0.7	64.36		0.1609	-0.0093	0.0031	
95	SLU 46	-0.06	-0.99	64.75		0.182	-0.0103	0.0031	
95	SLU 47	-0.06	-1.18	64.71		0.1934	-0.011	0.003	
95	SLU 48	-0.06	-0.48	65.03		0.147	-0.0092	0.0031	
95	SLU 49	-0.06	-0.78	65.42		0.1681	-0.0102	0.0031	
95	SLU 50	-0.06	-0.46	64.72		0.1443	-0.0091	0.0031	
95	SLU 51	-0.06	-0.76	65.11		0.1655	-0.0101	0.0031	
95	SLU 52	-0.07	-1.5	72.71		0.2355	-0.0124	0.0034	
95	SLU 53	-0.06	-0.81	73.03		0.1891	-0.0106	0.0035	
95	SLU 54	-0.07	-1.11	73.42		0.2102	-0.0117	0.0035	
95	SLU 55	-0.07	-1.29	73.38		0.2216	-0.0123	0.0034	
95	SLU 56	-0.06	-0.59	73.69		0.1752	-0.0105	0.0035	
95	SLU 57	-0.07	-0.89	74.09		0.1963	-0.0115	0.0035	
95	SLU 58	-0.06	-0.58	73.38		0.1725	-0.0104	0.0035	
95	SLU 59	-0.07	-0.87	73.78		0.1936	-0.0115	0.0035	
95	SLU 60	-0.07	-1.05	75.77		0.2124	-0.0113	0.0036	
95	SLU 61	-0.07	-1.35	76.16		0.2335	-0.0123	0.0036	
95	SLU 62	-0.07	-0.84	76.43		0.1985	-0.0111	0.0036	
95	SLU 63	-0.07	-1.14	76.83		0.2196	-0.0122	0.0036	
95	SLU 64	-0.06	-0.99	68.52		0.1928	-0.0108	0.0033	
95	SLU 65	-0.07	-1.49	69.17		0.228	-0.0125	0.0033	
95	SLU 66	-0.06	-0.79	69.49		0.1816	-0.0107	0.0033	
95	SLU 67	-0.07	-1.09	69.89		0.2027	-0.0117	0.0033	
95	SLU 68	-0.07	-1.27	69.84		0.2141	-0.0123	0.0033	
95	SLU 69	-0.06	-0.58	70.16		0.1677	-0.0105	0.0034	
95	SLU 70	-0.07	-0.87	70.55		0.1888	-0.0116	0.0034	
95	SLU 71	-0.06	-0.56	69.85		0.165	-0.0105	0.0033	
95	SLU 72	-0.07	-0.86	70.24		0.1861	-0.0115	0.0033	
95	SLU 73	-0.08	-1.6	77.84		0.2562	-0.0138	0.0037	
95	SLU 74	-0.07	-0.9	78.16		0.2098	-0.012	0.0038	
95	SLU 75	-0.08	-1.2	78.55		0.2309	-0.013	0.0038	
95	SLU 76	-0.08	-1.38	78.51		0.2423	-0.0137	0.0037	
95	SLU 77	-0.07	-0.69	78.82		0.1959	-0.0119	0.0038	
95	SLU 78	-0.08	-0.99	79.22		0.217	-0.0129	0.0038	
95	SLU 79	-0.07	-0.67	78.52		0.1932	-0.0118	0.0038	
95	SLU 80	-0.08	-0.97	78.91		0.2143	-0.0128	0.0038	
95	SLU 81	-0.08	-1.15	80.9		0.233	-0.0127	0.0039	
95	SLU 82	-0.08	-1.45	81.29		0.2542	-0.0137	0.0039	
95	SLU 83	-0.08	-0.93	81.56		0.2191	-0.0125	0.0039	
95	SLU 84	-0.08	-1.23	81.96		0.2403	-0.0135	0.0039	
95	SLE RA 1	-0.05	-0.74	51.58		0.1438	-0.008	0.0025	
95	SLE RA 2	-0.05	-1.07	52.02		0.1672	-0.0091	0.0025	
95	SLE RA 3	-0.05	-0.61	52.23		0.1363	-0.0079	0.0025	
95	SLE RA 4	-0.05	-0.81	52.49		0.1504	-0.0086	0.0025	
95	SLE RA 5	-0.05	-0.93	52.46		0.158	-0.009	0.0025	
95	SLE RA 6	-0.05	-0.46	52.67		0.127	-0.0078	0.0025	
95	SLE RA 7	-0.05	-0.66	52.93		0.1411	-0.0085	0.0025	
95	SLE RA 8	-0.05	-0.45	52.47		0.1252	-0.0078	0.0025	
95	SLE RA 9	-0.05	-0.65	52.73		0.1393	-0.0085	0.0025	
95	SLE RA 10	-0.06	-1.14	57.79		0.186	-0.01	0.0027	
95	SLE RA 11	-0.05	-0.68	58		0.1551	-0.0088	0.0028	
95	SLE RA 12	-0.06	-0.88	58.27		0.1692	-0.0095	0.0028	
95	SLE RA 13	-0.06	-1	58.24		0.1767	-0.0099	0.0028	
95	SLE RA 14	-0.05	-0.54	58.45		0.1458	-0.0087	0.0028	
95	SLE RA 15	-0.06	-0.74	58.71		0.1599	-0.0094	0.0028	
95	SLE RA 16	-0.05	-0.53	58.24		0.144	-0.0087	0.0028	
95	SLE RA 17	-0.06	-0.73	58.51		0.1581	-0.0094	0.0028	



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
95	SLE RA 18	-0.06	-0.85	59.83	0.1706	-0.0092	0.0029
95	SLE RA 19	-0.06	-1.04	60.09	0.1847	-0.0099	0.0029
95	SLE RA 20	-0.06	-0.7	60.28	0.1613	-0.0092	0.0029
95	SLE RA 21	-0.06	-0.9	60.54	0.1754	-0.0098	0.0029
95	SLE FR 1	-0.05	-0.74	51.58	0.1438	-0.008	0.0025
95	SLE FR 2	-0.05	-0.81	51.67	0.1485	-0.0082	0.0025
95	SLE FR 3	-0.05	-0.68	51.76	0.1401	-0.0079	0.0025
95	SLE FR 4	-0.05	-0.84	54.14	0.1565	-0.0086	0.0026
95	SLE FR 5	-0.05	-0.71	54.23	0.1481	-0.0083	0.0026
95	SLE FR 6	-0.05	-0.79	55.71	0.1572	-0.0086	0.0027
95	SLE QP 1	-0.05	-0.74	51.58	0.1438	-0.008	0.0025
95	SLE QP 2	-0.05	-0.77	54.05	0.1518	-0.0084	0.0026
95	SLD 1	-0.03	2.05	47.97	-0.0442	0.0079	0.0064
95	SLD 2	-0.03	2.05	47.97	-0.0442	0.0079	0.0064
95	SLD 3	-0.01	-1.22	45.65	0.1788	0.017	0.0052
95	SLD 4	-0.01	-1.22	45.65	0.1788	0.017	0.0052
95	SLD 5	-0.08	5.03	55.75	-0.2452	-0.0174	0.0055
95	SLD 6	-0.08	5.03	55.75	-0.2452	-0.0174	0.0055
95	SLD 7	0	-5.86	48.02	0.4982	0.0131	0.0016
95	SLD 8	0	-5.86	48.02	0.4982	0.0131	0.0016
95	SLD 9	-0.1	4.32	60.09	-0.1945	-0.0298	0.0036
95	SLD 10	-0.1	4.32	60.09	-0.1945	-0.0298	0.0036
95	SLD 11	-0.02	-6.57	52.36	0.5489	0.0006	-0.0004
95	SLD 12	-0.02	-6.57	52.36	0.5489	0.0006	-0.0004
95	SLD 13	-0.09	-0.32	62.46	0.1248	-0.0337	0
95	SLD 14	-0.09	-0.32	62.46	0.1248	-0.0337	0
95	SLD 15	-0.07	-3.59	60.14	0.3478	-0.0246	-0.0012
95	SLD 16	-0.07	-3.59	60.14	0.3478	-0.0246	-0.0012
95	SLV 1	0	5.86	39.81	-0.3097	0.0322	0.012
95	SLV 2	0	5.86	39.81	-0.3097	0.0322	0.012
95	SLV 3	0.05	-1.8	34.29	0.2135	0.0537	0.0092
95	SLV 4	0.05	-1.8	34.29	0.2135	0.0537	0.0092
95	SLV 5	-0.12	12.83	58.15	-0.7801	-0.0288	0.0097
95	SLV 6	-0.12	12.83	58.15	-0.7801	-0.0288	0.0097
95	SLV 7	0.06	-12.69	39.75	0.9638	0.0428	0.0003
95	SLV 8	0.06	-12.69	39.75	0.9638	0.0428	0.0003
95	SLV 9	-0.16	11.15	68.35	-0.6601	-0.0596	0.0049
95	SLV 10	-0.16	11.15	68.35	-0.6601	-0.0596	0.0049
95	SLV 11	0.02	-14.37	49.96	1.0837	0.0121	-0.0045
95	SLV 12	0.02	-14.37	49.96	1.0837	0.0121	-0.0045
95	SLV 13	-0.15	0.25	73.82	0.0902	-0.0704	-0.004
95	SLV 14	-0.15	0.25	73.82	0.0902	-0.0704	-0.004
95	SLV 15	-0.1	-7.4	68.3	0.6133	-0.0489	-0.0068
95	SLV 16	-0.1	-7.4	68.3	0.6133	-0.0489	-0.0068
96	SLU 1	0.02	7.2	27.49	-0.4378	0.0043	0
96	SLU 2	0.01	10.19	29.62	-0.5911	-0.0007	0
96	SLU 3	0.02	7.19	28.02	-0.4399	0.0043	0
96	SLU 4	0.02	8.98	29.3	-0.532	0.0014	0
96	SLU 5	0.01	10.04	29.89	-0.5859	-0.0007	0
96	SLU 6	0.02	7.04	28.29	-0.4348	0.0044	0
96	SLU 7	0.02	8.83	29.57	-0.5268	0.0014	0
96	SLU 8	0.02	6.9	28.03	-0.4274	0.0043	0
96	SLU 9	0.02	8.7	29.31	-0.5194	0.0013	0
96	SLU 10	0.02	11.15	33.39	-0.6512	-0.0002	0
96	SLU 11	0.02	8.15	31.79	-0.5	0.0049	0
96	SLU 12	0.02	9.94	33.07	-0.592	0.0019	0
96	SLU 13	0.02	11	33.66	-0.646	-0.0001	0
96	SLU 14	0.02	8	32.06	-0.4948	0.0049	0
96	SLU 15	0.02	9.79	33.34	-0.5869	0.002	0
96	SLU 16	0.02	7.86	31.8	-0.4875	0.0049	0
96	SLU 17	0.02	9.66	33.08	-0.5795	0.0019	0
96	SLU 18	0.02	8.57	32.87	-0.5236	0.0051	0
96	SLU 19	0.02	10.36	34.15	-0.6156	0.0021	0
96	SLU 20	0.02	8.42	33.14	-0.5184	0.0051	0
96	SLU 21	0.02	10.22	34.42	-0.6104	0.0021	0
96	SLU 22	0.02	8.01	30.75	-0.4886	0.0048	0
96	SLU 23	0.02	10.99	32.88	-0.642	-0.0002	0
96	SLU 24	0.02	8	31.28	-0.4908	0.0049	0
96	SLU 25	0.02	9.79	32.56	-0.5828	0.0019	0
96	SLU 26	0.02	10.85	33.15	-0.6368	-0.0001	0
96	SLU 27	0.02	7.85	31.55	-0.4856	0.0049	0
96	SLU 28	0.02	9.64	32.83	-0.5776	0.0019	0
96	SLU 29	0.02	7.71	31.29	-0.4782	0.0049	0
96	SLU 30	0.02	9.5	32.57	-0.5702	0.0019	0
96	SLU 31	0.02	11.95	36.64	-0.702	0.0004	0
96	SLU 32	0.03	8.96	35.05	-0.5509	0.0054	0
96	SLU 33	0.02	10.75	36.33	-0.6429	0.0025	0
96	SLU 34	0.02	11.81	36.92	-0.6969	0.0004	0
96	SLU 35	0.03	8.81	35.32	-0.5457	0.0055	0
96	SLU 36	0.02	10.6	36.6	-0.6377	0.0025	0
96	SLU 37	0.03	8.67	35.06	-0.5383	0.0054	0
96	SLU 38	0.02	10.46	36.33	-0.6303	0.0024	0
96	SLU 39	0.03	9.38	36.13	-0.5744	0.0056	0
96	SLU 40	0.02	11.17	37.4	-0.6665	0.0026	0
96	SLU 41	0.03	9.23	36.4	-0.5692	0.0056	0
96	SLU 42	0.02	11.02	37.68	-0.6613	0.0026	0
96	SLU 43	0.03	9.08	34.62	-0.5517	0.0053	0
96	SLU 44	0.02	12.07	36.75	-0.705	0.0004	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
96	SLU 45	0.03	9.07	35.15	-0.5538	0.0054	0
96	SLU 46	0.02	10.86	36.43	-0.6459	0.0024	0
96	SLU 47	0.02	11.92	37.02	-0.6998	0.0004	0
96	SLU 48	0.03	8.92	35.42	-0.5487	0.0055	0
96	SLU 49	0.02	10.72	36.7	-0.6407	0.0025	0
96	SLU 50	0.03	8.79	35.16	-0.5413	0.0054	0
96	SLU 51	0.02	10.58	36.44	-0.6333	0.0024	0
96	SLU 52	0.02	13.03	40.51	-0.7651	0.0009	0
96	SLU 53	0.03	10.03	38.92	-0.6139	0.006	0
96	SLU 54	0.02	11.82	40.2	-0.706	0.003	0
96	SLU 55	0.02	12.88	40.79	-0.7599	0.001	0
96	SLU 56	0.03	9.88	39.19	-0.6087	0.006	0
96	SLU 57	0.02	11.68	40.47	-0.7008	0.003	0
96	SLU 58	0.03	9.75	38.93	-0.6014	0.006	0
96	SLU 59	0.02	11.54	40.21	-0.6934	0.003	0
96	SLU 60	0.03	10.46	40	-0.6375	0.0061	0
96	SLU 61	0.02	12.25	41.27	-0.7295	0.0032	0
96	SLU 62	0.03	10.31	40.27	-0.6323	0.0062	0
96	SLU 63	0.02	12.1	41.55	-0.7243	0.0032	0
96	SLU 64	0.03	9.89	37.87	-0.6025	0.0059	0
96	SLU 65	0.02	12.88	40.01	-0.7559	0.0009	0
96	SLU 66	0.03	9.88	38.41	-0.6047	0.006	0
96	SLU 67	0.02	11.67	39.69	-0.6967	0.003	0
96	SLU 68	0.02	12.73	40.28	-0.7507	0.0009	0
96	SLU 69	0.03	9.73	38.68	-0.5995	0.006	0
96	SLU 70	0.02	11.52	39.96	-0.6915	0.003	0
96	SLU 71	0.03	9.6	38.42	-0.5921	0.006	0
96	SLU 72	0.02	11.39	39.7	-0.6841	0.003	0
96	SLU 73	0.02	13.84	43.77	-0.816	0.0015	0
96	SLU 74	0.03	10.84	42.18	-0.6648	0.0065	0
96	SLU 75	0.03	12.63	43.46	-0.7568	0.0035	0
96	SLU 76	0.02	13.69	44.04	-0.8108	0.0015	0
96	SLU 77	0.03	10.69	42.45	-0.6596	0.0066	0
96	SLU 78	0.03	12.48	43.73	-0.7516	0.0036	0
96	SLU 79	0.03	10.56	42.18	-0.6522	0.0065	0
96	SLU 80	0.03	12.35	43.46	-0.7442	0.0035	0
96	SLU 81	0.03	11.26	43.25	-0.6883	0.0067	0
96	SLU 82	0.03	13.06	44.53	-0.7804	0.0037	0
96	SLU 83	0.03	11.12	43.53	-0.6831	0.0067	0
96	SLU 84	0.03	12.91	44.81	-0.7752	0.0037	0
96	SLE RA 1	0.02	7.43	28.42	-0.4523	0.0044	0
96	SLE RA 2	0.02	9.42	29.84	-0.5545	0.0011	0
96	SLE RA 3	0.02	7.42	28.77	-0.4537	0.0045	0
96	SLE RA 4	0.02	8.62	29.63	-0.5151	0.0025	0
96	SLE RA 5	0.02	9.32	30.02	-0.5511	0.0011	0
96	SLE RA 6	0.02	7.33	28.96	-0.4503	0.0045	0
96	SLE RA 7	0.02	8.52	29.81	-0.5116	0.0025	0
96	SLE RA 8	0.02	7.23	28.78	-0.4454	0.0045	0
96	SLE RA 9	0.02	8.43	29.63	-0.5067	0.0025	0
96	SLE RA 10	0.02	10.06	32.35	-0.5946	0.0015	0
96	SLE RA 11	0.02	8.06	31.29	-0.4938	0.0048	0
96	SLE RA 12	0.02	9.26	32.14	-0.5551	0.0029	0
96	SLE RA 13	0.02	9.96	32.53	-0.5911	0.0015	0
96	SLE RA 14	0.02	7.97	31.47	-0.4903	0.0049	0
96	SLE RA 15	0.02	9.16	32.32	-0.5517	0.0029	0
96	SLE RA 16	0.02	7.87	31.29	-0.4854	0.0048	0
96	SLE RA 17	0.02	9.07	32.14	-0.5468	0.0028	0
96	SLE RA 18	0.02	8.35	32	-0.5095	0.0049	0
96	SLE RA 19	0.02	9.54	32.86	-0.5709	0.003	0
96	SLE RA 20	0.02	8.25	32.19	-0.5061	0.005	0
96	SLE RA 21	0.02	9.44	33.04	-0.5674	0.003	0
96	SLE FR 1	0.02	7.43	28.42	-0.4523	0.0044	0
96	SLE FR 2	0.02	7.83	28.7	-0.4727	0.0037	0
96	SLE FR 3	0.02	7.39	28.49	-0.4509	0.0044	0
96	SLE FR 4	0.02	8.1	29.78	-0.4899	0.0039	0
96	SLE FR 5	0.02	7.67	29.57	-0.4681	0.0046	0
96	SLE FR 6	0.02	7.89	30.21	-0.4809	0.0047	0
96	SLE QP 1	0.02	7.43	28.42	-0.4523	0.0044	0
96	SLE QP 2	0.02	7.71	29.49	-0.4695	0.0046	0
96	SLD 1	0.06	11.02	33.63	-0.6344	0.0107	0.0001
96	SLD 2	0.06	11.02	33.63	-0.6344	0.0107	0.0001
96	SLD 3	0.04	7.6	30.37	-0.4632	0.0179	0.0001
96	SLD 4	0.04	7.6	30.37	-0.4632	0.0179	0.0001
96	SLD 5	0.05	13.89	35.67	-0.7786	-0.0045	0.0001
96	SLD 6	0.05	13.89	35.67	-0.7786	-0.0045	0.0001
96	SLD 7	0.01	2.49	24.82	-0.2079	0.0195	0
96	SLD 8	0.01	2.49	24.82	-0.2079	0.0195	0
96	SLD 9	0.04	12.93	34.17	-0.731	-0.0103	0
96	SLD 10	0.04	12.93	34.17	-0.731	-0.0103	0
96	SLD 11	-0.01	1.53	23.31	-0.1603	0.0136	0
96	SLD 12	-0.01	1.53	23.31	-0.1603	0.0136	0
96	SLD 13	0	7.82	28.62	-0.4757	-0.0088	0
96	SLD 14	0	7.82	28.62	-0.4757	-0.0088	0
96	SLD 15	-0.01	4.4	25.36	-0.3045	-0.0016	0
96	SLD 16	-0.01	4.4	25.36	-0.3045	-0.0016	0
96	SLV 1	0.11	15.7	39.25	-0.8678	0.0188	0.0002
96	SLV 2	0.11	15.7	39.25	-0.8678	0.0188	0.0002
96	SLV 3	0.07	7.54	31.57	-0.4588	0.0372	0.0001





Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
96	SLV 4	0.07	7.54	31.57	-0.4588	0.0372	0.0001		
96	SLV 5	0.1	22.48	44.08	-1.2093	-0.0191	0.0001		
96	SLV 6	0.1	22.48	44.08	-1.2093	-0.0191	0.0001		
96	SLV 7	-0.02	-4.72	18.46	0.1541	0.0423	0		
96	SLV 8	-0.02	-4.72	18.46	0.1541	0.0423	0		
96	SLV 9	0.06	20.14	40.53	-1.093	-0.0331	0		
96	SLV 10	0.06	20.14	40.53	-1.093	-0.0331	0		
96	SLV 11	-0.06	-7.07	14.91	0.2704	0.0282	-0.0001		
96	SLV 12	-0.06	-7.07	14.91	0.2704	0.0282	-0.0001		
96	SLV 13	-0.03	7.88	27.42	-0.4802	-0.0281	-0.0001		
96	SLV 14	-0.03	7.88	27.42	-0.4802	-0.0281	-0.0001		
96	SLV 15	-0.07	-0.29	19.74	-0.0711	-0.0097	-0.0001		
96	SLV 16	-0.07	-0.29	19.74	-0.0711	-0.0097	-0.0001		
97	SLU 1	-0.12	11.89	57.83	-0.6018	-0.0264	-0.0003		
97	SLU 2	-0.07	13.95	60.66	-0.696	0.0078	-0.0004		
97	SLU 3	-0.12	12.39	59.92	-0.627	-0.0274	-0.0003		
97	SLU 4	-0.09	13.62	61.61	-0.6835	-0.0069	-0.0004		
97	SLU 5	-0.07	14.31	62.16	-0.7141	0.007	-0.0004		
97	SLU 6	-0.13	12.74	61.42	-0.6451	-0.0282	-0.0004		
97	SLU 7	-0.1	13.98	63.11	-0.7016	-0.0078	-0.0004		
97	SLU 8	-0.13	12.6	60.83	-0.6381	-0.028	-0.0004		
97	SLU 9	-0.09	13.84	62.52	-0.6946	-0.0075	-0.0004		
97	SLU 10	-0.08	15.33	67.81	-0.7679	0.0043	-0.0005		
97	SLU 11	-0.14	13.76	67.07	-0.6989	-0.0309	-0.0004		
97	SLU 12	-0.11	15	68.76	-0.7554	-0.0104	-0.0004		
97	SLU 13	-0.09	15.68	69.31	-0.7861	0.0035	-0.0005		
97	SLU 14	-0.14	14.12	68.56	-0.717	-0.0317	-0.0004		
97	SLU 15	-0.11	15.35	70.26	-0.7735	-0.0112	-0.0004		
97	SLU 16	-0.14	13.98	67.98	-0.71	-0.0314	-0.0004		
97	SLU 17	-0.11	15.21	69.67	-0.7665	-0.0109	-0.0004		
97	SLU 18	-0.14	13.86	68.05	-0.7046	-0.0313	-0.0004		
97	SLU 19	-0.11	15.09	69.74	-0.7611	-0.0108	-0.0004		
97	SLU 20	-0.14	14.21	69.54	-0.7227	-0.0321	-0.0004		
97	SLU 21	-0.11	15.45	71.24	-0.7792	-0.0116	-0.0005		
97	SLU 22	-0.13	13.38	65.14	-0.6789	-0.0299	-0.0004		
97	SLU 23	-0.08	15.44	67.97	-0.7731	0.0043	-0.0005		
97	SLU 24	-0.14	13.88	67.23	-0.704	-0.0309	-0.0004		
97	SLU 25	-0.11	15.11	68.92	-0.7606	-0.0104	-0.0004		
97	SLU 26	-0.09	15.79	69.47	-0.7912	0.0035	-0.0005		
97	SLU 27	-0.14	14.23	68.72	-0.7222	-0.0317	-0.0004		
97	SLU 28	-0.11	15.47	70.42	-0.7787	-0.0113	-0.0004		
97	SLU 29	-0.14	14.09	68.14	-0.7152	-0.0315	-0.0004		
97	SLU 30	-0.11	15.33	69.83	-0.7717	-0.011	-0.0004		
97	SLU 31	-0.1	16.81	75.12	-0.845	0.0008	-0.0005		
97	SLU 32	-0.15	15.25	74.37	-0.776	-0.0344	-0.0004		
97	SLU 33	-0.12	16.49	76.07	-0.8325	-0.0139	-0.0005		
97	SLU 34	-0.1	17.17	76.61	-0.8631	0	-0.0005		
97	SLU 35	-0.16	15.61	75.87	-0.7941	-0.0352	-0.0004		
97	SLU 36	-0.13	16.84	77.57	-0.8506	-0.0147	-0.0005		
97	SLU 37	-0.16	15.46	75.28	-0.7871	-0.0349	-0.0004		
97	SLU 38	-0.12	16.7	76.98	-0.8436	-0.0144	-0.0005		
97	SLU 39	-0.16	15.35	75.35	-0.7817	-0.0348	-0.0004		
97	SLU 40	-0.12	16.58	77.05	-0.8382	-0.0143	-0.0005		
97	SLU 41	-0.16	15.7	76.85	-0.7998	-0.0356	-0.0005		
97	SLU 42	-0.13	16.93	78.55	-0.8563	-0.0151	-0.0005		
97	SLU 43	-0.15	14.95	72.68	-0.756	-0.0331	-0.0004		
97	SLU 44	-0.1	17.01	75.5	-0.8501	0.0011	-0.0005		
97	SLU 45	-0.15	15.45	74.76	-0.7811	-0.0341	-0.0004		
97	SLU 46	-0.12	16.68	76.46	-0.8376	-0.0137	-0.0005		
97	SLU 47	-0.1	17.36	77	-0.8683	0.0003	-0.0005		
97	SLU 48	-0.16	15.8	76.26	-0.7992	-0.0349	-0.0004		
97	SLU 49	-0.13	17.03	77.96	-0.8557	-0.0145	-0.0005		
97	SLU 50	-0.16	15.66	75.67	-0.7922	-0.0347	-0.0004		
97	SLU 51	-0.12	16.89	77.37	-0.8487	-0.0142	-0.0005		
97	SLU 52	-0.11	18.38	82.65	-0.9221	-0.0024	-0.0005		
97	SLU 53	-0.17	16.82	81.91	-0.853	-0.0376	-0.0005		
97	SLU 54	-0.14	18.06	83.61	-0.9095	-0.0171	-0.0005		
97	SLU 55	-0.12	18.74	84.15	-0.9402	-0.0032	-0.0005		
97	SLU 56	-0.17	17.17	83.41	-0.8711	-0.0384	-0.0005		
97	SLU 57	-0.14	18.41	85.1	-0.9276	-0.0179	-0.0005		
97	SLU 58	-0.17	17.03	82.82	-0.8641	-0.0381	-0.0005		
97	SLU 59	-0.14	18.27	84.52	-0.9206	-0.0176	-0.0005		
97	SLU 60	-0.17	16.92	82.89	-0.8587	-0.038	-0.0005		
97	SLU 61	-0.14	18.15	84.59	-0.9152	-0.0175	-0.0005		
97	SLU 62	-0.17	17.27	84.39	-0.8768	-0.0388	-0.0005		
97	SLU 63	-0.14	18.5	86.08	-0.9333	-0.0183	-0.0005		
97	SLU 64	-0.16	16.44	79.99	-0.833	-0.0366	-0.0005		
97	SLU 65	-0.11	18.5	82.81	-0.9272	-0.0024	-0.0005		
97	SLU 66	-0.17	16.94	82.07	-0.8582	-0.0376	-0.0005		
97	SLU 67	-0.14	18.17	83.77	-0.9147	-0.0172	-0.0005		
97	SLU 68	-0.12	18.85	84.31	-0.9454	-0.0032	-0.0005		
97	SLU 69	-0.17	17.29	83.57	-0.8763	-0.0384	-0.0005		
97	SLU 70	-0.14	18.52	85.26	-0.9328	-0.018	-0.0005		
97	SLU 71	-0.17	17.15	82.98	-0.8693	-0.0382	-0.0005		
97	SLU 72	-0.14	18.38	84.68	-0.9258	-0.0177	-0.0005		
97	SLU 73	-0.13	19.87	89.96	-0.9991	-0.0059	-0.0006		
97	SLU 74	-0.18	18.31	89.22	-0.9301	-0.0411	-0.0005		
97	SLU 75	-0.15	19.54	90.92	-0.9866	-0.0206	-0.0006		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
97	SLU 76	-0.13	20.23	91.46	-1.0173	-0.0067	-0.0006
97	SLU 77	-0.19	18.66	90.72	-0.9482	-0.0419	-0.0005
97	SLU 78	-0.16	19.9	92.41	-1.0047	-0.0214	-0.0006
97	SLU 79	-0.19	18.52	90.13	-0.9412	-0.0416	-0.0005
97	SLU 80	-0.15	19.76	91.82	-0.9977	-0.0211	-0.0006
97	SLU 81	-0.19	18.4	90.2	-0.9358	-0.0415	-0.0005
97	SLU 82	-0.15	19.64	91.89	-0.9923	-0.021	-0.0006
97	SLU 83	-0.19	18.76	91.69	-0.9539	-0.0423	-0.0005
97	SLU 84	-0.16	19.99	93.39	-1.0104	-0.0218	-0.0006
97	SLE RA 1	-0.12	12.32	59.92	-0.6239	-0.0274	-0.0004
97	SLE RA 2	-0.09	13.69	61.81	-0.6867	-0.0046	-0.0004
97	SLE RA 3	-0.13	12.65	61.31	-0.6406	-0.0281	-0.0004
97	SLE RA 4	-0.11	13.47	62.44	-0.6783	-0.0144	-0.0004
97	SLE RA 5	-0.09	13.93	62.8	-0.6987	-0.0051	-0.0004
97	SLE RA 6	-0.13	12.89	62.31	-0.6527	-0.0286	-0.0004
97	SLE RA 7	-0.11	13.71	63.44	-0.6904	-0.015	-0.0004
97	SLE RA 8	-0.13	12.79	61.92	-0.648	-0.0284	-0.0004
97	SLE RA 9	-0.11	13.61	63.05	-0.6857	-0.0148	-0.0004
97	SLE RA 10	-0.1	14.61	66.57	-0.7346	-0.0069	-0.0004
97	SLE RA 11	-0.14	13.57	66.08	-0.6885	-0.0304	-0.0004
97	SLE RA 12	-0.12	14.39	67.21	-0.7262	-0.0167	-0.0004
97	SLE RA 13	-0.1	14.84	67.57	-0.7467	-0.0074	-0.0004
97	SLE RA 14	-0.14	13.8	67.08	-0.7006	-0.0309	-0.0004
97	SLE RA 15	-0.12	14.62	68.21	-0.7383	-0.0172	-0.0004
97	SLE RA 16	-0.14	13.71	66.68	-0.696	-0.0307	-0.0004
97	SLE RA 17	-0.12	14.53	67.81	-0.7336	-0.0171	-0.0004
97	SLE RA 18	-0.14	13.63	66.73	-0.6923	-0.0306	-0.0004
97	SLE RA 19	-0.12	14.45	67.86	-0.73	-0.017	-0.0004
97	SLE RA 20	-0.14	13.86	67.73	-0.7044	-0.0312	-0.0004
97	SLE RA 21	-0.12	14.69	68.86	-0.7421	-0.0175	-0.0004
97	SLE FR 1	-0.12	12.32	59.92	-0.6239	-0.0274	-0.0004
97	SLE FR 2	-0.12	12.59	60.3	-0.6364	-0.0228	-0.0004
97	SLE FR 3	-0.12	12.41	60.32	-0.6287	-0.0276	-0.0004
97	SLE FR 4	-0.12	12.99	62.34	-0.657	-0.0238	-0.0004
97	SLE FR 5	-0.13	12.81	62.36	-0.6492	-0.0286	-0.0004
97	SLE FR 6	-0.13	12.97	63.33	-0.6581	-0.029	-0.0004
97	SLE QP 1	-0.12	12.32	59.92	-0.6239	-0.0274	-0.0004
97	SLE QP 2	-0.13	12.71	61.96	-0.6444	-0.0283	-0.0004
97	SLD 1	-0.11	11.96	45.11	-0.5776	0.0345	-0.0003
97	SLD 2	-0.11	11.96	45.11	-0.5776	0.0345	-0.0003
97	SLD 3	-0.03	8.75	36.5	-0.4245	-0.0073	-0.0002
97	SLD 4	-0.03	8.75	36.5	-0.4245	-0.0073	-0.0002
97	SLD 5	-0.24	17.34	69.96	-0.8566	0.054	-0.0005
97	SLD 6	-0.24	17.34	69.96	-0.8566	0.054	-0.0005
97	SLD 7	0.03	6.67	41.28	-0.3462	-0.0855	-0.0002
97	SLD 8	0.03	6.67	41.28	-0.3462	-0.0855	-0.0002
97	SLD 9	-0.28	18.76	82.65	-0.9426	0.0288	-0.0006
97	SLD 10	-0.28	18.76	82.65	-0.9426	0.0288	-0.0006
97	SLD 11	-0.01	8.08	53.97	-0.4322	-0.1106	-0.0002
97	SLD 12	-0.01	8.08	53.97	-0.4322	-0.1106	-0.0002
97	SLD 13	-0.23	16.67	87.43	-0.8644	-0.0494	-0.0005
97	SLD 14	-0.23	16.67	87.43	-0.8644	-0.0494	-0.0005
97	SLD 15	-0.15	13.47	78.82	-0.7112	-0.0912	-0.0004
97	SLD 16	-0.15	13.47	78.82	-0.7112	-0.0912	-0.0004
97	SLV 1	-0.09	10.97	22.49	-0.489	0.1257	-0.0002
97	SLV 2	-0.09	10.97	22.49	-0.489	0.1257	-0.0002
97	SLV 3	0.12	3.42	2.23	-0.1283	0.0186	0.0001
97	SLV 4	0.12	3.42	2.23	-0.1283	0.0186	0.0001
97	SLV 5	-0.43	23.64	80.85	-1.1447	0.1803	-0.0007
97	SLV 6	-0.43	23.64	80.85	-1.1447	0.1803	-0.0007
97	SLV 7	0.26	-1.53	13.31	0.0574	-0.1767	0.0001
97	SLV 8	0.26	-1.53	13.31	0.0574	-0.1767	0.0001
97	SLV 9	-0.51	26.95	110.62	-1.3462	0.12	-0.0008
97	SLV 10	-0.51	26.95	110.62	-1.3462	0.12	-0.0008
97	SLV 11	0.17	1.78	43.07	-0.1441	-0.237	-0.0001
97	SLV 12	0.17	1.78	43.07	-0.1441	-0.237	-0.0001
97	SLV 13	-0.37	22.01	121.7	-1.1605	-0.0753	-0.0008
97	SLV 14	-0.37	22.01	121.7	-1.1605	-0.0753	-0.0008
97	SLV 15	-0.17	14.46	101.44	-0.7998	-0.1824	-0.0005
97	SLV 16	-0.17	14.46	101.44	-0.7998	-0.1824	-0.0005
98	SLU 1	0.12	11.8	62.23	-0.7475	-0.0111	0.0006
98	SLU 2	0.07	14.25	65.61	-0.8765	-0.0497	0.0006
98	SLU 3	0.13	12.35	64.91	-0.7833	-0.0112	0.0006
98	SLU 4	0.09	13.82	66.93	-0.8607	-0.0344	0.0006
98	SLU 5	0.07	14.68	67.77	-0.905	-0.0496	0.0006
98	SLU 6	0.13	12.78	67.08	-0.8118	-0.0111	0.0006
98	SLU 7	0.1	14.25	69.1	-0.8892	-0.0343	0.0006
98	SLU 8	0.13	12.66	66.57	-0.8045	-0.0109	0.0006
98	SLU 9	0.1	14.13	68.59	-0.8819	-0.0341	0.0006
98	SLU 10	0.08	15.49	73.12	-0.9619	-0.0513	0.0007
98	SLU 11	0.14	13.59	72.43	-0.8687	-0.0128	0.0007
98	SLU 12	0.11	15.06	74.45	-0.9461	-0.036	0.0007
98	SLU 13	0.09	15.92	75.29	-0.9904	-0.0512	0.0007
98	SLU 14	0.15	14.02	74.59	-0.8972	-0.0127	0.0007
98	SLU 15	0.11	15.49	76.62	-0.9746	-0.0359	0.0007
98	SLU 16	0.14	13.91	74.08	-0.8899	-0.0125	0.0007
98	SLU 17	0.11	15.37	76.11	-0.9673	-0.0357	0.0007
98	SLU 18	0.14	13.58	72.97	-0.8695	-0.0133	0.0007



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
98	SLU 19	0.11	15.04	75	-0.9469	-0.0365	0.0007		
98	SLU 20	0.15	14.01	75.14	-0.898	-0.0132	0.0007		
98	SLU 21	0.11	15.48	77.16	-0.9754	-0.0364	0.0007		
98	SLU 22	0.14	13.22	70.21	-0.8431	-0.0126	0.0006		
98	SLU 23	0.08	15.66	73.58	-0.972	-0.0512	0.0007		
98	SLU 24	0.14	13.76	72.89	-0.8788	-0.0127	0.0007		
98	SLU 25	0.11	15.23	74.91	-0.9562	-0.0359	0.0007		
98	SLU 26	0.09	16.09	75.75	-1.0005	-0.0511	0.0007		
98	SLU 27	0.15	14.2	75.05	-0.9073	-0.0126	0.0007		
98	SLU 28	0.11	15.66	77.08	-0.9847	-0.0358	0.0007		
98	SLU 29	0.15	14.08	74.54	-0.9001	-0.0124	0.0007		
98	SLU 30	0.11	15.55	76.57	-0.9774	-0.0356	0.0007		
98	SLU 31	0.1	16.9	81.1	-1.0574	-0.0528	0.0007		
98	SLU 32	0.16	15.01	80.4	-0.9642	-0.0143	0.0007		
98	SLU 33	0.12	16.47	82.43	-1.0416	-0.0375	0.0008		
98	SLU 34	0.1	17.34	83.27	-1.0859	-0.0527	0.0008		
98	SLU 35	0.16	15.44	82.57	-0.9927	-0.0142	0.0008		
98	SLU 36	0.13	16.91	84.6	-1.0701	-0.0374	0.0008		
98	SLU 37	0.16	15.32	82.06	-0.9855	-0.0139	0.0008		
98	SLU 38	0.13	16.79	84.09	-1.0628	-0.0371	0.0008		
98	SLU 39	0.16	14.99	80.95	-0.9651	-0.0148	0.0007		
98	SLU 40	0.12	16.46	82.97	-1.0425	-0.038	0.0008		
98	SLU 41	0.16	15.42	83.12	-0.9936	-0.0147	0.0008		
98	SLU 42	0.13	16.89	85.14	-1.0709	-0.0379	0.0008		
98	SLU 43	0.15	14.86	78.17	-0.939	-0.0139	0.0007		
98	SLU 44	0.1	17.3	81.54	-1.068	-0.0525	0.0007		
98	SLU 45	0.16	15.4	80.84	-0.9748	-0.014	0.0007		
98	SLU 46	0.12	16.87	82.87	-1.0522	-0.0372	0.0008		
98	SLU 47	0.1	17.73	83.71	-1.0965	-0.0524	0.0008		
98	SLU 48	0.16	15.84	83.01	-1.0033	-0.0139	0.0008		
98	SLU 49	0.13	17.3	85.04	-1.0807	-0.0371	0.0008		
98	SLU 50	0.16	15.72	82.5	-0.996	-0.0137	0.0008		
98	SLU 51	0.13	17.19	84.52	-1.0734	-0.0369	0.0008		
98	SLU 52	0.11	18.54	89.06	-1.1534	-0.0541	0.0008		
98	SLU 53	0.17	16.65	88.36	-1.0602	-0.0156	0.0008		
98	SLU 54	0.14	18.11	90.39	-1.1376	-0.0388	0.0008		
98	SLU 55	0.12	18.98	91.23	-1.1819	-0.054	0.0008		
98	SLU 56	0.18	17.08	90.53	-1.0887	-0.0155	0.0008		
98	SLU 57	0.14	18.55	92.55	-1.1661	-0.0387	0.0008		
98	SLU 58	0.18	16.96	90.02	-1.0814	-0.0153	0.0008		
98	SLU 59	0.14	18.43	92.04	-1.1588	-0.0385	0.0008		
98	SLU 60	0.17	16.63	88.91	-1.0611	-0.0162	0.0008		
98	SLU 61	0.14	18.1	90.93	-1.1384	-0.0394	0.0008		
98	SLU 62	0.18	17.06	91.07	-1.0895	-0.0161	0.0008		
98	SLU 63	0.14	18.53	93.1	-1.1669	-0.0392	0.0009		
98	SLU 64	0.17	16.27	86.14	-1.0346	-0.0154	0.0008		
98	SLU 65	0.11	18.72	89.52	-1.1635	-0.054	0.0008		
98	SLU 66	0.17	16.82	88.82	-1.0703	-0.0155	0.0008		
98	SLU 67	0.14	18.29	90.85	-1.1477	-0.0387	0.0008		
98	SLU 68	0.12	19.15	91.68	-1.192	-0.0539	0.0008		
98	SLU 69	0.18	17.25	90.99	-1.0988	-0.0154	0.0008		
98	SLU 70	0.14	18.72	93.01	-1.1762	-0.0386	0.0009		
98	SLU 71	0.18	17.13	90.48	-1.0916	-0.0152	0.0008		
98	SLU 72	0.14	18.6	92.5	-1.169	-0.0384	0.0008		
98	SLU 73	0.13	19.96	97.04	-1.2489	-0.0556	0.0009		
98	SLU 74	0.19	18.06	96.34	-1.1557	-0.0171	0.0009		
98	SLU 75	0.15	19.53	98.36	-1.2331	-0.0403	0.0009		
98	SLU 76	0.13	20.39	99.2	-1.2774	-0.0555	0.0009		
98	SLU 77	0.19	18.49	98.51	-1.1842	-0.017	0.0009		
98	SLU 78	0.16	19.96	100.53	-1.2616	-0.0402	0.0009		
98	SLU 79	0.19	18.38	98	-1.177	-0.0168	0.0009		
98	SLU 80	0.16	19.84	100.02	-1.2544	-0.04	0.0009		
98	SLU 81	0.19	18.05	96.88	-1.1566	-0.0176	0.0009		
98	SLU 82	0.16	19.51	98.91	-1.234	-0.0408	0.0009		
98	SLU 83	0.19	18.48	99.05	-1.1851	-0.0175	0.0009		
98	SLU 84	0.16	19.95	101.08	-1.2625	-0.0407	0.0009		
98	SLE RA 1	0.12	12.21	64.51	-0.7748	-0.0115	0.0006		
98	SLE RA 2	0.09	13.84	66.76	-0.8608	-0.0373	0.0006		
98	SLE RA 3	0.13	12.57	66.3	-0.7987	-0.0116	0.0006		
98	SLE RA 4	0.11	13.55	67.65	-0.8503	-0.027	0.0006		
98	SLE RA 5	0.09	14.12	68.21	-0.8798	-0.0372	0.0006		
98	SLE RA 6	0.13	12.86	67.74	-0.8177	-0.0115	0.0006		
98	SLE RA 7	0.11	13.84	69.09	-0.8693	-0.027	0.0006		
98	SLE RA 8	0.13	12.78	67.4	-0.8128	-0.0114	0.0006		
98	SLE RA 9	0.11	13.76	68.75	-0.8644	-0.0268	0.0006		
98	SLE RA 10	0.1	14.66	71.77	-0.9177	-0.0383	0.0007		
98	SLE RA 11	0.14	13.4	71.31	-0.8556	-0.0126	0.0007		
98	SLE RA 12	0.12	14.38	72.66	-0.9072	-0.0281	0.0007		
98	SLE RA 13	0.1	14.95	73.22	-0.9367	-0.0383	0.0007		
98	SLE RA 14	0.14	13.69	72.75	-0.8746	-0.0126	0.0007		
98	SLE RA 15	0.12	14.67	74.1	-0.9262	-0.028	0.0007		
98	SLE RA 16	0.14	13.61	72.41	-0.8698	-0.0124	0.0007		
98	SLE RA 17	0.12	14.59	73.76	-0.9214	-0.0279	0.0007		
98	SLE RA 18	0.14	13.39	71.67	-0.8562	-0.013	0.0007		
98	SLE RA 19	0.12	14.37	73.02	-0.9078	-0.0285	0.0007		
98	SLE RA 20	0.14	13.68	73.12	-0.8752	-0.0129	0.0007		
98	SLE RA 21	0.12	14.65	74.47	-0.9268	-0.0284	0.0007		
98	SLE FR 1	0.12	12.21	64.51	-0.7748	-0.0115	0.0006		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
98	SLE FR 2	0.12	12.53	64.96	-0.792	-0.0167	0.0006	
98	SLE FR 3	0.13	12.32	65.09	-0.7824	-0.0115	0.0006	
98	SLE FR 4	0.12	12.89	67.11	-0.8164	-0.0171	0.0006	
98	SLE FR 5	0.13	12.68	67.24	-0.8068	-0.0119	0.0006	
98	SLE FR 6	0.13	12.8	68.09	-0.8155	-0.0123	0.0006	
98	SLE QP 1	0.12	12.21	64.51	-0.7748	-0.0115	0.0006	
98	SLE QP 2	0.13	12.56	66.66	-0.7992	-0.012	0.0006	
98	SLD 1	0.23	16.6	92.12	-1.0624	0.0075	0.0009	
98	SLD 2	0.23	16.6	92.12	-1.0624	0.0075	0.0009	
98	SLD 3	0.15	12.83	82.94	-0.8667	0.0483	0.0008	
98	SLD 4	0.15	12.83	82.94	-0.8667	0.0483	0.0008	
98	SLD 5	0.28	19.49	88.22	-1.175	-0.0681	0.0008	
98	SLD 6	0.28	19.49	88.22	-1.175	-0.0681	0.0008	
98	SLD 7	0.01	6.93	57.62	-0.5226	0.0681	0.0005	
98	SLD 8	0.01	6.93	57.62	-0.5226	0.0681	0.0005	
98	SLD 9	0.25	18.2	75.7	-1.0758	-0.092	0.0007	
98	SLD 10	0.25	18.2	75.7	-1.0758	-0.092	0.0007	
98	SLD 11	-0.02	5.63	45.1	-0.4235	0.0442	0.0004	
98	SLD 12	-0.02	5.63	45.1	-0.4235	0.0442	0.0004	
98	SLD 13	0.11	12.29	50.38	-0.7318	-0.0722	0.0005	
98	SLD 14	0.11	12.29	50.38	-0.7318	-0.0722	0.0005	
98	SLD 15	0.03	8.53	41.2	-0.5361	-0.0314	0.0004	
98	SLD 16	0.03	8.53	41.2	-0.5361	-0.0314	0.0004	
98	SLV 1	0.37	22.03	126.41	-1.417	0.0312	0.0012	
98	SLV 2	0.37	22.03	126.41	-1.417	0.0312	0.0012	
98	SLV 3	0.16	13.16	104.78	-0.9553	0.136	0.001	
98	SLV 4	0.16	13.16	104.78	-0.9553	0.136	0.001	
98	SLV 5	0.52	28.86	117.39	-1.6848	-0.1579	0.0011	
98	SLV 6	0.52	28.86	117.39	-1.6848	-0.1579	0.0011	
98	SLV 7	-0.18	-0.72	45.29	-0.1458	0.1913	0.0004	
98	SLV 8	-0.18	-0.72	45.29	-0.1458	0.1913	0.0004	
98	SLV 9	0.44	25.84	88.03	-1.4526	-0.2152	0.0008	
98	SLV 10	0.44	25.84	88.03	-1.4526	-0.2152	0.0008	
98	SLV 11	-0.26	-3.74	15.93	0.0863	0.134	0.0001	
98	SLV 12	-0.26	-3.74	15.93	0.0863	0.134	0.0001	
98	SLV 13	0.1	11.96	28.54	-0.6432	-0.1599	0.0002	
98	SLV 14	0.1	11.96	28.54	-0.6432	-0.1599	0.0002	
98	SLV 15	-0.11	3.09	6.91	-0.1815	-0.0551	0	
98	SLV 16	-0.11	3.09	6.91	-0.1815	-0.0551	0	
99	SLU 1	0.03	0.21	42.98	-0.0023	0.0209	0.0002	
99	SLU 2	0.03	-0.23	43.1	0.0175	0.0223	0.0003	
99	SLU 3	0.03	0.63	44.49	-0.0214	0.0217	0.0002	
99	SLU 4	0.03	0.37	44.56	-0.0095	0.0225	0.0003	
99	SLU 5	0.03	0.23	44.42	-0.0037	0.0229	0.0003	
99	SLU 6	0.03	1.1	45.81	-0.0426	0.0223	0.0002	
99	SLU 7	0.03	0.83	45.88	-0.0307	0.0231	0.0003	
99	SLU 8	0.03	1.14	45.62	-0.0447	0.0221	0.0002	
99	SLU 9	0.03	0.87	45.69	-0.0329	0.0229	0.0003	
99	SLU 10	0.03	-0.07	50.28	0.0124	0.0218	0.0003	
99	SLU 11	0.03	0.8	51.67	-0.0265	0.0213	0.0002	
99	SLU 12	0.03	0.53	51.74	-0.0146	0.0221	0.0003	
99	SLU 13	0.03	0.4	51.6	-0.0088	0.0224	0.0003	
99	SLU 14	0.03	1.26	52.99	-0.0477	0.0218	0.0003	
99	SLU 15	0.03	1	53.06	-0.0358	0.0227	0.0003	
99	SLU 16	0.03	1.3	52.8	-0.0498	0.0217	0.0003	
99	SLU 17	0.03	1.04	52.87	-0.0379	0.0225	0.0003	
99	SLU 18	0.03	0.44	53.24	-0.0096	0.0203	0.0002	
99	SLU 19	0.03	0.18	53.31	0.0023	0.0211	0.0003	
99	SLU 20	0.03	0.91	54.56	-0.0308	0.0209	0.0003	
99	SLU 21	0.03	0.64	54.63	-0.0189	0.0217	0.0003	
99	SLU 22	0.03	0.49	47.79	-0.0133	0.0234	0.0003	
99	SLU 23	0.03	0.05	47.91	0.0065	0.0248	0.0003	
99	SLU 24	0.03	0.91	49.3	-0.0324	0.0242	0.0003	
99	SLU 25	0.03	0.65	49.37	-0.0205	0.025	0.0003	
99	SLU 26	0.03	0.51	49.23	-0.0147	0.0254	0.0003	
99	SLU 27	0.03	1.37	50.62	-0.0537	0.0248	0.0003	
99	SLU 28	0.03	1.11	50.69	-0.0418	0.0256	0.0003	
99	SLU 29	0.03	1.41	50.43	-0.0558	0.0246	0.0003	
99	SLU 30	0.03	1.15	50.5	-0.0439	0.0254	0.0003	
99	SLU 31	0.03	0.21	55.1	0.0014	0.0243	0.0003	
99	SLU 32	0.03	1.07	56.48	-0.0375	0.0237	0.0003	
99	SLU 33	0.03	0.81	56.56	-0.0256	0.0245	0.0003	
99	SLU 34	0.03	0.67	56.42	-0.0198	0.0249	0.0003	
99	SLU 35	0.03	1.54	57.8	-0.0587	0.0243	0.0003	
99	SLU 36	0.03	1.27	57.88	-0.0469	0.0251	0.0003	
99	SLU 37	0.03	1.58	57.61	-0.0609	0.0242	0.0003	
99	SLU 38	0.03	1.31	57.69	-0.049	0.025	0.0003	
99	SLU 39	0.03	0.72	58.05	-0.0206	0.0228	0.0003	
99	SLU 40	0.03	0.46	58.13	-0.0087	0.0236	0.0003	
99	SLU 41	0.03	1.18	59.37	-0.0418	0.0234	0.0003	
99	SLU 42	0.03	0.92	59.45	-0.0299	0.0242	0.0003	
99	SLU 43	0.03	0.18	54.22	0.0008	0.0264	0.0003	
99	SLU 44	0.04	-0.26	54.34	0.0206	0.0277	0.0003	
99	SLU 45	0.04	0.6	55.73	-0.0183	0.0271	0.0003	
99	SLU 46	0.04	0.34	55.8	-0.0064	0.0279	0.0003	
99	SLU 47	0.04	0.2	55.66	-0.0006	0.0283	0.0003	
99	SLU 48	0.04	1.07	57.05	-0.0395	0.0277	0.0003	
99	SLU 49	0.04	0.8	57.12	-0.0276	0.0285	0.0003	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
99	SLU 50	0.04	1.11	56.86	-0.0416	0.0276	0.0003	
99	SLU 51	0.04	0.84	56.93	-0.0298	0.0284	0.0003	
99	SLU 52	0.04	-0.1	61.53	0.0155	0.0273	0.0003	
99	SLU 53	0.03	0.77	62.91	-0.0234	0.0267	0.0003	
99	SLU 54	0.04	0.5	62.99	-0.0115	0.0275	0.0003	
99	SLU 55	0.04	0.37	62.85	-0.0057	0.0279	0.0003	
99	SLU 56	0.03	1.23	64.23	-0.0446	0.0273	0.0003	
99	SLU 57	0.04	0.96	64.31	-0.0327	0.0281	0.0003	
99	SLU 58	0.03	1.27	64.04	-0.0467	0.0271	0.0003	
99	SLU 59	0.04	1.01	64.12	-0.0348	0.0279	0.0003	
99	SLU 60	0.03	0.41	64.48	-0.0065	0.0257	0.0003	
99	SLU 61	0.03	0.15	64.56	0.0054	0.0266	0.0003	
99	SLU 62	0.03	0.88	65.8	-0.0277	0.0263	0.0003	
99	SLU 63	0.04	0.61	65.88	-0.0158	0.0271	0.0003	
99	SLU 64	0.04	0.46	59.03	-0.0102	0.0288	0.0003	
99	SLU 65	0.04	0.01	59.15	0.0096	0.0302	0.0003	
99	SLU 66	0.04	0.88	60.54	-0.0293	0.0296	0.0003	
99	SLU 67	0.04	0.61	60.62	-0.0174	0.0304	0.0003	
99	SLU 68	0.04	0.48	60.47	-0.0116	0.0308	0.0003	
99	SLU 69	0.04	1.34	61.86	-0.0506	0.0302	0.0003	
99	SLU 70	0.04	1.08	61.94	-0.0387	0.031	0.0003	
99	SLU 71	0.04	1.38	61.67	-0.0527	0.03	0.0003	
99	SLU 72	0.04	1.12	61.75	-0.0408	0.0308	0.0003	
99	SLU 73	0.04	0.18	66.34	0.0045	0.0297	0.0004	
99	SLU 74	0.04	1.04	67.73	-0.0344	0.0292	0.0003	
99	SLU 75	0.04	0.78	67.8	-0.0225	0.03	0.0004	
99	SLU 76	0.04	0.64	67.66	-0.0167	0.0303	0.0004	
99	SLU 77	0.04	1.51	69.05	-0.0556	0.0298	0.0003	
99	SLU 78	0.04	1.24	69.12	-0.0438	0.0306	0.0004	
99	SLU 79	0.04	1.55	68.86	-0.0578	0.0296	0.0003	
99	SLU 80	0.04	1.28	68.93	-0.0459	0.0304	0.0004	
99	SLU 81	0.04	0.69	69.3	-0.0175	0.0282	0.0003	
99	SLU 82	0.04	0.42	69.37	-0.0056	0.029	0.0004	
99	SLU 83	0.04	1.15	70.62	-0.0387	0.0288	0.0003	
99	SLU 84	0.04	0.89	70.69	-0.0268	0.0296	0.0004	
99	SLE RA 1	0.03	0.29	44.35	-0.0054	0.0216	0.0002	
99	SLE RA 2	0.03	0	44.43	0.0078	0.0225	0.0003	
99	SLE RA 3	0.03	0.57	45.36	-0.0182	0.0222	0.0002	
99	SLE RA 4	0.03	0.4	45.41	-0.0103	0.0227	0.0003	
99	SLE RA 5	0.03	0.3	45.31	-0.0064	0.0229	0.0003	
99	SLE RA 6	0.03	0.88	46.24	-0.0323	0.0225	0.0002	
99	SLE RA 7	0.03	0.7	46.29	-0.0244	0.0231	0.0003	
99	SLE RA 8	0.03	0.91	46.11	-0.0337	0.0224	0.0002	
99	SLE RA 9	0.03	0.73	46.16	-0.0258	0.023	0.0003	
99	SLE RA 10	0.03	0.1	49.22	0.0044	0.0222	0.0003	
99	SLE RA 11	0.03	0.68	50.15	-0.0216	0.0219	0.0003	
99	SLE RA 12	0.03	0.5	50.2	-0.0136	0.0224	0.0003	
99	SLE RA 13	0.03	0.41	50.1	-0.0098	0.0226	0.0003	
99	SLE RA 14	0.03	0.99	51.03	-0.0357	0.0223	0.0003	
99	SLE RA 15	0.03	0.81	51.08	-0.0278	0.0228	0.0003	
99	SLE RA 16	0.03	1.02	50.9	-0.0371	0.0221	0.0003	
99	SLE RA 17	0.03	0.84	50.95	-0.0292	0.0227	0.0003	
99	SLE RA 18	0.03	0.45	51.2	-0.0103	0.0212	0.0002	
99	SLE RA 19	0.03	0.27	51.24	-0.0024	0.0218	0.0003	
99	SLE RA 20	0.03	0.75	52.07	-0.0244	0.0216	0.0003	
99	SLE RA 21	0.03	0.58	52.12	-0.0165	0.0222	0.0003	
99	SLE FR 1	0.03	0.29	44.35	-0.0054	0.0216	0.0002	
99	SLE FR 2	0.03	0.23	44.37	-0.0028	0.0218	0.0002	
99	SLE FR 3	0.03	0.41	44.7	-0.0111	0.0218	0.0002	
99	SLE FR 4	0.03	0.28	46.42	-0.0043	0.0217	0.0002	
99	SLE FR 5	0.03	0.46	46.76	-0.0126	0.0217	0.0002	
99	SLE FR 6	0.03	0.37	47.77	-0.0079	0.0214	0.0002	
99	SLE QP 1	0.03	0.29	44.35	-0.0054	0.0216	0.0002	
99	SLE QP 2	0.03	0.34	46.41	-0.0069	0.0215	0.0002	
99	SLD 1	0.08	0.9	53.36	-0.0336	0.0918	0.0005	
99	SLD 2	0.08	0.9	53.36	-0.0336	0.0918	0.0005	
99	SLD 3	0.05	-2.14	50.87	0.1069	0.0767	0.0003	
99	SLD 4	0.05	-2.14	50.87	0.1069	0.0767	0.0003	
99	SLD 5	0.08	5.12	52.27	-0.228	0.0655	0.0006	
99	SLD 6	0.08	5.12	52.27	-0.228	0.0655	0.0006	
99	SLD 7	-0.01	-5.01	43.97	0.2404	0.0152	0	
99	SLD 8	-0.01	-5.01	43.97	0.2404	0.0152	0	
99	SLD 9	0.06	5.69	48.84	-0.2542	0.0279	0.0005	
99	SLD 10	0.06	5.69	48.84	-0.2542	0.0279	0.0005	
99	SLD 11	-0.03	-4.44	40.54	0.2142	-0.0225	-0.0001	
99	SLD 12	-0.03	-4.44	40.54	0.2142	-0.0225	-0.0001	
99	SLD 13	0	2.81	41.94	-0.1207	-0.0337	0.0001	
99	SLD 14	0	2.81	41.94	-0.1207	-0.0337	0.0001	
99	SLD 15	-0.02	-0.23	39.45	0.0198	-0.0488	0	
99	SLD 16	-0.02	-0.23	39.45	0.0198	-0.0488	0	
99	SLV 1	0.15	1.64	62.77	-0.0686	0.1969	0.0009	
99	SLV 2	0.15	1.64	62.77	-0.0686	0.1969	0.0009	
99	SLV 3	0.09	-5.47	56.89	0.2601	0.1611	0.0005	
99	SLV 4	0.09	-5.47	56.89	0.2601	0.1611	0.0005	
99	SLV 5	0.16	11.51	60.23	-0.524	0.1284	0.0011	
99	SLV 6	0.16	11.51	60.23	-0.524	0.1284	0.0011	
99	SLV 7	-0.05	-12.19	40.63	0.5717	0.0092	-0.0003	
99	SLV 8	-0.05	-12.19	40.63	0.5717	0.0092	-0.0003	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
99	SLV 9			0.1	12.86	52.18	-0.5855	0.0339	0.0008
99	SLV 10			0.1	12.86	52.18	-0.5855	0.0339	0.0008
99	SLV 11			-0.1	-10.84	32.58	0.5102	-0.0854	-0.0006
99	SLV 12			-0.1	-10.84	32.58	0.5102	-0.0854	-0.0006
99	SLV 13			-0.03	6.14	35.92	-0.2739	-0.1181	0
99	SLV 14			-0.03	6.14	35.92	-0.2739	-0.1181	0
99	SLV 15			-0.1	-0.97	30.04	0.0548	-0.1539	-0.0004
99	SLV 16			-0.1	-0.97	30.04	0.0548	-0.1539	-0.0004
100	SLU 1			0.02	-1	4.42	0.0336	0.0104	-0.0002
100	SLU 2			0.02	-1.01	4.4	0.0341	0.0105	-0.0002
100	SLU 3			0.02	-1.06	4.33	0.0356	0.011	-0.0002
100	SLU 4			0.02	-1.07	4.32	0.0359	0.0111	-0.0002
100	SLU 5			0.02	-1.06	4.35	0.0353	0.011	-0.0002
100	SLU 6			0.02	-1.1	4.27	0.0367	0.0115	-0.0002
100	SLU 7			0.02	-1.11	4.26	0.0371	0.0116	-0.0002
100	SLU 8			0.02	-1.08	4.31	0.0359	0.0114	-0.0002
100	SLU 9			0.02	-1.09	4.3	0.0363	0.0115	-0.0002
100	SLU 10			0.02	-1.29	7.55	0.0403	0.0082	-0.0002
100	SLU 11			0.02	-1.34	7.48	0.0418	0.0087	-0.0002
100	SLU 12			0.02	-1.35	7.46	0.0421	0.0087	-0.0002
100	SLU 13			0.02	-1.33	7.49	0.0415	0.0087	-0.0002
100	SLU 14			0.02	-1.38	7.42	0.0429	0.0092	-0.0002
100	SLU 15			0.02	-1.39	7.41	0.0433	0.0092	-0.0002
100	SLU 16			0.02	-1.35	7.46	0.0421	0.0091	-0.0002
100	SLU 17			0.02	-1.36	7.44	0.0425	0.0091	-0.0002
100	SLU 18			0.02	-1.39	8.92	0.0425	0.0071	-0.0001
100	SLU 19			0.02	-1.4	8.9	0.0428	0.0071	-0.0001
100	SLU 20			0.02	-1.43	8.86	0.0436	0.0076	-0.0001
100	SLU 21			0.02	-1.44	8.85	0.044	0.0076	-0.0001
100	SLU 22			0.02	-1.25	4.52	0.0413	0.0112	-0.0002
100	SLU 23			0.02	-1.26	4.5	0.0418	0.0114	-0.0002
100	SLU 24			0.02	-1.31	4.43	0.0433	0.0118	-0.0002
100	SLU 25			0.02	-1.32	4.42	0.0436	0.0119	-0.0002
100	SLU 26			0.02	-1.3	4.45	0.043	0.0119	-0.0002
100	SLU 27			0.02	-1.35	4.37	0.0444	0.0123	-0.0002
100	SLU 28			0.02	-1.36	4.36	0.0447	0.0124	-0.0002
100	SLU 29			0.02	-1.33	4.41	0.0436	0.0123	-0.0002
100	SLU 30			0.02	-1.34	4.4	0.0439	0.0123	-0.0002
100	SLU 31			0.02	-1.54	7.65	0.048	0.009	-0.0002
100	SLU 32			0.02	-1.58	7.58	0.0495	0.0095	-0.0002
100	SLU 33			0.02	-1.59	7.57	0.0498	0.0095	-0.0002
100	SLU 34			0.02	-1.58	7.59	0.0492	0.0095	-0.0002
100	SLU 35			0.03	-1.62	7.52	0.0506	0.01	-0.0002
100	SLU 36			0.03	-1.64	7.51	0.051	0.0101	-0.0002
100	SLU 37			0.02	-1.6	7.56	0.0498	0.0099	-0.0002
100	SLU 38			0.03	-1.61	7.54	0.0501	0.01	-0.0002
100	SLU 39			0.02	-1.64	9.02	0.0502	0.0079	-0.0002
100	SLU 40			0.02	-1.65	9.01	0.0505	0.008	-0.0002
100	SLU 41			0.02	-1.68	8.96	0.0513	0.0084	-0.0002
100	SLU 42			0.03	-1.69	8.95	0.0516	0.0085	-0.0002
100	SLU 43			0.02	-1.21	5.71	0.041	0.0133	-0.0002
100	SLU 44			0.03	-1.23	5.69	0.0416	0.0134	-0.0002
100	SLU 45			0.03	-1.28	5.62	0.043	0.0139	-0.0002
100	SLU 46			0.03	-1.29	5.61	0.0433	0.0139	-0.0002
100	SLU 47			0.03	-1.27	5.64	0.0427	0.0139	-0.0002
100	SLU 48			0.03	-1.32	5.56	0.0442	0.0144	-0.0002
100	SLU 49			0.03	-1.33	5.55	0.0445	0.0144	-0.0002
100	SLU 50			0.03	-1.29	5.6	0.0434	0.0143	-0.0002
100	SLU 51			0.03	-1.3	5.59	0.0437	0.0143	-0.0002
100	SLU 52			0.03	-1.5	8.84	0.0478	0.011	-0.0002
100	SLU 53			0.03	-1.55	8.77	0.0492	0.0115	-0.0002
100	SLU 54			0.03	-1.56	8.76	0.0496	0.0116	-0.0002
100	SLU 55			0.03	-1.54	8.78	0.049	0.0115	-0.0002
100	SLU 56			0.03	-1.59	8.71	0.0504	0.012	-0.0002
100	SLU 57			0.03	-1.6	8.7	0.0507	0.0121	-0.0002
100	SLU 58			0.03	-1.57	8.75	0.0496	0.0119	-0.0002
100	SLU 59			0.03	-1.58	8.74	0.0499	0.012	-0.0002
100	SLU 60			0.03	-1.6	10.21	0.0499	0.0099	-0.0002
100	SLU 61			0.03	-1.61	10.2	0.0502	0.01	-0.0002
100	SLU 62			0.03	-1.64	10.15	0.0511	0.0104	-0.0002
100	SLU 63			0.03	-1.65	10.14	0.0514	0.0105	-0.0002
100	SLU 64			0.03	-1.46	5.81	0.0487	0.0141	-0.0002
100	SLU 65			0.03	-1.48	5.79	0.0493	0.0142	-0.0002
100	SLU 66			0.03	-1.52	5.72	0.0507	0.0147	-0.0003
100	SLU 67			0.03	-1.53	5.71	0.051	0.0147	-0.0003
100	SLU 68			0.03	-1.52	5.74	0.0504	0.0147	-0.0003
100	SLU 69			0.03	-1.56	5.67	0.0519	0.0152	-0.0003
100	SLU 70			0.03	-1.58	5.65	0.0522	0.0152	-0.0003
100	SLU 71			0.03	-1.54	5.7	0.0511	0.0151	-0.0003
100	SLU 72			0.03	-1.55	5.69	0.0514	0.0152	-0.0003
100	SLU 73			0.03	-1.75	8.94	0.0555	0.0119	-0.0002
100	SLU 74			0.03	-1.8	8.87	0.0569	0.0123	-0.0002
100	SLU 75			0.03	-1.81	8.86	0.0572	0.0124	-0.0002
100	SLU 76			0.03	-1.79	8.89	0.0566	0.0124	-0.0002
100	SLU 77			0.03	-1.84	8.81	0.0581	0.0128	-0.0002
100	SLU 78			0.03	-1.85	8.8	0.0584	0.0129	-0.0002
100	SLU 79			0.03	-1.82	8.85	0.0573	0.0128	-0.0002
100	SLU 80			0.03	-1.83	8.84	0.0576	0.0128	-0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
100	SLU 81	0.03	-1.85	10.31	0.0576	0.0107	-0.0002
100	SLU 82	0.03	-1.86	10.3	0.0579	0.0108	-0.0002
100	SLU 83	0.03	-1.89	10.25	0.0588	0.0112	-0.0002
100	SLU 84	0.03	-1.9	10.24	0.0591	0.0113	-0.0002
100	SLE RA 1	0.02	-1.07	4.45	0.0358	0.0107	-0.0002
100	SLE RA 2	0.02	-1.08	4.44	0.0362	0.0107	-0.0002
100	SLE RA 3	0.02	-1.11	4.39	0.0371	0.011	-0.0002
100	SLE RA 4	0.02	-1.12	4.38	0.0373	0.0111	-0.0002
100	SLE RA 5	0.02	-1.11	4.4	0.0369	0.0111	-0.0002
100	SLE RA 6	0.02	-1.14	4.35	0.0379	0.0114	-0.0002
100	SLE RA 7	0.02	-1.15	4.34	0.0381	0.0114	-0.0002
100	SLE RA 8	0.02	-1.12	4.38	0.0373	0.0113	-0.0002
100	SLE RA 9	0.02	-1.13	4.37	0.0376	0.0114	-0.0002
100	SLE RA 10	0.02	-1.26	6.54	0.0403	0.0092	-0.0002
100	SLE RA 11	0.02	-1.29	6.49	0.0413	0.0095	-0.0002
100	SLE RA 12	0.02	-1.3	6.48	0.0415	0.0095	-0.0002
100	SLE RA 13	0.02	-1.29	6.5	0.0411	0.0095	-0.0002
100	SLE RA 14	0.02	-1.32	6.45	0.042	0.0098	-0.0002
100	SLE RA 15	0.02	-1.33	6.44	0.0422	0.0099	-0.0002
100	SLE RA 16	0.02	-1.31	6.47	0.0415	0.0098	-0.0002
100	SLE RA 17	0.02	-1.31	6.47	0.0417	0.0098	-0.0002
100	SLE RA 18	0.02	-1.33	7.45	0.0417	0.0084	-0.0002
100	SLE RA 19	0.02	-1.34	7.44	0.0419	0.0085	-0.0002
100	SLE RA 20	0.02	-1.36	7.41	0.0425	0.0088	-0.0002
100	SLE RA 21	0.02	-1.36	7.4	0.0427	0.0088	-0.0002
100	SLE FR 1	0.02	-1.07	4.45	0.0358	0.0107	-0.0002
100	SLE FR 2	0.02	-1.07	4.45	0.0359	0.0107	-0.0002
100	SLE FR 3	0.02	-1.08	4.44	0.0361	0.0108	-0.0002
100	SLE FR 4	0.02	-1.15	5.35	0.0376	0.01	-0.0002
100	SLE FR 5	0.02	-1.16	5.33	0.0379	0.0101	-0.0002
100	SLE FR 6	0.02	-1.2	5.95	0.0388	0.0095	-0.0002
100	SLE QP 1	0.02	-1.07	4.45	0.0358	0.0107	-0.0002
100	SLE QP 2	0.02	-1.15	5.35	0.0376	0.01	-0.0002
100	SLD 1	0.12	-1.42	4.96	0.0459	0.0778	-0.001
100	SLD 2	0.12	-1.42	4.96	0.0459	0.0778	-0.001
100	SLD 3	0.1	-3.36	3.15	0.1048	0.0919	-0.0012
100	SLD 4	0.1	-3.36	3.15	0.1048	0.0919	-0.0012
100	SLD 5	0.08	1.71	7.98	-0.0493	0.009	-0.0001
100	SLD 6	0.08	1.71	7.98	-0.0493	0.009	-0.0001
100	SLD 7	0.01	-4.74	1.95	0.1471	0.0559	-0.0008
100	SLD 8	0.01	-4.74	1.95	0.1471	0.0559	-0.0008
100	SLD 9	0.03	2.45	8.75	-0.0719	-0.0359	0.0004
100	SLD 10	0.03	2.45	8.75	-0.0719	-0.0359	0.0004
100	SLD 11	-0.04	-4	2.72	0.1244	0.011	-0.0002
100	SLD 12	-0.04	-4	2.72	0.1244	0.011	-0.0002
100	SLD 13	-0.06	1.06	7.55	-0.0296	-0.0719	0.0008
100	SLD 14	-0.06	1.06	7.55	-0.0296	-0.0719	0.0008
100	SLD 15	-0.08	-0.87	5.74	0.0293	-0.0578	0.0006
100	SLD 16	-0.08	-0.87	5.74	0.0293	-0.0578	0.0006
100	SLV 1	0.26	-1.79	4.44	0.0569	0.1814	-0.0022
100	SLV 2	0.26	-1.79	4.44	0.0569	0.1814	-0.0022
100	SLV 3	0.22	-6.33	0.2	0.1951	0.215	-0.0027
100	SLV 4	0.22	-6.33	0.2	0.1951	0.215	-0.0027
100	SLV 5	0.16	5.55	11.52	-0.1663	0.0105	-0.0001
100	SLV 6	0.16	5.55	11.52	-0.1663	0.0105	-0.0001
100	SLV 7	0.01	-9.59	-2.63	0.2945	0.1225	-0.0016
100	SLV 8	0.01	-9.59	-2.63	0.2945	0.1225	-0.0016
100	SLV 9	0.03	7.3	13.33	-0.2193	-0.1025	0.0013
100	SLV 10	0.03	7.3	13.33	-0.2193	-0.1025	0.0013
100	SLV 11	-0.12	-7.84	-0.82	0.2414	0.0095	-0.0003
100	SLV 12	-0.12	-7.84	-0.82	0.2414	0.0095	-0.0003
100	SLV 13	-0.18	4.04	10.5	-0.12	-0.1951	0.0023
100	SLV 14	-0.18	4.04	10.5	-0.12	-0.1951	0.0023
100	SLV 15	-0.22	-0.51	6.25	0.0183	-0.1615	0.0018
100	SLV 16	-0.22	-0.51	6.25	0.0183	-0.1615	0.0018
101	SLU 1	0.03	-3.1	21.06	0.3232	0.0358	-0.0001
101	SLU 2	0.04	-0.95	22.01	0.2473	0.0456	-0.0002
101	SLU 3	0.03	-3.45	21.29	0.3433	0.0369	-0.0001
101	SLU 4	0.03	-2.16	21.86	0.2978	0.0428	-0.0001
101	SLU 5	0.04	-1.32	22.03	0.2659	0.0462	-0.0002
101	SLU 6	0.03	-3.82	21.31	0.3618	0.0375	-0.0001
101	SLU 7	0.04	-2.53	21.88	0.3163	0.0433	-0.0001
101	SLU 8	0.03	-3.84	21.1	0.3603	0.037	-0.0001
101	SLU 9	0.03	-2.55	21.67	0.3148	0.0429	-0.0001
101	SLU 10	0.04	-1.56	24.7	0.3008	0.0517	-0.0002
101	SLU 11	0.03	-4.06	23.98	0.3968	0.0429	-0.0002
101	SLU 12	0.04	-2.77	24.55	0.3513	0.0488	-0.0002
101	SLU 13	0.04	-1.93	24.72	0.3194	0.0523	-0.0002
101	SLU 14	0.03	-4.43	24	0.4153	0.0435	-0.0002
101	SLU 15	0.04	-3.14	24.57	0.3698	0.0494	-0.0002
101	SLU 16	0.03	-4.45	23.79	0.4138	0.043	-0.0002
101	SLU 17	0.04	-3.16	24.36	0.3682	0.0489	-0.0002
101	SLU 18	0.03	-3.97	24.91	0.3996	0.0444	-0.0002
101	SLU 19	0.04	-2.68	25.47	0.3541	0.0503	-0.0002
101	SLU 20	0.03	-4.34	24.92	0.4181	0.045	-0.0002
101	SLU 21	0.04	-3.05	25.49	0.3726	0.0509	-0.0002
101	SLU 22	0.03	-3.74	23.29	0.3755	0.0413	-0.0001
101	SLU 23	0.04	-1.6	24.24	0.2997	0.0511	-0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
101	SLU 24		0.03		-4.09	23.52	0.3956	0.0424	-0.0002
101	SLU 25		0.04		-2.81	24.09	0.3501	0.0483	-0.0002
101	SLU 26		0.04		-1.97	24.26	0.3182	0.0517	-0.0002
101	SLU 27		0.03		-4.46	23.53	0.4142	0.043	-0.0002
101	SLU 28		0.04		-3.18	24.1	0.3687	0.0489	-0.0002
101	SLU 29		0.03		-4.48	23.32	0.4126	0.0425	-0.0001
101	SLU 30		0.04		-3.2	23.89	0.3671	0.0484	-0.0002
101	SLU 31		0.05		-2.21	26.93	0.3532	0.0572	-0.0002
101	SLU 32		0.04		-4.71	26.21	0.4491	0.0484	-0.0002
101	SLU 33		0.04		-3.42	26.78	0.4036	0.0543	-0.0002
101	SLU 34		0.05		-2.58	26.95	0.3717	0.0578	-0.0002
101	SLU 35		0.04		-5.08	26.22	0.4677	0.049	-0.0002
101	SLU 36		0.04		-3.79	26.79	0.4221	0.0549	-0.0002
101	SLU 37		0.04		-5.1	26.01	0.4661	0.0485	-0.0002
101	SLU 38		0.04		-3.81	26.58	0.4206	0.0544	-0.0002
101	SLU 39		0.04		-4.62	27.13	0.4519	0.05	-0.0002
101	SLU 40		0.04		-3.33	27.7	0.4064	0.0559	-0.0002
101	SLU 41		0.04		-4.99	27.15	0.4705	0.0505	-0.0002
101	SLU 42		0.04		-3.7	27.72	0.425	0.0564	-0.0002
101	SLU 43		0.03		-3.8	26.62	0.4022	0.0446	-0.0002
101	SLU 44		0.05		-1.66	27.57	0.3264	0.0544	-0.0002
101	SLU 45		0.03		-4.15	26.85	0.4223	0.0457	-0.0002
101	SLU 46		0.04		-2.87	27.42	0.3768	0.0516	-0.0002
101	SLU 47		0.05		-2.03	27.58	0.3449	0.055	-0.0002
101	SLU 48		0.03		-4.52	26.86	0.4409	0.0463	-0.0002
101	SLU 49		0.04		-3.24	27.43	0.3954	0.0522	-0.0002
101	SLU 50		0.03		-4.54	26.65	0.4393	0.0458	-0.0002
101	SLU 51		0.04		-3.26	27.22	0.3938	0.0517	-0.0002
101	SLU 52		0.05		-2.27	30.26	0.3798	0.0605	-0.0002
101	SLU 53		0.04		-4.77	29.54	0.4758	0.0518	-0.0002
101	SLU 54		0.05		-3.48	30.11	0.4303	0.0577	-0.0002
101	SLU 55		0.05		-2.64	30.27	0.3984	0.0611	-0.0002
101	SLU 56		0.04		-5.14	29.55	0.4943	0.0524	-0.0002
101	SLU 57		0.05		-3.85	30.12	0.4488	0.0583	-0.0002
101	SLU 58		0.04		-5.16	29.34	0.4928	0.0519	-0.0002
101	SLU 59		0.05		-3.87	29.91	0.4473	0.0578	-0.0002
101	SLU 60		0.04		-4.68	30.46	0.4786	0.0533	-0.0002
101	SLU 61		0.05		-3.39	31.03	0.4331	0.0592	-0.0002
101	SLU 62		0.04		-5.05	30.48	0.4972	0.0539	-0.0002
101	SLU 63		0.05		-3.76	31.05	0.4516	0.0598	-0.0002
101	SLU 64		0.04		-4.45	28.85	0.4545	0.0501	-0.0002
101	SLU 65		0.05		-2.31	29.79	0.3787	0.06	-0.0002
101	SLU 66		0.04		-4.8	29.07	0.4747	0.0512	-0.0002
101	SLU 67		0.05		-3.52	29.64	0.4291	0.0571	-0.0002
101	SLU 68		0.05		-2.68	29.81	0.3972	0.0605	-0.0002
101	SLU 69		0.04		-5.17	29.09	0.4932	0.0518	-0.0002
101	SLU 70		0.05		-3.89	29.66	0.4477	0.0577	-0.0002
101	SLU 71		0.04		-5.19	28.88	0.4916	0.0513	-0.0002
101	SLU 72		0.05		-3.9	29.45	0.4461	0.0572	-0.0002
101	SLU 73		0.05		-2.92	32.48	0.4322	0.066	-0.0002
101	SLU 74		0.04		-5.41	31.76	0.5281	0.0573	-0.0002
101	SLU 75		0.05		-4.13	32.33	0.4826	0.0632	-0.0002
101	SLU 76		0.05		-3.29	32.5	0.4507	0.0666	-0.0002
101	SLU 77		0.04		-5.78	31.78	0.5467	0.0579	-0.0002
101	SLU 78		0.05		-4.5	32.35	0.5012	0.0638	-0.0002
101	SLU 79		0.04		-5.8	31.57	0.5451	0.0574	-0.0002
101	SLU 80		0.05		-4.52	32.14	0.4996	0.0633	-0.0002
101	SLU 81		0.04		-5.33	32.69	0.5309	0.0588	-0.0002
101	SLU 82		0.05		-4.04	33.26	0.4854	0.0647	-0.0002
101	SLU 83		0.04		-5.7	32.7	0.5495	0.0594	-0.0002
101	SLU 84		0.05		-4.41	33.27	0.504	0.0653	-0.0002
101	SLE RA 1		0.03		-3.28	21.7	0.3381	0.0373	-0.0001
101	SLE RA 2		0.04		-1.85	22.33	0.2876	0.0439	-0.0001
101	SLE RA 3		0.03		-3.52	21.85	0.3516	0.0381	-0.0001
101	SLE RA 4		0.03		-2.66	22.23	0.3212	0.042	-0.0001
101	SLE RA 5		0.04		-2.1	22.34	0.2999	0.0443	-0.0001
101	SLE RA 6		0.03		-3.76	21.86	0.3639	0.0385	-0.0001
101	SLE RA 7		0.03		-2.9	22.24	0.3336	0.0424	-0.0001
101	SLE RA 8		0.03		-3.77	21.72	0.3629	0.0381	-0.0001
101	SLE RA 9		0.03		-2.92	22.1	0.3325	0.0421	-0.0001
101	SLE RA 10		0.04		-2.26	24.12	0.3232	0.0479	-0.0002
101	SLE RA 11		0.03		-3.92	23.64	0.3872	0.0421	-0.0002
101	SLE RA 12		0.04		-3.07	24.02	0.3569	0.0461	-0.0002
101	SLE RA 13		0.04		-2.51	24.14	0.3356	0.0483	-0.0002
101	SLE RA 14		0.03		-4.17	23.66	0.3996	0.0425	-0.0002
101	SLE RA 15		0.04		-3.31	24.03	0.3692	0.0464	-0.0002
101	SLE RA 16		0.03		-4.18	23.51	0.3985	0.0422	-0.0001
101	SLE RA 17		0.04		-3.33	23.89	0.3682	0.0461	-0.0002
101	SLE RA 18		0.03		-3.86	24.26	0.3891	0.0431	-0.0002
101	SLE RA 19		0.04		-3.01	24.64	0.3587	0.0471	-0.0002
101	SLE RA 20		0.03		-4.11	24.27	0.4014	0.0435	-0.0002
101	SLE RA 21		0.04		-3.25	24.65	0.3711	0.0475	-0.0002
101	SLE FR 1		0.03		-3.28	21.7	0.3381	0.0373	-0.0001
101	SLE FR 2		0.03		-3	21.83	0.328	0.0387	-0.0001
101	SLE FR 3		0.03		-3.38	21.7	0.3431	0.0375	-0.0001
101	SLE FR 4		0.03		-3.17	22.59	0.3433	0.0404	-0.0001
101	SLE FR 5		0.03		-3.55	22.47	0.3584	0.0392	-0.0001
101	SLE FR 6		0.03		-3.57	22.98	0.3636	0.0402	-0.0001





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
101	SLE QP 1	0.03	-3.28	21.7	0.3381	0.0373	-0.0001
101	SLE QP 2	0.03	-3.46	22.47	0.3534	0.0391	-0.0001
101	SLD 1	0.03	-3.79	22.05	0.372	0.0754	-0.0003
101	SLD 2	0.03	-3.79	22.05	0.372	0.0754	-0.0003
101	SLD 3	0.01	-6.86	19.95	0.5002	0.061	-0.0002
101	SLD 4	0.01	-6.86	19.95	0.5002	0.061	-0.0002
101	SLD 5	0.06	1.1	25.53	0.1645	0.0718	-0.0002
101	SLD 6	0.06	1.1	25.53	0.1645	0.0718	-0.0002
101	SLD 7	0	-9.14	18.53	0.5919	0.0238	-0.0001
101	SLD 8	0	-9.14	18.53	0.5919	0.0238	-0.0001
101	SLD 9	0.06	2.23	26.41	0.1149	0.0543	-0.0002
101	SLD 10	0.06	2.23	26.41	0.1149	0.0543	-0.0002
101	SLD 11	0	-8.02	19.41	0.5423	0.0064	-0.0001
101	SLD 12	0	-8.02	19.41	0.5423	0.0064	-0.0001
101	SLD 13	0.05	-0.05	24.98	0.2066	0.0172	0
101	SLD 14	0.05	-0.05	24.98	0.2066	0.0172	0
101	SLD 15	0.03	-3.12	22.88	0.3349	0.0028	0
101	SLD 16	0.03	-3.12	22.88	0.3349	0.0028	0
101	SLV 1	0.03	-4.3	21.5	0.3997	0.1257	-0.0005
101	SLV 2	0.03	-4.3	21.5	0.3997	0.1257	-0.0005
101	SLV 3	-0.01	-11.65	16.5	0.7056	0.0895	-0.0004
101	SLV 4	-0.01	-11.65	16.5	0.7056	0.0895	-0.0004
101	SLV 5	0.1	7.44	29.76	-0.0967	0.12	-0.0004
101	SLV 6	0.1	7.44	29.76	-0.0967	0.12	-0.0004
101	SLV 7	-0.06	-17.06	13.09	0.9231	-0.0007	-0.0001
101	SLV 8	-0.06	-17.06	13.09	0.9231	-0.0007	-0.0001
101	SLV 9	0.11	10.15	31.84	-0.2162	0.0789	-0.0002
101	SLV 10	0.11	10.15	31.84	-0.2162	0.0789	-0.0002
101	SLV 11	-0.04	-14.35	15.17	0.8036	-0.0418	0.0001
101	SLV 12	-0.04	-14.35	15.17	0.8036	-0.0418	0.0001
101	SLV 13	0.07	4.74	28.43	0.0012	-0.0113	0.0001
101	SLV 14	0.07	4.74	28.43	0.0012	-0.0113	0.0001
101	SLV 15	0.02	-2.61	23.43	0.3072	-0.0475	0.0002
101	SLV 16	0.02	-2.61	23.43	0.3072	-0.0475	0.0002
102	SLU 1	-0.01	-1.11	47	0.0552	0.0107	0
102	SLU 2	-0.01	-1.56	47.48	0.0782	0.0094	0.0001
102	SLU 3	-0.01	-0.92	47.95	0.0456	0.011	0
102	SLU 4	-0.01	-1.2	48.24	0.0595	0.0103	0
102	SLU 5	-0.01	-1.35	48.11	0.0672	0.0097	0
102	SLU 6	-0.01	-0.72	48.59	0.0346	0.0113	0
102	SLU 7	-0.01	-0.99	48.88	0.0485	0.0105	0
102	SLU 8	-0.01	-0.69	48.27	0.0332	0.0111	0
102	SLU 9	-0.01	-0.96	48.56	0.047	0.0104	0
102	SLU 10	-0.01	-1.79	55.62	0.0894	0.0115	0.0001
102	SLU 11	-0.01	-1.15	56.1	0.0568	0.0131	0
102	SLU 12	-0.01	-1.42	56.39	0.0706	0.0123	0
102	SLU 13	-0.01	-1.58	56.26	0.0784	0.0117	0.0001
102	SLU 14	-0.01	-0.95	56.73	0.0458	0.0133	0
102	SLU 15	-0.01	-1.22	57.02	0.0596	0.0126	0
102	SLU 16	-0.01	-0.92	56.42	0.0443	0.0132	0
102	SLU 17	-0.01	-1.19	56.7	0.0582	0.0125	0
102	SLU 18	-0.01	-1.43	58.63	0.0711	0.0136	0
102	SLU 19	-0.01	-1.71	58.92	0.085	0.0129	0
102	SLU 20	-0.01	-1.23	59.27	0.0601	0.0139	0
102	SLU 21	-0.01	-1.5	59.56	0.074	0.0131	0
102	SLU 22	-0.01	-1.17	51.75	0.0582	0.0117	0
102	SLU 23	-0.01	-1.62	52.23	0.0813	0.0104	0.0001
102	SLU 24	-0.01	-0.99	52.7	0.0487	0.012	0
102	SLU 25	-0.01	-1.26	52.99	0.0625	0.0113	0
102	SLU 26	-0.01	-1.42	52.86	0.0703	0.0107	0.0001
102	SLU 27	-0.01	-0.78	53.34	0.0377	0.0123	0
102	SLU 28	-0.01	-1.05	53.63	0.0515	0.0115	0
102	SLU 29	-0.01	-0.76	53.02	0.0362	0.0122	0
102	SLU 30	-0.01	-1.03	53.31	0.05	0.0114	0
102	SLU 31	-0.01	-1.85	60.37	0.0924	0.0125	0.0001
102	SLU 32	-0.01	-1.22	60.85	0.0598	0.0141	0
102	SLU 33	-0.01	-1.49	61.13	0.0737	0.0134	0
102	SLU 34	-0.01	-1.64	61.01	0.0814	0.0127	0.0001
102	SLU 35	-0.01	-1.01	61.48	0.0488	0.0144	0
102	SLU 36	-0.01	-1.28	61.77	0.0626	0.0136	0
102	SLU 37	-0.01	-0.98	61.16	0.0473	0.0142	0
102	SLU 38	-0.01	-1.26	61.45	0.0612	0.0135	0
102	SLU 39	-0.01	-1.5	63.38	0.0741	0.0146	0
102	SLU 40	-0.01	-1.77	63.67	0.088	0.0139	0.0001
102	SLU 41	-0.01	-1.29	64.02	0.0631	0.0149	0
102	SLU 42	-0.01	-1.56	64.3	0.077	0.0141	0
102	SLU 43	-0.01	-1.42	59.47	0.0707	0.0135	0
102	SLU 44	-0.01	-1.87	59.95	0.0938	0.0123	0
102	SLU 45	-0.01	-1.23	60.43	0.0612	0.0139	0
102	SLU 46	-0.01	-1.51	60.71	0.075	0.0131	0
102	SLU 47	-0.01	-1.66	60.59	0.0828	0.0125	0
102	SLU 48	-0.01	-1.03	61.06	0.0502	0.0141	0
102	SLU 49	-0.01	-1.3	61.35	0.064	0.0134	0
102	SLU 50	-0.01	-1	60.74	0.0487	0.014	0
102	SLU 51	-0.01	-1.27	61.03	0.0625	0.0132	0
102	SLU 52	-0.01	-2.1	68.09	0.1049	0.0143	0.0001
102	SLU 53	-0.01	-1.46	68.57	0.0723	0.0159	0
102	SLU 54	-0.01	-1.73	68.86	0.0862	0.0152	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
102	SLU 55			-0.01	-1.89	68.73	0.0939	0.0146	0.0001
102	SLU 56			-0.01	-1.26	69.21	0.0613	0.0162	0
102	SLU 57			-0.01	-1.53	69.49	0.0752	0.0154	0
102	SLU 58			-0.01	-1.23	68.89	0.0599	0.0161	0
102	SLU 59			-0.01	-1.5	69.17	0.0737	0.0153	0
102	SLU 60			-0.01	-1.75	71.1	0.0866	0.0165	0
102	SLU 61			-0.01	-2.02	71.39	0.1005	0.0157	0
102	SLU 62			-0.01	-1.54	71.74	0.0756	0.0167	0
102	SLU 63			-0.01	-1.81	72.03	0.0895	0.016	0
102	SLU 64			-0.01	-1.48	64.22	0.0737	0.0145	0
102	SLU 65			-0.01	-1.93	64.7	0.0968	0.0133	0.0001
102	SLU 66			-0.01	-1.3	65.17	0.0642	0.0149	0
102	SLU 67			-0.01	-1.57	65.46	0.078	0.0141	0
102	SLU 68			-0.01	-1.73	65.33	0.0858	0.0135	0
102	SLU 69			-0.01	-1.09	65.81	0.0532	0.0151	0
102	SLU 70			-0.01	-1.36	66.1	0.067	0.0144	0
102	SLU 71			-0.01	-1.07	65.49	0.0517	0.015	0
102	SLU 72			-0.01	-1.34	65.78	0.0655	0.0143	0
102	SLU 73			-0.01	-2.16	72.84	0.1079	0.0153	0.0001
102	SLU 74			-0.01	-1.53	73.32	0.0753	0.017	0
102	SLU 75			-0.01	-1.8	73.61	0.0892	0.0162	0
102	SLU 76			-0.01	-1.95	73.48	0.0969	0.0156	0.0001
102	SLU 77			-0.01	-1.32	73.95	0.0643	0.0172	0
102	SLU 78			-0.01	-1.59	74.24	0.0782	0.0165	0
102	SLU 79			-0.01	-1.3	73.63	0.0629	0.0171	0
102	SLU 80			-0.01	-1.57	73.92	0.0767	0.0163	0
102	SLU 81			-0.01	-1.81	75.85	0.0896	0.0175	0
102	SLU 82			-0.01	-2.08	76.14	0.1035	0.0167	0
102	SLU 83			-0.01	-1.6	76.49	0.0786	0.0177	0
102	SLU 84			-0.01	-1.87	76.78	0.0925	0.017	0
102	SLE RA 1			-0.01	-1.13	48.36	0.056	0.011	0
102	SLE RA 2			-0.01	-1.43	48.67	0.0714	0.0101	0
102	SLE RA 3			-0.01	-1	48.99	0.0497	0.0112	0
102	SLE RA 4			-0.01	-1.18	49.18	0.0589	0.0107	0
102	SLE RA 5			-0.01	-1.29	49.1	0.0641	0.0103	0
102	SLE RA 6			-0.01	-0.87	49.42	0.0423	0.0114	0
102	SLE RA 7			-0.01	-1.05	49.61	0.0516	0.0109	0
102	SLE RA 8			-0.01	-0.85	49.2	0.0414	0.0113	0
102	SLE RA 9			-0.01	-1.03	49.4	0.0506	0.0108	0
102	SLE RA 10			-0.01	-1.58	54.1	0.0789	0.0115	0
102	SLE RA 11			-0.01	-1.16	54.42	0.0571	0.0126	0
102	SLE RA 12			-0.01	-1.34	54.61	0.0663	0.0121	0
102	SLE RA 13			-0.01	-1.44	54.53	0.0715	0.0117	0
102	SLE RA 14			-0.01	-1.02	54.85	0.0498	0.0127	0
102	SLE RA 15			-0.01	-1.2	55.04	0.059	0.0122	0
102	SLE RA 16			-0.01	-1	54.63	0.0488	0.0127	0
102	SLE RA 17			-0.01	-1.18	54.82	0.058	0.0122	0
102	SLE RA 18			-0.01	-1.34	56.11	0.0667	0.0129	0
102	SLE RA 19			-0.01	-1.52	56.3	0.0759	0.0124	0
102	SLE RA 20			-0.01	-1.21	56.54	0.0593	0.0131	0
102	SLE RA 21			-0.01	-1.39	56.73	0.0686	0.0126	0
102	SLE FR 1			-0.01	-1.13	48.36	0.056	0.011	0
102	SLE FR 2			-0.01	-1.19	48.42	0.0591	0.0108	0
102	SLE FR 3			-0.01	-1.07	48.52	0.0531	0.011	0
102	SLE FR 4			-0.01	-1.25	50.75	0.0623	0.0114	0
102	SLE FR 5			-0.01	-1.14	50.85	0.0563	0.0116	0
102	SLE FR 6			-0.01	-1.24	52.23	0.0614	0.0119	0
102	SLE QP 1			-0.01	-1.13	48.36	0.056	0.011	0
102	SLE QP 2			-0.01	-1.19	50.68	0.0592	0.0115	0
102	SLD 1			-0.04	1.84	45.47	-0.1029	0.0489	0.0011
102	SLD 2			-0.04	1.84	45.47	-0.1029	0.0489	0.0011
102	SLD 3			-0.02	-1.78	44.18	0.0892	0.063	0.0005
102	SLD 4			-0.02	-1.78	44.18	0.0892	0.063	0.0005
102	SLD 5			-0.06	5.21	51.07	-0.2808	0.0013	0.0011
102	SLD 6			-0.06	5.21	51.07	-0.2808	0.0013	0.0011
102	SLD 7			0.03	-6.87	46.78	0.3595	0.0485	-0.0007
102	SLD 8			0.03	-6.87	46.78	0.3595	0.0485	-0.0007
102	SLD 9			-0.04	4.48	54.59	-0.2411	-0.0254	0.0007
102	SLD 10			-0.04	4.48	54.59	-0.2411	-0.0254	0.0007
102	SLD 11			0.04	-7.6	50.29	0.3992	0.0218	-0.0012
102	SLD 12			0.04	-7.6	50.29	0.3992	0.0218	-0.0012
102	SLD 13			0	-0.6	57.18	0.0293	-0.04	-0.0005
102	SLD 14			0	-0.6	57.18	0.0293	-0.04	-0.0005
102	SLD 15			0.03	-4.22	55.89	0.2214	-0.0258	-0.0011
102	SLD 16			0.03	-4.22	55.89	0.2214	-0.0258	-0.0011
102	SLV 1			-0.09	5.95	38.47	-0.3225	0.1062	0.0026
102	SLV 2			-0.09	5.95	38.47	-0.3225	0.1062	0.0026
102	SLV 3			-0.03	-2.54	35.4	0.1277	0.1396	0.0013
102	SLV 4			-0.03	-2.54	35.4	0.1277	0.1396	0.0013
102	SLV 5			-0.13	13.83	51.68	-0.7381	-0.0107	0.0027
102	SLV 6			-0.13	13.83	51.68	-0.7381	-0.0107	0.0027
102	SLV 7			0.08	-14.48	41.44	0.7626	0.1006	-0.0016
102	SLV 8			0.08	-14.48	41.44	0.7626	0.1006	-0.0016
102	SLV 9			-0.09	12.09	59.92	-0.6442	-0.0775	0.0015
102	SLV 10			-0.09	12.09	59.92	-0.6442	-0.0775	0.0015
102	SLV 11			0.11	-16.21	49.69	0.8566	0.0338	-0.0027
102	SLV 12			0.11	-16.21	49.69	0.8566	0.0338	-0.0027
102	SLV 13			0.02	0.16	65.96	-0.0093	-0.1165	-0.0013



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
102	SLV 14	0.02	0.16	65.96	-0.0093	-0.1165	-0.0013
102	SLV 15	0.08	-8.33	62.89	0.4409	-0.0831	-0.0026
102	SLV 16	0.08	-8.33	62.89	0.4409	-0.0831	-0.0026
103	SLU 1	0.01	2.41	30.18	0.0342	0.0035	0
103	SLU 2	0	4.95	32.04	-0.0626	-0.0045	0
103	SLU 3	0.02	2.27	30.89	0.0451	0.0036	0
103	SLU 4	0.01	3.79	32.01	-0.013	-0.0012	0
103	SLU 5	0	4.71	32.46	-0.0492	-0.0045	0
103	SLU 6	0.02	2.04	31.3	0.0585	0.0037	0
103	SLU 7	0.01	3.56	32.42	0.0004	-0.0012	0
103	SLU 8	0.02	1.95	31.01	0.0609	0.0037	0
103	SLU 9	0.01	3.47	32.13	0.0028	-0.0012	0
103	SLU 10	0.01	5.23	36.24	-0.054	-0.0041	0
103	SLU 11	0.02	2.56	35.09	0.0537	0.0041	0
103	SLU 12	0.01	4.08	36.2	-0.0044	-0.0008	0
103	SLU 13	0.01	5	36.66	-0.0407	-0.004	0
103	SLU 14	0.02	2.33	35.5	0.0671	0.0041	0
103	SLU 15	0.01	3.85	36.62	0.009	-0.0007	0
103	SLU 16	0.02	2.24	35.21	0.0695	0.0041	0
103	SLU 17	0.01	3.76	36.33	0.0114	-0.0008	0
103	SLU 18	0.02	2.82	36.18	0.0465	0.0042	0
103	SLU 19	0.01	4.34	37.3	-0.0116	-0.0007	0
103	SLU 20	0.02	2.59	36.6	0.0598	0.0042	0
103	SLU 21	0.01	4.11	37.71	0.0017	-0.0006	0
103	SLU 22	0.02	2.62	33.92	0.0446	0.0039	0
103	SLU 23	0.01	5.15	35.78	-0.0522	-0.0041	0
103	SLU 24	0.02	2.48	34.63	0.0555	0.004	0
103	SLU 25	0.01	4	35.74	-0.0026	-0.0008	0
103	SLU 26	0.01	4.92	36.2	-0.0389	-0.0041	0
103	SLU 27	0.02	2.24	35.04	0.0689	0.0041	0
103	SLU 28	0.01	3.76	36.16	0.0108	-0.0007	0
103	SLU 29	0.02	2.15	34.75	0.0713	0.0041	0
103	SLU 30	0.01	3.67	35.87	0.0132	-0.0008	0
103	SLU 31	0.01	5.44	39.98	-0.0437	-0.0037	0
103	SLU 32	0.02	2.76	38.83	0.0641	0.0045	0
103	SLU 33	0.01	4.28	39.94	0.006	-0.0004	0
103	SLU 34	0.01	5.21	40.39	-0.0303	-0.0036	0
103	SLU 35	0.02	2.53	39.24	0.0774	0.0045	0
103	SLU 36	0.01	4.05	40.35	0.0193	-0.0003	0
103	SLU 37	0.02	2.44	38.95	0.0799	0.0045	0
103	SLU 38	0.01	3.96	40.06	0.0218	-0.0003	0
103	SLU 39	0.02	3.03	39.92	0.0568	0.0046	0
103	SLU 40	0.01	4.55	41.04	-0.0013	-0.0003	0
103	SLU 41	0.02	2.8	40.33	0.0702	0.0046	0
103	SLU 42	0.01	4.32	41.45	0.0121	-0.0002	0
103	SLU 43	0.02	3.07	37.96	0.0409	0.0045	0
103	SLU 44	0.01	5.6	39.82	-0.0559	-0.0036	0
103	SLU 45	0.02	2.92	38.66	0.0518	0.0045	0
103	SLU 46	0.01	4.44	39.78	-0.0063	-0.0003	0
103	SLU 47	0.01	5.37	40.23	-0.0425	-0.0036	0
103	SLU 48	0.02	2.69	39.08	0.0652	0.0046	0
103	SLU 49	0.01	4.21	40.19	0.0071	-0.0002	0
103	SLU 50	0.02	2.6	38.79	0.0676	0.0046	0
103	SLU 51	0.01	4.12	39.9	0.0096	-0.0003	0
103	SLU 52	0.01	5.89	44.02	-0.0473	-0.0032	0
103	SLU 53	0.02	3.21	42.86	0.0604	0.005	0
103	SLU 54	0.01	4.73	43.98	0.0023	0.0001	0
103	SLU 55	0.01	5.66	44.43	-0.034	-0.0031	0
103	SLU 56	0.02	2.98	43.28	0.0738	0.005	0
103	SLU 57	0.01	4.5	44.39	0.0157	0.0002	0
103	SLU 58	0.02	2.89	42.98	0.0762	0.005	0
103	SLU 59	0.01	4.41	44.1	0.0181	0.0002	0
103	SLU 60	0.02	3.48	43.96	0.0532	0.0051	0
103	SLU 61	0.01	5	45.07	-0.0049	0.0002	0
103	SLU 62	0.02	3.25	44.37	0.0665	0.0051	0
103	SLU 63	0.01	4.77	45.49	0.0084	0.0003	0
103	SLU 64	0.02	3.27	41.7	0.0513	0.0049	0
103	SLU 65	0.01	5.8	43.56	-0.0455	-0.0032	0
103	SLU 66	0.02	3.13	42.4	0.0622	0.005	0
103	SLU 67	0.01	4.65	43.52	0.0041	0.0001	0
103	SLU 68	0.01	5.57	43.97	-0.0322	-0.0032	0
103	SLU 69	0.02	2.9	42.82	0.0756	0.005	0
103	SLU 70	0.01	4.42	43.93	0.0175	0.0002	0
103	SLU 71	0.02	2.81	42.52	0.078	0.005	0
103	SLU 72	0.01	4.33	43.64	0.0199	0.0001	0
103	SLU 73	0.01	6.09	47.75	-0.0369	-0.0028	0.0001
103	SLU 74	0.02	3.42	46.6	0.0708	0.0054	0.0001
103	SLU 75	0.02	4.94	47.71	0.0127	0.0006	0.0001
103	SLU 76	0.01	5.86	48.17	-0.0236	-0.0027	0.0001
103	SLU 77	0.02	3.19	47.01	0.0841	0.0055	0.0001
103	SLU 78	0.02	4.7	48.13	0.026	0.0006	0.0001
103	SLU 79	0.02	3.1	46.72	0.0866	0.0054	0.0001
103	SLU 80	0.02	4.62	47.84	0.0285	0.0006	0.0001
103	SLU 81	0.02	3.68	47.69	0.0635	0.0055	0.0001
103	SLU 82	0.02	5.2	48.81	0.0055	0.0006	0.0001
103	SLU 83	0.02	3.45	48.11	0.0769	0.0055	0.0001
103	SLU 84	0.02	4.97	49.22	0.0188	0.0007	0.0001
103	SLE RA 1	0.02	2.47	31.25	0.0372	0.0036	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
103	SLE RA 2	0.01	4.16	32.49	-0.0274	-0.0017	0
103	SLE RA 3	0.02	2.38	31.72	0.0445	0.0037	0
103	SLE RA 4	0.01	3.39	32.47	0.0057	0.0005	0
103	SLE RA 5	0.01	4.01	32.77	-0.0185	-0.0017	0
103	SLE RA 6	0.02	2.22	32	0.0534	0.0038	0
103	SLE RA 7	0.01	3.24	32.74	0.0146	0.0005	0
103	SLE RA 8	0.02	2.16	31.8	0.055	0.0037	0
103	SLE RA 9	0.01	3.18	32.55	0.0163	0.0005	0
103	SLE RA 10	0.01	4.35	35.29	-0.0216	-0.0014	0
103	SLE RA 11	0.02	2.57	34.52	0.0502	0.004	0
103	SLE RA 12	0.01	3.58	35.27	0.0114	0.0008	0
103	SLE RA 13	0.01	4.2	35.57	-0.0127	-0.0014	0
103	SLE RA 14	0.02	2.41	34.8	0.0591	0.004	0
103	SLE RA 15	0.01	3.43	35.54	0.0203	0.0008	0
103	SLE RA 16	0.02	2.35	34.6	0.0607	0.004	0
103	SLE RA 17	0.01	3.37	35.35	0.022	0.0008	0
103	SLE RA 18	0.02	2.75	35.25	0.0453	0.0041	0
103	SLE RA 19	0.01	3.76	35.99	0.0066	0.0008	0
103	SLE RA 20	0.02	2.59	35.53	0.0542	0.0041	0
103	SLE RA 21	0.01	3.6	36.27	0.0155	0.0009	0
103	SLE FR 1	0.02	2.47	31.25	0.0372	0.0036	0
103	SLE FR 2	0.01	2.81	31.5	0.0243	0.0026	0
103	SLE FR 3	0.02	2.41	31.36	0.0407	0.0037	0
103	SLE FR 4	0.01	2.89	32.7	0.0267	0.0027	0
103	SLE FR 5	0.02	2.49	32.56	0.0432	0.0038	0
103	SLE FR 6	0.02	2.61	33.25	0.0413	0.0039	0
103	SLE QP 1	0.02	2.47	31.25	0.0372	0.0036	0
103	SLE QP 2	0.02	2.55	32.45	0.0396	0.0038	0
103	SLD 1	0.01	5.49	36.3	-0.0836	0.0235	0
103	SLD 2	0.01	5.49	36.3	-0.0836	0.0235	0
103	SLD 3	-0.01	2.39	33.48	0.0459	0.0368	-0.0001
103	SLD 4	-0.01	2.39	33.48	0.0459	0.0368	-0.0001
103	SLD 5	0.04	8.13	37.88	-0.1936	-0.0106	0
103	SLD 6	0.04	8.13	37.88	-0.1936	-0.0106	0
103	SLD 7	-0.02	-2.2	28.48	0.2378	0.034	0
103	SLD 8	-0.02	-2.2	28.48	0.2378	0.034	0
103	SLD 9	0.05	7.3	36.42	-0.1585	-0.0264	0.0001
103	SLD 10	0.05	7.3	36.42	-0.1585	-0.0264	0.0001
103	SLD 11	-0.01	-3.03	27.02	0.2729	0.0181	0
103	SLD 12	-0.01	-3.03	27.02	0.2729	0.0181	0
103	SLD 13	0.04	2.72	31.43	0.0334	-0.0293	0.0001
103	SLD 14	0.04	2.72	31.43	0.0334	-0.0293	0.0001
103	SLD 15	0.02	-0.38	28.61	0.1628	-0.0159	0.0001
103	SLD 16	0.02	-0.38	28.61	0.1628	-0.0159	0.0001
103	SLV 1	0	9.66	41.5	-0.2584	0.051	-0.0001
103	SLV 2	0	9.66	41.5	-0.2584	0.051	-0.0001
103	SLV 3	-0.04	2.27	34.84	0.0493	0.0852	-0.0002
103	SLV 4	-0.04	2.27	34.84	0.0493	0.0852	-0.0002
103	SLV 5	0.08	15.89	45.27	-0.5164	-0.0339	0.0001
103	SLV 6	0.08	15.89	45.27	-0.5164	-0.0339	0.0001
103	SLV 7	-0.07	-8.74	23.07	0.5091	0.0801	-0.0001
103	SLV 8	-0.07	-8.74	23.07	0.5091	0.0801	-0.0001
103	SLV 9	0.1	13.85	41.84	-0.4299	-0.0725	0.0002
103	SLV 10	0.1	13.85	41.84	-0.4299	-0.0725	0.0002
103	SLV 11	-0.05	-10.78	19.64	0.5957	0.0415	0
103	SLV 12	-0.05	-10.78	19.64	0.5957	0.0415	0
103	SLV 13	0.07	2.84	30.06	0.03	-0.0777	0.0003
103	SLV 14	0.07	2.84	30.06	0.03	-0.0777	0.0003
103	SLV 15	0.03	-4.55	23.4	0.3376	-0.0435	0.0002
103	SLV 16	0.03	-4.55	23.4	0.3376	-0.0435	0.0002
104	SLU 1	-0.05	8.02	55.46	-0.2798	-0.013	0
104	SLU 2	0.03	9.55	58.73	-0.3331	0.0434	0
104	SLU 3	-0.05	8.36	57.42	-0.2917	-0.0137	0
104	SLU 4	0	9.27	59.38	-0.3237	0.0201	0
104	SLU 5	0.03	9.79	60.11	-0.3418	0.0428	0
104	SLU 6	-0.05	8.6	58.8	-0.3004	-0.0143	0
104	SLU 7	0	9.52	60.76	-0.3324	0.0195	0
104	SLU 8	-0.05	8.5	58.23	-0.2971	-0.0141	0
104	SLU 9	0	9.42	60.19	-0.3291	0.0197	0
104	SLU 10	0.02	10.49	65.4	-0.366	0.0421	0
104	SLU 11	-0.05	9.3	64.09	-0.3246	-0.015	0
104	SLU 12	-0.01	10.21	66.05	-0.3566	0.0188	0
104	SLU 13	0.02	10.73	66.78	-0.3747	0.0415	0
104	SLU 14	-0.05	9.54	65.47	-0.3332	-0.0156	0
104	SLU 15	-0.01	10.46	67.43	-0.3653	0.0182	0
104	SLU 16	-0.05	9.44	64.9	-0.33	-0.0154	0
104	SLU 17	-0.01	10.36	66.86	-0.362	0.0184	0
104	SLU 18	-0.05	9.36	64.99	-0.3267	-0.0149	0
104	SLU 19	-0.01	10.28	66.95	-0.3587	0.019	0
104	SLU 20	-0.05	9.6	66.37	-0.3354	-0.0154	0
104	SLU 21	-0.01	10.52	68.33	-0.3674	0.0184	0
104	SLU 22	-0.05	9.02	62.33	-0.3148	-0.0146	0
104	SLU 23	0.02	10.55	65.6	-0.3681	0.0418	0
104	SLU 24	-0.05	9.36	64.29	-0.3267	-0.0153	0
104	SLU 25	-0.01	10.28	66.25	-0.3587	0.0185	0
104	SLU 26	0.02	10.8	66.98	-0.3768	0.0412	0
104	SLU 27	-0.06	9.61	65.67	-0.3354	-0.0159	0
104	SLU 28	-0.01	10.52	67.63	-0.3674	0.0179	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
104	SLU 29	-0.05	9.51	65.1	-0.3321	-0.0157	0	
104	SLU 30	-0.01	10.43	67.06	-0.3641	0.0181	0	
104	SLU 31	0.02	11.49	72.27	-0.401	0.0405	0	
104	SLU 32	-0.06	10.3	70.96	-0.3596	-0.0166	0	
104	SLU 33	-0.01	11.22	72.92	-0.3916	0.0172	0	
104	SLU 34	0.02	11.74	73.65	-0.4097	0.0399	0	
104	SLU 35	-0.06	10.55	72.34	-0.3682	-0.0172	0	
104	SLU 36	-0.02	11.46	74.3	-0.4003	0.0166	0	
104	SLU 37	-0.06	10.45	71.77	-0.365	-0.017	0	
104	SLU 38	-0.01	11.37	73.73	-0.397	0.0168	0	
104	SLU 39	-0.06	10.37	71.86	-0.3617	-0.0164	0	
104	SLU 40	-0.01	11.28	73.82	-0.3937	0.0174	0	
104	SLU 41	-0.06	10.61	73.24	-0.3704	-0.017	0	
104	SLU 42	-0.01	11.53	75.2	-0.4024	0.0168	0	
104	SLU 43	-0.06	10.08	69.74	-0.3517	-0.0163	0	
104	SLU 44	0.02	11.61	73.01	-0.4051	0.04	0	
104	SLU 45	-0.06	10.42	71.7	-0.3636	-0.0171	0	
104	SLU 46	-0.01	11.33	73.66	-0.3957	0.0168	0	
104	SLU 47	0.02	11.85	74.39	-0.4137	0.0395	0	
104	SLU 48	-0.06	10.66	73.09	-0.3723	-0.0176	0	
104	SLU 49	-0.02	11.58	75.05	-0.4043	0.0162	0	
104	SLU 50	-0.06	10.56	72.51	-0.369	-0.0175	0	
104	SLU 51	-0.02	11.48	74.47	-0.4011	0.0163	0	
104	SLU 52	0.01	12.55	79.68	-0.4379	0.0387	0	
104	SLU 53	-0.06	11.36	78.37	-0.3965	-0.0184	0	
104	SLU 54	-0.02	12.27	80.33	-0.4285	0.0155	0	
104	SLU 55	0.01	12.79	81.06	-0.4466	0.0382	0	
104	SLU 56	-0.07	11.6	79.76	-0.4052	-0.0189	0	
104	SLU 57	-0.02	12.52	81.72	-0.4372	0.0149	0	
104	SLU 58	-0.07	11.5	79.18	-0.4019	-0.0188	0	
104	SLU 59	-0.02	12.42	81.14	-0.4339	0.015	0	
104	SLU 60	-0.06	11.42	79.27	-0.3986	-0.0182	0	
104	SLU 61	-0.02	12.34	81.23	-0.4307	0.0156	0	
104	SLU 62	-0.07	11.66	80.66	-0.4073	-0.0188	0	
104	SLU 63	-0.02	12.58	82.62	-0.4393	0.015	0	
104	SLU 64	-0.06	11.08	76.61	-0.3867	-0.0179	0	
104	SLU 65	0.01	12.61	79.88	-0.4401	0.0384	0	
104	SLU 66	-0.07	11.42	78.57	-0.3986	-0.0187	0	
104	SLU 67	-0.02	12.34	80.53	-0.4307	0.0152	0	
104	SLU 68	0.01	12.86	81.26	-0.4487	0.0379	0	
104	SLU 69	-0.07	11.67	79.96	-0.4073	-0.0192	0	
104	SLU 70	-0.02	12.58	81.91	-0.4393	0.0146	0	
104	SLU 71	-0.07	11.57	79.38	-0.404	-0.0191	0	
104	SLU 72	-0.02	12.49	81.34	-0.436	0.0147	0	
104	SLU 73	0.01	13.55	86.55	-0.4729	0.0371	0	
104	SLU 74	-0.07	12.36	85.24	-0.4315	-0.02	0	
104	SLU 75	-0.03	13.28	87.2	-0.4635	0.0139	0	
104	SLU 76	0.01	13.8	87.93	-0.4816	0.0366	0	
104	SLU 77	-0.07	12.61	86.63	-0.4402	-0.0205	0	
104	SLU 78	-0.03	13.52	88.59	-0.4722	0.0133	0	
104	SLU 79	-0.07	12.51	86.05	-0.4369	-0.0204	0	
104	SLU 80	-0.03	13.43	88.01	-0.4689	0.0134	0	
104	SLU 81	-0.07	12.43	86.14	-0.4336	-0.0198	0	
104	SLU 82	-0.03	13.34	88.1	-0.4657	0.014	0	
104	SLU 83	-0.07	12.67	87.53	-0.4423	-0.0204	0	
104	SLU 84	-0.03	13.59	89.48	-0.4743	0.0135	0	
104	SLE RA 1	-0.05	8.31	57.42	-0.2898	-0.0134	0	
104	SLE RA 2	0	9.33	59.6	-0.3254	0.0241	0	
104	SLE RA 3	-0.05	8.53	58.73	-0.2977	-0.0139	0	
104	SLE RA 4	-0.02	9.14	60.04	-0.3191	0.0086	0	
104	SLE RA 5	0	9.49	60.52	-0.3311	0.0238	0	
104	SLE RA 6	-0.05	8.69	59.65	-0.3035	-0.0143	0	
104	SLE RA 7	-0.02	9.31	60.96	-0.3249	0.0082	0	
104	SLE RA 8	-0.05	8.63	59.27	-0.3013	-0.0142	0	
104	SLE RA 9	-0.02	9.24	60.57	-0.3227	0.0083	0	
104	SLE RA 10	0	9.95	64.05	-0.3473	0.0233	0	
104	SLE RA 11	-0.05	9.16	63.18	-0.3196	-0.0148	0	
104	SLE RA 12	-0.02	9.77	64.48	-0.341	0.0078	0	
104	SLE RA 13	0	10.11	64.97	-0.353	0.0229	0	
104	SLE RA 14	-0.05	9.32	64.1	-0.3254	-0.0152	0	
104	SLE RA 15	-0.02	9.93	65.4	-0.3468	0.0074	0	
104	SLE RA 16	-0.05	9.26	63.71	-0.3232	-0.0151	0	
104	SLE RA 17	-0.02	9.87	65.02	-0.3446	0.0075	0	
104	SLE RA 18	-0.05	9.2	63.78	-0.3211	-0.0147	0	
104	SLE RA 19	-0.02	9.81	65.08	-0.3424	0.0079	0	
104	SLE RA 20	-0.05	9.36	64.7	-0.3268	-0.0151	0	
104	SLE RA 21	-0.02	9.97	66	-0.3482	0.0075	0	
104	SLE FR 1	-0.05	8.31	57.42	-0.2898	-0.0134	0	
104	SLE FR 2	-0.04	8.51	57.86	-0.2969	-0.0059	0	
104	SLE FR 3	-0.05	8.37	57.79	-0.2921	-0.0136	0	
104	SLE FR 4	-0.04	8.78	59.76	-0.3063	-0.0063	0	
104	SLE FR 5	-0.05	8.64	59.7	-0.3015	-0.014	0	
104	SLE FR 6	-0.05	8.75	60.6	-0.3054	-0.0141	0	
104	SLE QP 1	-0.05	8.31	57.42	-0.2898	-0.0134	0	
104	SLE QP 2	-0.05	8.57	59.33	-0.2992	-0.0138	0	
104	SLD 1	0.06	8.67	44.53	-0.3155	0.0954	-0.0001	
104	SLD 2	0.06	8.67	44.53	-0.3155	0.0954	-0.0001	
104	SLD 3	-0.04	5.66	37.44	-0.1882	0.0277	-0.0001	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
104	SLD 4	-0.04	5.66	37.44	-0.1882	0.0277	-0.0001
104	SLD 5	0.14	13.18	65.63	-0.4972	0.1216	-0.0001
104	SLD 6	0.14	13.18	65.63	-0.4972	0.1216	-0.0001
104	SLD 7	-0.21	3.13	42.02	-0.0727	-0.1041	0
104	SLD 8	-0.21	3.13	42.02	-0.0727	-0.1041	0
104	SLD 9	0.11	14.02	76.64	-0.5256	0.0764	-0.0001
104	SLD 10	0.11	14.02	76.64	-0.5256	0.0764	-0.0001
104	SLD 11	-0.24	3.97	53.02	-0.1011	-0.1492	0.0001
104	SLD 12	-0.24	3.97	53.02	-0.1011	-0.1492	0.0001
104	SLD 13	-0.06	11.49	81.21	-0.4101	-0.0553	0.0001
104	SLD 14	-0.06	11.49	81.21	-0.4101	-0.0553	0.0001
104	SLD 15	-0.16	8.47	74.13	-0.2828	-0.123	0.0001
104	SLD 16	-0.16	8.47	74.13	-0.2828	-0.123	0.0001
104	SLV 1	0.23	8.81	24.68	-0.3372	0.254	-0.0003
104	SLV 2	0.23	8.81	24.68	-0.3372	0.254	-0.0003
104	SLV 3	-0.04	1.73	7.99	-0.039	0.0805	-0.0002
104	SLV 4	-0.04	1.73	7.99	-0.039	0.0805	-0.0002
104	SLV 5	0.44	19.39	74.23	-0.7629	0.3297	-0.0003
104	SLV 6	0.44	19.39	74.23	-0.7629	0.3297	-0.0003
104	SLV 7	-0.45	-4.22	18.63	0.2312	-0.2487	0.0001
104	SLV 8	-0.45	-4.22	18.63	0.2312	-0.2487	0.0001
104	SLV 9	0.35	21.37	100.03	-0.8295	0.2211	-0.0001
104	SLV 10	0.35	21.37	100.03	-0.8295	0.2211	-0.0001
104	SLV 11	-0.54	-2.24	44.42	0.1645	-0.3574	0.0002
104	SLV 12	-0.54	-2.24	44.42	0.1645	-0.3574	0.0002
104	SLV 13	-0.06	15.42	110.66	-0.5593	-0.1081	0.0002
104	SLV 14	-0.06	15.42	110.66	-0.5593	-0.1081	0.0002
104	SLV 15	-0.33	8.33	93.98	-0.2611	-0.2816	0.0003
104	SLV 16	-0.33	8.33	93.98	-0.2611	-0.2816	0.0003
105	SLU 1	-0.06	4.29	59.26	0.0133	-0.0815	0
105	SLU 2	-0.15	5.78	62.87	-0.0227	-0.1467	-0.0001
105	SLU 3	-0.07	4.5	61.69	0.0137	-0.0844	0
105	SLU 4	-0.12	5.39	63.86	-0.0079	-0.1235	-0.0001
105	SLU 5	-0.15	5.95	64.79	-0.0228	-0.1487	-0.0001
105	SLU 6	-0.07	4.66	63.62	0.0136	-0.0864	0
105	SLU 7	-0.12	5.56	65.78	-0.008	-0.1255	-0.0001
105	SLU 8	-0.07	4.62	63.11	0.0131	-0.0855	0
105	SLU 9	-0.12	5.52	65.27	-0.0085	-0.1246	-0.0001
105	SLU 10	-0.16	6.12	69.86	-0.0126	-0.1578	-0.0002
105	SLU 11	-0.08	4.83	68.68	0.0238	-0.0956	0
105	SLU 12	-0.13	5.73	70.85	0.0022	-0.1347	-0.0001
105	SLU 13	-0.16	6.29	71.78	-0.0127	-0.1598	-0.0001
105	SLU 14	-0.08	5	70.61	0.0237	-0.0976	0
105	SLU 15	-0.13	5.9	72.77	0.0021	-0.1367	-0.0001
105	SLU 16	-0.08	4.96	70.1	0.0232	-0.0967	0
105	SLU 17	-0.13	5.86	72.26	0.0016	-0.1358	-0.0001
105	SLU 18	-0.08	4.77	69.24	0.0278	-0.0974	0
105	SLU 19	-0.13	5.67	71.41	0.0061	-0.1365	-0.0001
105	SLU 20	-0.08	4.94	71.17	0.0277	-0.0994	0
105	SLU 21	-0.13	5.84	73.33	0.006	-0.1385	-0.0001
105	SLU 22	-0.07	4.71	66.68	0.0225	-0.0927	0
105	SLU 23	-0.16	6.2	70.29	-0.0135	-0.1579	-0.0001
105	SLU 24	-0.08	4.91	69.12	0.0229	-0.0957	0
105	SLU 25	-0.13	5.81	71.28	0.0013	-0.1348	-0.0001
105	SLU 26	-0.16	6.37	72.22	-0.0136	-0.1599	-0.0001
105	SLU 27	-0.08	5.08	71.04	0.0228	-0.0977	0
105	SLU 28	-0.13	5.97	73.21	0.0012	-0.1368	-0.0001
105	SLU 29	-0.08	5.04	70.53	0.0223	-0.0968	0
105	SLU 30	-0.13	5.94	72.7	0.0007	-0.1359	-0.0001
105	SLU 31	-0.17	6.54	77.28	-0.0034	-0.1691	-0.0002
105	SLU 32	-0.09	5.25	76.11	0.033	-0.1068	0
105	SLU 33	-0.14	6.15	78.27	0.0114	-0.1459	-0.0001
105	SLU 34	-0.17	6.7	79.21	-0.0035	-0.1711	-0.0001
105	SLU 35	-0.09	5.42	78.03	0.0329	-0.1088	0
105	SLU 36	-0.14	6.31	80.2	0.0113	-0.1479	-0.0001
105	SLU 37	-0.09	5.38	77.52	0.0324	-0.1079	0
105	SLU 38	-0.14	6.27	79.69	0.0108	-0.147	-0.0001
105	SLU 39	-0.09	5.19	76.67	0.037	-0.1087	0
105	SLU 40	-0.14	6.09	78.83	0.0153	-0.1478	-0.0001
105	SLU 41	-0.09	5.36	78.59	0.0369	-0.1107	0
105	SLU 42	-0.14	6.25	80.76	0.0152	-0.1498	-0.0001
105	SLU 43	-0.08	5.43	74.49	0.0141	-0.1021	0
105	SLU 44	-0.17	6.93	78.1	-0.0219	-0.1673	-0.0001
105	SLU 45	-0.08	5.64	76.92	0.0145	-0.105	0
105	SLU 46	-0.13	6.54	79.09	-0.0071	-0.1441	-0.0001
105	SLU 47	-0.17	7.09	80.02	-0.022	-0.1693	-0.0001
105	SLU 48	-0.08	5.81	78.85	0.0144	-0.107	0
105	SLU 49	-0.14	6.7	81.01	-0.0072	-0.1461	-0.0001
105	SLU 50	-0.08	5.77	78.34	0.0139	-0.1061	0
105	SLU 51	-0.13	6.66	80.5	-0.0077	-0.1452	-0.0001
105	SLU 52	-0.18	7.27	85.09	-0.0118	-0.1784	-0.0001
105	SLU 53	-0.09	5.98	83.91	0.0247	-0.1162	0
105	SLU 54	-0.14	6.87	86.08	0.003	-0.1553	-0.0001
105	SLU 55	-0.18	7.43	87.01	-0.0119	-0.1804	-0.0001
105	SLU 56	-0.09	6.14	85.84	0.0245	-0.1182	0
105	SLU 57	-0.15	7.04	88.01	0.0029	-0.1573	-0.0001
105	SLU 58	-0.09	6.11	85.33	0.024	-0.1173	0
105	SLU 59	-0.14	7	87.49	0.0024	-0.1564	-0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
105	SLU 60			-0.09	5.92	84.48	0.0286	-0.118	0
105	SLU 61			-0.15	6.81	86.64	0.007	-0.1571	-0.0001
105	SLU 62			-0.09	6.08	86.4	0.0285	-0.12	0
105	SLU 63			-0.15	6.98	88.57	0.0069	-0.1591	-0.0001
105	SLU 64			-0.09	5.85	81.91	0.0233	-0.1133	0
105	SLU 65			-0.18	7.34	85.52	-0.0127	-0.1785	-0.0001
105	SLU 66			-0.09	6.06	84.35	0.0237	-0.1162	0
105	SLU 67			-0.14	6.95	86.51	0.0021	-0.1554	-0.0001
105	SLU 68			-0.18	7.51	87.45	-0.0128	-0.1805	-0.0001
105	SLU 69			-0.09	6.22	86.27	0.0236	-0.1183	0
105	SLU 70			-0.15	7.12	88.44	0.002	-0.1574	-0.0001
105	SLU 71			-0.09	6.18	85.76	0.0231	-0.1173	0
105	SLU 72			-0.14	7.08	87.93	0.0015	-0.1565	-0.0001
105	SLU 73			-0.19	7.68	92.51	-0.0026	-0.1897	-0.0001
105	SLU 74			-0.1	6.39	91.34	0.0339	-0.1274	0
105	SLU 75			-0.15	7.29	93.51	0.0122	-0.1665	-0.0001
105	SLU 76			-0.19	7.85	94.44	-0.0027	-0.1917	-0.0001
105	SLU 77			-0.1	6.56	93.26	0.0338	-0.1294	0
105	SLU 78			-0.15	7.46	95.43	0.0121	-0.1685	-0.0001
105	SLU 79			-0.1	6.52	92.75	0.0333	-0.1285	0
105	SLU 80			-0.15	7.42	94.92	0.0116	-0.1676	-0.0001
105	SLU 81			-0.1	6.33	91.9	0.0378	-0.1292	0
105	SLU 82			-0.16	7.23	94.07	0.0162	-0.1684	-0.0001
105	SLU 83			-0.1	6.5	93.82	0.0377	-0.1313	0
105	SLU 84			-0.16	7.4	95.99	0.0161	-0.1704	-0.0001
105	SLE RA 1			-0.07	4.41	61.38	0.0159	-0.0847	0
105	SLE RA 2			-0.12	5.4	63.78	-0.0081	-0.1282	-0.0001
105	SLE RA 3			-0.07	4.55	63	0.0162	-0.0866	0
105	SLE RA 4			-0.1	5.14	64.45	0.0018	-0.1127	0
105	SLE RA 5			-0.13	5.52	65.07	-0.0082	-0.1295	-0.0001
105	SLE RA 6			-0.07	4.66	64.28	0.0161	-0.088	0
105	SLE RA 7			-0.1	5.25	65.73	0.0017	-0.1141	0
105	SLE RA 8			-0.07	4.63	63.94	0.0158	-0.0874	0
105	SLE RA 9			-0.1	5.23	65.39	0.0014	-0.1135	0
105	SLE RA 10			-0.13	5.63	68.45	-0.0014	-0.1356	-0.0001
105	SLE RA 11			-0.07	4.77	67.66	0.0229	-0.0941	0
105	SLE RA 12			-0.11	5.37	69.11	0.0085	-0.1202	0
105	SLE RA 13			-0.13	5.74	69.73	-0.0014	-0.1369	-0.0001
105	SLE RA 14			-0.08	4.88	68.95	0.0229	-0.0954	0
105	SLE RA 15			-0.11	5.48	70.39	0.0085	-0.1215	0
105	SLE RA 16			-0.07	4.86	68.6	0.0225	-0.0948	0
105	SLE RA 17			-0.11	5.45	70.05	0.0081	-0.1209	0
105	SLE RA 18			-0.08	4.73	68.04	0.0256	-0.0953	0
105	SLE RA 19			-0.11	5.33	69.48	0.0112	-0.1214	-0.0001
105	SLE RA 20			-0.08	4.84	69.32	0.0255	-0.0967	0
105	SLE RA 21			-0.11	5.44	70.76	0.0111	-0.1227	-0.0001
105	SLE FR 1			-0.07	4.41	61.38	0.0159	-0.0847	0
105	SLE FR 2			-0.08	4.61	61.86	0.0111	-0.0934	0
105	SLE FR 3			-0.07	4.45	61.89	0.0159	-0.0852	0
105	SLE FR 4			-0.08	4.7	63.86	0.014	-0.0966	0
105	SLE FR 5			-0.07	4.55	63.89	0.0188	-0.0884	0
105	SLE FR 6			-0.07	4.57	64.71	0.0208	-0.09	0
105	SLE QP 1			-0.07	4.41	61.38	0.0159	-0.0847	0
105	SLE QP 2			-0.07	4.51	63.38	0.0188	-0.0879	0
105	SLD 1			-0.18	4.96	85.26	0.0302	-0.2001	-0.0002
105	SLD 2			-0.18	4.96	85.26	0.0302	-0.2001	-0.0002
105	SLD 3			-0.07	1.53	78.09	0.172	-0.135	0.0001
105	SLD 4			-0.07	1.53	78.09	0.172	-0.135	0.0001
105	SLD 5			-0.26	9.85	80.81	-0.1928	-0.2203	-0.0004
105	SLD 6			-0.26	9.85	80.81	-0.1928	-0.2203	-0.0004
105	SLD 7			0.09	-1.59	56.92	0.2798	-0.0033	0.0004
105	SLD 8			0.09	-1.59	56.92	0.2798	-0.0033	0.0004
105	SLD 9			-0.23	10.6	69.83	-0.2422	-0.1725	-0.0004
105	SLD 10			-0.23	10.6	69.83	-0.2422	-0.1725	-0.0004
105	SLD 11			0.12	-0.84	45.94	0.2305	0.0445	0.0004
105	SLD 12			0.12	-0.84	45.94	0.2305	0.0445	0.0004
105	SLD 13			-0.06	7.48	48.66	-0.1344	-0.0407	0
105	SLD 14			-0.06	7.48	48.66	-0.1344	-0.0407	0
105	SLD 15			0.04	4.05	41.49	0.0074	0.0243	0.0002
105	SLD 16			0.04	4.05	41.49	0.0074	0.0243	0.0002
105	SLV 1			-0.34	5.47	114.72	0.0517	-0.3616	-0.0005
105	SLV 2			-0.34	5.47	114.72	0.0517	-0.3616	-0.0005
105	SLV 3			-0.07	-2.54	97.82	0.3813	-0.1951	0.0002
105	SLV 4			-0.07	-2.54	97.82	0.3813	-0.1951	0.0002
105	SLV 5			-0.56	16.95	104.41	-0.4713	-0.4225	-0.001
105	SLV 6			-0.56	16.95	104.41	-0.4713	-0.4225	-0.001
105	SLV 7			0.34	-9.77	48.08	0.6275	0.1325	0.001
105	SLV 8			0.34	-9.77	48.08	0.6275	0.1325	0.001
105	SLV 9			-0.48	18.78	78.67	-0.5899	-0.3083	-0.0009
105	SLV 10			-0.48	18.78	78.67	-0.5899	-0.3083	-0.0009
105	SLV 11			0.42	-7.94	22.34	0.5089	0.2467	0.0011
105	SLV 12			0.42	-7.94	22.34	0.5089	0.2467	0.0011
105	SLV 13			-0.07	11.55	28.93	-0.3437	0.0193	-0.0001
105	SLV 14			-0.07	11.55	28.93	-0.3437	0.0193	-0.0001
105	SLV 15			0.2	3.54	12.03	-0.014	0.1858	0.0005
105	SLV 16			0.2	3.54	12.03	-0.014	0.1858	0.0005
106	SLU 1			0.03	-0.43	42.27	0.0109	0.0246	0.0001
106	SLU 2			0.03	-0.85	42.35	0.0298	0.0255	0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
106	SLU 3		0.03		-0.04	43.71	-0.0075	0.0256	0.0002
106	SLU 4		0.03		-0.29	43.76	0.0039	0.0261	0.0002
106	SLU 5		0.03		-0.42	43.56	0.0092	0.0263	0.0002
106	SLU 6		0.03		0.39	44.92	-0.028	0.0263	0.0002
106	SLU 7		0.03		0.14	44.97	-0.0167	0.0269	0.0002
106	SLU 8		0.03		0.43	44.68	-0.0303	0.0261	0.0002
106	SLU 9		0.03		0.18	44.73	-0.0189	0.0267	0.0002
106	SLU 10		0.02		-0.8	49.63	0.0276	0.0235	0.0001
106	SLU 11		0.02		0	50.99	-0.0096	0.0236	0.0001
106	SLU 12		0.02		-0.25	51.04	0.0017	0.0241	0.0001
106	SLU 13		0.02		-0.37	50.84	0.007	0.0243	0.0001
106	SLU 14		0.02		0.44	52.19	-0.0302	0.0243	0.0001
106	SLU 15		0.02		0.19	52.25	-0.0189	0.0249	0.0001
106	SLU 16		0.02		0.48	51.95	-0.0324	0.0241	0.0001
106	SLU 17		0.02		0.23	52.01	-0.0211	0.0247	0.0001
106	SLU 18		0.02		-0.37	52.66	0.0078	0.0217	0.0001
106	SLU 19		0.02		-0.62	52.71	0.0191	0.0223	0.0001
106	SLU 20		0.02		0.07	53.87	-0.0128	0.0225	0.0001
106	SLU 21		0.02		-0.18	53.92	-0.0015	0.0231	0.0001
106	SLU 22		0.03		-0.2	47.14	0.0002	0.0272	0.0002
106	SLU 23		0.03		-0.62	47.23	0.0191	0.0281	0.0002
106	SLU 24		0.03		0.19	48.59	-0.0181	0.0282	0.0002
106	SLU 25		0.03		-0.06	48.64	-0.0068	0.0287	0.0002
106	SLU 26		0.03		-0.19	48.43	-0.0015	0.0289	0.0002
106	SLU 27		0.03		0.62	49.79	-0.0387	0.0289	0.0002
106	SLU 28		0.03		0.37	49.84	-0.0274	0.0295	0.0002
106	SLU 29		0.03		0.67	49.55	-0.0409	0.0287	0.0002
106	SLU 30		0.03		0.41	49.6	-0.0296	0.0293	0.0002
106	SLU 31		0.02		-0.57	54.5	0.0169	0.0261	0.0001
106	SLU 32		0.02		0.24	55.86	-0.0203	0.0262	0.0001
106	SLU 33		0.02		-0.01	55.91	-0.009	0.0267	0.0001
106	SLU 34		0.03		-0.14	55.71	-0.0036	0.0269	0.0001
106	SLU 35		0.03		0.67	57.07	-0.0409	0.0269	0.0001
106	SLU 36		0.03		0.42	57.12	-0.0295	0.0275	0.0002
106	SLU 37		0.02		0.71	56.83	-0.0431	0.0267	0.0001
106	SLU 38		0.03		0.46	56.88	-0.0318	0.0273	0.0001
106	SLU 39		0.02		-0.13	57.53	-0.0029	0.0243	0.0001
106	SLU 40		0.02		-0.38	57.59	0.0085	0.0249	0.0001
106	SLU 41		0.02		0.3	58.74	-0.0235	0.0251	0.0001
106	SLU 42		0.02		0.05	58.79	-0.0121	0.0257	0.0001
106	SLU 43		0.03		-0.64	53.28	0.0178	0.0311	0.0002
106	SLU 44		0.04		-1.06	53.36	0.0367	0.032	0.0002
106	SLU 45		0.04		-0.25	54.72	-0.0005	0.032	0.0002
106	SLU 46		0.04		-0.5	54.77	0.0108	0.0326	0.0002
106	SLU 47		0.04		-0.63	54.57	0.0161	0.0328	0.0002
106	SLU 48		0.04		0.18	55.93	-0.0211	0.0328	0.0002
106	SLU 49		0.04		-0.07	55.98	-0.0098	0.0334	0.0002
106	SLU 50		0.04		0.22	55.69	-0.0233	0.0326	0.0002
106	SLU 51		0.04		-0.03	55.74	-0.012	0.0331	0.0002
106	SLU 52		0.03		-1.01	60.64	0.0345	0.03	0.0002
106	SLU 53		0.03		-0.21	62	-0.0027	0.03	0.0002
106	SLU 54		0.03		-0.46	62.05	0.0086	0.0306	0.0002
106	SLU 55		0.03		-0.58	61.85	0.014	0.0308	0.0002
106	SLU 56		0.03		0.23	63.2	-0.0233	0.0308	0.0002
106	SLU 57		0.03		-0.02	63.26	-0.0119	0.0314	0.0002
106	SLU 58		0.03		0.27	62.96	-0.0255	0.0306	0.0002
106	SLU 59		0.03		0.02	63.02	-0.0142	0.0311	0.0002
106	SLU 60		0.02		-0.58	63.67	0.0147	0.0282	0.0001
106	SLU 61		0.03		-0.83	63.72	0.0261	0.0288	0.0002
106	SLU 62		0.03		-0.14	64.88	-0.0059	0.029	0.0002
106	SLU 63		0.03		-0.39	64.93	0.0055	0.0295	0.0002
106	SLU 64		0.04		-0.41	58.15	0.0071	0.0337	0.0002
106	SLU 65		0.04		-0.83	58.24	0.026	0.0346	0.0002
106	SLU 66		0.04		-0.02	59.6	-0.0112	0.0347	0.0002
106	SLU 67		0.04		-0.27	59.65	0.0001	0.0352	0.0002
106	SLU 68		0.04		-0.4	59.44	0.0055	0.0354	0.0002
106	SLU 69		0.04		0.41	60.8	-0.0318	0.0354	0.0002
106	SLU 70		0.04		0.16	60.85	-0.0205	0.036	0.0002
106	SLU 71		0.04		0.46	60.56	-0.034	0.0352	0.0002
106	SLU 72		0.04		0.2	60.61	-0.0227	0.0357	0.0002
106	SLU 73		0.03		-0.78	65.51	0.0239	0.0326	0.0002
106	SLU 74		0.03		0.03	66.87	-0.0134	0.0327	0.0002
106	SLU 75		0.03		-0.22	66.92	-0.002	0.0332	0.0002
106	SLU 76		0.03		-0.35	66.72	0.0033	0.0334	0.0002
106	SLU 77		0.03		0.46	68.08	-0.034	0.0334	0.0002
106	SLU 78		0.03		0.21	68.13	-0.0226	0.034	0.0002
106	SLU 79		0.03		0.5	67.84	-0.0362	0.0332	0.0002
106	SLU 80		0.03		0.25	67.89	-0.0248	0.0338	0.0002
106	SLU 81		0.03		-0.34	68.54	0.004	0.0308	0.0002
106	SLU 82		0.03		-0.59	68.6	0.0154	0.0314	0.0002
106	SLU 83		0.03		0.09	69.75	-0.0165	0.0316	0.0002
106	SLU 84		0.03		-0.16	69.8	-0.0052	0.0321	0.0002
106	SLE RA 1		0.03		-0.37	43.66	0.0078	0.0253	0.0002
106	SLE RA 2		0.03		-0.65	43.72	0.0204	0.026	0.0002
106	SLE RA 3		0.03		-0.11	44.62	-0.0044	0.026	0.0002
106	SLE RA 4		0.03		-0.27	44.66	0.0032	0.0264	0.0002
106	SLE RA 5		0.03		-0.36	44.52	0.0067	0.0265	0.0002
106	SLE RA 6		0.03		0.18	45.43	-0.0181	0.0265	0.0002





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
106	SLE RA 7	0.03	0.01	45.46	-0.0106	0.0269	0.0002
106	SLE RA 8	0.03	0.21	45.27	-0.0196	0.0263	0.0002
106	SLE RA 9	0.03	0.04	45.3	-0.012	0.0267	0.0002
106	SLE RA 10	0.02	-0.61	48.57	0.019	0.0246	0.0001
106	SLE RA 11	0.02	-0.07	49.47	-0.0058	0.0247	0.0001
106	SLE RA 12	0.02	-0.24	49.51	0.0017	0.025	0.0001
106	SLE RA 13	0.02	-0.33	49.37	0.0053	0.0251	0.0001
106	SLE RA 14	0.02	0.21	50.28	-0.0196	0.0252	0.0001
106	SLE RA 15	0.03	0.05	50.31	-0.012	0.0255	0.0001
106	SLE RA 16	0.02	0.24	50.12	-0.021	0.025	0.0001
106	SLE RA 17	0.03	0.07	50.15	-0.0135	0.0254	0.0001
106	SLE RA 18	0.02	-0.32	50.59	0.0058	0.0234	0.0001
106	SLE RA 19	0.02	-0.49	50.62	0.0133	0.0238	0.0001
106	SLE RA 20	0.02	-0.03	51.39	-0.0079	0.0239	0.0001
106	SLE RA 21	0.02	-0.2	51.43	-0.0004	0.0243	0.0001
106	SLE FR 1	0.03	-0.37	43.66	0.0078	0.0253	0.0002
106	SLE FR 2	0.03	-0.42	43.67	0.0104	0.0255	0.0002
106	SLE FR 3	0.03	-0.25	43.98	0.0024	0.0255	0.0002
106	SLE FR 4	0.03	-0.41	45.75	0.0097	0.0249	0.0001
106	SLE FR 5	0.03	-0.24	46.06	0.0017	0.025	0.0001
106	SLE FR 6	0.02	-0.34	47.12	0.0068	0.0244	0.0001
106	SLE QP 1	0.03	-0.37	43.66	0.0078	0.0253	0.0002
106	SLE QP 2	0.03	-0.35	45.74	0.0072	0.0248	0.0001
106	SLD 1	0.15	0.32	51.78	-0.0232	0.1181	0.0007
106	SLD 2	0.15	0.32	51.78	-0.0232	0.1181	0.0007
106	SLD 3	0.12	-2.69	50	0.1173	0.1377	0.0005
106	SLD 4	0.12	-2.69	50	0.1173	0.1377	0.0005
106	SLD 5	0.11	4.42	50.25	-0.215	0.0231	0.0005
106	SLD 6	0.11	4.42	50.25	-0.215	0.0231	0.0005
106	SLD 7	0.01	-5.62	44.32	0.2534	0.0883	0
106	SLD 8	0.01	-5.62	44.32	0.2534	0.0883	0
106	SLD 9	0.04	4.92	47.16	-0.2389	-0.0388	0.0003
106	SLD 10	0.04	4.92	47.16	-0.2389	-0.0388	0.0003
106	SLD 11	-0.06	-5.12	41.23	0.2295	0.0265	-0.0003
106	SLD 12	-0.06	-5.12	41.23	0.2295	0.0265	-0.0003
106	SLD 13	-0.07	1.98	41.48	-0.1029	-0.0882	-0.0002
106	SLD 14	-0.07	1.98	41.48	-0.1029	-0.0882	-0.0002
106	SLD 15	-0.1	-1.03	39.7	0.0377	-0.0686	-0.0004
106	SLD 16	-0.1	-1.03	39.7	0.0377	-0.0686	-0.0004
106	SLV 1	0.34	1.19	59.95	-0.0629	0.2607	0.0015
106	SLV 2	0.34	1.19	59.95	-0.0629	0.2607	0.0015
106	SLV 3	0.27	-5.85	55.75	0.2658	0.3073	0.0011
106	SLV 4	0.27	-5.85	55.75	0.2658	0.3073	0.0011
106	SLV 5	0.23	10.79	56.37	-0.5124	0.0247	0.0011
106	SLV 6	0.23	10.79	56.37	-0.5124	0.0247	0.0011
106	SLV 7	-0.01	-12.68	42.37	0.5833	0.1803	-0.0001
106	SLV 8	-0.01	-12.68	42.37	0.5833	0.1803	-0.0001
106	SLV 9	0.06	11.98	49.11	-0.5689	-0.1308	0.0004
106	SLV 10	0.06	11.98	49.11	-0.5689	-0.1308	0.0004
106	SLV 11	-0.18	-11.5	35.11	0.5268	0.0248	-0.0008
106	SLV 12	-0.18	-11.5	35.11	0.5268	0.0248	-0.0008
106	SLV 13	-0.22	5.14	35.73	-0.2514	-0.2578	-0.0008
106	SLV 14	-0.22	5.14	35.73	-0.2514	-0.2578	-0.0008
106	SLV 15	-0.29	-1.9	31.53	0.0773	-0.2111	-0.0012
106	SLV 16	-0.29	-1.9	31.53	0.0773	-0.2111	-0.0012
107	SLU 1	0.03	-0.88	5.1	0.0242	0.019	-0.0001
107	SLU 2	0.04	-0.9	5.09	0.0247	0.0193	-0.0002
107	SLU 3	0.04	-0.94	5.04	0.0259	0.0197	-0.0002
107	SLU 4	0.04	-0.96	5.03	0.0262	0.0199	-0.0002
107	SLU 5	0.04	-0.94	5.05	0.026	0.0199	-0.0002
107	SLU 6	0.04	-0.99	5	0.0272	0.0203	-0.0002
107	SLU 7	0.04	-1	4.99	0.0275	0.0205	-0.0002
107	SLU 8	0.04	-0.97	5.02	0.0267	0.0201	-0.0002
107	SLU 9	0.04	-0.98	5.02	0.0271	0.0204	-0.0002
107	SLU 10	0.05	-1.16	7.97	0.0316	0.0223	-0.0002
107	SLU 11	0.05	-1.21	7.92	0.0328	0.0226	-0.0002
107	SLU 12	0.05	-1.22	7.91	0.0331	0.0228	-0.0002
107	SLU 13	0.05	-1.21	7.93	0.0329	0.0228	-0.0002
107	SLU 14	0.05	-1.25	7.88	0.0341	0.0232	-0.0002
107	SLU 15	0.05	-1.26	7.87	0.0344	0.0234	-0.0002
107	SLU 16	0.05	-1.23	7.9	0.0336	0.0231	-0.0002
107	SLU 17	0.05	-1.24	7.9	0.0339	0.0233	-0.0002
107	SLU 18	0.05	-1.26	9.22	0.034	0.0231	-0.0002
107	SLU 19	0.05	-1.27	9.21	0.0343	0.0234	-0.0002
107	SLU 20	0.05	-1.3	9.18	0.0353	0.0237	-0.0002
107	SLU 21	0.05	-1.31	9.17	0.0356	0.0239	-0.0002
107	SLU 22	0.04	-1.1	5.29	0.0302	0.0212	-0.0002
107	SLU 23	0.04	-1.12	5.28	0.0307	0.0216	-0.0002
107	SLU 24	0.04	-1.16	5.23	0.032	0.022	-0.0002
107	SLU 25	0.04	-1.18	5.22	0.0323	0.0222	-0.0002
107	SLU 26	0.04	-1.16	5.24	0.032	0.0222	-0.0002
107	SLU 27	0.04	-1.21	5.19	0.0333	0.0226	-0.0002
107	SLU 28	0.04	-1.22	5.18	0.0336	0.0228	-0.0002
107	SLU 29	0.04	-1.19	5.21	0.0328	0.0224	-0.0002
107	SLU 30	0.04	-1.2	5.2	0.0331	0.0226	-0.0002
107	SLU 31	0.05	-1.38	8.16	0.0376	0.0245	-0.0002
107	SLU 32	0.05	-1.43	8.11	0.0389	0.0249	-0.0002
107	SLU 33	0.05	-1.44	8.1	0.0392	0.0251	-0.0002



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
107	SLU 34		0.05		-1.43	8.12	0.0389	0.0251	-0.0002
107	SLU 35		0.05		-1.47	8.07	0.0402	0.0255	-0.0002
107	SLU 36		0.05		-1.48	8.06	0.0405	0.0257	-0.0002
107	SLU 37		0.05		-1.45	8.09	0.0397	0.0253	-0.0002
107	SLU 38		0.05		-1.46	8.08	0.04	0.0255	-0.0002
107	SLU 39		0.05		-1.48	9.4	0.0401	0.0254	-0.0002
107	SLU 40		0.05		-1.49	9.4	0.0404	0.0256	-0.0002
107	SLU 41		0.06		-1.52	9.37	0.0414	0.026	-0.0002
107	SLU 42		0.06		-1.53	9.36	0.0417	0.0262	-0.0002
107	SLU 43		0.04		-1.07	6.57	0.0293	0.0239	-0.0002
107	SLU 44		0.04		-1.09	6.55	0.0298	0.0243	-0.0002
107	SLU 45		0.04		-1.13	6.51	0.0311	0.0246	-0.0002
107	SLU 46		0.04		-1.14	6.5	0.0314	0.0248	-0.0002
107	SLU 47		0.04		-1.13	6.51	0.0311	0.0248	-0.0002
107	SLU 48		0.05		-1.18	6.47	0.0324	0.0252	-0.0002
107	SLU 49		0.05		-1.19	6.46	0.0327	0.0254	-0.0002
107	SLU 50		0.05		-1.16	6.49	0.0319	0.025	-0.0002
107	SLU 51		0.05		-1.17	6.48	0.0322	0.0253	-0.0002
107	SLU 52		0.05		-1.35	9.43	0.0367	0.0272	-0.0002
107	SLU 53		0.05		-1.39	9.39	0.038	0.0275	-0.0002
107	SLU 54		0.06		-1.41	9.38	0.0383	0.0277	-0.0002
107	SLU 55		0.06		-1.4	9.39	0.038	0.0278	-0.0002
107	SLU 56		0.06		-1.44	9.35	0.0393	0.0281	-0.0002
107	SLU 57		0.06		-1.45	9.34	0.0396	0.0283	-0.0002
107	SLU 58		0.06		-1.42	9.37	0.0388	0.028	-0.0002
107	SLU 59		0.06		-1.43	9.36	0.0391	0.0282	-0.0002
107	SLU 60		0.06		-1.45	10.68	0.0392	0.028	-0.0002
107	SLU 61		0.06		-1.46	10.67	0.0395	0.0283	-0.0002
107	SLU 62		0.06		-1.49	10.64	0.0405	0.0286	-0.0003
107	SLU 63		0.06		-1.5	10.63	0.0408	0.0289	-0.0003
107	SLU 64		0.05		-1.29	6.76	0.0354	0.0261	-0.0002
107	SLU 65		0.05		-1.31	6.74	0.0359	0.0265	-0.0002
107	SLU 66		0.05		-1.35	6.7	0.0372	0.0269	-0.0002
107	SLU 67		0.05		-1.36	6.69	0.0375	0.0271	-0.0002
107	SLU 68		0.05		-1.35	6.7	0.0372	0.0271	-0.0002
107	SLU 69		0.05		-1.4	6.66	0.0384	0.0275	-0.0002
107	SLU 70		0.05		-1.41	6.65	0.0388	0.0277	-0.0002
107	SLU 71		0.05		-1.38	6.68	0.038	0.0273	-0.0002
107	SLU 72		0.05		-1.39	6.67	0.0383	0.0275	-0.0002
107	SLU 73		0.06		-1.57	9.62	0.0428	0.0294	-0.0003
107	SLU 74		0.06		-1.61	9.58	0.044	0.0298	-0.0003
107	SLU 75		0.06		-1.63	9.57	0.0444	0.03	-0.0003
107	SLU 76		0.06		-1.62	9.58	0.0441	0.03	-0.0003
107	SLU 77		0.06		-1.66	9.54	0.0453	0.0304	-0.0003
107	SLU 78		0.06		-1.67	9.53	0.0457	0.0306	-0.0003
107	SLU 79		0.06		-1.64	9.56	0.0449	0.0302	-0.0003
107	SLU 80		0.06		-1.65	9.55	0.0452	0.0305	-0.0003
107	SLU 81		0.06		-1.67	10.87	0.0452	0.0303	-0.0003
107	SLU 82		0.06		-1.68	10.86	0.0455	0.0305	-0.0003
107	SLU 83		0.06		-1.71	10.83	0.0465	0.0309	-0.0003
107	SLU 84		0.06		-1.72	10.82	0.0468	0.0311	-0.0003
107	SLE RA 1		0.04		-0.95	5.16	0.0259	0.0196	-0.0002
107	SLE RA 2		0.04		-0.96	5.15	0.0262	0.0199	-0.0002
107	SLE RA 3		0.04		-0.99	5.12	0.0271	0.0201	-0.0002
107	SLE RA 4		0.04		-0.99	5.11	0.0273	0.0203	-0.0002
107	SLE RA 5		0.04		-0.99	5.12	0.0271	0.0203	-0.0002
107	SLE RA 6		0.04		-1.02	5.09	0.0279	0.0205	-0.0002
107	SLE RA 7		0.04		-1.02	5.08	0.0281	0.0206	-0.0002
107	SLE RA 8		0.04		-1	5.1	0.0276	0.0204	-0.0002
107	SLE RA 9		0.04		-1.01	5.1	0.0278	0.0205	-0.0002
107	SLE RA 10		0.04		-1.13	7.07	0.0308	0.0218	-0.0002
107	SLE RA 11		0.04		-1.16	7.04	0.0317	0.022	-0.0002
107	SLE RA 12		0.04		-1.17	7.03	0.0319	0.0222	-0.0002
107	SLE RA 13		0.04		-1.16	7.04	0.0317	0.0222	-0.0002
107	SLE RA 14		0.04		-1.19	7.01	0.0325	0.0224	-0.0002
107	SLE RA 15		0.04		-1.2	7	0.0327	0.0226	-0.0002
107	SLE RA 16		0.04		-1.18	7.02	0.0322	0.0223	-0.0002
107	SLE RA 17		0.04		-1.18	7.02	0.0324	0.0225	-0.0002
107	SLE RA 18		0.05		-1.19	7.9	0.0325	0.0224	-0.0002
107	SLE RA 19		0.05		-1.2	7.89	0.0327	0.0225	-0.0002
107	SLE RA 20		0.05		-1.22	7.87	0.0333	0.0228	-0.0002
107	SLE RA 21		0.05		-1.23	7.87	0.0335	0.0229	-0.0002
107	SLE FR 1		0.04		-0.95	5.16	0.0259	0.0196	-0.0002
107	SLE FR 2		0.04		-0.95	5.15	0.026	0.0197	-0.0002
107	SLE FR 3		0.04		-0.96	5.15	0.0262	0.0198	-0.0002
107	SLE FR 4		0.04		-1.02	5.98	0.0279	0.0205	-0.0002
107	SLE FR 5		0.04		-1.03	5.97	0.0282	0.0206	-0.0002
107	SLE FR 6		0.04		-1.07	6.53	0.0292	0.021	-0.0002
107	SLE QP 1		0.04		-0.95	5.16	0.0259	0.0196	-0.0002
107	SLE QP 2		0.04		-1.02	5.98	0.0279	0.0204	-0.0002
107	SLD 1		0.17		-1.29	5.65	0.0353	0.0224	-0.0008
107	SLD 2		0.17		-1.29	5.65	0.0353	0.0224	-0.0008
107	SLD 3		0.19		-3.43	4.19	0.0938	0.1417	-0.0009
107	SLD 4		0.19		-3.43	4.19	0.0938	0.1417	-0.0009
107	SLD 5		0.04		2.15	8.08	-0.0586	0.0218	-0.0002
107	SLD 6		0.04		2.15	8.08	-0.0586	0.0218	-0.0002
107	SLD 7		0.13		-4.99	3.24	0.1364	0.0861	-0.0006
107	SLD 8		0.13		-4.99	3.24	0.1364	0.0861	-0.0006



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
107	SLD 9			-0.05	2.95	8.72	-0.0806	-0.0452	0.0002
107	SLD 10			-0.05	2.95	8.72	-0.0806	-0.0452	0.0002
107	SLD 11			0.04	-4.19	3.87	0.1144	0.0191	-0.0002
107	SLD 12			0.04	-4.19	3.87	0.1144	0.0191	-0.0002
107	SLD 13			-0.12	1.39	7.77	-0.0381	-0.1008	0.0006
107	SLD 14			-0.12	1.39	7.77	-0.0381	-0.1008	0.0006
107	SLD 15			-0.09	-0.75	6.31	0.0204	-0.0815	0.0004
107	SLD 16			-0.09	-0.75	6.31	0.0204	-0.0815	0.0004
107	SLV 1			0.36	-1.65	5.2	0.0451	0.2783	-0.0017
107	SLV 2			0.36	-1.65	5.2	0.0451	0.2783	-0.0017
107	SLV 3			0.43	-6.68	1.78	0.1824	0.3245	-0.002
107	SLV 4			0.43	-6.68	1.78	0.1824	0.3245	-0.002
107	SLV 5			0.04	6.42	10.93	-0.1752	0.0278	-0.0002
107	SLV 6			0.04	6.42	10.93	-0.1752	0.0278	-0.0002
107	SLV 7			0.25	-10.35	-0.46	0.2825	0.1817	-0.0011
107	SLV 8			0.25	-10.35	-0.46	0.2825	0.1817	-0.0011
107	SLV 9			-0.18	8.31	12.42	-0.2268	-0.1408	0.0008
107	SLV 10			-0.18	8.31	12.42	-0.2268	-0.1408	0.0008
107	SLV 11			0.04	-8.46	1.03	0.2309	0.0131	-0.0002
107	SLV 12			0.04	-8.46	1.03	0.2309	0.0131	-0.0002
107	SLV 13			-0.35	4.64	10.17	-0.1267	-0.2836	0.0016
107	SLV 14			-0.35	4.64	10.17	-0.1267	-0.2836	0.0016
107	SLV 15			-0.28	-0.39	6.75	0.0106	-0.2374	0.0013
107	SLV 16			-0.28	-0.39	6.75	0.0106	-0.2374	0.0013
108	SLU 1			0.1	-0.01	19.73	-0.1849	0.0671	0
108	SLU 2			0.12	2.55	20.32	-0.3223	0.0798	0
108	SLU 3			0.11	-0.28	20.01	-0.1762	0.0691	0
108	SLU 4			0.12	1.25	20.36	-0.2587	0.0767	0
108	SLU 5			0.12	2.22	20.41	-0.3084	0.0808	0
108	SLU 6			0.11	-0.62	20.09	-0.1624	0.0701	0
108	SLU 7			0.12	0.92	20.45	-0.2448	0.0777	0
108	SLU 8			0.11	-0.68	19.9	-0.1571	0.0692	0
108	SLU 9			0.12	0.86	20.26	-0.2396	0.0768	0
108	SLU 10			0.14	2.43	22.78	-0.3433	0.091	0
108	SLU 11			0.12	-0.41	22.46	-0.1972	0.0804	0
108	SLU 12			0.13	1.13	22.81	-0.2797	0.088	0
108	SLU 13			0.14	2.09	22.86	-0.3294	0.0921	0
108	SLU 14			0.12	-0.75	22.55	-0.1834	0.0814	0
108	SLU 15			0.13	0.79	22.9	-0.2658	0.089	0
108	SLU 16			0.12	-0.81	22.36	-0.1781	0.0805	0
108	SLU 17			0.13	0.73	22.71	-0.2606	0.0881	0
108	SLU 18			0.13	-0.19	23.24	-0.2149	0.0832	0
108	SLU 19			0.14	1.35	23.59	-0.2973	0.0908	0
108	SLU 20			0.13	-0.53	23.32	-0.201	0.0843	0
108	SLU 21			0.14	1.01	23.68	-0.2835	0.0919	0
108	SLU 22			0.12	-0.23	21.81	-0.1984	0.0773	0
108	SLU 23			0.14	2.34	22.4	-0.3358	0.09	0
108	SLU 24			0.12	-0.5	22.09	-0.1898	0.0793	0
108	SLU 25			0.13	1.04	22.44	-0.2722	0.0869	0
108	SLU 26			0.14	2	22.49	-0.3219	0.091	0
108	SLU 27			0.12	-0.84	22.17	-0.1759	0.0804	0
108	SLU 28			0.13	0.7	22.53	-0.2584	0.0879	0
108	SLU 29			0.12	-0.9	21.98	-0.1707	0.0794	0
108	SLU 30			0.13	0.64	22.34	-0.2531	0.087	0
108	SLU 31			0.15	2.21	24.86	-0.3568	0.1013	0
108	SLU 32			0.14	-0.63	24.54	-0.2108	0.0906	0
108	SLU 33			0.15	0.91	24.89	-0.2932	0.0982	0
108	SLU 34			0.15	1.87	24.94	-0.343	0.1023	0
108	SLU 35			0.14	-0.96	24.62	-0.1969	0.0916	0
108	SLU 36			0.15	0.57	24.98	-0.2794	0.0992	0
108	SLU 37			0.14	-1.03	24.43	-0.1917	0.0907	0
108	SLU 38			0.15	0.51	24.79	-0.2741	0.0983	0
108	SLU 39			0.14	-0.41	25.32	-0.2284	0.0934	0
108	SLU 40			0.15	1.13	25.67	-0.3108	0.101	0
108	SLU 41			0.14	-0.75	25.4	-0.2145	0.0945	0
108	SLU 42			0.15	0.79	25.76	-0.297	0.1021	0
108	SLU 43			0.13	0.06	24.94	-0.2357	0.0837	0
108	SLU 44			0.15	2.62	25.53	-0.3731	0.0964	0
108	SLU 45			0.13	-0.21	25.22	-0.2271	0.0857	0
108	SLU 46			0.14	1.33	25.57	-0.3095	0.0933	0
108	SLU 47			0.15	2.29	25.62	-0.3593	0.0974	0
108	SLU 48			0.13	-0.55	25.3	-0.2132	0.0868	0
108	SLU 49			0.14	0.99	25.66	-0.2957	0.0943	0
108	SLU 50			0.13	-0.61	25.11	-0.208	0.0858	0
108	SLU 51			0.14	0.93	25.47	-0.2904	0.0934	0
108	SLU 52			0.16	2.5	27.98	-0.3941	0.1077	0
108	SLU 53			0.15	-0.34	27.67	-0.2481	0.097	0
108	SLU 54			0.16	1.2	28.02	-0.3305	0.1046	0
108	SLU 55			0.16	2.16	28.07	-0.3803	0.1087	0
108	SLU 56			0.15	-0.68	27.75	-0.2342	0.098	0
108	SLU 57			0.16	0.86	28.11	-0.3167	0.1056	0
108	SLU 58			0.15	-0.74	27.56	-0.229	0.0971	0
108	SLU 59			0.16	0.8	27.92	-0.3114	0.1047	0
108	SLU 60			0.15	-0.12	28.44	-0.2657	0.0998	0
108	SLU 61			0.16	1.42	28.8	-0.3482	0.1074	0
108	SLU 62			0.15	-0.46	28.53	-0.2518	0.1009	0
108	SLU 63			0.16	1.08	28.88	-0.3343	0.1085	0
108	SLU 64			0.14	-0.16	27.02	-0.2492	0.094	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
108	SLU 65	0.16	2.41	27.61	-0.3866	0.1066	0		
108	SLU 66	0.15	-0.43	27.29	-0.2406	0.0959	0		
108	SLU 67	0.16	1.11	27.65	-0.323	0.1035	0		
108	SLU 68	0.16	2.07	27.7	-0.3728	0.1077	0		
108	SLU 69	0.15	-0.77	27.38	-0.2267	0.097	0		
108	SLU 70	0.16	0.77	27.73	-0.3092	0.1046	0		
108	SLU 71	0.15	-0.83	27.19	-0.2215	0.096	0		
108	SLU 72	0.16	0.71	27.54	-0.3039	0.1036	0		
108	SLU 73	0.18	2.28	30.06	-0.4076	0.1179	0		
108	SLU 74	0.16	-0.56	29.75	-0.2616	0.1072	0		
108	SLU 75	0.17	0.98	30.1	-0.344	0.1148	0		
108	SLU 76	0.18	1.94	30.15	-0.3938	0.1189	0		
108	SLU 77	0.16	-0.89	29.83	-0.2477	0.1083	0		
108	SLU 78	0.18	0.65	30.19	-0.3302	0.1159	0		
108	SLU 79	0.16	-0.96	29.64	-0.2425	0.1073	0		
108	SLU 80	0.17	0.58	30	-0.3249	0.1149	0		
108	SLU 81	0.17	-0.34	30.52	-0.2792	0.1101	0		
108	SLU 82	0.18	1.2	30.88	-0.3617	0.1177	0		
108	SLU 83	0.17	-0.67	30.61	-0.2653	0.1111	0		
108	SLU 84	0.18	0.86	30.96	-0.3478	0.1187	0		
108	SLE RA 1	0.11	-0.07	20.33	-0.1887	0.07	0		
108	SLE RA 2	0.12	1.64	20.72	-0.2803	0.0785	0		
108	SLE RA 3	0.11	-0.26	20.51	-0.183	0.0714	0		
108	SLE RA 4	0.12	0.77	20.75	-0.2379	0.0764	0		
108	SLE RA 5	0.12	1.41	20.78	-0.2711	0.0792	0		
108	SLE RA 6	0.11	-0.48	20.57	-0.1737	0.072	0		
108	SLE RA 7	0.12	0.55	20.8	-0.2287	0.0771	0		
108	SLE RA 8	0.11	-0.52	20.44	-0.1702	0.0714	0		
108	SLE RA 9	0.12	0.51	20.68	-0.2252	0.0765	0		
108	SLE RA 10	0.13	1.55	22.36	-0.2943	0.086	0		
108	SLE RA 11	0.12	-0.34	22.15	-0.197	0.0789	0		
108	SLE RA 12	0.13	0.69	22.38	-0.2519	0.0839	0		
108	SLE RA 13	0.13	1.33	22.41	-0.2851	0.0867	0		
108	SLE RA 14	0.12	-0.56	22.2	-0.1877	0.0796	0		
108	SLE RA 15	0.13	0.46	22.44	-0.2427	0.0846	0		
108	SLE RA 16	0.12	-0.61	22.08	-0.1842	0.0789	0		
108	SLE RA 17	0.13	0.42	22.31	-0.2392	0.084	0		
108	SLE RA 18	0.12	-0.19	22.66	-0.2087	0.0808	0		
108	SLE RA 19	0.13	0.83	22.9	-0.2637	0.0858	0		
108	SLE RA 20	0.12	-0.42	22.72	-0.1995	0.0815	0		
108	SLE RA 21	0.13	0.61	22.96	-0.2545	0.0865	0		
108	SLE FR 1	0.11	-0.07	20.33	-0.1887	0.07	0		
108	SLE FR 2	0.11	0.27	20.41	-0.207	0.0717	0		
108	SLE FR 3	0.11	-0.16	20.35	-0.185	0.0703	0		
108	SLE FR 4	0.11	0.23	21.11	-0.213	0.0749	0		
108	SLE FR 5	0.11	-0.2	21.05	-0.191	0.0735	0		
108	SLE FR 6	0.11	-0.13	21.5	-0.1987	0.0754	0		
108	SLE QP 1	0.11	-0.07	20.33	-0.1887	0.07	0		
108	SLE QP 2	0.11	-0.11	21.03	-0.1947	0.0733	0		
108	SLD 1	0.07	-0.34	20.69	-0.1891	0.1383	-0.0001		
108	SLD 2	0.07	-0.34	20.69	-0.1891	0.1383	-0.0001		
108	SLD 3	0.04	-3.71	19.1	-0.0214	0.1179	-0.0001		
108	SLD 4	0.04	-3.71	19.1	-0.0214	0.1179	-0.0001		
108	SLD 5	0.14	4.92	23.35	-0.4474	0.1238	-0.0001		
108	SLD 6	0.14	4.92	23.35	-0.4474	0.1238	-0.0001		
108	SLD 7	0.05	-6.29	18.03	0.1116	0.0557	0		
108	SLD 8	0.05	-6.29	18.03	0.1116	0.0557	0		
108	SLD 9	0.17	6.07	24.02	-0.5011	0.0909	0		
108	SLD 10	0.17	6.07	24.02	-0.5011	0.0909	0		
108	SLD 11	0.08	-5.14	18.71	0.0579	0.0227	0		
108	SLD 12	0.08	-5.14	18.71	0.0579	0.0227	0		
108	SLD 13	0.18	3.49	22.96	-0.368	0.0286	0		
108	SLD 14	0.18	3.49	22.96	-0.368	0.0286	0		
108	SLD 15	0.15	0.12	21.36	-0.2003	0.0082	0.0001		
108	SLD 16	0.15	0.12	21.36	-0.2003	0.0082	0.0001		
108	SLV 1	0.01	-0.73	20.27	-0.1781	0.2278	-0.0002		
108	SLV 2	0.01	-0.73	20.27	-0.1781	0.2278	-0.0002		
108	SLV 3	-0.05	-8.79	16.46	0.2242	0.1768	-0.0002		
108	SLV 4	-0.05	-8.79	16.46	0.2242	0.1768	-0.0002		
108	SLV 5	0.18	11.92	26.57	-0.7999	0.1969	-0.0002		
108	SLV 6	0.18	11.92	26.57	-0.7999	0.1969	-0.0002		
108	SLV 7	-0.04	-14.93	13.89	0.5411	0.027	0		
108	SLV 8	-0.04	-14.93	13.89	0.5411	0.027	0		
108	SLV 9	0.26	14.71	28.17	-0.9306	0.1195	-0.0001		
108	SLV 10	0.26	14.71	28.17	-0.9306	0.1195	-0.0001		
108	SLV 11	0.04	-12.14	15.49	0.4105	-0.0504	0.0001		
108	SLV 12	0.04	-12.14	15.49	0.4105	-0.0504	0.0001		
108	SLV 13	0.28	8.57	25.59	-0.6137	-0.0303	0.0001		
108	SLV 14	0.28	8.57	25.59	-0.6137	-0.0303	0.0001		
108	SLV 15	0.21	0.51	21.79	-0.2113	-0.0813	0.0002		
108	SLV 16	0.21	0.51	21.79	-0.2113	-0.0813	0.0002		
109	SLU 1	0.05	-2.19	45.41	0.1162	0.0321	-0.0013		
109	SLU 2	0.05	-2.61	45.88	0.1378	0.0315	-0.0013		
109	SLU 3	0.05	-2.03	46.34	0.1087	0.0328	-0.0013		
109	SLU 4	0.05	-2.28	46.62	0.1216	0.0324	-0.0013		
109	SLU 5	0.05	-2.43	46.46	0.1285	0.0318	-0.0013		
109	SLU 6	0.05	-1.84	46.92	0.0994	0.0332	-0.0013		
109	SLU 7	0.05	-2.1	47.2	0.1123	0.0328	-0.0013		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
109	SLU 8		0.05	-1.81	46.57	0.0976	0.0328	-0.0013	
109	SLU 9		0.05	-2.07	46.85	0.1106	0.0325	-0.0013	
109	SLU 10		0.06	-3.03	53.78	0.1605	0.0376	-0.0015	
109	SLU 11		0.06	-2.45	54.24	0.1315	0.0389	-0.0016	
109	SLU 12		0.06	-2.7	54.52	0.1444	0.0386	-0.0016	
109	SLU 13		0.06	-2.84	54.36	0.1512	0.038	-0.0015	
109	SLU 14		0.06	-2.26	54.82	0.1222	0.0393	-0.0016	
109	SLU 15		0.06	-2.52	55.1	0.1351	0.039	-0.0016	
109	SLU 16		0.06	-2.23	54.47	0.1204	0.039	-0.0016	
109	SLU 17		0.06	-2.48	54.75	0.1333	0.0386	-0.0016	
109	SLU 18		0.06	-2.78	56.7	0.1487	0.0408	-0.0016	
109	SLU 19		0.06	-3.04	56.98	0.1617	0.0405	-0.0016	
109	SLU 20		0.06	-2.59	57.28	0.1394	0.0412	-0.0017	
109	SLU 21		0.06	-2.85	57.56	0.1524	0.0408	-0.0016	
109	SLU 22		0.06	-2.32	50.09	0.1249	0.0358	-0.0015	
109	SLU 23		0.06	-2.74	50.56	0.1465	0.0352	-0.0014	
109	SLU 24		0.06	-2.16	51.02	0.1174	0.0365	-0.0015	
109	SLU 25		0.06	-2.41	51.3	0.1303	0.0362	-0.0015	
109	SLU 26		0.06	-2.56	51.14	0.1372	0.0356	-0.0014	
109	SLU 27		0.06	-1.97	51.6	0.1081	0.0369	-0.0015	
109	SLU 28		0.06	-2.23	51.88	0.121	0.0365	-0.0015	
109	SLU 29		0.06	-1.94	51.25	0.1063	0.0366	-0.0015	
109	SLU 30		0.06	-2.2	51.53	0.1192	0.0362	-0.0015	
109	SLU 31		0.07	-3.16	58.46	0.1692	0.0413	-0.0017	
109	SLU 32		0.07	-2.58	58.92	0.1401	0.0427	-0.0017	
109	SLU 33		0.07	-2.83	59.2	0.1531	0.0423	-0.0017	
109	SLU 34		0.07	-2.97	59.04	0.1599	0.0417	-0.0017	
109	SLU 35		0.07	-2.39	59.5	0.1308	0.043	-0.0017	
109	SLU 36		0.07	-2.64	59.78	0.1438	0.0427	-0.0017	
109	SLU 37		0.07	-2.36	59.15	0.1291	0.0427	-0.0017	
109	SLU 38		0.07	-2.61	59.43	0.142	0.0423	-0.0017	
109	SLU 39		0.07	-2.91	61.38	0.1574	0.0446	-0.0018	
109	SLU 40		0.07	-3.17	61.66	0.1704	0.0442	-0.0018	
109	SLU 41		0.07	-2.72	61.96	0.1481	0.0449	-0.0018	
109	SLU 42		0.07	-2.98	62.24	0.1611	0.0446	-0.0018	
109	SLU 43		0.06	-2.8	57.43	0.1481	0.0404	-0.0016	
109	SLU 44		0.06	-3.22	57.9	0.1697	0.0398	-0.0016	
109	SLU 45		0.06	-2.64	58.36	0.1406	0.0411	-0.0017	
109	SLU 46		0.06	-2.9	58.64	0.1535	0.0408	-0.0017	
109	SLU 47		0.06	-3.04	58.48	0.1604	0.0402	-0.0016	
109	SLU 48		0.06	-2.45	58.94	0.1313	0.0415	-0.0017	
109	SLU 49		0.06	-2.71	59.22	0.1442	0.0412	-0.0017	
109	SLU 50		0.06	-2.42	58.59	0.1295	0.0412	-0.0017	
109	SLU 51		0.06	-2.68	58.87	0.1424	0.0408	-0.0017	
109	SLU 52		0.07	-3.64	65.8	0.1924	0.0459	-0.0019	
109	SLU 53		0.07	-3.06	66.26	0.1634	0.0473	-0.0019	
109	SLU 54		0.07	-3.31	66.54	0.1763	0.0469	-0.0019	
109	SLU 55		0.07	-3.45	66.38	0.1831	0.0463	-0.0019	
109	SLU 56		0.07	-2.87	66.84	0.154	0.0477	-0.0019	
109	SLU 57		0.07	-3.13	67.12	0.167	0.0473	-0.0019	
109	SLU 58		0.07	-2.84	66.49	0.1523	0.0473	-0.0019	
109	SLU 59		0.07	-3.1	66.77	0.1652	0.0469	-0.0019	
109	SLU 60		0.08	-3.39	68.72	0.1806	0.0492	-0.002	
109	SLU 61		0.08	-3.65	69	0.1936	0.0488	-0.002	
109	SLU 62		0.08	-3.21	69.3	0.1713	0.0495	-0.002	
109	SLU 63		0.08	-3.46	69.58	0.1843	0.0492	-0.002	
109	SLU 64		0.07	-2.93	62.11	0.1568	0.0441	-0.0018	
109	SLU 65		0.07	-3.35	62.58	0.1784	0.0435	-0.0018	
109	SLU 66		0.07	-2.77	63.04	0.1493	0.0449	-0.0018	
109	SLU 67		0.07	-3.03	63.32	0.1622	0.0445	-0.0018	
109	SLU 68		0.07	-3.17	63.16	0.1691	0.0439	-0.0018	
109	SLU 69		0.07	-2.58	63.62	0.14	0.0452	-0.0018	
109	SLU 70		0.07	-2.84	63.9	0.1529	0.0449	-0.0018	
109	SLU 71		0.07	-2.55	63.27	0.1382	0.0449	-0.0018	
109	SLU 72		0.07	-2.81	63.55	0.1511	0.0445	-0.0018	
109	SLU 73		0.08	-3.77	70.48	0.2011	0.0497	-0.002	
109	SLU 74		0.08	-3.19	70.94	0.172	0.051	-0.0021	
109	SLU 75		0.08	-3.44	71.22	0.185	0.0506	-0.002	
109	SLU 76		0.08	-3.58	71.06	0.1918	0.05	-0.002	
109	SLU 77		0.08	-3	71.52	0.1627	0.0514	-0.0021	
109	SLU 78		0.08	-3.26	71.8	0.1757	0.051	-0.0021	
109	SLU 79		0.08	-2.97	71.17	0.161	0.051	-0.0021	
109	SLU 80		0.08	-3.23	71.45	0.1739	0.0507	-0.002	
109	SLU 81		0.08	-3.52	73.4	0.1893	0.0529	-0.0021	
109	SLU 82		0.08	-3.78	73.68	0.2023	0.0525	-0.0021	
109	SLU 83		0.08	-3.34	73.98	0.18	0.0533	-0.0022	
109	SLU 84		0.08	-3.59	74.26	0.1929	0.0529	-0.0021	
109	SLE RA 1		0.05	-2.22	46.75	0.1187	0.0331	-0.0013	
109	SLE RA 2		0.05	-2.51	47.06	0.1331	0.0327	-0.0013	
109	SLE RA 3		0.05	-2.12	47.37	0.1137	0.0336	-0.0014	
109	SLE RA 4		0.05	-2.29	47.56	0.1223	0.0334	-0.0014	
109	SLE RA 5		0.05	-2.38	47.45	0.1269	0.033	-0.0013	
109	SLE RA 6		0.05	-1.99	47.76	0.1075	0.0339	-0.0014	
109	SLE RA 7		0.05	-2.16	47.94	0.1161	0.0336	-0.0014	
109	SLE RA 8		0.05	-1.97	47.52	0.1063	0.0336	-0.0014	
109	SLE RA 9		0.05	-2.14	47.71	0.1149	0.0334	-0.0014	
109	SLE RA 10		0.06	-2.79	52.33	0.1483	0.0368	-0.0015	
109	SLE RA 11		0.06	-2.4	52.64	0.1289	0.0377	-0.0015	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
109	SLE RA 12	0.06	-2.57	52.82	0.1375	0.0375	-0.0015	
109	SLE RA 13	0.06	-2.66	52.71	0.1421	0.0371	-0.0015	
109	SLE RA 14	0.06	-2.27	53.02	0.1227	0.038	-0.0015	
109	SLE RA 15	0.06	-2.44	53.21	0.1313	0.0377	-0.0015	
109	SLE RA 16	0.06	-2.25	52.79	0.1215	0.0377	-0.0015	
109	SLE RA 17	0.06	-2.42	52.98	0.1301	0.0375	-0.0015	
109	SLE RA 18	0.06	-2.62	54.28	0.1404	0.039	-0.0016	
109	SLE RA 19	0.06	-2.79	54.46	0.149	0.0387	-0.0016	
109	SLE RA 20	0.06	-2.5	54.66	0.1342	0.0392	-0.0016	
109	SLE RA 21	0.06	-2.67	54.85	0.1428	0.039	-0.0016	
109	SLE FR 1	0.05	-2.22	46.75	0.1187	0.0331	-0.0013	
109	SLE FR 2	0.05	-2.28	46.81	0.1216	0.033	-0.0013	
109	SLE FR 3	0.05	-2.17	46.91	0.1162	0.0332	-0.0013	
109	SLE FR 4	0.05	-2.4	49.07	0.1281	0.0348	-0.0014	
109	SLE FR 5	0.05	-2.29	49.16	0.1227	0.035	-0.0014	
109	SLE FR 6	0.06	-2.42	50.51	0.1296	0.036	-0.0015	
109	SLE QP 1	0.05	-2.22	46.75	0.1187	0.0331	-0.0013	
109	SLE QP 2	0.05	-2.34	49.01	0.1252	0.0349	-0.0014	
109	SLD 1	-0.04	0.53	44.36	-0.0173	0.1054	0.0014	
109	SLD 2	-0.04	0.53	44.36	-0.0173	0.1054	0.0014	
109	SLD 3	-0.01	-3	43.68	0.1573	0.1243	0.0006	
109	SLD 4	-0.01	-3	43.68	0.1573	0.1243	0.0006	
109	SLD 5	-0.02	3.87	48.65	-0.1823	0.0274	0.0006	
109	SLD 6	-0.02	3.87	48.65	-0.1823	0.0274	0.0006	
109	SLD 7	0.08	-7.89	46.38	0.3996	0.0903	-0.002	
109	SLD 8	0.08	-7.89	46.38	0.3996	0.0903	-0.002	
109	SLD 9	0.03	3.2	51.64	-0.1491	-0.0206	-0.0009	
109	SLD 10	0.03	3.2	51.64	-0.1491	-0.0206	-0.0009	
109	SLD 11	0.12	-8.55	49.37	0.4327	0.0423	-0.0034	
109	SLD 12	0.12	-8.55	49.37	0.4327	0.0423	-0.0034	
109	SLD 13	0.12	-1.68	54.34	0.0931	-0.0545	-0.0034	
109	SLD 14	0.12	-1.68	54.34	0.0931	-0.0545	-0.0034	
109	SLD 15	0.15	-5.21	53.66	0.2677	-0.0357	-0.0042	
109	SLD 16	0.15	-5.21	53.66	0.2677	-0.0357	-0.0042	
109	SLV 1	-0.18	4.42	38.1	-0.2105	0.2139	0.0056	
109	SLV 2	-0.18	4.42	38.1	-0.2105	0.2139	0.0056	
109	SLV 3	-0.11	-3.84	36.48	0.1986	0.2587	0.0038	
109	SLV 4	-0.11	-3.84	36.48	0.1986	0.2587	0.0038	
109	SLV 5	-0.11	12.21	48.19	-0.5959	0.0207	0.0034	
109	SLV 6	-0.11	12.21	48.19	-0.5959	0.0207	0.0034	
109	SLV 7	0.1	-15.32	42.8	0.7677	0.1699	-0.0026	
109	SLV 8	0.1	-15.32	42.8	0.7677	0.1699	-0.0026	
109	SLV 9	0.01	10.63	55.22	-0.5172	-0.1002	-0.0002	
109	SLV 10	0.01	10.63	55.22	-0.5172	-0.1002	-0.0002	
109	SLV 11	0.22	-16.89	49.83	0.8463	0.0491	-0.0063	
109	SLV 12	0.22	-16.89	49.83	0.8463	0.0491	-0.0063	
109	SLV 13	0.22	-0.84	61.53	0.0518	-0.1889	-0.0066	
109	SLV 14	0.22	-0.84	61.53	0.0518	-0.1889	-0.0066	
109	SLV 15	0.29	-9.1	59.92	0.4609	-0.1442	-0.0084	
109	SLV 16	0.29	-9.1	59.92	0.4609	-0.1442	-0.0084	
110	SLU 1	0.01	3.06	32.05	-0.2486	0.0007	0	
110	SLU 2	-0.01	5.75	33.69	-0.3871	-0.009	0	
110	SLU 3	0.01	2.94	32.89	-0.246	0.0007	0	
110	SLU 4	0	4.55	33.87	-0.3291	-0.0051	0	
110	SLU 5	-0.01	5.53	34.21	-0.379	-0.009	0	
110	SLU 6	0.01	2.72	33.41	-0.2379	0.0008	0	
110	SLU 7	0	4.34	34.39	-0.321	-0.0051	0	
110	SLU 8	0.01	2.62	33.1	-0.2324	0.0008	0	
110	SLU 9	0	4.24	34.08	-0.3155	-0.0051	0	
110	SLU 10	-0.01	6.18	38.23	-0.4226	-0.009	0	
110	SLU 11	0.01	3.37	37.43	-0.2816	0.0008	0	
110	SLU 12	0	4.98	38.41	-0.3646	-0.0051	0	
110	SLU 13	-0.01	5.96	38.75	-0.4145	-0.009	0	
110	SLU 14	0.01	3.15	37.95	-0.2734	0.0008	0	
110	SLU 15	0	4.77	38.93	-0.3565	-0.0051	0	
110	SLU 16	0.01	3.05	37.64	-0.2679	0.0008	0	
110	SLU 17	0	4.67	38.62	-0.351	-0.0051	0	
110	SLU 18	0.01	3.67	38.54	-0.2993	0.0008	0	
110	SLU 19	0	5.29	39.52	-0.3824	-0.0051	0	
110	SLU 20	0.01	3.45	39.06	-0.2912	0.0008	0	
110	SLU 21	0	5.07	40.04	-0.3743	-0.0051	0	
110	SLU 22	0.01	3.38	36.17	-0.2772	0.0008	0	
110	SLU 23	-0.01	6.07	37.81	-0.4157	-0.009	0	
110	SLU 24	0.01	3.26	37.01	-0.2746	0.0008	0	
110	SLU 25	0	4.88	37.99	-0.3577	-0.0051	0	
110	SLU 26	-0.01	5.86	38.33	-0.4076	-0.009	0	
110	SLU 27	0.01	3.04	37.53	-0.2665	0.0008	0	
110	SLU 28	0	4.66	38.51	-0.3496	-0.0051	0	
110	SLU 29	0.01	2.95	37.21	-0.261	0.0008	0	
110	SLU 30	0	4.56	38.2	-0.3441	-0.0051	0	
110	SLU 31	-0.01	6.5	42.35	-0.4512	-0.009	0	
110	SLU 32	0.01	3.69	41.55	-0.3101	0.0008	0	
110	SLU 33	0	5.31	42.53	-0.3932	-0.005	0	
110	SLU 34	-0.01	6.29	42.87	-0.4431	-0.0089	0	
110	SLU 35	0.01	3.48	42.07	-0.302	0.0008	0	
110	SLU 36	0	5.09	43.05	-0.3851	-0.005	0	
110	SLU 37	0.01	3.38	41.75	-0.2965	0.0008	0	
110	SLU 38	0	4.99	42.74	-0.3796	-0.005	0	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
110	SLU 39	0.01	4	42.65	-0.3279	0.0008	0
110	SLU 40	0	5.61	43.64	-0.411	-0.005	0
110	SLU 41	0.01	3.78	43.18	-0.3198	0.0008	0
110	SLU 42	0	5.4	44.16	-0.4029	-0.005	0
110	SLU 43	0.01	3.86	40.26	-0.3134	0.0009	0
110	SLU 44	-0.01	6.55	41.9	-0.4519	-0.0088	0
110	SLU 45	0.01	3.74	41.09	-0.3108	0.001	0
110	SLU 46	0	5.36	42.08	-0.3939	-0.0049	0
110	SLU 47	0	6.34	42.42	-0.4438	-0.0088	0
110	SLU 48	0.01	3.53	41.62	-0.3027	0.001	0
110	SLU 49	0	5.14	42.6	-0.3858	-0.0049	0
110	SLU 50	0.01	3.43	41.3	-0.2972	0.001	0
110	SLU 51	0	5.04	42.28	-0.3803	-0.0049	0
110	SLU 52	0	6.99	46.43	-0.4874	-0.0088	0
110	SLU 53	0.01	4.17	45.63	-0.3463	0.001	0
110	SLU 54	0	5.79	46.61	-0.4294	-0.0049	0
110	SLU 55	0	6.77	46.96	-0.4793	-0.0088	0
110	SLU 56	0.01	3.96	46.15	-0.3382	0.001	0
110	SLU 57	0	5.57	47.14	-0.4213	-0.0048	0
110	SLU 58	0.01	3.86	45.84	-0.3327	0.001	0
110	SLU 59	0	5.47	46.82	-0.4158	-0.0048	0
110	SLU 60	0.01	4.48	46.74	-0.3641	0.001	0
110	SLU 61	0	6.09	47.72	-0.4472	-0.0049	0
110	SLU 62	0.01	4.26	47.26	-0.356	0.001	0
110	SLU 63	0	5.88	48.25	-0.4391	-0.0048	0
110	SLU 64	0.01	4.19	44.38	-0.342	0.001	0
110	SLU 65	0	6.88	46.01	-0.4805	-0.0088	0
110	SLU 66	0.01	4.07	45.21	-0.3394	0.001	0
110	SLU 67	0	5.68	46.19	-0.4225	-0.0049	0
110	SLU 68	0	6.66	46.54	-0.4724	-0.0088	0
110	SLU 69	0.01	3.85	45.73	-0.3313	0.001	0
110	SLU 70	0	5.47	46.72	-0.4144	-0.0049	0
110	SLU 71	0.01	3.75	45.42	-0.3257	0.001	0
110	SLU 72	0	5.37	46.4	-0.4088	-0.0049	0
110	SLU 73	0	7.31	50.55	-0.516	-0.0088	0
110	SLU 74	0.01	4.5	49.75	-0.3749	0.001	0
110	SLU 75	0	6.11	50.73	-0.458	-0.0048	0
110	SLU 76	0	7.09	51.07	-0.5079	-0.0087	0
110	SLU 77	0.01	4.28	50.27	-0.3668	0.001	0
110	SLU 78	0	5.9	51.25	-0.4499	-0.0048	0
110	SLU 79	0.01	4.18	49.96	-0.3613	0.001	0
110	SLU 80	0	5.8	50.94	-0.4443	-0.0048	0
110	SLU 81	0.01	4.8	50.86	-0.3927	0.001	0
110	SLU 82	0	6.42	51.84	-0.4758	-0.0048	0
110	SLU 83	0.01	4.59	51.38	-0.3846	0.001	0
110	SLU 84	0	6.2	52.36	-0.4677	-0.0048	0
110	SLE RA 1	0.01	3.15	33.23	-0.2568	0.0007	0
110	SLE RA 2	0	4.94	34.32	-0.3491	-0.0058	0
110	SLE RA 3	0.01	3.07	33.79	-0.2551	0.0007	0
110	SLE RA 4	0	4.15	34.44	-0.3105	-0.0032	0
110	SLE RA 5	0	4.8	34.67	-0.3437	-0.0058	0
110	SLE RA 6	0.01	2.92	34.13	-0.2497	0.0008	0
110	SLE RA 7	0	4	34.79	-0.3051	-0.0031	0
110	SLE RA 8	0.01	2.86	33.93	-0.246	0.0008	0
110	SLE RA 9	0	3.94	34.58	-0.3014	-0.0031	0
110	SLE RA 10	0	5.23	37.35	-0.3728	-0.0057	0
110	SLE RA 11	0.01	3.36	36.81	-0.2787	0.0008	0
110	SLE RA 12	0	4.43	37.47	-0.3341	-0.0031	0
110	SLE RA 13	0	5.09	37.7	-0.3674	-0.0057	0
110	SLE RA 14	0.01	3.21	37.16	-0.2733	0.0008	0
110	SLE RA 15	0	4.29	37.82	-0.3287	-0.0031	0
110	SLE RA 16	0.01	3.15	36.95	-0.2696	0.0008	0
110	SLE RA 17	0	4.22	37.61	-0.325	-0.0031	0
110	SLE RA 18	0.01	3.56	37.55	-0.2906	0.0008	0
110	SLE RA 19	0	4.64	38.21	-0.346	-0.0031	0
110	SLE RA 20	0.01	3.41	37.9	-0.2852	0.0008	0
110	SLE RA 21	0	4.49	38.56	-0.3406	-0.0031	0
110	SLE FR 1	0.01	3.15	33.23	-0.2568	0.0007	0
110	SLE FR 2	0	3.51	33.45	-0.2752	-0.0006	0
110	SLE FR 3	0.01	3.09	33.37	-0.2546	0.0007	0
110	SLE FR 4	0	3.63	34.75	-0.2854	-0.0006	0
110	SLE FR 5	0.01	3.21	34.67	-0.2648	0.0008	0
110	SLE FR 6	0.01	3.35	35.39	-0.2737	0.0008	0
110	SLE QP 1	0.01	3.15	33.23	-0.2568	0.0007	0
110	SLE QP 2	0.01	3.27	34.53	-0.2669	0.0008	0
110	SLD 1	-0.05	6.28	38.02	-0.4145	0.0417	0
110	SLD 2	-0.05	6.28	38.02	-0.4145	0.0417	0
110	SLD 3	-0.02	3.06	35.56	-0.2562	0.0609	-0.0001
110	SLD 4	-0.02	3.06	35.56	-0.2562	0.0609	-0.0001
110	SLD 5	-0.04	9.06	39.3	-0.5514	-0.016	0
110	SLD 6	-0.04	9.06	39.3	-0.5514	-0.016	0
110	SLD 7	0.03	-1.68	31.12	-0.0235	0.0479	0
110	SLD 8	0.03	-1.68	31.12	-0.0235	0.0479	0
110	SLD 9	-0.02	8.22	37.94	-0.5104	-0.0464	0.0001
110	SLD 10	-0.02	8.22	37.94	-0.5104	-0.0464	0.0001
110	SLD 11	0.05	-2.52	29.76	0.0176	0.0175	0
110	SLD 12	0.05	-2.52	29.76	0.0176	0.0175	0
110	SLD 13	0.04	3.49	33.49	-0.2777	-0.0594	0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
110	SLD 14	0.04	3.49	33.49	-0.2777	-0.0594	0.0001
110	SLD 15	0.06	0.27	31.03	-0.1193	-0.0402	0.0001
110	SLD 16	0.06	0.27	31.03	-0.1193	-0.0402	0.0001
110	SLV 1	-0.12	10.56	42.74	-0.6247	0.1001	-0.0001
110	SLV 2	-0.12	10.56	42.74	-0.6247	0.1001	-0.0001
110	SLV 3	-0.07	2.87	36.94	-0.2463	0.1489	-0.0001
110	SLV 4	-0.07	2.87	36.94	-0.2463	0.1489	-0.0001
110	SLV 5	-0.11	17.12	45.78	-0.9482	-0.0435	0.0001
110	SLV 6	-0.11	17.12	45.78	-0.9482	-0.0435	0.0001
110	SLV 7	0.07	-8.51	26.46	0.3132	0.1193	-0.0001
110	SLV 8	0.07	-8.51	26.46	0.3132	0.1193	-0.0001
110	SLV 9	-0.06	15.05	42.6	-0.8471	-0.1178	0.0001
110	SLV 10	-0.06	15.05	42.6	-0.8471	-0.1178	0.0001
110	SLV 11	0.12	-10.57	23.27	0.4144	0.045	0
110	SLV 12	0.12	-10.57	23.27	0.4144	0.045	0
110	SLV 13	0.08	3.68	32.11	-0.2876	-0.1474	0.0002
110	SLV 14	0.08	3.68	32.11	-0.2876	-0.1474	0.0002
110	SLV 15	0.13	-4.01	26.31	0.0909	-0.0986	0.0001
110	SLV 16	0.13	-4.01	26.31	0.0909	-0.0986	0.0001
111	SLU 1	-0.01	6.96	55.12	-0.345	0.0008	0
111	SLU 2	0.07	8.33	58.59	-0.4104	0.0692	0
111	SLU 3	-0.01	7.26	57.03	-0.3603	0.0005	0
111	SLU 4	0.04	8.08	59.11	-0.3996	0.0416	0
111	SLU 5	0.07	8.55	59.91	-0.4215	0.0689	0
111	SLU 6	-0.01	7.48	58.36	-0.3715	0.0003	0
111	SLU 7	0.04	8.31	60.44	-0.4107	0.0413	0
111	SLU 8	-0.01	7.4	57.78	-0.3673	0.0003	0
111	SLU 9	0.04	8.22	59.86	-0.4065	0.0413	0
111	SLU 10	0.07	9.19	65.12	-0.4534	0.0697	0
111	SLU 11	-0.01	8.12	63.57	-0.4034	0.0011	0
111	SLU 12	0.04	8.94	65.65	-0.4426	0.0421	0
111	SLU 13	0.07	9.41	66.45	-0.4645	0.0695	0
111	SLU 14	-0.01	8.34	64.9	-0.4145	0.0008	0
111	SLU 15	0.04	9.16	66.97	-0.4537	0.0419	0
111	SLU 16	-0.01	8.26	64.32	-0.4103	0.0008	0
111	SLU 17	0.04	9.08	66.39	-0.4495	0.0419	0
111	SLU 18	-0.01	8.18	64.46	-0.4065	0.0016	0
111	SLU 19	0.04	9.01	66.54	-0.4457	0.0426	0
111	SLU 20	-0.01	8.4	65.79	-0.4176	0.0013	0
111	SLU 21	0.04	9.23	67.87	-0.4568	0.0424	0
111	SLU 22	-0.01	7.87	61.87	-0.3907	0.001	0
111	SLU 23	0.07	9.24	65.33	-0.4561	0.0694	0
111	SLU 24	-0.01	8.17	63.78	-0.4061	0.0008	0
111	SLU 25	0.04	8.99	65.85	-0.4453	0.0418	0
111	SLU 26	0.07	9.46	66.66	-0.4672	0.0692	0
111	SLU 27	-0.01	8.39	65.1	-0.4172	0.0005	0
111	SLU 28	0.03	9.21	67.18	-0.4564	0.0416	0
111	SLU 29	-0.01	8.31	64.52	-0.413	0.0005	0
111	SLU 30	0.04	9.13	66.6	-0.4523	0.0416	0
111	SLU 31	0.07	10.1	71.87	-0.4991	0.07	0
111	SLU 32	-0.01	9.03	70.31	-0.4491	0.0013	0
111	SLU 33	0.04	9.85	72.39	-0.4883	0.0424	0
111	SLU 34	0.07	10.32	73.19	-0.5103	0.0697	0
111	SLU 35	-0.01	9.25	71.64	-0.4602	0.0011	0
111	SLU 36	0.03	10.07	73.72	-0.4995	0.0421	0
111	SLU 37	-0.01	9.16	71.06	-0.4561	0.0011	0
111	SLU 38	0.03	9.99	73.14	-0.4953	0.0421	0
111	SLU 39	-0.01	9.09	71.21	-0.4522	0.0018	0
111	SLU 40	0.04	9.92	73.29	-0.4914	0.0429	0
111	SLU 41	-0.01	9.31	72.53	-0.4633	0.0016	0
111	SLU 42	0.04	10.14	74.61	-0.5026	0.0426	0
111	SLU 43	-0.01	8.73	69.35	-0.4328	0.0009	0
111	SLU 44	0.07	10.1	72.81	-0.4982	0.0693	0
111	SLU 45	-0.01	9.04	71.26	-0.4482	0.0007	0
111	SLU 46	0.03	9.86	73.34	-0.4874	0.0417	0
111	SLU 47	0.07	10.32	74.14	-0.5093	0.0691	0
111	SLU 48	-0.01	9.26	72.58	-0.4593	0.0004	0
111	SLU 49	0.03	10.08	74.66	-0.4985	0.0415	0
111	SLU 50	-0.01	9.17	72	-0.4551	0.0004	0
111	SLU 51	0.03	9.99	74.08	-0.4943	0.0415	0
111	SLU 52	0.07	10.96	79.35	-0.5412	0.0699	0
111	SLU 53	-0.01	9.9	77.8	-0.4912	0.0012	0
111	SLU 54	0.03	10.72	79.87	-0.5304	0.0423	0
111	SLU 55	0.06	11.18	80.68	-0.5524	0.0696	0
111	SLU 56	-0.01	10.12	79.12	-0.5023	0.001	0
111	SLU 57	0.03	10.94	81.2	-0.5415	0.042	0
111	SLU 58	-0.01	10.03	78.54	-0.4981	0.001	0
111	SLU 59	0.03	10.85	80.62	-0.5374	0.042	0
111	SLU 60	-0.01	9.96	78.69	-0.4943	0.0017	0
111	SLU 61	0.03	10.78	80.77	-0.5335	0.0428	0
111	SLU 62	-0.01	10.18	80.02	-0.5054	0.0015	0
111	SLU 63	0.03	11	82.09	-0.5447	0.0425	0
111	SLU 64	-0.01	9.64	76.09	-0.4786	0.0012	0
111	SLU 65	0.06	11.01	79.56	-0.5439	0.0696	0
111	SLU 66	-0.01	9.95	78	-0.4939	0.0009	0
111	SLU 67	0.03	10.77	80.08	-0.5331	0.042	0
111	SLU 68	0.06	11.23	80.88	-0.5551	0.0693	0
111	SLU 69	-0.01	10.17	79.33	-0.505	0.0007	0





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
111	SLU 70	0.03	10.99	81.41	-0.5443	0.0417	0
111	SLU 71	-0.01	10.08	78.75	-0.5009	0.0007	0
111	SLU 72	0.03	10.9	80.82	-0.5401	0.0417	0
111	SLU 73	0.06	11.87	86.09	-0.5869	0.0701	0
111	SLU 74	-0.01	10.8	84.54	-0.5369	0.0015	0
111	SLU 75	0.03	11.63	86.62	-0.5761	0.0425	0
111	SLU 76	0.06	12.09	87.42	-0.5981	0.0699	0
111	SLU 77	-0.01	11.03	85.87	-0.5481	0.0012	0
111	SLU 78	0.03	11.85	87.94	-0.5873	0.0423	0
111	SLU 79	-0.01	10.94	85.28	-0.5439	0.0012	0
111	SLU 80	0.03	11.76	87.36	-0.5831	0.0423	0
111	SLU 81	-0.01	10.87	85.43	-0.54	0.002	0
111	SLU 82	0.03	11.69	87.51	-0.5792	0.043	0
111	SLU 83	-0.01	11.09	86.76	-0.5512	0.0017	0
111	SLU 84	0.03	11.91	88.84	-0.5904	0.0428	0
111	SLE RA 1	-0.01	7.22	57.05	-0.3581	0.0009	0
111	SLE RA 2	0.04	8.13	59.36	-0.4016	0.0465	0
111	SLE RA 3	-0.01	7.42	58.32	-0.3683	0.0007	0
111	SLE RA 4	0.02	7.97	59.71	-0.3944	0.0281	0
111	SLE RA 5	0.04	8.28	60.24	-0.4091	0.0463	0
111	SLE RA 6	-0.01	7.57	59.21	-0.3757	0.0005	0
111	SLE RA 7	0.02	8.12	60.59	-0.4019	0.0279	0
111	SLE RA 8	-0.01	7.51	58.82	-0.3729	0.0005	0
111	SLE RA 9	0.02	8.06	60.2	-0.3991	0.0279	0
111	SLE RA 10	0.04	8.7	63.72	-0.4303	0.0468	0
111	SLE RA 11	-0.01	7.99	62.68	-0.397	0.0011	0
111	SLE RA 12	0.02	8.54	64.07	-0.4231	0.0284	0
111	SLE RA 13	0.04	8.85	64.6	-0.4378	0.0467	0
111	SLE RA 14	-0.01	8.14	63.57	-0.4044	0.0009	0
111	SLE RA 15	0.02	8.69	64.95	-0.4306	0.0283	0
111	SLE RA 16	-0.01	8.08	63.18	-0.4016	0.0009	0
111	SLE RA 17	0.02	8.63	64.56	-0.4278	0.0283	0
111	SLE RA 18	-0.01	8.03	63.28	-0.399	0.0014	0
111	SLE RA 19	0.02	8.58	64.66	-0.4252	0.0287	0
111	SLE RA 20	-0.01	8.18	64.16	-0.4065	0.0012	0
111	SLE RA 21	0.02	8.73	65.55	-0.4326	0.0286	0
111	SLE FR 1	-0.01	7.22	57.05	-0.3581	0.0009	0
111	SLE FR 2	0	7.4	57.51	-0.3668	0.01	0
111	SLE FR 3	-0.01	7.27	57.4	-0.361	0.0008	0
111	SLE FR 4	0	7.64	59.38	-0.3791	0.0101	0
111	SLE FR 5	-0.01	7.52	59.27	-0.3733	0.0009	0
111	SLE FR 6	-0.01	7.62	60.16	-0.3786	0.0011	0
111	SLE QP 1	-0.01	7.22	57.05	-0.3581	0.0009	0
111	SLE QP 2	-0.01	7.46	58.92	-0.3704	0.001	0
111	SLD 1	0.15	7.63	44.89	-0.3607	0.1543	-0.0001
111	SLD 2	0.15	7.63	44.89	-0.3607	0.1543	-0.0001
111	SLD 3	0.04	4.6	38.73	-0.2266	0.0724	-0.0001
111	SLD 4	0.04	4.6	38.73	-0.2266	0.0724	-0.0001
111	SLD 5	0.19	12.1	64.05	-0.5707	0.1713	0
111	SLD 6	0.19	12.1	64.05	-0.5707	0.1713	0
111	SLD 7	-0.15	2.01	43.52	-0.124	-0.1018	-0.0001
111	SLD 8	-0.15	2.01	43.52	-0.124	-0.1018	-0.0001
111	SLD 9	0.13	12.91	74.31	-0.6168	0.1038	0.0001
111	SLD 10	0.13	12.91	74.31	-0.6168	0.1038	0.0001
111	SLD 11	-0.21	2.82	53.79	-0.17	-0.1692	-0.0001
111	SLD 12	-0.21	2.82	53.79	-0.17	-0.1692	-0.0001
111	SLD 13	-0.06	10.32	79.11	-0.5141	-0.0704	0.0001
111	SLD 14	-0.06	10.32	79.11	-0.5141	-0.0704	0.0001
111	SLD 15	-0.17	7.29	72.95	-0.38	-0.1523	0
111	SLD 16	-0.17	7.29	72.95	-0.38	-0.1523	0
111	SLV 1	0.38	7.86	26.07	-0.3479	0.3761	-0.0002
111	SLV 2	0.38	7.86	26.07	-0.3479	0.3761	-0.0002
111	SLV 3	0.11	0.76	11.57	-0.0334	0.1662	-0.0003
111	SLV 4	0.11	0.76	11.57	-0.0334	0.1662	-0.0003
111	SLV 5	0.51	18.35	71.06	-0.8406	0.4319	0.0001
111	SLV 6	0.51	18.35	71.06	-0.8406	0.4319	0.0001
111	SLV 7	-0.38	-5.32	22.72	0.2077	-0.2678	-0.0003
111	SLV 8	-0.38	-5.32	22.72	0.2077	-0.2678	-0.0003
111	SLV 9	0.36	20.24	95.12	-0.9484	0.2698	0.0002
111	SLV 10	0.36	20.24	95.12	-0.9484	0.2698	0.0002
111	SLV 11	-0.53	-3.42	46.78	0.0999	-0.4299	-0.0001
111	SLV 12	-0.53	-3.42	46.78	0.0999	-0.4299	-0.0001
111	SLV 13	-0.13	14.17	106.27	-0.7073	-0.1641	0.0002
111	SLV 14	-0.13	14.17	106.27	-0.7073	-0.1641	0.0002
111	SLV 15	-0.4	7.07	91.76	-0.3928	-0.3741	0.0001
111	SLV 16	-0.4	7.07	91.76	-0.3928	-0.3741	0.0001
112	SLU 1	-0.21	5.97	57.91	-0.4326	-0.1508	-0.0005
112	SLU 2	-0.3	7.63	61.53	-0.5263	-0.2308	-0.0008
112	SLU 3	-0.21	6.28	60.2	-0.455	-0.1566	-0.0005
112	SLU 4	-0.27	7.27	62.37	-0.5112	-0.2045	-0.0007
112	SLU 5	-0.31	7.88	63.3	-0.5444	-0.2349	-0.0008
112	SLU 6	-0.22	6.53	61.98	-0.4731	-0.1607	-0.0005
112	SLU 7	-0.28	7.53	64.15	-0.5293	-0.2086	-0.0007
112	SLU 8	-0.22	6.47	61.46	-0.4688	-0.159	-0.0005
112	SLU 9	-0.28	7.47	63.63	-0.525	-0.207	-0.0007
112	SLU 10	-0.33	8.25	68.27	-0.576	-0.251	-0.0009
112	SLU 11	-0.24	6.9	66.94	-0.5047	-0.1768	-0.0006
112	SLU 12	-0.3	7.9	69.11	-0.5609	-0.2247	-0.0008



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
112	SLU 13			-0.34	8.5	70.04	-0.5941	-0.2551	-0.0009
112	SLU 14			-0.25	7.15	68.72	-0.5228	-0.1809	-0.0006
112	SLU 15			-0.31	8.15	70.89	-0.579	-0.2288	-0.0008
112	SLU 16			-0.25	7.09	68.2	-0.5186	-0.1792	-0.0006
112	SLU 17			-0.3	8.09	70.37	-0.5748	-0.2272	-0.0008
112	SLU 18			-0.25	6.86	67.54	-0.5036	-0.1797	-0.0006
112	SLU 19			-0.3	7.85	69.71	-0.5598	-0.2277	-0.0008
112	SLU 20			-0.25	7.11	69.31	-0.5218	-0.1838	-0.0006
112	SLU 21			-0.31	8.1	71.48	-0.578	-0.2318	-0.0008
112	SLU 22			-0.24	6.69	65.05	-0.4888	-0.1715	-0.0006
112	SLU 23			-0.33	8.35	68.67	-0.5825	-0.2514	-0.0009
112	SLU 24			-0.24	7	67.34	-0.5112	-0.1772	-0.0006
112	SLU 25			-0.3	7.99	69.51	-0.5674	-0.2252	-0.0008
112	SLU 26			-0.34	8.6	70.44	-0.6006	-0.2555	-0.0009
112	SLU 27			-0.25	7.25	69.12	-0.5293	-0.1813	-0.0006
112	SLU 28			-0.31	8.24	71.29	-0.5855	-0.2293	-0.0008
112	SLU 29			-0.25	7.19	68.6	-0.525	-0.1797	-0.0006
112	SLU 30			-0.31	8.19	70.77	-0.5812	-0.2276	-0.0008
112	SLU 31			-0.36	8.97	75.41	-0.6322	-0.2716	-0.0009
112	SLU 32			-0.27	7.62	74.08	-0.5609	-0.1974	-0.0007
112	SLU 33			-0.33	8.61	76.25	-0.6171	-0.2454	-0.0008
112	SLU 34			-0.37	9.22	77.18	-0.6503	-0.2757	-0.001
112	SLU 35			-0.28	7.87	75.85	-0.579	-0.2015	-0.0007
112	SLU 36			-0.34	8.87	78.02	-0.6352	-0.2495	-0.0009
112	SLU 37			-0.28	7.81	75.34	-0.5747	-0.1999	-0.0007
112	SLU 38			-0.33	8.81	77.51	-0.6309	-0.2478	-0.0009
112	SLU 39			-0.28	7.57	74.68	-0.5598	-0.2003	-0.0007
112	SLU 40			-0.33	8.57	76.85	-0.616	-0.2483	-0.0009
112	SLU 41			-0.28	7.83	76.45	-0.5779	-0.2044	-0.0007
112	SLU 42			-0.34	8.82	78.62	-0.6341	-0.2524	-0.0009
112	SLU 43			-0.26	7.51	72.84	-0.5431	-0.189	-0.0006
112	SLU 44			-0.36	9.17	76.46	-0.6368	-0.2689	-0.0009
112	SLU 45			-0.27	7.82	75.13	-0.5655	-0.1947	-0.0007
112	SLU 46			-0.32	8.82	77.3	-0.6217	-0.2427	-0.0008
112	SLU 47			-0.36	9.43	78.23	-0.6549	-0.273	-0.0009
112	SLU 48			-0.27	8.08	76.9	-0.5836	-0.1988	-0.0007
112	SLU 49			-0.33	9.07	79.07	-0.6398	-0.2468	-0.0008
112	SLU 50			-0.27	8.02	76.39	-0.5794	-0.1972	-0.0007
112	SLU 51			-0.33	9.01	78.56	-0.6356	-0.2452	-0.0008
112	SLU 52			-0.38	9.79	83.2	-0.6865	-0.2891	-0.001
112	SLU 53			-0.29	8.45	81.87	-0.6152	-0.2149	-0.0007
112	SLU 54			-0.35	9.44	84.04	-0.6714	-0.2629	-0.0009
112	SLU 55			-0.39	10.05	84.97	-0.7046	-0.2932	-0.001
112	SLU 56			-0.3	8.7	83.64	-0.6333	-0.219	-0.0007
112	SLU 57			-0.36	9.69	85.81	-0.6895	-0.267	-0.0009
112	SLU 58			-0.3	8.64	83.13	-0.6291	-0.2174	-0.0007
112	SLU 59			-0.36	9.64	85.3	-0.6853	-0.2654	-0.0009
112	SLU 60			-0.3	8.4	82.47	-0.6142	-0.2179	-0.0007
112	SLU 61			-0.36	9.4	84.64	-0.6704	-0.2658	-0.0009
112	SLU 62			-0.3	8.65	84.24	-0.6323	-0.222	-0.0008
112	SLU 63			-0.36	9.65	86.41	-0.6885	-0.2699	-0.0009
112	SLU 64			-0.29	8.23	79.98	-0.5993	-0.2096	-0.0007
112	SLU 65			-0.38	9.89	83.59	-0.693	-0.2896	-0.001
112	SLU 66			-0.3	8.54	82.27	-0.6217	-0.2154	-0.0007
112	SLU 67			-0.35	9.54	84.44	-0.6779	-0.2633	-0.0009
112	SLU 68			-0.39	10.14	85.37	-0.7111	-0.2937	-0.001
112	SLU 69			-0.3	8.79	84.04	-0.6398	-0.2195	-0.0007
112	SLU 70			-0.36	9.79	86.21	-0.696	-0.2674	-0.0009
112	SLU 71			-0.3	8.74	83.53	-0.6356	-0.2178	-0.0007
112	SLU 72			-0.36	9.73	85.7	-0.6918	-0.2658	-0.0009
112	SLU 73			-0.41	10.51	90.33	-0.7427	-0.3098	-0.0011
112	SLU 74			-0.32	9.16	89.01	-0.6714	-0.2356	-0.0008
112	SLU 75			-0.38	10.16	91.18	-0.7276	-0.2835	-0.001
112	SLU 76			-0.42	10.76	92.11	-0.7608	-0.3139	-0.0011
112	SLU 77			-0.33	9.41	90.78	-0.6895	-0.2397	-0.0008
112	SLU 78			-0.39	10.41	92.95	-0.7457	-0.2876	-0.001
112	SLU 79			-0.33	9.36	90.26	-0.6853	-0.238	-0.0008
112	SLU 80			-0.39	10.35	92.43	-0.7415	-0.286	-0.001
112	SLU 81			-0.33	9.12	89.6	-0.6704	-0.2385	-0.0008
112	SLU 82			-0.39	10.11	91.77	-0.7266	-0.2865	-0.001
112	SLU 83			-0.33	9.37	91.38	-0.6885	-0.2426	-0.0008
112	SLU 84			-0.39	10.37	93.55	-0.7447	-0.2906	-0.001
112	SLE RA 1			-0.21	6.17	59.95	-0.4487	-0.1567	-0.0005
112	SLE RA 2			-0.28	7.28	62.36	-0.5111	-0.21	-0.0007
112	SLE RA 3			-0.22	6.38	61.48	-0.4636	-0.1606	-0.0005
112	SLE RA 4			-0.26	7.04	62.93	-0.501	-0.1925	-0.0007
112	SLE RA 5			-0.28	7.45	63.55	-0.5232	-0.2127	-0.0007
112	SLE RA 6			-0.22	6.55	62.66	-0.4757	-0.1633	-0.0006
112	SLE RA 7			-0.26	7.21	64.11	-0.5131	-0.1953	-0.0007
112	SLE RA 8			-0.22	6.51	62.32	-0.4728	-0.1622	-0.0006
112	SLE RA 9			-0.26	7.17	63.76	-0.5103	-0.1942	-0.0007
112	SLE RA 10			-0.3	7.69	66.86	-0.5443	-0.2235	-0.0008
112	SLE RA 11			-0.24	6.8	65.97	-0.4967	-0.174	-0.0006
112	SLE RA 12			-0.28	7.46	67.42	-0.5342	-0.206	-0.0007
112	SLE RA 13			-0.3	7.86	68.04	-0.5563	-0.2262	-0.0008
112	SLE RA 14			-0.24	6.96	67.15	-0.5088	-0.1768	-0.0006
112	SLE RA 15			-0.28	7.63	68.6	-0.5463	-0.2087	-0.0007
112	SLE RA 16			-0.24	6.92	66.81	-0.506	-0.1757	-0.0006



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
112	SLE RA 17	-0.28	7.59	68.26	-0.5434	-0.2076	-0.0007
112	SLE RA 18	-0.24	6.77	66.37	-0.496	-0.176	-0.0006
112	SLE RA 19	-0.28	7.43	67.82	-0.5335	-0.2079	-0.0007
112	SLE RA 20	-0.25	6.93	67.55	-0.5081	-0.1787	-0.0006
112	SLE RA 21	-0.28	7.6	69	-0.5456	-0.2107	-0.0007
112	SLE FR 1	-0.21	6.17	59.95	-0.4487	-0.1567	-0.0005
112	SLE FR 2	-0.23	6.4	60.44	-0.4612	-0.1674	-0.0006
112	SLE FR 3	-0.22	6.24	60.43	-0.4535	-0.1578	-0.0005
112	SLE FR 4	-0.24	6.57	62.36	-0.4754	-0.1732	-0.0006
112	SLE FR 5	-0.22	6.42	62.35	-0.4677	-0.1636	-0.0006
112	SLE FR 6	-0.23	6.47	63.16	-0.4723	-0.1664	-0.0006
112	SLE QP 1	-0.21	6.17	59.95	-0.4487	-0.1567	-0.0005
112	SLE QP 2	-0.22	6.35	61.88	-0.4629	-0.1625	-0.0006
112	SLD 1	-0.4	9.42	81.97	-0.6403	-0.3244	-0.001
112	SLD 2	-0.4	9.42	81.97	-0.6403	-0.3244	-0.001
112	SLD 3	-0.29	5.71	76.04	-0.4642	-0.2479	-0.0007
112	SLD 4	-0.29	5.71	76.04	-0.4642	-0.2479	-0.0007
112	SLD 5	-0.43	12.89	76.9	-0.7833	-0.3271	-0.0012
112	SLD 6	-0.43	12.89	76.9	-0.7833	-0.3271	-0.0012
112	SLD 7	-0.09	0.54	57.13	-0.1961	-0.0721	-0.0001
112	SLD 8	-0.09	0.54	57.13	-0.1961	-0.0721	-0.0001
112	SLD 9	-0.36	12.17	66.62	-0.7297	-0.2529	-0.001
112	SLD 10	-0.36	12.17	66.62	-0.7297	-0.2529	-0.001
112	SLD 11	-0.01	-0.19	46.86	-0.1425	0.0021	0.0001
112	SLD 12	-0.01	-0.19	46.86	-0.1425	0.0021	0.0001
112	SLD 13	-0.15	7	47.72	-0.4616	-0.0771	-0.0004
112	SLD 14	-0.15	7	47.72	-0.4616	-0.0771	-0.0004
112	SLD 15	-0.05	3.29	41.79	-0.2854	-0.0006	-0.0001
112	SLD 16	-0.05	3.29	41.79	-0.2854	-0.0006	-0.0001
112	SLV 1	-0.64	13.57	109	-0.8792	-0.5548	-0.0016
112	SLV 2	-0.64	13.57	109	-0.8792	-0.5548	-0.0016
112	SLV 3	-0.37	4.89	95	-0.465	-0.36	-0.0008
112	SLV 4	-0.37	4.89	95	-0.465	-0.36	-0.0008
112	SLV 5	-0.75	21.68	97.25	-1.2158	-0.5756	-0.0021
112	SLV 6	-0.75	21.68	97.25	-1.2158	-0.5756	-0.0021
112	SLV 7	0.13	-7.25	50.58	0.1645	0.0737	0.0006
112	SLV 8	0.13	-7.25	50.58	0.1645	0.0737	0.0006
112	SLV 9	-0.58	19.96	73.17	-1.0903	-0.3987	-0.0017
112	SLV 10	-0.58	19.96	73.17	-1.0903	-0.3987	-0.0017
112	SLV 11	0.3	-8.98	26.51	0.2901	0.2506	0.001
112	SLV 12	0.3	-8.98	26.51	0.2901	0.2506	0.001
112	SLV 13	-0.07	7.82	28.76	-0.4607	0.035	-0.0003
112	SLV 14	-0.07	7.82	28.76	-0.4607	0.035	-0.0003
112	SLV 15	0.19	-0.86	14.76	-0.0466	0.2298	0.0005
112	SLV 16	0.19	-0.86	14.76	-0.0466	0.2298	0.0005
113	SLU 1	0.03	-1.09	41.97	0.0529	0.0291	0.0001
113	SLU 2	0.03	-1.5	42.06	0.0717	0.0298	0.0001
113	SLU 3	0.04	-0.73	43.36	0.0362	0.0303	0.0001
113	SLU 4	0.04	-0.97	43.41	0.0475	0.0307	0.0001
113	SLU 5	0.04	-1.09	43.15	0.0525	0.0306	0.0001
113	SLU 6	0.04	-0.32	44.45	0.017	0.0311	0.0001
113	SLU 7	0.04	-0.57	44.5	0.0283	0.0315	0.0001
113	SLU 8	0.04	-0.27	44.16	0.0146	0.0308	0.0001
113	SLU 9	0.04	-0.52	44.21	0.0258	0.0312	0.0001
113	SLU 10	0.03	-1.59	49.49	0.0771	0.0276	0.0001
113	SLU 11	0.03	-0.82	50.79	0.0416	0.0281	0.0001
113	SLU 12	0.03	-1.06	50.84	0.0529	0.0285	0.0001
113	SLU 13	0.03	-1.18	50.59	0.0579	0.0284	0.0001
113	SLU 14	0.03	-0.41	51.88	0.0224	0.029	0.0001
113	SLU 15	0.03	-0.65	51.94	0.0337	0.0293	0.0001
113	SLU 16	0.03	-0.36	51.59	0.02	0.0287	0.0001
113	SLU 17	0.03	-0.61	51.64	0.0312	0.029	0.0001
113	SLU 18	0.02	-1.22	52.59	0.0606	0.026	0.0001
113	SLU 19	0.02	-1.46	52.65	0.0719	0.0264	0.0001
113	SLU 20	0.02	-0.81	53.68	0.0415	0.0269	0.0001
113	SLU 21	0.02	-1.05	53.74	0.0527	0.0273	0.0001
113	SLU 22	0.04	-0.91	46.99	0.0462	0.0322	0.0001
113	SLU 23	0.04	-1.32	47.07	0.065	0.0329	0.0001
113	SLU 24	0.04	-0.55	48.37	0.0295	0.0334	0.0001
113	SLU 25	0.04	-0.79	48.42	0.0408	0.0338	0.0001
113	SLU 26	0.04	-0.91	48.16	0.0458	0.0337	0.0001
113	SLU 27	0.04	-0.14	49.46	0.0103	0.0342	0.0001
113	SLU 28	0.04	-0.39	49.51	0.0216	0.0346	0.0001
113	SLU 29	0.04	-0.1	49.17	0.0078	0.0339	0.0001
113	SLU 30	0.04	-0.34	49.22	0.0191	0.0343	0.0001
113	SLU 31	0.03	-1.41	54.51	0.0704	0.0307	0.0001
113	SLU 32	0.03	-0.64	55.8	0.0349	0.0312	0.0001
113	SLU 33	0.03	-0.88	55.86	0.0462	0.0316	0.0001
113	SLU 34	0.03	-1	55.6	0.0512	0.0315	0.0001
113	SLU 35	0.03	-0.23	56.9	0.0157	0.0321	0.0001
113	SLU 36	0.03	-0.48	56.95	0.027	0.0324	0.0001
113	SLU 37	0.03	-0.19	56.6	0.0132	0.0318	0.0001
113	SLU 38	0.03	-0.43	56.66	0.0245	0.0321	0.0001
113	SLU 39	0.03	-1.04	57.61	0.0539	0.0291	0.0001
113	SLU 40	0.03	-1.28	57.66	0.0652	0.0295	0.0001
113	SLU 41	0.03	-0.63	58.7	0.0347	0.03	0.0001
113	SLU 42	0.03	-0.88	58.75	0.046	0.0304	0.0001
113	SLU 43	0.04	-1.48	52.85	0.0711	0.0368	0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
113	SLU 44	0.04	-1.88	52.93	0.0899	0.0374	0.0001		
113	SLU 45	0.04	-1.12	54.23	0.0544	0.038	0.0001		
113	SLU 46	0.04	-1.36	54.28	0.0657	0.0383	0.0001		
113	SLU 47	0.04	-1.48	54.03	0.0707	0.0383	0.0001		
113	SLU 48	0.05	-0.71	55.32	0.0352	0.0388	0.0002		
113	SLU 49	0.05	-0.95	55.38	0.0465	0.0392	0.0002		
113	SLU 50	0.05	-0.66	55.03	0.0327	0.0385	0.0002		
113	SLU 51	0.05	-0.91	55.08	0.044	0.0389	0.0002		
113	SLU 52	0.04	-1.97	60.37	0.0953	0.0353	0.0001		
113	SLU 53	0.04	-1.2	61.67	0.0598	0.0358	0.0001		
113	SLU 54	0.04	-1.45	61.72	0.071	0.0362	0.0001		
113	SLU 55	0.04	-1.57	61.46	0.0761	0.0361	0.0001		
113	SLU 56	0.04	-0.8	62.76	0.0406	0.0366	0.0001		
113	SLU 57	0.04	-1.04	62.81	0.0519	0.037	0.0001		
113	SLU 58	0.04	-0.75	62.46	0.0381	0.0363	0.0001		
113	SLU 59	0.04	-1	62.52	0.0494	0.0367	0.0001		
113	SLU 60	0.03	-1.6	63.47	0.0788	0.0337	0.0001		
113	SLU 61	0.03	-1.85	63.52	0.0901	0.0341	0.0001		
113	SLU 62	0.03	-1.2	64.56	0.0596	0.0346	0.0001		
113	SLU 63	0.03	-1.44	64.61	0.0709	0.0349	0.0001		
113	SLU 64	0.05	-1.3	57.86	0.0644	0.0399	0.0001		
113	SLU 65	0.05	-1.71	57.95	0.0832	0.0405	0.0002		
113	SLU 66	0.05	-0.94	59.24	0.0477	0.0411	0.0002		
113	SLU 67	0.05	-1.18	59.3	0.0589	0.0414	0.0002		
113	SLU 68	0.05	-1.3	59.04	0.064	0.0414	0.0002		
113	SLU 69	0.05	-0.53	60.34	0.0285	0.0419	0.0002		
113	SLU 70	0.05	-0.78	60.39	0.0398	0.0423	0.0002		
113	SLU 71	0.05	-0.48	60.04	0.026	0.0416	0.0002		
113	SLU 72	0.05	-0.73	60.1	0.0373	0.042	0.0002		
113	SLU 73	0.04	-1.8	65.38	0.0886	0.0384	0.0001		
113	SLU 74	0.04	-1.03	66.68	0.0531	0.0389	0.0001		
113	SLU 75	0.04	-1.27	66.73	0.0643	0.0393	0.0001		
113	SLU 76	0.04	-1.39	66.47	0.0694	0.0392	0.0001		
113	SLU 77	0.04	-0.62	67.77	0.0339	0.0397	0.0001		
113	SLU 78	0.04	-0.86	67.82	0.0452	0.0401	0.0001		
113	SLU 79	0.04	-0.57	67.48	0.0314	0.0394	0.0001		
113	SLU 80	0.04	-0.82	67.53	0.0427	0.0398	0.0001		
113	SLU 81	0.04	-1.43	68.48	0.0721	0.0368	0.0001		
113	SLU 82	0.04	-1.67	68.53	0.0834	0.0372	0.0001		
113	SLU 83	0.04	-1.02	69.57	0.0529	0.0377	0.0001		
113	SLU 84	0.04	-1.26	69.62	0.0642	0.038	0.0001		
113	SLE RA 1	0.03	-1.04	43.41	0.051	0.03	0.0001		
113	SLE RA 2	0.04	-1.31	43.46	0.0636	0.0304	0.0001		
113	SLE RA 3	0.04	-0.8	44.33	0.0399	0.0308	0.0001		
113	SLE RA 4	0.04	-0.96	44.36	0.0474	0.031	0.0001		
113	SLE RA 5	0.04	-1.04	44.19	0.0508	0.031	0.0001		
113	SLE RA 6	0.04	-0.53	45.06	0.0271	0.0314	0.0001		
113	SLE RA 7	0.04	-0.69	45.09	0.0346	0.0316	0.0001		
113	SLE RA 8	0.04	-0.5	44.86	0.0254	0.0312	0.0001		
113	SLE RA 9	0.04	-0.66	44.9	0.033	0.0314	0.0001		
113	SLE RA 10	0.03	-1.37	48.42	0.0671	0.029	0.0001		
113	SLE RA 11	0.03	-0.86	49.28	0.0435	0.0293	0.0001		
113	SLE RA 12	0.03	-1.02	49.32	0.051	0.0296	0.0001		
113	SLE RA 13	0.03	-1.1	49.15	0.0544	0.0296	0.0001		
113	SLE RA 14	0.03	-0.59	50.01	0.0307	0.0299	0.0001		
113	SLE RA 15	0.03	-0.75	50.05	0.0382	0.0302	0.0001		
113	SLE RA 16	0.03	-0.55	49.82	0.029	0.0297	0.0001		
113	SLE RA 17	0.03	-0.72	49.85	0.0366	0.03	0.0001		
113	SLE RA 18	0.03	-1.12	50.49	0.0562	0.0279	0.0001		
113	SLE RA 19	0.03	-1.29	50.52	0.0637	0.0282	0.0001		
113	SLE RA 20	0.03	-0.85	51.21	0.0434	0.0285	0.0001		
113	SLE RA 21	0.03	-1.01	51.25	0.0509	0.0288	0.0001		
113	SLE FR 1	0.03	-1.04	43.41	0.051	0.03	0.0001		
113	SLE FR 2	0.03	-1.09	43.42	0.0535	0.0301	0.0001		
113	SLE FR 3	0.04	-0.93	43.7	0.0459	0.0302	0.0001		
113	SLE FR 4	0.03	-1.12	45.54	0.0551	0.0295	0.0001		
113	SLE FR 5	0.03	-0.95	45.82	0.0474	0.0296	0.0001		
113	SLE FR 6	0.03	-1.08	46.95	0.0536	0.029	0.0001		
113	SLE QP 1	0.03	-1.04	43.41	0.051	0.03	0.0001		
113	SLE QP 2	0.03	-1.06	45.53	0.0526	0.0294	0.0001		
113	SLD 1	0.18	-0.32	50.77	0.0184	0.1546	0.0004		
113	SLD 2	0.18	-0.32	50.77	0.0184	0.1546	0.0004		
113	SLD 3	0.22	-3.31	49.67	0.159	0.1764	0.0005		
113	SLD 4	0.22	-3.31	49.67	0.159	0.1764	0.0005		
113	SLD 5	0.03	3.71	48.77	-0.1709	0.0338	0		
113	SLD 6	0.03	3.71	48.77	-0.1709	0.0338	0		
113	SLD 7	0.14	-6.29	45.11	0.2977	0.1066	0.0004		
113	SLD 8	0.14	-6.29	45.11	0.2977	0.1066	0.0004		
113	SLD 9	-0.07	4.16	45.95	-0.1926	-0.0478	-0.0002		
113	SLD 10	-0.07	4.16	45.95	-0.1926	-0.0478	-0.0002		
113	SLD 11	0.04	-5.84	42.29	0.276	0.025	0.0002		
113	SLD 12	0.04	-5.84	42.29	0.276	0.025	0.0002		
113	SLD 13	-0.15	1.19	41.39	-0.0539	-0.1176	-0.0003		
113	SLD 14	-0.15	1.19	41.39	-0.0539	-0.1176	-0.0003		
113	SLD 15	-0.12	-1.81	40.29	0.0867	-0.0958	-0.0002		
113	SLD 16	-0.12	-1.81	40.29	0.0867	-0.0958	-0.0002		
113	SLV 1	0.42	0.65	57.87	-0.026	0.3455	0.0009		
113	SLV 2	0.42	0.65	57.87	-0.026	0.3455	0.0009		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
113	SLV 3	0.49	-6.36	55.28		0.3027	0.3979	0.0012	
113	SLV 4	0.49	-6.36	55.28		0.3027	0.3979	0.0012	
113	SLV 5	0.03	10.08	53.17		-0.4696	0.0447	-0.0001	
113	SLV 6	0.03	10.08	53.17		-0.4696	0.0447	-0.0001	
113	SLV 7	0.29	-13.28	44.52		0.6262	0.2195	0.0009	
113	SLV 8	0.29	-13.28	44.52		0.6262	0.2195	0.0009	
113	SLV 9	-0.22	11.16	46.54		-0.521	-0.1607	-0.0007	
113	SLV 10	-0.22	11.16	46.54		-0.521	-0.1607	-0.0007	
113	SLV 11	0.03	-12.21	37.89		0.5747	0.0141	0.0003	
113	SLV 12	0.03	-12.21	37.89		0.5747	0.0141	0.0003	
113	SLV 13	-0.43	4.23	35.78		-0.1976	-0.3391	-0.001	
113	SLV 14	-0.43	4.23	35.78		-0.1976	-0.3391	-0.001	
113	SLV 15	-0.35	-2.78	33.19		0.1312	-0.2867	-0.0007	
113	SLV 16	-0.35	-2.78	33.19		0.1312	-0.2867	-0.0007	
114	SLU 1	0.04	-0.61	5.91		0.0214	0.0231	0.0001	
114	SLU 2	0.04	-0.63	5.9		0.0219	0.0236	0.0001	
114	SLU 3	0.04	-0.65	5.89		0.0226	0.0238	0.0001	
114	SLU 4	0.04	-0.66	5.88		0.0229	0.0242	0.0001	
114	SLU 5	0.04	-0.66	5.88		0.0225	0.0242	0.0001	
114	SLU 6	0.04	-0.68	5.87		0.0232	0.0244	0.0001	
114	SLU 7	0.04	-0.69	5.86		0.0235	0.0247	0.0001	
114	SLU 8	0.04	-0.67	5.87		0.0227	0.0242	0.0001	
114	SLU 9	0.04	-0.68	5.87		0.023	0.0246	0.0001	
114	SLU 10	0.05	-0.77	8.62		0.0251	0.0295	0.0001	
114	SLU 11	0.06	-0.79	8.61		0.0258	0.0297	0.0001	
114	SLU 12	0.06	-0.8	8.6		0.0261	0.03	0.0001	
114	SLU 13	0.06	-0.8	8.6		0.0257	0.0301	0.0001	
114	SLU 14	0.06	-0.82	8.59		0.0264	0.0303	0.0001	
114	SLU 15	0.06	-0.83	8.58		0.0267	0.0306	0.0001	
114	SLU 16	0.06	-0.81	8.6		0.0259	0.0301	0.0001	
114	SLU 17	0.06	-0.82	8.59		0.0262	0.0304	0.0001	
114	SLU 18	0.06	-0.81	9.8		0.026	0.0315	0.0001	
114	SLU 19	0.06	-0.82	9.79		0.0263	0.0318	0.0001	
114	SLU 20	0.06	-0.84	9.78		0.0266	0.032	0.0001	
114	SLU 21	0.06	-0.85	9.78		0.0269	0.0323	0.0001	
114	SLU 22	0.04	-0.76	6.21		0.0259	0.0261	0.0001	
114	SLU 23	0.05	-0.77	6.2		0.0264	0.0266	0.0001	
114	SLU 24	0.05	-0.8	6.19		0.0271	0.0268	0.0001	
114	SLU 25	0.05	-0.81	6.18		0.0273	0.0272	0.0001	
114	SLU 26	0.05	-0.8	6.18		0.027	0.0272	0.0001	
114	SLU 27	0.05	-0.83	6.17		0.0277	0.0274	0.0001	
114	SLU 28	0.05	-0.84	6.16		0.028	0.0277	0.0001	
114	SLU 29	0.05	-0.82	6.18		0.0272	0.0272	0.0001	
114	SLU 30	0.05	-0.83	6.17		0.0274	0.0276	0.0001	
114	SLU 31	0.06	-0.91	8.93		0.0295	0.0325	0.0001	
114	SLU 32	0.06	-0.94	8.91		0.0303	0.0327	0.0001	
114	SLU 33	0.06	-0.95	8.91		0.0305	0.033	0.0001	
114	SLU 34	0.06	-0.94	8.91		0.0302	0.0331	0.0001	
114	SLU 35	0.06	-0.97	8.89		0.0309	0.0333	0.0001	
114	SLU 36	0.06	-0.98	8.89		0.0312	0.0336	0.0001	
114	SLU 37	0.06	-0.96	8.9		0.0304	0.0331	0.0001	
114	SLU 38	0.06	-0.97	8.89		0.0306	0.0334	0.0001	
114	SLU 39	0.07	-0.96	10.1		0.0305	0.0345	0.0001	
114	SLU 40	0.07	-0.97	10.1		0.0307	0.0348	0.0001	
114	SLU 41	0.07	-0.99	10.09		0.0311	0.035	0.0001	
114	SLU 42	0.07	-1	10.08		0.0314	0.0353	0.0001	
114	SLU 43	0.05	-0.74	7.58		0.0264	0.029	0.0001	
114	SLU 44	0.05	-0.76	7.57		0.0268	0.0295	0.0001	
114	SLU 45	0.05	-0.78	7.55		0.0275	0.0297	0.0001	
114	SLU 46	0.05	-0.79	7.55		0.0278	0.0301	0.0001	
114	SLU 47	0.05	-0.79	7.55		0.0274	0.0301	0.0001	
114	SLU 48	0.05	-0.81	7.54		0.0281	0.0303	0.0001	
114	SLU 49	0.05	-0.82	7.53		0.0284	0.0306	0.0001	
114	SLU 50	0.05	-0.8	7.54		0.0276	0.0301	0.0001	
114	SLU 51	0.05	-0.81	7.53		0.0279	0.0305	0.0001	
114	SLU 52	0.06	-0.9	10.29		0.03	0.0354	0.0001	
114	SLU 53	0.07	-0.92	10.28		0.0307	0.0356	0.0001	
114	SLU 54	0.07	-0.93	10.27		0.031	0.0359	0.0001	
114	SLU 55	0.07	-0.93	10.27		0.0306	0.036	0.0001	
114	SLU 56	0.07	-0.95	10.26		0.0313	0.0362	0.0001	
114	SLU 57	0.07	-0.96	10.25		0.0316	0.0365	0.0001	
114	SLU 58	0.07	-0.94	10.26		0.0308	0.036	0.0001	
114	SLU 59	0.07	-0.95	10.26		0.0311	0.0363	0.0001	
114	SLU 60	0.07	-0.94	11.47		0.0309	0.0374	0.0001	
114	SLU 61	0.07	-0.95	11.46		0.0312	0.0377	0.0001	
114	SLU 62	0.07	-0.97	11.45		0.0315	0.0379	0.0001	
114	SLU 63	0.07	-0.98	11.44		0.0318	0.0382	0.0001	
114	SLU 64	0.05	-0.89	7.88		0.0308	0.032	0.0001	
114	SLU 65	0.06	-0.91	7.87		0.0313	0.0325	0.0001	
114	SLU 66	0.06	-0.93	7.86		0.032	0.0327	0.0001	
114	SLU 67	0.06	-0.94	7.85		0.0322	0.0331	0.0001	
114	SLU 68	0.06	-0.94	7.85		0.0319	0.0331	0.0001	
114	SLU 69	0.06	-0.96	7.84		0.0326	0.0333	0.0001	
114	SLU 70	0.06	-0.97	7.83		0.0329	0.0336	0.0001	
114	SLU 71	0.06	-0.95	7.85		0.0321	0.0331	0.0001	
114	SLU 72	0.06	-0.96	7.84		0.0323	0.0335	0.0001	
114	SLU 73	0.07	-1.05	10.6		0.0345	0.0384	0.0001	
114	SLU 74	0.07	-1.07	10.58		0.0352	0.0386	0.0001	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
114	SLU 75		0.07	-1.08	10.58	0.0354	0.0389	0.0001	
114	SLU 76		0.07	-1.08	10.58	0.0351	0.039	0.0001	
114	SLU 77		0.07	-1.1	10.56	0.0358	0.0392	0.0001	
114	SLU 78		0.07	-1.11	10.56	0.0361	0.0395	0.0001	
114	SLU 79		0.07	-1.09	10.57	0.0353	0.039	0.0001	
114	SLU 80		0.07	-1.1	10.56	0.0355	0.0393	0.0001	
114	SLU 81		0.08	-1.09	11.77	0.0354	0.0404	0.0001	
114	SLU 82		0.08	-1.1	11.77	0.0356	0.0407	0.0001	
114	SLU 83		0.08	-1.12	11.75	0.036	0.0409	0.0001	
114	SLU 84		0.08	-1.13	11.75	0.0363	0.0412	0.0001	
114	SLE RA 1		0.04	-0.65	6	0.0227	0.024	0.0001	
114	SLE RA 2		0.04	-0.66	5.99	0.023	0.0243	0.0001	
114	SLE RA 3		0.04	-0.68	5.98	0.0235	0.0245	0.0001	
114	SLE RA 4		0.04	-0.69	5.98	0.0237	0.0247	0.0001	
114	SLE RA 5		0.04	-0.68	5.98	0.0234	0.0247	0.0001	
114	SLE RA 6		0.04	-0.7	5.97	0.0239	0.0248	0.0001	
114	SLE RA 7		0.04	-0.71	5.96	0.0241	0.0251	0.0001	
114	SLE RA 8		0.04	-0.69	5.97	0.0236	0.0247	0.0001	
114	SLE RA 9		0.04	-0.7	5.97	0.0237	0.0249	0.0001	
114	SLE RA 10		0.05	-0.76	7.81	0.0252	0.0282	0.0001	
114	SLE RA 11		0.05	-0.77	7.8	0.0256	0.0284	0.0001	
114	SLE RA 12		0.05	-0.78	7.79	0.0258	0.0286	0.0001	
114	SLE RA 13		0.05	-0.78	7.79	0.0256	0.0286	0.0001	
114	SLE RA 14		0.05	-0.79	7.78	0.026	0.0287	0.0001	
114	SLE RA 15		0.05	-0.8	7.78	0.0262	0.029	0.0001	
114	SLE RA 16		0.05	-0.78	7.79	0.0257	0.0286	0.0001	
114	SLE RA 17		0.05	-0.79	7.78	0.0259	0.0288	0.0001	
114	SLE RA 18		0.05	-0.78	8.59	0.0258	0.0295	0.0001	
114	SLE RA 19		0.06	-0.79	8.59	0.0259	0.0297	0.0001	
114	SLE RA 20		0.06	-0.8	8.58	0.0262	0.0299	0.0001	
114	SLE RA 21		0.06	-0.81	8.57	0.0264	0.0301	0.0001	
114	SLE FR 1		0.04	-0.65	6	0.0227	0.024	0.0001	
114	SLE FR 2		0.04	-0.65	5.99	0.0228	0.024	0.0001	
114	SLE FR 3		0.04	-0.66	5.99	0.0229	0.0241	0.0001	
114	SLE FR 4		0.05	-0.69	6.77	0.0237	0.0257	0.0001	
114	SLE FR 5		0.05	-0.7	6.77	0.0238	0.0258	0.0001	
114	SLE FR 6		0.05	-0.72	7.29	0.0242	0.0267	0.0001	
114	SLE QP 1		0.04	-0.65	6	0.0227	0.024	0.0001	
114	SLE QP 2		0.05	-0.69	6.77	0.0236	0.0256	0.0001	
114	SLD 1		0.2	-0.92	6.52	0.0296	0.1515	0.0003	
114	SLD 2		0.2	-0.92	6.52	0.0296	0.1515	0.0003	
114	SLD 3		0.23	-3.12	5.23	0.0854	0.1735	0.0003	
114	SLD 4		0.23	-3.12	5.23	0.0854	0.1735	0.0003	
114	SLD 5		0.05	2.58	8.65	-0.0592	0.0299	0.0001	
114	SLD 6		0.05	2.58	8.65	-0.0592	0.0299	0.0001	
114	SLD 7		0.15	-4.76	4.36	0.1268	0.1035	0.0002	
114	SLD 8		0.15	-4.76	4.36	0.1268	0.1035	0.0002	
114	SLD 9		-0.06	3.38	9.19	-0.0796	-0.0522	-0.0001	
114	SLD 10		-0.06	3.38	9.19	-0.0796	-0.0522	-0.0001	
114	SLD 11		0.04	-3.96	4.9	0.1065	0.0213	0.0001	
114	SLD 12		0.04	-3.96	4.9	0.1065	0.0213	0.0001	
114	SLD 13		-0.14	1.74	8.31	-0.0382	-0.1223	-0.0002	
114	SLD 14		-0.14	1.74	8.31	-0.0382	-0.1223	-0.0002	
114	SLD 15		-0.11	-0.46	7.03	0.0177	-0.1002	-0.0001	
114	SLD 16		-0.11	-0.46	7.03	0.0177	-0.1002	-0.0001	
114	SLV 1		0.43	-1.23	6.18	0.0376	0.344	0.0006	
114	SLV 2		0.43	-1.23	6.18	0.0376	0.344	0.0006	
114	SLV 3		0.51	-6.4	3.15	0.1686	0.397	0.0007	
114	SLV 4		0.51	-6.4	3.15	0.1686	0.397	0.0007	
114	SLV 5		0.05	7	11.18	-0.1709	0.0407	0.0001	
114	SLV 6		0.05	7	11.18	-0.1709	0.0407	0.0001	
114	SLV 7		0.29	-10.25	1.1	0.2659	0.2175	0.0004	
114	SLV 8		0.29	-10.25	1.1	0.2659	0.2175	0.0004	
114	SLV 9		-0.2	8.87	12.45	-0.2186	-0.1662	-0.0003	
114	SLV 10		-0.2	8.87	12.45	-0.2186	-0.1662	-0.0003	
114	SLV 11		0.04	-8.38	2.36	0.2182	0.0105	0.0001	
114	SLV 12		0.04	-8.38	2.36	0.2182	0.0105	0.0001	
114	SLV 13		-0.42	5.02	10.4	-0.1214	-0.3458	-0.0005	
114	SLV 14		-0.42	5.02	10.4	-0.1214	-0.3458	-0.0005	
114	SLV 15		-0.34	-0.15	7.37	0.0097	-0.2927	-0.0004	
114	SLV 16		-0.34	-0.15	7.37	0.0097	-0.2927	-0.0004	
115	SLU 1		0.15	-3.14	18.97	0.2979	0.0897	0	
115	SLU 2		0.17	-0.95	19.31	0.2163	0.103	0	
115	SLU 3		0.15	-3.47	19.3	0.3167	0.0924	0	
115	SLU 4		0.16	-2.16	19.51	0.2678	0.1004	0	
115	SLU 5		0.17	-1.3	19.46	0.2341	0.1044	0	
115	SLU 6		0.15	-3.83	19.46	0.3345	0.0939	0	
115	SLU 7		0.17	-2.51	19.66	0.2856	0.1018	0	
115	SLU 8		0.15	-3.85	19.28	0.3335	0.0926	0	
115	SLU 9		0.16	-2.54	19.49	0.2846	0.1006	0	
115	SLU 10		0.19	-1.46	21.64	0.262	0.1181	0.0001	
115	SLU 11		0.18	-3.99	21.64	0.3624	0.1076	0.0001	
115	SLU 12		0.19	-2.67	21.84	0.3135	0.1155	0.0001	
115	SLU 13		0.19	-1.82	21.8	0.2798	0.1196	0.0001	
115	SLU 14		0.18	-4.34	21.8	0.3802	0.109	0.0001	
115	SLU 15		0.19	-3.03	22	0.3313	0.117	0.0001	
115	SLU 16		0.18	-4.36	21.62	0.3792	0.1078	0.0001	
115	SLU 17		0.19	-3.05	21.82	0.3303	0.1157	0.0001	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
115	SLU 18	0.18	-3.87	22.3	0.3632	0.1113		0.0001	
115	SLU 19	0.19	-2.56	22.51	0.3143	0.1193		0.0001	
115	SLU 20	0.18	-4.23	22.46	0.381	0.1128		0.0001	
115	SLU 21	0.2	-2.92	22.67	0.3321	0.1208		0.0001	
115	SLU 22	0.17	-3.7	21	0.3435	0.1035		0.0001	
115	SLU 23	0.19	-1.51	21.34	0.2619	0.1167		0.0001	
115	SLU 24	0.17	-4.03	21.34	0.3623	0.1062		0.0001	
115	SLU 25	0.19	-2.72	21.54	0.3134	0.1141		0.0001	
115	SLU 26	0.19	-1.87	21.5	0.2797	0.1182		0.0001	
115	SLU 27	0.18	-4.39	21.49	0.3801	0.1076		0.0001	
115	SLU 28	0.19	-3.07	21.7	0.3312	0.1156		0.0001	
115	SLU 29	0.17	-4.41	21.32	0.3791	0.1064		0.0001	
115	SLU 30	0.19	-3.1	21.52	0.3301	0.1143		0.0001	
115	SLU 31	0.21	-2.03	23.67	0.3076	0.1319		0.0001	
115	SLU 32	0.2	-4.55	23.67	0.408	0.1213		0.0001	
115	SLU 33	0.21	-3.23	23.87	0.3591	0.1293		0.0001	
115	SLU 34	0.21	-2.38	23.83	0.3254	0.1333		0.0001	
115	SLU 35	0.2	-4.9	23.83	0.4258	0.1228		0.0001	
115	SLU 36	0.21	-3.59	24.03	0.3769	0.1307		0.0001	
115	SLU 37	0.2	-4.93	23.65	0.4248	0.1215		0.0001	
115	SLU 38	0.21	-3.61	23.85	0.3758	0.1295		0.0001	
115	SLU 39	0.2	-4.44	24.34	0.4088	0.1251		0.0001	
115	SLU 40	0.22	-3.12	24.54	0.3598	0.1331		0.0001	
115	SLU 41	0.21	-4.79	24.49	0.4266	0.1266		0.0001	
115	SLU 42	0.22	-3.48	24.7	0.3776	0.1345		0.0001	
115	SLU 43	0.18	-3.89	23.96	0.3717	0.1119		0.0001	
115	SLU 44	0.2	-1.7	24.3	0.2901	0.1252		0.0001	
115	SLU 45	0.19	-4.22	24.3	0.3905	0.1146		0.0001	
115	SLU 46	0.2	-2.91	24.5	0.3415	0.1226		0.0001	
115	SLU 47	0.2	-2.05	24.46	0.3079	0.1266		0.0001	
115	SLU 48	0.19	-4.58	24.46	0.4083	0.1161		0.0001	
115	SLU 49	0.2	-3.26	24.66	0.3593	0.124		0.0001	
115	SLU 50	0.19	-4.6	24.28	0.4073	0.1148		0.0001	
115	SLU 51	0.2	-3.28	24.48	0.3583	0.1228		0.0001	
115	SLU 52	0.23	-2.21	26.64	0.3358	0.1403		0.0001	
115	SLU 53	0.21	-4.73	26.63	0.4362	0.1298		0.0001	
115	SLU 54	0.22	-3.42	26.84	0.3872	0.1377		0.0001	
115	SLU 55	0.23	-2.57	26.79	0.3536	0.1418		0.0001	
115	SLU 56	0.22	-5.09	26.79	0.454	0.1312		0.0001	
115	SLU 57	0.23	-3.78	26.99	0.405	0.1392		0.0001	
115	SLU 58	0.21	-5.11	26.61	0.453	0.1299		0.0001	
115	SLU 59	0.22	-3.8	26.82	0.404	0.1379		0.0001	
115	SLU 60	0.22	-4.62	27.3	0.437	0.1335		0.0001	
115	SLU 61	0.23	-3.31	27.5	0.388	0.1415		0.0001	
115	SLU 62	0.22	-4.98	27.46	0.4548	0.135		0.0001	
115	SLU 63	0.23	-3.66	27.66	0.4058	0.143		0.0001	
115	SLU 64	0.21	-4.45	25.99	0.4173	0.1257		0.0001	
115	SLU 65	0.22	-2.26	26.33	0.3357	0.1389		0.0001	
115	SLU 66	0.21	-4.78	26.33	0.4361	0.1284		0.0001	
115	SLU 67	0.22	-3.47	26.53	0.3871	0.1363		0.0001	
115	SLU 68	0.23	-2.62	26.49	0.3535	0.1404		0.0001	
115	SLU 69	0.21	-5.14	26.49	0.4539	0.1298		0.0001	
115	SLU 70	0.22	-3.82	26.69	0.4049	0.1378		0.0001	
115	SLU 71	0.21	-5.16	26.31	0.4529	0.1286		0.0001	
115	SLU 72	0.22	-3.85	26.51	0.4039	0.1365		0.0001	
115	SLU 73	0.25	-2.78	28.67	0.3814	0.1541		0.0001	
115	SLU 74	0.24	-5.3	28.66	0.4818	0.1435		0.0001	
115	SLU 75	0.25	-3.98	28.87	0.4328	0.1515		0.0001	
115	SLU 76	0.25	-3.13	28.82	0.3992	0.1555		0.0001	
115	SLU 77	0.24	-5.65	28.82	0.4996	0.145		0.0001	
115	SLU 78	0.25	-4.34	29.03	0.4506	0.1529		0.0001	
115	SLU 79	0.24	-5.67	28.65	0.4986	0.1437		0.0001	
115	SLU 80	0.25	-4.36	28.85	0.4496	0.1517		0.0001	
115	SLU 81	0.24	-5.19	29.33	0.4825	0.1473		0.0001	
115	SLU 82	0.25	-3.87	29.53	0.4336	0.1553		0.0001	
115	SLU 83	0.24	-5.54	29.49	0.5003	0.1488		0.0001	
115	SLU 84	0.25	-4.23	29.69	0.4514	0.1567		0.0001	
115	SLE RA 1	0.15	-3.3	19.55	0.311	0.0936	0		
115	SLE RA 2	0.17	-1.84	19.77	0.2566	0.1025	0		
115	SLE RA 3	0.16	-3.52	19.77	0.3235	0.0954	0		
115	SLE RA 4	0.16	-2.65	19.91	0.2909	0.1008	0		
115	SLE RA 5	0.17	-2.08	19.88	0.2684	0.1035	0		
115	SLE RA 6	0.16	-3.76	19.88	0.3354	0.0964		0.0001	
115	SLE RA 7	0.17	-2.88	20.01	0.3027	0.1017		0.0001	
115	SLE RA 8	0.16	-3.77	19.76	0.3347	0.0956		0.0001	
115	SLE RA 9	0.16	-2.9	19.89	0.302	0.1009	0		
115	SLE RA 10	0.18	-2.18	21.33	0.287	0.1126		0.0001	
115	SLE RA 11	0.17	-3.86	21.33	0.354	0.1055		0.0001	
115	SLE RA 12	0.18	-2.99	21.46	0.3213	0.1109		0.0001	
115	SLE RA 13	0.18	-2.42	21.44	0.2989	0.1136		0.0001	
115	SLE RA 14	0.17	-4.1	21.43	0.3658	0.1065		0.0001	
115	SLE RA 15	0.18	-3.22	21.57	0.3332	0.1118		0.0001	
115	SLE RA 16	0.17	-4.12	21.32	0.3652	0.1057		0.0001	
115	SLE RA 17	0.18	-3.24	21.45	0.3325	0.111		0.0001	
115	SLE RA 18	0.18	-3.79	21.77	0.3545	0.1081		0.0001	
115	SLE RA 19	0.18	-2.91	21.91	0.3218	0.1134		0.0001	
115	SLE RA 20	0.18	-4.03	21.88	0.3663	0.109		0.0001	
115	SLE RA 21	0.19	-3.15	22.01	0.3337	0.1143		0.0001	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
115	SLE FR 1	0.15	-3.3	19.55	0.311	0.0936	0		
115	SLE FR 2	0.16	-3.01	19.59	0.3001	0.0954	0		
115	SLE FR 3	0.15	-3.4	19.59	0.3157	0.094	0		
115	SLE FR 4	0.16	-3.16	20.26	0.3131	0.0997	0		
115	SLE FR 5	0.16	-3.54	20.26	0.3288	0.0984	0		
115	SLE FR 6	0.17	-3.55	20.66	0.3327	0.1009	0.0001		
115	SLE QP 1	0.15	-3.3	19.55	0.311	0.0936	0		
115	SLE QP 2	0.16	-3.45	20.22	0.324	0.098	0		
115	SLD 1	0.28	-3.75	19.89	0.3409	0.1877	0		
115	SLD 2	0.28	-3.75	19.89	0.3409	0.1877	0		
115	SLD 3	0.24	-6.9	18.7	0.4749	0.1632	0		
115	SLD 4	0.24	-6.9	18.7	0.4749	0.1632	0		
115	SLD 5	0.24	1.25	21.93	0.1259	0.1621	0		
115	SLD 6	0.24	1.25	21.93	0.1259	0.1621	0		
115	SLD 7	0.14	-9.27	17.95	0.5724	0.0803	0.0001		
115	SLD 8	0.14	-9.27	17.95	0.5724	0.0803	0.0001		
115	SLD 9	0.18	2.38	22.49	0.0756	0.1156	0		
115	SLD 10	0.18	2.38	22.49	0.0756	0.1156	0		
115	SLD 11	0.08	-8.15	18.5	0.5221	0.0339	0.0001		
115	SLD 12	0.08	-8.15	18.5	0.5221	0.0339	0.0001		
115	SLD 13	0.08	0.01	21.74	0.1732	0.0328	0.0001		
115	SLD 14	0.08	0.01	21.74	0.1732	0.0328	0.0001		
115	SLD 15	0.05	-3.15	20.54	0.3071	0.0082	0.0001		
115	SLD 16	0.05	-3.15	20.54	0.3071	0.0082	0.0001		
115	SLV 1	0.43	-4.22	19.48	0.3665	0.3105	0		
115	SLV 2	0.43	-4.22	19.48	0.3665	0.3105	0		
115	SLV 3	0.35	-11.77	16.61	0.6862	0.2497	0		
115	SLV 4	0.35	-11.77	16.61	0.6862	0.2497	0		
115	SLV 5	0.36	7.77	24.34	-0.1482	0.2539	0		
115	SLV 6	0.36	7.77	24.34	-0.1482	0.2539	0		
115	SLV 7	0.1	-17.4	14.79	0.9176	0.0513	0.0001		
115	SLV 8	0.1	-17.4	14.79	0.9176	0.0513	0.0001		
115	SLV 9	0.22	10.5	25.64	-0.2695	0.1446	0		
115	SLV 10	0.22	10.5	25.64	-0.2695	0.1446	0		
115	SLV 11	-0.04	-14.67	16.09	0.7962	-0.058	0.0001		
115	SLV 12	-0.04	-14.67	16.09	0.7962	-0.058	0.0001		
115	SLV 13	-0.03	4.87	23.82	-0.0382	-0.0538	0.0001		
115	SLV 14	-0.03	4.87	23.82	-0.0382	-0.0538	0.0001		
115	SLV 15	-0.11	-2.68	20.95	0.2816	-0.1146	0.0001		
115	SLV 16	-0.11	-2.68	20.95	0.2816	-0.1146	0.0001		
116	SLU 1	0.07	-2.94	44.25	0.1265	0.0453	-0.0024		
116	SLU 2	0.07	-3.38	44.74	0.1483	0.0452	-0.0024		
116	SLU 3	0.07	-2.78	45.16	0.1183	0.0462	-0.0024		
116	SLU 4	0.07	-3.05	45.45	0.1314	0.0462	-0.0024		
116	SLU 5	0.07	-3.18	45.26	0.138	0.0456	-0.0024		
116	SLU 6	0.07	-2.59	45.68	0.108	0.0467	-0.0025		
116	SLU 7	0.07	-2.85	45.97	0.1211	0.0466	-0.0025		
116	SLU 8	0.07	-2.55	45.29	0.1059	0.0462	-0.0024		
116	SLU 9	0.07	-2.82	45.59	0.119	0.0461	-0.0024		
116	SLU 10	0.08	-3.9	52.5	0.1712	0.0539	-0.0029		
116	SLU 11	0.09	-3.31	52.92	0.1412	0.0549	-0.0029		
116	SLU 12	0.09	-3.57	53.22	0.1543	0.0548	-0.0029		
116	SLU 13	0.09	-3.71	53.02	0.1609	0.0543	-0.0029		
116	SLU 14	0.09	-3.12	53.45	0.1309	0.0553	-0.0029		
116	SLU 15	0.09	-3.38	53.74	0.144	0.0553	-0.0029		
116	SLU 16	0.09	-3.08	53.06	0.1288	0.0548	-0.0029		
116	SLU 17	0.09	-3.34	53.35	0.1419	0.0548	-0.0029		
116	SLU 18	0.09	-3.69	55.35	0.1592	0.0576	-0.003		
116	SLU 19	0.09	-3.95	55.64	0.1723	0.0576	-0.003		
116	SLU 20	0.09	-3.5	55.87	0.1489	0.0581	-0.0031		
116	SLU 21	0.09	-3.76	56.16	0.162	0.0581	-0.0031		
116	SLU 22	0.08	-3.11	48.96	0.1337	0.0506	-0.0027		
116	SLU 23	0.08	-3.54	49.44	0.1555	0.0506	-0.0027		
116	SLU 24	0.08	-2.95	49.86	0.1255	0.0516	-0.0027		
116	SLU 25	0.08	-3.21	50.16	0.1386	0.0515	-0.0027		
116	SLU 26	0.08	-3.35	49.96	0.1452	0.051	-0.0027		
116	SLU 27	0.08	-2.76	50.39	0.1152	0.052	-0.0028		
116	SLU 28	0.08	-3.02	50.68	0.1283	0.052	-0.0028		
116	SLU 29	0.08	-2.72	50	0.1131	0.0516	-0.0027		
116	SLU 30	0.08	-2.98	50.29	0.1262	0.0515	-0.0027		
116	SLU 31	0.09	-4.07	57.21	0.1785	0.0592	-0.0031		
116	SLU 32	0.09	-3.48	57.63	0.1484	0.0602	-0.0032		
116	SLU 33	0.09	-3.74	57.92	0.1615	0.0602	-0.0032		
116	SLU 34	0.09	-3.88	57.73	0.1682	0.0597	-0.0032		
116	SLU 35	0.1	-3.28	58.15	0.1381	0.0607	-0.0032		
116	SLU 36	0.1	-3.55	58.44	0.1512	0.0607	-0.0032		
116	SLU 37	0.09	-3.25	57.77	0.1361	0.0602	-0.0032		
116	SLU 38	0.09	-3.51	58.06	0.1492	0.0602	-0.0032		
116	SLU 39	0.1	-3.86	60.05	0.1665	0.063	-0.0033		
116	SLU 40	0.1	-4.12	60.34	0.1796	0.063	-0.0033		
116	SLU 41	0.1	-3.66	60.57	0.1562	0.0635	-0.0034		
116	SLU 42	0.1	-3.93	60.86	0.1693	0.0634	-0.0034		
116	SLU 43	0.09	-3.76	55.91	0.1619	0.057	-0.003		
116	SLU 44	0.09	-4.2	56.4	0.1838	0.0569	-0.003		
116	SLU 45	0.09	-3.61	56.82	0.1537	0.058	-0.0031		
116	SLU 46	0.09	-3.87	57.11	0.1668	0.0579	-0.0031		
116	SLU 47	0.09	-4.01	56.92	0.1735	0.0574	-0.003		
116	SLU 48	0.09	-3.42	57.34	0.1434	0.0584	-0.0031		





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
116	SLU 49	0.09	-3.68	57.63	0.1565	0.0584	-0.0031
116	SLU 50	0.09	-3.38	56.96	0.1413	0.0579	-0.0031
116	SLU 51	0.09	-3.64	57.25	0.1544	0.0579	-0.0031
116	SLU 52	0.1	-4.72	64.16	0.2067	0.0656	-0.0035
116	SLU 53	0.1	-4.13	64.59	0.1767	0.0666	-0.0035
116	SLU 54	0.1	-4.39	64.88	0.1898	0.0666	-0.0035
116	SLU 55	0.1	-4.53	64.69	0.1964	0.0661	-0.0035
116	SLU 56	0.11	-3.94	65.11	0.1664	0.0671	-0.0035
116	SLU 57	0.11	-4.2	65.4	0.1795	0.067	-0.0035
116	SLU 58	0.1	-3.9	64.72	0.1643	0.0666	-0.0035
116	SLU 59	0.1	-4.17	65.01	0.1774	0.0665	-0.0035
116	SLU 60	0.11	-4.51	67.01	0.1947	0.0694	-0.0037
116	SLU 61	0.11	-4.77	67.3	0.2078	0.0693	-0.0037
116	SLU 62	0.11	-4.32	67.53	0.1844	0.0698	-0.0037
116	SLU 63	0.11	-4.58	67.82	0.1975	0.0698	-0.0037
116	SLU 64	0.1	-3.93	60.62	0.1692	0.0624	-0.0033
116	SLU 65	0.1	-4.37	61.1	0.191	0.0623	-0.0033
116	SLU 66	0.1	-3.78	61.53	0.161	0.0633	-0.0034
116	SLU 67	0.1	-4.04	61.82	0.1741	0.0633	-0.0034
116	SLU 68	0.1	-4.18	61.63	0.1807	0.0628	-0.0033
116	SLU 69	0.1	-3.58	62.05	0.1507	0.0638	-0.0034
116	SLU 70	0.1	-3.85	62.34	0.1638	0.0637	-0.0034
116	SLU 71	0.1	-3.55	61.66	0.1486	0.0633	-0.0033
116	SLU 72	0.1	-3.81	61.95	0.1617	0.0632	-0.0034
116	SLU 73	0.11	-4.89	68.87	0.2139	0.071	-0.0038
116	SLU 74	0.11	-4.3	69.29	0.1839	0.072	-0.0038
116	SLU 75	0.11	-4.56	69.58	0.197	0.0719	-0.0038
116	SLU 76	0.11	-4.7	69.39	0.2036	0.0714	-0.0038
116	SLU 77	0.11	-4.11	69.81	0.1736	0.0724	-0.0038
116	SLU 78	0.11	-4.37	70.11	0.1867	0.0724	-0.0038
116	SLU 79	0.11	-4.07	69.43	0.1715	0.072	-0.0038
116	SLU 80	0.11	-4.33	69.72	0.1846	0.0719	-0.0038
116	SLU 81	0.12	-4.68	71.71	0.2019	0.0747	-0.0039
116	SLU 82	0.12	-4.94	72	0.215	0.0747	-0.004
116	SLU 83	0.12	-4.49	72.24	0.1916	0.0752	-0.004
116	SLU 84	0.12	-4.75	72.53	0.2047	0.0752	-0.004
116	SLE RA 1	0.07	-2.99	45.6	0.1285	0.0468	-0.0025
116	SLE RA 2	0.07	-3.28	45.92	0.1431	0.0467	-0.0025
116	SLE RA 3	0.07	-2.88	46.2	0.1231	0.0474	-0.0025
116	SLE RA 4	0.07	-3.06	46.39	0.1318	0.0474	-0.0025
116	SLE RA 5	0.07	-3.15	46.27	0.1362	0.0471	-0.0025
116	SLE RA 6	0.08	-2.76	46.55	0.1162	0.0477	-0.0025
116	SLE RA 7	0.08	-2.93	46.74	0.1249	0.0477	-0.0025
116	SLE RA 8	0.07	-2.73	46.29	0.1148	0.0474	-0.0025
116	SLE RA 9	0.07	-2.91	46.49	0.1235	0.0474	-0.0025
116	SLE RA 10	0.08	-3.63	51.1	0.1584	0.0525	-0.0028
116	SLE RA 11	0.08	-3.23	51.38	0.1384	0.0532	-0.0028
116	SLE RA 12	0.08	-3.41	51.57	0.1471	0.0532	-0.0028
116	SLE RA 13	0.08	-3.5	51.44	0.1515	0.0528	-0.0028
116	SLE RA 14	0.08	-3.11	51.73	0.1315	0.0535	-0.0028
116	SLE RA 15	0.08	-3.28	51.92	0.1402	0.0535	-0.0028
116	SLE RA 16	0.08	-3.08	51.47	0.1301	0.0532	-0.0028
116	SLE RA 17	0.08	-3.26	51.66	0.1388	0.0532	-0.0028
116	SLE RA 18	0.09	-3.49	52.99	0.1504	0.055	-0.0029
116	SLE RA 19	0.09	-3.66	53.19	0.1591	0.055	-0.0029
116	SLE RA 20	0.09	-3.36	53.34	0.1435	0.0554	-0.0029
116	SLE RA 21	0.09	-3.53	53.53	0.1522	0.0553	-0.0029
116	SLE FR 1	0.07	-2.99	45.6	0.1285	0.0468	-0.0025
116	SLE FR 2	0.07	-3.04	45.66	0.1314	0.0468	-0.0025
116	SLE FR 3	0.07	-2.94	45.73	0.1258	0.0469	-0.0025
116	SLE FR 4	0.08	-3.19	47.88	0.138	0.0493	-0.0026
116	SLE FR 5	0.08	-3.09	47.95	0.1323	0.0494	-0.0026
116	SLE FR 6	0.08	-3.24	49.29	0.1394	0.0509	-0.0027
116	SLE QP 1	0.07	-2.99	45.6	0.1285	0.0468	-0.0025
116	SLE QP 2	0.08	-3.14	47.81	0.1351	0.0493	-0.0026
116	SLD 1	0.19	-0.24	42.76	-0.0211	0.1491	-0.0066
116	SLD 2	0.19	-0.24	42.76	-0.0211	0.1491	-0.0066
116	SLD 3	0.22	-3.82	44.02	0.1665	0.1705	-0.0076
116	SLD 4	0.22	-3.82	44.02	0.1665	0.1705	-0.0076
116	SLD 5	0.07	3.16	44.37	-0.1964	0.0467	-0.0023
116	SLD 6	0.07	3.16	44.37	-0.1964	0.0467	-0.0023
116	SLD 7	0.17	-8.77	48.6	0.4292	0.1182	-0.0057
116	SLD 8	0.17	-8.77	48.6	0.4292	0.1182	-0.0057
116	SLD 9	-0.01	2.49	47.03	-0.159	-0.0196	0.0005
116	SLD 10	-0.01	2.49	47.03	-0.159	-0.0196	0.0005
116	SLD 11	0.09	-9.43	51.26	0.4666	0.0519	-0.003
116	SLD 12	0.09	-9.43	51.26	0.4666	0.0519	-0.003
116	SLD 13	-0.07	-2.45	51.61	0.1036	-0.072	0.0024
116	SLD 14	-0.07	-2.45	51.61	0.1036	-0.072	0.0024
116	SLD 15	-0.04	-6.03	52.87	0.2913	-0.0505	0.0014
116	SLD 16	-0.04	-6.03	52.87	0.2913	-0.0505	0.0014
116	SLV 1	0.36	3.68	35.91	-0.2326	0.3023	-0.0128
116	SLV 2	0.36	3.68	35.91	-0.2326	0.3023	-0.0128
116	SLV 3	0.44	-4.7	38.92	0.2074	0.3535	-0.0152
116	SLV 4	0.44	-4.7	38.92	0.2074	0.3535	-0.0152
116	SLV 5	0.06	11.62	39.69	-0.6426	0.0475	-0.002
116	SLV 6	0.06	11.62	39.69	-0.6426	0.0475	-0.002
116	SLV 7	0.29	-16.32	49.7	0.8241	0.2182	-0.0101



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
116	SLV 8	0.29	-16.32	49.7	0.8241	0.2182	-0.0101
116	SLV 9	-0.14	10.05	45.93	-0.554	-0.1197	0.0048
116	SLV 10	-0.14	10.05	45.93	-0.554	-0.1197	0.0048
116	SLV 11	0.1	-17.9	55.94	0.9127	0.0511	-0.0032
116	SLV 12	0.1	-17.9	55.94	0.9127	0.0511	-0.0032
116	SLV 13	-0.28	-1.57	56.71	0.0628	-0.2549	0.01
116	SLV 14	-0.28	-1.57	56.71	0.0628	-0.2549	0.01
116	SLV 15	-0.21	-9.96	59.71	0.5028	-0.2037	0.0076
116	SLV 16	-0.21	-9.96	59.71	0.5028	-0.2037	0.0076
117	SLU 1	0	-0.43	33.42	0.1319	-0.0017	0
117	SLU 2	-0.01	1.81	34.79	0.0434	-0.0117	0
117	SLU 3	0	-0.65	34.37	0.1454	-0.0017	0
117	SLU 4	-0.01	0.69	35.19	0.0923	-0.0077	0
117	SLU 5	-0.01	1.53	35.41	0.0585	-0.0117	0
117	SLU 6	0	-0.93	34.99	0.1605	-0.0018	0
117	SLU 7	-0.01	0.42	35.81	0.1074	-0.0078	0
117	SLU 8	0	-0.99	34.66	0.162	-0.0017	0
117	SLU 9	-0.01	0.35	35.48	0.1089	-0.0077	0
117	SLU 10	-0.01	1.77	39.63	0.0625	-0.012	0
117	SLU 11	0	-0.68	39.22	0.1644	-0.002	0
117	SLU 12	-0.01	0.66	40.04	0.1114	-0.008	0
117	SLU 13	-0.01	1.49	40.25	0.0775	-0.012	0
117	SLU 14	0	-0.96	39.83	0.1795	-0.0021	0
117	SLU 15	-0.01	0.38	40.65	0.1264	-0.0081	0
117	SLU 16	0	-1.02	39.5	0.181	-0.002	0
117	SLU 17	-0.01	0.32	40.32	0.1279	-0.008	0
117	SLU 18	0	-0.48	40.34	0.1591	-0.0021	0
117	SLU 19	-0.01	0.86	41.16	0.106	-0.0081	0
117	SLU 20	0	-0.76	40.96	0.1741	-0.0021	0
117	SLU 21	-0.01	0.58	41.78	0.121	-0.0081	0
117	SLU 22	0	-0.53	37.88	0.1524	-0.002	0
117	SLU 23	-0.01	1.7	39.24	0.064	-0.012	0
117	SLU 24	0	-0.75	38.83	0.166	-0.002	0
117	SLU 25	-0.01	0.59	39.65	0.1129	-0.008	0
117	SLU 26	-0.01	1.43	39.86	0.079	-0.012	0
117	SLU 27	0	-1.03	39.45	0.181	-0.0021	0
117	SLU 28	-0.01	0.31	40.27	0.128	-0.0081	0
117	SLU 29	0	-1.09	39.12	0.1825	-0.002	0
117	SLU 30	-0.01	0.25	39.94	0.1295	-0.008	0
117	SLU 31	-0.01	1.67	44.09	0.083	-0.0123	0
117	SLU 32	0	-0.79	43.67	0.185	-0.0023	0
117	SLU 33	-0.01	0.56	44.49	0.132	-0.0083	0
117	SLU 34	-0.01	1.39	44.71	0.0981	-0.0123	0
117	SLU 35	0	-1.06	44.29	0.2001	-0.0024	0
117	SLU 36	-0.01	0.28	45.11	0.147	-0.0083	0
117	SLU 37	0	-1.12	43.96	0.2016	-0.0023	0
117	SLU 38	-0.01	0.22	44.78	0.1485	-0.0083	0
117	SLU 39	0	-0.58	44.8	0.1796	-0.0024	0
117	SLU 40	-0.01	0.76	45.62	0.1266	-0.0084	0
117	SLU 41	0	-0.86	45.42	0.1947	-0.0024	0
117	SLU 42	-0.01	0.48	46.23	0.1416	-0.0084	0
117	SLU 43	0	-0.52	41.92	0.1644	-0.0021	0
117	SLU 44	-0.01	1.71	43.29	0.0759	-0.0121	0
117	SLU 45	0	-0.74	42.87	0.1779	-0.0022	0
117	SLU 46	-0.01	0.6	43.69	0.1249	-0.0082	0
117	SLU 47	-0.01	1.43	43.91	0.091	-0.0121	0
117	SLU 48	0	-1.02	43.49	0.193	-0.0022	0
117	SLU 49	-0.01	0.32	44.31	0.1399	-0.0082	0
117	SLU 50	0	-1.08	43.16	0.1945	-0.0021	0
117	SLU 51	-0.01	0.26	43.98	0.1414	-0.0081	0
117	SLU 52	-0.01	1.68	48.13	0.095	-0.0124	0
117	SLU 53	0	-0.78	47.72	0.197	-0.0025	0
117	SLU 54	-0.01	0.57	48.53	0.1439	-0.0085	0
117	SLU 55	-0.01	1.4	48.75	0.11	-0.0124	0
117	SLU 56	0	-1.05	48.33	0.212	-0.0025	0
117	SLU 57	-0.01	0.29	49.15	0.1589	-0.0085	0
117	SLU 58	0	-1.12	48	0.2135	-0.0024	0
117	SLU 59	-0.01	0.23	48.82	0.1604	-0.0084	0
117	SLU 60	0	-0.57	48.84	0.1916	-0.0025	0
117	SLU 61	-0.01	0.77	49.66	0.1385	-0.0085	0
117	SLU 62	0	-0.85	49.46	0.2066	-0.0025	0
117	SLU 63	-0.01	0.49	50.28	0.1536	-0.0085	0
117	SLU 64	0	-0.63	46.38	0.1849	-0.0024	0
117	SLU 65	-0.01	1.61	47.74	0.0965	-0.0124	0
117	SLU 66	0	-0.84	47.33	0.1985	-0.0024	0
117	SLU 67	-0.01	0.5	48.15	0.1454	-0.0084	0
117	SLU 68	-0.01	1.33	48.36	0.1116	-0.0124	0
117	SLU 69	0	-1.12	47.95	0.2135	-0.0025	0
117	SLU 70	-0.01	0.22	48.77	0.1605	-0.0085	0
117	SLU 71	0	-1.18	47.62	0.215	-0.0024	0
117	SLU 72	-0.01	0.16	48.44	0.162	-0.0084	0
117	SLU 73	-0.01	1.58	52.59	0.1155	-0.0127	0
117	SLU 74	0	-0.88	52.17	0.2175	-0.0027	0
117	SLU 75	-0.01	0.46	52.99	0.1645	-0.0087	0
117	SLU 76	-0.01	1.3	53.21	0.1306	-0.0127	0
117	SLU 77	0	-1.16	52.79	0.2326	-0.0028	0
117	SLU 78	-0.01	0.18	53.61	0.1795	-0.0088	0
117	SLU 79	0	-1.22	52.46	0.2341	-0.0027	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
117	SLU 80	-0.01	0.12	53.28	0.181	-0.0087	0
117	SLU 81	0	-0.68	53.3	0.2121	-0.0028	0
117	SLU 82	-0.01	0.67	54.12	0.1591	-0.0088	0
117	SLU 83	0	-0.95	53.91	0.2272	-0.0028	0
117	SLU 84	-0.01	0.39	54.73	0.1741	-0.0088	0
117	SLE RA 1	0	-0.46	34.7	0.1377	-0.0018	0
117	SLE RA 2	-0.01	1.03	35.61	0.0788	-0.0084	0
117	SLE RA 3	0	-0.6	35.33	0.1468	-0.0018	0
117	SLE RA 4	0	0.29	35.88	0.1114	-0.0058	0
117	SLE RA 5	-0.01	0.85	36.02	0.0888	-0.0084	0
117	SLE RA 6	0	-0.79	35.74	0.1568	-0.0018	0
117	SLE RA 7	0	0.1	36.29	0.1214	-0.0058	0
117	SLE RA 8	0	-0.83	35.52	0.1578	-0.0018	0
117	SLE RA 9	0	0.06	36.07	0.1224	-0.0058	0
117	SLE RA 10	-0.01	1.01	38.84	0.0915	-0.0086	0
117	SLE RA 11	0	-0.63	38.56	0.1595	-0.002	0
117	SLE RA 12	0	0.27	39.1	0.1241	-0.006	0
117	SLE RA 13	-0.01	0.82	39.25	0.1015	-0.0086	0
117	SLE RA 14	0	-0.81	38.97	0.1695	-0.002	0
117	SLE RA 15	0	0.08	39.52	0.1341	-0.006	0
117	SLE RA 16	0	-0.85	38.75	0.1705	-0.002	0
117	SLE RA 17	0	0.04	39.3	0.1351	-0.006	0
117	SLE RA 18	0	-0.49	39.31	0.1559	-0.0021	0
117	SLE RA 19	0	0.4	39.85	0.1205	-0.0061	0
117	SLE RA 20	0	-0.68	39.72	0.1659	-0.0021	0
117	SLE RA 21	0	0.22	40.27	0.1305	-0.0061	0
117	SLE FR 1	0	-0.46	34.7	0.1377	-0.0018	0
117	SLE FR 2	0	-0.16	34.88	0.126	-0.0031	0
117	SLE FR 3	0	-0.53	34.86	0.1418	-0.0018	0
117	SLE FR 4	0	-0.17	36.26	0.1314	-0.0032	0
117	SLE FR 5	0	-0.54	36.24	0.1472	-0.0019	0
117	SLE FR 6	0	-0.48	37	0.1468	-0.0019	0
117	SLE QP 1	0	-0.46	34.7	0.1377	-0.0018	0
117	SLE QP 2	0	-0.47	36.08	0.1432	-0.0019	0
117	SLD 1	0.07	2.28	39.14	0.0238	0.0592	0
117	SLD 2	0.07	2.28	39.14	0.0238	0.0592	0
117	SLD 3	0.09	-0.66	37.09	0.1504	0.0831	0
117	SLD 4	0.09	-0.66	37.09	0.1504	0.0831	0
117	SLD 5	-0.02	4.82	40.11	-0.0846	-0.0197	0
117	SLD 6	-0.02	4.82	40.11	-0.0846	-0.0197	0
117	SLD 7	0.07	-4.99	33.27	0.3373	0.0598	0
117	SLD 8	0.07	-4.99	33.27	0.3373	0.0598	0
117	SLD 9	-0.07	4.05	38.89	-0.0509	-0.0635	0
117	SLD 10	-0.07	4.05	38.89	-0.0509	-0.0635	0
117	SLD 11	0.02	-5.76	32.05	0.3709	0.016	0
117	SLD 12	0.02	-5.76	32.05	0.3709	0.016	0
117	SLD 13	-0.09	-0.27	35.07	0.136	-0.0868	0
117	SLD 14	-0.09	-0.27	35.07	0.136	-0.0868	0
117	SLD 15	-0.07	-3.22	33.02	0.2626	-0.0629	0
117	SLD 16	-0.07	-3.22	33.02	0.2626	-0.0629	0
117	SLV 1	0.16	6.19	43.27	-0.1455	0.1469	-0.0001
117	SLV 2	0.16	6.19	43.27	-0.1455	0.1469	-0.0001
117	SLV 3	0.23	-0.81	38.42	0.1546	0.2075	0
117	SLV 4	0.23	-0.81	38.42	0.1546	0.2075	0
117	SLV 5	-0.05	12.14	45.6	-0.3986	-0.0491	-0.0001
117	SLV 6	-0.05	12.14	45.6	-0.3986	-0.0491	-0.0001
117	SLV 7	0.17	-11.18	29.42	0.6018	0.1528	0
117	SLV 8	0.17	-11.18	29.42	0.6018	0.1528	0
117	SLV 9	-0.17	10.25	42.74	-0.3154	-0.1565	0
117	SLV 10	-0.17	10.25	42.74	-0.3154	-0.1565	0
117	SLV 11	0.05	-13.08	26.56	0.6849	0.0454	0.0001
117	SLV 12	0.05	-13.08	26.56	0.6849	0.0454	0.0001
117	SLV 13	-0.23	-0.13	33.74	0.1318	-0.2112	0
117	SLV 14	-0.23	-0.13	33.74	0.1318	-0.2112	0
117	SLV 15	-0.16	-7.13	28.89	0.4319	-0.1506	0.0001
117	SLV 16	-0.16	-7.13	28.89	0.4319	-0.1506	0.0001
118	SLU 1	0.01	4.44	54.85	-0.1455	0.01	0
118	SLU 2	0.08	5.35	58.32	-0.1774	0.0814	0
118	SLU 3	0.01	4.64	56.71	-0.1524	0.0101	0
118	SLU 4	0.05	5.19	58.79	-0.1716	0.053	0
118	SLU 5	0.08	5.5	59.59	-0.1825	0.0815	0
118	SLU 6	0.01	4.79	57.99	-0.1575	0.0102	0
118	SLU 7	0.05	5.34	60.07	-0.1767	0.053	0
118	SLU 8	0.01	4.73	57.4	-0.1557	0.0101	0
118	SLU 9	0.05	5.28	59.48	-0.1749	0.0529	0
118	SLU 10	0.08	5.95	64.78	-0.1975	0.0831	0
118	SLU 11	0.01	5.24	63.18	-0.1724	0.0118	0
118	SLU 12	0.05	5.79	65.26	-0.1916	0.0546	0
118	SLU 13	0.08	6.1	66.06	-0.2026	0.0831	0
118	SLU 14	0.01	5.39	64.46	-0.1776	0.0118	0
118	SLU 15	0.05	5.94	66.53	-0.1967	0.0546	0
118	SLU 16	0.01	5.33	63.87	-0.1758	0.0117	0
118	SLU 17	0.05	5.88	65.95	-0.1949	0.0545	0
118	SLU 18	0.01	5.29	64.09	-0.1741	0.0124	0
118	SLU 19	0.06	5.84	66.17	-0.1933	0.0552	0
118	SLU 20	0.01	5.44	65.36	-0.1792	0.0124	0
118	SLU 21	0.06	5.99	67.44	-0.1984	0.0552	0
118	SLU 22	0.01	5.05	61.51	-0.1657	0.0114	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
118	SLU 23	0.08	5.96	64.98		-0.1977	0.0829	0	
118	SLU 24	0.01	5.25	63.37		-0.1726	0.0115	0	
118	SLU 25	0.05	5.8	65.45		-0.1918	0.0544	0	
118	SLU 26	0.08	6.11	66.25		-0.2028	0.0829	0	
118	SLU 27	0.01	5.4	64.65		-0.1777	0.0116	0	
118	SLU 28	0.05	5.95	66.73		-0.1969	0.0544	0	
118	SLU 29	0.01	5.35	64.06		-0.1759	0.0115	0	
118	SLU 30	0.05	5.89	66.14		-0.1951	0.0543	0	
118	SLU 31	0.08	6.56	71.45		-0.2177	0.0845	0	
118	SLU 32	0.01	5.85	69.84		-0.1927	0.0132	0	
118	SLU 33	0.06	6.4	71.92		-0.2118	0.056	0	
118	SLU 34	0.08	6.71	72.72		-0.2228	0.0845	0	
118	SLU 35	0.01	6	71.12		-0.1978	0.0132	0	
118	SLU 36	0.06	6.55	73.2		-0.217	0.056	0	
118	SLU 37	0.01	5.94	70.53		-0.196	0.0131	0	
118	SLU 38	0.06	6.49	72.61		-0.2152	0.0559	0	
118	SLU 39	0.01	5.9	70.75		-0.1943	0.0138	0	
118	SLU 40	0.06	6.45	72.83		-0.2135	0.0566	0	
118	SLU 41	0.01	6.05	72.03		-0.1995	0.0138	0	
118	SLU 42	0.06	6.6	74.11		-0.2186	0.0567	0	
118	SLU 43	0.01	5.56	69.02		-0.1822	0.0126	0	
118	SLU 44	0.08	6.47	72.49		-0.2141	0.084	0	
118	SLU 45	0.01	5.76	70.88		-0.1891	0.0127	0	
118	SLU 46	0.06	6.31	72.96		-0.2083	0.0555	0	
118	SLU 47	0.08	6.62	73.76		-0.2193	0.084	0	
118	SLU 48	0.01	5.91	72.16		-0.1942	0.0127	0	
118	SLU 49	0.06	6.46	74.24		-0.2134	0.0555	0	
118	SLU 50	0.01	5.86	71.57		-0.1924	0.0126	0	
118	SLU 51	0.05	6.4	73.65		-0.2116	0.0554	0	
118	SLU 52	0.09	7.07	78.95		-0.2342	0.0856	0	
118	SLU 53	0.01	6.36	77.35		-0.2091	0.0143	0	
118	SLU 54	0.06	6.91	79.43		-0.2283	0.0572	0	
118	SLU 55	0.09	7.22	80.23		-0.2393	0.0856	0	
118	SLU 56	0.01	6.51	78.63		-0.2143	0.0143	0	
118	SLU 57	0.06	7.06	80.71		-0.2334	0.0572	0	
118	SLU 58	0.01	6.45	78.04		-0.2125	0.0142	0	
118	SLU 59	0.06	7	80.12		-0.2316	0.0571	0	
118	SLU 60	0.01	6.41	78.26		-0.2108	0.0149	0	
118	SLU 61	0.06	6.96	80.34		-0.23	0.0578	0	
118	SLU 62	0.01	6.56	79.54		-0.2159	0.0149	0	
118	SLU 63	0.06	7.11	81.62		-0.2351	0.0578	0	
118	SLU 64	0.01	6.17	75.68		-0.2024	0.014	0	
118	SLU 65	0.09	7.08	79.15		-0.2344	0.0854	0	
118	SLU 66	0.01	6.37	77.55		-0.2093	0.0141	0	
118	SLU 67	0.06	6.92	79.62		-0.2285	0.0569	0	
118	SLU 68	0.09	7.23	80.42		-0.2395	0.0854	0	
118	SLU 69	0.01	6.52	78.82		-0.2144	0.0141	0	
118	SLU 70	0.06	7.07	80.9		-0.2336	0.0569	0	
118	SLU 71	0.01	6.47	78.23		-0.2126	0.014	0	
118	SLU 72	0.06	7.02	80.31		-0.2318	0.0568	0	
118	SLU 73	0.09	7.68	85.62		-0.2544	0.087	0	
118	SLU 74	0.02	6.97	84.01		-0.2294	0.0157	0	
118	SLU 75	0.06	7.52	86.09		-0.2485	0.0586	0	
118	SLU 76	0.09	7.83	86.89		-0.2595	0.087	0	
118	SLU 77	0.02	7.12	85.29		-0.2345	0.0157	0	
118	SLU 78	0.06	7.67	87.37		-0.2537	0.0586	0	
118	SLU 79	0.02	7.06	84.7		-0.2327	0.0156	0	
118	SLU 80	0.06	7.61	86.78		-0.2519	0.0585	0	
118	SLU 81	0.02	7.02	84.92		-0.231	0.0163	0	
118	SLU 82	0.06	7.57	87		-0.2502	0.0592	0	
118	SLU 83	0.02	7.17	86.2		-0.2362	0.0163	0	
118	SLU 84	0.06	7.72	88.28		-0.2553	0.0592	0	
118	SLE RA 1	0.01	4.61	56.75		-0.1512	0.0104	0	
118	SLE RA 2	0.06	5.22	59.06		-0.1726	0.058	0	
118	SLE RA 3	0.01	4.75	58		-0.1559	0.0105	0	
118	SLE RA 4	0.04	5.11	59.38		-0.1686	0.0391	0	
118	SLE RA 5	0.06	5.32	59.91		-0.176	0.058	0	
118	SLE RA 6	0.01	4.85	58.84		-0.1593	0.0105	0	
118	SLE RA 7	0.04	5.21	60.23		-0.1721	0.0391	0	
118	SLE RA 8	0.01	4.81	58.45		-0.1581	0.0104	0	
118	SLE RA 9	0.04	5.18	59.84		-0.1709	0.039	0	
118	SLE RA 10	0.06	5.62	63.38		-0.1859	0.0591	0	
118	SLE RA 11	0.01	5.15	62.31		-0.1692	0.0116	0	
118	SLE RA 12	0.04	5.51	63.69		-0.182	0.0402	0	
118	SLE RA 13	0.06	5.72	64.23		-0.1893	0.0591	0	
118	SLE RA 14	0.01	5.25	63.16		-0.1726	0.0116	0	
118	SLE RA 15	0.04	5.61	64.54		-0.1854	0.0402	0	
118	SLE RA 16	0.01	5.21	62.77		-0.1714	0.0116	0	
118	SLE RA 17	0.04	5.57	64.15		-0.1842	0.0401	0	
118	SLE RA 18	0.01	5.18	62.91		-0.1703	0.012	0	
118	SLE RA 19	0.04	5.55	64.3		-0.1831	0.0406	0	
118	SLE RA 20	0.01	5.28	63.76		-0.1738	0.012	0	
118	SLE RA 21	0.04	5.65	65.15		-0.1865	0.0406	0	
118	SLE FR 1	0.01	4.61	56.75		-0.1512	0.0104	0	
118	SLE FR 2	0.02	4.73	57.22		-0.1555	0.02	0	
118	SLE FR 3	0.01	4.65	57.09		-0.1526	0.0104	0	
118	SLE FR 4	0.02	4.9	59.06		-0.1612	0.0204	0	
118	SLE FR 5	0.01	4.82	58.94		-0.1583	0.0109	0	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
118	SLE FR 6	0.01	4.9	59.83	-0.1608	0.0112	0		
118	SLE QP 1	0.01	4.61	56.75	-0.1512	0.0104	0		
118	SLE QP 2	0.01	4.78	58.6	-0.157	0.0109	0		
118	SLD 1	0.21	5.37	44.98	-0.1894	0.1968	0		
118	SLD 2	0.21	5.37	44.98	-0.1894	0.1968	0		
118	SLD 3	0.11	2.4	39.62	-0.0633	0.1083	-0.0001		
118	SLD 4	0.11	2.4	39.62	-0.0633	0.1083	-0.0001		
118	SLD 5	0.21	9.48	62.64	-0.3579	0.201	0		
118	SLD 6	0.21	9.48	62.64	-0.3579	0.201	0		
118	SLD 7	-0.1	-0.45	44.78	0.0623	-0.0942	-0.0001		
118	SLD 8	-0.1	-0.45	44.78	0.0623	-0.0942	-0.0001		
118	SLD 9	0.13	10.01	72.42	-0.3763	0.116	0.0001		
118	SLD 10	0.13	10.01	72.42	-0.3763	0.116	0.0001		
118	SLD 11	-0.19	0.09	54.57	0.0439	-0.1791	0		
118	SLD 12	-0.19	0.09	54.57	0.0439	-0.1791	0		
118	SLD 13	-0.09	7.17	77.58	-0.2506	-0.0864	0.0001		
118	SLD 14	-0.09	7.17	77.58	-0.2506	-0.0864	0.0001		
118	SLD 15	-0.19	4.19	72.23	-0.1246	-0.175	0		
118	SLD 16	-0.19	4.19	72.23	-0.1246	-0.175	0		
118	SLV 1	0.49	6.15	26.72	-0.2315	0.4646	-0.0001		
118	SLV 2	0.49	6.15	26.72	-0.2315	0.4646	-0.0001		
118	SLV 3	0.24	-0.8	14.09	0.0624	0.2381	-0.0002		
118	SLV 4	0.24	-0.8	14.09	0.0624	0.2381	-0.0002		
118	SLV 5	0.52	15.73	68.19	-0.625	0.4906	0.0001		
118	SLV 6	0.52	15.73	68.19	-0.625	0.4906	0.0001		
118	SLV 7	-0.29	-7.43	26.1	0.3545	-0.2645	-0.0002		
118	SLV 8	-0.29	-7.43	26.1	0.3545	-0.2645	-0.0002		
118	SLV 9	0.31	17	91.1	-0.6684	0.2863	0.0002		
118	SLV 10	0.31	17	91.1	-0.6684	0.2863	0.0002		
118	SLV 11	-0.5	-6.16	49.02	0.3111	-0.4687	-0.0001		
118	SLV 12	-0.5	-6.16	49.02	0.3111	-0.4687	-0.0001		
118	SLV 13	-0.22	10.37	103.11	-0.3763	-0.2162	0.0002		
118	SLV 14	-0.22	10.37	103.11	-0.3763	-0.2162	0.0002		
118	SLV 15	-0.47	3.42	90.49	-0.0825	-0.4428	0.0001		
118	SLV 16	-0.47	3.42	90.49	-0.0825	-0.4428	0.0001		
119	SLU 1	-0.29	1.24	57	0.0865	-0.1989	-0.0011		
119	SLU 2	-0.38	2.15	60.5	0.066	-0.2822	-0.0014		
119	SLU 3	-0.3	1.34	59.18	0.0891	-0.2065	-0.0011		
119	SLU 4	-0.36	1.88	61.28	0.0768	-0.2565	-0.0013		
119	SLU 5	-0.39	2.24	62.16	0.0674	-0.2877	-0.0015		
119	SLU 6	-0.31	1.42	60.83	0.0906	-0.2121	-0.0012		
119	SLU 7	-0.37	1.97	62.93	0.0783	-0.262	-0.0014		
119	SLU 8	-0.31	1.41	60.31	0.0894	-0.2099	-0.0011		
119	SLU 9	-0.36	1.96	62.41	0.0771	-0.2599	-0.0014		
119	SLU 10	-0.42	2.24	67.1	0.0805	-0.3085	-0.0016		
119	SLU 11	-0.34	1.42	65.78	0.1036	-0.2329	-0.0013		
119	SLU 12	-0.4	1.97	67.88	0.0913	-0.2828	-0.0015		
119	SLU 13	-0.43	2.32	68.75	0.0819	-0.314	-0.0016		
119	SLU 14	-0.35	1.51	67.43	0.1051	-0.2384	-0.0013		
119	SLU 15	-0.41	2.05	69.53	0.0928	-0.2883	-0.0015		
119	SLU 16	-0.35	1.5	66.9	0.1039	-0.2362	-0.0013		
119	SLU 17	-0.4	2.04	69	0.0916	-0.2862	-0.0015		
119	SLU 18	-0.35	1.37	66.43	0.1072	-0.2365	-0.0013		
119	SLU 19	-0.4	1.91	68.53	0.0949	-0.2864	-0.0015		
119	SLU 20	-0.36	1.45	68.08	0.1087	-0.242	-0.0013		
119	SLU 21	-0.41	2	70.18	0.0964	-0.292	-0.0015		
119	SLU 22	-0.33	1.36	63.96	0.1014	-0.2259	-0.0012		
119	SLU 23	-0.42	2.26	67.46	0.0809	-0.3092	-0.0016		
119	SLU 24	-0.34	1.45	66.13	0.1041	-0.2336	-0.0013		
119	SLU 25	-0.4	1.99	68.23	0.0917	-0.2835	-0.0015		
119	SLU 26	-0.43	2.35	69.11	0.0824	-0.3147	-0.0016		
119	SLU 27	-0.35	1.53	67.78	0.1055	-0.2391	-0.0013		
119	SLU 28	-0.41	2.08	69.88	0.0932	-0.2891	-0.0015		
119	SLU 29	-0.35	1.53	67.26	0.1044	-0.2369	-0.0013		
119	SLU 30	-0.4	2.07	69.36	0.092	-0.2869	-0.0015		
119	SLU 31	-0.46	2.35	74.06	0.0954	-0.3355	-0.0017		
119	SLU 32	-0.38	1.54	72.73	0.1186	-0.2599	-0.0014		
119	SLU 33	-0.44	2.08	74.83	0.1062	-0.3099	-0.0016		
119	SLU 34	-0.47	2.43	75.71	0.0969	-0.341	-0.0018		
119	SLU 35	-0.39	1.62	74.38	0.12	-0.2654	-0.0014		
119	SLU 36	-0.45	2.16	76.48	0.1077	-0.3154	-0.0017		
119	SLU 37	-0.39	1.61	73.86	0.1189	-0.2633	-0.0014		
119	SLU 38	-0.44	2.16	75.96	0.1066	-0.3132	-0.0016		
119	SLU 39	-0.39	1.48	73.38	0.1222	-0.2635	-0.0014		
119	SLU 40	-0.44	2.02	75.48	0.1098	-0.3135	-0.0016		
119	SLU 41	-0.4	1.56	75.04	0.1236	-0.269	-0.0015		
119	SLU 42	-0.45	2.11	77.14	0.1113	-0.319	-0.0017		
119	SLU 43	-0.37	1.58	71.72	0.1073	-0.2493	-0.0014		
119	SLU 44	-0.46	2.49	75.22	0.0868	-0.3325	-0.0017		
119	SLU 45	-0.38	1.67	73.89	0.1099	-0.2569	-0.0014		
119	SLU 46	-0.43	2.22	76	0.0976	-0.3069	-0.0016		
119	SLU 47	-0.47	2.57	76.87	0.0882	-0.3381	-0.0017		
119	SLU 48	-0.39	1.76	75.55	0.1114	-0.2624	-0.0014		
119	SLU 49	-0.44	2.3	77.65	0.0991	-0.3124	-0.0016		
119	SLU 50	-0.38	1.75	75.02	0.1102	-0.2603	-0.0014		
119	SLU 51	-0.44	2.29	77.12	0.0979	-0.3103	-0.0016		
119	SLU 52	-0.5	2.57	81.82	0.1013	-0.3589	-0.0019		
119	SLU 53	-0.42	1.76	80.49	0.1244	-0.2832	-0.0015		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
119	SLU 54			-0.47	2.3	82.59	0.1121	-0.3332	-0.0018
119	SLU 55			-0.5	2.66	83.47	0.1028	-0.3644	-0.0019
119	SLU 56			-0.42	1.84	82.14	0.1259	-0.2888	-0.0016
119	SLU 57			-0.48	2.39	84.24	0.1136	-0.3387	-0.0018
119	SLU 58			-0.42	1.83	81.62	0.1247	-0.2866	-0.0016
119	SLU 59			-0.48	2.38	83.72	0.1124	-0.3366	-0.0018
119	SLU 60			-0.42	1.7	81.15	0.128	-0.2869	-0.0016
119	SLU 61			-0.48	2.25	83.25	0.1157	-0.3368	-0.0018
119	SLU 62			-0.43	1.79	82.8	0.1295	-0.2924	-0.0016
119	SLU 63			-0.48	2.33	84.9	0.1172	-0.3424	-0.0018
119	SLU 64			-0.41	1.69	78.67	0.1223	-0.2763	-0.0015
119	SLU 65			-0.5	2.6	82.18	0.1017	-0.3596	-0.0019
119	SLU 66			-0.42	1.79	80.85	0.1249	-0.284	-0.0015
119	SLU 67			-0.47	2.33	82.95	0.1126	-0.3339	-0.0018
119	SLU 68			-0.51	2.68	83.83	0.1032	-0.3651	-0.0019
119	SLU 69			-0.43	1.87	82.5	0.1263	-0.2895	-0.0016
119	SLU 70			-0.48	2.41	84.6	0.114	-0.3394	-0.0018
119	SLU 71			-0.42	1.86	81.98	0.1252	-0.2873	-0.0016
119	SLU 72			-0.48	2.41	84.08	0.1129	-0.3373	-0.0018
119	SLU 73			-0.54	2.68	88.77	0.1162	-0.3859	-0.002
119	SLU 74			-0.46	1.87	87.45	0.1394	-0.3103	-0.0017
119	SLU 75			-0.51	2.42	89.55	0.1271	-0.3603	-0.0019
119	SLU 76			-0.54	2.77	90.42	0.1177	-0.3914	-0.002
119	SLU 77			-0.46	1.96	89.1	0.1408	-0.3158	-0.0017
119	SLU 78			-0.52	2.5	91.2	0.1285	-0.3658	-0.0019
119	SLU 79			-0.46	1.95	88.57	0.1397	-0.3136	-0.0017
119	SLU 80			-0.52	2.49	90.68	0.1274	-0.3636	-0.0019
119	SLU 81			-0.46	1.81	88.1	0.143	-0.3139	-0.0017
119	SLU 82			-0.52	2.36	90.2	0.1307	-0.3639	-0.0019
119	SLU 83			-0.47	1.9	89.75	0.1444	-0.3194	-0.0017
119	SLU 84			-0.52	2.44	91.85	0.1321	-0.3694	-0.002
119	SLE RA 1			-0.3	1.28	58.99	0.0908	-0.2066	-0.0011
119	SLE RA 2			-0.36	1.88	61.32	0.0771	-0.2621	-0.0014
119	SLE RA 3			-0.31	1.34	60.44	0.0925	-0.2117	-0.0012
119	SLE RA 4			-0.35	1.7	61.84	0.0843	-0.245	-0.0013
119	SLE RA 5			-0.37	1.94	62.43	0.0781	-0.2658	-0.0014
119	SLE RA 6			-0.32	1.4	61.54	0.0935	-0.2154	-0.0012
119	SLE RA 7			-0.35	1.76	62.94	0.0853	-0.2487	-0.0013
119	SLE RA 8			-0.31	1.39	61.19	0.0927	-0.2139	-0.0012
119	SLE RA 9			-0.35	1.75	62.59	0.0845	-0.2473	-0.0013
119	SLE RA 10			-0.39	1.94	65.72	0.0867	-0.2797	-0.0015
119	SLE RA 11			-0.34	1.4	64.84	0.1022	-0.2292	-0.0012
119	SLE RA 12			-0.37	1.76	66.24	0.094	-0.2626	-0.0014
119	SLE RA 13			-0.4	2	66.82	0.0877	-0.2833	-0.0015
119	SLE RA 14			-0.34	1.45	65.94	0.1032	-0.2329	-0.0013
119	SLE RA 15			-0.38	1.82	67.34	0.0949	-0.2662	-0.0014
119	SLE RA 16			-0.34	1.45	65.59	0.1024	-0.2315	-0.0013
119	SLE RA 17			-0.38	1.81	66.99	0.0942	-0.2648	-0.0014
119	SLE RA 18			-0.34	1.36	65.27	0.1046	-0.2317	-0.0013
119	SLE RA 19			-0.38	1.72	66.67	0.0964	-0.265	-0.0014
119	SLE RA 20			-0.35	1.41	66.37	0.1055	-0.2353	-0.0013
119	SLE RA 21			-0.38	1.78	67.78	0.0973	-0.2687	-0.0014
119	SLE FR 1			-0.3	1.28	58.99	0.0908	-0.2066	-0.0011
119	SLE FR 2			-0.32	1.4	59.46	0.088	-0.2177	-0.0012
119	SLE FR 3			-0.31	1.3	59.43	0.0912	-0.2081	-0.0011
119	SLE FR 4			-0.33	1.42	61.34	0.0922	-0.2252	-0.0012
119	SLE FR 5			-0.32	1.32	61.32	0.0953	-0.2156	-0.0012
119	SLE FR 6			-0.32	1.32	62.13	0.0977	-0.2191	-0.0012
119	SLE QP 1			-0.3	1.28	58.99	0.0908	-0.2066	-0.0011
119	SLE QP 2			-0.31	1.3	60.88	0.0949	-0.2141	-0.0012
119	SLD 1			-0.53	1.85	79.8	0.1019	-0.4116	-0.0019
119	SLD 2			-0.53	1.85	79.8	0.1019	-0.4116	-0.0019
119	SLD 3			-0.44	-1.73	74.86	0.2539	-0.3323	-0.0016
119	SLD 4			-0.44	-1.73	74.86	0.2539	-0.3323	-0.0016
119	SLD 5			-0.52	6.9	74.04	-0.1335	-0.3937	-0.002
119	SLD 6			-0.52	6.9	74.04	-0.1335	-0.3937	-0.002
119	SLD 7			-0.21	-5.04	57.58	0.3731	-0.1292	-0.0007
119	SLD 8			-0.21	-5.04	57.58	0.3731	-0.1292	-0.0007
119	SLD 9			-0.42	7.65	64.17	-0.1833	-0.299	-0.0016
119	SLD 10			-0.42	7.65	64.17	-0.1833	-0.299	-0.0016
119	SLD 11			-0.1	-4.3	47.71	0.3234	-0.0345	-0.0004
119	SLD 12			-0.1	-4.3	47.71	0.3234	-0.0345	-0.0004
119	SLD 13			-0.19	4.34	46.89	-0.0641	-0.0959	-0.0008
119	SLD 14			-0.19	4.34	46.89	-0.0641	-0.0959	-0.0008
119	SLD 15			-0.09	0.75	41.95	0.088	-0.0166	-0.0004
119	SLD 16			-0.09	0.75	41.95	0.088	-0.0166	-0.0004
119	SLV 1			-0.84	2.46	105.24	0.1171	-0.6907	-0.003
119	SLV 2			-0.84	2.46	105.24	0.1171	-0.6907	-0.003
119	SLV 3			-0.6	-5.88	93.56	0.4704	-0.4897	-0.0021
119	SLV 4			-0.6	-5.88	93.56	0.4704	-0.4897	-0.0021
119	SLV 5			-0.83	14.31	91.89	-0.4342	-0.6621	-0.0032
119	SLV 6			-0.83	14.31	91.89	-0.4342	-0.6621	-0.0032
119	SLV 7			-0.04	-13.51	52.97	0.7434	0.0082	0
119	SLV 8			-0.04	-13.51	52.97	0.7434	0.0082	0
119	SLV 9			-0.59	16.12	68.78	-0.5535	-0.4364	-0.0023
119	SLV 10			-0.59	16.12	68.78	-0.5535	-0.4364	-0.0023
119	SLV 11			0.21	-11.71	29.86	0.6241	0.2339	0.0008
119	SLV 12			0.21	-11.71	29.86	0.6241	0.2339	0.0008



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
119	SLV 13			-0.03	8.49	28.19	-0.2806	0.0614	-0.0002
119	SLV 14			-0.03	8.49	28.19	-0.2806	0.0614	-0.0002
119	SLV 15			0.21	0.14	16.51	0.0727	0.2625	0.0007
119	SLV 16			0.21	0.14	16.51	0.0727	0.2625	0.0007
120	SLU 1			0.04	-1.64	41.88	0.0735	0.0335	0.0001
120	SLU 2			0.04	-2.04	41.98	0.092	0.0339	0.0001
120	SLU 3			0.04	-1.31	43.2	0.0577	0.0347	0.0001
120	SLU 4			0.04	-1.55	43.27	0.0687	0.035	0.0001
120	SLU 5			0.04	-1.65	42.96	0.0734	0.0348	0.0001
120	SLU 6			0.05	-0.92	44.18	0.0391	0.0356	0.0001
120	SLU 7			0.05	-1.16	44.24	0.0502	0.0359	0.0001
120	SLU 8			0.05	-0.87	43.83	0.0364	0.0353	0.0001
120	SLU 9			0.05	-1.11	43.9	0.0475	0.0355	0.0001
120	SLU 10			0.04	-2.26	49.58	0.1034	0.0328	0.0001
120	SLU 11			0.04	-1.53	50.81	0.0691	0.0337	0.0001
120	SLU 12			0.04	-1.77	50.87	0.0801	0.0339	0.0001
120	SLU 13			0.04	-1.88	50.56	0.0848	0.0337	0.0001
120	SLU 14			0.04	-1.14	51.78	0.0505	0.0346	0.0001
120	SLU 15			0.04	-1.38	51.84	0.0616	0.0348	0.0001
120	SLU 16			0.04	-1.09	51.43	0.0478	0.0342	0.0001
120	SLU 17			0.04	-1.33	51.5	0.0589	0.0345	0.0001
120	SLU 18			0.04	-1.96	52.74	0.0898	0.032	0.0001
120	SLU 19			0.04	-2.2	52.8	0.1009	0.0322	0.0001
120	SLU 20			0.04	-1.57	53.72	0.0713	0.0329	0.0001
120	SLU 21			0.04	-1.81	53.78	0.0823	0.0331	0.0001
120	SLU 22			0.05	-1.52	47.08	0.0688	0.0372	0.0001
120	SLU 23			0.05	-1.91	47.18	0.0872	0.0377	0.0001
120	SLU 24			0.05	-1.18	48.4	0.0529	0.0385	0.0001
120	SLU 25			0.05	-1.42	48.46	0.064	0.0387	0.0001
120	SLU 26			0.05	-1.53	48.16	0.0686	0.0385	0.0001
120	SLU 27			0.05	-0.79	49.38	0.0344	0.0394	0.0001
120	SLU 28			0.05	-1.03	49.44	0.0454	0.0396	0.0001
120	SLU 29			0.05	-0.74	49.03	0.0317	0.039	0.0001
120	SLU 30			0.05	-0.98	49.09	0.0427	0.0393	0.0001
120	SLU 31			0.04	-2.14	54.78	0.0986	0.0366	0.0001
120	SLU 32			0.04	-1.4	56	0.0643	0.0375	0.0001
120	SLU 33			0.04	-1.64	56.06	0.0754	0.0377	0.0001
120	SLU 34			0.04	-1.75	55.76	0.08	0.0375	0.0001
120	SLU 35			0.05	-1.02	56.98	0.0458	0.0383	0.0001
120	SLU 36			0.05	-1.26	57.04	0.0568	0.0386	0.0001
120	SLU 37			0.05	-0.97	56.63	0.0431	0.038	0.0001
120	SLU 38			0.05	-1.21	56.69	0.0541	0.0382	0.0001
120	SLU 39			0.04	-1.84	57.93	0.085	0.0357	0.0001
120	SLU 40			0.04	-2.08	58	0.0961	0.036	0.0001
120	SLU 41			0.04	-1.45	58.91	0.0665	0.0366	0.0001
120	SLU 42			0.04	-1.69	58.97	0.0775	0.0369	0.0001
120	SLU 43			0.05	-2.18	52.66	0.0972	0.0422	0.0001
120	SLU 44			0.05	-2.58	52.77	0.1157	0.0426	0.0001
120	SLU 45			0.06	-1.84	53.99	0.0814	0.0435	0.0001
120	SLU 46			0.06	-2.08	54.05	0.0924	0.0437	0.0001
120	SLU 47			0.06	-2.19	53.74	0.0971	0.0435	0.0001
120	SLU 48			0.06	-1.45	54.96	0.0628	0.0444	0.0001
120	SLU 49			0.06	-1.69	55.03	0.0739	0.0446	0.0001
120	SLU 50			0.06	-1.4	54.62	0.0601	0.044	0.0001
120	SLU 51			0.06	-1.64	54.68	0.0712	0.0442	0.0001
120	SLU 52			0.05	-2.8	60.37	0.1271	0.0416	0.0001
120	SLU 53			0.05	-2.07	61.59	0.0928	0.0424	0.0001
120	SLU 54			0.05	-2.3	61.65	0.1039	0.0427	0.0001
120	SLU 55			0.05	-2.41	61.34	0.1085	0.0425	0.0001
120	SLU 56			0.05	-1.68	62.56	0.0742	0.0433	0.0001
120	SLU 57			0.05	-1.92	62.63	0.0853	0.0436	0.0001
120	SLU 58			0.05	-1.63	62.22	0.0715	0.043	0.0001
120	SLU 59			0.05	-1.87	62.28	0.0826	0.0432	0.0001
120	SLU 60			0.05	-2.5	63.52	0.1135	0.0407	0.0001
120	SLU 61			0.05	-2.74	63.58	0.1246	0.041	0.0001
120	SLU 62			0.05	-2.11	64.5	0.095	0.0416	0.0001
120	SLU 63			0.05	-2.35	64.56	0.106	0.0419	0.0001
120	SLU 64			0.06	-2.05	57.86	0.0925	0.046	0.0001
120	SLU 65			0.06	-2.45	57.96	0.1109	0.0464	0.0001
120	SLU 66			0.06	-1.72	59.18	0.0766	0.0472	0.0001
120	SLU 67			0.06	-1.96	59.25	0.0877	0.0475	0.0001
120	SLU 68			0.06	-2.06	58.94	0.0923	0.0473	0.0001
120	SLU 69			0.06	-1.33	60.16	0.0581	0.0481	0.0001
120	SLU 70			0.06	-1.57	60.22	0.0691	0.0484	0.0001
120	SLU 71			0.06	-1.28	59.81	0.0554	0.0478	0.0001
120	SLU 72			0.06	-1.52	59.87	0.0664	0.048	0.0001
120	SLU 73			0.05	-2.67	65.56	0.1223	0.0454	0.0001
120	SLU 74			0.06	-1.94	66.78	0.088	0.0462	0.0001
120	SLU 75			0.06	-2.18	66.85	0.0991	0.0464	0.0001
120	SLU 76			0.06	-2.29	66.54	0.1037	0.0463	0.0001
120	SLU 77			0.06	-1.55	67.76	0.0695	0.0471	0.0001
120	SLU 78			0.06	-1.79	67.82	0.0805	0.0473	0.0001
120	SLU 79			0.06	-1.5	67.41	0.0668	0.0467	0.0001
120	SLU 80			0.06	-1.74	67.47	0.0778	0.047	0.0001
120	SLU 81			0.05	-2.37	68.72	0.1088	0.0445	0.0001
120	SLU 82			0.05	-2.61	68.78	0.1198	0.0447	0.0001
120	SLU 83			0.05	-1.98	69.69	0.0902	0.0454	0.0001
120	SLU 84			0.05	-2.22	69.76	0.1013	0.0456	0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
120	SLE RA 1	0.04	-1.61	43.37	0.0722	0.0345	0.0001
120	SLE RA 2	0.04	-1.87	43.43	0.0845	0.0348	0.0001
120	SLE RA 3	0.05	-1.38	44.25	0.0616	0.0354	0.0001
120	SLE RA 4	0.05	-1.54	44.29	0.069	0.0355	0.0001
120	SLE RA 5	0.04	-1.61	44.09	0.0721	0.0354	0.0001
120	SLE RA 6	0.05	-1.12	44.9	0.0492	0.036	0.0001
120	SLE RA 7	0.05	-1.28	44.94	0.0566	0.0361	0.0001
120	SLE RA 8	0.05	-1.09	44.67	0.0474	0.0357	0.0001
120	SLE RA 9	0.05	-1.25	44.71	0.0548	0.0359	0.0001
120	SLE RA 10	0.04	-2.02	48.5	0.0921	0.0341	0.0001
120	SLE RA 11	0.04	-1.53	49.31	0.0692	0.0347	0.0001
120	SLE RA 12	0.04	-1.69	49.36	0.0766	0.0348	0.0001
120	SLE RA 13	0.04	-1.76	49.15	0.0797	0.0347	0.0001
120	SLE RA 14	0.04	-1.27	49.97	0.0568	0.0353	0.0001
120	SLE RA 15	0.04	-1.43	50.01	0.0642	0.0354	0.0001
120	SLE RA 16	0.04	-1.24	49.73	0.055	0.035	0.0001
120	SLE RA 17	0.04	-1.4	49.78	0.0624	0.0352	0.0001
120	SLE RA 18	0.04	-1.82	50.6	0.083	0.0335	0.0001
120	SLE RA 19	0.04	-1.98	50.65	0.0904	0.0337	0.0001
120	SLE RA 20	0.04	-1.56	51.25	0.0707	0.0341	0.0001
120	SLE RA 21	0.04	-1.72	51.3	0.078	0.0343	0.0001
120	SLE FR 1	0.04	-1.61	43.37	0.0722	0.0345	0.0001
120	SLE FR 2	0.04	-1.66	43.38	0.0746	0.0346	0.0001
120	SLE FR 3	0.04	-1.5	43.63	0.0672	0.0348	0.0001
120	SLE FR 4	0.04	-1.72	45.55	0.0779	0.0343	0.0001
120	SLE FR 5	0.04	-1.57	45.8	0.0705	0.0345	0.0001
120	SLE FR 6	0.04	-1.71	46.98	0.0776	0.034	0.0001
120	SLE QP 1	0.04	-1.61	43.37	0.0722	0.0345	0.0001
120	SLE QP 2	0.04	-1.67	45.54	0.0754	0.0342	0.0001
120	SLD 1	0.22	-0.86	50.12	0.0388	0.1787	0.0005
120	SLD 2	0.22	-0.86	50.12	0.0388	0.1787	0.0005
120	SLD 3	0.25	-3.85	49.6	0.1794	0.2002	0.0006
120	SLD 4	0.25	-3.85	49.6	0.1794	0.2002	0.0006
120	SLD 5	0.05	3.1	47.71	-0.1487	0.045	0.0001
120	SLD 6	0.05	3.1	47.71	-0.1487	0.045	0.0001
120	SLD 7	0.15	-6.85	45.96	0.3198	0.1166	0.0004
120	SLD 8	0.15	-6.85	45.96	0.3198	0.1166	0.0004
120	SLD 9	-0.07	3.52	45.11	-0.169	-0.0481	-0.0002
120	SLD 10	-0.07	3.52	45.11	-0.169	-0.0481	-0.0002
120	SLD 11	0.03	-6.44	43.37	0.2996	0.0235	0.0001
120	SLD 12	0.03	-6.44	43.37	0.2996	0.0235	0.0001
120	SLD 13	-0.17	0.51	41.48	-0.0286	-0.1317	-0.0004
120	SLD 14	-0.17	0.51	41.48	-0.0286	-0.1317	-0.0004
120	SLD 15	-0.14	-2.48	40.95	0.112	-0.1102	-0.0003
120	SLD 16	-0.14	-2.48	40.95	0.112	-0.1102	-0.0003
120	SLV 1	0.5	0.19	56.34	-0.009	0.3987	0.0012
120	SLV 2	0.5	0.19	56.34	-0.009	0.3987	0.0012
120	SLV 3	0.57	-6.8	55.1	0.3198	0.4507	0.0014
120	SLV 4	0.57	-6.8	55.1	0.3198	0.4507	0.0014
120	SLV 5	0.07	9.48	50.66	-0.4485	0.0646	0.0001
120	SLV 6	0.07	9.48	50.66	-0.4485	0.0646	0.0001
120	SLV 7	0.31	-13.8	46.52	0.6473	0.2382	0.0008
120	SLV 8	0.31	-13.8	46.52	0.6473	0.2382	0.0008
120	SLV 9	-0.22	10.46	44.55	-0.4964	-0.1697	-0.0006
120	SLV 10	-0.22	10.46	44.55	-0.4964	-0.1697	-0.0006
120	SLV 11	0.02	-12.82	40.42	0.5993	0.0039	0.0001
120	SLV 12	0.02	-12.82	40.42	0.5993	0.0039	0.0001
120	SLV 13	-0.48	3.46	35.98	-0.1689	-0.3822	-0.0012
120	SLV 14	-0.48	3.46	35.98	-0.1689	-0.3822	-0.0012
120	SLV 15	-0.41	-3.52	34.74	0.1598	-0.3302	-0.001
120	SLV 16	-0.41	-3.52	34.74	0.1598	-0.3302	-0.001
121	SLU 1	0.04	0.04	7.14	-0.0022	0.0225	0.0002
121	SLU 2	0.04	0.02	7.13	-0.0017	0.0231	0.0002
121	SLU 3	0.04	0.01	7.16	-0.0013	0.0232	0.0002
121	SLU 4	0.04	0	7.16	-0.001	0.0235	0.0002
121	SLU 5	0.04	-0.01	7.14	-0.0007	0.0236	0.0002
121	SLU 6	0.04	-0.02	7.17	-0.0002	0.0236	0.0002
121	SLU 7	0.04	-0.03	7.16	0.0001	0.024	0.0002
121	SLU 8	0.04	-0.02	7.15	-0.0001	0.0234	0.0002
121	SLU 9	0.04	-0.03	7.15	0.0002	0.0238	0.0002
121	SLU 10	0.05	0.02	9.88	-0.0018	0.0294	0.0002
121	SLU 11	0.05	0.01	9.91	-0.0014	0.0295	0.0002
121	SLU 12	0.05	0	9.91	-0.0011	0.0298	0.0002
121	SLU 13	0.05	0	9.88	-0.0007	0.0299	0.0002
121	SLU 14	0.05	-0.01	9.91	-0.0003	0.0299	0.0002
121	SLU 15	0.05	-0.02	9.91	0	0.0303	0.0002
121	SLU 16	0.05	-0.01	9.9	-0.0002	0.0297	0.0002
121	SLU 17	0.05	-0.02	9.89	0.0001	0.0301	0.0002
121	SLU 18	0.06	0.04	11.06	-0.0023	0.0315	0.0002
121	SLU 19	0.06	0.03	11.06	-0.002	0.0319	0.0002
121	SLU 20	0.06	0.01	11.07	-0.0012	0.032	0.0002
121	SLU 21	0.06	0	11.06	-0.001	0.0323	0.0002
121	SLU 22	0.04	0	7.64	-0.0011	0.0255	0.0002
121	SLU 23	0.04	-0.02	7.63	-0.0006	0.0261	0.0002
121	SLU 24	0.04	-0.02	7.66	-0.0002	0.0261	0.0002
121	SLU 25	0.04	-0.03	7.66	0.0001	0.0265	0.0002
121	SLU 26	0.04	-0.04	7.63	0.0004	0.0265	0.0002
121	SLU 27	0.04	-0.05	7.66	0.0009	0.0266	0.0002





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
121	SLU 28	0.04	-0.06	7.66	0.0012	0.0269	0.0002
121	SLU 29	0.04	-0.05	7.65	0.001	0.0264	0.0002
121	SLU 30	0.04	-0.06	7.64	0.0013	0.0268	0.0002
121	SLU 31	0.06	-0.01	10.38	-0.0007	0.0324	0.0002
121	SLU 32	0.06	-0.02	10.4	-0.0002	0.0324	0.0002
121	SLU 33	0.06	-0.03	10.4	0	0.0328	0.0002
121	SLU 34	0.06	-0.04	10.38	0.0004	0.0328	0.0002
121	SLU 35	0.06	-0.05	10.41	0.0008	0.0329	0.0002
121	SLU 36	0.06	-0.06	10.41	0.0011	0.0333	0.0002
121	SLU 37	0.06	-0.05	10.39	0.0009	0.0327	0.0002
121	SLU 38	0.06	-0.06	10.39	0.0012	0.0331	0.0002
121	SLU 39	0.06	0.01	11.56	-0.0012	0.0345	0.0003
121	SLU 40	0.06	0	11.55	-0.0009	0.0349	0.0003
121	SLU 41	0.06	-0.02	11.56	-0.0001	0.035	0.0003
121	SLU 42	0.06	-0.03	11.56	0.0002	0.0353	0.0003
121	SLU 43	0.04	0.06	9.11	-0.0033	0.0282	0.0002
121	SLU 44	0.05	0.04	9.11	-0.0028	0.0288	0.0002
121	SLU 45	0.05	0.03	9.14	-0.0023	0.0289	0.0002
121	SLU 46	0.05	0.02	9.13	-0.002	0.0292	0.0002
121	SLU 47	0.05	0.02	9.11	-0.0017	0.0293	0.0002
121	SLU 48	0.05	0.01	9.14	-0.0013	0.0294	0.0002
121	SLU 49	0.05	0	9.14	-0.001	0.0297	0.0002
121	SLU 50	0.05	0.01	9.12	-0.0011	0.0292	0.0002
121	SLU 51	0.05	0	9.12	-0.0008	0.0295	0.0002
121	SLU 52	0.06	0.05	11.85	-0.0028	0.0351	0.0002
121	SLU 53	0.06	0.04	11.88	-0.0024	0.0352	0.0003
121	SLU 54	0.06	0.03	11.88	-0.0021	0.0356	0.0003
121	SLU 55	0.06	0.02	11.86	-0.0018	0.0356	0.0003
121	SLU 56	0.06	0.01	11.89	-0.0013	0.0357	0.0003
121	SLU 57	0.06	0	11.88	-0.001	0.036	0.0003
121	SLU 58	0.06	0.01	11.87	-0.0012	0.0355	0.0003
121	SLU 59	0.06	0	11.86	-0.0009	0.0358	0.0003
121	SLU 60	0.06	0.07	13.03	-0.0033	0.0373	0.0003
121	SLU 61	0.07	0.06	13.03	-0.0031	0.0376	0.0003
121	SLU 62	0.07	0.04	13.04	-0.0023	0.0377	0.0003
121	SLU 63	0.07	0.03	13.04	-0.002	0.0381	0.0003
121	SLU 64	0.05	0.03	9.61	-0.0021	0.0312	0.0002
121	SLU 65	0.05	0.01	9.6	-0.0017	0.0318	0.0002
121	SLU 66	0.05	0	9.63	-0.0012	0.0319	0.0002
121	SLU 67	0.05	-0.01	9.63	-0.0009	0.0322	0.0002
121	SLU 68	0.05	-0.02	9.61	-0.0006	0.0323	0.0002
121	SLU 69	0.05	-0.03	9.64	-0.0002	0.0323	0.0002
121	SLU 70	0.05	-0.04	9.63	0.0001	0.0327	0.0002
121	SLU 71	0.05	-0.03	9.62	0	0.0321	0.0002
121	SLU 72	0.05	-0.04	9.61	0.0003	0.0325	0.0002
121	SLU 73	0.06	0.01	12.35	-0.0017	0.0381	0.0003
121	SLU 74	0.06	0	12.38	-0.0013	0.0382	0.0003
121	SLU 75	0.07	-0.01	12.37	-0.001	0.0385	0.0003
121	SLU 76	0.07	-0.02	12.35	-0.0007	0.0386	0.0003
121	SLU 77	0.07	-0.03	12.38	-0.0002	0.0386	0.0003
121	SLU 78	0.07	-0.04	12.38	0.0001	0.039	0.0003
121	SLU 79	0.07	-0.03	12.36	-0.0001	0.0385	0.0003
121	SLU 80	0.07	-0.04	12.36	0.0002	0.0388	0.0003
121	SLU 81	0.07	0.03	13.53	-0.0022	0.0402	0.0003
121	SLU 82	0.07	0.02	13.53	-0.0019	0.0406	0.0003
121	SLU 83	0.07	0	13.54	-0.0012	0.0407	0.0003
121	SLU 84	0.07	-0.01	13.53	-0.0009	0.041	0.0003
121	SLE RA 1	0.04	0.03	7.28	-0.0019	0.0234	0.0002
121	SLE RA 2	0.04	0.02	7.28	-0.0016	0.0237	0.0002
121	SLE RA 3	0.04	0.01	7.3	-0.0013	0.0238	0.0002
121	SLE RA 4	0.04	0	7.3	-0.0011	0.024	0.0002
121	SLE RA 5	0.04	0	7.28	-0.0009	0.0241	0.0002
121	SLE RA 6	0.04	-0.01	7.3	-0.0006	0.0241	0.0002
121	SLE RA 7	0.04	-0.02	7.3	-0.0004	0.0243	0.0002
121	SLE RA 8	0.04	-0.01	7.29	-0.0005	0.024	0.0002
121	SLE RA 9	0.04	-0.02	7.29	-0.0003	0.0242	0.0002
121	SLE RA 10	0.05	0.02	9.11	-0.0016	0.028	0.0002
121	SLE RA 11	0.05	0.01	9.13	-0.0013	0.028	0.0002
121	SLE RA 12	0.05	0.01	9.13	-0.0011	0.0282	0.0002
121	SLE RA 13	0.05	0	9.11	-0.0009	0.0283	0.0002
121	SLE RA 14	0.05	-0.01	9.13	-0.0006	0.0283	0.0002
121	SLE RA 15	0.05	-0.01	9.13	-0.0004	0.0285	0.0002
121	SLE RA 16	0.05	-0.01	9.12	-0.0005	0.0282	0.0002
121	SLE RA 17	0.05	-0.01	9.12	-0.0003	0.0284	0.0002
121	SLE RA 18	0.05	0.03	9.9	-0.002	0.0294	0.0002
121	SLE RA 19	0.05	0.02	9.89	-0.0018	0.0296	0.0002
121	SLE RA 20	0.05	0.01	9.9	-0.0013	0.0297	0.0002
121	SLE RA 21	0.05	0.01	9.9	-0.0011	0.0299	0.0002
121	SLE FR 1	0.04	0.03	7.28	-0.0019	0.0234	0.0002
121	SLE FR 2	0.04	0.02	7.28	-0.0018	0.0234	0.0002
121	SLE FR 3	0.04	0.02	7.28	-0.0016	0.0235	0.0002
121	SLE FR 4	0.04	0.03	8.07	-0.0018	0.0252	0.0002
121	SLE FR 5	0.04	0.02	8.07	-0.0016	0.0253	0.0002
121	SLE FR 6	0.04	0.03	8.59	-0.0019	0.0264	0.0002
121	SLE QP 1	0.04	0.03	7.28	-0.0019	0.0234	0.0002
121	SLE QP 2	0.04	0.03	8.07	-0.0019	0.0252	0.0002
121	SLD 1	0.21	-0.15	7.91	0.0034	0.1622	0.0008
121	SLD 2	0.21	-0.15	7.91	0.0034	0.1622	0.0008



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
121	SLD 3	0.24	-2.51	6.67	0.0692	0.1846	0.0009
121	SLD 4	0.24	-2.51	6.67	0.0692	0.1846	0.0009
121	SLD 5	0.05	3.55	9.91	-0.1	0.0323	0.0002
121	SLD 6	0.05	3.55	9.91	-0.1	0.0323	0.0002
121	SLD 7	0.15	-4.31	5.76	0.1191	0.1069	0.0006
121	SLD 8	0.15	-4.31	5.76	0.1191	0.1069	0.0006
121	SLD 9	-0.06	4.36	10.38	-0.1229	-0.0566	-0.0002
121	SLD 10	-0.06	4.36	10.38	-0.1229	-0.0566	-0.0002
121	SLD 11	0.04	-3.49	6.22	0.0962	0.018	0.0002
121	SLD 12	0.04	-3.49	6.22	0.0962	0.018	0.0002
121	SLD 13	-0.16	2.57	9.47	-0.073	-0.1343	-0.0006
121	SLD 14	-0.16	2.57	9.47	-0.073	-0.1343	-0.0006
121	SLD 15	-0.13	0.21	8.22	-0.0072	-0.1119	-0.0005
121	SLD 16	-0.13	0.21	8.22	-0.0072	-0.1119	-0.0005
121	SLV 1	0.46	-0.4	7.7	0.0106	0.372	0.0018
121	SLV 2	0.46	-0.4	7.7	0.0106	0.372	0.0018
121	SLV 3	0.54	-5.93	4.76	0.1649	0.426	0.0021
121	SLV 4	0.54	-5.93	4.76	0.1649	0.426	0.0021
121	SLV 5	0.06	8.29	12.41	-0.2323	0.0473	0.0002
121	SLV 6	0.06	8.29	12.41	-0.2323	0.0473	0.0002
121	SLV 7	0.3	-10.15	2.62	0.2822	0.2273	0.0012
121	SLV 8	0.3	-10.15	2.62	0.2822	0.2273	0.0012
121	SLV 9	-0.21	10.21	13.51	-0.2861	-0.177	-0.0008
121	SLV 10	-0.21	10.21	13.51	-0.2861	-0.177	-0.0008
121	SLV 11	0.02	-8.24	3.72	0.2284	0.003	0.0001
121	SLV 12	0.02	-8.24	3.72	0.2284	0.003	0.0001
121	SLV 13	-0.45	5.99	11.37	-0.1688	-0.3756	-0.0017
121	SLV 14	-0.45	5.99	11.37	-0.1688	-0.3756	-0.0017
121	SLV 15	-0.38	0.45	8.43	-0.0144	-0.3216	-0.0015
121	SLV 16	-0.38	0.45	8.43	-0.0144	-0.3216	-0.0015
122	SLU 1	0.16	0.34	18.39	-0.1541	0.0999	0.0001
122	SLU 2	0.18	2.85	18.47	-0.2853	0.112	0.0001
122	SLU 3	0.17	0.1	18.8	-0.1458	0.103	0.0001
122	SLU 4	0.18	1.61	18.84	-0.2245	0.1103	0.0001
122	SLU 5	0.18	2.54	18.71	-0.272	0.1137	0.0001
122	SLU 6	0.17	-0.21	19.04	-0.1325	0.1048	0.0001
122	SLU 7	0.18	1.3	19.08	-0.2112	0.112	0.0001
122	SLU 8	0.17	-0.28	18.87	-0.1275	0.1034	0.0001
122	SLU 9	0.18	1.23	18.91	-0.2062	0.1106	0.0001
122	SLU 10	0.21	2.92	20.77	-0.3075	0.129	0.0001
122	SLU 11	0.2	0.16	21.1	-0.168	0.1201	0.0001
122	SLU 12	0.2	1.67	21.15	-0.2467	0.1273	0.0001
122	SLU 13	0.21	2.6	21.01	-0.2942	0.1308	0.0001
122	SLU 14	0.2	-0.15	21.34	-0.1547	0.1218	0.0001
122	SLU 15	0.21	1.36	21.38	-0.2334	0.1291	0.0001
122	SLU 16	0.2	-0.22	21.17	-0.1497	0.1205	0.0001
122	SLU 17	0.2	1.29	21.22	-0.2284	0.1277	0.0001
122	SLU 18	0.2	0.43	21.68	-0.1859	0.1243	0.0001
122	SLU 19	0.21	1.94	21.73	-0.2646	0.1315	0.0001
122	SLU 20	0.2	0.12	21.92	-0.1726	0.126	0.0001
122	SLU 21	0.21	1.63	21.96	-0.2513	0.1333	0.0001
122	SLU 22	0.19	0.28	20.45	-0.1685	0.1154	0.0001
122	SLU 23	0.2	2.8	20.52	-0.2997	0.1275	0.0001
122	SLU 24	0.19	0.04	20.85	-0.1602	0.1186	0.0001
122	SLU 25	0.2	1.55	20.9	-0.2389	0.1258	0.0001
122	SLU 26	0.21	2.49	20.76	-0.2863	0.1293	0.0001
122	SLU 27	0.2	-0.27	21.09	-0.1468	0.1203	0.0001
122	SLU 28	0.2	1.24	21.14	-0.2256	0.1276	0.0001
122	SLU 29	0.19	-0.34	20.92	-0.1418	0.1189	0.0001
122	SLU 30	0.2	1.17	20.97	-0.2205	0.1262	0.0001
122	SLU 31	0.23	2.86	22.82	-0.3219	0.1446	0.0001
122	SLU 32	0.22	0.11	23.15	-0.1824	0.1357	0.0001
122	SLU 33	0.23	1.61	23.2	-0.2611	0.1429	0.0001
122	SLU 34	0.23	2.55	23.06	-0.3086	0.1463	0.0001
122	SLU 35	0.22	-0.2	23.39	-0.1691	0.1374	0.0001
122	SLU 36	0.23	1.3	23.44	-0.2478	0.1446	0.0001
122	SLU 37	0.22	-0.27	23.22	-0.1641	0.136	0.0001
122	SLU 38	0.23	1.23	23.27	-0.2428	0.1433	0.0001
122	SLU 39	0.23	0.37	23.73	-0.2002	0.1398	0.0001
122	SLU 40	0.24	1.88	23.78	-0.279	0.1471	0.0001
122	SLU 41	0.23	0.06	23.97	-0.1869	0.1416	0.0001
122	SLU 42	0.24	1.57	24.02	-0.2656	0.1488	0.0001
122	SLU 43	0.2	0.46	23.2	-0.1954	0.1245	0.0001
122	SLU 44	0.22	2.98	23.28	-0.3266	0.1366	0.0001
122	SLU 45	0.21	0.22	23.61	-0.1871	0.1277	0.0001
122	SLU 46	0.22	1.73	23.66	-0.2658	0.1349	0.0001
122	SLU 47	0.22	2.67	23.52	-0.3133	0.1384	0.0001
122	SLU 48	0.21	-0.09	23.85	-0.1738	0.1294	0.0001
122	SLU 49	0.22	1.42	23.9	-0.2525	0.1367	0.0001
122	SLU 50	0.21	-0.16	23.68	-0.1688	0.128	0.0001
122	SLU 51	0.22	1.35	23.73	-0.2475	0.1353	0.0001
122	SLU 52	0.25	3.04	25.58	-0.3488	0.1537	0.0001
122	SLU 53	0.24	0.28	25.91	-0.2093	0.1447	0.0001
122	SLU 54	0.24	1.79	25.96	-0.2881	0.152	0.0001
122	SLU 55	0.25	2.73	25.82	-0.3355	0.1554	0.0001
122	SLU 56	0.24	-0.03	26.15	-0.196	0.1465	0.0001
122	SLU 57	0.25	1.48	26.2	-0.2747	0.1537	0.0001
122	SLU 58	0.24	-0.1	25.98	-0.191	0.1451	0.0001



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
122	SLU 59	0.25	1.41	26.03	-0.2697	0.1523	0.0001
122	SLU 60	0.24	0.55	26.49	-0.2272	0.1489	0.0001
122	SLU 61	0.25	2.06	26.54	-0.3059	0.1562	0.0001
122	SLU 62	0.25	0.24	26.73	-0.2139	0.1507	0.0001
122	SLU 63	0.25	1.75	26.78	-0.2926	0.1579	0.0001
122	SLU 64	0.23	0.41	25.26	-0.2098	0.1401	0.0001
122	SLU 65	0.24	2.92	25.33	-0.341	0.1522	0.0001
122	SLU 66	0.23	0.17	25.67	-0.2015	0.1432	0.0001
122	SLU 67	0.24	1.67	25.71	-0.2802	0.1505	0.0001
122	SLU 68	0.25	2.61	25.57	-0.3277	0.1539	0.0001
122	SLU 69	0.24	-0.14	25.9	-0.1882	0.145	0.0001
122	SLU 70	0.25	1.36	25.95	-0.2669	0.1522	0.0001
122	SLU 71	0.23	-0.21	25.73	-0.1831	0.1436	0.0001
122	SLU 72	0.24	1.29	25.78	-0.2619	0.1508	0.0001
122	SLU 73	0.27	2.98	27.64	-0.3632	0.1692	0.0001
122	SLU 74	0.26	0.23	27.97	-0.2237	0.1603	0.0001
122	SLU 75	0.27	1.74	28.01	-0.3024	0.1675	0.0001
122	SLU 76	0.27	2.67	27.88	-0.3499	0.171	0.0001
122	SLU 77	0.26	-0.08	28.21	-0.2104	0.162	0.0001
122	SLU 78	0.27	1.42	28.25	-0.2891	0.1693	0.0001
122	SLU 79	0.26	-0.15	28.04	-0.2054	0.1606	0.0001
122	SLU 80	0.27	1.35	28.08	-0.2841	0.1679	0.0001
122	SLU 81	0.27	0.49	28.55	-0.2416	0.1645	0.0001
122	SLU 82	0.28	2	28.59	-0.3203	0.1717	0.0001
122	SLU 83	0.27	0.18	28.79	-0.2282	0.1662	0.0001
122	SLU 84	0.28	1.69	28.83	-0.3069	0.1735	0.0001
122	SLE RA 1	0.17	0.33	18.98	-0.1582	0.1043	0.0001
122	SLE RA 2	0.18	2	19.03	-0.2457	0.1124	0.0001
122	SLE RA 3	0.17	0.17	19.25	-0.1527	0.1064	0.0001
122	SLE RA 4	0.18	1.17	19.28	-0.2052	0.1113	0.0001
122	SLE RA 5	0.18	1.79	19.19	-0.2368	0.1136	0.0001
122	SLE RA 6	0.18	-0.04	19.41	-0.1438	0.1076	0.0001
122	SLE RA 7	0.18	0.96	19.44	-0.1963	0.1124	0.0001
122	SLE RA 8	0.17	-0.09	19.3	-0.1405	0.1067	0.0001
122	SLE RA 9	0.18	0.92	19.33	-0.1929	0.1115	0.0001
122	SLE RA 10	0.2	2.04	20.56	-0.2605	0.1238	0.0001
122	SLE RA 11	0.19	0.21	20.78	-0.1675	0.1178	0.0001
122	SLE RA 12	0.2	1.21	20.81	-0.22	0.1226	0.0001
122	SLE RA 13	0.2	1.83	20.72	-0.2516	0.1249	0.0001
122	SLE RA 14	0.19	0	20.94	-0.1586	0.119	0.0001
122	SLE RA 15	0.2	1	20.97	-0.2111	0.1238	0.0001
122	SLE RA 16	0.19	-0.05	20.83	-0.1553	0.118	0.0001
122	SLE RA 17	0.2	0.96	20.86	-0.2078	0.1229	0.0001
122	SLE RA 18	0.2	0.38	21.17	-0.1794	0.1206	0.0001
122	SLE RA 19	0.2	1.39	21.2	-0.2319	0.1254	0.0001
122	SLE RA 20	0.2	0.18	21.33	-0.1705	0.1218	0.0001
122	SLE RA 21	0.2	1.18	21.36	-0.223	0.1266	0.0001
122	SLE FR 1	0.17	0.33	18.98	-0.1582	0.1043	0.0001
122	SLE FR 2	0.17	0.66	18.99	-0.1757	0.1059	0.0001
122	SLE FR 3	0.17	0.24	19.04	-0.1547	0.1048	0.0001
122	SLE FR 4	0.18	0.68	19.65	-0.1821	0.1108	0.0001
122	SLE FR 5	0.18	0.26	19.7	-0.161	0.1097	0.0001
122	SLE FR 6	0.18	0.35	20.07	-0.1688	0.1125	0.0001
122	SLE QP 1	0.17	0.33	18.98	-0.1582	0.1043	0.0001
122	SLE QP 2	0.18	0.34	19.64	-0.1646	0.1092	0.0001
122	SLD 1	0.32	0.15	20.93	-0.1597	0.2128	0
122	SLD 2	0.32	0.15	20.93	-0.1597	0.2128	0
122	SLD 3	0.28	-3.23	20.09	0.0062	0.1865	0.0001
122	SLD 4	0.28	-3.23	20.09	0.0062	0.1865	0.0001
122	SLD 5	0.27	5.41	21.3	-0.4146	0.1803	0
122	SLD 6	0.27	5.41	21.3	-0.4146	0.1803	0
122	SLD 7	0.16	-5.86	18.5	0.1382	0.0924	0.0001
122	SLD 8	0.16	-5.86	18.5	0.1382	0.0924	0.0001
122	SLD 9	0.2	6.54	20.77	-0.4673	0.126	0
122	SLD 10	0.2	6.54	20.77	-0.4673	0.126	0
122	SLD 11	0.09	-4.73	17.97	0.0855	0.0382	0.0001
122	SLD 12	0.09	-4.73	17.97	0.0855	0.0382	0.0001
122	SLD 13	0.07	3.91	19.18	-0.3353	0.032	0.0001
122	SLD 14	0.07	3.91	19.18	-0.3353	0.032	0.0001
122	SLD 15	0.04	0.53	18.34	-0.1695	0.0056	0.0001
122	SLD 16	0.04	0.53	18.34	-0.1695	0.0056	0.0001
122	SLV 1	0.5	-0.17	22.71	-0.1494	0.3544	0
122	SLV 2	0.5	-0.17	22.71	-0.1494	0.3544	0
122	SLV 3	0.42	-8.27	20.68	0.2481	0.2893	0.0001
122	SLV 4	0.42	-8.27	20.68	0.2481	0.2893	0.0001
122	SLV 5	0.4	12.46	23.64	-0.7628	0.2815	0
122	SLV 6	0.4	12.46	23.64	-0.7628	0.2815	0
122	SLV 7	0.13	-14.51	16.87	0.562	0.0645	0.0001
122	SLV 8	0.13	-14.51	16.87	0.562	0.0645	0.0001
122	SLV 9	0.23	15.2	22.4	-0.8912	0.1539	0
122	SLV 10	0.23	15.2	22.4	-0.8912	0.1539	0
122	SLV 11	-0.04	-11.78	15.63	0.4337	-0.0631	0.0001
122	SLV 12	-0.04	-11.78	15.63	0.4337	-0.0631	0.0001
122	SLV 13	-0.07	8.95	18.59	-0.5772	-0.0709	0.0001
122	SLV 14	-0.07	8.95	18.59	-0.5772	-0.0709	0.0001
122	SLV 15	-0.15	0.86	16.56	-0.1798	-0.136	0.0001
122	SLV 16	-0.15	0.86	16.56	-0.1798	-0.136	0.0001
123	SLU 1	0.07	-3.29	43.38	0.1675	0.0494	-0.0032



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
123	SLU 2	0.08	-3.74	43.88	0.1905	0.0497	-0.0032
123	SLU 3	0.08	-3.12	44.29	0.1592	0.0504	-0.0033
123	SLU 4	0.08	-3.39	44.59	0.173	0.0506	-0.0033
123	SLU 5	0.08	-3.53	44.36	0.1798	0.0502	-0.0032
123	SLU 6	0.08	-2.91	44.78	0.1485	0.0509	-0.0033
123	SLU 7	0.08	-3.18	45.07	0.1623	0.0511	-0.0033
123	SLU 8	0.08	-2.87	44.35	0.1461	0.0503	-0.0032
123	SLU 9	0.08	-3.14	44.65	0.1599	0.0505	-0.0033
123	SLU 10	0.09	-4.3	51.6	0.2205	0.0593	-0.0038
123	SLU 11	0.09	-3.69	52.02	0.1892	0.06	-0.0039
123	SLU 12	0.09	-3.96	52.31	0.203	0.0602	-0.0039
123	SLU 13	0.09	-4.09	52.09	0.2098	0.0597	-0.0039
123	SLU 14	0.09	-3.48	52.5	0.1785	0.0604	-0.0039
123	SLU 15	0.09	-3.75	52.8	0.1923	0.0606	-0.0039
123	SLU 16	0.09	-3.44	52.08	0.1761	0.0599	-0.0039
123	SLU 17	0.09	-3.71	52.38	0.1899	0.0601	-0.0039
123	SLU 18	0.1	-4.1	54.42	0.2104	0.0631	-0.0041
123	SLU 19	0.1	-4.37	54.72	0.2242	0.0633	-0.0041
123	SLU 20	0.1	-3.89	54.91	0.1997	0.0635	-0.0041
123	SLU 21	0.1	-4.16	55.2	0.2135	0.0637	-0.0041
123	SLU 22	0.08	-3.44	48.19	0.1769	0.0554	-0.0036
123	SLU 23	0.08	-3.88	48.69	0.1999	0.0556	-0.0036
123	SLU 24	0.09	-3.27	49.1	0.1686	0.0564	-0.0036
123	SLU 25	0.09	-3.54	49.4	0.1824	0.0565	-0.0037
123	SLU 26	0.09	-3.67	49.18	0.1892	0.0561	-0.0036
123	SLU 27	0.09	-3.06	49.59	0.1579	0.0568	-0.0037
123	SLU 28	0.09	-3.33	49.89	0.1717	0.057	-0.0037
123	SLU 29	0.09	-3.02	49.17	0.1555	0.0563	-0.0036
123	SLU 30	0.09	-3.29	49.47	0.1693	0.0564	-0.0037
123	SLU 31	0.1	-4.45	56.42	0.23	0.0652	-0.0042
123	SLU 32	0.1	-3.83	56.83	0.1986	0.0659	-0.0043
123	SLU 33	0.1	-4.1	57.13	0.2124	0.0661	-0.0043
123	SLU 34	0.1	-4.24	56.9	0.2192	0.0656	-0.0042
123	SLU 35	0.1	-3.62	57.31	0.1879	0.0664	-0.0043
123	SLU 36	0.1	-3.89	57.61	0.2017	0.0665	-0.0043
123	SLU 37	0.1	-3.58	56.89	0.1855	0.0658	-0.0042
123	SLU 38	0.1	-3.85	57.19	0.1993	0.066	-0.0043
123	SLU 39	0.1	-4.24	59.23	0.2198	0.069	-0.0044
123	SLU 40	0.1	-4.51	59.53	0.2336	0.0692	-0.0045
123	SLU 41	0.1	-4.03	59.72	0.2091	0.0694	-0.0045
123	SLU 42	0.11	-4.3	60.02	0.2229	0.0696	-0.0045
123	SLU 43	0.09	-4.23	54.75	0.2145	0.0623	-0.004
123	SLU 44	0.09	-4.68	55.24	0.2375	0.0625	-0.004
123	SLU 45	0.1	-4.06	55.65	0.2062	0.0633	-0.0041
123	SLU 46	0.1	-4.33	55.95	0.22	0.0634	-0.0041
123	SLU 47	0.1	-4.47	55.73	0.2268	0.063	-0.0041
123	SLU 48	0.1	-3.85	56.14	0.1955	0.0637	-0.0041
123	SLU 49	0.1	-4.12	56.44	0.2093	0.0639	-0.0041
123	SLU 50	0.1	-3.81	55.72	0.1931	0.0632	-0.0041
123	SLU 51	0.1	-4.08	56.02	0.2069	0.0633	-0.0041
123	SLU 52	0.11	-5.24	62.97	0.2675	0.0721	-0.0047
123	SLU 53	0.11	-4.63	63.38	0.2362	0.0728	-0.0047
123	SLU 54	0.11	-4.89	63.68	0.25	0.073	-0.0047
123	SLU 55	0.11	-5.03	63.46	0.2568	0.0725	-0.0047
123	SLU 56	0.11	-4.42	63.87	0.2255	0.0733	-0.0047
123	SLU 57	0.11	-4.69	64.16	0.2393	0.0734	-0.0047
123	SLU 58	0.11	-4.38	63.45	0.2231	0.0727	-0.0047
123	SLU 59	0.11	-4.64	63.74	0.2369	0.0729	-0.0047
123	SLU 60	0.11	-5.04	65.78	0.2574	0.0759	-0.0049
123	SLU 61	0.11	-5.3	66.08	0.2712	0.0761	-0.0049
123	SLU 62	0.12	-4.83	66.27	0.2467	0.0763	-0.0049
123	SLU 63	0.12	-5.1	66.57	0.2605	0.0765	-0.0049
123	SLU 64	0.1	-4.37	59.56	0.2239	0.0682	-0.0044
123	SLU 65	0.1	-4.82	60.06	0.2469	0.0684	-0.0044
123	SLU 66	0.1	-4.21	60.47	0.2156	0.0692	-0.0045
123	SLU 67	0.11	-4.47	60.76	0.2294	0.0693	-0.0045
123	SLU 68	0.1	-4.61	60.54	0.2362	0.0689	-0.0045
123	SLU 69	0.11	-4	60.95	0.2049	0.0696	-0.0045
123	SLU 70	0.11	-4.26	61.25	0.2187	0.0698	-0.0045
123	SLU 71	0.1	-3.96	60.53	0.2025	0.0691	-0.0045
123	SLU 72	0.1	-4.22	60.83	0.2163	0.0692	-0.0045
123	SLU 73	0.12	-5.39	67.78	0.277	0.078	-0.005
123	SLU 74	0.12	-4.77	68.19	0.2457	0.0787	-0.0051
123	SLU 75	0.12	-5.04	68.49	0.2595	0.0789	-0.0051
123	SLU 76	0.12	-5.18	68.27	0.2662	0.0784	-0.0051
123	SLU 77	0.12	-4.56	68.68	0.2349	0.0792	-0.0051
123	SLU 78	0.12	-4.83	68.98	0.2487	0.0793	-0.0051
123	SLU 79	0.12	-4.52	68.26	0.2325	0.0786	-0.0051
123	SLU 80	0.12	-4.79	68.56	0.2463	0.0788	-0.0051
123	SLU 81	0.12	-5.18	70.6	0.2668	0.0818	-0.0053
123	SLU 82	0.12	-5.45	70.89	0.2806	0.082	-0.0053
123	SLU 83	0.12	-4.97	71.08	0.2561	0.0822	-0.0053
123	SLU 84	0.12	-5.24	71.38	0.2699	0.0824	-0.0053
123	SLE RA 1	0.08	-3.33	44.76	0.1702	0.0511	-0.0033
123	SLE RA 2	0.08	-3.63	45.09	0.1855	0.0513	-0.0033
123	SLE RA 3	0.08	-3.22	45.36	0.1647	0.0518	-0.0033
123	SLE RA 4	0.08	-3.4	45.56	0.1739	0.0519	-0.0034
123	SLE RA 5	0.08	-3.49	45.41	0.1784	0.0516	-0.0033



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
123	SLE RA 6	0.08	-3.08	45.69	0.1575	0.0521	-0.0034
123	SLE RA 7	0.08	-3.26	45.89	0.1667	0.0522	-0.0034
123	SLE RA 8	0.08	-3.05	45.41	0.1559	0.0517	-0.0033
123	SLE RA 9	0.08	-3.23	45.6	0.1651	0.0518	-0.0033
123	SLE RA 10	0.09	-4.01	50.24	0.2055	0.0577	-0.0037
123	SLE RA 11	0.09	-3.6	50.51	0.1847	0.0582	-0.0037
123	SLE RA 12	0.09	-3.78	50.71	0.1939	0.0583	-0.0038
123	SLE RA 13	0.09	-3.87	50.56	0.1984	0.058	-0.0037
123	SLE RA 14	0.09	-3.46	50.84	0.1775	0.0585	-0.0038
123	SLE RA 15	0.09	-3.64	51.04	0.1867	0.0586	-0.0038
123	SLE RA 16	0.09	-3.43	50.56	0.1759	0.0581	-0.0037
123	SLE RA 17	0.09	-3.61	50.75	0.1851	0.0582	-0.0038
123	SLE RA 18	0.09	-3.87	52.11	0.1988	0.0602	-0.0039
123	SLE RA 19	0.09	-4.05	52.31	0.208	0.0603	-0.0039
123	SLE RA 20	0.09	-3.73	52.44	0.1916	0.0605	-0.0039
123	SLE RA 21	0.09	-3.91	52.64	0.2008	0.0606	-0.0039
123	SLE FR 1	0.08	-3.33	44.76	0.1702	0.0511	-0.0033
123	SLE FR 2	0.08	-3.39	44.82	0.1733	0.0512	-0.0033
123	SLE FR 3	0.08	-3.28	44.89	0.1673	0.0513	-0.0033
123	SLE FR 4	0.08	-3.55	47.03	0.1818	0.0539	-0.0035
123	SLE FR 5	0.08	-3.44	47.09	0.1759	0.054	-0.0035
123	SLE FR 6	0.08	-3.6	48.44	0.1845	0.0557	-0.0036
123	SLE QP 1	0.08	-3.33	44.76	0.1702	0.0511	-0.0033
123	SLE QP 2	0.08	-3.49	46.96	0.1788	0.0539	-0.0035
123	SLD 1	0.22	-0.45	41.77	0.0178	0.172	-0.0095
123	SLD 2	0.22	-0.45	41.77	0.0178	0.172	-0.0095
123	SLD 3	0.25	-4.13	43.82	0.2109	0.1937	-0.0108
123	SLD 4	0.25	-4.13	43.82	0.2109	0.1937	-0.0108
123	SLD 5	0.08	3	42.31	-0.1625	0.0564	-0.0034
123	SLD 6	0.08	3	42.31	-0.1625	0.0564	-0.0034
123	SLD 7	0.18	-9.26	49.12	0.4814	0.1287	-0.0076
123	SLD 8	0.18	-9.26	49.12	0.4814	0.1287	-0.0076
123	SLD 9	-0.01	2.28	44.81	-0.1239	-0.021	0.0006
123	SLD 10	-0.01	2.28	44.81	-0.1239	-0.021	0.0006
123	SLD 11	0.08	-9.99	51.62	0.52	0.0513	-0.0036
123	SLD 12	0.08	-9.99	51.62	0.52	0.0513	-0.0036
123	SLD 13	-0.09	-2.86	50.11	0.1466	-0.086	0.0038
123	SLD 14	-0.09	-2.86	50.11	0.1466	-0.086	0.0038
123	SLD 15	-0.06	-6.54	52.15	0.3398	-0.0643	0.0026
123	SLD 16	-0.06	-6.54	52.15	0.3398	-0.0643	0.0026
123	SLV 1	0.44	3.68	34.74	-0.2	0.3531	-0.0188
123	SLV 2	0.44	3.68	34.74	-0.2	0.3531	-0.0188
123	SLV 3	0.51	-4.95	39.59	0.2529	0.4053	-0.0218
123	SLV 4	0.51	-4.95	39.59	0.2529	0.4053	-0.0218
123	SLV 5	0.08	11.74	35.95	-0.6218	0.0646	-0.0035
123	SLV 6	0.08	11.74	35.95	-0.6218	0.0646	-0.0035
123	SLV 7	0.31	-17.01	52.1	0.8879	0.2383	-0.0135
123	SLV 8	0.31	-17.01	52.1	0.8879	0.2383	-0.0135
123	SLV 9	-0.15	10.02	41.83	-0.5304	-0.1306	0.0066
123	SLV 10	-0.15	10.02	41.83	-0.5304	-0.1306	0.0066
123	SLV 11	0.08	-18.72	57.98	0.9793	0.0431	-0.0034
123	SLV 12	0.08	-18.72	57.98	0.9793	0.0431	-0.0034
123	SLV 13	-0.35	-2.04	54.34	0.1046	-0.2975	0.0149
123	SLV 14	-0.35	-2.04	54.34	0.1046	-0.2975	0.0149
123	SLV 15	-0.28	-10.66	59.19	0.5576	-0.2454	0.0119
123	SLV 16	-0.28	-10.66	59.19	0.5576	-0.2454	0.0119
124	SLU 1	0	0.61	34.13	-0.1158	-0.0029	0
124	SLU 2	-0.01	2.96	35.1	-0.2373	-0.012	0
124	SLU 3	0	0.43	35.18	-0.1094	-0.003	0
124	SLU 4	-0.01	1.84	35.76	-0.1823	-0.0084	0
124	SLU 5	-0.01	2.7	35.8	-0.2268	-0.012	0
124	SLU 6	0	0.17	35.88	-0.0989	-0.003	0
124	SLU 7	-0.01	1.58	36.46	-0.1718	-0.0085	0
124	SLU 8	0	0.1	35.54	-0.0947	-0.003	0
124	SLU 9	-0.01	1.51	36.12	-0.1677	-0.0084	0
124	SLU 10	-0.01	3.14	40.19	-0.2576	-0.0124	0
124	SLU 11	0	0.6	40.27	-0.1298	-0.0035	0
124	SLU 12	-0.01	2.01	40.85	-0.2027	-0.0089	0
124	SLU 13	-0.01	2.88	40.89	-0.2471	-0.0125	0
124	SLU 14	0	0.35	40.98	-0.1192	-0.0035	0
124	SLU 15	-0.01	1.76	41.56	-0.1922	-0.0089	0
124	SLU 16	0	0.28	40.63	-0.1151	-0.0034	0
124	SLU 17	-0.01	1.69	41.21	-0.188	-0.0089	0
124	SLU 18	0	0.87	41.41	-0.1448	-0.0036	0
124	SLU 19	-0.01	2.28	41.99	-0.2178	-0.009	0
124	SLU 20	0	0.61	42.11	-0.1343	-0.0036	0
124	SLU 21	-0.01	2.02	42.69	-0.2072	-0.0091	0
124	SLU 22	0	0.69	38.87	-0.1297	-0.0033	0
124	SLU 23	-0.01	3.04	39.84	-0.2513	-0.0124	0
124	SLU 24	0	0.5	39.92	-0.1234	-0.0034	0
124	SLU 25	-0.01	1.91	40.5	-0.1963	-0.0089	0
124	SLU 26	-0.01	2.78	40.54	-0.2408	-0.0125	0
124	SLU 27	0	0.24	40.62	-0.1129	-0.0035	0
124	SLU 28	-0.01	1.65	41.2	-0.1858	-0.0089	0
124	SLU 29	0	0.17	40.28	-0.1087	-0.0034	0
124	SLU 30	-0.01	1.58	40.86	-0.1816	-0.0089	0
124	SLU 31	-0.01	3.22	44.93	-0.2716	-0.0129	0
124	SLU 32	0	0.68	45.01	-0.1437	-0.0039	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
124	SLU 33			-0.01	2.09	45.59	-0.2166	-0.0093	0
124	SLU 34			-0.01	2.96	45.63	-0.2611	-0.0129	0
124	SLU 35			0	0.42	45.72	-0.1332	-0.0039	0
124	SLU 36			-0.01	1.83	46.3	-0.2061	-0.0094	0
124	SLU 37			0	0.35	45.37	-0.129	-0.0039	0
124	SLU 38			-0.01	1.76	45.95	-0.202	-0.0093	0
124	SLU 39			0	0.94	46.15	-0.1588	-0.004	0
124	SLU 40			-0.01	2.35	46.73	-0.2317	-0.0094	0
124	SLU 41			0	0.69	46.85	-0.1483	-0.004	0
124	SLU 42			-0.01	2.1	47.43	-0.2212	-0.0095	0
124	SLU 43			0	0.77	42.75	-0.1457	-0.0036	0
124	SLU 44			-0.01	3.12	43.71	-0.2673	-0.0127	0
124	SLU 45			0	0.58	43.8	-0.1394	-0.0037	0
124	SLU 46			-0.01	1.99	44.37	-0.2123	-0.0092	0
124	SLU 47			-0.01	2.86	44.42	-0.2567	-0.0127	0
124	SLU 48			0	0.33	44.5	-0.1288	-0.0038	0
124	SLU 49			-0.01	1.74	45.08	-0.2018	-0.0092	0
124	SLU 50			0	0.25	44.16	-0.1247	-0.0037	0
124	SLU 51			-0.01	1.66	44.73	-0.1976	-0.0091	0
124	SLU 52			-0.01	3.3	48.8	-0.2876	-0.0132	0
124	SLU 53			0	0.76	48.89	-0.1597	-0.0042	0
124	SLU 54			-0.01	2.17	49.47	-0.2326	-0.0096	0
124	SLU 55			-0.01	3.04	49.51	-0.2771	-0.0132	0
124	SLU 56			0	0.5	49.59	-0.1492	-0.0042	0
124	SLU 57			-0.01	1.91	50.17	-0.2221	-0.0097	0
124	SLU 58			0	0.43	49.25	-0.145	-0.0042	0
124	SLU 59			-0.01	1.84	49.83	-0.2179	-0.0096	0
124	SLU 60			0	1.03	50.02	-0.1748	-0.0043	0
124	SLU 61			-0.01	2.44	50.6	-0.2477	-0.0097	0
124	SLU 62			0	0.77	50.73	-0.1643	-0.0043	0
124	SLU 63			-0.01	2.18	51.31	-0.2372	-0.0098	0
124	SLU 64			0	0.85	47.49	-0.1597	-0.004	0
124	SLU 65			-0.01	3.2	48.45	-0.2812	-0.0131	0
124	SLU 66			0	0.66	48.53	-0.1533	-0.0041	0
124	SLU 67			-0.01	2.07	49.11	-0.2262	-0.0096	0
124	SLU 68			-0.01	2.94	49.16	-0.2707	-0.0132	0
124	SLU 69			0	0.4	49.24	-0.1428	-0.0042	0
124	SLU 70			-0.01	1.81	49.82	-0.2157	-0.0096	0
124	SLU 71			0	0.33	48.9	-0.1386	-0.0041	0
124	SLU 72			-0.01	1.74	49.47	-0.2116	-0.0096	0
124	SLU 73			-0.01	3.37	53.54	-0.3016	-0.0136	0
124	SLU 74			0	0.84	53.63	-0.1737	-0.0046	0
124	SLU 75			-0.01	2.25	54.21	-0.2466	-0.0101	0
124	SLU 76			-0.01	3.12	54.25	-0.291	-0.0136	0
124	SLU 77			0	0.58	54.33	-0.1631	-0.0047	0
124	SLU 78			-0.01	1.99	54.91	-0.2361	-0.0101	0
124	SLU 79			0	0.51	53.99	-0.159	-0.0046	0
124	SLU 80			-0.01	1.92	54.57	-0.2319	-0.01	0
124	SLU 81			0	1.1	54.76	-0.1887	-0.0047	0
124	SLU 82			-0.01	2.51	55.34	-0.2617	-0.0102	0
124	SLU 83			0	0.84	55.47	-0.1782	-0.0048	0
124	SLU 84			-0.01	2.25	56.05	-0.2511	-0.0102	0
124	SLE RA 1			0	0.63	35.49	-0.1198	-0.003	0
124	SLE RA 2			-0.01	2.2	36.13	-0.2008	-0.0091	0
124	SLE RA 3			0	0.51	36.19	-0.1155	-0.0031	0
124	SLE RA 4			-0.01	1.45	36.57	-0.1641	-0.0067	0
124	SLE RA 5			-0.01	2.03	36.6	-0.1938	-0.0091	0
124	SLE RA 6			0	0.34	36.65	-0.1085	-0.0031	0
124	SLE RA 7			-0.01	1.28	37.04	-0.1571	-0.0067	0
124	SLE RA 8			0	0.29	36.43	-0.1057	-0.0031	0
124	SLE RA 9			-0.01	1.23	36.81	-0.1544	-0.0067	0
124	SLE RA 10			-0.01	2.32	39.53	-0.2143	-0.0094	0
124	SLE RA 11			0	0.63	39.58	-0.1291	-0.0034	0
124	SLE RA 12			-0.01	1.57	39.97	-0.1777	-0.007	0
124	SLE RA 13			-0.01	2.15	39.99	-0.2073	-0.0094	0
124	SLE RA 14			0	0.46	40.05	-0.1221	-0.0034	0
124	SLE RA 15			-0.01	1.4	40.44	-0.1707	-0.0071	0
124	SLE RA 16			0	0.41	39.82	-0.1193	-0.0034	0
124	SLE RA 17			-0.01	1.35	40.21	-0.1679	-0.007	0
124	SLE RA 18			0	0.8	40.34	-0.1391	-0.0035	0
124	SLE RA 19			-0.01	1.74	40.72	-0.1878	-0.0071	0
124	SLE RA 20			0	0.63	40.81	-0.1321	-0.0035	0
124	SLE RA 21			-0.01	1.57	41.19	-0.1807	-0.0071	0
124	SLE FR 1			0	0.63	35.49	-0.1198	-0.003	0
124	SLE FR 2			0	0.95	35.62	-0.136	-0.0042	0
124	SLE FR 3			0	0.56	35.67	-0.117	-0.003	0
124	SLE FR 4			0	1	37.07	-0.1418	-0.0044	0
124	SLE FR 5			0	0.62	37.13	-0.1228	-0.0032	0
124	SLE FR 6			0	0.72	37.91	-0.1295	-0.0032	0
124	SLE QP 1			0	0.63	35.49	-0.1198	-0.003	0
124	SLE QP 2			0	0.68	36.94	-0.1256	-0.0032	0
124	SLD 1			0.09	3.49	39.48	-0.2621	0.0707	0
124	SLD 2			0.09	3.49	39.48	-0.2621	0.0707	0
124	SLD 3			0.12	0.47	37.93	-0.1145	0.0971	0
124	SLD 4			0.12	0.47	37.93	-0.1145	0.0971	0
124	SLD 5			-0.02	6.1	40.05	-0.3905	-0.0209	0
124	SLD 6			-0.02	6.1	40.05	-0.3905	-0.0209	0
124	SLD 7			0.08	-3.96	34.89	0.1017	0.0668	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
124	SLD 8			0.08	-3.96	34.89	0.1017	0.0668	0
124	SLD 9			-0.08	5.33	38.99	-0.3529	-0.0731	0
124	SLD 10			-0.08	5.33	38.99	-0.3529	-0.0731	0
124	SLD 11			0.02	-4.73	33.84	0.1393	0.0146	0
124	SLD 12			0.02	-4.73	33.84	0.1393	0.0146	0
124	SLD 13			-0.12	0.9	35.95	-0.1367	-0.1034	0
124	SLD 14			-0.12	0.9	35.95	-0.1367	-0.1034	0
124	SLD 15			-0.09	-2.12	34.41	0.011	-0.077	0
124	SLD 16			-0.09	-2.12	34.41	0.011	-0.077	0
124	SLV 1			0.21	7.47	42.89	-0.4566	0.1771	0
124	SLV 2			0.21	7.47	42.89	-0.4566	0.1771	0
124	SLV 3			0.29	0.29	39.24	-0.1049	0.2438	0
124	SLV 4			0.29	0.29	39.24	-0.1049	0.2438	0
124	SLV 5			-0.05	13.61	44.27	-0.7584	-0.0502	0
124	SLV 6			-0.05	13.61	44.27	-0.7584	-0.0502	0
124	SLV 7			0.2	-10.32	32.09	0.4141	0.1721	0
124	SLV 8			0.2	-10.32	32.09	0.4141	0.1721	0
124	SLV 9			-0.2	11.69	41.8	-0.6653	-0.1784	0
124	SLV 10			-0.2	11.69	41.8	-0.6653	-0.1784	0
124	SLV 11			0.05	-12.24	29.61	0.5072	0.0439	0
124	SLV 12			0.05	-12.24	29.61	0.5072	0.0439	0
124	SLV 13			-0.29	1.08	34.65	-0.1463	-0.2501	0
124	SLV 14			-0.29	1.08	34.65	-0.1463	-0.2501	0
124	SLV 15			-0.22	-6.1	30.99	0.2054	-0.1834	0
124	SLV 16			-0.22	-6.1	30.99	0.2054	-0.1834	0
125	SLU 1			0.02	4.15	54.35	-0.2117	0.0136	0
125	SLU 2			0.08	4.95	57.62	-0.2524	0.0809	0
125	SLU 3			0.02	4.35	56.16	-0.2219	0.0138	0
125	SLU 4			0.05	4.83	58.12	-0.2463	0.0542	0
125	SLU 5			0.08	5.1	58.84	-0.2599	0.0811	0
125	SLU 6			0.02	4.49	57.38	-0.2295	0.0139	0
125	SLU 7			0.05	4.97	59.34	-0.2539	0.0544	0
125	SLU 8			0.02	4.44	56.78	-0.2268	0.0138	0
125	SLU 9			0.05	4.92	58.75	-0.2513	0.0542	0
125	SLU 10			0.08	5.57	64.03	-0.2828	0.0829	0
125	SLU 11			0.02	4.97	62.58	-0.2523	0.0157	0
125	SLU 12			0.05	5.45	64.54	-0.2767	0.0562	0
125	SLU 13			0.08	5.71	65.25	-0.2904	0.083	0
125	SLU 14			0.02	5.11	63.79	-0.2599	0.0159	0
125	SLU 15			0.05	5.59	65.76	-0.2843	0.0563	0
125	SLU 16			0.02	5.06	63.2	-0.2572	0.0157	0
125	SLU 17			0.05	5.54	65.16	-0.2817	0.0561	0
125	SLU 18			0.02	5.03	63.52	-0.2551	0.0163	0
125	SLU 19			0.05	5.51	65.48	-0.2795	0.0567	0
125	SLU 20			0.02	5.18	64.74	-0.2627	0.0164	0
125	SLU 21			0.06	5.66	66.7	-0.2871	0.0569	0
125	SLU 22			0.02	4.76	60.93	-0.2426	0.0153	0
125	SLU 23			0.08	5.57	64.2	-0.2833	0.0827	0
125	SLU 24			0.02	4.96	62.74	-0.2529	0.0156	0
125	SLU 25			0.05	5.45	64.7	-0.2773	0.056	0
125	SLU 26			0.08	5.71	65.42	-0.2909	0.0828	0
125	SLU 27			0.02	5.11	63.96	-0.2605	0.0157	0
125	SLU 28			0.05	5.59	65.92	-0.2849	0.0561	0
125	SLU 29			0.02	5.06	63.37	-0.2578	0.0156	0
125	SLU 30			0.05	5.54	65.33	-0.2822	0.056	0
125	SLU 31			0.08	6.18	70.62	-0.3137	0.0846	0
125	SLU 32			0.02	5.58	69.16	-0.2833	0.0175	0
125	SLU 33			0.06	6.06	71.12	-0.3077	0.0579	0
125	SLU 34			0.08	6.33	71.84	-0.3213	0.0847	0
125	SLU 35			0.02	5.73	70.38	-0.2909	0.0176	0
125	SLU 36			0.06	6.21	72.34	-0.3153	0.058	0
125	SLU 37			0.02	5.68	69.79	-0.2882	0.0175	0
125	SLU 38			0.06	6.16	71.75	-0.3126	0.0579	0
125	SLU 39			0.02	5.65	70.1	-0.2861	0.0181	0
125	SLU 40			0.06	6.13	72.06	-0.3105	0.0585	0
125	SLU 41			0.02	5.79	71.32	-0.2937	0.0182	0
125	SLU 42			0.06	6.27	73.28	-0.3181	0.0586	0
125	SLU 43			0.02	5.18	68.39	-0.2645	0.017	0
125	SLU 44			0.08	5.98	71.66	-0.3052	0.0844	0
125	SLU 45			0.02	5.38	70.2	-0.2748	0.0173	0
125	SLU 46			0.06	5.86	72.17	-0.2992	0.0577	0
125	SLU 47			0.08	6.13	72.88	-0.3128	0.0845	0
125	SLU 48			0.02	5.53	71.42	-0.2824	0.0174	0
125	SLU 49			0.06	6.01	73.38	-0.3068	0.0578	0
125	SLU 50			0.02	5.47	70.83	-0.2797	0.0173	0
125	SLU 51			0.06	5.95	72.79	-0.3041	0.0577	0
125	SLU 52			0.08	6.6	78.08	-0.3356	0.0863	0
125	SLU 53			0.02	6	76.62	-0.3052	0.0192	0
125	SLU 54			0.06	6.48	78.58	-0.3296	0.0596	0
125	SLU 55			0.08	6.75	79.3	-0.3432	0.0864	0
125	SLU 56			0.02	6.14	77.84	-0.3128	0.0193	0
125	SLU 57			0.06	6.63	79.8	-0.3372	0.0598	0
125	SLU 58			0.02	6.09	77.25	-0.3101	0.0192	0
125	SLU 59			0.06	6.57	79.21	-0.3345	0.0596	0
125	SLU 60			0.02	6.06	77.56	-0.308	0.0198	0
125	SLU 61			0.06	6.54	79.53	-0.3324	0.0602	0
125	SLU 62			0.02	6.21	78.78	-0.3156	0.0199	0
125	SLU 63			0.06	6.69	80.74	-0.34	0.0603	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
125	SLU 64		0.02	5.8	74.98	-0.2955	0.0188	0
125	SLU 65		0.08	6.6	78.25	-0.3362	0.0862	0
125	SLU 66		0.02	6	76.79	-0.3058	0.019	0
125	SLU 67		0.06	6.48	78.75	-0.3302	0.0595	0
125	SLU 68		0.08	6.75	79.47	-0.3438	0.0863	0
125	SLU 69		0.02	6.14	78.01	-0.3133	0.0192	0
125	SLU 70		0.06	6.62	79.97	-0.3378	0.0596	0
125	SLU 71		0.02	6.09	77.42	-0.3107	0.019	0
125	SLU 72		0.06	6.57	79.38	-0.3351	0.0594	0
125	SLU 73		0.08	7.22	84.67	-0.3666	0.0881	0
125	SLU 74		0.02	6.61	83.21	-0.3362	0.021	0
125	SLU 75		0.06	7.1	85.17	-0.3606	0.0614	0
125	SLU 76		0.08	7.36	85.88	-0.3742	0.0882	0
125	SLU 77		0.02	6.76	84.42	-0.3437	0.0211	0
125	SLU 78		0.06	7.24	86.39	-0.3682	0.0615	0
125	SLU 79		0.02	6.71	83.83	-0.3411	0.0209	0
125	SLU 80		0.06	7.19	85.8	-0.3655	0.0614	0
125	SLU 81		0.03	6.68	84.15	-0.339	0.0215	0
125	SLU 82		0.06	7.16	86.11	-0.3634	0.062	0
125	SLU 83		0.03	6.83	85.37	-0.3465	0.0216	0
125	SLU 84		0.06	7.31	87.33	-0.371	0.0621	0
125	SLE RA 1		0.02	4.32	56.23	-0.2205	0.0141	0
125	SLE RA 2		0.06	4.86	58.41	-0.2476	0.059	0
125	SLE RA 3		0.02	4.46	57.43	-0.2273	0.0142	0
125	SLE RA 4		0.04	4.78	58.74	-0.2436	0.0412	0
125	SLE RA 5		0.06	4.96	59.22	-0.2527	0.0591	0
125	SLE RA 6		0.02	4.55	58.25	-0.2324	0.0143	0
125	SLE RA 7		0.04	4.88	59.55	-0.2487	0.0413	0
125	SLE RA 8		0.02	4.52	57.85	-0.2306	0.0142	0
125	SLE RA 9		0.04	4.84	59.16	-0.2469	0.0412	0
125	SLE RA 10		0.06	5.27	62.69	-0.2679	0.0603	0
125	SLE RA 11		0.02	4.87	61.71	-0.2476	0.0155	0
125	SLE RA 12		0.04	5.19	63.02	-0.2639	0.0425	0
125	SLE RA 13		0.06	5.37	63.5	-0.273	0.0603	0
125	SLE RA 14		0.02	4.97	62.53	-0.2527	0.0156	0
125	SLE RA 15		0.04	5.29	63.83	-0.2689	0.0425	0
125	SLE RA 16		0.02	4.93	62.13	-0.2509	0.0155	0
125	SLE RA 17		0.04	5.25	63.44	-0.2672	0.0425	0
125	SLE RA 18		0.02	4.91	62.34	-0.2495	0.0159	0
125	SLE RA 19		0.04	5.23	63.65	-0.2658	0.0428	0
125	SLE RA 20		0.02	5.01	63.15	-0.2545	0.016	0
125	SLE RA 21		0.04	5.33	64.46	-0.2708	0.0429	0
125	SLE FR 1		0.02	4.32	56.23	-0.2205	0.0141	0
125	SLE FR 2		0.02	4.43	56.66	-0.2259	0.023	0
125	SLE FR 3		0.02	4.36	56.55	-0.2225	0.0141	0
125	SLE FR 4		0.02	4.61	58.5	-0.2346	0.0236	0
125	SLE FR 5		0.02	4.54	58.39	-0.2312	0.0146	0
125	SLE FR 6		0.02	4.62	59.28	-0.235	0.015	0
125	SLE QP 1		0.02	4.32	56.23	-0.2205	0.0141	0
125	SLE QP 2		0.02	4.5	58.06	-0.2292	0.0146	0
125	SLD 1		0.23	4.92	44.64	-0.2366	0.2146	0
125	SLD 2		0.23	4.92	44.64	-0.2366	0.2146	0
125	SLD 3		0.14	1.89	40.06	-0.1056	0.124	0
125	SLD 4		0.14	1.89	40.06	-0.1056	0.124	0
125	SLD 5		0.22	9.22	60.97	-0.4301	0.2122	0
125	SLD 6		0.22	9.22	60.97	-0.4301	0.2122	0
125	SLD 7		-0.08	-0.88	45.73	0.0066	-0.0901	0
125	SLD 8		-0.08	-0.88	45.73	0.0066	-0.0901	0
125	SLD 9		0.12	9.88	70.4	-0.465	0.1194	0.0001
125	SLD 10		0.12	9.88	70.4	-0.465	0.1194	0.0001
125	SLD 11		-0.18	-0.22	55.15	-0.0283	-0.183	0
125	SLD 12		-0.18	-0.22	55.15	-0.0283	-0.183	0
125	SLD 13		-0.11	7.11	76.06	-0.3528	-0.0947	0
125	SLD 14		-0.11	7.11	76.06	-0.3528	-0.0947	0
125	SLD 15		-0.2	4.08	71.49	-0.2218	-0.1854	0
125	SLD 16		-0.2	4.08	71.49	-0.2218	-0.1854	0
125	SLV 1		0.53	5.47	26.65	-0.2458	0.5022	0
125	SLV 2		0.53	5.47	26.65	-0.2458	0.5022	0
125	SLV 3		0.3	-1.6	15.86	0.0599	0.2706	-0.0001
125	SLV 4		0.3	-1.6	15.86	0.0599	0.2706	-0.0001
125	SLV 5		0.52	15.51	65.01	-0.6978	0.5121	0.0001
125	SLV 6		0.52	15.51	65.01	-0.6978	0.5121	0.0001
125	SLV 7		-0.24	-8.04	29.03	0.3212	-0.2598	-0.0001
125	SLV 8		-0.24	-8.04	29.03	0.3212	-0.2598	-0.0001
125	SLV 9		0.28	17.05	87.09	-0.7796	0.289	0.0001
125	SLV 10		0.28	17.05	87.09	-0.7796	0.289	0.0001
125	SLV 11		-0.48	-6.51	51.12	0.2394	-0.4829	-0.0001
125	SLV 12		-0.48	-6.51	51.12	0.2394	-0.4829	-0.0001
125	SLV 13		-0.27	10.6	100.26	-0.5183	-0.2414	0.0001
125	SLV 14		-0.27	10.6	100.26	-0.5183	-0.2414	0.0001
125	SLV 15		-0.5	3.53	89.47	-0.2126	-0.4729	0
125	SLV 16		-0.5	3.53	89.47	-0.2126	-0.4729	0
126	SLU 1		-0.32	3.22	55.91	-0.2569	-0.2196	-0.0015
126	SLU 2		-0.4	4.24	59.12	-0.3182	-0.2974	-0.0019
126	SLU 3		-0.34	3.42	57.97	-0.2721	-0.2281	-0.0016
126	SLU 4		-0.38	4.04	59.9	-0.3089	-0.2748	-0.0018
126	SLU 5		-0.41	4.42	60.65	-0.3309	-0.3035	-0.0019
126	SLU 6		-0.35	3.6	59.5	-0.2848	-0.2342	-0.0016





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
126	SLU 7	-0.39	4.21	61.42	-0.3216	-0.2809	-0.0018
126	SLU 8	-0.34	3.57	58.97	-0.2824	-0.2318	-0.0016
126	SLU 9	-0.39	4.18	60.89	-0.3191	-0.2785	-0.0018
126	SLU 10	-0.44	4.66	65.62	-0.3516	-0.3262	-0.0021
126	SLU 11	-0.38	3.85	64.47	-0.3055	-0.2569	-0.0018
126	SLU 12	-0.43	4.46	66.4	-0.3422	-0.3036	-0.002
126	SLU 13	-0.45	4.84	67.15	-0.3643	-0.3323	-0.0021
126	SLU 14	-0.39	4.02	66	-0.3182	-0.263	-0.0018
126	SLU 15	-0.44	4.64	67.92	-0.3549	-0.3097	-0.002
126	SLU 16	-0.39	3.99	65.47	-0.3157	-0.2606	-0.0018
126	SLU 17	-0.43	4.61	67.4	-0.3525	-0.3073	-0.002
126	SLU 18	-0.38	3.82	65.2	-0.3046	-0.2607	-0.0018
126	SLU 19	-0.43	4.44	67.13	-0.3413	-0.3074	-0.002
126	SLU 20	-0.39	4	66.73	-0.3173	-0.2669	-0.0018
126	SLU 21	-0.44	4.61	68.65	-0.3541	-0.3135	-0.0021
126	SLU 22	-0.37	3.68	62.71	-0.2937	-0.2493	-0.0017
126	SLU 23	-0.45	4.7	65.92	-0.355	-0.327	-0.0021
126	SLU 24	-0.38	3.89	64.77	-0.3089	-0.2578	-0.0018
126	SLU 25	-0.43	4.5	66.69	-0.3457	-0.3044	-0.002
126	SLU 26	-0.46	4.88	67.44	-0.3677	-0.3332	-0.0021
126	SLU 27	-0.39	4.06	66.3	-0.3216	-0.2639	-0.0018
126	SLU 28	-0.44	4.67	68.22	-0.3584	-0.3105	-0.002
126	SLU 29	-0.39	4.03	65.77	-0.3192	-0.2615	-0.0018
126	SLU 30	-0.43	4.64	67.69	-0.3559	-0.3082	-0.002
126	SLU 31	-0.49	5.13	72.42	-0.3884	-0.3558	-0.0023
126	SLU 32	-0.42	4.31	71.27	-0.3423	-0.2866	-0.002
126	SLU 33	-0.47	4.92	73.19	-0.379	-0.3332	-0.0022
126	SLU 34	-0.5	5.3	73.95	-0.4011	-0.3619	-0.0023
126	SLU 35	-0.43	4.49	72.8	-0.355	-0.2927	-0.002
126	SLU 36	-0.48	5.1	74.72	-0.3917	-0.3393	-0.0022
126	SLU 37	-0.43	4.46	72.27	-0.3525	-0.2903	-0.002
126	SLU 38	-0.48	5.07	74.19	-0.3893	-0.337	-0.0022
126	SLU 39	-0.43	4.29	72	-0.3414	-0.2904	-0.002
126	SLU 40	-0.48	4.9	73.92	-0.3782	-0.3371	-0.0022
126	SLU 41	-0.44	4.46	73.53	-0.3541	-0.2965	-0.002
126	SLU 42	-0.48	5.08	75.45	-0.3909	-0.3432	-0.0023
126	SLU 43	-0.41	4.02	70.36	-0.3214	-0.2753	-0.0019
126	SLU 44	-0.48	5.05	73.56	-0.3827	-0.3531	-0.0023
126	SLU 45	-0.42	4.23	72.42	-0.3366	-0.2838	-0.0019
126	SLU 46	-0.47	4.84	74.34	-0.3733	-0.3305	-0.0022
126	SLU 47	-0.49	5.22	75.09	-0.3954	-0.3592	-0.0023
126	SLU 48	-0.43	4.41	73.94	-0.3493	-0.2899	-0.002
126	SLU 49	-0.47	5.02	75.87	-0.3861	-0.3366	-0.0022
126	SLU 50	-0.42	4.38	73.42	-0.3468	-0.2876	-0.002
126	SLU 51	-0.47	4.99	75.34	-0.3836	-0.3342	-0.0022
126	SLU 52	-0.53	5.47	80.07	-0.416	-0.3819	-0.0025
126	SLU 53	-0.46	4.65	78.92	-0.3699	-0.3126	-0.0021
126	SLU 54	-0.51	5.27	80.84	-0.4067	-0.3593	-0.0024
126	SLU 55	-0.54	5.65	81.59	-0.4287	-0.388	-0.0025
126	SLU 56	-0.47	4.83	80.45	-0.3827	-0.3187	-0.0022
126	SLU 57	-0.52	5.44	82.37	-0.4194	-0.3654	-0.0024
126	SLU 58	-0.47	4.8	79.92	-0.3802	-0.3164	-0.0022
126	SLU 59	-0.51	5.41	81.84	-0.4169	-0.363	-0.0024
126	SLU 60	-0.47	4.63	79.65	-0.3691	-0.3165	-0.0022
126	SLU 61	-0.51	5.24	81.57	-0.4058	-0.3631	-0.0024
126	SLU 62	-0.48	4.81	81.18	-0.3818	-0.3226	-0.0022
126	SLU 63	-0.52	5.42	83.1	-0.4185	-0.3692	-0.0024
126	SLU 64	-0.45	4.49	77.16	-0.3582	-0.305	-0.0021
126	SLU 65	-0.53	5.51	80.36	-0.4195	-0.3828	-0.0025
126	SLU 66	-0.46	4.69	79.21	-0.3734	-0.3135	-0.0022
126	SLU 67	-0.51	5.31	81.14	-0.4101	-0.3601	-0.0024
126	SLU 68	-0.54	5.68	81.89	-0.4322	-0.3889	-0.0025
126	SLU 69	-0.47	4.87	80.74	-0.3861	-0.3196	-0.0022
126	SLU 70	-0.52	5.48	82.66	-0.4229	-0.3663	-0.0024
126	SLU 71	-0.47	4.84	80.21	-0.3836	-0.3172	-0.0022
126	SLU 72	-0.52	5.45	82.13	-0.4204	-0.3639	-0.0024
126	SLU 73	-0.57	5.93	86.86	-0.4528	-0.4116	-0.0027
126	SLU 74	-0.51	5.12	85.71	-0.4067	-0.3423	-0.0023
126	SLU 75	-0.55	5.73	87.64	-0.4435	-0.3889	-0.0026
126	SLU 76	-0.58	6.11	88.39	-0.4655	-0.4177	-0.0027
126	SLU 77	-0.52	5.29	87.24	-0.4195	-0.3484	-0.0024
126	SLU 78	-0.56	5.91	89.16	-0.4562	-0.395	-0.0026
126	SLU 79	-0.51	5.26	86.71	-0.417	-0.346	-0.0024
126	SLU 80	-0.56	5.88	88.64	-0.4538	-0.3927	-0.0026
126	SLU 81	-0.51	5.09	86.44	-0.4059	-0.3461	-0.0024
126	SLU 82	-0.56	5.71	88.37	-0.4426	-0.3928	-0.0026
126	SLU 83	-0.52	5.27	87.97	-0.4186	-0.3522	-0.0024
126	SLU 84	-0.57	5.88	89.89	-0.4553	-0.3989	-0.0026
126	SLE RA 1	-0.34	3.35	57.86	-0.2675	-0.2281	-0.0016
126	SLE RA 2	-0.39	4.03	59.99	-0.3083	-0.2799	-0.0018
126	SLE RA 3	-0.35	3.49	59.23	-0.2776	-0.2338	-0.0016
126	SLE RA 4	-0.38	3.9	60.51	-0.3021	-0.2649	-0.0018
126	SLE RA 5	-0.39	4.15	61.01	-0.3168	-0.284	-0.0018
126	SLE RA 6	-0.35	3.6	60.25	-0.2861	-0.2378	-0.0016
126	SLE RA 7	-0.38	4.01	61.53	-0.3106	-0.2689	-0.0018
126	SLE RA 8	-0.35	3.58	59.89	-0.2844	-0.2362	-0.0016
126	SLE RA 9	-0.38	3.99	61.18	-0.3089	-0.2674	-0.0018
126	SLE RA 10	-0.42	4.31	64.33	-0.3305	-0.2991	-0.0019



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
126	SLE RA 11			-0.37	3.77	63.56	-0.2998	-0.2529	-0.0017
126	SLE RA 12			-0.4	4.18	64.84	-0.3243	-0.2841	-0.0019
126	SLE RA 13			-0.42	4.43	65.35	-0.339	-0.3032	-0.002
126	SLE RA 14			-0.38	3.89	64.58	-0.3083	-0.257	-0.0018
126	SLE RA 15			-0.41	4.3	65.86	-0.3328	-0.2881	-0.0019
126	SLE RA 16			-0.38	3.87	64.23	-0.3066	-0.2554	-0.0018
126	SLE RA 17			-0.41	4.28	65.51	-0.3312	-0.2865	-0.0019
126	SLE RA 18			-0.38	3.75	64.05	-0.2992	-0.2555	-0.0018
126	SLE RA 19			-0.41	4.16	65.33	-0.3237	-0.2866	-0.0019
126	SLE RA 20			-0.38	3.87	65.07	-0.3077	-0.2596	-0.0018
126	SLE RA 21			-0.41	4.28	66.35	-0.3322	-0.2907	-0.0019
126	SLE FR 1			-0.34	3.35	57.86	-0.2675	-0.2281	-0.0016
126	SLE FR 2			-0.35	3.49	58.28	-0.2756	-0.2385	-0.0016
126	SLE FR 3			-0.34	3.4	58.26	-0.2708	-0.2297	-0.0016
126	SLE FR 4			-0.36	3.61	60.14	-0.2852	-0.2467	-0.0017
126	SLE FR 5			-0.35	3.52	60.12	-0.2804	-0.2379	-0.0016
126	SLE FR 6			-0.36	3.55	60.95	-0.2833	-0.2418	-0.0017
126	SLE QP 1			-0.34	3.35	57.86	-0.2675	-0.2281	-0.0016
126	SLE QP 2			-0.35	3.47	59.71	-0.277	-0.2363	-0.0016
126	SLD 1			-0.59	6.37	77.72	-0.4249	-0.4486	-0.0027
126	SLD 2			-0.59	6.37	77.72	-0.4249	-0.4486	-0.0027
126	SLD 3			-0.5	2.59	73.72	-0.2509	-0.3708	-0.0023
126	SLD 4			-0.5	2.59	73.72	-0.2509	-0.3708	-0.0023
126	SLD 5			-0.55	10.07	71.18	-0.5852	-0.418	-0.0026
126	SLD 6			-0.55	10.07	71.18	-0.5852	-0.418	-0.0026
126	SLD 7			-0.27	-2.53	57.85	-0.0053	-0.1586	-0.0012
126	SLD 8			-0.27	-2.53	57.85	-0.0053	-0.1586	-0.0012
126	SLD 9			-0.43	9.47	61.58	-0.5487	-0.314	-0.002
126	SLD 10			-0.43	9.47	61.58	-0.5487	-0.314	-0.002
126	SLD 11			-0.15	-3.13	48.24	0.0312	-0.0546	-0.0007
126	SLD 12			-0.15	-3.13	48.24	0.0312	-0.0546	-0.0007
126	SLD 13			-0.19	4.35	45.71	-0.303	-0.1018	-0.0009
126	SLD 14			-0.19	4.35	45.71	-0.303	-0.1018	-0.0009
126	SLD 15			-0.11	0.57	41.71	-0.1291	-0.024	-0.0005
126	SLD 16			-0.11	0.57	41.71	-0.1291	-0.024	-0.0005
126	SLV 1			-0.92	10.31	101.92	-0.6239	-0.7473	-0.0042
126	SLV 2			-0.92	10.31	101.92	-0.6239	-0.7473	-0.0042
126	SLV 3			-0.71	1.49	92.43	-0.217	-0.5508	-0.0032
126	SLV 4			-0.71	1.49	92.43	-0.217	-0.5508	-0.0032
126	SLV 5			-0.84	18.89	86.76	-0.9982	-0.6877	-0.0039
126	SLV 6			-0.84	18.89	86.76	-0.9982	-0.6877	-0.0039
126	SLV 7			-0.13	-10.5	55.14	0.3582	-0.0325	-0.0005
126	SLV 8			-0.13	-10.5	55.14	0.3582	-0.0325	-0.0005
126	SLV 9			-0.56	17.44	64.29	-0.9122	-0.4401	-0.0027
126	SLV 10			-0.56	17.44	64.29	-0.9122	-0.4401	-0.0027
126	SLV 11			0.15	-11.95	32.67	0.4443	0.2151	0.0007
126	SLV 12			0.15	-11.95	32.67	0.4443	0.2151	0.0007
126	SLV 13			0.01	5.45	27	-0.337	0.0781	-0.0001
126	SLV 14			0.01	5.45	27	-0.337	0.0781	-0.0001
126	SLV 15			0.22	-3.37	17.51	0.0699	0.2747	0.001
126	SLV 16			0.22	-3.37	17.51	0.0699	0.2747	0.001
127	SLU 1			0.05	-2.22	41.97	0.1054	0.0361	0.0001
127	SLU 2			0.05	-2.61	42.1	0.1239	0.0364	0.0001
127	SLU 3			0.05	-1.91	43.24	0.0907	0.0374	0.0001
127	SLU 4			0.05	-2.15	43.31	0.1018	0.0375	0.0001
127	SLU 5			0.05	-2.25	42.96	0.1062	0.0372	0.0001
127	SLU 6			0.05	-1.54	44.09	0.073	0.0382	0.0001
127	SLU 7			0.05	-1.78	44.17	0.0841	0.0384	0.0001
127	SLU 8			0.05	-1.49	43.69	0.07	0.0378	0.0001
127	SLU 9			0.05	-1.72	43.77	0.0811	0.038	0.0001
127	SLU 10			0.05	-2.96	49.89	0.1407	0.0371	0.0001
127	SLU 11			0.05	-2.25	51.02	0.1076	0.0381	0.0001
127	SLU 12			0.05	-2.49	51.1	0.1187	0.0383	0.0001
127	SLU 13			0.05	-2.59	50.75	0.123	0.038	0.0001
127	SLU 14			0.05	-1.89	51.88	0.0899	0.039	0.0001
127	SLU 15			0.05	-2.12	51.96	0.101	0.0392	0.0001
127	SLU 16			0.05	-1.83	51.48	0.0868	0.0386	0.0001
127	SLU 17			0.05	-2.07	51.55	0.0979	0.0387	0.0001
127	SLU 18			0.05	-2.71	53.09	0.1295	0.0372	0
127	SLU 19			0.05	-2.95	53.17	0.1406	0.0373	0
127	SLU 20			0.05	-2.34	53.95	0.1118	0.038	0.0001
127	SLU 21			0.05	-2.58	54.03	0.1229	0.0382	0.0001
127	SLU 22			0.06	-2.16	47.39	0.1039	0.0404	0.0001
127	SLU 23			0.06	-2.55	47.52	0.1224	0.0407	0.0001
127	SLU 24			0.06	-1.85	48.65	0.0893	0.0417	0.0001
127	SLU 25			0.06	-2.08	48.73	0.1004	0.0419	0.0001
127	SLU 26			0.06	-2.18	48.38	0.1047	0.0416	0.0001
127	SLU 27			0.06	-1.48	49.51	0.0716	0.0426	0.0001
127	SLU 28			0.06	-1.72	49.59	0.0827	0.0428	0.0001
127	SLU 29			0.06	-1.42	49.11	0.0685	0.0422	0.0001
127	SLU 30			0.06	-1.66	49.19	0.0796	0.0423	0.0001
127	SLU 31			0.06	-2.89	55.3	0.1393	0.0415	0.0001
127	SLU 32			0.06	-2.19	56.44	0.1061	0.0425	0.0001
127	SLU 33			0.06	-2.43	56.52	0.1172	0.0426	0.0001
127	SLU 34			0.06	-2.53	56.16	0.1215	0.0423	0.0001
127	SLU 35			0.06	-1.82	57.3	0.0884	0.0433	0.0001
127	SLU 36			0.06	-2.06	57.38	0.0995	0.0435	0.0001
127	SLU 37			0.06	-1.76	56.89	0.0853	0.0429	0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
127	SLU 38	0.06	-2	56.97	0.0964	0.0431	0.0001
127	SLU 39	0.06	-2.65	58.51	0.128	0.0415	0.0001
127	SLU 40	0.06	-2.88	58.59	0.1391	0.0417	0.0001
127	SLU 41	0.06	-2.28	59.37	0.1103	0.0424	0.0001
127	SLU 42	0.06	-2.51	59.45	0.1214	0.0425	0.0001
127	SLU 43	0.06	-2.91	52.71	0.1375	0.0454	0.0001
127	SLU 44	0.06	-3.3	52.84	0.156	0.0457	0.0001
127	SLU 45	0.06	-2.6	53.97	0.1228	0.0467	0.0001
127	SLU 46	0.06	-2.84	54.05	0.1339	0.0469	0.0001
127	SLU 47	0.06	-2.94	53.69	0.1383	0.0466	0.0001
127	SLU 48	0.07	-2.23	54.83	0.1051	0.0476	0.0001
127	SLU 49	0.07	-2.47	54.91	0.1162	0.0477	0.0001
127	SLU 50	0.07	-2.17	54.42	0.1021	0.0472	0.0001
127	SLU 51	0.07	-2.41	54.5	0.1132	0.0473	0.0001
127	SLU 52	0.06	-3.65	60.62	0.1728	0.0464	0.0001
127	SLU 53	0.06	-2.94	61.76	0.1397	0.0475	0.0001
127	SLU 54	0.06	-3.18	61.83	0.1508	0.0476	0.0001
127	SLU 55	0.06	-3.28	61.48	0.1551	0.0473	0.0001
127	SLU 56	0.07	-2.58	62.61	0.122	0.0483	0.0001
127	SLU 57	0.07	-2.81	62.69	0.1331	0.0485	0.0001
127	SLU 58	0.07	-2.52	62.21	0.1189	0.0479	0.0001
127	SLU 59	0.07	-2.75	62.29	0.13	0.0481	0.0001
127	SLU 60	0.06	-3.4	63.83	0.1616	0.0465	0.0001
127	SLU 61	0.06	-3.64	63.91	0.1727	0.0467	0.0001
127	SLU 62	0.06	-3.03	64.69	0.1439	0.0474	0.0001
127	SLU 63	0.06	-3.27	64.77	0.155	0.0475	0.0001
127	SLU 64	0.07	-2.84	58.12	0.136	0.0498	0.0001
127	SLU 65	0.07	-3.24	58.25	0.1545	0.05	0.0001
127	SLU 66	0.07	-2.53	59.39	0.1214	0.0511	0.0001
127	SLU 67	0.07	-2.77	59.46	0.1325	0.0512	0.0001
127	SLU 68	0.07	-2.87	59.11	0.1368	0.0509	0.0001
127	SLU 69	0.07	-2.17	60.25	0.1037	0.0519	0.0001
127	SLU 70	0.07	-2.4	60.32	0.1148	0.0521	0.0001
127	SLU 71	0.07	-2.11	59.84	0.1006	0.0515	0.0001
127	SLU 72	0.07	-2.34	59.92	0.1117	0.0517	0.0001
127	SLU 73	0.07	-3.58	66.04	0.1714	0.0508	0.0001
127	SLU 74	0.07	-2.88	67.17	0.1382	0.0518	0.0001
127	SLU 75	0.07	-3.11	67.25	0.1493	0.052	0.0001
127	SLU 76	0.07	-3.21	66.9	0.1537	0.0517	0.0001
127	SLU 77	0.07	-2.51	68.03	0.1205	0.0527	0.0001
127	SLU 78	0.07	-2.75	68.11	0.1316	0.0528	0.0001
127	SLU 79	0.07	-2.45	67.63	0.1175	0.0523	0.0001
127	SLU 80	0.07	-2.69	67.71	0.1286	0.0524	0.0001
127	SLU 81	0.07	-3.33	69.25	0.1601	0.0508	0.0001
127	SLU 82	0.07	-3.57	69.32	0.1712	0.051	0.0001
127	SLU 83	0.07	-2.97	70.11	0.1424	0.0517	0.0001
127	SLU 84	0.07	-3.2	70.18	0.1535	0.0519	0.0001
127	SLE RA 1	0.05	-2.2	43.52	0.1049	0.0373	0.0001
127	SLE RA 2	0.05	-2.46	43.61	0.1173	0.0375	0.0001
127	SLE RA 3	0.05	-2	44.36	0.0952	0.0382	0.0001
127	SLE RA 4	0.05	-2.15	44.41	0.1026	0.0383	0.0001
127	SLE RA 5	0.05	-2.22	44.18	0.1055	0.0381	0.0001
127	SLE RA 6	0.05	-1.75	44.93	0.0834	0.0388	0.0001
127	SLE RA 7	0.05	-1.91	44.99	0.0908	0.0389	0.0001
127	SLE RA 8	0.05	-1.71	44.67	0.0813	0.0385	0.0001
127	SLE RA 9	0.05	-1.87	44.72	0.0887	0.0386	0.0001
127	SLE RA 10	0.05	-2.69	48.8	0.1285	0.038	0.0001
127	SLE RA 11	0.05	-2.22	49.55	0.1064	0.0387	0.0001
127	SLE RA 12	0.05	-2.38	49.6	0.1138	0.0388	0.0001
127	SLE RA 13	0.05	-2.45	49.37	0.1167	0.0386	0.0001
127	SLE RA 14	0.05	-1.98	50.13	0.0946	0.0393	0.0001
127	SLE RA 15	0.05	-2.14	50.18	0.102	0.0394	0.0001
127	SLE RA 16	0.05	-1.94	49.86	0.0926	0.039	0.0001
127	SLE RA 17	0.05	-2.1	49.91	0.1	0.0391	0.0001
127	SLE RA 18	0.05	-2.53	50.93	0.121	0.038	0.0001
127	SLE RA 19	0.05	-2.69	50.99	0.1284	0.0382	0.0001
127	SLE RA 20	0.05	-2.28	51.51	0.1092	0.0386	0.0001
127	SLE RA 21	0.05	-2.44	51.56	0.1166	0.0387	0.0001
127	SLE FR 1	0.05	-2.2	43.52	0.1049	0.0373	0.0001
127	SLE FR 2	0.05	-2.25	43.54	0.1074	0.0374	0.0001
127	SLE FR 3	0.05	-2.1	43.75	0.1002	0.0376	0.0001
127	SLE FR 4	0.05	-2.35	45.76	0.1122	0.0376	0.0001
127	SLE FR 5	0.05	-2.2	45.97	0.105	0.0378	0.0001
127	SLE FR 6	0.05	-2.37	47.23	0.113	0.0377	0.0001
127	SLE QP 1	0.05	-2.2	43.52	0.1049	0.0373	0.0001
127	SLE QP 2	0.05	-2.3	45.74	0.1098	0.0375	0.0001
127	SLD 1	0.24	-1.45	49.48	0.0707	0.1866	0.0004
127	SLD 2	0.24	-1.45	49.48	0.0707	0.1866	0.0004
127	SLD 3	0.26	-4.43	50.11	0.2124	0.2057	0.0004
127	SLD 4	0.26	-4.43	50.11	0.2124	0.2057	0.0004
127	SLD 5	0.07	2.47	45.9	-0.1168	0.0534	0.0001
127	SLD 6	0.07	2.47	45.9	-0.1168	0.0534	0.0001
127	SLD 7	0.15	-7.45	48.02	0.3554	0.1168	0.0002
127	SLD 8	0.15	-7.45	48.02	0.3554	0.1168	0.0002
127	SLD 9	-0.05	2.86	43.47	-0.1359	-0.0417	-0.0001
127	SLD 10	-0.05	2.86	43.47	-0.1359	-0.0417	-0.0001
127	SLD 11	0.03	-7.07	45.59	0.3363	0.0217	0
127	SLD 12	0.03	-7.07	45.59	0.3363	0.0217	0



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
127	SLD 13	-0.16	-0.17	41.38	0.0071	-0.1306	-0.0003
127	SLD 14	-0.16	-0.17	41.38	0.0071	-0.1306	-0.0003
127	SLD 15	-0.13	-3.15	42.01	0.1488	-0.1116	-0.0002
127	SLD 16	-0.13	-3.15	42.01	0.1488	-0.1116	-0.0002
127	SLV 1	0.52	-0.33	54.53	0.0192	0.4135	0.0008
127	SLV 2	0.52	-0.33	54.53	0.0192	0.4135	0.0008
127	SLV 3	0.58	-7.3	56.03	0.3505	0.4602	0.001
127	SLV 4	0.58	-7.3	56.03	0.3505	0.4602	0.001
127	SLV 5	0.1	8.85	46.1	-0.4198	0.0795	0.0001
127	SLV 6	0.1	8.85	46.1	-0.4198	0.0795	0.0001
127	SLV 7	0.3	-14.36	51.11	0.6844	0.2352	0.0005
127	SLV 8	0.3	-14.36	51.11	0.6844	0.2352	0.0005
127	SLV 9	-0.2	9.76	40.38	-0.4649	-0.1601	-0.0004
127	SLV 10	-0.2	9.76	40.38	-0.4649	-0.1601	-0.0004
127	SLV 11	0	-13.45	45.39	0.6393	-0.0044	0
127	SLV 12	0	-13.45	45.39	0.6393	-0.0044	0
127	SLV 13	-0.47	2.7	35.46	-0.131	-0.3851	-0.0008
127	SLV 14	-0.47	2.7	35.46	-0.131	-0.3851	-0.0008
127	SLV 15	-0.41	-4.27	36.96	0.2003	-0.3385	-0.0007
127	SLV 16	-0.41	-4.27	36.96	0.2003	-0.3385	-0.0007
128	SLU 1	0.03	0.65	8.89	-0.0067	0.0188	0.0001
128	SLU 2	0.03	0.64	8.9	-0.0063	0.0193	0.0001
128	SLU 3	0.03	0.66	8.99	-0.0069	0.0192	0.0001
128	SLU 4	0.03	0.65	8.99	-0.0067	0.0195	0.0001
128	SLU 5	0.03	0.64	8.94	-0.0066	0.0196	0.0001
128	SLU 6	0.03	0.66	9.03	-0.0073	0.0195	0.0001
128	SLU 7	0.03	0.65	9.03	-0.0071	0.0198	0.0001
128	SLU 8	0.03	0.65	8.98	-0.0074	0.0194	0.0001
128	SLU 9	0.03	0.64	8.98	-0.0071	0.0197	0.0001
128	SLU 10	0.04	0.8	11.83	-0.0095	0.0245	0.0002
128	SLU 11	0.04	0.82	11.92	-0.0102	0.0244	0.0002
128	SLU 12	0.04	0.81	11.92	-0.01	0.0247	0.0002
128	SLU 13	0.04	0.79	11.87	-0.0099	0.0248	0.0002
128	SLU 14	0.04	0.82	11.96	-0.0105	0.0247	0.0002
128	SLU 15	0.04	0.81	11.96	-0.0103	0.025	0.0002
128	SLU 16	0.04	0.81	11.91	-0.0106	0.0246	0.0002
128	SLU 17	0.04	0.8	11.91	-0.0104	0.0249	0.0002
128	SLU 18	0.04	0.88	13.08	-0.0113	0.0262	0.0002
128	SLU 19	0.04	0.87	13.08	-0.0111	0.0265	0.0002
128	SLU 20	0.04	0.88	13.12	-0.0116	0.0265	0.0002
128	SLU 21	0.04	0.87	13.12	-0.0114	0.0268	0.0002
128	SLU 22	0.03	0.75	9.68	-0.008	0.0212	0.0002
128	SLU 23	0.03	0.74	9.68	-0.0076	0.0217	0.0002
128	SLU 24	0.03	0.76	9.78	-0.0083	0.0217	0.0002
128	SLU 25	0.03	0.75	9.78	-0.008	0.022	0.0002
128	SLU 26	0.03	0.74	9.73	-0.008	0.022	0.0002
128	SLU 27	0.03	0.76	9.82	-0.0086	0.022	0.0002
128	SLU 28	0.03	0.75	9.82	-0.0084	0.0223	0.0002
128	SLU 29	0.03	0.75	9.77	-0.0087	0.0218	0.0002
128	SLU 30	0.03	0.74	9.77	-0.0085	0.0221	0.0002
128	SLU 31	0.04	0.89	12.61	-0.0109	0.0269	0.0002
128	SLU 32	0.04	0.92	12.71	-0.0115	0.0269	0.0002
128	SLU 33	0.04	0.91	12.71	-0.0113	0.0272	0.0002
128	SLU 34	0.04	0.89	12.66	-0.0112	0.0272	0.0002
128	SLU 35	0.04	0.92	12.75	-0.0119	0.0272	0.0002
128	SLU 36	0.04	0.91	12.75	-0.0116	0.0275	0.0002
128	SLU 37	0.04	0.91	12.7	-0.0119	0.027	0.0002
128	SLU 38	0.04	0.9	12.7	-0.0117	0.0273	0.0002
128	SLU 39	0.04	0.97	13.87	-0.0126	0.0286	0.0002
128	SLU 40	0.04	0.96	13.87	-0.0124	0.029	0.0002
128	SLU 41	0.04	0.97	13.91	-0.013	0.0289	0.0002
128	SLU 42	0.04	0.96	13.91	-0.0127	0.0292	0.0002
128	SLU 43	0.03	0.81	11.29	-0.0082	0.0236	0.0002
128	SLU 44	0.03	0.8	11.29	-0.0079	0.0241	0.0002
128	SLU 45	0.03	0.82	11.39	-0.0085	0.024	0.0002
128	SLU 46	0.03	0.82	11.39	-0.0083	0.0243	0.0002
128	SLU 47	0.03	0.8	11.34	-0.0082	0.0244	0.0002
128	SLU 48	0.03	0.82	11.43	-0.0088	0.0243	0.0002
128	SLU 49	0.03	0.82	11.43	-0.0086	0.0246	0.0002
128	SLU 50	0.03	0.81	11.38	-0.0089	0.0241	0.0002
128	SLU 51	0.03	0.81	11.38	-0.0087	0.0245	0.0002
128	SLU 52	0.04	0.96	14.22	-0.0111	0.0293	0.0002
128	SLU 53	0.04	0.98	14.32	-0.0117	0.0292	0.0002
128	SLU 54	0.04	0.97	14.32	-0.0115	0.0295	0.0002
128	SLU 55	0.04	0.96	14.27	-0.0114	0.0296	0.0002
128	SLU 56	0.04	0.98	14.36	-0.0121	0.0295	0.0002
128	SLU 57	0.04	0.97	14.36	-0.0119	0.0298	0.0002
128	SLU 58	0.04	0.97	14.31	-0.0122	0.0293	0.0002
128	SLU 59	0.04	0.96	14.31	-0.0119	0.0297	0.0002
128	SLU 60	0.05	1.04	15.48	-0.0128	0.031	0.0002
128	SLU 61	0.05	1.03	15.48	-0.0126	0.0313	0.0002
128	SLU 62	0.05	1.04	15.52	-0.0132	0.0313	0.0002
128	SLU 63	0.05	1.03	15.52	-0.013	0.0316	0.0003
128	SLU 64	0.04	0.91	12.08	-0.0096	0.026	0.0002
128	SLU 65	0.04	0.9	12.08	-0.0092	0.0265	0.0002
128	SLU 66	0.04	0.92	12.17	-0.0098	0.0265	0.0002
128	SLU 67	0.04	0.91	12.17	-0.0096	0.0268	0.0002
128	SLU 68	0.04	0.9	12.13	-0.0095	0.0268	0.0002



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
128	SLU 69		0.04	0.92	12.22	-0.0102	0.0267	0.0002	
128	SLU 70		0.04	0.91	12.22	-0.0099	0.0271	0.0002	
128	SLU 71		0.04	0.91	12.17	-0.0103	0.0266	0.0002	
128	SLU 72		0.04	0.9	12.17	-0.01	0.0269	0.0002	
128	SLU 73		0.05	1.05	15.01	-0.0124	0.0317	0.0002	
128	SLU 74		0.05	1.08	15.1	-0.0131	0.0317	0.0002	
128	SLU 75		0.05	1.07	15.1	-0.0128	0.032	0.0003	
128	SLU 76		0.05	1.05	15.06	-0.0128	0.032	0.0003	
128	SLU 77		0.05	1.08	15.15	-0.0134	0.0319	0.0002	
128	SLU 78		0.05	1.07	15.15	-0.0132	0.0323	0.0003	
128	SLU 79		0.05	1.07	15.1	-0.0135	0.0318	0.0002	
128	SLU 80		0.05	1.06	15.1	-0.0133	0.0321	0.0003	
128	SLU 81		0.05	1.13	16.27	-0.0142	0.0334	0.0003	
128	SLU 82		0.05	1.13	16.27	-0.0139	0.0337	0.0003	
128	SLU 83		0.05	1.13	16.31	-0.0145	0.0337	0.0003	
128	SLU 84		0.05	1.13	16.31	-0.0143	0.034	0.0003	
128	SLE RA 1		0.03	0.68	9.12	-0.0071	0.0195	0.0001	
128	SLE RA 2		0.03	0.67	9.12	-0.0068	0.0198	0.0001	
128	SLE RA 3		0.03	0.69	9.18	-0.0072	0.0198	0.0001	
128	SLE RA 4		0.03	0.68	9.18	-0.0071	0.02	0.0001	
128	SLE RA 5		0.03	0.67	9.15	-0.007	0.02	0.0001	
128	SLE RA 6		0.03	0.69	9.21	-0.0075	0.02	0.0001	
128	SLE RA 7		0.03	0.68	9.21	-0.0073	0.0202	0.0001	
128	SLE RA 8		0.03	0.68	9.18	-0.0075	0.0199	0.0001	
128	SLE RA 9		0.03	0.67	9.18	-0.0074	0.0201	0.0001	
128	SLE RA 10		0.03	0.78	11.07	-0.009	0.0233	0.0002	
128	SLE RA 11		0.03	0.79	11.14	-0.0094	0.0232	0.0002	
128	SLE RA 12		0.03	0.79	11.14	-0.0092	0.0234	0.0002	
128	SLE RA 13		0.03	0.78	11.1	-0.0092	0.0235	0.0002	
128	SLE RA 14		0.03	0.79	11.16	-0.0096	0.0234	0.0002	
128	SLE RA 15		0.03	0.79	11.16	-0.0095	0.0236	0.0002	
128	SLE RA 16		0.03	0.78	11.13	-0.0097	0.0233	0.0002	
128	SLE RA 17		0.03	0.78	11.13	-0.0095	0.0235	0.0002	
128	SLE RA 18		0.04	0.83	11.91	-0.0101	0.0244	0.0002	
128	SLE RA 19		0.04	0.82	11.91	-0.01	0.0246	0.0002	
128	SLE RA 20		0.04	0.83	11.94	-0.0104	0.0246	0.0002	
128	SLE RA 21		0.04	0.82	11.94	-0.0102	0.0248	0.0002	
128	SLE FR 1		0.03	0.68	9.12	-0.0071	0.0195	0.0001	
128	SLE FR 2		0.03	0.68	9.12	-0.007	0.0195	0.0001	
128	SLE FR 3		0.03	0.68	9.13	-0.0072	0.0195	0.0001	
128	SLE FR 4		0.03	0.72	9.96	-0.0079	0.021	0.0002	
128	SLE FR 5		0.03	0.72	9.97	-0.0081	0.021	0.0002	
128	SLE FR 6		0.03	0.75	10.52	-0.0086	0.0219	0.0002	
128	SLE QP 1		0.03	0.68	9.12	-0.0071	0.0195	0.0001	
128	SLE QP 2		0.03	0.72	9.96	-0.008	0.0209	0.0002	
128	SLD 1		0.19	0.63	9.84	-0.0052	0.1572	0.001	
128	SLD 2		0.19	0.63	9.84	-0.0052	0.1572	0.001	
128	SLD 3		0.21	-1.64	8.65	0.0589	0.1781	0.0012	
128	SLD 4		0.21	-1.64	8.65	0.0589	0.1781	0.0012	
128	SLD 5		0.04	4.15	11.73	-0.1042	0.0301	0.0002	
128	SLD 6		0.04	4.15	11.73	-0.1042	0.0301	0.0002	
128	SLD 7		0.12	-3.44	7.76	0.1092	0.0998	0.0007	
128	SLD 8		0.12	-3.44	7.76	0.1092	0.0998	0.0007	
128	SLD 9		-0.06	4.88	12.15	-0.1251	-0.0579	-0.0004	
128	SLD 10		-0.06	4.88	12.15	-0.1251	-0.0579	-0.0004	
128	SLD 11		0.02	-2.7	8.19	0.0883	0.0117	0.0001	
128	SLD 12		0.02	-2.7	8.19	0.0883	0.0117	0.0001	
128	SLD 13		-0.15	3.09	11.26	-0.0748	-0.1362	-0.0008	
128	SLD 14		-0.15	3.09	11.26	-0.0748	-0.1362	-0.0008	
128	SLD 15		-0.13	0.82	10.07	-0.0108	-0.1153	-0.0007	
128	SLD 16		-0.13	0.82	10.07	-0.0108	-0.1153	-0.0007	
128	SLV 1		0.43	0.5	9.67	-0.0012	0.3658	0.0024	
128	SLV 2		0.43	0.5	9.67	-0.0012	0.3658	0.0024	
128	SLV 3		0.49	-4.84	6.86	0.1491	0.4165	0.0027	
128	SLV 4		0.49	-4.84	6.86	0.1491	0.4165	0.0027	
128	SLV 5		0.06	8.76	14.14	-0.2339	0.0476	0.0003	
128	SLV 6		0.06	8.76	14.14	-0.2339	0.0476	0.0003	
128	SLV 7		0.26	-9.05	4.76	0.2671	0.2164	0.0014	
128	SLV 8		0.26	-9.05	4.76	0.2671	0.2164	0.0014	
128	SLV 9		-0.2	10.5	15.15	-0.2831	-0.1745	-0.0011	
128	SLV 10		-0.2	10.5	15.15	-0.2831	-0.1745	-0.0011	
128	SLV 11		0	-7.31	5.78	0.218	-0.0057	0	
128	SLV 12		0	-7.31	5.78	0.218	-0.0057	0	
128	SLV 13		-0.43	6.29	13.06	-0.1651	-0.3746	-0.0024	
128	SLV 14		-0.43	6.29	13.06	-0.1651	-0.3746	-0.0024	
128	SLV 15		-0.37	0.94	10.25	-0.0147	-0.324	-0.002	
128	SLV 16		-0.37	0.94	10.25	-0.0147	-0.324	-0.002	
129	SLU 1		0.16	-1.12	19.36	0.1775	0.0991	0.0001	
129	SLU 2		0.17	1.08	19.26	0.0896	0.109	0.0001	
129	SLU 3		0.16	-1.37	19.89	0.1925	0.1024	0.0001	
129	SLU 4		0.17	-0.05	19.83	0.1397	0.1083	0.0001	
129	SLU 5		0.17	0.78	19.6	0.1052	0.1109	0.0001	
129	SLU 6		0.17	-1.68	20.23	0.2081	0.1043	0.0001	
129	SLU 7		0.17	-0.36	20.17	0.1554	0.1102	0.0001	
129	SLU 8		0.16	-1.73	20.05	0.2088	0.1029	0.0001	
129	SLU 9		0.17	-0.41	19.99	0.156	0.1088	0.0001	
129	SLU 10		0.2	1.02	21.81	0.1116	0.1262	0.0001	
129	SLU 11		0.19	-1.44	22.44	0.2145	0.1196	0.0001	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
129	SLU 12		0.2	-0.12	22.38	0.1617	0.1255	0.0001	
129	SLU 13		0.2	0.71	22.16	0.1272	0.1281	0.0001	
129	SLU 14		0.19	-1.74	22.79	0.2301	0.1215	0.0001	
129	SLU 15		0.2	-0.42	22.73	0.1773	0.1274	0.0001	
129	SLU 16		0.19	-1.79	22.61	0.2308	0.1201	0.0001	
129	SLU 17		0.2	-0.47	22.55	0.178	0.126	0.0001	
129	SLU 18		0.2	-1.21	23.01	0.2089	0.1237	0.0001	
129	SLU 19		0.2	0.11	22.95	0.1562	0.1296	0.0001	
129	SLU 20		0.2	-1.52	23.36	0.2246	0.1256	0.0001	
129	SLU 21		0.21	-0.19	23.3	0.1718	0.1315	0.0001	
129	SLU 22		0.18	-1.29	21.69	0.2024	0.1149	0.0001	
129	SLU 23		0.19	0.91	21.59	0.1145	0.1247	0.0001	
129	SLU 24		0.19	-1.54	22.22	0.2174	0.1181	0.0001	
129	SLU 25		0.2	-0.22	22.16	0.1646	0.124	0.0001	
129	SLU 26		0.2	0.61	21.93	0.1301	0.1266	0.0001	
129	SLU 27		0.19	-1.85	22.57	0.233	0.12	0.0001	
129	SLU 28		0.2	-0.53	22.5	0.1803	0.1259	0.0001	
129	SLU 29		0.19	-1.9	22.38	0.2337	0.1186	0.0001	
129	SLU 30		0.2	-0.58	22.32	0.1809	0.1245	0.0001	
129	SLU 31		0.22	0.85	24.15	0.1365	0.1419	0.0001	
129	SLU 32		0.22	-1.61	24.78	0.2394	0.1353	0.0001	
129	SLU 33		0.22	-0.28	24.71	0.1866	0.1412	0.0001	
129	SLU 34		0.22	0.55	24.49	0.1521	0.1438	0.0001	
129	SLU 35		0.22	-1.91	25.12	0.255	0.1372	0.0001	
129	SLU 36		0.23	-0.59	25.06	0.2022	0.1431	0.0001	
129	SLU 37		0.22	-1.96	24.94	0.2557	0.1359	0.0001	
129	SLU 38		0.22	-0.64	24.88	0.2029	0.1417	0.0001	
129	SLU 39		0.22	-1.38	25.34	0.2338	0.1395	0.0001	
129	SLU 40		0.23	-0.06	25.28	0.1811	0.1453	0.0001	
129	SLU 41		0.23	-1.69	25.69	0.2495	0.1413	0.0001	
129	SLU 42		0.23	-0.36	25.63	0.1967	0.1472	0.0001	
129	SLU 43		0.2	-1.4	24.37	0.2222	0.1235	0.0001	
129	SLU 44		0.21	0.8	24.26	0.1343	0.1333	0.0001	
129	SLU 45		0.2	-1.65	24.9	0.2372	0.1268	0.0001	
129	SLU 46		0.21	-0.33	24.83	0.1844	0.1327	0.0001	
129	SLU 47		0.21	0.5	24.61	0.1499	0.1352	0.0001	
129	SLU 48		0.21	-1.96	25.24	0.2528	0.1286	0.0001	
129	SLU 49		0.21	-0.63	25.18	0.2001	0.1345	0.0001	
129	SLU 50		0.2	-2.01	25.06	0.2535	0.1273	0.0001	
129	SLU 51		0.21	-0.69	25	0.2008	0.1332	0.0001	
129	SLU 52		0.24	0.74	26.82	0.1563	0.1505	0.0001	
129	SLU 53		0.23	-1.72	27.45	0.2592	0.144	0.0001	
129	SLU 54		0.24	-0.39	27.39	0.2064	0.1499	0.0001	
129	SLU 55		0.24	0.44	27.17	0.1719	0.1524	0.0001	
129	SLU 56		0.23	-2.02	27.8	0.2748	0.1459	0.0001	
129	SLU 57		0.24	-0.7	27.74	0.2221	0.1518	0.0001	
129	SLU 58		0.23	-2.07	27.62	0.2755	0.1445	0.0001	
129	SLU 59		0.24	-0.75	27.56	0.2227	0.1504	0.0001	
129	SLU 60		0.24	-1.49	28.02	0.2536	0.1481	0.0001	
129	SLU 61		0.24	-0.17	27.96	0.2009	0.154	0.0001	
129	SLU 62		0.24	-1.8	28.37	0.2693	0.15	0.0001	
129	SLU 63		0.25	-0.47	28.31	0.2165	0.1559	0.0001	
129	SLU 64		0.22	-1.57	26.7	0.2471	0.1392	0.0001	
129	SLU 65		0.23	0.63	26.6	0.1592	0.1491	0.0001	
129	SLU 66		0.23	-1.82	27.23	0.2621	0.1425	0.0001	
129	SLU 67		0.23	-0.5	27.16	0.2093	0.1484	0.0001	
129	SLU 68		0.24	0.33	26.94	0.1748	0.1509	0.0001	
129	SLU 69		0.23	-2.13	27.57	0.2777	0.1444	0.0001	
129	SLU 70		0.24	-0.8	27.51	0.225	0.1503	0.0001	
129	SLU 71		0.23	-2.18	27.39	0.2784	0.143	0.0001	
129	SLU 72		0.24	-0.86	27.33	0.2257	0.1489	0.0001	
129	SLU 73		0.26	0.57	29.15	0.1812	0.1663	0.0001	
129	SLU 74		0.26	-1.89	29.78	0.2841	0.1597	0.0001	
129	SLU 75		0.26	-0.56	29.72	0.2313	0.1656	0.0001	
129	SLU 76		0.26	0.27	29.5	0.1968	0.1681	0.0001	
129	SLU 77		0.26	-2.19	30.13	0.2997	0.1616	0.0001	
129	SLU 78		0.26	-0.87	30.07	0.247	0.1675	0.0001	
129	SLU 79		0.26	-2.24	29.95	0.3004	0.1602	0.0001	
129	SLU 80		0.26	-0.92	29.89	0.2476	0.1661	0.0001	
129	SLU 81		0.26	-1.66	30.35	0.2785	0.1638	0.0001	
129	SLU 82		0.27	-0.34	30.29	0.2258	0.1697	0.0001	
129	SLU 83		0.26	-1.96	30.7	0.2942	0.1657	0.0001	
129	SLU 84		0.27	-0.64	30.64	0.2414	0.1716	0.0001	
129	SLE RA 1		0.17	-1.17	20.02	0.1846	0.1036	0.0001	
129	SLE RA 2		0.17	0.3	19.96	0.126	0.1102	0.0001	
129	SLE RA 3		0.17	-1.34	20.38	0.1946	0.1058	0.0001	
129	SLE RA 4		0.17	-0.46	20.34	0.1594	0.1097	0.0001	
129	SLE RA 5		0.18	0.1	20.19	0.1364	0.1114	0.0001	
129	SLE RA 6		0.17	-1.54	20.61	0.205	0.1071	0.0001	
129	SLE RA 7		0.18	-0.66	20.57	0.1699	0.111	0.0001	
129	SLE RA 8		0.17	-1.58	20.49	0.2055	0.1062	0.0001	
129	SLE RA 9		0.17	-0.69	20.45	0.1703	0.1101	0.0001	
129	SLE RA 10		0.19	0.26	21.66	0.1407	0.1217	0.0001	
129	SLE RA 11		0.19	-1.38	22.08	0.2093	0.1173	0.0001	
129	SLE RA 12		0.19	-0.5	22.04	0.1741	0.1212	0.0001	
129	SLE RA 13		0.19	0.05	21.89	0.1511	0.1229	0.0001	
129	SLE RA 14		0.19	-1.58	22.31	0.2197	0.1185	0.0001	
129	SLE RA 15		0.19	-0.7	22.27	0.1845	0.1225	0.0001	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
129	SLE RA 16		0.19	-1.62	22.19	0.2201	0.1176	0.0001	
129	SLE RA 17		0.19	-0.74	22.15	0.185	0.1216	0.0001	
129	SLE RA 18		0.19	-1.23	22.46	0.2056	0.12	0.0001	
129	SLE RA 19		0.2	-0.35	22.42	0.1704	0.124	0.0001	
129	SLE RA 20		0.19	-1.43	22.69	0.216	0.1213	0.0001	
129	SLE RA 21		0.2	-0.55	22.65	0.1808	0.1252	0.0001	
129	SLE FR 1		0.17	-1.17	20.02	0.1846	0.1036	0.0001	
129	SLE FR 2		0.17	-0.88	20.01	0.1729	0.1049	0.0001	
129	SLE FR 3		0.17	-1.25	20.12	0.1888	0.1041	0.0001	
129	SLE FR 4		0.17	-0.89	20.74	0.1792	0.1099	0.0001	
129	SLE FR 5		0.17	-1.27	20.85	0.1951	0.1091	0.0001	
129	SLE FR 6		0.18	-1.2	21.24	0.1951	0.1118	0.0001	
129	SLE QP 1		0.17	-1.17	20.02	0.1846	0.1036	0.0001	
129	SLE QP 2		0.17	-1.19	20.76	0.1909	0.1086	0.0001	
129	SLD 1		0.31	-1.4	22.06	0.2034	0.2124	0.0001	
129	SLD 2		0.31	-1.4	22.06	0.2034	0.2124	0.0001	
129	SLD 3		0.28	-4.59	21.44	0.3425	0.1862	0.0001	
129	SLD 4		0.28	-4.59	21.44	0.3425	0.1862	0.0001	
129	SLD 5		0.26	3.6	22.07	-0.0163	0.1794	0	
129	SLD 6		0.26	3.6	22.07	-0.0163	0.1794	0	
129	SLD 7		0.16	-7.06	20.03	0.4473	0.0921	0.0001	
129	SLD 8		0.16	-7.06	20.03	0.4473	0.0921	0.0001	
129	SLD 9		0.19	4.68	21.48	-0.0655	0.125	0	
129	SLD 10		0.19	4.68	21.48	-0.0655	0.125	0	
129	SLD 11		0.08	-5.97	19.44	0.3981	0.0377	0.0001	
129	SLD 12		0.08	-5.97	19.44	0.3981	0.0377	0.0001	
129	SLD 13		0.07	2.22	20.07	0.0394	0.0309	0	
129	SLD 14		0.07	2.22	20.07	0.0394	0.0309	0	
129	SLD 15		0.04	-0.98	19.46	0.1784	0.0047	0	
129	SLD 16		0.04	-0.98	19.46	0.1784	0.0047	0	
129	SLV 1		0.5	-1.75	23.86	0.2234	0.3543	0.0002	
129	SLV 2		0.5	-1.75	23.86	0.2234	0.3543	0.0002	
129	SLV 3		0.42	-9.39	22.35	0.5555	0.2897	0.0002	
129	SLV 4		0.42	-9.39	22.35	0.5555	0.2897	0.0002	
129	SLV 5		0.39	10.23	23.98	-0.3029	0.2802	0	
129	SLV 6		0.39	10.23	23.98	-0.3029	0.2802	0	
129	SLV 7		0.13	-15.24	18.94	0.8039	0.0649	0.0001	
129	SLV 8		0.13	-15.24	18.94	0.8039	0.0649	0.0001	
129	SLV 9		0.22	12.86	22.57	-0.4221	0.1522	0	
129	SLV 10		0.22	12.86	22.57	-0.4221	0.1522	0	
129	SLV 11		-0.04	-12.61	17.53	0.6848	-0.0631	0.0001	
129	SLV 12		-0.04	-12.61	17.53	0.6848	-0.0631	0.0001	
129	SLV 13		-0.07	7.01	19.16	-0.1736	-0.0726	-0.0001	
129	SLV 14		-0.07	7.01	19.16	-0.1736	-0.0726	-0.0001	
129	SLV 15		-0.15	-0.63	17.65	0.1584	-0.1372	0	
129	SLV 16		-0.15	-0.63	17.65	0.1584	-0.1372	0	
130	SLU 1		0.06	-3.44	42.99	0.1634	0.0462	-0.0035	
130	SLU 2		0.06	-3.91	43.49	0.1856	0.0467	-0.0035	
130	SLU 3		0.06	-3.25	43.93	0.1548	0.0471	-0.0036	
130	SLU 4		0.06	-3.53	44.23	0.1681	0.0474	-0.0036	
130	SLU 5		0.06	-3.67	43.97	0.1744	0.0471	-0.0036	
130	SLU 6		0.06	-3.02	44.4	0.1436	0.0475	-0.0036	
130	SLU 7		0.07	-3.3	44.71	0.1569	0.0478	-0.0036	
130	SLU 8		0.06	-2.97	43.94	0.1411	0.047	-0.0036	
130	SLU 9		0.06	-3.25	44.24	0.1544	0.0473	-0.0036	
130	SLU 10		0.08	-4.49	51.29	0.214	0.0558	-0.0042	
130	SLU 11		0.08	-3.83	51.73	0.1832	0.0562	-0.0043	
130	SLU 12		0.08	-4.11	52.03	0.1965	0.0565	-0.0043	
130	SLU 13		0.08	-4.25	51.77	0.2028	0.0561	-0.0043	
130	SLU 14		0.08	-3.6	52.21	0.1721	0.0566	-0.0043	
130	SLU 15		0.08	-3.88	52.51	0.1853	0.0569	-0.0043	
130	SLU 16		0.08	-3.55	51.74	0.1695	0.056	-0.0042	
130	SLU 17		0.08	-3.83	52.04	0.1828	0.0563	-0.0043	
130	SLU 18		0.08	-4.27	54.13	0.204	0.0592	-0.0045	
130	SLU 19		0.08	-4.55	54.43	0.2173	0.0595	-0.0045	
130	SLU 20		0.08	-4.04	54.61	0.1929	0.0595	-0.0045	
130	SLU 21		0.08	-4.32	54.91	0.2061	0.0598	-0.0045	
130	SLU 22		0.07	-3.55	48.02	0.1713	0.0518	-0.0039	
130	SLU 23		0.07	-4.02	48.52	0.1935	0.0523	-0.004	
130	SLU 24		0.07	-3.36	48.96	0.1627	0.0527	-0.004	
130	SLU 25		0.07	-3.64	49.26	0.176	0.053	-0.004	
130	SLU 26		0.07	-3.78	49	0.1823	0.0526	-0.004	
130	SLU 27		0.07	-3.12	49.44	0.1515	0.0531	-0.004	
130	SLU 28		0.07	-3.4	49.74	0.1648	0.0534	-0.0041	
130	SLU 29		0.07	-3.08	48.97	0.149	0.0525	-0.004	
130	SLU 30		0.07	-3.36	49.28	0.1623	0.0528	-0.004	
130	SLU 31		0.08	-4.6	56.32	0.2219	0.0613	-0.0047	
130	SLU 32		0.08	-3.94	56.76	0.1911	0.0617	-0.0047	
130	SLU 33		0.08	-4.22	57.06	0.2044	0.062	-0.0047	
130	SLU 34		0.08	-4.36	56.8	0.2107	0.0617	-0.0047	
130	SLU 35		0.08	-3.71	57.24	0.18	0.0621	-0.0047	
130	SLU 36		0.09	-3.99	57.54	0.1932	0.0624	-0.0047	
130	SLU 37		0.08	-3.66	56.78	0.1774	0.0616	-0.0047	
130	SLU 38		0.08	-3.94	57.08	0.1907	0.0619	-0.0047	
130	SLU 39		0.09	-4.38	59.16	0.2119	0.0647	-0.0049	
130	SLU 40		0.09	-4.66	59.46	0.2252	0.065	-0.0049	
130	SLU 41		0.09	-4.15	59.64	0.2008	0.0651	-0.0049	
130	SLU 42		0.09	-4.43	59.94	0.214	0.0654	-0.005	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
130	SLU 43	0.08	-4.44	54.16	0.2097	0.0581	-0.0044		
130	SLU 44	0.08	-4.91	54.66	0.2319	0.0586	-0.0044		
130	SLU 45	0.08	-4.25	55.1	0.2011	0.0591	-0.0045		
130	SLU 46	0.08	-4.53	55.4	0.2144	0.0594	-0.0045		
130	SLU 47	0.08	-4.67	55.14	0.2207	0.059	-0.0045		
130	SLU 48	0.08	-4.01	55.57	0.19	0.0594	-0.0045		
130	SLU 49	0.08	-4.29	55.88	0.2032	0.0597	-0.0045		
130	SLU 50	0.08	-3.97	55.11	0.1874	0.0589	-0.0045		
130	SLU 51	0.08	-4.25	55.41	0.2007	0.0592	-0.0045		
130	SLU 52	0.09	-5.49	62.46	0.2603	0.0677	-0.0051		
130	SLU 53	0.09	-4.83	62.9	0.2295	0.0681	-0.0052		
130	SLU 54	0.09	-5.11	63.2	0.2428	0.0684	-0.0052		
130	SLU 55	0.09	-5.25	62.94	0.2491	0.0681	-0.0052		
130	SLU 56	0.09	-4.59	63.38	0.2184	0.0685	-0.0052		
130	SLU 57	0.09	-4.87	63.68	0.2317	0.0688	-0.0052		
130	SLU 58	0.09	-4.55	62.91	0.2158	0.068	-0.0051		
130	SLU 59	0.09	-4.83	63.22	0.2291	0.0683	-0.0052		
130	SLU 60	0.1	-5.27	65.3	0.2503	0.0711	-0.0054		
130	SLU 61	0.1	-5.55	65.6	0.2636	0.0714	-0.0054		
130	SLU 62	0.1	-5.03	65.78	0.2392	0.0715	-0.0054		
130	SLU 63	0.1	-5.31	66.08	0.2525	0.0718	-0.0054		
130	SLU 64	0.09	-4.55	59.19	0.2176	0.0637	-0.0048		
130	SLU 65	0.09	-5.01	59.69	0.2398	0.0642	-0.0049		
130	SLU 66	0.09	-4.36	60.13	0.209	0.0646	-0.0049		
130	SLU 67	0.09	-4.64	60.43	0.2223	0.0649	-0.0049		
130	SLU 68	0.09	-4.78	60.17	0.2286	0.0646	-0.0049		
130	SLU 69	0.09	-4.12	60.61	0.1979	0.065	-0.0049		
130	SLU 70	0.09	-4.4	60.91	0.2111	0.0653	-0.005		
130	SLU 71	0.09	-4.08	60.14	0.1953	0.0645	-0.0049		
130	SLU 72	0.09	-4.35	60.45	0.2086	0.0648	-0.0049		
130	SLU 73	0.1	-5.6	67.49	0.2682	0.0733	-0.0056		
130	SLU 74	0.1	-4.94	67.93	0.2374	0.0737	-0.0056		
130	SLU 75	0.1	-5.22	68.23	0.2507	0.074	-0.0056		
130	SLU 76	0.1	-5.36	67.97	0.257	0.0737	-0.0056		
130	SLU 77	0.1	-4.7	68.41	0.2263	0.0741	-0.0056		
130	SLU 78	0.1	-4.98	68.71	0.2396	0.0744	-0.0056		
130	SLU 79	0.1	-4.66	67.95	0.2237	0.0735	-0.0056		
130	SLU 80	0.1	-4.94	68.25	0.237	0.0738	-0.0056		
130	SLU 81	0.1	-5.38	70.33	0.2582	0.0767	-0.0058		
130	SLU 82	0.11	-5.66	70.64	0.2715	0.077	-0.0058		
130	SLU 83	0.11	-5.14	70.81	0.2471	0.0771	-0.0058		
130	SLU 84	0.11	-5.42	71.11	0.2604	0.0774	-0.0059		
130	SLE RA 1	0.07	-3.48	44.42	0.1657	0.0478	-0.0036		
130	SLE RA 2	0.07	-3.79	44.76	0.1804	0.0481	-0.0037		
130	SLE RA 3	0.07	-3.35	45.05	0.1599	0.0484	-0.0037		
130	SLE RA 4	0.07	-3.53	45.25	0.1688	0.0486	-0.0037		
130	SLE RA 5	0.07	-3.63	45.08	0.173	0.0484	-0.0037		
130	SLE RA 6	0.07	-3.19	45.37	0.1525	0.0486	-0.0037		
130	SLE RA 7	0.07	-3.38	45.57	0.1613	0.0488	-0.0037		
130	SLE RA 8	0.07	-3.16	45.06	0.1508	0.0483	-0.0037		
130	SLE RA 9	0.07	-3.35	45.26	0.1596	0.0485	-0.0037		
130	SLE RA 10	0.07	-4.17	49.96	0.1994	0.0542	-0.0041		
130	SLE RA 11	0.07	-3.74	50.25	0.1789	0.0544	-0.0041		
130	SLE RA 12	0.07	-3.92	50.45	0.1877	0.0546	-0.0041		
130	SLE RA 13	0.07	-4.02	50.28	0.1919	0.0544	-0.0041		
130	SLE RA 14	0.07	-3.58	50.57	0.1714	0.0547	-0.0041		
130	SLE RA 15	0.08	-3.76	50.77	0.1803	0.0549	-0.0042		
130	SLE RA 16	0.07	-3.55	50.26	0.1697	0.0543	-0.0041		
130	SLE RA 17	0.07	-3.73	50.46	0.1786	0.0545	-0.0041		
130	SLE RA 18	0.08	-4.03	51.85	0.1927	0.0564	-0.0043		
130	SLE RA 19	0.08	-4.22	52.06	0.2016	0.0566	-0.0043		
130	SLE RA 20	0.08	-3.87	52.17	0.1853	0.0567	-0.0043		
130	SLE RA 21	0.08	-4.06	52.37	0.1942	0.0569	-0.0043		
130	SLE FR 1	0.07	-3.48	44.42	0.1657	0.0478	-0.0036		
130	SLE FR 2	0.07	-3.54	44.49	0.1686	0.0479	-0.0036		
130	SLE FR 3	0.07	-3.41	44.55	0.1627	0.0479	-0.0036		
130	SLE FR 4	0.07	-3.7	46.72	0.1768	0.0504	-0.0038		
130	SLE FR 5	0.07	-3.58	46.78	0.1708	0.0505	-0.0038		
130	SLE FR 6	0.07	-3.75	48.14	0.1792	0.0521	-0.0039		
130	SLE QP 1	0.07	-3.48	44.42	0.1657	0.0478	-0.0036		
130	SLE QP 2	0.07	-3.64	46.65	0.1738	0.0504	-0.0038		
130	SLD 1	0.21	-0.36	41.03	0.0129	0.1729	-0.0113		
130	SLD 2	0.21	-0.36	41.03	0.0129	0.1729	-0.0113		
130	SLD 3	0.24	-4.17	43.75	0.1995	0.1927	-0.0126		
130	SLD 4	0.24	-4.17	43.75	0.1995	0.1927	-0.0126		
130	SLD 5	0.07	3.13	40.83	-0.1574	0.0571	-0.004		
130	SLD 6	0.07	3.13	40.83	-0.1574	0.0571	-0.004		
130	SLD 7	0.16	-9.59	49.91	0.4645	0.1231	-0.0085		
130	SLD 8	0.16	-9.59	49.91	0.4645	0.1231	-0.0085		
130	SLD 9	-0.02	2.3	43.39	-0.1169	-0.0224	0.0009		
130	SLD 10	-0.02	2.3	43.39	-0.1169	-0.0224	0.0009		
130	SLD 11	0.06	-10.41	52.47	0.505	0.0437	-0.0036		
130	SLD 12	0.06	-10.41	52.47	0.505	0.0437	-0.0036		
130	SLD 13	-0.1	-3.11	49.55	0.1481	-0.0919	0.005		
130	SLD 14	-0.1	-3.11	49.55	0.1481	-0.0919	0.005		
130	SLD 15	-0.07	-6.92	52.28	0.3347	-0.0721	0.0037		
130	SLD 16	-0.07	-6.92	52.28	0.3347	-0.0721	0.0037		
130	SLV 1	0.43	4.08	33.4	-0.2045	0.3603	-0.0227		





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
130	SLV 2	0.43	4.08	33.4	-0.2045	0.3603	-0.0227
130	SLV 3	0.49	-4.87	39.87	0.2333	0.4082	-0.0259
130	SLV 4	0.49	-4.87	39.87	0.2333	0.4082	-0.0259
130	SLV 5	0.09	12.24	32.87	-0.6036	0.0708	-0.0046
130	SLV 6	0.09	12.24	32.87	-0.6036	0.0708	-0.0046
130	SLV 7	0.28	-17.58	54.42	0.8556	0.2303	-0.0153
130	SLV 8	0.28	-17.58	54.42	0.8556	0.2303	-0.0153
130	SLV 9	-0.15	10.3	38.88	-0.508	-0.1296	0.0077
130	SLV 10	-0.15	10.3	38.88	-0.508	-0.1296	0.0077
130	SLV 11	0.05	-19.53	60.43	0.9512	0.03	-0.003
130	SLV 12	0.05	-19.53	60.43	0.9512	0.03	-0.003
130	SLV 13	-0.35	-2.41	53.44	0.1143	-0.3074	0.0183
130	SLV 14	-0.35	-2.41	53.44	0.1143	-0.3074	0.0183
130	SLV 15	-0.29	-11.36	59.91	0.5521	-0.2595	0.0151
130	SLV 16	-0.29	-11.36	59.91	0.5521	-0.2595	0.0151
131	SLU 1	0	-1.46	35.27	0.1518	-0.003	0
131	SLU 2	-0.01	0.57	35.81	0.0674	-0.0105	0
131	SLU 3	0	-1.7	36.43	0.1659	-0.0031	0
131	SLU 4	-0.01	-0.49	36.76	0.1153	-0.0076	0
131	SLU 5	-0.01	0.27	36.61	0.0827	-0.0105	0
131	SLU 6	0	-1.99	37.24	0.1813	-0.0032	0
131	SLU 7	-0.01	-0.78	37.56	0.1306	-0.0076	0
131	SLU 8	0	-2.04	36.88	0.1826	-0.0031	0
131	SLU 9	-0.01	-0.83	37.2	0.1319	-0.0076	0
131	SLU 10	-0.01	0.5	41.27	0.0845	-0.011	0
131	SLU 11	0	-1.77	41.89	0.1831	-0.0036	0
131	SLU 12	-0.01	-0.56	42.21	0.1324	-0.0081	0
131	SLU 13	-0.01	0.2	42.07	0.0999	-0.011	0
131	SLU 14	0	-2.06	42.7	0.1985	-0.0037	0
131	SLU 15	-0.01	-0.85	43.02	0.1478	-0.0081	0
131	SLU 16	0	-2.11	42.34	0.1997	-0.0036	0
131	SLU 17	-0.01	-0.9	42.66	0.1491	-0.0081	0
131	SLU 18	0	-1.55	43.07	0.1764	-0.0038	0
131	SLU 19	-0.01	-0.34	43.39	0.1257	-0.0082	0
131	SLU 20	0	-1.85	43.87	0.1917	-0.0038	0
131	SLU 21	-0.01	-0.63	44.19	0.141	-0.0083	0
131	SLU 22	0	-1.62	40.4	0.172	-0.0035	0
131	SLU 23	-0.01	0.41	40.93	0.0875	-0.0109	0
131	SLU 24	0	-1.86	41.56	0.1861	-0.0036	0
131	SLU 25	-0.01	-0.65	41.88	0.1354	-0.008	0
131	SLU 26	-0.01	0.11	41.73	0.1029	-0.011	0
131	SLU 27	0	-2.15	42.36	0.2014	-0.0036	0
131	SLU 28	-0.01	-0.94	42.68	0.1508	-0.0081	0
131	SLU 29	0	-2.2	42	0.2027	-0.0036	0
131	SLU 30	-0.01	-0.99	42.32	0.152	-0.008	0
131	SLU 31	-0.01	0.34	46.39	0.1047	-0.0114	0
131	SLU 32	0	-1.93	47.02	0.2032	-0.0041	0
131	SLU 33	-0.01	-0.72	47.34	0.1526	-0.0085	0
131	SLU 34	-0.01	0.04	47.19	0.12	-0.0115	0
131	SLU 35	0	-2.22	47.82	0.2186	-0.0041	0
131	SLU 36	-0.01	-1.01	48.14	0.1679	-0.0086	0
131	SLU 37	0	-2.27	47.46	0.2199	-0.0041	0
131	SLU 38	-0.01	-1.06	47.78	0.1692	-0.0085	0
131	SLU 39	0	-1.71	48.19	0.1965	-0.0042	0
131	SLU 40	-0.01	-0.5	48.51	0.1458	-0.0087	0
131	SLU 41	0	-2.01	49	0.2119	-0.0042	0
131	SLU 42	-0.01	-0.79	49.32	0.1612	-0.0087	0
131	SLU 43	0	-1.84	44.1	0.1905	-0.0038	0
131	SLU 44	-0.01	0.18	44.63	0.106	-0.0112	0
131	SLU 45	0	-2.08	45.26	0.2046	-0.0039	0
131	SLU 46	-0.01	-0.87	45.58	0.1539	-0.0084	0
131	SLU 47	-0.01	-0.11	45.44	0.1214	-0.0113	0
131	SLU 48	0	-2.37	46.06	0.22	-0.004	0
131	SLU 49	-0.01	-1.16	46.38	0.1693	-0.0084	0
131	SLU 50	0	-2.42	45.7	0.2212	-0.0039	0
131	SLU 51	-0.01	-1.21	46.02	0.1705	-0.0083	0
131	SLU 52	-0.01	0.11	50.09	0.1232	-0.0117	0
131	SLU 53	0	-2.15	50.72	0.2218	-0.0044	0
131	SLU 54	-0.01	-0.94	51.04	0.1711	-0.0089	0
131	SLU 55	-0.01	-0.18	50.89	0.1386	-0.0118	0
131	SLU 56	0	-2.44	51.52	0.2371	-0.0044	0
131	SLU 57	-0.01	-1.23	51.84	0.1865	-0.0089	0
131	SLU 58	0	-2.49	51.16	0.2384	-0.0044	0
131	SLU 59	-0.01	-1.28	51.48	0.1877	-0.0088	0
131	SLU 60	0	-1.94	51.9	0.215	-0.0045	0
131	SLU 61	-0.01	-0.72	52.22	0.1643	-0.009	0
131	SLU 62	0	-2.23	52.7	0.2304	-0.0046	0
131	SLU 63	-0.01	-1.02	53.02	0.1797	-0.009	0
131	SLU 64	0	-2	49.22	0.2106	-0.0043	0
131	SLU 65	-0.01	0.02	49.76	0.1261	-0.0117	0
131	SLU 66	0	-2.24	50.38	0.2247	-0.0044	0
131	SLU 67	-0.01	-1.03	50.7	0.174	-0.0088	0
131	SLU 68	-0.01	-0.27	50.56	0.1415	-0.0117	0
131	SLU 69	0	-2.53	51.18	0.2401	-0.0044	0
131	SLU 70	-0.01	-1.32	51.51	0.1894	-0.0089	0
131	SLU 71	0	-2.58	50.82	0.2413	-0.0043	0
131	SLU 72	-0.01	-1.37	51.15	0.1907	-0.0088	0
131	SLU 73	-0.01	-0.05	55.21	0.1433	-0.0122	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
131	SLU 74	0	-2.31	55.84	0.2419	-0.0049	0		
131	SLU 75	-0.01	-1.1	56.16	0.1912	-0.0093	0		
131	SLU 76	-0.01	-0.34	56.02	0.1587	-0.0122	0		
131	SLU 77	0	-2.6	56.64	0.2573	-0.0049	0		
131	SLU 78	-0.01	-1.39	56.96	0.2066	-0.0093	0		
131	SLU 79	0	-2.65	56.28	0.2585	-0.0048	0		
131	SLU 80	-0.01	-1.44	56.6	0.2078	-0.0093	0		
131	SLU 81	0	-2.1	57.02	0.2351	-0.005	0		
131	SLU 82	-0.01	-0.88	57.34	0.1845	-0.0094	0		
131	SLU 83	0	-2.39	57.82	0.2505	-0.005	0		
131	SLU 84	-0.01	-1.18	58.14	0.1998	-0.0095	0		
131	SLE RA 1	0	-1.5	36.74	0.1576	-0.0032	0		
131	SLE RA 2	-0.01	-0.15	37.09	0.1013	-0.0081	0		
131	SLE RA 3	0	-1.66	37.51	0.167	-0.0032	0		
131	SLE RA 4	0	-0.86	37.72	0.1332	-0.0062	0		
131	SLE RA 5	-0.01	-0.35	37.63	0.1115	-0.0082	0		
131	SLE RA 6	0	-1.86	38.05	0.1772	-0.0033	0		
131	SLE RA 7	0	-1.05	38.26	0.1434	-0.0062	0		
131	SLE RA 8	0	-1.89	37.81	0.1781	-0.0032	0		
131	SLE RA 9	0	-1.08	38.02	0.1443	-0.0062	0		
131	SLE RA 10	-0.01	-0.2	40.73	0.1127	-0.0085	0		
131	SLE RA 11	0	-1.71	41.15	0.1784	-0.0036	0		
131	SLE RA 12	0	-0.9	41.36	0.1446	-0.0065	0		
131	SLE RA 13	-0.01	-0.39	41.27	0.123	-0.0085	0		
131	SLE RA 14	0	-1.91	41.69	0.1887	-0.0036	0		
131	SLE RA 15	0	-1.1	41.9	0.1549	-0.0066	0		
131	SLE RA 16	0	-1.94	41.45	0.1895	-0.0036	0		
131	SLE RA 17	0	-1.13	41.66	0.1557	-0.0065	0		
131	SLE RA 18	0	-1.57	41.94	0.1739	-0.0037	0		
131	SLE RA 19	0	-0.76	42.15	0.1401	-0.0066	0		
131	SLE RA 20	0	-1.76	42.47	0.1842	-0.0037	0		
131	SLE RA 21	0	-0.95	42.68	0.1504	-0.0066	0		
131	SLE FR 1	0	-1.5	36.74	0.1576	-0.0032	0		
131	SLE FR 2	0	-1.23	36.81	0.1463	-0.0042	0		
131	SLE FR 3	0	-1.58	36.95	0.1617	-0.0032	0		
131	SLE FR 4	0	-1.25	38.37	0.1512	-0.0043	0		
131	SLE FR 5	0	-1.6	38.51	0.1666	-0.0033	0		
131	SLE FR 6	0	-1.53	39.34	0.1658	-0.0034	0		
131	SLE QP 1	0	-1.5	36.74	0.1576	-0.0032	0		
131	SLE QP 2	0	-1.52	38.3	0.1625	-0.0033	0		
131	SLD 1	0.09	1.1	40.34	0.045	0.073	0		
131	SLD 2	0.09	1.1	40.34	0.045	0.073	0		
131	SLD 3	0.12	-1.71	39.29	0.1695	0.0989	0		
131	SLD 4	0.12	-1.71	39.29	0.1695	0.0989	0		
131	SLD 5	-0.02	3.53	40.5	-0.0616	-0.0198	0		
131	SLD 6	-0.02	3.53	40.5	-0.0616	-0.0198	0		
131	SLD 7	0.08	-5.84	37	0.3534	0.0667	0		
131	SLD 8	0.08	-5.84	37	0.3534	0.0667	0		
131	SLD 9	-0.08	2.8	39.59	-0.0285	-0.0733	0		
131	SLD 10	-0.08	2.8	39.59	-0.0285	-0.0733	0		
131	SLD 11	0.01	-6.57	36.09	0.3866	0.0131	0		
131	SLD 12	0.01	-6.57	36.09	0.3866	0.0131	0		
131	SLD 13	-0.12	-1.34	37.31	0.1555	-0.1056	0		
131	SLD 14	-0.12	-1.34	37.31	0.1555	-0.1056	0		
131	SLD 15	-0.09	-4.15	36.26	0.28	-0.0796	0		
131	SLD 16	-0.09	-4.15	36.26	0.28	-0.0796	0		
131	SLV 1	0.22	4.83	43.1	-0.1214	0.1828	0.0001		
131	SLV 2	0.22	4.83	43.1	-0.1214	0.1828	0.0001		
131	SLV 3	0.29	-1.83	40.61	0.1732	0.2486	0.0001		
131	SLV 4	0.29	-1.83	40.61	0.1732	0.2486	0.0001		
131	SLV 5	-0.05	10.48	43.51	-0.3694	-0.0473	0		
131	SLV 6	-0.05	10.48	43.51	-0.3694	-0.0473	0		
131	SLV 7	0.2	-11.72	35.21	0.6125	0.1721	0.0001		
131	SLV 8	0.2	-11.72	35.21	0.6125	0.1721	0.0001		
131	SLV 9	-0.2	8.67	41.38	-0.2875	-0.1787	-0.0001		
131	SLV 10	-0.2	8.67	41.38	-0.2875	-0.1787	-0.0001		
131	SLV 11	0.04	-13.53	33.08	0.6944	0.0407	0		
131	SLV 12	0.04	-13.53	33.08	0.6944	0.0407	0		
131	SLV 13	-0.3	-1.21	35.99	0.1518	-0.2553	-0.0001		
131	SLV 14	-0.3	-1.21	35.99	0.1518	-0.2553	-0.0001		
131	SLV 15	-0.23	-7.87	33.5	0.4463	-0.1895	-0.0001		
131	SLV 16	-0.23	-7.87	33.5	0.4463	-0.1895	-0.0001		
132	SLU 1	0.01	2.75	54.11	-0.0885	0.012	0		
132	SLU 2	0.06	3.27	57.1	-0.107	0.0702	0		
132	SLU 3	0.01	2.89	55.88	-0.0934	0.0122	0		
132	SLU 4	0.04	3.2	57.68	-0.1045	0.0471	0		
132	SLU 5	0.06	3.37	58.28	-0.1108	0.0703	0		
132	SLU 6	0.01	3	57.06	-0.0971	0.0123	0		
132	SLU 7	0.04	3.31	58.85	-0.1082	0.0472	0		
132	SLU 8	0.01	2.96	56.46	-0.0959	0.0122	0		
132	SLU 9	0.04	3.27	58.25	-0.107	0.0471	0		
132	SLU 10	0.06	3.76	63.55	-0.1242	0.0716	0		
132	SLU 11	0.02	3.39	62.34	-0.1105	0.0137	0		
132	SLU 12	0.04	3.7	64.13	-0.1217	0.0486	0		
132	SLU 13	0.06	3.87	64.73	-0.1279	0.0717	0		
132	SLU 14	0.02	3.5	63.51	-0.1142	0.0138	0		
132	SLU 15	0.04	3.81	65.3	-0.1254	0.0487	0		
132	SLU 16	0.02	3.46	62.91	0.113	0.0137	0		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
132	SLU 17	0.04	3.77	64.71		-0.1242	0.0486	0	
132	SLU 18	0.02	3.46	63.33		-0.113	0.0141	0	
132	SLU 19	0.04	3.77	65.12		-0.1241	0.049	0	
132	SLU 20	0.02	3.57	64.51		-0.1167	0.0142	0	
132	SLU 21	0.04	3.88	66.3		-0.1278	0.0491	0	
132	SLU 22	0.01	3.22	60.69		-0.1043	0.0134	0	
132	SLU 23	0.06	3.73	63.68		-0.1228	0.0716	0	
132	SLU 24	0.01	3.36	62.46		-0.1092	0.0136	0	
132	SLU 25	0.04	3.67	64.25		-0.1203	0.0485	0	
132	SLU 26	0.06	3.84	64.85		-0.1266	0.0717	0	
132	SLU 27	0.02	3.47	63.64		-0.1129	0.0137	0	
132	SLU 28	0.04	3.78	65.43		-0.124	0.0486	0	
132	SLU 29	0.02	3.43	63.04		-0.1117	0.0136	0	
132	SLU 30	0.04	3.74	64.83		-0.1228	0.0485	0	
132	SLU 31	0.06	4.23	70.13		-0.14	0.073	0	
132	SLU 32	0.02	3.86	68.91		-0.1263	0.0151	0	
132	SLU 33	0.04	4.17	70.71		-0.1374	0.05	0	
132	SLU 34	0.06	4.34	71.3		-0.1437	0.0731	0	
132	SLU 35	0.02	3.97	70.09		-0.13	0.0152	0	
132	SLU 36	0.04	4.28	71.88		-0.1412	0.0501	0	
132	SLU 37	0.02	3.93	69.49		-0.1288	0.015	0	
132	SLU 38	0.04	4.24	71.28		-0.14	0.05	0	
132	SLU 39	0.02	3.93	69.91		-0.1288	0.0155	0	
132	SLU 40	0.04	4.24	71.7		-0.1399	0.0504	0	
132	SLU 41	0.02	4.04	71.08		-0.1325	0.0156	0	
132	SLU 42	0.04	4.35	72.88		-0.1436	0.0505	0	
132	SLU 43	0.02	3.42	68.09		-0.1096	0.0151	0	
132	SLU 44	0.06	3.93	71.08		-0.1282	0.0733	0	
132	SLU 45	0.02	3.56	69.86		-0.1145	0.0153	0	
132	SLU 46	0.04	3.87	71.66		-0.1256	0.0502	0	
132	SLU 47	0.06	4.04	72.25		-0.1319	0.0734	0	
132	SLU 48	0.02	3.67	71.04		-0.1182	0.0154	0	
132	SLU 49	0.04	3.97	72.83		-0.1293	0.0503	0	
132	SLU 50	0.02	3.63	70.44		-0.117	0.0153	0	
132	SLU 51	0.04	3.94	72.23		-0.1282	0.0502	0	
132	SLU 52	0.06	4.43	77.53		-0.1453	0.0748	0	
132	SLU 53	0.02	4.06	76.32		-0.1316	0.0168	0	
132	SLU 54	0.05	4.37	78.11		-0.1428	0.0517	0	
132	SLU 55	0.06	4.53	78.71		-0.149	0.0749	0	
132	SLU 56	0.02	4.16	77.49		-0.1354	0.0169	0	
132	SLU 57	0.05	4.47	79.28		-0.1465	0.0518	0	
132	SLU 58	0.02	4.13	76.89		-0.1342	0.0168	0	
132	SLU 59	0.05	4.44	78.69		-0.1453	0.0517	0	
132	SLU 60	0.02	4.13	77.31		-0.1341	0.0172	0	
132	SLU 61	0.05	4.44	79.1		-0.1452	0.0521	0	
132	SLU 62	0.02	4.23	78.49		-0.1378	0.0173	0	
132	SLU 63	0.05	4.54	80.28		-0.149	0.0522	0	
132	SLU 64	0.02	3.89	74.67		-0.1254	0.0165	0	
132	SLU 65	0.06	4.4	77.66		-0.144	0.0747	0	
132	SLU 66	0.02	4.03	76.44		-0.1303	0.0167	0	
132	SLU 67	0.04	4.34	78.23		-0.1414	0.0516	0	
132	SLU 68	0.06	4.51	78.83		-0.1477	0.0748	0	
132	SLU 69	0.02	4.13	77.61		-0.134	0.0168	0	
132	SLU 70	0.05	4.44	79.41		-0.1451	0.0517	0	
132	SLU 71	0.02	4.1	77.02		-0.1328	0.0167	0	
132	SLU 72	0.04	4.41	78.81		-0.144	0.0516	0	
132	SLU 73	0.06	4.9	84.11		-0.1611	0.0762	0	
132	SLU 74	0.02	4.53	82.89		-0.1474	0.0182	0	
132	SLU 75	0.05	4.83	84.69		-0.1586	0.0531	0	
132	SLU 76	0.06	5	85.28		-0.1648	0.0763	0	
132	SLU 77	0.02	4.63	84.07		-0.1511	0.0183	0	
132	SLU 78	0.05	4.94	85.86		-0.1623	0.0532	0	
132	SLU 79	0.02	4.6	83.47		-0.15	0.0182	0	
132	SLU 80	0.05	4.9	85.26		-0.1611	0.0531	0	
132	SLU 81	0.02	4.6	83.89		-0.1499	0.0186	0	
132	SLU 82	0.05	4.91	85.68		-0.161	0.0535	0	
132	SLU 83	0.02	4.7	85.06		-0.1536	0.0187	0	
132	SLU 84	0.05	5.01	86.85		-0.1648	0.0536	0	
132	SLE RA 1	0.01	2.89	55.99		-0.093	0.0124	0	
132	SLE RA 2	0.04	3.23	57.98		-0.1054	0.0512	0	
132	SLE RA 3	0.01	2.98	57.17		-0.0963	0.0125	0	
132	SLE RA 4	0.03	3.19	58.37		-0.1037	0.0358	0	
132	SLE RA 5	0.04	3.3	58.77		-0.1078	0.0512	0	
132	SLE RA 6	0.01	3.05	57.96		-0.0987	0.0126	0	
132	SLE RA 7	0.03	3.26	59.15		-0.1062	0.0359	0	
132	SLE RA 8	0.01	3.03	57.56		-0.0979	0.0125	0	
132	SLE RA 9	0.03	3.23	58.75		-0.1054	0.0358	0	
132	SLE RA 10	0.04	3.56	62.29		-0.1168	0.0522	0	
132	SLE RA 11	0.01	3.31	61.48		-0.1077	0.0135	0	
132	SLE RA 12	0.03	3.52	62.67		-0.1151	0.0368	0	
132	SLE RA 13	0.04	3.63	63.07		-0.1193	0.0522	0	
132	SLE RA 14	0.01	3.38	62.26		-0.1102	0.0136	0	
132	SLE RA 15	0.03	3.59	63.45		-0.1176	0.0368	0	
132	SLE RA 16	0.01	3.36	61.86		-0.1094	0.0135	0	
132	SLE RA 17	0.03	3.56	63.06		-0.1168	0.0368	0	
132	SLE RA 18	0.02	3.36	62.14		-0.1093	0.0138	0	
132	SLE RA 19	0.03	3.57	63.33		-0.1168	0.0371	0	
132	SLE RA 20	0.02	3.43	62.92		-0.1118	0.0138	0	



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
132	SLE RA 21	0.03	3.64	64.12	-0.1192	0.0371	0
132	SLE FR 1	0.01	2.89	55.99	-0.093	0.0124	0
132	SLE FR 2	0.02	2.95	56.39	-0.0955	0.0201	0
132	SLE FR 3	0.01	2.91	56.31	-0.094	0.0124	0
132	SLE FR 4	0.02	3.1	58.24	-0.1004	0.0206	0
132	SLE FR 5	0.01	3.06	58.15	-0.0989	0.0128	0
132	SLE FR 6	0.01	3.12	59.07	-0.1012	0.0131	0
132	SLE QP 1	0.01	2.89	55.99	-0.093	0.0124	0
132	SLE QP 2	0.01	3.03	57.84	-0.0979	0.0128	0
132	SLD 1	0.13	3.53	44.31	-0.1249	0.2052	0.0001
132	SLD 2	0.13	3.53	44.31	-0.1249	0.2052	0.0001
132	SLD 3	0.21	0.49	40.46	0.0039	0.1154	0
132	SLD 4	0.21	0.49	40.46	0.0039	0.1154	0
132	SLD 5	-0.09	7.79	59.61	-0.3012	0.2068	0.0001
132	SLD 6	-0.09	7.79	59.61	-0.3012	0.2068	0.0001
132	SLD 7	0.21	-2.35	46.79	0.1279	-0.0927	0
132	SLD 8	0.21	-2.35	46.79	0.1279	-0.0927	0
132	SLD 9	-0.18	8.4	68.88	-0.3237	0.1183	0
132	SLD 10	-0.18	8.4	68.88	-0.3237	0.1183	0
132	SLD 11	0.11	-1.74	56.06	0.1055	-0.1812	0
132	SLD 12	0.11	-1.74	56.06	0.1055	-0.1812	0
132	SLD 13	-0.19	5.56	75.21	-0.1997	-0.0898	0
132	SLD 14	-0.19	5.56	75.21	-0.1997	-0.0898	0
132	SLD 15	-0.1	2.52	71.37	-0.0709	-0.1796	0
132	SLD 16	-0.1	2.52	71.37	-0.0709	-0.1796	0
132	SLV 1	0.28	4.18	26.19	-0.1596	0.4817	0.0001
132	SLV 2	0.28	4.18	26.19	-0.1596	0.4817	0.0001
132	SLV 3	0.5	-2.9	17.1	0.14	0.2526	0.0001
132	SLV 4	0.5	-2.9	17.1	0.14	0.2526	0.0001
132	SLV 5	-0.25	14.11	62.12	-0.5707	0.5008	0.0001
132	SLV 6	-0.25	14.11	62.12	-0.5707	0.5008	0.0001
132	SLV 7	0.5	-9.49	31.84	0.4278	-0.2626	-0.0001
132	SLV 8	0.5	-9.49	31.84	0.4278	-0.2626	-0.0001
132	SLV 9	-0.47	15.55	83.84	-0.6235	0.2882	0.0001
132	SLV 10	-0.47	15.55	83.84	-0.6235	0.2882	0.0001
132	SLV 11	0.28	-8.06	53.55	0.3749	-0.4752	-0.0001
132	SLV 12	0.28	-8.06	53.55	0.3749	-0.4752	-0.0001
132	SLV 13	-0.47	8.96	98.57	-0.3357	-0.227	0
132	SLV 14	-0.47	8.96	98.57	-0.3357	-0.227	0
132	SLV 15	-0.25	1.88	89.49	-0.0362	-0.4561	-0.0001
132	SLV 16	-0.25	1.88	89.49	-0.0362	-0.4561	-0.0001
133	SLU 1	-0.31	0.63	55.89	0.0607	-0.2136	-0.0017
133	SLU 2	-0.37	1.16	58.78	0.0482	-0.2796	-0.0021
133	SLU 3	-0.33	0.72	57.88	0.0611	-0.2218	-0.0018
133	SLU 4	-0.36	1.04	59.61	0.0535	-0.2615	-0.002
133	SLU 5	-0.38	1.24	60.22	0.0477	-0.2856	-0.0021
133	SLU 6	-0.34	0.81	59.32	0.0606	-0.2278	-0.0018
133	SLU 7	-0.37	1.12	61.05	0.0531	-0.2674	-0.002
133	SLU 8	-0.33	0.8	58.77	0.0598	-0.2255	-0.0018
133	SLU 9	-0.37	1.12	60.51	0.0523	-0.2651	-0.002
133	SLU 10	-0.42	1.33	65.38	0.0531	-0.3073	-0.0023
133	SLU 11	-0.37	0.9	64.49	0.066	-0.2495	-0.002
133	SLU 12	-0.4	1.21	66.22	0.0584	-0.2892	-0.0022
133	SLU 13	-0.42	1.42	66.83	0.0526	-0.3133	-0.0023
133	SLU 14	-0.38	0.98	65.93	0.0655	-0.2555	-0.0021
133	SLU 15	-0.41	1.3	67.66	0.058	-0.2951	-0.0023
133	SLU 16	-0.37	0.98	65.38	0.0647	-0.2532	-0.002
133	SLU 17	-0.41	1.29	67.12	0.0572	-0.2928	-0.0022
133	SLU 18	-0.37	0.88	65.33	0.0678	-0.2532	-0.002
133	SLU 19	-0.41	1.2	67.06	0.0602	-0.2928	-0.0022
133	SLU 20	-0.38	0.97	66.77	0.0673	-0.2591	-0.0021
133	SLU 21	-0.42	1.28	68.51	0.0597	-0.2987	-0.0023
133	SLU 22	-0.36	0.8	62.72	0.0668	-0.2422	-0.0019
133	SLU 23	-0.42	1.32	65.61	0.0543	-0.3083	-0.0023
133	SLU 24	-0.37	0.89	64.71	0.0672	-0.2505	-0.002
133	SLU 25	-0.41	1.2	66.44	0.0596	-0.2901	-0.0022
133	SLU 26	-0.43	1.41	67.05	0.0538	-0.3142	-0.0023
133	SLU 27	-0.38	0.97	66.15	0.0667	-0.2564	-0.0021
133	SLU 28	-0.41	1.28	67.89	0.0591	-0.296	-0.0023
133	SLU 29	-0.38	0.97	65.61	0.0659	-0.2541	-0.002
133	SLU 30	-0.41	1.28	67.34	0.0584	-0.2937	-0.0023
133	SLU 31	-0.46	1.5	72.22	0.0592	-0.336	-0.0025
133	SLU 32	-0.41	1.06	71.32	0.0721	-0.2782	-0.0022
133	SLU 33	-0.45	1.37	73.05	0.0645	-0.3178	-0.0024
133	SLU 34	-0.47	1.58	73.66	0.0587	-0.3419	-0.0026
133	SLU 35	-0.42	1.14	72.76	0.0716	-0.2841	-0.0023
133	SLU 36	-0.46	1.46	74.5	0.0641	-0.3237	-0.0025
133	SLU 37	-0.42	1.14	72.22	0.0708	-0.2818	-0.0023
133	SLU 38	-0.45	1.45	73.95	0.0633	-0.3214	-0.0025
133	SLU 39	-0.42	1.05	72.16	0.0738	-0.2818	-0.0023
133	SLU 40	-0.45	1.36	73.9	0.0663	-0.3214	-0.0025
133	SLU 41	-0.43	1.13	73.61	0.0734	-0.2877	-0.0023
133	SLU 42	-0.46	1.44	75.34	0.0658	-0.3273	-0.0025
133	SLU 43	-0.39	0.77	70.31	0.0769	-0.2679	-0.0021
133	SLU 44	-0.45	1.29	73.2	0.0643	-0.3339	-0.0025
133	SLU 45	-0.41	0.86	72.3	0.0772	-0.2761	-0.0022
133	SLU 46	-0.44	1.17	74.03	0.0697	-0.3157	-0.0024
133	SLU 47	-0.46	1.38	74.64	0.0638	-0.3398	-0.0025



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
133	SLU 48	-0.42	0.94	73.74	0.0767	-0.282	-0.0023
133	SLU 49	-0.45	1.26	75.48	0.0692	-0.3217	-0.0025
133	SLU 50	-0.41	0.94	73.2	0.076	-0.2797	-0.0022
133	SLU 51	-0.45	1.25	74.93	0.0684	-0.3193	-0.0025
133	SLU 52	-0.5	1.47	79.81	0.0692	-0.3616	-0.0027
133	SLU 53	-0.45	1.03	78.91	0.0821	-0.3038	-0.0024
133	SLU 54	-0.48	1.35	80.64	0.0746	-0.3434	-0.0026
133	SLU 55	-0.5	1.55	81.25	0.0687	-0.3675	-0.0028
133	SLU 56	-0.46	1.12	80.35	0.0816	-0.3097	-0.0025
133	SLU 57	-0.49	1.43	82.09	0.0741	-0.3494	-0.0027
133	SLU 58	-0.45	1.11	79.81	0.0809	-0.3074	-0.0025
133	SLU 59	-0.49	1.42	81.54	0.0733	-0.347	-0.0027
133	SLU 60	-0.45	1.02	79.75	0.0839	-0.3074	-0.0025
133	SLU 61	-0.49	1.33	81.48	0.0763	-0.3471	-0.0027
133	SLU 62	-0.46	1.1	81.19	0.0834	-0.3134	-0.0025
133	SLU 63	-0.5	1.42	82.93	0.0759	-0.353	-0.0027
133	SLU 64	-0.44	0.93	77.14	0.083	-0.2965	-0.0024
133	SLU 65	-0.5	1.46	80.03	0.0704	-0.3625	-0.0027
133	SLU 66	-0.45	1.02	79.13	0.0833	-0.3047	-0.0024
133	SLU 67	-0.49	1.34	80.87	0.0757	-0.3444	-0.0027
133	SLU 68	-0.51	1.54	81.48	0.0699	-0.3685	-0.0028
133	SLU 69	-0.46	1.1	80.58	0.0828	-0.3107	-0.0025
133	SLU 70	-0.49	1.42	82.31	0.0753	-0.3503	-0.0027
133	SLU 71	-0.46	1.1	80.03	0.082	-0.3083	-0.0025
133	SLU 72	-0.49	1.41	81.76	0.0745	-0.348	-0.0027
133	SLU 73	-0.54	1.63	86.64	0.0753	-0.3902	-0.0029
133	SLU 74	-0.49	1.2	85.74	0.0882	-0.3324	-0.0027
133	SLU 75	-0.53	1.51	87.48	0.0807	-0.3721	-0.0029
133	SLU 76	-0.55	1.71	88.09	0.0748	-0.3962	-0.003
133	SLU 77	-0.5	1.28	87.19	0.0877	-0.3384	-0.0027
133	SLU 78	-0.54	1.59	88.92	0.0802	-0.378	-0.0029
133	SLU 79	-0.5	1.27	86.64	0.087	-0.336	-0.0027
133	SLU 80	-0.53	1.59	88.37	0.0794	-0.3757	-0.0029
133	SLU 81	-0.5	1.18	86.58	0.09	-0.3361	-0.0027
133	SLU 82	-0.53	1.49	88.32	0.0824	-0.3757	-0.0029
133	SLU 83	-0.51	1.26	88.03	0.0895	-0.342	-0.0027
133	SLU 84	-0.54	1.58	89.76	0.082	-0.3816	-0.003
133	SLE RA 1	-0.33	0.68	57.84	0.0625	-0.2218	-0.0018
133	SLE RA 2	-0.37	1.03	59.76	0.0541	-0.2658	-0.002
133	SLE RA 3	-0.34	0.74	59.16	0.0627	-0.2273	-0.0018
133	SLE RA 4	-0.36	0.95	60.32	0.0577	-0.2537	-0.002
133	SLE RA 5	-0.37	1.09	60.73	0.0538	-0.2698	-0.002
133	SLE RA 6	-0.34	0.8	60.13	0.0624	-0.2312	-0.0019
133	SLE RA 7	-0.37	1.01	61.28	0.0574	-0.2576	-0.002
133	SLE RA 8	-0.34	0.79	59.76	0.0619	-0.2297	-0.0018
133	SLE RA 9	-0.36	1	60.92	0.0568	-0.2561	-0.002
133	SLE RA 10	-0.39	1.15	64.17	0.0574	-0.2843	-0.0022
133	SLE RA 11	-0.36	0.86	63.57	0.066	-0.2457	-0.002
133	SLE RA 12	-0.39	1.07	64.73	0.0609	-0.2722	-0.0021
133	SLE RA 13	-0.4	1.2	65.13	0.0571	-0.2882	-0.0022
133	SLE RA 14	-0.37	0.91	64.53	0.0657	-0.2497	-0.002
133	SLE RA 15	-0.39	1.12	65.69	0.0606	-0.2761	-0.0021
133	SLE RA 16	-0.37	0.91	64.17	0.0651	-0.2481	-0.002
133	SLE RA 17	-0.39	1.12	65.33	0.0601	-0.2746	-0.0021
133	SLE RA 18	-0.37	0.85	64.13	0.0672	-0.2482	-0.002
133	SLE RA 19	-0.39	1.06	65.29	0.0621	-0.2746	-0.0021
133	SLE RA 20	-0.37	0.9	65.1	0.0668	-0.2521	-0.002
133	SLE RA 21	-0.4	1.11	66.25	0.0618	-0.2785	-0.0022
133	SLE FR 1	-0.33	0.68	57.84	0.0625	-0.2218	-0.0018
133	SLE FR 2	-0.34	0.75	58.22	0.0608	-0.2306	-0.0018
133	SLE FR 3	-0.33	0.7	58.22	0.0624	-0.2234	-0.0018
133	SLE FR 4	-0.35	0.8	60.11	0.0622	-0.2385	-0.0019
133	SLE FR 5	-0.34	0.75	60.11	0.0638	-0.2313	-0.0019
133	SLE FR 6	-0.35	0.76	60.98	0.0648	-0.235	-0.0019
133	SLE QP 1	-0.33	0.68	57.84	0.0625	-0.2218	-0.0018
133	SLE QP 2	-0.34	0.73	59.73	0.0639	-0.2297	-0.0018
133	SLD 1	-0.57	1.5	77.42	0.0449	-0.4338	-0.0031
133	SLD 2	-0.57	1.5	77.42	0.0449	-0.4338	-0.0031
133	SLD 3	-0.49	-2.2	74.22	0.2061	-0.3591	-0.0026
133	SLD 4	-0.49	-2.2	74.22	0.2061	-0.3591	-0.0026
133	SLD 5	-0.53	6.59	69.89	-0.1863	-0.4044	-0.0029
133	SLD 6	-0.53	6.59	69.89	-0.1863	-0.4044	-0.0029
133	SLD 7	-0.26	-5.77	59.22	0.3511	-0.1551	-0.0014
133	SLD 8	-0.26	-5.77	59.22	0.3511	-0.1551	-0.0014
133	SLD 9	-0.42	7.23	60.23	-0.2233	-0.3043	-0.0023
133	SLD 10	-0.42	7.23	60.23	-0.2233	-0.3043	-0.0023
133	SLD 11	-0.15	-5.12	49.56	0.3141	-0.055	-0.0008
133	SLD 12	-0.15	-5.12	49.56	0.3141	-0.055	-0.0008
133	SLD 13	-0.19	3.67	45.23	-0.0783	-0.1003	-0.001
133	SLD 14	-0.19	3.67	45.23	-0.0783	-0.1003	-0.001
133	SLD 15	-0.11	-0.04	42.03	0.0829	-0.0255	-0.0006
133	SLD 16	-0.11	-0.04	42.03	0.0829	-0.0255	-0.0006
133	SLV 1	-0.89	2.41	101.2	0.0252	-0.7205	-0.0048
133	SLV 2	-0.89	2.41	101.2	0.0252	-0.7205	-0.0048
133	SLV 3	-0.69	-6.22	93.58	0.4001	-0.5316	-0.0037
133	SLV 4	-0.69	-6.22	93.58	0.4001	-0.5316	-0.0037
133	SLV 5	-0.81	14.32	83.72	-0.5163	-0.6634	-0.0044
133	SLV 6	-0.81	14.32	83.72	-0.5163	-0.6634	-0.0044



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
133	SLV 7	-0.14	-14.44	58.33	0.7333	-0.0338	-0.0007
133	SLV 8	-0.14	-14.44	58.33	0.7333	-0.0338	-0.0007
133	SLV 9	-0.54	15.9	61.12	-0.6056	-0.4256	-0.003
133	SLV 10	-0.54	15.9	61.12	-0.6056	-0.4256	-0.003
133	SLV 11	0.13	-12.86	35.74	0.6441	0.204	0.0007
133	SLV 12	0.13	-12.86	35.74	0.6441	0.204	0.0007
133	SLV 13	0.01	7.68	25.87	-0.2723	0.0722	0
133	SLV 14	0.01	7.68	25.87	-0.2723	0.0722	0
133	SLV 15	0.21	-0.95	18.25	0.1026	0.2611	0.0011
133	SLV 16	0.21	-0.95	18.25	0.1026	0.2611	0.0011
134	SLU 1	0.05	-2.8	42.25	0.1321	0.0354	0
134	SLU 2	0.05	-3.19	42.41	0.1505	0.0356	0
134	SLU 3	0.05	-2.52	43.45	0.1186	0.0366	0
134	SLU 4	0.05	-2.75	43.55	0.1296	0.0367	0
134	SLU 5	0.05	-2.84	43.15	0.1335	0.0363	0
134	SLU 6	0.05	-2.17	44.19	0.1016	0.0374	0
134	SLU 7	0.05	-2.4	44.29	0.1126	0.0375	0
134	SLU 8	0.05	-2.1	43.72	0.0981	0.037	0
134	SLU 9	0.05	-2.34	43.82	0.1091	0.0371	0
134	SLU 10	0.05	-3.66	50.41	0.1743	0.0378	0
134	SLU 11	0.06	-2.99	51.45	0.1424	0.0389	0
134	SLU 12	0.06	-3.23	51.55	0.1534	0.039	0
134	SLU 13	0.06	-3.31	51.15	0.1573	0.0386	0
134	SLU 14	0.06	-2.64	52.19	0.1254	0.0397	0
134	SLU 15	0.06	-2.88	52.29	0.1364	0.0398	0
134	SLU 16	0.06	-2.58	51.73	0.1219	0.0393	0
134	SLU 17	0.06	-2.81	51.82	0.1329	0.0394	0
134	SLU 18	0.06	-3.48	53.68	0.1661	0.0387	0
134	SLU 19	0.06	-3.71	53.78	0.1772	0.0388	0
134	SLU 20	0.06	-3.13	54.42	0.1491	0.0395	0
134	SLU 21	0.06	-3.36	54.52	0.1601	0.0395	0
134	SLU 22	0.06	-2.8	47.93	0.1339	0.0399	0
134	SLU 23	0.06	-3.19	48.09	0.1523	0.0401	0
134	SLU 24	0.06	-2.52	49.13	0.1204	0.0412	0
134	SLU 25	0.06	-2.76	49.23	0.1314	0.0412	0
134	SLU 26	0.06	-2.85	48.83	0.1352	0.0409	0
134	SLU 27	0.06	-2.17	49.87	0.1033	0.0419	0
134	SLU 28	0.06	-2.41	49.96	0.1143	0.042	0
134	SLU 29	0.06	-2.11	49.4	0.0998	0.0415	0
134	SLU 30	0.06	-2.34	49.5	0.1108	0.0416	0
134	SLU 31	0.06	-3.67	56.09	0.1761	0.0424	0
134	SLU 32	0.06	-2.99	57.13	0.1442	0.0434	0
134	SLU 33	0.06	-3.23	57.23	0.1552	0.0435	0
134	SLU 34	0.06	-3.32	56.83	0.159	0.0432	0
134	SLU 35	0.06	-2.64	57.87	0.1271	0.0442	0
134	SLU 36	0.06	-2.88	57.97	0.1381	0.0443	0
134	SLU 37	0.06	-2.58	57.4	0.1236	0.0438	0
134	SLU 38	0.06	-2.81	57.5	0.1346	0.0439	0
134	SLU 39	0.06	-3.48	59.36	0.1679	0.0432	0
134	SLU 40	0.06	-3.71	59.45	0.1789	0.0433	0
134	SLU 41	0.06	-3.13	60.1	0.1509	0.044	0
134	SLU 42	0.06	-3.36	60.19	0.1619	0.0441	0
134	SLU 43	0.06	-3.64	52.98	0.1712	0.0445	0
134	SLU 44	0.06	-4.03	53.14	0.1895	0.0446	0
134	SLU 45	0.07	-3.36	54.18	0.1576	0.0457	0
134	SLU 46	0.07	-3.59	54.28	0.1686	0.0458	0
134	SLU 47	0.06	-3.68	53.88	0.1725	0.0454	0
134	SLU 48	0.07	-3.01	54.92	0.1406	0.0465	0
134	SLU 49	0.07	-3.24	55.01	0.1516	0.0466	0
134	SLU 50	0.07	-2.94	54.45	0.1371	0.0461	0
134	SLU 51	0.07	-3.18	54.55	0.1481	0.0461	0
134	SLU 52	0.07	-4.5	61.14	0.2133	0.0469	0
134	SLU 53	0.07	-3.83	62.18	0.1814	0.048	0
134	SLU 54	0.07	-4.07	62.28	0.1925	0.0481	0
134	SLU 55	0.07	-4.15	61.88	0.1963	0.0477	0
134	SLU 56	0.07	-3.48	62.92	0.1644	0.0488	0
134	SLU 57	0.07	-3.72	63.02	0.1754	0.0489	0
134	SLU 58	0.07	-3.41	62.45	0.1609	0.0483	0
134	SLU 59	0.07	-3.65	62.55	0.1719	0.0484	0
134	SLU 60	0.07	-4.32	64.41	0.2052	0.0477	0
134	SLU 61	0.07	-4.55	64.5	0.2162	0.0478	0
134	SLU 62	0.07	-3.97	65.15	0.1881	0.0485	0
134	SLU 63	0.07	-4.2	65.24	0.1992	0.0486	0
134	SLU 64	0.07	-3.64	58.65	0.1729	0.049	0
134	SLU 65	0.07	-4.03	58.82	0.1913	0.0492	0
134	SLU 66	0.07	-3.36	59.85	0.1594	0.0502	0
134	SLU 67	0.07	-3.6	59.95	0.1704	0.0503	0
134	SLU 68	0.07	-3.68	59.55	0.1742	0.0499	0
134	SLU 69	0.07	-3.01	60.59	0.1423	0.051	0
134	SLU 70	0.07	-3.25	60.69	0.1534	0.0511	0
134	SLU 71	0.07	-2.95	60.13	0.1388	0.0506	0
134	SLU 72	0.07	-3.18	60.23	0.1499	0.0507	0
134	SLU 73	0.07	-4.51	66.82	0.2151	0.0514	0
134	SLU 74	0.08	-3.83	67.86	0.1832	0.0525	0
134	SLU 75	0.08	-4.07	67.96	0.1942	0.0526	0
134	SLU 76	0.08	-4.16	67.56	0.1981	0.0522	0
134	SLU 77	0.08	-3.48	68.6	0.1662	0.0533	0
134	SLU 78	0.08	-3.72	68.69	0.1772	0.0534	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
134	SLU 79		0.08	-3.42	68.13	0.1627	0.0529	0	
134	SLU 80		0.08	-3.65	68.23	0.1737	0.053	0	
134	SLU 81		0.08	-4.32	70.08	0.2069	0.0523	0	
134	SLU 82		0.08	-4.55	70.18	0.218	0.0524	0	
134	SLU 83		0.08	-3.97	70.82	0.1899	0.0531	0	
134	SLU 84		0.08	-4.2	70.92	0.2009	0.0531	0	
134	SLE RA 1		0.05	-2.8	43.87	0.1326	0.0367	0	
134	SLE RA 2		0.05	-3.06	43.98	0.1449	0.0368	0	
134	SLE RA 3		0.05	-2.61	44.67	0.1236	0.0375	0	
134	SLE RA 4		0.05	-2.77	44.74	0.131	0.0376	0	
134	SLE RA 5		0.05	-2.83	44.47	0.1335	0.0373	0	
134	SLE RA 6		0.05	-2.38	45.16	0.1122	0.038	0	
134	SLE RA 7		0.05	-2.54	45.23	0.1196	0.0381	0	
134	SLE RA 8		0.05	-2.34	44.85	0.1099	0.0378	0	
134	SLE RA 9		0.05	-2.49	44.92	0.1173	0.0378	0	
134	SLE RA 10		0.06	-3.38	49.31	0.1607	0.0383	0	
134	SLE RA 11		0.06	-2.93	50.01	0.1395	0.039	0	
134	SLE RA 12		0.06	-3.09	50.07	0.1468	0.0391	0	
134	SLE RA 13		0.06	-3.14	49.81	0.1494	0.0389	0	
134	SLE RA 14		0.06	-2.7	50.5	0.1281	0.0396	0	
134	SLE RA 15		0.06	-2.85	50.56	0.1355	0.0396	0	
134	SLE RA 16		0.06	-2.65	50.19	0.1258	0.0393	0	
134	SLE RA 17		0.06	-2.81	50.25	0.1331	0.0393	0	
134	SLE RA 18		0.06	-3.25	51.49	0.1553	0.0389	0	
134	SLE RA 19		0.06	-3.41	51.56	0.1627	0.0389	0	
134	SLE RA 20		0.06	-3.02	51.98	0.144	0.0394	0	
134	SLE RA 21		0.06	-3.18	52.05	0.1513	0.0395	0	
134	SLE FR 1		0.05	-2.8	43.87	0.1326	0.0367	0	
134	SLE FR 2		0.05	-2.85	43.89	0.1351	0.0367	0	
134	SLE FR 3		0.05	-2.71	44.07	0.1281	0.0369	0	
134	SLE FR 4		0.05	-2.99	46.18	0.1419	0.0374	0	
134	SLE FR 5		0.05	-2.84	46.35	0.1349	0.0376	0	
134	SLE FR 6		0.05	-3.03	47.68	0.144	0.0378	0	
134	SLE QP 1		0.05	-2.8	43.87	0.1326	0.0367	0	
134	SLE QP 2		0.05	-2.94	46.16	0.1394	0.0374	0	
134	SLD 1		0.22	-2.08	49.4	0.0997	0.1769	0.0002	
134	SLD 2		0.22	-2.08	49.4	0.0997	0.1769	0.0002	
134	SLD 3		0.24	-5.03	50.71	0.241	0.1925	0.0001	
134	SLD 4		0.24	-5.03	50.71	0.241	0.1925	0.0001	
134	SLD 5		0.08	1.8	45.15	-0.0868	0.0556	0.0001	
134	SLD 6		0.08	1.8	45.15	-0.0868	0.0556	0.0001	
134	SLD 7		0.14	-8.05	49.51	0.3842	0.1075	0	
134	SLD 8		0.14	-8.05	49.51	0.3842	0.1075	0	
134	SLD 9		-0.03	2.18	42.81	-0.1053	-0.0328	0	
134	SLD 10		-0.03	2.18	42.81	-0.1053	-0.0328	0	
134	SLD 11		0.03	-7.68	47.17	0.3656	0.0191	-0.0001	
134	SLD 12		0.03	-7.68	47.17	0.3656	0.0191	-0.0001	
134	SLD 13		-0.13	-0.84	41.6	0.0379	-0.1178	-0.0001	
134	SLD 14		-0.13	-0.84	41.6	0.0379	-0.1178	-0.0001	
134	SLD 15		-0.11	-3.8	42.91	0.1792	-0.1022	-0.0001	
134	SLD 16		-0.11	-3.8	42.91	0.1792	-0.1022	-0.0001	
134	SLV 1		0.48	-0.93	53.78	0.0469	0.389	0.0004	
134	SLV 2		0.48	-0.93	53.78	0.0469	0.389	0.0004	
134	SLV 3		0.52	-7.85	56.87	0.3774	0.4279	0.0003	
134	SLV 4		0.52	-7.85	56.87	0.3774	0.4279	0.0003	
134	SLV 5		0.11	8.15	43.75	-0.3895	0.084	0.0002	
134	SLV 6		0.11	8.15	43.75	-0.3895	0.084	0.0002	
134	SLV 7		0.26	-14.9	54.06	0.712	0.2134	0	
134	SLV 8		0.26	-14.9	54.06	0.712	0.2134	0	
134	SLV 9		-0.15	9.02	38.25	-0.4331	-0.1387	0	
134	SLV 10		-0.15	9.02	38.25	-0.4331	-0.1387	0	
134	SLV 11		-0.01	-14.02	48.56	0.6684	-0.0092	-0.0002	
134	SLV 12		-0.01	-14.02	48.56	0.6684	-0.0092	-0.0002	
134	SLV 13		-0.41	1.97	35.44	-0.0985	-0.3532	-0.0003	
134	SLV 14		-0.41	1.97	35.44	-0.0985	-0.3532	-0.0003	
134	SLV 15		-0.37	-4.94	38.53	0.2319	-0.3143	-0.0003	
134	SLV 16		-0.37	-4.94	38.53	0.2319	-0.3143	-0.0003	
135	SLU 1		0.02	1.66	11.46	-0.0514	0.0139	0.0001	
135	SLU 2		0.02	1.65	11.47	-0.0509	0.0144	0.0001	
135	SLU 3		0.02	1.7	11.65	-0.0519	0.0142	0.0001	
135	SLU 4		0.02	1.69	11.65	-0.0517	0.0145	0.0001	
135	SLU 5		0.02	1.65	11.56	-0.0503	0.0145	0.0001	
135	SLU 6		0.02	1.7	11.74	-0.0513	0.0143	0.0001	
135	SLU 7		0.02	1.69	11.75	-0.051	0.0146	0.0001	
135	SLU 8		0.02	1.67	11.64	-0.0501	0.0142	0.0001	
135	SLU 9		0.02	1.66	11.65	-0.0498	0.0144	0.0001	
135	SLU 10		0.02	1.97	14.77	-0.0606	0.018	0.0001	
135	SLU 11		0.02	2.01	14.95	-0.0616	0.0178	0.0001	
135	SLU 12		0.02	2.01	14.96	-0.0613	0.0181	0.0001	
135	SLU 13		0.02	1.97	14.87	-0.0599	0.0181	0.0001	
135	SLU 14		0.02	2.02	15.04	-0.0609	0.0179	0.0001	
135	SLU 15		0.02	2.01	15.05	-0.0607	0.0182	0.0001	
135	SLU 16		0.02	1.98	14.95	-0.0597	0.0178	0.0001	
135	SLU 17		0.02	1.98	14.96	-0.0595	0.0181	0.0001	
135	SLU 18		0.02	2.11	16.18	-0.0651	0.0191	0.0001	
135	SLU 19		0.02	2.11	16.19	-0.0649	0.0194	0.0001	
135	SLU 20		0.02	2.12	16.27	-0.0645	0.0192	0.0001	
135	SLU 21		0.02	2.11	16.28	-0.0642	0.0195	0.0001	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
135	SLU 22		0.02	1.92	12.68	-0.0587	0.0157	0.0001	
135	SLU 23		0.02	1.91	12.69	-0.0583	0.0161	0.0001	
135	SLU 24		0.02	1.96	12.87	-0.0593	0.0159	0.0001	
135	SLU 25		0.02	1.95	12.87	-0.059	0.0162	0.0001	
135	SLU 26		0.02	1.91	12.78	-0.0577	0.0162	0.0001	
135	SLU 27		0.02	1.96	12.96	-0.0587	0.0161	0.0001	
135	SLU 28		0.02	1.96	12.97	-0.0584	0.0163	0.0001	
135	SLU 29		0.02	1.93	12.86	-0.0575	0.0159	0.0001	
135	SLU 30		0.02	1.92	12.87	-0.0572	0.0162	0.0001	
135	SLU 31		0.02	2.23	15.99	-0.068	0.0197	0.0001	
135	SLU 32		0.02	2.28	16.17	-0.069	0.0196	0.0001	
135	SLU 33		0.02	2.27	16.18	-0.0687	0.0198	0.0001	
135	SLU 34		0.02	2.23	16.09	-0.0673	0.0199	0.0001	
135	SLU 35		0.02	2.28	16.26	-0.0683	0.0197	0.0001	
135	SLU 36		0.02	2.28	16.27	-0.068	0.0199	0.0001	
135	SLU 37		0.02	2.25	16.17	-0.0671	0.0196	0.0001	
135	SLU 38		0.02	2.24	16.18	-0.0668	0.0198	0.0001	
135	SLU 39		0.03	2.38	17.4	-0.0725	0.0209	0.0001	
135	SLU 40		0.03	2.37	17.41	-0.0723	0.0211	0.0001	
135	SLU 41		0.03	2.38	17.49	-0.0719	0.021	0.0001	
135	SLU 42		0.03	2.37	17.5	-0.0716	0.0212	0.0001	
135	SLU 43		0.02	2.06	14.48	-0.0642	0.0175	0.0001	
135	SLU 44		0.02	2.05	14.49	-0.0638	0.018	0.0001	
135	SLU 45		0.02	2.1	14.66	-0.0648	0.0178	0.0001	
135	SLU 46		0.02	2.1	14.67	-0.0645	0.018	0.0001	
135	SLU 47		0.02	2.06	14.58	-0.0631	0.0181	0.0001	
135	SLU 48		0.02	2.11	14.76	-0.0642	0.0179	0.0001	
135	SLU 49		0.02	2.1	14.76	-0.0639	0.0182	0.0001	
135	SLU 50		0.02	2.07	14.66	-0.0629	0.0178	0.0001	
135	SLU 51		0.02	2.07	14.67	-0.0627	0.018	0.0001	
135	SLU 52		0.03	2.37	17.79	-0.0734	0.0216	0.0001	
135	SLU 53		0.03	2.42	17.97	-0.0744	0.0214	0.0001	
135	SLU 54		0.03	2.41	17.98	-0.0742	0.0217	0.0001	
135	SLU 55		0.03	2.38	17.89	-0.0728	0.0217	0.0001	
135	SLU 56		0.03	2.43	18.06	-0.0738	0.0215	0.0001	
135	SLU 57		0.03	2.42	18.07	-0.0735	0.0218	0.0001	
135	SLU 58		0.03	2.39	17.97	-0.0726	0.0214	0.0001	
135	SLU 59		0.03	2.39	17.97	-0.0723	0.0216	0.0001	
135	SLU 60		0.03	2.52	19.2	-0.078	0.0227	0.0001	
135	SLU 61		0.03	2.51	19.2	-0.0778	0.0229	0.0001	
135	SLU 62		0.03	2.52	19.29	-0.0774	0.0228	0.0001	
135	SLU 63		0.03	2.52	19.3	-0.0771	0.0231	0.0001	
135	SLU 64		0.02	2.33	15.7	-0.0716	0.0193	0.0001	
135	SLU 65		0.02	2.32	15.71	-0.0712	0.0197	0.0001	
135	SLU 66		0.02	2.37	15.88	-0.0722	0.0195	0.0001	
135	SLU 67		0.02	2.36	15.89	-0.0719	0.0198	0.0001	
135	SLU 68		0.02	2.32	15.8	-0.0705	0.0198	0.0001	
135	SLU 69		0.02	2.37	15.98	-0.0715	0.0197	0.0001	
135	SLU 70		0.02	2.36	15.98	-0.0713	0.0199	0.0001	
135	SLU 71		0.02	2.34	15.88	-0.0703	0.0195	0.0001	
135	SLU 72		0.02	2.33	15.89	-0.0701	0.0198	0.0001	
135	SLU 73		0.03	2.64	19.01	-0.0808	0.0233	0.0001	
135	SLU 74		0.03	2.68	19.19	-0.0818	0.0231	0.0001	
135	SLU 75		0.03	2.68	19.2	-0.0816	0.0234	0.0001	
135	SLU 76		0.03	2.64	19.11	-0.0802	0.0234	0.0001	
135	SLU 77		0.03	2.69	19.28	-0.0812	0.0233	0.0001	
135	SLU 78		0.03	2.68	19.29	-0.0809	0.0235	0.0001	
135	SLU 79		0.03	2.66	19.19	-0.08	0.0231	0.0001	
135	SLU 80		0.03	2.65	19.19	-0.0797	0.0234	0.0001	
135	SLU 81		0.03	2.78	20.42	-0.0854	0.0244	0.0001	
135	SLU 82		0.03	2.78	20.42	-0.0851	0.0247	0.0001	
135	SLU 83		0.03	2.79	20.51	-0.0848	0.0246	0.0001	
135	SLU 84		0.03	2.78	20.52	-0.0845	0.0248	0.0001	
135	SLE RA 1		0.02	1.73	11.81	-0.0535	0.0144	0.0001	
135	SLE RA 2		0.02	1.73	11.81	-0.0532	0.0147	0.0001	
135	SLE RA 3		0.02	1.76	11.93	-0.0538	0.0146	0.0001	
135	SLE RA 4		0.02	1.75	11.94	-0.0537	0.0148	0.0001	
135	SLE RA 5		0.02	1.73	11.87	-0.0527	0.0148	0.0001	
135	SLE RA 6		0.02	1.76	11.99	-0.0534	0.0147	0.0001	
135	SLE RA 7		0.02	1.76	12	-0.0532	0.0149	0.0001	
135	SLE RA 8		0.02	1.74	11.93	-0.0526	0.0146	0.0001	
135	SLE RA 9		0.02	1.73	11.93	-0.0524	0.0148	0.0001	
135	SLE RA 10		0.02	1.94	14.02	-0.0596	0.0171	0.0001	
135	SLE RA 11		0.02	1.97	14.14	-0.0603	0.017	0.0001	
135	SLE RA 12		0.02	1.97	14.14	-0.0601	0.0172	0.0001	
135	SLE RA 13		0.02	1.94	14.08	-0.0592	0.0172	0.0001	
135	SLE RA 14		0.02	1.97	14.2	-0.0598	0.0171	0.0001	
135	SLE RA 15		0.02	1.97	14.2	-0.0597	0.0173	0.0001	
135	SLE RA 16		0.02	1.95	14.13	-0.059	0.017	0.0001	
135	SLE RA 17		0.02	1.95	14.14	-0.0589	0.0172	0.0001	
135	SLE RA 18		0.02	2.04	14.95	-0.0627	0.0179	0.0001	
135	SLE RA 19		0.02	2.03	14.96	-0.0625	0.0181	0.0001	
135	SLE RA 20		0.02	2.04	15.02	-0.0622	0.018	0.0001	
135	SLE RA 21		0.02	2.03	15.02	-0.0621	0.0181	0.0001	
135	SLE FR 1		0.02	1.73	11.81	-0.0535	0.0144	0.0001	
135	SLE FR 2		0.02	1.73	11.81	-0.0534	0.0145	0.0001	
135	SLE FR 3		0.02	1.73	11.83	-0.0533	0.0145	0.0001	
135	SLE FR 4		0.02	1.82	12.75	-0.0562	0.0155	0.0001	





Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
135	SLE FR 5			0.02	1.82	12.77	-0.0561	0.0155	0.0001
135	SLE FR 6			0.02	1.88	13.38	-0.0581	0.0162	0.0001
135	SLE QP 1			0.02	1.73	11.81	-0.0535	0.0144	0.0001
135	SLE QP 2			0.02	1.82	12.75	-0.0562	0.0155	0.0001
135	SLD 1			0.18	1.8	12.38	-0.0539	0.1596	0.0006
135	SLD 2			0.18	1.8	12.38	-0.0539	0.1596	0.0006
135	SLD 3			0.16	-0.53	11.25	0.0266	0.1411	0.0005
135	SLD 4			0.16	-0.53	11.25	0.0266	0.1411	0.0005
135	SLD 5			0.1	5.34	14.36	-0.1776	0.0868	0.0003
135	SLD 6			0.1	5.34	14.36	-0.1776	0.0868	0.0003
135	SLD 7			0.03	-2.41	10.57	0.0907	0.0251	0.0001
135	SLD 8			0.03	-2.41	10.57	0.0907	0.0251	0.0001
135	SLD 9			0.01	6.05	14.93	-0.2031	0.0059	0
135	SLD 10			0.01	6.05	14.93	-0.2031	0.0059	0
135	SLD 11			-0.06	-1.69	11.14	0.0651	-0.0558	-0.0002
135	SLD 12			-0.06	-1.69	11.14	0.0651	-0.0558	-0.0002
135	SLD 13			-0.12	4.18	14.25	-0.139	-0.1101	-0.0004
135	SLD 14			-0.12	4.18	14.25	-0.139	-0.1101	-0.0004
135	SLD 15			-0.15	1.85	13.12	-0.0585	-0.1286	-0.0004
135	SLD 16			-0.15	1.85	13.12	-0.0585	-0.1286	-0.0004
135	SLV 1			0.43	1.75	11.87	-0.0505	0.3785	0.0013
135	SLV 2			0.43	1.75	11.87	-0.0505	0.3785	0.0013
135	SLV 3			0.38	-3.71	9.18	0.1385	0.3335	0.0012
135	SLV 4			0.38	-3.71	9.18	0.1385	0.3335	0.0012
135	SLV 5			0.22	10.08	16.57	-0.3412	0.1927	0.0007
135	SLV 6			0.22	10.08	16.57	-0.3412	0.1927	0.0007
135	SLV 7			0.05	-8.11	7.59	0.2889	0.0426	0.0001
135	SLV 8			0.05	-8.11	7.59	0.2889	0.0426	0.0001
135	SLV 9			-0.01	11.76	17.91	-0.4013	-0.0116	0
135	SLV 10			-0.01	11.76	17.91	-0.4013	-0.0116	0
135	SLV 11			-0.18	-6.43	8.93	0.2287	-0.1618	-0.0006
135	SLV 12			-0.18	-6.43	8.93	0.2287	-0.1618	-0.0006
135	SLV 13			-0.34	7.36	16.32	-0.251	-0.3025	-0.001
135	SLV 14			-0.34	7.36	16.32	-0.251	-0.3025	-0.001
135	SLV 15			-0.39	1.9	13.63	-0.062	-0.3476	-0.0012
135	SLV 16			-0.39	1.9	13.63	-0.062	-0.3476	-0.0012
136	SLU 1			0.14	1.84	21.11	-0.1699	0.0898	0
136	SLU 2			0.15	4.21	20.75	-0.2911	0.0971	0
136	SLU 3			0.15	1.68	21.81	-0.1636	0.0929	0
136	SLU 4			0.15	3.1	21.59	-0.2364	0.0973	0
136	SLU 5			0.15	3.96	21.24	-0.2796	0.0989	0
136	SLU 6			0.15	1.43	22.3	-0.1521	0.0947	0
136	SLU 7			0.15	2.85	22.08	-0.2249	0.0991	0
136	SLU 8			0.15	1.34	22.09	-0.1468	0.0935	0
136	SLU 9			0.15	2.76	21.88	-0.2196	0.0978	0
136	SLU 10			0.17	4.66	23.76	-0.323	0.113	0
136	SLU 11			0.17	2.13	24.82	-0.1955	0.1088	0.0001
136	SLU 12			0.18	3.56	24.6	-0.2682	0.1132	0.0001
136	SLU 13			0.18	4.41	24.25	-0.3114	0.1148	0.0001
136	SLU 14			0.18	1.88	25.31	-0.1839	0.1106	0.0001
136	SLU 15			0.18	3.3	25.09	-0.2567	0.115	0.0001
136	SLU 16			0.17	1.79	25.1	-0.1786	0.1094	0.0001
136	SLU 17			0.18	3.21	24.89	-0.2514	0.1137	0.0001
136	SLU 18			0.18	2.49	25.41	-0.2153	0.1125	0.0001
136	SLU 19			0.18	3.91	25.2	-0.2881	0.1169	0.0001
136	SLU 20			0.18	2.24	25.9	-0.2038	0.1143	0.0001
136	SLU 21			0.18	3.66	25.69	-0.2766	0.1187	0.0001
136	SLU 22			0.17	2.13	23.9	-0.1926	0.1044	0.0001
136	SLU 23			0.17	4.5	23.54	-0.3139	0.1116	0
136	SLU 24			0.17	1.97	24.59	-0.1864	0.1074	0.0001
136	SLU 25			0.17	3.39	24.37	-0.2591	0.1118	0.0001
136	SLU 26			0.17	4.25	24.03	-0.3023	0.1135	0.0001
136	SLU 27			0.17	1.72	25.08	-0.1749	0.1093	0.0001
136	SLU 28			0.18	3.14	24.86	-0.2476	0.1136	0.0001
136	SLU 29			0.17	1.63	24.88	-0.1695	0.108	0.0001
136	SLU 30			0.18	3.05	24.66	-0.2423	0.1124	0.0001
136	SLU 31			0.2	4.95	26.55	-0.3457	0.1275	0.0001
136	SLU 32			0.2	2.42	27.6	-0.2182	0.1233	0.0001
136	SLU 33			0.2	3.85	27.39	-0.291	0.1277	0.0001
136	SLU 34			0.2	4.7	27.04	-0.3342	0.1294	0.0001
136	SLU 35			0.2	2.17	28.09	-0.2067	0.1252	0.0001
136	SLU 36			0.2	3.59	27.88	-0.2794	0.1295	0.0001
136	SLU 37			0.2	2.08	27.89	-0.2014	0.1239	0.0001
136	SLU 38			0.2	3.5	27.67	-0.2741	0.1283	0.0001
136	SLU 39			0.2	2.78	28.2	-0.2381	0.1271	0.0001
136	SLU 40			0.2	4.2	27.98	-0.3108	0.1314	0.0001
136	SLU 41			0.2	2.53	28.69	-0.2266	0.1289	0.0001
136	SLU 42			0.21	3.95	28.47	-0.2993	0.1333	0.0001
136	SLU 43			0.18	2.29	26.49	-0.213	0.1118	0.0001
136	SLU 44			0.18	4.66	26.13	-0.3343	0.1191	0.0001
136	SLU 45			0.18	2.13	27.18	-0.2068	0.1149	0.0001
136	SLU 46			0.19	3.55	26.97	-0.2796	0.1192	0.0001
136	SLU 47			0.19	4.41	26.62	-0.3228	0.1209	0.0001
136	SLU 48			0.19	1.88	27.67	-0.1953	0.1167	0.0001
136	SLU 49			0.19	3.3	27.46	-0.268	0.1211	0.0001
136	SLU 50			0.18	1.79	27.47	-0.19	0.1154	0.0001
136	SLU 51			0.19	3.21	27.25	-0.2627	0.1198	0.0001
136	SLU 52			0.21	5.12	29.14	-0.3661	0.1349	0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
136	SLU 53		0.21	2.59	30.2	-0.2386	0.1307	0.0001
136	SLU 54		0.21	4.01	29.98	-0.3114	0.1351	0.0001
136	SLU 55		0.21	4.86	29.63	-0.3546	0.1368	0.0001
136	SLU 56		0.21	2.34	30.69	-0.2271	0.1326	0.0001
136	SLU 57		0.21	3.76	30.47	-0.2999	0.1369	0.0001
136	SLU 58		0.21	2.24	30.48	-0.2218	0.1313	0.0001
136	SLU 59		0.21	3.66	30.26	-0.2946	0.1357	0.0001
136	SLU 60		0.21	2.94	30.79	-0.2585	0.1345	0.0001
136	SLU 61		0.22	4.36	30.58	-0.3313	0.1388	0.0001
136	SLU 62		0.22	2.69	31.28	-0.247	0.1363	0.0001
136	SLU 63		0.22	4.11	31.07	-0.3197	0.1407	0.0001
136	SLU 64		0.2	2.58	29.28	-0.2358	0.1263	0.0001
136	SLU 65		0.21	4.95	28.91	-0.357	0.1336	0.0001
136	SLU 66		0.2	2.42	29.97	-0.2295	0.1294	0.0001
136	SLU 67		0.21	3.84	29.75	-0.3023	0.1338	0.0001
136	SLU 68		0.21	4.7	29.4	-0.3455	0.1354	0.0001
136	SLU 69		0.21	2.17	30.46	-0.218	0.1312	0.0001
136	SLU 70		0.21	3.59	30.24	-0.2908	0.1356	0.0001
136	SLU 71		0.21	2.08	30.26	-0.2127	0.13	0.0001
136	SLU 72		0.21	3.5	30.04	-0.2855	0.1343	0.0001
136	SLU 73		0.23	5.41	31.93	-0.3889	0.1495	0.0001
136	SLU 74		0.23	2.88	32.98	-0.2614	0.1453	0.0001
136	SLU 75		0.23	4.3	32.76	-0.3341	0.1497	0.0001
136	SLU 76		0.23	5.15	32.42	-0.3773	0.1513	0.0001
136	SLU 77		0.23	2.63	33.47	-0.2498	0.1471	0.0001
136	SLU 78		0.24	4.05	33.25	-0.3226	0.1515	0.0001
136	SLU 79		0.23	2.53	33.27	-0.2445	0.1459	0.0001
136	SLU 80		0.24	3.95	33.05	-0.3173	0.1502	0.0001
136	SLU 81		0.24	3.23	33.58	-0.2812	0.149	0.0001
136	SLU 82		0.24	4.65	33.36	-0.354	0.1534	0.0001
136	SLU 83		0.24	2.98	34.07	-0.2697	0.1508	0.0001
136	SLU 84		0.24	4.4	33.85	-0.3425	0.1552	0.0001
136	SLE RA 1		0.15	1.92	21.91	-0.1764	0.094	0
136	SLE RA 2		0.15	3.5	21.67	-0.2572	0.0988	0
136	SLE RA 3		0.15	1.82	22.37	-0.1722	0.096	0
136	SLE RA 4		0.15	2.76	22.23	-0.2207	0.0989	0
136	SLE RA 5		0.16	3.33	21.99	-0.2495	0.1	0
136	SLE RA 6		0.15	1.65	22.7	-0.1645	0.0972	0
136	SLE RA 7		0.16	2.6	22.55	-0.213	0.1002	0
136	SLE RA 8		0.15	1.59	22.56	-0.161	0.0964	0
136	SLE RA 9		0.16	2.53	22.42	-0.2095	0.0993	0
136	SLE RA 10		0.17	3.81	23.67	-0.2784	0.1094	0
136	SLE RA 11		0.17	2.12	24.38	-0.1934	0.1066	0.0001
136	SLE RA 12		0.17	3.07	24.23	-0.2419	0.1095	0.0001
136	SLE RA 13		0.17	3.64	24	-0.2707	0.1106	0.0001
136	SLE RA 14		0.17	1.95	24.7	-0.1857	0.1078	0.0001
136	SLE RA 15		0.17	2.9	24.56	-0.2343	0.1108	0.0001
136	SLE RA 16		0.17	1.89	24.57	-0.1822	0.107	0.0001
136	SLE RA 17		0.17	2.84	24.42	-0.2307	0.1099	0.0001
136	SLE RA 18		0.17	2.36	24.78	-0.2067	0.1091	0.0001
136	SLE RA 19		0.18	3.3	24.63	-0.2552	0.112	0.0001
136	SLE RA 20		0.17	2.19	25.1	-0.199	0.1103	0.0001
136	SLE RA 21		0.18	3.14	24.96	-0.2475	0.1132	0.0001
136	SLE FR 1		0.15	1.92	21.91	-0.1764	0.094	0
136	SLE FR 2		0.15	2.24	21.86	-0.1925	0.0949	0
136	SLE FR 3		0.15	1.86	22.04	-0.1733	0.0945	0
136	SLE FR 4		0.16	2.37	22.72	-0.2016	0.0995	0
136	SLE FR 5		0.16	1.99	22.9	-0.1824	0.099	0
136	SLE FR 6		0.16	2.14	23.34	-0.1915	0.1015	0
136	SLE QP 1		0.15	1.92	21.91	-0.1764	0.094	0
136	SLE QP 2		0.16	2.05	22.77	-0.1855	0.0985	0
136	SLD 1		0.27	1.93	23.94	-0.1826	0.1894	0.0001
136	SLD 2		0.27	1.93	23.94	-0.1826	0.1894	0.0001
136	SLD 3		0.24	-1.38	24.53	-0.0217	0.1648	0.0001
136	SLD 4		0.24	-1.38	24.53	-0.0217	0.1648	0.0001
136	SLD 5		0.24	7.03	22.23	-0.4287	0.1631	0
136	SLD 6		0.24	7.03	22.23	-0.4287	0.1631	0
136	SLD 7		0.13	-3.99	24.19	0.1078	0.0811	0.0001
136	SLD 8		0.13	-3.99	24.19	0.1078	0.0811	0.0001
136	SLD 9		0.18	8.1	21.35	-0.4787	0.116	0
136	SLD 10		0.18	8.1	21.35	-0.4787	0.116	0
136	SLD 11		0.08	-2.92	23.31	0.0578	0.0339	0.0001
136	SLD 12		0.08	-2.92	23.31	0.0578	0.0339	0.0001
136	SLD 13		0.07	5.49	21.01	-0.3492	0.0323	0
136	SLD 14		0.07	5.49	21.01	-0.3492	0.0323	0
136	SLD 15		0.04	2.18	21.6	-0.1883	0.0077	0
136	SLD 16		0.04	2.18	21.6	-0.1883	0.0077	0
136	SLV 1		0.43	1.67	25.49	-0.1749	0.3136	0.0002
136	SLV 2		0.43	1.67	25.49	-0.1749	0.3136	0.0002
136	SLV 3		0.35	-6.23	26.97	0.2103	0.253	0.0003
136	SLV 4		0.35	-6.23	26.97	0.2103	0.253	0.0003
136	SLV 5		0.35	13.93	21.34	-0.7666	0.255	0
136	SLV 6		0.35	13.93	21.34	-0.7666	0.255	0
136	SLV 7		0.1	-12.42	26.27	0.5176	0.0529	0.0002
136	SLV 8		0.1	-12.42	26.27	0.5176	0.0529	0.0002
136	SLV 9		0.21	16.53	19.26	-0.8885	0.1442	-0.0001
136	SLV 10		0.21	16.53	19.26	-0.8885	0.1442	-0.0001
136	SLV 11		-0.04	-9.82	24.2	0.3957	-0.058	0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
136	SLV 12			-0.04	-9.82	24.2	0.3957	-0.058	0.0001
136	SLV 13			-0.04	10.34	18.57	-0.5813	-0.0559	-0.0002
136	SLV 14			-0.04	10.34	18.57	-0.5813	-0.0559	-0.0002
136	SLV 15			-0.12	2.43	20.05	-0.196	-0.1166	-0.0001
136	SLV 16			-0.12	2.43	20.05	-0.196	-0.1166	-0.0001
137	SLU 1			0.06	-3.36	43.31	0.138	0.0387	-0.0038
137	SLU 2			0.06	-3.85	43.8	0.1568	0.0393	-0.0038
137	SLU 3			0.06	-3.13	44.33	0.1303	0.0395	-0.0038
137	SLU 4			0.06	-3.43	44.62	0.1415	0.0399	-0.0039
137	SLU 5			0.06	-3.58	44.31	0.1468	0.0396	-0.0039
137	SLU 6			0.06	-2.85	44.84	0.1202	0.0398	-0.0039
137	SLU 7			0.06	-3.15	45.13	0.1315	0.0402	-0.0039
137	SLU 8			0.06	-2.81	44.33	0.1179	0.0394	-0.0038
137	SLU 9			0.06	-3.1	44.62	0.1292	0.0397	-0.0039
137	SLU 10			0.07	-4.42	51.84	0.1818	0.0471	-0.0046
137	SLU 11			0.07	-3.7	52.37	0.1552	0.0473	-0.0046
137	SLU 12			0.07	-3.99	52.66	0.1665	0.0477	-0.0047
137	SLU 13			0.07	-4.14	52.35	0.1717	0.0474	-0.0047
137	SLU 14			0.07	-3.42	52.88	0.1452	0.0476	-0.0047
137	SLU 15			0.07	-3.72	53.18	0.1564	0.048	-0.0047
137	SLU 16			0.07	-3.38	52.37	0.1429	0.0472	-0.0046
137	SLU 17			0.07	-3.67	52.66	0.1542	0.0475	-0.0047
137	SLU 18			0.07	-4.17	54.79	0.1737	0.0499	-0.0049
137	SLU 19			0.07	-4.47	55.09	0.1849	0.0502	-0.0049
137	SLU 20			0.07	-3.9	55.3	0.1636	0.0502	-0.0049
137	SLU 21			0.07	-4.19	55.6	0.1749	0.0506	-0.005
137	SLU 22			0.06	-3.39	48.72	0.1438	0.0435	-0.0042
137	SLU 23			0.06	-3.89	49.21	0.1626	0.0441	-0.0043
137	SLU 24			0.06	-3.16	49.75	0.1361	0.0442	-0.0043
137	SLU 25			0.06	-3.46	50.04	0.1473	0.0446	-0.0044
137	SLU 26			0.06	-3.61	49.73	0.1525	0.0444	-0.0044
137	SLU 27			0.06	-2.89	50.26	0.126	0.0446	-0.0044
137	SLU 28			0.06	-3.18	50.55	0.1373	0.0449	-0.0044
137	SLU 29			0.06	-2.84	49.75	0.1237	0.0441	-0.0043
137	SLU 30			0.06	-3.14	50.04	0.135	0.0444	-0.0044
137	SLU 31			0.07	-4.45	57.26	0.1875	0.0519	-0.0051
137	SLU 32			0.07	-3.73	57.79	0.161	0.0521	-0.0051
137	SLU 33			0.08	-4.03	58.08	0.1723	0.0524	-0.0051
137	SLU 34			0.08	-4.18	57.77	0.1775	0.0522	-0.0051
137	SLU 35			0.08	-3.46	58.3	0.151	0.0524	-0.0051
137	SLU 36			0.08	-3.75	58.6	0.1622	0.0527	-0.0052
137	SLU 37			0.07	-3.41	57.79	0.1487	0.0519	-0.0051
137	SLU 38			0.08	-3.7	58.08	0.16	0.0523	-0.0051
137	SLU 39			0.08	-4.21	60.21	0.1795	0.0546	-0.0054
137	SLU 40			0.08	-4.5	60.51	0.1907	0.055	-0.0054
137	SLU 41			0.08	-3.93	60.72	0.1694	0.0549	-0.0054
137	SLU 42			0.08	-4.23	61.02	0.1807	0.0553	-0.0054
137	SLU 43			0.07	-4.36	54.44	0.1774	0.0487	-0.0047
137	SLU 44			0.07	-4.85	54.93	0.1962	0.0493	-0.0048
137	SLU 45			0.07	-4.13	55.46	0.1697	0.0495	-0.0048
137	SLU 46			0.07	-4.42	55.76	0.1809	0.0499	-0.0049
137	SLU 47			0.07	-4.57	55.44	0.1862	0.0496	-0.0048
137	SLU 48			0.07	-3.85	55.97	0.1596	0.0498	-0.0048
137	SLU 49			0.07	-4.14	56.27	0.1709	0.0502	-0.0049
137	SLU 50			0.07	-3.8	55.46	0.1574	0.0493	-0.0048
137	SLU 51			0.07	-4.1	55.76	0.1686	0.0497	-0.0048
137	SLU 52			0.08	-5.42	62.97	0.2212	0.0571	-0.0056
137	SLU 53			0.08	-4.7	63.5	0.1946	0.0573	-0.0056
137	SLU 54			0.08	-4.99	63.8	0.2059	0.0577	-0.0056
137	SLU 55			0.08	-5.14	63.48	0.2111	0.0574	-0.0056
137	SLU 56			0.08	-4.42	64.02	0.1846	0.0576	-0.0056
137	SLU 57			0.08	-4.71	64.31	0.1959	0.058	-0.0057
137	SLU 58			0.08	-4.37	63.5	0.1823	0.0572	-0.0056
137	SLU 59			0.08	-4.67	63.8	0.1936	0.0575	-0.0056
137	SLU 60			0.09	-5.17	65.93	0.2131	0.0599	-0.0058
137	SLU 61			0.09	-5.46	66.22	0.2244	0.0602	-0.0059
137	SLU 62			0.09	-4.89	66.44	0.203	0.0602	-0.0059
137	SLU 63			0.09	-5.19	66.73	0.2143	0.0606	-0.0059
137	SLU 64			0.08	-4.39	59.86	0.1832	0.0535	-0.0052
137	SLU 65			0.08	-4.88	60.35	0.202	0.0541	-0.0053
137	SLU 66			0.08	-4.16	60.88	0.1755	0.0542	-0.0053
137	SLU 67			0.08	-4.45	61.18	0.1867	0.0546	-0.0053
137	SLU 68			0.08	-4.61	60.86	0.192	0.0544	-0.0053
137	SLU 69			0.08	-3.88	61.39	0.1654	0.0545	-0.0053
137	SLU 70			0.08	-4.18	61.69	0.1767	0.0549	-0.0054
137	SLU 71			0.08	-3.84	60.88	0.1631	0.0541	-0.0053
137	SLU 72			0.08	-4.13	61.18	0.1744	0.0544	-0.0053
137	SLU 73			0.09	-5.45	68.39	0.227	0.0619	-0.0061
137	SLU 74			0.09	-4.73	68.92	0.2004	0.0621	-0.0061
137	SLU 75			0.09	-5.02	69.22	0.2117	0.0624	-0.0061
137	SLU 76			0.09	-5.17	68.9	0.2169	0.0622	-0.0061
137	SLU 77			0.09	-4.45	69.43	0.1904	0.0624	-0.0061
137	SLU 78			0.09	-4.75	69.73	0.2017	0.0627	-0.0062
137	SLU 79			0.09	-4.41	68.92	0.1881	0.0619	-0.0061
137	SLU 80			0.09	-4.7	69.22	0.1994	0.0623	-0.0061
137	SLU 81			0.09	-5.2	71.35	0.2189	0.0646	-0.0063
137	SLU 82			0.09	-5.5	71.64	0.2301	0.065	-0.0064
137	SLU 83			0.09	-4.93	71.86	0.2088	0.0649	-0.0064



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
137	SLU 84		0.09	-5.22	72.15	0.2201	0.0653	-0.0064	
137	SLE RA 1		0.06	-3.37	44.85	0.1397	0.0401	-0.0039	
137	SLE RA 2		0.06	-3.7	45.18	0.1522	0.0405	-0.0039	
137	SLE RA 3		0.06	-3.22	45.54	0.1345	0.0406	-0.004	
137	SLE RA 4		0.06	-3.41	45.73	0.142	0.0408	-0.004	
137	SLE RA 5		0.06	-3.51	45.52	0.1455	0.0407	-0.004	
137	SLE RA 6		0.06	-3.03	45.88	0.1278	0.0408	-0.004	
137	SLE RA 7		0.06	-3.23	46.07	0.1353	0.041	-0.004	
137	SLE RA 8		0.06	-3	45.54	0.1263	0.0405	-0.0039	
137	SLE RA 9		0.06	-3.2	45.73	0.1338	0.0407	-0.004	
137	SLE RA 10		0.07	-4.08	50.54	0.1688	0.0457	-0.0045	
137	SLE RA 11		0.07	-3.6	50.9	0.1511	0.0458	-0.0045	
137	SLE RA 12		0.07	-3.79	51.09	0.1586	0.046	-0.0045	
137	SLE RA 13		0.07	-3.89	50.88	0.1621	0.0459	-0.0045	
137	SLE RA 14		0.07	-3.41	51.24	0.1444	0.046	-0.0045	
137	SLE RA 15		0.07	-3.61	51.43	0.152	0.0462	-0.0045	
137	SLE RA 16		0.07	-3.38	50.9	0.1429	0.0457	-0.0045	
137	SLE RA 17		0.07	-3.58	51.09	0.1504	0.0459	-0.0045	
137	SLE RA 18		0.07	-3.91	52.51	0.1634	0.0475	-0.0046	
137	SLE RA 19		0.07	-4.11	52.71	0.171	0.0478	-0.0047	
137	SLE RA 20		0.07	-3.73	52.85	0.1567	0.0477	-0.0047	
137	SLE RA 21		0.07	-3.92	53.05	0.1643	0.048	-0.0047	
137	SLE FR 1		0.06	-3.37	44.85	0.1397	0.0401	-0.0039	
137	SLE FR 2		0.06	-3.43	44.92	0.1422	0.0402	-0.0039	
137	SLE FR 3		0.06	-3.3	44.99	0.137	0.0402	-0.0039	
137	SLE FR 4		0.06	-3.6	47.22	0.1493	0.0424	-0.0041	
137	SLE FR 5		0.06	-3.46	47.29	0.1441	0.0424	-0.0041	
137	SLE FR 6		0.06	-3.64	48.68	0.1516	0.0438	-0.0043	
137	SLE QP 1		0.06	-3.37	44.85	0.1397	0.0401	-0.0039	
137	SLE QP 2		0.06	-3.53	47.15	0.1468	0.0423	-0.0041	
137	SLD 1		0.21	0.12	40.8	0.0053	0.1566	-0.0136	
137	SLD 2		0.21	0.12	40.8	0.0053	0.1566	-0.0136	
137	SLD 3		0.23	-3.9	44.07	0.164	0.1733	-0.0151	
137	SLD 4		0.23	-3.9	44.07	0.164	0.1733	-0.0151	
137	SLD 5		0.07	3.66	40.29	-0.1364	0.0512	-0.0047	
137	SLD 6		0.07	3.66	40.29	-0.1364	0.0512	-0.0047	
137	SLD 7		0.15	-9.74	51.18	0.3927	0.107	-0.0097	
137	SLD 8		0.15	-9.74	51.18	0.3927	0.107	-0.0097	
137	SLD 9		-0.02	2.68	43.12	-0.0991	-0.0223	0.0014	
137	SLD 10		-0.02	2.68	43.12	-0.0991	-0.0223	0.0014	
137	SLD 11		0.05	-10.72	54.01	0.43	0.0334	-0.0035	
137	SLD 12		0.05	-10.72	54.01	0.43	0.0334	-0.0035	
137	SLD 13		-0.11	-3.16	50.24	0.1296	-0.0886	0.0069	
137	SLD 14		-0.11	-3.16	50.24	0.1296	-0.0886	0.0069	
137	SLD 15		-0.09	-7.18	53.5	0.2883	-0.0719	0.0054	
137	SLD 16		-0.09	-7.18	53.5	0.2883	-0.0719	0.0054	
137	SLV 1		0.44	5.04	32.19	-0.1858	0.3309	-0.0281	
137	SLV 2		0.44	5.04	32.19	-0.1858	0.3309	-0.0281	
137	SLV 3		0.49	-4.39	39.94	0.1867	0.3716	-0.0317	
137	SLV 4		0.49	-4.39	39.94	0.1867	0.3716	-0.0317	
137	SLV 5		0.09	13.35	30.89	-0.518	0.0673	-0.0059	
137	SLV 6		0.09	13.35	30.89	-0.518	0.0673	-0.0059	
137	SLV 7		0.27	-18.1	56.76	0.7238	0.2027	-0.0178	
137	SLV 8		0.27	-18.1	56.76	0.7238	0.2027	-0.0178	
137	SLV 9		-0.15	11.03	37.55	-0.4302	-0.1181	0.0096	
137	SLV 10		-0.15	11.03	37.55	-0.4302	-0.1181	0.0096	
137	SLV 11		0.03	-20.41	63.41	0.8116	0.0174	-0.0024	
137	SLV 12		0.03	-20.41	63.41	0.8116	0.0174	-0.0024	
137	SLV 13		-0.37	-2.67	54.36	0.1069	-0.2869	0.0235	
137	SLV 14		-0.37	-2.67	54.36	0.1069	-0.2869	0.0235	
137	SLV 15		-0.32	-12.11	62.12	0.4794	-0.2463	0.0199	
137	SLV 16		-0.32	-12.11	62.12	0.4794	-0.2463	0.0199	
138	SLU 1		0	-0.49	36.5	-0.0347	-0.0026	0	
138	SLU 2		0	1.6	36.48	-0.1429	-0.008	0	
138	SLU 3		0	-0.71	37.78	-0.026	-0.0027	0	
138	SLU 4		0	0.55	37.77	-0.091	-0.0059	0	
138	SLU 5		0	1.33	37.39	-0.131	-0.008	0	
138	SLU 6		0	-0.98	38.69	-0.0141	-0.0027	0	
138	SLU 7		0	0.28	38.68	-0.079	-0.0059	0	
138	SLU 8		0	-1.04	38.32	-0.0109	-0.0026	0	
138	SLU 9		0	0.22	38.31	-0.0758	-0.0059	0	
138	SLU 10		0	1.73	42.38	-0.1559	-0.0084	0	
138	SLU 11		0	-0.58	43.68	-0.039	-0.0031	0	
138	SLU 12		0	0.68	43.67	-0.1039	-0.0064	0	
138	SLU 13		0	1.46	43.29	-0.144	-0.0085	0	
138	SLU 14		0	-0.85	44.59	-0.0271	-0.0031	0	
138	SLU 15		0	0.41	44.58	-0.092	-0.0064	0	
138	SLU 16		0	-0.91	44.22	-0.0239	-0.0031	0	
138	SLU 17		0	0.35	44.21	-0.0888	-0.0063	0	
138	SLU 18		0	-0.31	44.92	-0.0532	-0.0032	0	
138	SLU 19		0	0.95	44.91	-0.1181	-0.0065	0	
138	SLU 20		0	-0.58	45.83	-0.0413	-0.0033	0	
138	SLU 21		0	0.68	45.82	-0.1062	-0.0065	0	
138	SLU 22		0	-0.49	42.06	-0.0409	-0.003	0	
138	SLU 23		0	1.6	42.05	-0.1491	-0.0084	0	
138	SLU 24		0	-0.7	43.35	-0.0322	-0.0031	0	
138	SLU 25		0	0.55	43.34	-0.0971	-0.0063	0	
138	SLU 26		0	1.33	42.96	-0.1372	-0.0084	0	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
138	SLU 27		0		-0.97	44.26	-0.0203	-0.0031	0
138	SLU 28		0		0.28	44.25	-0.0852	-0.0063	0
138	SLU 29		0		-1.03	43.88	-0.0171	-0.003	0
138	SLU 30		0		0.22	43.87	-0.082	-0.0063	0
138	SLU 31		0		1.73	47.94	-0.162	-0.0088	0
138	SLU 32		0		-0.57	49.25	-0.0451	-0.0035	0
138	SLU 33		0		0.68	49.24	-0.1101	-0.0067	0
138	SLU 34		0		1.46	48.85	-0.1501	-0.0088	0
138	SLU 35		0		-0.84	50.16	-0.0332	-0.0035	0
138	SLU 36		0		0.41	50.15	-0.0981	-0.0068	0
138	SLU 37		0		-0.9	49.78	-0.03	-0.0035	0
138	SLU 38		0		0.35	49.77	-0.0949	-0.0067	0
138	SLU 39		0		-0.3	50.49	-0.0594	-0.0036	0
138	SLU 40		0		0.95	50.48	-0.1243	-0.0069	0
138	SLU 41		0		-0.58	51.4	-0.0475	-0.0036	0
138	SLU 42		0		0.68	51.39	-0.1124	-0.0069	0
138	SLU 43		0		-0.64	45.54	-0.043	-0.0032	0
138	SLU 44		0		1.45	45.52	-0.1512	-0.0086	0
138	SLU 45		0		-0.86	46.82	-0.0343	-0.0033	0
138	SLU 46		0		0.4	46.81	-0.0993	-0.0066	0
138	SLU 47		0		1.18	46.43	-0.1393	-0.0087	0
138	SLU 48		0		-1.13	47.73	-0.0224	-0.0033	0
138	SLU 49		0		0.13	47.72	-0.0873	-0.0066	0
138	SLU 50		0		-1.19	47.36	-0.0192	-0.0033	0
138	SLU 51		0		0.07	47.35	-0.0841	-0.0065	0
138	SLU 52		0		1.58	51.42	-0.1642	-0.0091	0
138	SLU 53		0		-0.73	52.72	-0.0473	-0.0038	0
138	SLU 54		0		0.53	52.71	-0.1122	-0.007	0
138	SLU 55		0		1.31	52.33	-0.1523	-0.0091	0
138	SLU 56		0		-1	53.63	-0.0354	-0.0038	0
138	SLU 57		0		0.26	53.62	-0.1003	-0.007	0
138	SLU 58		0		-1.06	53.26	-0.0322	-0.0037	0
138	SLU 59		0		0.2	53.25	-0.0971	-0.007	0
138	SLU 60		0		-0.46	53.96	-0.0615	-0.0039	0
138	SLU 61		0		0.8	53.95	-0.1264	-0.0071	0
138	SLU 62		0		-0.73	54.87	-0.0496	-0.0039	0
138	SLU 63		0		0.53	54.86	-0.1145	-0.0071	0
138	SLU 64		0		-0.64	51.1	-0.0492	-0.0036	0
138	SLU 65		0		1.45	51.09	-0.1574	-0.009	0
138	SLU 66		0		-0.85	52.39	-0.0405	-0.0037	0
138	SLU 67		0		0.4	52.38	-0.1054	-0.0069	0
138	SLU 68		0		1.18	52	-0.1455	-0.009	0
138	SLU 69		0		-1.12	53.3	-0.0286	-0.0037	0
138	SLU 70		0		0.13	53.29	-0.0935	-0.007	0
138	SLU 71		0		-1.18	52.92	-0.0254	-0.0037	0
138	SLU 72		0		0.08	52.91	-0.0903	-0.0069	0
138	SLU 73		0		1.58	56.98	-0.1703	-0.0095	0
138	SLU 74		0		-0.72	58.29	-0.0534	-0.0041	0
138	SLU 75		0		0.53	58.28	-0.1184	-0.0074	0
138	SLU 76		0		1.31	57.89	-0.1584	-0.0095	0
138	SLU 77		0		-0.99	59.2	-0.0415	-0.0042	0
138	SLU 78		0		0.26	59.19	-0.1065	-0.0074	0
138	SLU 79		0		-1.05	58.82	-0.0383	-0.0041	0
138	SLU 80		0		0.2	58.81	-0.1032	-0.0074	0
138	SLU 81		0		-0.45	59.53	-0.0677	-0.0043	0
138	SLU 82		0		0.8	59.52	-0.1326	-0.0075	0
138	SLU 83		0		-0.73	60.44	-0.0558	-0.0043	0
138	SLU 84		0		0.53	60.43	-0.1207	-0.0075	0
138	SLE RA 1		0		-0.49	38.09	-0.0365	-0.0027	0
138	SLE RA 2		0		0.9	38.07	-0.1086	-0.0063	0
138	SLE RA 3		0		-0.64	38.94	-0.0307	-0.0028	0
138	SLE RA 4		0		0.2	38.94	-0.074	-0.0049	0
138	SLE RA 5		0		0.72	38.68	-0.1007	-0.0063	0
138	SLE RA 6		0		-0.82	39.55	-0.0227	-0.0028	0
138	SLE RA 7		0		0.02	39.55	-0.066	-0.0049	0
138	SLE RA 8		0		-0.85	39.3	-0.0206	-0.0027	0
138	SLE RA 9		0		-0.02	39.29	-0.0639	-0.0049	0
138	SLE RA 10		0		0.99	42.01	-0.1172	-0.0066	0
138	SLE RA 11		0		-0.55	42.88	-0.0393	-0.0031	0
138	SLE RA 12		0		0.29	42.87	-0.0826	-0.0052	0
138	SLE RA 13		0		0.81	42.61	-0.1093	-0.0066	0
138	SLE RA 14		0		-0.73	43.48	-0.0314	-0.0031	0
138	SLE RA 15		0		0.11	43.48	-0.0747	-0.0052	0
138	SLE RA 16		0		-0.77	43.23	-0.0292	-0.003	0
138	SLE RA 17		0		0.07	43.23	-0.0725	-0.0052	0
138	SLE RA 18		0		-0.37	43.7	-0.0488	-0.0031	0
138	SLE RA 19		0		0.47	43.7	-0.0921	-0.0053	0
138	SLE RA 20		0		-0.55	44.31	-0.0409	-0.0031	0
138	SLE RA 21		0		0.29	44.3	-0.0841	-0.0053	0
138	SLE FR 1		0		-0.49	38.09	-0.0365	-0.0027	0
138	SLE FR 2		0		-0.21	38.08	-0.0509	-0.0034	0
138	SLE FR 3		0		-0.57	38.33	-0.0333	-0.0027	0
138	SLE FR 4		0		-0.18	39.77	-0.0546	-0.0035	0
138	SLE FR 5		0		-0.53	40.01	-0.037	-0.0028	0
138	SLE FR 6		0		-0.43	40.89	-0.0426	-0.0029	0
138	SLE QP 1		0		-0.49	38.09	-0.0365	-0.0027	0
138	SLE QP 2		0		-0.46	39.77	-0.0402	-0.0028	0
138	SLD 1	0.08		2.17	41.35	-0.1683	0.0652		0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
138	SLD 2	0.08	2.17	41.35	-0.1683	0.0652	0
138	SLD 3	0.1	-0.66	40.77	-0.0296	0.0884	0.0001
138	SLD 4	0.1	-0.66	40.77	-0.0296	0.0884	0.0001
138	SLD 5	-0.02	4.62	41.12	-0.2889	-0.0175	0
138	SLD 6	-0.02	4.62	41.12	-0.2889	-0.0175	0
138	SLD 7	0.07	-4.81	39.19	0.1733	0.0596	0
138	SLD 8	0.07	-4.81	39.19	0.1733	0.0596	0
138	SLD 9	-0.07	3.9	40.35	-0.2537	-0.0653	0
138	SLD 10	-0.07	3.9	40.35	-0.2537	-0.0653	0
138	SLD 11	0.01	-5.54	38.42	0.2086	0.0119	0
138	SLD 12	0.01	-5.54	38.42	0.2086	0.0119	0
138	SLD 13	-0.1	-0.25	38.77	-0.0508	-0.094	-0.0001
138	SLD 14	-0.1	-0.25	38.77	-0.0508	-0.094	-0.0001
138	SLD 15	-0.08	-3.08	38.19	0.0879	-0.0708	-0.0001
138	SLD 16	-0.08	-3.08	38.19	0.0879	-0.0708	-0.0001
138	SLV 1	0.19	5.9	43.53	-0.3504	0.1629	0.0001
138	SLV 2	0.19	5.9	43.53	-0.3504	0.1629	0.0001
138	SLV 3	0.25	-0.81	42.13	-0.0211	0.2218	0.0002
138	SLV 4	0.25	-0.81	42.13	-0.0211	0.2218	0.0002
138	SLV 5	-0.04	11.63	43.02	-0.6327	-0.0425	0
138	SLV 6	-0.04	11.63	43.02	-0.6327	-0.0425	0
138	SLV 7	0.17	-10.74	38.35	0.4651	0.1539	0.0001
138	SLV 8	0.17	-10.74	38.35	0.4651	0.1539	0.0001
138	SLV 9	-0.17	9.82	41.19	-0.5454	-0.1596	-0.0001
138	SLV 10	-0.17	9.82	41.19	-0.5454	-0.1596	-0.0001
138	SLV 11	0.04	-12.54	36.52	0.5524	0.0368	0
138	SLV 12	0.04	-12.54	36.52	0.5524	0.0368	0
138	SLV 13	-0.25	-0.11	37.41	-0.0593	-0.2275	-0.0002
138	SLV 14	-0.25	-0.11	37.41	-0.0593	-0.2275	-0.0002
138	SLV 15	-0.19	-6.82	36.01	0.2701	-0.1686	-0.0001
138	SLV 16	-0.19	-6.82	36.01	0.2701	-0.1686	-0.0001
139	SLU 1	0.01	2.76	53.92	-0.138	0.0067	0
139	SLU 2	0.03	3.23	56.52	-0.1637	0.0524	0
139	SLU 3	0.01	2.91	55.66	-0.1454	0.0067	0
139	SLU 4	0.02	3.19	57.22	-0.1608	0.0341	0
139	SLU 5	0.03	3.35	57.66	-0.1693	0.0523	0
139	SLU 6	0.01	3.02	56.79	-0.151	0.0067	0
139	SLU 7	0.02	3.31	58.35	-0.1665	0.0341	0
139	SLU 8	0.01	2.99	56.19	-0.1493	0.0067	0
139	SLU 9	0.02	3.27	57.75	-0.1647	0.0341	0
139	SLU 10	0.03	3.78	63.07	-0.1886	0.0528	0
139	SLU 11	0.01	3.46	62.2	-0.1703	0.0072	0
139	SLU 12	0.02	3.74	63.76	-0.1857	0.0346	0
139	SLU 13	0.03	3.89	64.2	-0.1942	0.0528	0
139	SLU 14	0.01	3.57	63.34	-0.176	0.0072	0
139	SLU 15	0.02	3.85	64.9	-0.1914	0.0346	0
139	SLU 16	0.01	3.53	62.73	-0.1742	0.0071	0
139	SLU 17	0.02	3.82	64.29	-0.1896	0.0345	0
139	SLU 18	0.01	3.54	63.27	-0.1736	0.0074	0
139	SLU 19	0.02	3.83	64.83	-0.189	0.0348	0
139	SLU 20	0.01	3.66	64.4	-0.1792	0.0074	0
139	SLU 21	0.02	3.94	65.96	-0.1946	0.0348	0
139	SLU 22	0.01	3.27	60.53	-0.1619	0.0072	0
139	SLU 23	0.03	3.74	63.14	-0.1875	0.0528	0
139	SLU 24	0.01	3.42	62.27	-0.1693	0.0072	0
139	SLU 25	0.02	3.7	63.83	-0.1847	0.0346	0
139	SLU 26	0.03	3.85	64.27	-0.1932	0.0528	0
139	SLU 27	0.01	3.53	63.4	-0.1749	0.0072	0
139	SLU 28	0.02	3.81	64.97	-0.1903	0.0346	0
139	SLU 29	0.01	3.49	62.8	-0.1732	0.0071	0
139	SLU 30	0.02	3.78	64.36	-0.1886	0.0345	0
139	SLU 31	0.03	4.29	69.68	-0.2125	0.0533	0
139	SLU 32	0.01	3.97	68.81	-0.1942	0.0077	0
139	SLU 33	0.02	4.25	70.38	-0.2096	0.0351	0
139	SLU 34	0.03	4.4	70.81	-0.2181	0.0533	0
139	SLU 35	0.01	4.08	69.95	-0.1998	0.0077	0
139	SLU 36	0.02	4.36	71.51	-0.2153	0.0351	0
139	SLU 37	0.01	4.04	69.34	-0.1981	0.0076	0
139	SLU 38	0.02	4.33	70.91	-0.2135	0.035	0
139	SLU 39	0.01	4.05	69.88	-0.1975	0.0079	0
139	SLU 40	0.02	4.34	71.44	-0.2129	0.0353	0
139	SLU 41	0.01	4.16	71.01	-0.2031	0.0078	0
139	SLU 42	0.02	4.45	72.58	-0.2185	0.0352	0
139	SLU 43	0.01	3.42	67.83	-0.1712	0.0085	0
139	SLU 44	0.03	3.89	70.43	-0.1969	0.0542	0
139	SLU 45	0.01	3.56	69.57	-0.1786	0.0086	0
139	SLU 46	0.02	3.85	71.13	-0.194	0.036	0
139	SLU 47	0.03	4	71.57	-0.2025	0.0542	0
139	SLU 48	0.01	3.68	70.7	-0.1842	0.0086	0
139	SLU 49	0.02	3.96	72.26	-0.1997	0.0359	0
139	SLU 50	0.01	3.64	70.1	-0.1825	0.0085	0
139	SLU 51	0.02	3.92	71.66	-0.1979	0.0359	0
139	SLU 52	0.04	4.44	76.98	-0.2218	0.0547	0
139	SLU 53	0.01	4.11	76.11	-0.2035	0.0091	0
139	SLU 54	0.02	4.4	77.67	-0.2189	0.0364	0
139	SLU 55	0.04	4.55	78.11	-0.2274	0.0547	0
139	SLU 56	0.01	4.22	77.24	-0.2092	0.009	0
139	SLU 57	0.02	4.51	78.81	-0.2246	0.0364	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
139	SLU 58		0.01	4.19	76.64	-0.2074	0.009	0
139	SLU 59		0.02	4.47	78.2	-0.2228	0.0364	0
139	SLU 60		0.01	4.2	77.18	-0.2068	0.0092	0
139	SLU 61		0.02	4.48	78.74	-0.2222	0.0366	0
139	SLU 62		0.01	4.31	78.31	-0.2124	0.0092	0
139	SLU 63		0.02	4.59	79.87	-0.2278	0.0366	0
139	SLU 64		0.01	3.92	74.44	-0.1951	0.009	0
139	SLU 65		0.04	4.4	77.05	-0.2207	0.0547	0
139	SLU 66		0.01	4.07	76.18	-0.2025	0.0091	0
139	SLU 67		0.02	4.36	77.74	-0.2179	0.0364	0
139	SLU 68		0.04	4.51	78.18	-0.2264	0.0547	0
139	SLU 69		0.01	4.18	77.31	-0.2081	0.009	0
139	SLU 70		0.02	4.47	78.88	-0.2235	0.0364	0
139	SLU 71		0.01	4.15	76.71	-0.2064	0.009	0
139	SLU 72		0.02	4.43	78.27	-0.2218	0.0364	0
139	SLU 73		0.04	4.94	83.59	-0.2457	0.0552	0
139	SLU 74		0.01	4.62	82.72	-0.2274	0.0095	0
139	SLU 75		0.02	4.9	84.29	-0.2428	0.0369	0
139	SLU 76		0.04	5.06	84.72	-0.2513	0.0551	0
139	SLU 77		0.01	4.73	83.86	-0.2331	0.0095	0
139	SLU 78		0.02	5.02	85.42	-0.2485	0.0369	0
139	SLU 79		0.01	4.7	83.25	-0.2313	0.0095	0
139	SLU 80		0.02	4.98	84.81	-0.2467	0.0369	0
139	SLU 81		0.01	4.71	83.79	-0.2307	0.0097	0
139	SLU 82		0.02	4.99	85.35	-0.2461	0.0371	0
139	SLU 83		0.01	4.82	84.92	-0.2363	0.0097	0
139	SLU 84		0.02	5.1	86.49	-0.2517	0.0371	0
139	SLE RA 1		0.01	2.91	55.81	-0.1448	0.0068	0
139	SLE RA 2		0.02	3.22	57.54	-0.1619	0.0373	0
139	SLE RA 3		0.01	3.01	56.97	-0.1497	0.0069	0
139	SLE RA 4		0.02	3.2	58.01	-0.16	0.0251	0
139	SLE RA 5		0.02	3.3	58.3	-0.1657	0.0373	0
139	SLE RA 6		0.01	3.08	57.72	-0.1535	0.0068	0
139	SLE RA 7		0.02	3.27	58.77	-0.1638	0.0251	0
139	SLE RA 8		0.01	3.06	57.32	-0.1523	0.0068	0
139	SLE RA 9		0.02	3.25	58.36	-0.1626	0.0251	0
139	SLE RA 10		0.02	3.59	61.91	-0.1785	0.0376	0
139	SLE RA 11		0.01	3.37	61.33	-0.1664	0.0072	0
139	SLE RA 12		0.02	3.56	62.37	-0.1766	0.0254	0
139	SLE RA 13		0.02	3.66	62.66	-0.1823	0.0376	0
139	SLE RA 14		0.01	3.45	62.09	-0.1701	0.0072	0
139	SLE RA 15		0.02	3.64	63.13	-0.1804	0.0254	0
139	SLE RA 16		0.01	3.42	61.68	-0.169	0.0071	0
139	SLE RA 17		0.02	3.61	62.72	-0.1792	0.0254	0
139	SLE RA 18		0.01	3.43	62.04	-0.1685	0.0073	0
139	SLE RA 19		0.02	3.62	63.08	-0.1788	0.0256	0
139	SLE RA 20		0.01	3.5	62.8	-0.1723	0.0073	0
139	SLE RA 21		0.02	3.69	63.84	-0.1826	0.0255	0
139	SLE FR 1		0.01	2.91	55.81	-0.1448	0.0068	0
139	SLE FR 2		0.01	2.97	56.16	-0.1482	0.0129	0
139	SLE FR 3		0.01	2.94	56.11	-0.1463	0.0068	0
139	SLE FR 4		0.01	3.13	58.03	-0.1553	0.0131	0
139	SLE FR 5		0.01	3.09	57.98	-0.1534	0.007	0
139	SLE FR 6		0.01	3.17	58.93	-0.1567	0.0071	0
139	SLE QP 1		0.01	2.91	55.81	-0.1448	0.0068	0
139	SLE QP 2		0.01	3.06	57.68	-0.1519	0.007	0
139	SLD 1		0.07	3.32	43.81	-0.1589	0.0851	0.0001
139	SLD 2		0.07	3.32	43.81	-0.1589	0.0851	0.0001
139	SLD 3		0.17	0.23	40.7	-0.027	0.1713	0.0001
139	SLD 4		0.17	0.23	40.7	-0.027	0.1713	0.0001
139	SLD 5		-0.11	7.82	58.24	-0.3542	-0.1002	0.0001
139	SLD 6		-0.11	7.82	58.24	-0.3542	-0.1002	0.0001
139	SLD 7		0.19	-2.47	47.86	0.0857	0.1869	0
139	SLD 8		0.19	-2.47	47.86	0.0857	0.1869	0
139	SLD 9		-0.18	8.59	67.49	-0.3895	-0.173	0
139	SLD 10		-0.18	8.59	67.49	-0.3895	-0.173	0
139	SLD 11		0.12	-1.69	57.12	0.0503	0.1142	-0.0001
139	SLD 12		0.12	-1.69	57.12	0.0503	0.1142	-0.0001
139	SLD 13		-0.15	5.9	74.66	-0.2769	-0.1573	0
139	SLD 14		-0.15	5.9	74.66	-0.2769	-0.1573	0
139	SLD 15		-0.06	2.81	71.54	-0.1449	-0.0712	-0.0001
139	SLD 16		-0.06	2.81	71.54	-0.1449	-0.0712	-0.0001
139	SLV 1		0.16	3.62	25.24	-0.1671	0.1882	0.0002
139	SLV 2		0.16	3.62	25.24	-0.1671	0.1882	0.0002
139	SLV 3		0.39	-3.56	17.88	0.1402	0.4077	0.0001
139	SLV 4		0.39	-3.56	17.88	0.1402	0.4077	0.0001
139	SLV 5		-0.3	14.13	59.11	-0.6225	-0.2715	0.0002
139	SLV 6		-0.3	14.13	59.11	-0.6225	-0.2715	0.0002
139	SLV 7		0.48	-9.82	34.57	0.4018	0.4601	-0.0001
139	SLV 8		0.48	-9.82	34.57	0.4018	0.4601	-0.0001
139	SLV 9		-0.47	15.94	80.78	-0.7056	-0.4461	0.0001
139	SLV 10		-0.47	15.94	80.78	-0.7056	-0.4461	0.0001
139	SLV 11		0.31	-8	56.25	0.3187	0.2855	-0.0002
139	SLV 12		0.31	-8	56.25	0.3187	0.2855	-0.0002
139	SLV 13		-0.38	9.69	97.48	-0.444	-0.3938	-0.0001
139	SLV 14		-0.38	9.69	97.48	-0.444	-0.3938	-0.0001
139	SLV 15		-0.15	2.5	90.12	-0.1367	-0.1743	-0.0002
139	SLV 16		-0.15	2.5	90.12	-0.1367	-0.1743	-0.0002



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
140	SLU 1		0.04	-3.47	42.78	0.1679	0.0303	0	
140	SLU 2		0.04	-3.86	42.98	0.1864	0.0303	0	
140	SLU 3		0.04	-3.22	43.92	0.1557	0.0314	0	
140	SLU 4		0.04	-3.45	44.04	0.1668	0.0314	0	
140	SLU 5		0.04	-3.53	43.59	0.1701	0.031	0	
140	SLU 6		0.04	-2.89	44.53	0.1394	0.032	0	
140	SLU 7		0.04	-3.12	44.65	0.1505	0.032	0	
140	SLU 8		0.04	-2.81	44	0.1353	0.0317	0	
140	SLU 9		0.04	-3.04	44.12	0.1464	0.0317	0	
140	SLU 10		0.05	-4.45	51.26	0.2157	0.0332	0	
140	SLU 11		0.05	-3.81	52.19	0.185	0.0342	0	
140	SLU 12		0.05	-4.04	52.32	0.1961	0.0342	0	
140	SLU 13		0.05	-4.12	51.87	0.1994	0.0339	0	
140	SLU 14		0.05	-3.48	52.81	0.1687	0.0349	0	
140	SLU 15		0.05	-3.71	52.93	0.1798	0.0349	0	
140	SLU 16		0.05	-3.4	52.28	0.1646	0.0345	0	
140	SLU 17		0.05	-3.63	52.4	0.1757	0.0345	0	
140	SLU 18		0.05	-4.32	54.6	0.2098	0.0344	0	
140	SLU 19		0.05	-4.55	54.73	0.2209	0.0344	0	
140	SLU 20		0.05	-3.98	55.22	0.1935	0.0351	0	
140	SLU 21		0.05	-4.22	55.34	0.2046	0.0351	0	
140	SLU 22		0.05	-3.56	48.77	0.1742	0.0344	0	
140	SLU 23		0.05	-3.95	48.97	0.1926	0.0344	0	
140	SLU 24		0.05	-3.31	49.9	0.1619	0.0355	0	
140	SLU 25		0.05	-3.54	50.03	0.173	0.0355	0	
140	SLU 26		0.05	-3.62	49.58	0.1763	0.0351	0	
140	SLU 27		0.05	-2.98	50.52	0.1456	0.0361	0	
140	SLU 28		0.05	-3.21	50.64	0.1567	0.0361	0	
140	SLU 29		0.05	-2.9	49.99	0.1416	0.0358	0	
140	SLU 30		0.05	-3.13	50.11	0.1526	0.0358	0	
140	SLU 31		0.05	-4.54	57.25	0.2219	0.0373	0	
140	SLU 32		0.05	-3.9	58.18	0.1913	0.0383	0	
140	SLU 33		0.05	-4.13	58.31	0.2023	0.0383	0	
140	SLU 34		0.05	-4.21	57.86	0.2056	0.038	0	
140	SLU 35		0.05	-3.57	58.79	0.175	0.039	0	
140	SLU 36		0.05	-3.8	58.92	0.186	0.039	0	
140	SLU 37		0.05	-3.49	58.27	0.1709	0.0386	0	
140	SLU 38		0.05	-3.72	58.39	0.1819	0.0386	0	
140	SLU 39		0.05	-4.4	60.59	0.216	0.0385	0	
140	SLU 40		0.05	-4.63	60.72	0.2271	0.0385	0	
140	SLU 41		0.05	-4.07	61.2	0.1997	0.0392	0	
140	SLU 42		0.05	-4.3	61.33	0.2108	0.0392	0	
140	SLU 43		0.05	-4.48	53.56	0.2162	0.038	0	
140	SLU 44		0.05	-4.87	53.76	0.2346	0.038	0	
140	SLU 45		0.05	-4.23	54.7	0.2039	0.0391	0	
140	SLU 46		0.05	-4.46	54.82	0.215	0.0391	0	
140	SLU 47		0.05	-4.54	54.37	0.2183	0.0387	0	
140	SLU 48		0.05	-3.9	55.31	0.1877	0.0397	0	
140	SLU 49		0.05	-4.13	55.43	0.1987	0.0397	0	
140	SLU 50		0.05	-3.82	54.78	0.1836	0.0394	0	
140	SLU 51		0.05	-4.06	54.9	0.1946	0.0394	0	
140	SLU 52		0.06	-5.46	62.04	0.2639	0.0409	0	
140	SLU 53		0.06	-4.82	62.97	0.2333	0.0419	0	
140	SLU 54		0.06	-5.05	63.1	0.2443	0.0419	0	
140	SLU 55		0.06	-5.13	62.65	0.2476	0.0416	0	
140	SLU 56		0.06	-4.49	63.59	0.217	0.0426	0	
140	SLU 57		0.06	-4.72	63.71	0.228	0.0426	0	
140	SLU 58		0.06	-4.41	63.06	0.2129	0.0422	0	
140	SLU 59		0.06	-4.65	63.18	0.224	0.0422	0	
140	SLU 60		0.06	-5.33	65.38	0.258	0.0421	0	
140	SLU 61		0.06	-5.56	65.51	0.2691	0.0421	0	
140	SLU 62		0.06	-5	66	0.2417	0.0428	0	
140	SLU 63		0.06	-5.23	66.12	0.2528	0.0428	0	
140	SLU 64		0.06	-4.57	59.55	0.2224	0.0421	0	
140	SLU 65		0.06	-4.96	59.75	0.2408	0.0421	0	
140	SLU 66		0.06	-4.32	60.68	0.2102	0.0432	0	
140	SLU 67		0.06	-4.55	60.81	0.2212	0.0432	0	
140	SLU 68		0.06	-4.63	60.36	0.2245	0.0428	0	
140	SLU 69		0.06	-3.99	61.3	0.1939	0.0438	0	
140	SLU 70		0.06	-4.22	61.42	0.205	0.0438	0	
140	SLU 71		0.06	-3.91	60.77	0.1898	0.0435	0	
140	SLU 72		0.06	-4.14	60.89	0.2009	0.0435	0	
140	SLU 73		0.06	-5.55	68.03	0.2702	0.045	0	
140	SLU 74		0.06	-4.91	68.96	0.2395	0.046	0	
140	SLU 75		0.06	-5.14	69.09	0.2506	0.046	0	
140	SLU 76		0.06	-5.22	68.64	0.2539	0.0457	0	
140	SLU 77		0.06	-4.58	69.57	0.2232	0.0467	0	
140	SLU 78		0.06	-4.81	69.7	0.2343	0.0467	0	
140	SLU 79		0.06	-4.5	69.05	0.2191	0.0463	0	
140	SLU 80		0.06	-4.73	69.17	0.2302	0.0463	0	
140	SLU 81		0.06	-5.41	71.37	0.2643	0.0462	0	
140	SLU 82		0.06	-5.65	71.5	0.2753	0.0462	0	
140	SLU 83		0.07	-5.08	71.98	0.248	0.0469	0	
140	SLU 84		0.07	-5.32	72.11	0.259	0.0469	0	
140	SLE RA 1		0.04	-3.5	44.49	0.1697	0.0315	0	
140	SLE RA 2		0.04	-3.76	44.62	0.182	0.0315	0	
140	SLE RA 3		0.04	-3.33	45.25	0.1616	0.0322	0	
140	SLE RA 4		0.04	-3.48	45.33	0.1689	0.0322	0	





Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
140	SLE RA 5		0.04	-3.54	45.03	0.1711	0.032	0	
140	SLE RA 6		0.04	-3.11	45.65	0.1507	0.0326	0	
140	SLE RA 7		0.04	-3.26	45.74	0.1581	0.0326	0	
140	SLE RA 8		0.04	-3.06	45.3	0.148	0.0324	0	
140	SLE RA 9		0.04	-3.21	45.39	0.1554	0.0324	0	
140	SLE RA 10		0.05	-4.15	50.14	0.2015	0.0334	0	
140	SLE RA 11		0.05	-3.72	50.77	0.1811	0.0341	0	
140	SLE RA 12		0.05	-3.88	50.85	0.1885	0.0341	0	
140	SLE RA 13		0.05	-3.93	50.55	0.1907	0.0339	0	
140	SLE RA 14		0.05	-3.5	51.17	0.1702	0.0346	0	
140	SLE RA 15		0.05	-3.66	51.26	0.1776	0.0346	0	
140	SLE RA 16		0.05	-3.45	50.82	0.1675	0.0343	0	
140	SLE RA 17		0.05	-3.6	50.91	0.1749	0.0343	0	
140	SLE RA 18		0.05	-4.06	52.37	0.1976	0.0342	0	
140	SLE RA 19		0.05	-4.21	52.45	0.205	0.0342	0	
140	SLE RA 20		0.05	-3.84	52.78	0.1868	0.0347	0	
140	SLE RA 21		0.05	-3.99	52.86	0.1941	0.0347	0	
140	SLE FR 1		0.04	-3.5	44.49	0.1697	0.0315	0	
140	SLE FR 2		0.04	-3.55	44.52	0.1722	0.0315	0	
140	SLE FR 3		0.04	-3.41	44.65	0.1654	0.0317	0	
140	SLE FR 4		0.04	-3.72	46.88	0.1805	0.0323	0	
140	SLE FR 5		0.04	-3.58	47.02	0.1737	0.0325	0	
140	SLE FR 6		0.05	-3.78	48.43	0.1837	0.0329	0	
140	SLE QP 1		0.04	-3.5	44.49	0.1697	0.0315	0	
140	SLE QP 2		0.04	-3.67	46.85	0.1781	0.0323	0	
140	SLD 1		0.17	-2.82	49.72	0.1381	0.1497	0.0001	
140	SLD 2		0.17	-2.82	49.72	0.1381	0.1497	0.0001	
140	SLD 3		0.19	-5.76	51.83	0.2806	0.162	0	
140	SLD 4		0.19	-5.76	51.83	0.2806	0.162	0	
140	SLD 5		0.06	1.04	44.51	-0.0502	0.0489	0.0001	
140	SLD 6		0.06	1.04	44.51	-0.0502	0.0489	0.0001	
140	SLD 7		0.11	-8.75	51.55	0.4251	0.0899	0	
140	SLD 8		0.11	-8.75	51.55	0.4251	0.0899	0	
140	SLD 9		-0.02	1.42	42.16	-0.0689	-0.0252	0	
140	SLD 10		-0.02	1.42	42.16	-0.0689	-0.0252	0	
140	SLD 11		0.03	-8.37	49.2	0.4063	0.0158	0	
140	SLD 12		0.03	-8.37	49.2	0.4063	0.0158	0	
140	SLD 13		-0.1	-1.57	41.88	0.0755	-0.0973	0	
140	SLD 14		-0.1	-1.57	41.88	0.0755	-0.0973	0	
140	SLD 15		-0.09	-4.51	43.99	0.2181	-0.085	0	
140	SLD 16		-0.09	-4.51	43.99	0.2181	-0.085	0	
140	SLV 1		0.37	-1.7	53.56	0.0846	0.3279	0.0001	
140	SLV 2		0.37	-1.7	53.56	0.0846	0.3279	0.0001	
140	SLV 3		0.41	-8.57	58.55	0.4182	0.3589	0.0001	
140	SLV 4		0.41	-8.57	58.55	0.4182	0.3589	0.0001	
140	SLV 5		0.09	7.34	41.3	-0.3558	0.0739	0.0001	
140	SLV 6		0.09	7.34	41.3	-0.3558	0.0739	0.0001	
140	SLV 7		0.21	-15.55	57.93	0.756	0.1773	0	
140	SLV 8		0.21	-15.55	57.93	0.756	0.1773	0	
140	SLV 9		-0.12	8.22	35.78	-0.3998	-0.1127	0	
140	SLV 10		-0.12	8.22	35.78	-0.3998	-0.1127	0	
140	SLV 11		0	-14.67	52.41	0.712	-0.0093	-0.0001	
140	SLV 12		0	-14.67	52.41	0.712	-0.0093	-0.0001	
140	SLV 13		-0.32	1.23	35.16	-0.062	-0.2942	-0.0001	
140	SLV 14		-0.32	1.23	35.16	-0.062	-0.2942	-0.0001	
140	SLV 15		-0.28	-5.63	40.15	0.2715	-0.2632	-0.0001	
140	SLV 16		-0.28	-5.63	40.15	0.2715	-0.2632	-0.0001	
141	SLU 1		0.01	2.12	14.8	-0.0486	0.0092	0	
141	SLU 2		0.01	2.11	14.82	-0.0484	0.0096	0	
141	SLU 3		0.01	2.19	15.12	-0.051	0.0093	0	
141	SLU 4		0.01	2.19	15.13	-0.0509	0.0095	0	
141	SLU 5		0.01	2.15	14.99	-0.0501	0.0095	0	
141	SLU 6		0.01	2.23	15.29	-0.0527	0.0093	0	
141	SLU 7		0.01	2.23	15.3	-0.0526	0.0095	0	
141	SLU 8		0.01	2.19	15.13	-0.052	0.0092	0	
141	SLU 9		0.01	2.19	15.15	-0.0519	0.0094	0	
141	SLU 10		0.01	2.49	18.66	-0.0578	0.0117	0	
141	SLU 11		0.01	2.57	18.95	-0.0604	0.0115	0	
141	SLU 12		0.01	2.57	18.97	-0.0603	0.0117	0	
141	SLU 13		0.01	2.53	18.83	-0.0595	0.0117	0	
141	SLU 14		0.01	2.61	19.12	-0.0621	0.0115	0	
141	SLU 15		0.01	2.61	19.14	-0.062	0.0117	0	
141	SLU 16		0.01	2.57	18.97	-0.0614	0.0114	0	
141	SLU 17		0.01	2.57	18.98	-0.0613	0.0116	0	
141	SLU 18		0.01	2.66	20.28	-0.062	0.0123	0	
141	SLU 19		0.01	2.65	20.29	-0.0619	0.0125	0	
141	SLU 20		0.01	2.7	20.44	-0.0637	0.0123	0	
141	SLU 21		0.01	2.69	20.46	-0.0636	0.0125	0	
141	SLU 22		0.01	2.49	16.59	-0.0583	0.0103	0	
141	SLU 23		0.01	2.49	16.62	-0.0581	0.0106	0	
141	SLU 24		0.01	2.57	16.92	-0.0607	0.0104	0	
141	SLU 25		0.01	2.57	16.93	-0.0606	0.0106	0	
141	SLU 26		0.01	2.53	16.79	-0.0598	0.0106	0	
141	SLU 27		0.01	2.61	17.08	-0.0624	0.0104	0	
141	SLU 28		0.01	2.61	17.1	-0.0623	0.0106	0	
141	SLU 29		0.01	2.57	16.93	-0.0617	0.0103	0	
141	SLU 30		0.01	2.57	16.94	-0.0616	0.0105	0	
141	SLU 31		0.01	2.87	20.46	-0.0675	0.0128	0	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
141	SLU 32	0.01	2.95	20.75	-0.0701	0.0126	0
141	SLU 33	0.01	2.95	20.77	-0.07	0.0128	0
141	SLU 34	0.01	2.91	20.62	-0.0692	0.0128	0
141	SLU 35	0.01	2.99	20.92	-0.0718	0.0126	0
141	SLU 36	0.01	2.98	20.93	-0.0717	0.0127	0
141	SLU 37	0.01	2.95	20.76	-0.0711	0.0125	0
141	SLU 38	0.01	2.95	20.78	-0.071	0.0127	0
141	SLU 39	0.01	3.04	22.07	-0.0717	0.0134	0
141	SLU 40	0.01	3.03	22.09	-0.0716	0.0136	0
141	SLU 41	0.01	3.07	22.24	-0.0734	0.0134	0
141	SLU 42	0.01	3.07	22.26	-0.0733	0.0136	0
141	SLU 43	0.01	2.62	18.62	-0.0599	0.0116	0
141	SLU 44	0.01	2.62	18.65	-0.0597	0.012	0
141	SLU 45	0.01	2.7	18.94	-0.0623	0.0117	0
141	SLU 46	0.01	2.69	18.96	-0.0621	0.0119	0
141	SLU 47	0.01	2.65	18.81	-0.0614	0.0119	0
141	SLU 48	0.01	2.74	19.11	-0.064	0.0117	0
141	SLU 49	0.01	2.73	19.12	-0.0638	0.0119	0
141	SLU 50	0.01	2.7	18.95	-0.0633	0.0116	0
141	SLU 51	0.01	2.69	18.97	-0.0632	0.0118	0
141	SLU 52	0.01	2.99	22.48	-0.0691	0.0141	0
141	SLU 53	0.01	3.08	22.78	-0.0717	0.0139	0
141	SLU 54	0.01	3.07	22.79	-0.0716	0.0141	0
141	SLU 55	0.01	3.03	22.65	-0.0708	0.0141	0
141	SLU 56	0.01	3.12	22.94	-0.0734	0.0139	0
141	SLU 57	0.01	3.11	22.96	-0.0732	0.0141	0
141	SLU 58	0.01	3.08	22.79	-0.0727	0.0138	0
141	SLU 59	0.01	3.07	22.81	-0.0726	0.014	0
141	SLU 60	0.01	3.16	24.1	-0.0733	0.0147	0
141	SLU 61	0.02	3.16	24.12	-0.0732	0.0149	0
141	SLU 62	0.01	3.2	24.27	-0.075	0.0147	0
141	SLU 63	0.01	3.2	24.28	-0.0749	0.0149	0
141	SLU 64	0.01	3	20.42	-0.0696	0.0127	0
141	SLU 65	0.01	2.99	20.44	-0.0694	0.013	0
141	SLU 66	0.01	3.08	20.74	-0.0719	0.0128	0
141	SLU 67	0.01	3.07	20.75	-0.0718	0.013	0
141	SLU 68	0.01	3.03	20.61	-0.0711	0.013	0
141	SLU 69	0.01	3.11	20.91	-0.0736	0.0128	0
141	SLU 70	0.01	3.11	20.92	-0.0735	0.013	0
141	SLU 71	0.01	3.08	20.75	-0.073	0.0127	0
141	SLU 72	0.01	3.07	20.77	-0.0728	0.0129	0
141	SLU 73	0.02	3.37	24.28	-0.0788	0.0152	0
141	SLU 74	0.01	3.45	24.57	-0.0813	0.015	0
141	SLU 75	0.02	3.45	24.59	-0.0812	0.0152	0
141	SLU 76	0.02	3.41	24.45	-0.0805	0.0152	0
141	SLU 77	0.01	3.49	24.74	-0.083	0.015	0
141	SLU 78	0.02	3.49	24.76	-0.0829	0.0151	0
141	SLU 79	0.01	3.45	24.59	-0.0824	0.0149	0
141	SLU 80	0.01	3.45	24.6	-0.0822	0.015	0
141	SLU 81	0.02	3.54	25.9	-0.083	0.0158	0
141	SLU 82	0.02	3.54	25.91	-0.0829	0.016	0
141	SLU 83	0.02	3.58	26.06	-0.0847	0.0158	0
141	SLU 84	0.02	3.58	26.08	-0.0846	0.016	0
141	SLE RA 1	0.01	2.22	15.31	-0.0514	0.0096	0
141	SLE RA 2	0.01	2.22	15.33	-0.0513	0.0098	0
141	SLE RA 3	0.01	2.27	15.52	-0.053	0.0096	0
141	SLE RA 4	0.01	2.27	15.54	-0.0529	0.0097	0
141	SLE RA 5	0.01	2.25	15.44	-0.0524	0.0097	0
141	SLE RA 6	0.01	2.3	15.64	-0.0541	0.0096	0
141	SLE RA 7	0.01	2.3	15.65	-0.054	0.0097	0
141	SLE RA 8	0.01	2.27	15.53	-0.0536	0.0095	0
141	SLE RA 9	0.01	2.27	15.54	-0.0536	0.0096	0
141	SLE RA 10	0.01	2.47	17.88	-0.0575	0.0112	0
141	SLE RA 11	0.01	2.53	18.08	-0.0592	0.0111	0
141	SLE RA 12	0.01	2.53	18.09	-0.0592	0.0112	0
141	SLE RA 13	0.01	2.5	18	-0.0587	0.0112	0
141	SLE RA 14	0.01	2.55	18.19	-0.0604	0.011	0
141	SLE RA 15	0.01	2.55	18.2	-0.0603	0.0112	0
141	SLE RA 16	0.01	2.53	18.09	-0.0599	0.011	0
141	SLE RA 17	0.01	2.53	18.1	-0.0598	0.0111	0
141	SLE RA 18	0.01	2.58	18.96	-0.0603	0.0116	0
141	SLE RA 19	0.01	2.58	18.97	-0.0603	0.0118	0
141	SLE RA 20	0.01	2.61	19.07	-0.0615	0.0116	0
141	SLE RA 21	0.01	2.61	19.09	-0.0614	0.0117	0
141	SLE FR 1	0.01	2.22	15.31	-0.0514	0.0096	0
141	SLE FR 2	0.01	2.22	15.31	-0.0514	0.0096	0
141	SLE FR 3	0.01	2.23	15.36	-0.0518	0.0096	0
141	SLE FR 4	0.01	2.33	16.41	-0.054	0.0102	0
141	SLE FR 5	0.01	2.34	16.45	-0.0545	0.0102	0
141	SLE FR 6	0.01	2.4	17.14	-0.0559	0.0106	0
141	SLE QP 1	0.01	2.22	15.31	-0.0514	0.0096	0
141	SLE QP 2	0.01	2.33	16.41	-0.0541	0.0102	0
141	SLD 1	0.15	2.37	14.35	-0.0551	0.1321	0.0001
141	SLD 2	0.15	2.37	14.35	-0.0551	0.1321	0.0001
141	SLD 3	0.13	0.33	15.32	0.0105	0.1164	0.0001
141	SLD 4	0.13	0.33	15.32	0.0105	0.1164	0.0001
141	SLD 5	0.08	5.43	14.32	-0.1538	0.0705	0
141	SLD 6	0.08	5.43	14.32	-0.1538	0.0705	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
141	SLD 7	0.02	-1.36	17.55	0.0647	0.0183	0.0001		
141	SLD 8	0.02	-1.36	17.55	0.0647	0.0183	0.0001		
141	SLD 9	0	6.02	15.26	-0.1728	0.002	0		
141	SLD 10	0	6.02	15.26	-0.1728	0.002	0		
141	SLD 11	-0.06	-0.77	18.49	0.0457	-0.0501	0		
141	SLD 12	-0.06	-0.77	18.49	0.0457	-0.0501	0		
141	SLD 13	-0.11	4.33	17.49	-0.1186	-0.0961	-0.0001		
141	SLD 14	-0.11	4.33	17.49	-0.1186	-0.0961	-0.0001		
141	SLD 15	-0.13	2.3	18.46	-0.0531	-0.1117	-0.0001		
141	SLD 16	-0.13	2.3	18.46	-0.0531	-0.1117	-0.0001		
141	SLV 1	0.35	2.4	11.55	-0.0558	0.3175	0.0002		
141	SLV 2	0.35	2.4	11.55	-0.0558	0.3175	0.0002		
141	SLV 3	0.31	-2.38	13.86	0.0981	0.2794	0.0002		
141	SLV 4	0.31	-2.38	13.86	0.0981	0.2794	0.0002		
141	SLV 5	0.18	9.61	11.44	-0.2881	0.1602	0		
141	SLV 6	0.18	9.61	11.44	-0.2881	0.1602	0		
141	SLV 7	0.03	-6.33	19.15	0.2251	0.0331	0.0001		
141	SLV 8	0.03	-6.33	19.15	0.2251	0.0331	0.0001		
141	SLV 9	-0.01	11	13.66	-0.3332	-0.0127	-0.0001		
141	SLV 10	-0.01	11	13.66	-0.3332	-0.0127	-0.0001		
141	SLV 11	-0.16	-4.94	21.37	0.18	-0.1399	0		
141	SLV 12	-0.16	-4.94	21.37	0.18	-0.1399	0		
141	SLV 13	-0.29	7.04	18.95	-0.2062	-0.259	-0.0002		
141	SLV 14	-0.29	7.04	18.95	-0.2062	-0.259	-0.0002		
141	SLV 15	-0.33	2.26	21.27	-0.0523	-0.2972	-0.0002		
141	SLV 16	-0.33	2.26	21.27	-0.0523	-0.2972	-0.0002		
142	SLU 1	-0.27	1.77	56.12	-0.1333	-0.1826	-0.0016		
142	SLU 2	-0.31	2.32	58.57	-0.169	-0.2332	-0.0019		
142	SLU 3	-0.28	1.93	58.06	-0.1438	-0.1896	-0.0017		
142	SLU 4	-0.3	2.27	59.53	-0.1652	-0.22	-0.0019		
142	SLU 5	-0.31	2.47	59.93	-0.1781	-0.2383	-0.0019		
142	SLU 6	-0.29	2.08	59.43	-0.153	-0.1947	-0.0018		
142	SLU 7	-0.31	2.41	60.89	-0.1744	-0.2251	-0.0019		
142	SLU 8	-0.28	2.06	58.86	-0.1517	-0.1927	-0.0017		
142	SLU 9	-0.31	2.39	60.32	-0.173	-0.2231	-0.0019		
142	SLU 10	-0.34	2.75	65.41	-0.1936	-0.2565	-0.0021		
142	SLU 11	-0.31	2.36	64.91	-0.1684	-0.2129	-0.0019		
142	SLU 12	-0.34	2.69	66.37	-0.1898	-0.2433	-0.0021		
142	SLU 13	-0.35	2.89	66.78	-0.2028	-0.2616	-0.0022		
142	SLU 14	-0.32	2.5	66.27	-0.1776	-0.218	-0.002		
142	SLU 15	-0.34	2.83	67.74	-0.199	-0.2484	-0.0021		
142	SLU 16	-0.32	2.48	65.7	-0.1763	-0.216	-0.0019		
142	SLU 17	-0.34	2.81	67.17	-0.1977	-0.2464	-0.0021		
142	SLU 18	-0.32	2.38	65.9	-0.1685	-0.2159	-0.0019		
142	SLU 19	-0.34	2.71	67.37	-0.1899	-0.2463	-0.0021		
142	SLU 20	-0.33	2.52	67.27	-0.1777	-0.2209	-0.002		
142	SLU 21	-0.35	2.85	68.74	-0.1991	-0.2513	-0.0021		
142	SLU 22	-0.3	2.18	63.1	-0.1588	-0.2068	-0.0019		
142	SLU 23	-0.34	2.74	65.54	-0.1945	-0.2575	-0.0021		
142	SLU 24	-0.32	2.35	65.04	-0.1693	-0.2138	-0.0019		
142	SLU 25	-0.34	2.68	66.5	-0.1907	-0.2442	-0.0021		
142	SLU 26	-0.35	2.88	66.91	-0.2036	-0.2625	-0.0022		
142	SLU 27	-0.32	2.49	66.4	-0.1785	-0.2189	-0.002		
142	SLU 28	-0.35	2.82	67.87	-0.1998	-0.2493	-0.0021		
142	SLU 29	-0.32	2.47	65.83	-0.1771	-0.2169	-0.002		
142	SLU 30	-0.34	2.8	67.3	-0.1985	-0.2473	-0.0021		
142	SLU 31	-0.38	3.16	72.39	-0.2191	-0.2807	-0.0023		
142	SLU 32	-0.35	2.77	71.88	-0.1939	-0.2371	-0.0021		
142	SLU 33	-0.37	3.1	73.35	-0.2153	-0.2675	-0.0023		
142	SLU 34	-0.39	3.3	73.76	-0.2283	-0.2858	-0.0024		
142	SLU 35	-0.36	2.91	73.25	-0.2031	-0.2422	-0.0022		
142	SLU 36	-0.38	3.25	74.72	-0.2245	-0.2726	-0.0023		
142	SLU 37	-0.35	2.89	72.68	-0.2018	-0.2402	-0.0022		
142	SLU 38	-0.38	3.23	74.15	-0.2232	-0.2706	-0.0023		
142	SLU 39	-0.35	2.79	72.88	-0.194	-0.2401	-0.0022		
142	SLU 40	-0.38	3.12	74.35	-0.2154	-0.2705	-0.0023		
142	SLU 41	-0.36	2.93	74.25	-0.2032	-0.2451	-0.0022		
142	SLU 42	-0.38	3.27	75.71	-0.2246	-0.2755	-0.0024		
142	SLU 43	-0.34	2.16	70.57	-0.1646	-0.2291	-0.0021		
142	SLU 44	-0.38	2.71	73.01	-0.2002	-0.2797	-0.0023		
142	SLU 45	-0.35	2.32	72.51	-0.175	-0.2361	-0.0021		
142	SLU 46	-0.37	2.65	73.97	-0.1964	-0.2665	-0.0023		
142	SLU 47	-0.38	2.86	74.38	-0.2094	-0.2848	-0.0024		
142	SLU 48	-0.35	2.47	73.87	-0.1842	-0.2411	-0.0022		
142	SLU 49	-0.38	2.8	75.34	-0.2056	-0.2715	-0.0023		
142	SLU 50	-0.35	2.45	73.3	-0.1829	-0.2392	-0.0022		
142	SLU 51	-0.38	2.78	74.77	-0.2043	-0.2696	-0.0023		
142	SLU 52	-0.41	3.14	79.86	-0.2249	-0.303	-0.0025		
142	SLU 53	-0.38	2.75	79.35	-0.1997	-0.2594	-0.0023		
142	SLU 54	-0.4	3.08	80.82	-0.2211	-0.2898	-0.0025		
142	SLU 55	-0.42	3.28	81.23	-0.234	-0.3081	-0.0026		
142	SLU 56	-0.39	2.89	80.72	-0.2088	-0.2644	-0.0024		
142	SLU 57	-0.41	3.22	82.19	-0.2302	-0.2948	-0.0025		
142	SLU 58	-0.39	2.87	80.15	-0.2075	-0.2625	-0.0024		
142	SLU 59	-0.41	3.2	81.62	-0.2289	-0.2929	-0.0025		
142	SLU 60	-0.39	2.77	80.35	-0.1998	-0.2623	-0.0024		
142	SLU 61	-0.41	3.1	81.81	-0.2212	-0.2927	-0.0025		
142	SLU 62	-0.39	2.91	81.72	-0.2089	-0.2674	-0.0024		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
142	SLU 63	-0.42	3.24	83.18	-0.2303	-0.2978	-0.0026
142	SLU 64	-0.37	2.57	77.55	-0.1901	-0.2533	-0.0023
142	SLU 65	-0.41	3.13	79.99	-0.2257	-0.3039	-0.0025
142	SLU 66	-0.38	2.74	79.48	-0.2005	-0.2603	-0.0023
142	SLU 67	-0.41	3.07	80.95	-0.2219	-0.2907	-0.0025
142	SLU 68	-0.42	3.27	81.36	-0.2349	-0.309	-0.0026
142	SLU 69	-0.39	2.88	80.85	-0.2097	-0.2653	-0.0024
142	SLU 70	-0.41	3.21	82.32	-0.2311	-0.2957	-0.0025
142	SLU 71	-0.39	2.86	80.28	-0.2084	-0.2634	-0.0024
142	SLU 72	-0.41	3.19	81.75	-0.2298	-0.2938	-0.0025
142	SLU 73	-0.45	3.55	86.83	-0.2504	-0.3272	-0.0027
142	SLU 74	-0.42	3.16	86.33	-0.2252	-0.2836	-0.0026
142	SLU 75	-0.44	3.49	87.79	-0.2466	-0.314	-0.0027
142	SLU 76	-0.45	3.69	88.2	-0.2595	-0.3323	-0.0028
142	SLU 77	-0.43	3.3	87.7	-0.2343	-0.2886	-0.0026
142	SLU 78	-0.45	3.64	89.16	-0.2557	-0.319	-0.0028
142	SLU 79	-0.42	3.28	87.13	-0.233	-0.2867	-0.0026
142	SLU 80	-0.45	3.62	88.59	-0.2544	-0.3171	-0.0027
142	SLU 81	-0.42	3.18	87.33	-0.2253	-0.2865	-0.0026
142	SLU 82	-0.45	3.51	88.79	-0.2467	-0.3169	-0.0027
142	SLU 83	-0.43	3.32	88.69	-0.2344	-0.2916	-0.0026
142	SLU 84	-0.45	3.66	90.16	-0.2558	-0.322	-0.0028
142	SLE RA 1	-0.28	1.89	58.12	-0.1406	-0.1895	-0.0017
142	SLE RA 2	-0.3	2.26	59.75	-0.1644	-0.2233	-0.0019
142	SLE RA 3	-0.29	2	59.41	-0.1476	-0.1942	-0.0017
142	SLE RA 4	-0.3	2.22	60.39	-0.1618	-0.2144	-0.0019
142	SLE RA 5	-0.31	2.35	60.66	-0.1705	-0.2266	-0.0019
142	SLE RA 6	-0.29	2.09	60.32	-0.1537	-0.1975	-0.0018
142	SLE RA 7	-0.31	2.31	61.3	-0.168	-0.2178	-0.0019
142	SLE RA 8	-0.29	2.08	59.94	-0.1528	-0.1962	-0.0018
142	SLE RA 9	-0.3	2.3	60.92	-0.1671	-0.2165	-0.0019
142	SLE RA 10	-0.33	2.54	64.31	-0.1808	-0.2388	-0.002
142	SLE RA 11	-0.31	2.28	63.97	-0.164	-0.2097	-0.0019
142	SLE RA 12	-0.32	2.5	64.95	-0.1783	-0.23	-0.002
142	SLE RA 13	-0.33	2.64	65.22	-0.1869	-0.2422	-0.002
142	SLE RA 14	-0.31	2.38	64.88	-0.1701	-0.2131	-0.0019
142	SLE RA 15	-0.33	2.6	65.86	-0.1844	-0.2333	-0.002
142	SLE RA 16	-0.31	2.36	64.5	-0.1692	-0.2118	-0.0019
142	SLE RA 17	-0.33	2.58	65.48	-0.1835	-0.232	-0.002
142	SLE RA 18	-0.31	2.29	64.64	-0.1641	-0.2117	-0.0019
142	SLE RA 19	-0.33	2.52	65.61	-0.1783	-0.2319	-0.002
142	SLE RA 20	-0.32	2.39	65.55	-0.1702	-0.215	-0.0019
142	SLE RA 21	-0.33	2.61	66.53	-0.1844	-0.2353	-0.002
142	SLE FR 1	-0.28	1.89	58.12	-0.1406	-0.1895	-0.0017
142	SLE FR 2	-0.28	1.96	58.44	-0.1454	-0.1962	-0.0017
142	SLE FR 3	-0.28	1.93	58.48	-0.143	-0.1908	-0.0017
142	SLE FR 4	-0.29	2.08	60.4	-0.1524	-0.2029	-0.0018
142	SLE FR 5	-0.29	2.05	60.44	-0.1501	-0.1975	-0.0018
142	SLE FR 6	-0.29	2.09	61.38	-0.1523	-0.2006	-0.0018
142	SLE QP 1	-0.28	1.89	58.12	-0.1406	-0.1895	-0.0017
142	SLE QP 2	-0.29	2.01	60.07	-0.1476	-0.1961	-0.0018
142	SLD 1	-0.49	4.96	77.8	-0.2861	-0.3718	-0.003
142	SLD 2	-0.49	4.96	77.8	-0.2861	-0.3718	-0.003
142	SLD 3	-0.4	1.23	75.44	-0.1147	-0.3003	-0.0025
142	SLD 4	-0.4	1.23	75.44	-0.1147	-0.3003	-0.0025
142	SLD 5	-0.48	8.56	68.97	-0.4492	-0.3573	-0.0029
142	SLD 6	-0.48	8.56	68.97	-0.4492	-0.3573	-0.0029
142	SLD 7	-0.19	-3.89	61.1	0.1222	-0.119	-0.0012
142	SLD 8	-0.19	-3.89	61.1	0.1222	-0.119	-0.0012
142	SLD 9	-0.39	7.91	59.04	-0.4175	-0.2733	-0.0023
142	SLD 10	-0.39	7.91	59.04	-0.4175	-0.2733	-0.0023
142	SLD 11	-0.1	-4.54	51.17	0.1539	-0.035	-0.0006
142	SLD 12	-0.1	-4.54	51.17	0.1539	-0.035	-0.0006
142	SLD 13	-0.18	2.79	44.7	-0.1806	-0.092	-0.0011
142	SLD 14	-0.18	2.79	44.7	-0.1806	-0.092	-0.0011
142	SLD 15	-0.09	-0.94	42.34	-0.0092	-0.0205	-0.0005
142	SLD 16	-0.09	-0.94	42.34	-0.0092	-0.0205	-0.0005
142	SLV 1	-0.76	8.96	101.61	-0.4728	-0.6186	-0.0047
142	SLV 2	-0.76	8.96	101.61	-0.4728	-0.6186	-0.0047
142	SLV 3	-0.54	0.27	95.97	-0.0731	-0.4374	-0.0034
142	SLV 4	-0.54	0.27	95.97	-0.0731	-0.4374	-0.0034
142	SLV 5	-0.76	17.28	81.1	-0.8514	-0.5976	-0.0046
142	SLV 6	-0.76	17.28	81.1	-0.8514	-0.5976	-0.0046
142	SLV 7	-0.03	-11.7	62.28	0.4809	0.0062	-0.0003
142	SLV 8	-0.03	-11.7	62.28	0.4809	0.0062	-0.0003
142	SLV 9	-0.55	15.72	57.87	-0.7762	-0.3985	-0.0032
142	SLV 10	-0.55	15.72	57.87	-0.7762	-0.3985	-0.0032
142	SLV 11	0.19	-13.26	39.05	0.5561	0.2053	0.0011
142	SLV 12	0.19	-13.26	39.05	0.5561	0.2053	0.0011
142	SLV 13	-0.04	3.76	24.18	-0.2221	0.0451	-0.0001
142	SLV 14	-0.04	3.76	24.18	-0.2221	0.0451	-0.0001
142	SLV 15	0.18	-4.94	18.53	0.1775	0.2263	0.0012
142	SLV 16	0.18	-4.94	18.53	0.1775	0.2263	0.0012
143	SLU 1	0.12	1.06	24.72	0.0607	0.0742	0
143	SLU 2	0.12	3.17	24.09	-0.0288	0.0794	0
143	SLU 3	0.12	0.9	25.66	0.0714	0.0768	0
143	SLU 4	0.13	2.17	25.28	0.0178	0.0799	0
143	SLU 5	0.12	2.93	24.77	-0.0157	0.0809	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
143	SLU 6	0.13	0.66	26.34	0.0846	0.0784	0
143	SLU 7	0.13	1.93	25.96	0.0309	0.0814	0
143	SLU 8	0.12	0.58	26.09	0.0869	0.0773	0
143	SLU 9	0.13	1.85	25.71	0.0332	0.0804	0
143	SLU 10	0.14	3.59	27.91	-0.0304	0.0928	0
143	SLU 11	0.14	1.33	29.48	0.0699	0.0903	0
143	SLU 12	0.15	2.59	29.1	0.0162	0.0934	0
143	SLU 13	0.15	3.35	28.6	-0.0172	0.0943	0
143	SLU 14	0.15	1.09	30.17	0.083	0.0918	0
143	SLU 15	0.15	2.35	29.79	0.0293	0.0949	0
143	SLU 16	0.15	1	29.92	0.0853	0.0908	0
143	SLU 17	0.15	2.27	29.53	0.0317	0.0938	0
143	SLU 18	0.15	1.66	30.19	0.0584	0.0935	0
143	SLU 19	0.15	2.93	29.8	0.0048	0.0965	0
143	SLU 20	0.15	1.42	30.87	0.0716	0.095	0
143	SLU 21	0.15	2.69	30.49	0.0179	0.0981	0
143	SLU 22	0.14	1.32	28.29	0.065	0.0865	0
143	SLU 23	0.14	3.43	27.65	-0.0245	0.0916	0
143	SLU 24	0.14	1.16	29.22	0.0757	0.0891	0
143	SLU 25	0.14	2.43	28.84	0.022	0.0922	0
143	SLU 26	0.14	3.19	28.34	-0.0114	0.0932	0
143	SLU 27	0.15	0.92	29.91	0.0888	0.0906	0
143	SLU 28	0.15	2.19	29.53	0.0352	0.0937	0
143	SLU 29	0.14	0.84	29.66	0.0912	0.0896	0
143	SLU 30	0.15	2.11	29.28	0.0375	0.0926	0
143	SLU 31	0.16	3.85	31.48	-0.0261	0.1051	0
143	SLU 32	0.16	1.59	33.05	0.0742	0.1026	0
143	SLU 33	0.17	2.85	32.67	0.0205	0.1056	0
143	SLU 34	0.17	3.61	32.16	-0.013	0.1066	0
143	SLU 35	0.17	1.35	33.73	0.0873	0.1041	0
143	SLU 36	0.17	2.61	33.35	0.0336	0.1072	0
143	SLU 37	0.16	1.26	33.48	0.0896	0.103	0
143	SLU 38	0.17	2.53	33.1	0.036	0.1061	0
143	SLU 39	0.17	1.92	33.75	0.0627	0.1057	0
143	SLU 40	0.17	3.19	33.37	0.009	0.1088	0
143	SLU 41	0.17	1.68	34.44	0.0758	0.1073	0
143	SLU 42	0.17	2.95	34.06	0.0222	0.1103	0
143	SLU 43	0.15	1.29	30.92	0.0774	0.0923	0
143	SLU 44	0.15	3.4	30.28	-0.0121	0.0974	0
143	SLU 45	0.15	1.13	31.85	0.0882	0.0949	0
143	SLU 46	0.15	2.4	31.47	0.0345	0.098	0
143	SLU 47	0.15	3.16	30.96	0.0011	0.0989	0
143	SLU 48	0.15	0.89	32.54	0.1013	0.0964	0
143	SLU 49	0.16	2.16	32.16	0.0476	0.0995	0
143	SLU 50	0.15	0.81	32.29	0.1036	0.0954	0
143	SLU 51	0.15	2.08	31.9	0.05	0.0984	0
143	SLU 52	0.17	3.82	34.1	-0.0136	0.1109	0
143	SLU 53	0.17	1.55	35.68	0.0866	0.1084	0
143	SLU 54	0.18	2.82	35.3	0.0329	0.1114	0
143	SLU 55	0.18	3.58	34.79	-0.0005	0.1124	0
143	SLU 56	0.18	1.32	36.36	0.0997	0.1099	0
143	SLU 57	0.18	2.58	35.98	0.0461	0.113	0
143	SLU 58	0.17	1.23	36.11	0.1021	0.1088	0
143	SLU 59	0.18	2.5	35.73	0.0484	0.1119	0
143	SLU 60	0.18	1.89	36.38	0.0752	0.1115	0
143	SLU 61	0.18	3.16	36	0.0215	0.1146	0
143	SLU 62	0.18	1.65	37.07	0.0883	0.1131	0
143	SLU 63	0.18	2.92	36.68	0.0346	0.1161	0
143	SLU 64	0.17	1.55	34.48	0.0817	0.1046	0
143	SLU 65	0.17	3.66	33.85	-0.0078	0.1097	0
143	SLU 66	0.17	1.39	35.42	0.0925	0.1072	0
143	SLU 67	0.17	2.66	35.04	0.0388	0.1102	0
143	SLU 68	0.17	3.42	34.53	0.0053	0.1112	0
143	SLU 69	0.17	1.15	36.1	0.1056	0.1087	0
143	SLU 70	0.18	2.42	35.72	0.0519	0.1118	0
143	SLU 71	0.17	1.07	35.85	0.1079	0.1076	0
143	SLU 72	0.17	2.34	35.47	0.0542	0.1107	0
143	SLU 73	0.19	4.08	37.67	-0.0093	0.1232	0
143	SLU 74	0.19	1.81	39.24	0.0909	0.1206	0
143	SLU 75	0.19	3.08	38.86	0.0372	0.1237	0
143	SLU 76	0.19	3.84	38.36	0.0038	0.1247	0
143	SLU 77	0.2	1.58	39.93	0.104	0.1222	0
143	SLU 78	0.2	2.84	39.55	0.0503	0.1252	0
143	SLU 79	0.19	1.49	39.68	0.1064	0.1211	0
143	SLU 80	0.2	2.76	39.3	0.0527	0.1242	0
143	SLU 81	0.2	2.15	39.95	0.0795	0.1238	0
143	SLU 82	0.2	3.42	39.57	0.0258	0.1269	0
143	SLU 83	0.2	1.91	40.63	0.0926	0.1253	0
143	SLU 84	0.2	3.18	40.25	0.0389	0.1284	0
143	SLE RA 1	0.12	1.13	25.74	0.0619	0.0777	0
143	SLE RA 2	0.13	2.54	25.32	0.0023	0.0812	0
143	SLE RA 3	0.13	1.03	26.37	0.0691	0.0795	0
143	SLE RA 4	0.13	1.87	26.11	0.0333	0.0815	0
143	SLE RA 5	0.13	2.38	25.77	0.011	0.0822	0
143	SLE RA 6	0.13	0.87	26.82	0.0778	0.0805	0
143	SLE RA 7	0.13	1.71	26.57	0.042	0.0825	0
143	SLE RA 8	0.13	0.82	26.65	0.0794	0.0798	0
143	SLE RA 9	0.13	1.66	26.4	0.0436	0.0818	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
143	SLE RA 10	0.14	2.82	27.87	0.0012	0.0901	0
143	SLE RA 11	0.14	1.31	28.92	0.068	0.0885	0
143	SLE RA 12	0.14	2.16	28.66	0.0322	0.0905	0
143	SLE RA 13	0.14	2.66	28.32	0.01	0.0912	0
143	SLE RA 14	0.14	1.15	29.37	0.0768	0.0895	0
143	SLE RA 15	0.14	2	29.12	0.041	0.0915	0
143	SLE RA 16	0.14	1.1	29.2	0.0783	0.0888	0
143	SLE RA 17	0.14	1.94	28.95	0.0426	0.0908	0
143	SLE RA 18	0.14	1.54	29.38	0.0604	0.0906	0
143	SLE RA 19	0.15	2.38	29.13	0.0246	0.0926	0
143	SLE RA 20	0.15	1.38	29.84	0.0692	0.0916	0
143	SLE RA 21	0.15	2.22	29.59	0.0334	0.0936	0
143	SLE FR 1	0.12	1.13	25.74	0.0619	0.0777	0
143	SLE FR 2	0.12	1.42	25.66	0.05	0.0784	0
143	SLE FR 3	0.12	1.07	25.92	0.0654	0.0782	0
143	SLE FR 4	0.13	1.54	26.75	0.0495	0.0823	0
143	SLE FR 5	0.13	1.19	27.02	0.0649	0.082	0
143	SLE FR 6	0.13	1.34	27.56	0.0612	0.0842	0
143	SLE QP 1	0.12	1.13	25.74	0.0619	0.0777	0
143	SLE QP 2	0.13	1.25	26.83	0.0614	0.0816	0
143	SLD 1	0.21	4.6	28.88	-0.0894	0.15	0.0001
143	SLD 2	0.21	4.6	28.88	-0.0894	0.15	0.0001
143	SLD 3	0.18	1.47	29.73	0.0509	0.1277	0.0001
143	SLD 4	0.18	1.47	29.73	0.0509	0.1277	0.0001
143	SLD 5	0.2	7.01	26.15	-0.1967	0.1359	0
143	SLD 6	0.2	7.01	26.15	-0.1967	0.1359	0
143	SLD 7	0.1	-3.43	29	0.2712	0.0617	0.0001
143	SLD 8	0.1	-3.43	29	0.2712	0.0617	0.0001
143	SLD 9	0.16	5.94	24.67	-0.1483	0.1015	-0.0001
143	SLD 10	0.16	5.94	24.67	-0.1483	0.1015	-0.0001
143	SLD 11	0.06	-4.5	27.52	0.3196	0.0273	0
143	SLD 12	0.06	-4.5	27.52	0.3196	0.0273	0
143	SLD 13	0.08	1.04	23.94	0.072	0.0355	-0.0001
143	SLD 14	0.08	1.04	23.94	0.072	0.0355	-0.0001
143	SLD 15	0.05	-2.09	24.79	0.2123	0.0132	-0.0001
143	SLD 16	0.05	-2.09	24.79	0.2123	0.0132	-0.0001
143	SLV 1	0.31	9.3	31.59	-0.3018	0.2438	0.0002
143	SLV 2	0.31	9.3	31.59	-0.3018	0.2438	0.0002
143	SLV 3	0.24	1.82	33.71	0.0335	0.189	0.0003
143	SLV 4	0.24	1.82	33.71	0.0335	0.189	0.0003
143	SLV 5	0.3	15.02	25.04	-0.5561	0.2134	0
143	SLV 6	0.3	15.02	25.04	-0.5561	0.2134	0
143	SLV 7	0.05	-9.93	32.12	0.5616	0.0306	0.0002
143	SLV 8	0.05	-9.93	32.12	0.5616	0.0306	0.0002
143	SLV 9	0.21	12.44	21.55	-0.4387	0.1326	-0.0002
143	SLV 10	0.21	12.44	21.55	-0.4387	0.1326	-0.0002
143	SLV 11	-0.04	-12.51	28.63	0.679	-0.0502	0
143	SLV 12	-0.04	-12.51	28.63	0.679	-0.0502	0
143	SLV 13	0.02	0.69	19.96	0.0894	-0.0258	-0.0002
143	SLV 14	0.02	0.69	19.96	0.0894	-0.0258	-0.0002
143	SLV 15	-0.05	-6.8	22.08	0.4247	-0.0806	-0.0002
143	SLV 16	-0.05	-6.8	22.08	0.4247	-0.0806	-0.0002
144	SLU 1	0.02	-3.06	45.07	0.1219	0.0268	-0.0025
144	SLU 2	0.02	-3.57	45.55	0.1377	0.0273	-0.0025
144	SLU 3	0.02	-2.79	46.24	0.1155	0.0273	-0.0025
144	SLU 4	0.02	-3.1	46.53	0.125	0.0276	-0.0026
144	SLU 5	0.02	-3.25	46.14	0.1291	0.0275	-0.0026
144	SLU 6	0.02	-2.48	46.83	0.1068	0.0276	-0.0026
144	SLU 7	0.02	-2.79	47.12	0.1163	0.0279	-0.0026
144	SLU 8	0.02	-2.44	46.25	0.1046	0.0272	-0.0026
144	SLU 9	0.02	-2.74	46.54	0.1141	0.0275	-0.0026
144	SLU 10	0.03	-4.09	54.12	0.1602	0.0328	-0.0031
144	SLU 11	0.03	-3.32	54.81	0.138	0.0329	-0.0031
144	SLU 12	0.03	-3.63	55.09	0.1475	0.0332	-0.0031
144	SLU 13	0.03	-3.78	54.71	0.1516	0.0331	-0.0031
144	SLU 14	0.03	-3.01	55.4	0.1293	0.0331	-0.0031
144	SLU 15	0.03	-3.31	55.69	0.1388	0.0334	-0.0032
144	SLU 16	0.03	-2.96	54.81	0.1271	0.0328	-0.0031
144	SLU 17	0.03	-3.27	55.1	0.1366	0.0331	-0.0031
144	SLU 18	0.03	-3.81	57.3	0.1541	0.0347	-0.0033
144	SLU 19	0.03	-4.12	57.59	0.1635	0.035	-0.0033
144	SLU 20	0.03	-3.5	57.89	0.1454	0.035	-0.0033
144	SLU 21	0.03	-3.81	58.18	0.1549	0.0352	-0.0033
144	SLU 22	0.03	-3	51.15	0.128	0.0301	-0.0028
144	SLU 23	0.03	-3.51	51.63	0.1439	0.0306	-0.0029
144	SLU 24	0.03	-2.74	52.32	0.1216	0.0307	-0.0029
144	SLU 25	0.03	-3.04	52.61	0.1311	0.031	-0.0029
144	SLU 26	0.03	-3.2	52.22	0.1352	0.0308	-0.0029
144	SLU 27	0.03	-2.43	52.91	0.113	0.0309	-0.0029
144	SLU 28	0.03	-2.73	53.2	0.1224	0.0312	-0.003
144	SLU 29	0.03	-2.38	52.33	0.1107	0.0306	-0.0029
144	SLU 30	0.03	-2.69	52.62	0.1202	0.0309	-0.0029
144	SLU 31	0.03	-4.04	60.19	0.1664	0.0362	-0.0034
144	SLU 32	0.03	-3.27	60.88	0.1441	0.0362	-0.0034
144	SLU 33	0.03	-3.57	61.17	0.1536	0.0365	-0.0035
144	SLU 34	0.03	-3.73	60.78	0.1577	0.0364	-0.0034
144	SLU 35	0.03	-2.96	61.47	0.1355	0.0365	-0.0035
144	SLU 36	0.03	-3.26	61.76	0.145	0.0368	-0.0035



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
144	SLU 37		0.03	-2.91	60.89	0.1332	0.0361	-0.0034	
144	SLU 38		0.03	-3.21	61.18	0.1427	0.0364	-0.0035	
144	SLU 39		0.03	-3.76	63.38	0.1602	0.0381	-0.0036	
144	SLU 40		0.03	-4.06	63.67	0.1697	0.0384	-0.0036	
144	SLU 41		0.03	-3.45	63.97	0.1515	0.0383	-0.0036	
144	SLU 42		0.03	-3.75	64.26	0.161	0.0386	-0.0037	
144	SLU 43		0.03	-3.99	56.51	0.1564	0.0337	-0.0031	
144	SLU 44		0.03	-4.5	56.99	0.1722	0.0342	-0.0032	
144	SLU 45		0.03	-3.73	57.68	0.1499	0.0342	-0.0032	
144	SLU 46		0.03	-4.03	57.97	0.1594	0.0345	-0.0032	
144	SLU 47		0.03	-4.19	57.58	0.1635	0.0344	-0.0032	
144	SLU 48		0.03	-3.42	58.27	0.1413	0.0344	-0.0032	
144	SLU 49		0.03	-3.72	58.56	0.1508	0.0347	-0.0032	
144	SLU 50		0.03	-3.37	57.69	0.1391	0.0341	-0.0032	
144	SLU 51		0.03	-3.68	57.98	0.1486	0.0344	-0.0032	
144	SLU 52		0.04	-5.03	65.55	0.1947	0.0397	-0.0037	
144	SLU 53		0.04	-4.26	66.24	0.1724	0.0398	-0.0037	
144	SLU 54		0.04	-4.56	66.53	0.1819	0.0401	-0.0038	
144	SLU 55		0.04	-4.72	66.14	0.186	0.0399	-0.0037	
144	SLU 56		0.04	-3.95	66.83	0.1638	0.04	-0.0038	
144	SLU 57		0.04	-4.25	67.12	0.1733	0.0403	-0.0038	
144	SLU 58		0.04	-3.9	66.25	0.1616	0.0397	-0.0037	
144	SLU 59		0.04	-4.2	66.54	0.1711	0.04	-0.0038	
144	SLU 60		0.04	-4.75	68.74	0.1885	0.0416	-0.0039	
144	SLU 61		0.04	-5.05	69.03	0.198	0.0419	-0.0039	
144	SLU 62		0.04	-4.44	69.33	0.1799	0.0418	-0.0039	
144	SLU 63		0.04	-4.74	69.62	0.1894	0.0421	-0.004	
144	SLU 64		0.03	-3.94	62.58	0.1625	0.037	-0.0034	
144	SLU 65		0.03	-4.45	63.07	0.1783	0.0375	-0.0035	
144	SLU 66		0.03	-3.68	63.76	0.1561	0.0376	-0.0035	
144	SLU 67		0.03	-3.98	64.04	0.1656	0.0379	-0.0035	
144	SLU 68		0.03	-4.14	63.66	0.1697	0.0377	-0.0035	
144	SLU 69		0.03	-3.36	64.35	0.1474	0.0378	-0.0036	
144	SLU 70		0.03	-3.67	64.64	0.1569	0.0381	-0.0036	
144	SLU 71		0.03	-3.32	63.76	0.1452	0.0375	-0.0035	
144	SLU 72		0.03	-3.62	64.05	0.1547	0.0378	-0.0036	
144	SLU 73		0.04	-4.98	71.63	0.2008	0.0431	-0.004	
144	SLU 74		0.04	-4.2	72.32	0.1786	0.0431	-0.0041	
144	SLU 75		0.04	-4.51	72.61	0.1881	0.0434	-0.0041	
144	SLU 76		0.04	-4.66	72.22	0.1922	0.0433	-0.0041	
144	SLU 77		0.04	-3.89	72.91	0.1699	0.0434	-0.0041	
144	SLU 78		0.04	-4.2	73.2	0.1794	0.0436	-0.0041	
144	SLU 79		0.04	-3.85	72.33	0.1677	0.043	-0.0041	
144	SLU 80		0.04	-4.15	72.62	0.1772	0.0433	-0.0041	
144	SLU 81		0.04	-4.7	74.82	0.1947	0.045	-0.0042	
144	SLU 82		0.04	-5	75.11	0.2042	0.0452	-0.0042	
144	SLU 83		0.04	-4.38	75.41	0.186	0.0452	-0.0043	
144	SLU 84		0.04	-4.69	75.7	0.1955	0.0455	-0.0043	
144	SLE RA 1		0.02	-3.04	46.81	0.1237	0.0277	-0.0026	
144	SLE RA 2		0.02	-3.38	47.13	0.1342	0.0281	-0.0026	
144	SLE RA 3		0.02	-2.87	47.59	0.1194	0.0281	-0.0026	
144	SLE RA 4		0.03	-3.07	47.78	0.1257	0.0283	-0.0026	
144	SLE RA 5		0.03	-3.17	47.52	0.1284	0.0282	-0.0026	
144	SLE RA 6		0.03	-2.66	47.98	0.1136	0.0283	-0.0026	
144	SLE RA 7		0.03	-2.86	48.17	0.1199	0.0285	-0.0027	
144	SLE RA 8		0.02	-2.63	47.59	0.1121	0.028	-0.0026	
144	SLE RA 9		0.03	-2.83	47.79	0.1184	0.0282	-0.0026	
144	SLE RA 10		0.03	-3.73	52.84	0.1492	0.0318	-0.003	
144	SLE RA 11		0.03	-3.22	53.3	0.1344	0.0318	-0.003	
144	SLE RA 12		0.03	-3.42	53.49	0.1407	0.032	-0.003	
144	SLE RA 13		0.03	-3.53	53.23	0.1434	0.0319	-0.003	
144	SLE RA 14		0.03	-3.01	53.69	0.1286	0.032	-0.003	
144	SLE RA 15		0.03	-3.21	53.88	0.1349	0.0322	-0.003	
144	SLE RA 16		0.03	-2.98	53.3	0.1271	0.0317	-0.003	
144	SLE RA 17		0.03	-3.18	53.5	0.1335	0.0319	-0.003	
144	SLE RA 18		0.03	-3.55	54.96	0.1451	0.033	-0.0031	
144	SLE RA 19		0.03	-3.75	55.16	0.1514	0.0332	-0.0031	
144	SLE RA 20		0.03	-3.34	55.36	0.1393	0.0332	-0.0031	
144	SLE RA 21		0.03	-3.54	55.55	0.1457	0.0334	-0.0031	
144	SLE FR 1		0.02	-3.04	46.81	0.1237	0.0277	-0.0026	
144	SLE FR 2		0.02	-3.11	46.87	0.1258	0.0278	-0.0026	
144	SLE FR 3		0.02	-2.96	46.96	0.1214	0.0278	-0.0026	
144	SLE FR 4		0.03	-3.26	49.32	0.1322	0.0294	-0.0027	
144	SLE FR 5		0.03	-3.11	49.41	0.1278	0.0294	-0.0027	
144	SLE FR 6		0.03	-3.29	50.88	0.1344	0.0304	-0.0028	
144	SLE QP 1		0.02	-3.04	46.81	0.1237	0.0277	-0.0026	
144	SLE QP 2		0.03	-3.19	49.25	0.1301	0.0293	-0.0027	
144	SLD 1		0.09	0.76	41.71	0.0069	0.1158	-0.0094	
144	SLD 2		0.09	0.76	41.71	0.0069	0.1158	-0.0094	
144	SLD 3		0.1	-3.36	45.58	0.1422	0.1279	-0.0105	
144	SLD 4		0.1	-3.36	45.58	0.1422	0.1279	-0.0105	
144	SLD 5		0.03	4.24	41.12	-0.1121	0.037	-0.0031	
144	SLD 6		0.03	4.24	41.12	-0.1121	0.037	-0.0031	
144	SLD 7		0.07	-9.49	54.02	0.339	0.0771	-0.0067	
144	SLD 8		0.07	-9.49	54.02	0.339	0.0771	-0.0067	
144	SLD 9		-0.01	3.1	44.49	-0.0788	-0.0185	0.0013	
144	SLD 10		-0.01	3.1	44.49	-0.0788	-0.0185	0.0013	
144	SLD 11		0.02	-10.62	57.38	0.3723	0.0216	-0.0024	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
144	SLD 12		0.02	-10.62	57.38	0.3723	0.0216	-0.0024	
144	SLD 13		-0.05	-3.03	52.93	0.118	-0.0692	0.005	
144	SLD 14		-0.05	-3.03	52.93	0.118	-0.0692	0.005	
144	SLD 15		-0.04	-7.14	56.8	0.2533	-0.0572	0.0039	
144	SLD 16		-0.04	-7.14	56.8	0.2533	-0.0572	0.0039	
144	SLV 1		0.2	6.09	31.47	-0.1596	0.2475	-0.0195	
144	SLV 2		0.2	6.09	31.47	-0.1596	0.2475	-0.0195	
144	SLV 3		0.22	-3.58	40.67	0.1582	0.2768	-0.0221	
144	SLV 4		0.22	-3.58	40.67	0.1582	0.2768	-0.0221	
144	SLV 5		0.04	14.26	29.98	-0.4388	0.0503	-0.0037	
144	SLV 6		0.04	14.26	29.98	-0.4388	0.0503	-0.0037	
144	SLV 7		0.12	-17.98	60.62	0.6206	0.148	-0.0126	
144	SLV 8		0.12	-17.98	60.62	0.6206	0.148	-0.0126	
144	SLV 9		-0.07	11.59	37.89	-0.3604	-0.0893	0.0071	
144	SLV 10		-0.07	11.59	37.89	-0.3604	-0.0893	0.0071	
144	SLV 11		0.01	-20.64	68.53	0.699	0.0083	-0.0017	
144	SLV 12		0.01	-20.64	68.53	0.699	0.0083	-0.0017	
144	SLV 13		-0.17	-2.81	57.84	0.1019	-0.2181	0.0166	
144	SLV 14		-0.17	-2.81	57.84	0.1019	-0.2181	0.0166	
144	SLV 15		-0.14	-12.47	67.03	0.4197	-0.1889	0.014	
144	SLV 16		-0.14	-12.47	67.03	0.4197	-0.1889	0.014	
145	SLU 1		0	-2.02	38.58	0.1629	-0.0019	0	
145	SLU 2		0	-0.16	37.95	0.0802	-0.0053	0	
145	SLU 3		0	-2.28	40.03	0.1774	-0.002	0	
145	SLU 4		0	-1.16	39.65	0.1278	-0.004	0	
145	SLU 5		0	-0.46	39	0.0958	-0.0053	0	
145	SLU 6		0	-2.58	41.08	0.193	-0.002	0	
145	SLU 7		0	-1.46	40.71	0.1434	-0.004	0	
145	SLU 8		0	-2.61	40.68	0.194	-0.0019	0	
145	SLU 9		0	-1.5	40.3	0.1444	-0.004	0	
145	SLU 10		0	-0.23	44.47	0.0957	-0.0057	0	
145	SLU 11		0	-2.35	46.56	0.1929	-0.0024	0	
145	SLU 12		0	-1.23	46.18	0.1433	-0.0044	0	
145	SLU 13		0	-0.52	45.52	0.1113	-0.0057	0	
145	SLU 14		0	-2.64	47.61	0.2085	-0.0024	0	
145	SLU 15		0	-1.52	47.23	0.1589	-0.0044	0	
145	SLU 16		0	-2.68	47.21	0.2095	-0.0023	0	
145	SLU 17		0	-1.56	46.83	0.1599	-0.0044	0	
145	SLU 18		0	-2.12	47.9	0.185	-0.0025	0	
145	SLU 19		0	-1	47.52	0.1354	-0.0045	0	
145	SLU 20		0	-2.42	48.95	0.2006	-0.0025	0	
145	SLU 21		0	-1.3	48.57	0.151	-0.0045	0	
145	SLU 22		0	-2.21	44.76	0.1828	-0.0022	0	
145	SLU 23		0	-0.34	44.13	0.1001	-0.0056	0	
145	SLU 24		0	-2.46	46.21	0.1973	-0.0023	0	
145	SLU 25		0	-1.35	45.84	0.1477	-0.0043	0	
145	SLU 26		0	-0.64	45.18	0.1157	-0.0056	0	
145	SLU 27		0	-2.76	47.27	0.2128	-0.0023	0	
145	SLU 28		0	-1.64	46.89	0.1633	-0.0043	0	
145	SLU 29		0	-2.8	46.86	0.2139	-0.0022	0	
145	SLU 30		0	-1.68	46.49	0.1643	-0.0043	0	
145	SLU 31		0	-0.41	50.65	0.1156	-0.006	0	
145	SLU 32		0	-2.53	52.74	0.2128	-0.0027	0	
145	SLU 33		0	-1.41	52.36	0.1632	-0.0047	0	
145	SLU 34		0	-0.71	51.7	0.1312	-0.006	0	
145	SLU 35		0	-2.83	53.79	0.2284	-0.0027	0	
145	SLU 36		0	-1.71	53.41	0.1788	-0.0047	0	
145	SLU 37		0	-2.87	53.39	0.2294	-0.0026	0	
145	SLU 38		0	-1.75	53.01	0.1798	-0.0047	0	
145	SLU 39		0	-2.3	54.08	0.2049	-0.0028	0	
145	SLU 40		0	-1.19	53.7	0.1553	-0.0048	0	
145	SLU 41		0	-2.6	55.13	0.2205	-0.0028	0	
145	SLU 42		0	-1.48	54.75	0.1709	-0.0048	0	
145	SLU 43		0	-2.57	48.03	0.2049	-0.0024	0	
145	SLU 44		0	-0.7	47.4	0.1223	-0.0058	0	
145	SLU 45		0	-2.83	49.49	0.2195	-0.0025	0	
145	SLU 46		0	-1.71	49.11	0.1699	-0.0045	0	
145	SLU 47		0	-1	48.45	0.1378	-0.0058	0	
145	SLU 48		0	-3.12	50.54	0.235	-0.0025	0	
145	SLU 49		0	-2	50.16	0.1854	-0.0045	0	
145	SLU 50		0	-3.16	50.14	0.236	-0.0024	0	
145	SLU 51		0	-2.04	49.76	0.1864	-0.0044	0	
145	SLU 52		0	-0.77	53.92	0.1378	-0.0062	0	
145	SLU 53		0	-2.89	56.01	0.235	-0.0028	0	
145	SLU 54		0	-1.77	55.63	0.1854	-0.0049	0	
145	SLU 55		0	-1.07	54.98	0.1533	-0.0062	0	
145	SLU 56		0	-3.19	57.06	0.2505	-0.0029	0	
145	SLU 57		0	-2.07	56.68	0.2009	-0.0049	0	
145	SLU 58		0	-3.23	56.66	0.2515	-0.0028	0	
145	SLU 59		0	-2.11	56.28	0.2019	-0.0048	0	
145	SLU 60		0	-2.66	57.35	0.2271	-0.0029	0	
145	SLU 61		0	-1.55	56.97	0.1775	-0.005	0	
145	SLU 62		0	-2.96	58.4	0.2426	-0.003	0	
145	SLU 63		0	-1.84	58.03	0.193	-0.005	0	
145	SLU 64		0	-2.75	54.21	0.2248	-0.0027	0	
145	SLU 65		0	-0.89	53.58	0.1422	-0.0061	0	
145	SLU 66		0	-3.01	55.67	0.2393	-0.0028	0	
145	SLU 67		0	-1.89	55.29	0.1897	-0.0048	0	





Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
145	SLU 68		0		-1.18	54.64	0.1577	-0.0061	0
145	SLU 69		0		-3.3	56.72	0.2549	-0.0028	0
145	SLU 70		0		-2.19	56.34	0.2053	-0.0048	0
145	SLU 71		0		-3.34	56.32	0.2559	-0.0027	0
145	SLU 72		0		-2.22	55.94	0.2063	-0.0047	0
145	SLU 73		0		-0.96	60.11	0.1577	-0.0065	0
145	SLU 74		0		-3.08	62.19	0.2548	-0.0031	0
145	SLU 75		0		-1.96	61.81	0.2052	-0.0052	0
145	SLU 76		0		-1.25	61.16	0.1732	-0.0065	0
145	SLU 77		0		-3.37	63.24	0.2704	-0.0032	0
145	SLU 78		0		-2.25	62.87	0.2208	-0.0052	0
145	SLU 79		0		-3.41	62.84	0.2714	-0.0031	0
145	SLU 80		0		-2.29	62.46	0.2218	-0.0051	0
145	SLU 81		0		-2.85	63.53	0.247	-0.0032	0
145	SLU 82		0		-1.73	63.15	0.1974	-0.0053	0
145	SLU 83		0		-3.14	64.59	0.2625	-0.0032	0
145	SLU 84		0		-2.02	64.21	0.2129	-0.0053	0
145	SLE RA 1		0		-2.08	40.34	0.1686	-0.002	0
145	SLE RA 2		0		-0.83	39.92	0.1135	-0.0043	0
145	SLE RA 3		0		-2.25	41.31	0.1782	-0.002	0
145	SLE RA 4		0		-1.5	41.06	0.1452	-0.0034	0
145	SLE RA 5		0		-1.03	40.63	0.1238	-0.0043	0
145	SLE RA 6		0		-2.44	42.02	0.1886	-0.0021	0
145	SLE RA 7		0		-1.7	41.76	0.1556	-0.0034	0
145	SLE RA 8		0		-2.47	41.75	0.1893	-0.002	0
145	SLE RA 9		0		-1.72	41.5	0.1562	-0.0034	0
145	SLE RA 10		0		-0.88	44.27	0.1238	-0.0045	0
145	SLE RA 11		0		-2.29	45.66	0.1886	-0.0023	0
145	SLE RA 12		0		-1.55	45.41	0.1555	-0.0037	0
145	SLE RA 13		0		-1.08	44.97	0.1342	-0.0045	0
145	SLE RA 14		0		-2.49	46.36	0.199	-0.0023	0
145	SLE RA 15		0		-1.74	46.11	0.1659	-0.0037	0
145	SLE RA 16		0		-2.52	46.1	0.1996	-0.0023	0
145	SLE RA 17		0		-1.77	45.84	0.1666	-0.0036	0
145	SLE RA 18		0		-2.14	46.56	0.1833	-0.0024	0
145	SLE RA 19		0		-1.4	46.3	0.1503	-0.0037	0
145	SLE RA 20		0		-2.34	47.26	0.1937	-0.0024	0
145	SLE RA 21		0		-1.59	47.01	0.1606	-0.0037	0
145	SLE FR 1		0		-2.08	40.34	0.1686	-0.002	0
145	SLE FR 2		0		-1.83	40.26	0.1575	-0.0025	0
145	SLE FR 3		0		-2.16	40.63	0.1727	-0.002	0
145	SLE FR 4		0		-1.85	42.12	0.162	-0.0026	0
145	SLE FR 5		0		-2.17	42.49	0.1771	-0.0021	0
145	SLE FR 6		0		-2.11	43.45	0.1759	-0.0022	0
145	SLE QP 1		0		-2.08	40.34	0.1686	-0.002	0
145	SLE QP 2		0		-2.1	42.21	0.173	-0.0021	0
145	SLD 1		0.05		-1.93	43.03	0.1666	0.0495	0.0001
145	SLD 2		0.05		-1.93	43.03	0.1666	0.0495	0.0001
145	SLD 3		0.07		-4.57	43.74	0.2873	0.0687	0.0001
145	SLD 4		0.07		-4.57	43.74	0.2873	0.0687	0.0001
145	SLD 5		-0.02		1.95	41.38	-0.012	-0.0158	0
145	SLD 6		-0.02		1.95	41.38	-0.012	-0.0158	0
145	SLD 7		0.06		-6.84	43.74	0.3903	0.0483	0.0001
145	SLD 8		0.06		-6.84	43.74	0.3903	0.0483	0.0001
145	SLD 9		-0.06		2.65	40.68	-0.0444	-0.0525	-0.0001
145	SLD 10		-0.06		2.65	40.68	-0.0444	-0.0525	-0.0001
145	SLD 11		0.02		-6.15	43.03	0.358	0.0116	0
145	SLD 12		0.02		-6.15	43.03	0.358	0.0116	0
145	SLD 13		-0.07		0.38	40.68	0.0587	-0.073	-0.0001
145	SLD 14		-0.07		0.38	40.68	0.0587	-0.073	-0.0001
145	SLD 15		-0.05		-2.26	41.39	0.1794	-0.0537	-0.0001
145	SLD 16		-0.05		-2.26	41.39	0.1794	-0.0537	-0.0001
145	SLV 1		0.12		-1.83	44.19	0.164	0.1233	0.0001
145	SLV 2		0.12		-1.83	44.19	0.164	0.1233	0.0001
145	SLV 3		0.17		-8.07	45.92	0.4492	0.1724	0.0002
145	SLV 4		0.17		-8.07	45.92	0.4492	0.1724	0.0002
145	SLV 5		-0.05		7.45	40.17	-0.2623	-0.039	0
145	SLV 6		-0.05		7.45	40.17	-0.2623	-0.039	0
145	SLV 7		0.14		-13.36	45.96	0.6884	0.1248	0.0001
145	SLV 8		0.14		-13.36	45.96	0.6884	0.1248	0.0001
145	SLV 9		-0.14		9.16	38.46	-0.3424	-0.129	-0.0001
145	SLV 10		-0.14		9.16	38.46	-0.3424	-0.129	-0.0001
145	SLV 11		0.05		-11.64	44.25	0.6082	0.0348	0
145	SLV 12		0.05		-11.64	44.25	0.6082	0.0348	0
145	SLV 13		-0.17		3.88	38.49	-0.1032	-0.1766	-0.0002
145	SLV 14		-0.17		3.88	38.49	-0.1032	-0.1766	-0.0002
145	SLV 15		-0.12		-2.36	40.23	0.182	-0.1275	-0.0002
145	SLV 16		-0.12		-2.36	40.23	0.182	-0.1275	-0.0002
146	SLU 1		0		2.04	54.23	-0.067	-0.0013	0
146	SLU 2		0.01		2.36	56.43	-0.0798	0.0305	0
146	SLU 3		0		2.16	55.96	-0.0712	-0.0015	0
146	SLU 4		0		2.35	57.28	-0.0788	0.0175	0
146	SLU 5		0.01		2.45	57.54	-0.083	0.0303	0
146	SLU 6		-0.01		2.25	57.07	-0.0744	-0.0018	0
146	SLU 7		0		2.44	58.39	-0.082	0.0173	0
146	SLU 8		-0.01		2.22	56.46	-0.0735	-0.0017	0
146	SLU 9		0		2.41	57.77	-0.0811	0.0173	0
146	SLU 10		0.01		2.86	63.19	-0.0977	0.0295	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
146	SLU 11	-0.01	2.66	62.72		-0.0891	-0.0025		0
146	SLU 12	0	2.85	64.04		-0.0967	0.0165		0
146	SLU 13	0.01	2.95	64.3		-0.1009	0.0293		0
146	SLU 14	-0.01	2.75	63.84		-0.0923	-0.0027		0
146	SLU 15	0	2.94	65.15		-0.0999	0.0163		0
146	SLU 16	-0.01	2.72	63.22		-0.0914	-0.0027		0
146	SLU 17	0	2.91	64.54		-0.099	0.0164		0
146	SLU 18	-0.01	2.76	63.89		-0.0926	-0.0026		0
146	SLU 19	0	2.95	65.21		-0.1002	0.0164		0
146	SLU 20	-0.01	2.85	65		-0.0958	-0.0029		0
146	SLU 21	0	3.04	66.32		-0.1035	0.0162		0
146	SLU 22	-0.01	2.48	60.99		-0.0825	-0.0021		0
146	SLU 23	0.01	2.8	63.19		-0.0952	0.0296		0
146	SLU 24	-0.01	2.6	62.73		-0.0866	-0.0024		0
146	SLU 25	0	2.79	64.04		-0.0943	0.0166		0
146	SLU 26	0.01	2.89	64.3		-0.0984	0.0294		0
146	SLU 27	-0.01	2.69	63.84		-0.0898	-0.0026		0
146	SLU 28	0	2.88	65.15		-0.0975	0.0164		0
146	SLU 29	-0.01	2.66	63.22		-0.0889	-0.0026		0
146	SLU 30	0	2.85	64.54		-0.0966	0.0165		0
146	SLU 31	0	3.31	69.95		-0.1131	0.0287		0
146	SLU 32	-0.01	3.1	69.49		-0.1045	-0.0034		0
146	SLU 33	0	3.29	70.8		-0.1122	0.0157		0
146	SLU 34	0	3.4	71.06		-0.1163	0.0284		0
146	SLU 35	-0.01	3.19	70.6		-0.1077	-0.0036		0
146	SLU 36	0	3.38	71.92		-0.1154	0.0155		0
146	SLU 37	-0.01	3.16	69.98		-0.1068	-0.0035		0
146	SLU 38	0	3.36	71.3		-0.1144	0.0155		0
146	SLU 39	-0.01	3.2	70.65		-0.108	-0.0035		0
146	SLU 40	0	3.39	71.97		-0.1157	0.0155		0
146	SLU 41	-0.01	3.29	71.77		-0.1113	-0.0037		0
146	SLU 42	0	3.48	73.08		-0.1189	0.0153		0
146	SLU 43	-0.01	2.5	68.18		-0.0819	-0.0013		0
146	SLU 44	0.01	2.82	70.38		-0.0946	0.0304		0
146	SLU 45	-0.01	2.62	69.91		-0.086	-0.0016		0
146	SLU 46	0	2.81	71.23		-0.0937	0.0174		0
146	SLU 47	0.01	2.91	71.49		-0.0978	0.0302		0
146	SLU 48	-0.01	2.71	71.02		-0.0892	-0.0018		0
146	SLU 49	0	2.9	72.34		-0.0969	0.0172		0
146	SLU 50	-0.01	2.68	70.41		-0.0883	-0.0018		0
146	SLU 51	0	2.87	71.72		-0.0959	0.0173		0
146	SLU 52	0	3.33	77.14		-0.1125	0.0294		0
146	SLU 53	-0.01	3.12	76.67		-0.1039	-0.0026		0
146	SLU 54	0	3.31	77.99		-0.1115	0.0165		0
146	SLU 55	0	3.41	78.25		-0.1157	0.0292		0
146	SLU 56	-0.01	3.21	77.79		-0.1071	-0.0028		0
146	SLU 57	0	3.4	79.1		-0.1148	0.0162		0
146	SLU 58	-0.01	3.18	77.17		-0.1062	-0.0028		0
146	SLU 59	0	3.37	78.49		-0.1138	0.0163		0
146	SLU 60	-0.01	3.22	77.84		-0.1074	-0.0027		0
146	SLU 61	0	3.41	79.16		-0.1151	0.0163		0
146	SLU 62	-0.01	3.31	78.95		-0.1106	-0.0029		0
146	SLU 63	0	3.5	80.27		-0.1183	0.0161		0
146	SLU 64	-0.01	2.94	74.94		-0.0973	-0.0022		0
146	SLU 65	0	3.27	77.14		-0.11	0.0295		0
146	SLU 66	-0.01	3.06	76.68		-0.1015	-0.0025		0
146	SLU 67	0	3.25	77.99		-0.1091	0.0166		0
146	SLU 68	0	3.35	78.25		-0.1133	0.0293		0
146	SLU 69	-0.01	3.15	77.79		-0.1047	-0.0027		0
146	SLU 70	0	3.34	79.11		-0.1123	0.0163		0
146	SLU 71	-0.01	3.12	77.17		-0.1037	-0.0026		0
146	SLU 72	0	3.31	78.49		-0.1114	0.0164		0
146	SLU 73	0	3.77	83.9		-0.1279	0.0286		0
146	SLU 74	-0.01	3.56	83.44		-0.1193	-0.0035		0
146	SLU 75	0	3.76	84.75		-0.127	0.0156		0
146	SLU 76	0	3.86	85.01		-0.1311	0.0283		0
146	SLU 77	-0.01	3.65	84.55		-0.1226	-0.0037		0
146	SLU 78	0	3.84	85.87		-0.1302	0.0154		0
146	SLU 79	-0.01	3.62	83.93		-0.1216	-0.0036		0
146	SLU 80	0	3.82	85.25		-0.1293	0.0154		0
146	SLU 81	-0.01	3.66	84.6		-0.1229	-0.0036		0
146	SLU 82	0	3.85	85.92		-0.1305	0.0155		0
146	SLU 83	-0.01	3.75	85.72		-0.1261	-0.0038		0
146	SLU 84	0	3.94	87.03		-0.1337	0.0152		0
146	SLE RA 1	0	2.17	56.16		-0.0715	-0.0015		0
146	SLE RA 2	0	2.38	57.63		-0.08	0.0197		0
146	SLE RA 3	-0.01	2.24	57.32		-0.0742	-0.0017		0
146	SLE RA 4	0	2.37	58.2		-0.0793	0.011		0
146	SLE RA 5	0	2.44	58.37		-0.0821	0.0195		0
146	SLE RA 6	-0.01	2.3	58.06		-0.0764	-0.0018		0
146	SLE RA 7	0	2.43	58.94		-0.0815	0.0109		0
146	SLE RA 8	-0.01	2.28	57.65		-0.0757	-0.0018		0
146	SLE RA 9	0	2.41	58.52		-0.0808	0.0109		0
146	SLE RA 10	0	2.72	62.13		-0.0919	0.019		0
146	SLE RA 11	-0.01	2.58	61.83		-0.0861	-0.0023		0
146	SLE RA 12	0	2.71	62.7		-0.0912	0.0104		0
146	SLE RA 13	0	2.78	62.88		-0.094	0.0189		0
146	SLE RA 14	-0.01	2.64	62.57		-0.0883	-0.0025		0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
146	SLE RA 15	0	2.77	63.45	-0.0934	0.0102	0
146	SLE RA 16	-0.01	2.62	62.15	-0.0877	-0.0024	0
146	SLE RA 17	0	2.75	63.03	-0.0928	0.0103	0
146	SLE RA 18	-0.01	2.64	62.6	-0.0885	-0.0024	0
146	SLE RA 19	0	2.77	63.48	-0.0936	0.0103	0
146	SLE RA 20	-0.01	2.7	63.34	-0.0906	-0.0026	0
146	SLE RA 21	0	2.83	64.22	-0.0957	0.0101	0
146	SLE FR 1	0	2.17	56.16	-0.0715	-0.0015	0
146	SLE FR 2	0	2.21	56.46	-0.0732	0.0027	0
146	SLE FR 3	0	2.19	56.46	-0.0723	-0.0016	0
146	SLE FR 4	0	2.35	58.39	-0.0783	0.0025	0
146	SLE FR 5	-0.01	2.33	58.39	-0.0774	-0.0018	0
146	SLE FR 6	-0.01	2.4	59.38	-0.08	-0.002	0
146	SLE QP 1	0	2.17	56.16	-0.0715	-0.0015	0
146	SLE QP 2	-0.01	2.31	58.1	-0.0766	-0.0018	0
146	SLD 1	-0.11	2.47	43.51	-0.0897	0.0417	0.0001
146	SLD 2	-0.11	2.47	43.51	-0.0897	0.0417	0.0001
146	SLD 3	-0.01	-0.62	41.09	0.0413	0.1201	0.0001
146	SLD 4	-0.01	-0.62	41.09	0.0413	0.1201	0.0001
146	SLD 5	-0.19	7.06	57.4	-0.2793	-0.1077	0.0001
146	SLD 6	-0.19	7.06	57.4	-0.2793	-0.1077	0.0001
146	SLD 7	0.14	-3.27	49.32	0.1575	0.1537	-0.0001
146	SLD 8	0.14	-3.27	49.32	0.1575	0.1537	-0.0001
146	SLD 9	-0.15	7.89	66.87	-0.3107	-0.1573	0
146	SLD 10	-0.15	7.89	66.87	-0.3107	-0.1573	0
146	SLD 11	0.18	-2.44	58.8	0.1261	0.1041	-0.0001
146	SLD 12	0.18	-2.44	58.8	0.1261	0.1041	-0.0001
146	SLD 13	0	5.24	75.1	-0.1945	-0.1237	-0.0001
146	SLD 14	0	5.24	75.1	-0.1945	-0.1237	-0.0001
146	SLD 15	0.1	2.14	72.68	-0.0634	-0.0452	-0.0001
146	SLD 16	0.1	2.14	72.68	-0.0634	-0.0452	-0.0001
146	SLV 1	-0.26	2.66	23.98	-0.106	0.0966	0.0003
146	SLV 2	-0.26	2.66	23.98	-0.106	0.0966	0.0003
146	SLV 3	-0.01	-4.54	18.24	0.1989	0.2965	0.0002
146	SLV 4	-0.01	-4.54	18.24	0.1989	0.2965	0.0002
146	SLV 5	-0.46	13.35	56.56	-0.5477	-0.2755	0.0003
146	SLV 6	-0.46	13.35	56.56	-0.5477	-0.2755	0.0003
146	SLV 7	0.37	-10.68	37.44	0.4684	0.3909	-0.0001
146	SLV 8	0.37	-10.68	37.44	0.4684	0.3909	-0.0001
146	SLV 9	-0.38	15.3	78.75	-0.6216	-0.3945	0.0001
146	SLV 10	-0.38	15.3	78.75	-0.6216	-0.3945	0.0001
146	SLV 11	0.45	-8.73	59.63	0.3946	0.2719	-0.0003
146	SLV 12	0.45	-8.73	59.63	0.3946	0.2719	-0.0003
146	SLV 13	0	9.16	97.95	-0.352	-0.3	-0.0002
146	SLV 14	0	9.16	97.95	-0.352	-0.3	-0.0002
146	SLV 15	0.25	1.95	92.21	-0.0472	-0.1001	-0.0003
146	SLV 16	0.25	1.95	92.21	-0.0472	-0.1001	-0.0003
147	SLU 1	0.01	-4.3	43.67	0.2086	0.0224	0.0003
147	SLU 2	0.01	-4.68	43.93	0.2269	0.0222	0.0003
147	SLU 3	0.01	-4.08	44.74	0.198	0.0233	0.0003
147	SLU 4	0.01	-4.31	44.9	0.2089	0.0231	0.0003
147	SLU 5	0.01	-4.37	44.41	0.2115	0.0228	0.0003
147	SLU 6	0.01	-3.77	45.22	0.1825	0.0238	0.0003
147	SLU 7	0.01	-4	45.38	0.1935	0.0237	0.0003
147	SLU 8	0.01	-3.68	44.62	0.1778	0.0236	0.0003
147	SLU 9	0.01	-3.91	44.78	0.1887	0.0234	0.0003
147	SLU 10	0.01	-5.44	52.59	0.2654	0.0248	0.0004
147	SLU 11	0.01	-4.84	53.4	0.2364	0.0259	0.0004
147	SLU 12	0.01	-5.07	53.55	0.2474	0.0258	0.0004
147	SLU 13	0.01	-5.13	53.06	0.25	0.0254	0.0004
147	SLU 14	0.01	-4.53	53.87	0.221	0.0265	0.0004
147	SLU 15	0.01	-4.76	54.03	0.232	0.0263	0.0004
147	SLU 16	0.01	-4.44	53.28	0.2162	0.0262	0.0004
147	SLU 17	0.01	-4.67	53.43	0.2272	0.0261	0.0004
147	SLU 18	0.01	-5.38	56.03	0.2636	0.0262	0.0004
147	SLU 19	0.01	-5.61	56.19	0.2746	0.026	0.0004
147	SLU 20	0.01	-5.07	56.51	0.2482	0.0267	0.0004
147	SLU 21	0.01	-5.3	56.66	0.2591	0.0266	0.0004
147	SLU 22	0.01	-4.51	50.04	0.2209	0.0258	0.0004
147	SLU 23	0.01	-4.89	50.3	0.2392	0.0256	0.0004
147	SLU 24	0.01	-4.29	51.11	0.2103	0.0266	0.0004
147	SLU 25	0.01	-4.52	51.27	0.2212	0.0265	0.0004
147	SLU 26	0.01	-4.58	50.77	0.2238	0.0261	0.0004
147	SLU 27	0.01	-3.98	51.58	0.1948	0.0272	0.0004
147	SLU 28	0.01	-4.21	51.74	0.2058	0.0271	0.0004
147	SLU 29	0.01	-3.89	50.99	0.1901	0.0269	0.0004
147	SLU 30	0.01	-4.12	51.14	0.201	0.0268	0.0004
147	SLU 31	0.01	-5.65	58.95	0.2777	0.0282	0.0004
147	SLU 32	0.01	-5.05	59.76	0.2487	0.0292	0.0004
147	SLU 33	0.01	-5.28	59.92	0.2597	0.0291	0.0004
147	SLU 34	0.01	-5.34	59.43	0.2623	0.0288	0.0004
147	SLU 35	0.01	-4.74	60.24	0.2333	0.0298	0.0004
147	SLU 36	0.01	-4.97	60.39	0.2443	0.0297	0.0004
147	SLU 37	0.01	-4.65	59.64	0.2285	0.0295	0.0004
147	SLU 38	0.01	-4.88	59.8	0.2395	0.0294	0.0004
147	SLU 39	0.01	-5.59	62.4	0.2759	0.0295	0.0004
147	SLU 40	0.01	-5.82	62.55	0.2869	0.0294	0.0005
147	SLU 41	0.01	-5.28	62.87	0.2605	0.0301	0.0004



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		Ind.	N.br.	x	y	z	x	y
147	SLU 42		0.01	-5.51	63.03	0.2714	0.03	0.0005
147	SLU 43		0.01	-5.52	54.6	0.267	0.028	0.0004
147	SLU 44		0.01	-5.9	54.85	0.2853	0.0278	0.0004
147	SLU 45		0.01	-5.3	55.67	0.2563	0.0289	0.0004
147	SLU 46		0.01	-5.53	55.82	0.2673	0.0287	0.0004
147	SLU 47		0.01	-5.59	55.33	0.2699	0.0284	0.0004
147	SLU 48		0.01	-4.99	56.14	0.2409	0.0294	0.0004
147	SLU 49		0.01	-5.22	56.3	0.2519	0.0293	0.0004
147	SLU 50		0.01	-4.9	55.54	0.2361	0.0292	0.0004
147	SLU 51		0.01	-5.13	55.7	0.2471	0.029	0.0004
147	SLU 52		0.01	-6.66	63.51	0.3238	0.0304	0.0005
147	SLU 53		0.01	-6.06	64.32	0.2948	0.0315	0.0005
147	SLU 54		0.01	-6.29	64.47	0.3058	0.0313	0.0005
147	SLU 55		0.01	-6.35	63.98	0.3083	0.031	0.0005
147	SLU 56		0.01	-5.75	64.79	0.2794	0.0321	0.0005
147	SLU 57		0.01	-5.98	64.95	0.2903	0.0319	0.0005
147	SLU 58		0.01	-5.66	64.2	0.2746	0.0318	0.0004
147	SLU 59		0.01	-5.89	64.35	0.2856	0.0317	0.0005
147	SLU 60		0.01	-6.6	66.95	0.322	0.0318	0.0005
147	SLU 61		0.01	-6.83	67.11	0.3329	0.0316	0.0005
147	SLU 62		0.01	-6.29	67.43	0.3065	0.0323	0.0005
147	SLU 63		0.01	-6.52	67.59	0.3175	0.0322	0.0005
147	SLU 64		0.01	-5.73	60.96	0.2793	0.0314	0.0004
147	SLU 65		0.01	-6.11	61.22	0.2976	0.0311	0.0004
147	SLU 66		0.01	-5.51	62.03	0.2686	0.0322	0.0004
147	SLU 67		0.01	-5.74	62.19	0.2796	0.0321	0.0004
147	SLU 68		0.01	-5.8	61.69	0.2822	0.0317	0.0004
147	SLU 69		0.01	-5.2	62.5	0.2532	0.0328	0.0004
147	SLU 70		0.01	-5.43	62.66	0.2642	0.0326	0.0004
147	SLU 71		0.01	-5.11	61.91	0.2484	0.0325	0.0004
147	SLU 72		0.01	-5.34	62.06	0.2594	0.0324	0.0004
147	SLU 73		0.01	-6.87	69.87	0.3361	0.0338	0.0005
147	SLU 74		0.01	-6.27	70.68	0.3071	0.0348	0.0005
147	SLU 75		0.01	-6.5	70.84	0.3181	0.0347	0.0005
147	SLU 76		0.01	-6.56	70.35	0.3206	0.0343	0.0005
147	SLU 77		0.01	-5.96	71.16	0.2917	0.0354	0.0005
147	SLU 78		0.01	-6.19	71.31	0.3026	0.0353	0.0005
147	SLU 79		0.01	-5.87	70.56	0.2869	0.0351	0.0005
147	SLU 80		0.01	-6.1	70.72	0.2979	0.035	0.0005
147	SLU 81		0.01	-6.81	73.32	0.3343	0.0351	0.0005
147	SLU 82		0.01	-7.04	73.47	0.3452	0.035	0.0005
147	SLU 83		0.01	-6.5	73.79	0.3188	0.0357	0.0005
147	SLU 84		0.01	-6.73	73.95	0.3298	0.0355	0.0005
147	SLE RA 1		0.01	-4.36	45.49	0.2121	0.0234	0.0003
147	SLE RA 2		0.01	-4.61	45.67	0.2243	0.0232	0.0003
147	SLE RA 3		0.01	-4.22	46.21	0.205	0.0239	0.0003
147	SLE RA 4		0.01	-4.37	46.31	0.2123	0.0239	0.0003
147	SLE RA 5		0.01	-4.41	45.98	0.2141	0.0236	0.0003
147	SLE RA 6		0.01	-4.01	46.52	0.1947	0.0243	0.0003
147	SLE RA 7		0.01	-4.16	46.63	0.2021	0.0242	0.0003
147	SLE RA 8		0.01	-3.95	46.13	0.1916	0.0241	0.0003
147	SLE RA 9		0.01	-4.1	46.23	0.1989	0.0241	0.0003
147	SLE RA 10		0.01	-5.12	51.43	0.25	0.025	0.0004
147	SLE RA 11		0.01	-4.72	51.97	0.2307	0.0257	0.0004
147	SLE RA 12		0.01	-4.87	52.08	0.238	0.0256	0.0004
147	SLE RA 13		0.01	-4.91	51.75	0.2397	0.0254	0.0004
147	SLE RA 14		0.01	-4.51	52.29	0.2204	0.0261	0.0004
147	SLE RA 15		0.01	-4.67	52.39	0.2277	0.026	0.0004
147	SLE RA 16		0.01	-4.45	51.89	0.2172	0.0259	0.0004
147	SLE RA 17		0.01	-4.61	52	0.2245	0.0258	0.0004
147	SLE RA 18		0.01	-5.08	53.73	0.2488	0.0259	0.0004
147	SLE RA 19		0.01	-5.23	53.84	0.2561	0.0258	0.0004
147	SLE RA 20		0.01	-4.88	54.05	0.2385	0.0263	0.0004
147	SLE RA 21		0.01	-5.03	54.15	0.2458	0.0262	0.0004
147	SLE FR 1		0.01	-4.36	45.49	0.2121	0.0234	0.0003
147	SLE FR 2		0.01	-4.41	45.53	0.2146	0.0234	0.0003
147	SLE FR 3		0.01	-4.28	45.62	0.208	0.0235	0.0003
147	SLE FR 4		0.01	-4.63	48	0.2256	0.0241	0.0003
147	SLE FR 5		0.01	-4.49	48.09	0.219	0.0243	0.0003
147	SLE FR 6		0.01	-4.72	49.61	0.2305	0.0246	0.0004
147	SLE QP 1		0.01	-4.36	45.49	0.2121	0.0234	0.0003
147	SLE QP 2		0.01	-4.58	47.97	0.2231	0.0241	0.0003
147	SLD 1		0.1	-3.77	50.62	0.1839	0.1104	0.0004
147	SLD 2		0.1	-3.77	50.62	0.1839	0.1104	0.0004
147	SLD 3		0.09	-6.67	53.66	0.3251	0.1201	0.0004
147	SLD 4		0.09	-6.67	53.66	0.3251	0.1201	0.0004
147	SLD 5		0.06	0.05	44.14	-0.0028	0.0352	0.0003
147	SLD 6		0.06	0.05	44.14	-0.0028	0.0352	0.0003
147	SLD 7		0.01	-9.59	54.29	0.4679	0.0677	0.0004
147	SLD 8		0.01	-9.59	54.29	0.4679	0.0677	0.0004
147	SLD 9		0.01	0.44	41.64	-0.0216	-0.0195	0.0003
147	SLD 10		0.01	0.44	41.64	-0.0216	-0.0195	0.0003
147	SLD 11		-0.04	-9.21	51.79	0.449	0.0131	0.0004
147	SLD 12		-0.04	-9.21	51.79	0.449	0.0131	0.0004
147	SLD 13		-0.07	-2.49	42.27	0.1211	-0.0719	0.0003
147	SLD 14		-0.07	-2.49	42.27	0.1211	-0.0719	0.0003
147	SLD 15		-0.08	-5.38	45.31	0.2623	-0.0621	0.0003
147	SLD 16		-0.08	-5.38	45.31	0.2623	-0.0621	0.0003



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
147	SLV 1		0.24	-2.7	54.15	0.1315	0.2411	0.0004	
147	SLV 2		0.24	-2.7	54.15	0.1315	0.2411	0.0004	
147	SLV 3		0.2	-9.47	61.34	0.462	0.2657	0.0005	
147	SLV 4		0.2	-9.47	61.34	0.462	0.2657	0.0005	
147	SLV 5		0.13	6.25	38.92	-0.3056	0.0519	0.0002	
147	SLV 6		0.13	6.25	38.92	-0.3056	0.0519	0.0002	
147	SLV 7		0.02	-16.31	62.88	0.796	0.1339	0.0005	
147	SLV 8		0.02	-16.31	62.88	0.796	0.1339	0.0005	
147	SLV 9		0	7.16	33.05	-0.3498	-0.0856	0.0001	
147	SLV 10		0	7.16	33.05	-0.3498	-0.0856	0.0001	
147	SLV 11		-0.11	-15.41	57.01	0.7518	-0.0037	0.0005	
147	SLV 12		-0.11	-15.41	57.01	0.7518	-0.0037	0.0005	
147	SLV 13		-0.19	0.32	34.59	-0.0157	-0.2174	0.0001	
147	SLV 14		-0.19	0.32	34.59	-0.0157	-0.2174	0.0001	
147	SLV 15		-0.22	-6.45	41.78	0.3148	-0.1929	0.0002	
147	SLV 16		-0.22	-6.45	41.78	0.3148	-0.1929	0.0002	
148	SLU 1		0	2.57	18.9	-0.0841	0.0052	0	
148	SLU 2		0	2.56	18.94	-0.0837	0.0054	0	
148	SLU 3		0	2.65	19.38	-0.0859	0.0051	0	
148	SLU 4		0	2.65	19.4	-0.0857	0.0052	0	
148	SLU 5		0	2.59	19.19	-0.0835	0.0052	0	
148	SLU 6		0	2.68	19.63	-0.0856	0.005	0	
148	SLU 7		0	2.68	19.66	-0.0854	0.0051	0	
148	SLU 8		0	2.62	19.4	-0.0835	0.0049	0	
148	SLU 9		0	2.62	19.43	-0.0833	0.005	0	
148	SLU 10		0.01	2.96	23.44	-0.0963	0.0065	0	
148	SLU 11		0.01	3.05	23.87	-0.0985	0.0062	0	
148	SLU 12		0.01	3.04	23.9	-0.0983	0.0063	0	
148	SLU 13		0.01	2.99	23.69	-0.0961	0.0063	0	
148	SLU 14		0	3.07	24.13	-0.0982	0.0061	0	
148	SLU 15		0.01	3.07	24.16	-0.098	0.0062	0	
148	SLU 16		0	3.02	23.9	-0.0961	0.006	0	
148	SLU 17		0	3.02	23.93	-0.096	0.0061	0	
148	SLU 18		0.01	3.13	25.32	-0.1021	0.0068	0	
148	SLU 19		0.01	3.13	25.35	-0.1019	0.0069	0	
148	SLU 20		0.01	3.16	25.57	-0.1018	0.0066	0	
148	SLU 21		0.01	3.16	25.6	-0.1016	0.0067	0	
148	SLU 22		0	3.02	21.4	-0.0976	0.0057	0	
148	SLU 23		0.01	3.01	21.44	-0.0973	0.0059	0	
148	SLU 24		0	3.1	21.88	-0.0994	0.0057	0	
148	SLU 25		0	3.1	21.91	-0.0992	0.0058	0	
148	SLU 26		0	3.04	21.7	-0.097	0.0058	0	
148	SLU 27		0	3.13	22.13	-0.0991	0.0055	0	
148	SLU 28		0	3.12	22.16	-0.0989	0.0056	0	
148	SLU 29		0	3.07	21.91	-0.0971	0.0055	0	
148	SLU 30		0	3.07	21.93	-0.0969	0.0056	0	
148	SLU 31		0.01	3.41	25.94	-0.1099	0.007	0	
148	SLU 32		0.01	3.49	26.38	-0.112	0.0068	0	
148	SLU 33		0.01	3.49	26.41	-0.1118	0.0069	0	
148	SLU 34		0.01	3.44	26.2	-0.1096	0.0069	0	
148	SLU 35		0.01	3.52	26.63	-0.1117	0.0066	0	
148	SLU 36		0.01	3.52	26.66	-0.1115	0.0068	0	
148	SLU 37		0.01	3.47	26.4	-0.1097	0.0066	0	
148	SLU 38		0.01	3.46	26.43	-0.1095	0.0067	0	
148	SLU 39		0.01	3.58	27.82	-0.1156	0.0073	0	
148	SLU 40		0.01	3.58	27.85	-0.1154	0.0074	0	
148	SLU 41		0.01	3.61	28.08	-0.1153	0.0072	0	
148	SLU 42		0.01	3.61	28.1	-0.1151	0.0073	0	
148	SLU 43		0.01	3.19	23.71	-0.1046	0.0065	0	
148	SLU 44		0.01	3.18	23.75	-0.1043	0.0067	0	
148	SLU 45		0.01	3.27	24.19	-0.1064	0.0065	0	
148	SLU 46		0.01	3.27	24.21	-0.1062	0.0066	0	
148	SLU 47		0.01	3.21	24	-0.1041	0.0066	0	
148	SLU 48		0.01	3.3	24.44	-0.1062	0.0063	0	
148	SLU 49		0.01	3.29	24.47	-0.106	0.0065	0	
148	SLU 50		0.01	3.24	24.21	-0.1041	0.0063	0	
148	SLU 51		0.01	3.24	24.24	-0.1039	0.0064	0	
148	SLU 52		0.01	3.58	28.25	-0.1169	0.0078	0	
148	SLU 53		0.01	3.66	28.68	-0.119	0.0076	0	
148	SLU 54		0.01	3.66	28.71	-0.1189	0.0077	0	
148	SLU 55		0.01	3.61	28.5	-0.1167	0.0077	0	
148	SLU 56		0.01	3.69	28.94	-0.1188	0.0075	0	
148	SLU 57		0.01	3.69	28.97	-0.1186	0.0076	0	
148	SLU 58		0.01	3.64	28.71	-0.1167	0.0074	0	
148	SLU 59		0.01	3.63	28.74	-0.1165	0.0075	0	
148	SLU 60		0.01	3.75	30.13	-0.1227	0.0081	0	
148	SLU 61		0.01	3.75	30.16	-0.1225	0.0082	0	
148	SLU 62		0.01	3.78	30.38	-0.1224	0.008	0	
148	SLU 63		0.01	3.78	30.41	-0.1222	0.0081	0	
148	SLU 64		0.01	3.63	26.21	-0.1182	0.0071	0	
148	SLU 65		0.01	3.63	26.25	-0.1178	0.0073	0	
148	SLU 66		0.01	3.72	26.69	-0.12	0.007	0	
148	SLU 67		0.01	3.71	26.72	-0.1198	0.0071	0	
148	SLU 68		0.01	3.66	26.51	-0.1176	0.0071	0	
148	SLU 69		0.01	3.74	26.95	-0.1197	0.0069	0	
148	SLU 70		0.01	3.74	26.97	-0.1195	0.007	0	
148	SLU 71		0.01	3.69	26.72	-0.1176	0.0068	0	
148	SLU 72		0.01	3.69	26.74	-0.1174	0.0069	0	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
148	SLU 73	0.01	4.02	30.75	-0.1305	0.0084	0		
148	SLU 74	0.01	4.11	31.19	-0.1326	0.0081	0		
148	SLU 75	0.01	4.11	31.22	-0.1324	0.0082	0		
148	SLU 76	0.01	4.05	31.01	-0.1302	0.0083	0		
148	SLU 77	0.01	4.14	31.44	-0.1323	0.008	0		
148	SLU 78	0.01	4.14	31.47	-0.1321	0.0081	0		
148	SLU 79	0.01	4.08	31.21	-0.1303	0.0079	0		
148	SLU 80	0.01	4.08	31.24	-0.1301	0.0081	0		
148	SLU 81	0.01	4.2	32.63	-0.1362	0.0087	0		
148	SLU 82	0.01	4.2	32.66	-0.136	0.0088	0		
148	SLU 83	0.01	4.23	32.89	-0.1359	0.0085	0		
148	SLU 84	0.01	4.22	32.91	-0.1357	0.0087	0		
148	SLE RA 1	0	2.7	19.61	-0.0879	0.0053	0		
148	SLE RA 2	0	2.69	19.64	-0.0877	0.0055	0		
148	SLE RA 3	0	2.75	19.93	-0.0891	0.0053	0		
148	SLE RA 4	0	2.75	19.95	-0.089	0.0054	0		
148	SLE RA 5	0	2.71	19.81	-0.0875	0.0054	0		
148	SLE RA 6	0	2.77	20.1	-0.0889	0.0052	0		
148	SLE RA 7	0	2.77	20.12	-0.0888	0.0053	0		
148	SLE RA 8	0	2.73	19.95	-0.0876	0.0052	0		
148	SLE RA 9	0	2.73	19.97	-0.0874	0.0052	0		
148	SLE RA 10	0.01	2.96	22.64	-0.0961	0.0062	0		
148	SLE RA 11	0.01	3.02	22.93	-0.0975	0.006	0		
148	SLE RA 12	0.01	3.01	22.95	-0.0974	0.0061	0		
148	SLE RA 13	0.01	2.98	22.81	-0.0959	0.0061	0		
148	SLE RA 14	0	3.03	23.1	-0.0974	0.0059	0		
148	SLE RA 15	0	3.03	23.12	-0.0972	0.006	0		
148	SLE RA 16	0	3	22.95	-0.096	0.0059	0		
148	SLE RA 17	0	3	22.97	-0.0959	0.006	0		
148	SLE RA 18	0.01	3.07	23.89	-0.0999	0.0064	0		
148	SLE RA 19	0.01	3.07	23.91	-0.0998	0.0065	0		
148	SLE RA 20	0.01	3.09	24.06	-0.0998	0.0063	0		
148	SLE RA 21	0.01	3.09	24.08	-0.0996	0.0064	0		
148	SLE FR 1	0	2.7	19.61	-0.0879	0.0053	0		
148	SLE FR 2	0	2.7	19.62	-0.0879	0.0054	0		
148	SLE FR 3	0	2.7	19.68	-0.0878	0.0053	0		
148	SLE FR 4	0	2.81	20.9	-0.0915	0.0057	0		
148	SLE FR 5	0	2.82	20.96	-0.0915	0.0056	0		
148	SLE FR 6	0	2.88	21.75	-0.0939	0.0059	0		
148	SLE QP 1	0	2.7	19.61	-0.0879	0.0053	0		
148	SLE QP 2	0	2.81	20.9	-0.0915	0.0056	0		
148	SLD 1	0.11	2.85	17.85	-0.0913	0.0978	-0.0002		
148	SLD 2	0.11	2.85	17.85	-0.0913	0.0978	-0.0002		
148	SLD 3	0.09	0.89	18.82	-0.0117	0.0854	-0.0002		
148	SLD 4	0.09	0.89	18.82	-0.0117	0.0854	-0.0002		
148	SLD 5	0.06	5.79	18.52	-0.2122	0.0522	-0.0001		
148	SLD 6	0.06	5.79	18.52	-0.2122	0.0522	-0.0001		
148	SLD 7	0.01	-0.74	21.73	0.0531	0.0107	0		
148	SLD 8	0.01	-0.74	21.73	0.0531	0.0107	0		
148	SLD 9	0	6.36	20.06	-0.2362	0.0006	0		
148	SLD 10	0	6.36	20.06	-0.2362	0.0006	0		
148	SLD 11	-0.05	-0.17	23.27	0.0291	-0.0409	0.0001		
148	SLD 12	-0.05	-0.17	23.27	0.0291	-0.0409	0.0001		
148	SLD 13	-0.08	4.73	22.97	-0.1714	-0.0741	0.0001		
148	SLD 14	-0.08	4.73	22.97	-0.1714	-0.0741	0.0001		
148	SLD 15	-0.1	2.77	23.94	-0.0918	-0.0865	0.0002		
148	SLD 16	-0.1	2.77	23.94	-0.0918	-0.0865	0.0002		
148	SLV 1	0.26	2.89	13.72	-0.0901	0.2378	-0.0004		
148	SLV 2	0.26	2.89	13.72	-0.0901	0.2378	-0.0004		
148	SLV 3	0.23	-1.71	16.02	0.0968	0.2075	-0.0004		
148	SLV 4	0.23	-1.71	16.02	0.0968	0.2075	-0.0004		
148	SLV 5	0.14	9.81	15.26	-0.3746	0.1212	-0.0002		
148	SLV 6	0.14	9.81	15.26	-0.3746	0.1212	-0.0002		
148	SLV 7	0.02	-5.53	22.92	0.2485	0.0203	0		
148	SLV 8	0.02	-5.53	22.92	0.2485	0.0203	0		
148	SLV 9	-0.01	11.15	18.87	-0.4315	-0.009	0		
148	SLV 10	-0.01	11.15	18.87	-0.4315	-0.009	0		
148	SLV 11	-0.13	-4.19	26.53	0.1916	-0.1099	0.0002		
148	SLV 12	-0.13	-4.19	26.53	0.1916	-0.1099	0.0002		
148	SLV 13	-0.22	7.33	25.77	-0.2799	-0.1963	0.0003		
148	SLV 14	-0.22	7.33	25.77	-0.2799	-0.1963	0.0003		
148	SLV 15	-0.25	2.73	28.07	-0.0929	-0.2265	0.0004		
148	SLV 16	-0.25	2.73	28.07	-0.0929	-0.2265	0.0004		
149	SLU 1	-0.18	-0.19	57.54	0.0497	-0.129	-0.0012		
149	SLU 2	-0.2	0.03	59.5	0.0432	-0.1631	-0.0013		
149	SLU 3	-0.19	-0.11	59.47	0.0481	-0.134	-0.0012		
149	SLU 4	-0.2	0.03	60.65	0.0442	-0.1544	-0.0013		
149	SLU 5	-0.2	0.11	60.82	0.0411	-0.1667	-0.0014		
149	SLU 6	-0.19	-0.03	60.8	0.046	-0.1375	-0.0013		
149	SLU 7	-0.2	0.1	61.97	0.0421	-0.158	-0.0013		
149	SLU 8	-0.19	-0.03	60.19	0.0456	-0.1362	-0.0012		
149	SLU 9	-0.2	0.1	61.36	0.0417	-0.1566	-0.0013		
149	SLU 10	-0.22	0.29	66.84	0.039	-0.179	-0.0015		
149	SLU 11	-0.21	0.15	66.82	0.0439	-0.1499	-0.0014		
149	SLU 12	-0.22	0.28	68	0.04	-0.1703	-0.0015		
149	SLU 13	-0.23	0.37	68.17	0.037	-0.1825	-0.0015		
149	SLU 14	-0.21	0.22	68.15	0.0419	-0.1534	-0.0014		
149	SLU 15	-0.23	0.36	69.32	0.038	-0.1739	-0.0015		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
149	SLU 16	-0.21	0.22	67.53	0.0415	-0.152	-0.0014
149	SLU 17	-0.22	0.35	68.71	0.0376	-0.1725	-0.0015
149	SLU 18	-0.21	0.18	68.04	0.0438	-0.1517	-0.0014
149	SLU 19	-0.22	0.31	69.21	0.0399	-0.1721	-0.0015
149	SLU 20	-0.22	0.25	69.36	0.0417	-0.1553	-0.0014
149	SLU 21	-0.23	0.39	70.53	0.0378	-0.1757	-0.0015
149	SLU 22	-0.2	0.02	64.9	0.0476	-0.1457	-0.0013
149	SLU 23	-0.22	0.24	66.86	0.0411	-0.1798	-0.0015
149	SLU 24	-0.21	0.1	66.84	0.0461	-0.1507	-0.0014
149	SLU 25	-0.22	0.23	68.01	0.0422	-0.1711	-0.0015
149	SLU 26	-0.23	0.32	68.18	0.0391	-0.1834	-0.0015
149	SLU 27	-0.22	0.18	68.16	0.044	-0.1542	-0.0014
149	SLU 28	-0.23	0.31	69.34	0.0401	-0.1747	-0.0015
149	SLU 29	-0.21	0.17	67.55	0.0436	-0.1529	-0.0014
149	SLU 30	-0.22	0.31	68.72	0.0397	-0.1733	-0.0015
149	SLU 31	-0.24	0.5	74.21	0.037	-0.1957	-0.0016
149	SLU 32	-0.23	0.35	74.19	0.0419	-0.1665	-0.0015
149	SLU 33	-0.24	0.49	75.36	0.038	-0.187	-0.0016
149	SLU 34	-0.25	0.57	75.53	0.035	-0.1992	-0.0017
149	SLU 35	-0.24	0.43	75.51	0.0399	-0.1701	-0.0016
149	SLU 36	-0.25	0.57	76.68	0.036	-0.1906	-0.0016
149	SLU 37	-0.24	0.43	74.9	0.0395	-0.1687	-0.0015
149	SLU 38	-0.25	0.56	76.07	0.0356	-0.1892	-0.0016
149	SLU 39	-0.23	0.38	75.4	0.0417	-0.1684	-0.0015
149	SLU 40	-0.25	0.52	76.57	0.0378	-0.1888	-0.0016
149	SLU 41	-0.24	0.46	76.72	0.0397	-0.172	-0.0016
149	SLU 42	-0.25	0.59	77.9	0.0358	-0.1924	-0.0017
149	SLU 43	-0.22	-0.32	72.28	0.0653	-0.162	-0.0015
149	SLU 44	-0.24	-0.09	74.23	0.0588	-0.1961	-0.0016
149	SLU 45	-0.23	-0.24	74.21	0.0637	-0.167	-0.0015
149	SLU 46	-0.24	-0.1	75.39	0.0598	-0.1874	-0.0016
149	SLU 47	-0.25	-0.02	75.56	0.0567	-0.1996	-0.0017
149	SLU 48	-0.24	-0.16	75.53	0.0616	-0.1705	-0.0016
149	SLU 49	-0.25	-0.03	76.71	0.0577	-0.191	-0.0016
149	SLU 50	-0.23	-0.16	74.92	0.0612	-0.1691	-0.0015
149	SLU 51	-0.25	-0.03	76.1	0.0573	-0.1896	-0.0016
149	SLU 52	-0.27	0.16	81.58	0.0546	-0.2119	-0.0018
149	SLU 53	-0.25	0.02	81.56	0.0595	-0.1828	-0.0017
149	SLU 54	-0.27	0.15	82.73	0.0556	-0.2033	-0.0018
149	SLU 55	-0.27	0.24	82.9	0.0526	-0.2155	-0.0018
149	SLU 56	-0.26	0.1	82.88	0.0575	-0.1864	-0.0017
149	SLU 57	-0.27	0.23	84.06	0.0536	-0.2068	-0.0018
149	SLU 58	-0.26	0.09	82.27	0.0571	-0.185	-0.0017
149	SLU 59	-0.27	0.23	83.44	0.0532	-0.2055	-0.0018
149	SLU 60	-0.26	0.05	82.77	0.0594	-0.1847	-0.0017
149	SLU 61	-0.27	0.18	83.95	0.0554	-0.2051	-0.0018
149	SLU 62	-0.26	0.13	84.1	0.0573	-0.1883	-0.0017
149	SLU 63	-0.27	0.26	85.27	0.0534	-0.2087	-0.0018
149	SLU 64	-0.25	-0.11	79.64	0.0632	-0.1787	-0.0016
149	SLU 65	-0.27	0.11	81.6	0.0567	-0.2128	-0.0018
149	SLU 66	-0.26	-0.03	81.58	0.0617	-0.1837	-0.0017
149	SLU 67	-0.27	0.1	82.75	0.0577	-0.2041	-0.0018
149	SLU 68	-0.27	0.19	82.92	0.0547	-0.2163	-0.0018
149	SLU 69	-0.26	0.05	82.9	0.0596	-0.1872	-0.0017
149	SLU 70	-0.27	0.18	84.07	0.0557	-0.2077	-0.0018
149	SLU 71	-0.26	0.05	82.29	0.0592	-0.1858	-0.0017
149	SLU 72	-0.27	0.18	83.46	0.0553	-0.2063	-0.0018
149	SLU 73	-0.29	0.37	88.94	0.0526	-0.2286	-0.0019
149	SLU 74	-0.28	0.23	88.92	0.0575	-0.1995	-0.0018
149	SLU 75	-0.29	0.36	90.1	0.0536	-0.22	-0.0019
149	SLU 76	-0.3	0.45	90.27	0.0506	-0.2322	-0.002
149	SLU 77	-0.28	0.3	90.25	0.0555	-0.2031	-0.0019
149	SLU 78	-0.29	0.44	91.42	0.0516	-0.2235	-0.0019
149	SLU 79	-0.28	0.3	89.63	0.055	-0.2017	-0.0018
149	SLU 80	-0.29	0.43	90.81	0.0511	-0.2222	-0.0019
149	SLU 81	-0.28	0.26	90.14	0.0573	-0.2014	-0.0018
149	SLU 82	-0.29	0.39	91.31	0.0534	-0.2218	-0.0019
149	SLU 83	-0.29	0.33	91.46	0.0553	-0.205	-0.0019
149	SLU 84	-0.3	0.47	92.63	0.0514	-0.2254	-0.002
149	SLE RA 1	-0.19	-0.13	59.64	0.0491	-0.1338	-0.0012
149	SLE RA 2	-0.2	0.02	60.95	0.0448	-0.1565	-0.0013
149	SLE RA 3	-0.19	-0.08	60.93	0.048	-0.1371	-0.0013
149	SLE RA 4	-0.2	0.01	61.72	0.0454	-0.1507	-0.0013
149	SLE RA 5	-0.2	0.07	61.83	0.0434	-0.1589	-0.0013
149	SLE RA 6	-0.19	-0.02	61.82	0.0467	-0.1395	-0.0013
149	SLE RA 7	-0.2	0.06	62.6	0.0441	-0.1531	-0.0013
149	SLE RA 8	-0.19	-0.03	61.41	0.0464	-0.1386	-0.0013
149	SLE RA 9	-0.2	0.06	62.19	0.0438	-0.1522	-0.0013
149	SLE RA 10	-0.21	0.19	65.85	0.042	-0.1671	-0.0014
149	SLE RA 11	-0.21	0.09	65.83	0.0453	-0.1477	-0.0013
149	SLE RA 12	-0.21	0.18	66.61	0.0427	-0.1613	-0.0014
149	SLE RA 13	-0.22	0.24	66.73	0.0406	-0.1695	-0.0014
149	SLE RA 14	-0.21	0.15	66.71	0.0439	-0.1501	-0.0014
149	SLE RA 15	-0.22	0.23	67.5	0.0413	-0.1637	-0.0014
149	SLE RA 16	-0.21	0.14	66.31	0.0436	-0.1491	-0.0014
149	SLE RA 17	-0.22	0.23	67.09	0.041	-0.1628	-0.0014
149	SLE RA 18	-0.21	0.11	66.64	0.0452	-0.1489	-0.0014
149	SLE RA 19	-0.22	0.2	67.42	0.0426	-0.1625	-0.0014



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
149	SLE RA 20	-0.21	0.17	67.52	0.0438	-0.1513	-0.0014		
149	SLE RA 21	-0.22	0.25	68.31	0.0412	-0.1649	-0.0014		
149	SLE FR 1	-0.19	-0.13	59.64	0.0491	-0.1338	-0.0012		
149	SLE FR 2	-0.19	-0.1	59.9	0.0482	-0.1383	-0.0012		
149	SLE FR 3	-0.19	-0.11	60	0.0485	-0.1347	-0.0012		
149	SLE FR 4	-0.19	-0.03	62	0.047	-0.1429	-0.0013		
149	SLE FR 5	-0.19	-0.04	62.1	0.0474	-0.1393	-0.0013		
149	SLE FR 6	-0.2	-0.01	63.14	0.0471	-0.1414	-0.0013		
149	SLE QP 1	-0.19	-0.13	59.64	0.0491	-0.1338	-0.0012		
149	SLE QP 2	-0.19	-0.06	61.74	0.0479	-0.1383	-0.0013		
149	SLD 1	-0.24	2.73	80.26	-0.0783	-0.2708	-0.0017		
149	SLD 2	-0.24	2.73	80.26	-0.0783	-0.2708	-0.0017		
149	SLD 3	-0.35	-0.79	78.61	0.0802	-0.2046	-0.0022		
149	SLD 4	-0.35	-0.79	78.61	0.0802	-0.2046	-0.0022		
149	SLD 5	-0.05	6.11	69.81	-0.2303	-0.2784	-0.0005		
149	SLD 6	-0.05	6.11	69.81	-0.2303	-0.2784	-0.0005		
149	SLD 7	-0.4	-5.61	64.29	0.298	-0.0578	-0.0024		
149	SLD 8	-0.4	-5.61	64.29	0.298	-0.0578	-0.0024		
149	SLD 9	0.01	5.5	59.19	-0.2022	-0.2188	-0.0001		
149	SLD 10	0.01	5.5	59.19	-0.2022	-0.2188	-0.0001		
149	SLD 11	-0.33	-6.22	53.68	0.3261	0.0018	-0.002		
149	SLD 12	-0.33	-6.22	53.68	0.3261	0.0018	-0.002		
149	SLD 13	-0.04	0.68	44.88	0.0156	-0.0721	-0.0003		
149	SLD 14	-0.04	0.68	44.88	0.0156	-0.0721	-0.0003		
149	SLD 15	-0.14	-2.84	43.22	0.1741	-0.0059	-0.0008		
149	SLD 16	-0.14	-2.84	43.22	0.1741	-0.0059	-0.0008		
149	SLV 1	-0.3	6.5	105.12	-0.2495	-0.4577	-0.0022		
149	SLV 2	-0.3	6.5	105.12	-0.2495	-0.4577	-0.0022		
149	SLV 3	-0.57	-1.68	101.15	0.1191	-0.2893	-0.0036		
149	SLV 4	-0.57	-1.68	101.15	0.1191	-0.2893	-0.0036		
149	SLV 5	0.18	14.32	80.79	-0.6004	-0.4896	0.0007		
149	SLV 6	0.18	14.32	80.79	-0.6004	-0.4896	0.0007		
149	SLV 7	-0.71	-12.95	67.53	0.6284	0.0718	-0.0042		
149	SLV 8	-0.71	-12.95	67.53	0.6284	0.0718	-0.0042		
149	SLV 9	0.32	12.83	55.95	-0.5325	-0.3485	0.0017		
149	SLV 10	0.32	12.83	55.95	-0.5325	-0.3485	0.0017		
149	SLV 11	-0.56	-14.43	42.7	0.6962	0.213	-0.0032		
149	SLV 12	-0.56	-14.43	42.7	0.6962	0.213	-0.0032		
149	SLV 13	0.18	1.56	22.34	-0.0233	0.0126	0.0011		
149	SLV 14	0.18	1.56	22.34	-0.0233	0.0126	0.0011		
149	SLV 15	-0.08	-6.62	18.36	0.3453	0.1811	-0.0003		
149	SLV 16	-0.08	-6.62	18.36	0.3453	0.1811	-0.0003		
150	SLU 1	0.08	2.65	29.6	-0.162	0.0521	0		
150	SLU 2	0.09	4.84	28.55	-0.274	0.0561	0		
150	SLU 3	0.09	2.54	30.85	-0.1566	0.0538	0		
150	SLU 4	0.09	3.85	30.22	-0.2238	0.0562	0		
150	SLU 5	0.09	4.62	29.48	-0.2632	0.057	0		
150	SLU 6	0.09	2.32	31.78	-0.1458	0.0547	0		
150	SLU 7	0.09	3.63	31.15	-0.213	0.0571	0		
150	SLU 8	0.09	2.21	31.46	-0.1403	0.0539	0		
150	SLU 9	0.09	3.53	30.83	-0.2075	0.0563	0		
150	SLU 10	0.11	5.55	33.48	-0.3102	0.066	0		
150	SLU 11	0.1	3.25	35.78	-0.1928	0.0637	0		
150	SLU 12	0.11	4.56	35.15	-0.26	0.0661	0		
150	SLU 13	0.11	5.33	34.41	-0.2993	0.0668	0		
150	SLU 14	0.1	3.03	36.71	-0.1819	0.0645	0		
150	SLU 15	0.11	4.34	36.08	-0.2491	0.0669	0		
150	SLU 16	0.1	2.92	36.39	-0.1765	0.0637	0		
150	SLU 17	0.11	4.24	35.76	-0.2437	0.0661	0		
150	SLU 18	0.11	3.66	36.65	-0.2137	0.0662	0		
150	SLU 19	0.11	4.98	36.02	-0.2809	0.0686	0		
150	SLU 20	0.11	3.44	37.58	-0.2028	0.0671	0		
150	SLU 21	0.11	4.76	36.95	-0.27	0.0695	0		
150	SLU 22	0.1	3.16	34.21	-0.1881	0.0609	0		
150	SLU 23	0.1	5.35	33.16	-0.3001	0.0649	0		
150	SLU 24	0.1	3.04	35.46	-0.1827	0.0626	0		
150	SLU 25	0.1	4.36	34.83	-0.2499	0.065	0		
150	SLU 26	0.1	5.13	34.09	-0.2893	0.0658	0		
150	SLU 27	0.1	2.83	36.39	-0.1718	0.0635	0		
150	SLU 28	0.11	4.14	35.76	-0.239	0.0659	0		
150	SLU 29	0.1	2.72	36.07	-0.1664	0.0627	0		
150	SLU 30	0.1	4.03	35.44	-0.2336	0.0651	0		
150	SLU 31	0.12	6.06	38.09	-0.3363	0.0747	0		
150	SLU 32	0.12	3.75	40.39	-0.2188	0.0724	0		
150	SLU 33	0.12	5.07	39.76	-0.286	0.0748	0		
150	SLU 34	0.12	5.84	39.02	-0.3254	0.0756	0		
150	SLU 35	0.12	3.53	41.32	-0.208	0.0733	0		
150	SLU 36	0.12	4.85	40.69	-0.2752	0.0757	0		
150	SLU 37	0.12	3.43	41	-0.2026	0.0725	0		
150	SLU 38	0.12	4.74	40.37	-0.2698	0.0749	0		
150	SLU 39	0.12	4.17	41.26	-0.2398	0.075	0		
150	SLU 40	0.12	5.48	40.62	-0.307	0.0774	0		
150	SLU 41	0.12	3.95	42.19	-0.2289	0.0758	0		
150	SLU 42	0.13	5.27	41.55	-0.2961	0.0782	0		
150	SLU 43	0.1	3.27	36.91	-0.2017	0.0647	0		
150	SLU 44	0.11	5.46	35.85	-0.3137	0.0688	0		
150	SLU 45	0.11	3.16	38.15	-0.1963	0.0664	0		
150	SLU 46	0.11	4.47	37.52	-0.2635	0.0688	0		





Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		Ind.	N.br.	x	y	z	x	y
150	SLU 47		0.11	5.24	36.78	-0.3028	0.0696	0
150	SLU 48		0.11	2.94	39.08	-0.1854	0.0673	0
150	SLU 49		0.11	4.26	38.45	-0.2526	0.0697	0
150	SLU 50		0.11	2.83	38.77	-0.18	0.0665	0
150	SLU 51		0.11	4.15	38.13	-0.2472	0.0689	0
150	SLU 52		0.13	6.17	40.78	-0.3499	0.0786	0
150	SLU 53		0.12	3.87	43.08	-0.2324	0.0763	0
150	SLU 54		0.13	5.18	42.45	-0.2996	0.0787	0
150	SLU 55		0.13	5.95	41.71	-0.339	0.0795	0
150	SLU 56		0.12	3.65	44.01	-0.2216	0.0772	0
150	SLU 57		0.13	4.97	43.38	-0.2888	0.0796	0
150	SLU 58		0.12	3.54	43.7	-0.2162	0.0764	0
150	SLU 59		0.13	4.86	43.06	-0.2834	0.0788	0
150	SLU 60		0.13	4.28	43.95	-0.2534	0.0788	0
150	SLU 61		0.13	5.6	43.32	-0.3206	0.0812	0
150	SLU 62		0.13	4.07	44.88	-0.2425	0.0797	0
150	SLU 63		0.13	5.38	44.25	-0.3097	0.0821	0
150	SLU 64		0.12	3.78	41.51	-0.2278	0.0735	0
150	SLU 65		0.12	5.97	40.46	-0.3398	0.0775	0
150	SLU 66		0.12	3.66	42.76	-0.2223	0.0752	0
150	SLU 67		0.12	4.98	42.13	-0.2895	0.0776	0
150	SLU 68		0.12	5.75	41.39	-0.3289	0.0784	0
150	SLU 69		0.12	3.45	43.69	-0.2115	0.0761	0
150	SLU 70		0.13	4.76	43.06	-0.2787	0.0785	0
150	SLU 71		0.12	3.34	43.37	-0.2061	0.0753	0
150	SLU 72		0.12	4.66	42.74	-0.2733	0.0777	0
150	SLU 73		0.14	6.68	45.39	-0.3759	0.0874	0
150	SLU 74		0.14	4.37	47.69	-0.2585	0.0851	0
150	SLU 75		0.14	5.69	47.06	-0.3257	0.0875	0
150	SLU 76		0.14	6.46	46.32	-0.3651	0.0883	0
150	SLU 77		0.14	4.16	48.62	-0.2477	0.086	0
150	SLU 78		0.14	5.47	47.99	-0.3149	0.0884	0
150	SLU 79		0.14	4.05	48.3	-0.2422	0.0851	0
150	SLU 80		0.14	5.37	47.67	-0.3094	0.0875	0
150	SLU 81		0.14	4.79	48.56	-0.2794	0.0876	0
150	SLU 82		0.14	6.11	47.92	-0.3466	0.09	0
150	SLU 83		0.14	4.57	49.49	-0.2686	0.0885	0
150	SLU 84		0.15	5.89	48.85	-0.3358	0.0909	0
150	SLE RA 1		0.09	2.79	30.92	-0.1695	0.0546	0
150	SLE RA 2		0.09	4.26	30.22	-0.2441	0.0573	0
150	SLE RA 3		0.09	2.72	31.75	-0.1659	0.0558	0
150	SLE RA 4		0.09	3.6	31.33	-0.2107	0.0574	0
150	SLE RA 5		0.09	4.11	30.84	-0.2369	0.0579	0
150	SLE RA 6		0.09	2.57	32.37	-0.1586	0.0564	0
150	SLE RA 7		0.09	3.45	31.95	-0.2034	0.058	0
150	SLE RA 8		0.09	2.5	32.16	-0.155	0.0558	0
150	SLE RA 9		0.09	3.38	31.74	-0.1998	0.0574	0
150	SLE RA 10		0.1	4.73	33.51	-0.2682	0.0639	0
150	SLE RA 11		0.1	3.19	35.04	-0.19	0.0623	0
150	SLE RA 12		0.1	4.07	34.62	-0.2348	0.0639	0
150	SLE RA 13		0.1	4.58	34.13	-0.261	0.0644	0
150	SLE RA 14		0.1	3.05	35.66	-0.1827	0.0629	0
150	SLE RA 15		0.1	3.92	35.24	-0.2275	0.0645	0
150	SLE RA 16		0.1	2.98	35.45	-0.1791	0.0624	0
150	SLE RA 17		0.1	3.85	35.03	-0.2239	0.064	0
150	SLE RA 18		0.1	3.47	35.62	-0.2039	0.064	0
150	SLE RA 19		0.11	4.35	35.19	-0.2487	0.0656	0
150	SLE RA 20		0.1	3.32	36.24	-0.1967	0.0646	0
150	SLE RA 21		0.11	4.2	35.82	-0.2415	0.0662	0
150	SLE FR 1		0.09	2.79	30.92	-0.1695	0.0546	0
150	SLE FR 2		0.09	3.09	30.78	-0.1844	0.0552	0
150	SLE FR 3		0.09	2.74	31.17	-0.1666	0.0549	0
150	SLE FR 4		0.09	3.29	32.19	-0.1947	0.058	0
150	SLE FR 5		0.09	2.94	32.58	-0.1769	0.0577	0
150	SLE FR 6		0.1	3.13	33.27	-0.1867	0.0593	0
150	SLE QP 1		0.09	2.79	30.92	-0.1695	0.0546	0
150	SLE QP 2		0.09	3	32.33	-0.1798	0.0574	0
150	SLD 1		0.14	6.45	35.87	-0.3413	0.1008	-0.0001
150	SLD 2		0.14	6.45	35.87	-0.3413	0.1008	-0.0001
150	SLD 3		0.1	3.3	37.28	-0.1866	0.0814	-0.0001
150	SLD 4		0.1	3.3	37.28	-0.1866	0.0814	-0.0001
150	SLD 5		0.16	8.82	31.25	-0.4628	0.0999	-0.0001
150	SLD 6		0.16	8.82	31.25	-0.4628	0.0999	-0.0001
150	SLD 7		0.04	-1.7	35.95	0.0527	0.0352	0.0001
150	SLD 8		0.04	-1.7	35.95	0.0527	0.0352	0.0001
150	SLD 9		0.15	7.69	28.71	-0.4123	0.0797	0
150	SLD 10		0.15	7.69	28.71	-0.4123	0.0797	0
150	SLD 11		0.02	-2.83	33.41	0.1032	0.015	0.0001
150	SLD 12		0.02	-2.83	33.41	0.1032	0.015	0.0001
150	SLD 13		0.08	2.7	27.38	-0.173	0.0335	0.0001
150	SLD 14		0.08	2.7	27.38	-0.173	0.0335	0.0001
150	SLD 15		0.05	-0.46	28.79	-0.0184	0.0141	0.0002
150	SLD 16		0.05	-0.46	28.79	-0.0184	0.0141	0.0002
150	SLV 1		0.21	11.32	40.59	-0.5694	0.1606	-0.0003
150	SLV 2		0.21	11.32	40.59	-0.5694	0.1606	-0.0003
150	SLV 3		0.12	3.77	44.04	-0.1994	0.113	-0.0002
150	SLV 4		0.12	3.77	44.04	-0.1994	0.113	-0.0002
150	SLV 5		0.26	16.94	29.58	-0.8579	0.1606	-0.0002



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
150	SLV 6	0.26	16.94	29.58	-0.8579	0.1606	-0.0002		
150	SLV 7	-0.04	-8.22	41.07	0.3756	0.0019	0.0001		
150	SLV 8	-0.04	-8.22	41.07	0.3756	0.0019	0.0001		
150	SLV 9	0.22	14.22	23.59	-0.7352	0.113	-0.0001		
150	SLV 10	0.22	14.22	23.59	-0.7352	0.113	-0.0001		
150	SLV 11	-0.08	-10.95	35.08	0.4983	-0.0457	0.0003		
150	SLV 12	-0.08	-10.95	35.08	0.4983	-0.0457	0.0003		
150	SLV 13	0.07	2.23	20.62	-0.1602	0.0019	0.0003		
150	SLV 14	0.07	2.23	20.62	-0.1602	0.0019	0.0003		
150	SLV 15	-0.02	-5.32	24.07	0.2098	-0.0457	0.0004		
150	SLV 16	-0.02	-5.32	24.07	0.2098	-0.0457	0.0004		
151	SLU 1	0	-3.77	47.73	0.1858	0.0166	0.0002		
151	SLU 2	0	-4.29	48.19	0.2087	0.0169	0.0002		
151	SLU 3	0	-3.51	49.08	0.176	0.017	0.0002		
151	SLU 4	0	-3.83	49.35	0.1898	0.0172	0.0002		
151	SLU 5	0	-3.97	48.89	0.1957	0.0171	0.0002		
151	SLU 6	0	-3.19	49.77	0.163	0.0171	0.0002		
151	SLU 7	0	-3.51	50.05	0.1768	0.0173	0.0003		
151	SLU 8	0	-3.13	49.12	0.1598	0.0169	0.0002		
151	SLU 9	0	-3.45	49.4	0.1736	0.0171	0.0002		
151	SLU 10	0.01	-4.98	57.4	0.2442	0.0205	0.0003		
151	SLU 11	0.01	-4.2	58.28	0.2115	0.0205	0.0003		
151	SLU 12	0.01	-4.51	58.56	0.2252	0.0207	0.0003		
151	SLU 13	0.01	-4.66	58.1	0.2312	0.0206	0.0003		
151	SLU 14	0.01	-3.88	58.98	0.1985	0.0207	0.0003		
151	SLU 15	0.01	-4.2	59.26	0.2122	0.0209	0.0003		
151	SLU 16	0.01	-3.82	58.33	0.1953	0.0205	0.0003		
151	SLU 17	0.01	-4.13	58.61	0.209	0.0207	0.0003		
151	SLU 18	0.01	-4.75	60.88	0.2365	0.0217	0.0003		
151	SLU 19	0.01	-5.06	61.16	0.2502	0.0219	0.0003		
151	SLU 20	0.01	-4.43	61.58	0.2235	0.0218	0.0003		
151	SLU 21	0.01	-4.75	61.86	0.2372	0.022	0.0003		
151	SLU 22	0	-3.81	54.52	0.1936	0.0187	0.0003		
151	SLU 23	0	-4.34	54.99	0.2165	0.019	0.0003		
151	SLU 24	0.01	-3.56	55.87	0.1838	0.0191	0.0003		
151	SLU 25	0.01	-3.87	56.15	0.1975	0.0193	0.0003		
151	SLU 26	0.01	-4.02	55.68	0.2035	0.0192	0.0003		
151	SLU 27	0.01	-3.24	56.56	0.1708	0.0193	0.0003		
151	SLU 28	0.01	-3.56	56.84	0.1845	0.0195	0.0003		
151	SLU 29	0.01	-3.18	55.91	0.1676	0.0191	0.0003		
151	SLU 30	0.01	-3.49	56.19	0.1813	0.0193	0.0003		
151	SLU 31	0.01	-5.03	64.19	0.2519	0.0226	0.0003		
151	SLU 32	0.01	-4.24	65.07	0.2192	0.0227	0.0003		
151	SLU 33	0.01	-4.56	65.35	0.233	0.0229	0.0003		
151	SLU 34	0.01	-4.71	64.89	0.2389	0.0228	0.0003		
151	SLU 35	0.01	-3.93	65.77	0.2062	0.0228	0.0004		
151	SLU 36	0.01	-4.24	66.05	0.2199	0.023	0.0004		
151	SLU 37	0.01	-3.87	65.12	0.203	0.0226	0.0004		
151	SLU 38	0.01	-4.18	65.4	0.2167	0.0228	0.0004		
151	SLU 39	0.01	-4.79	67.68	0.2442	0.0238	0.0004		
151	SLU 40	0.01	-5.11	67.95	0.258	0.024	0.0004		
151	SLU 41	0.01	-4.48	68.37	0.2312	0.024	0.0004		
151	SLU 42	0.01	-4.79	68.65	0.2449	0.0242	0.0004		
151	SLU 43	0	-4.88	59.73	0.2389	0.0208	0.0003		
151	SLU 44	0	-5.41	60.19	0.2618	0.0211	0.0003		
151	SLU 45	0.01	-4.62	61.07	0.2291	0.0212	0.0003		
151	SLU 46	0.01	-4.94	61.35	0.2429	0.0214	0.0003		
151	SLU 47	0.01	-5.09	60.88	0.2488	0.0213	0.0003		
151	SLU 48	0.01	-4.31	61.76	0.2161	0.0214	0.0003		
151	SLU 49	0.01	-4.62	62.04	0.2299	0.0216	0.0003		
151	SLU 50	0.01	-4.24	61.12	0.2129	0.0212	0.0003		
151	SLU 51	0.01	-4.56	61.39	0.2267	0.0214	0.0003		
151	SLU 52	0.01	-6.09	69.39	0.2973	0.0247	0.0003		
151	SLU 53	0.01	-5.31	70.28	0.2646	0.0248	0.0003		
151	SLU 54	0.01	-5.63	70.55	0.2783	0.025	0.0003		
151	SLU 55	0.01	-5.78	70.09	0.2843	0.0249	0.0003		
151	SLU 56	0.01	-4.99	70.97	0.2516	0.0249	0.0004		
151	SLU 57	0.01	-5.31	71.25	0.2653	0.0251	0.0004		
151	SLU 58	0.01	-4.93	70.32	0.2484	0.0247	0.0004		
151	SLU 59	0.01	-5.25	70.6	0.2621	0.0249	0.0004		
151	SLU 60	0.01	-5.86	72.88	0.2896	0.0259	0.0004		
151	SLU 61	0.01	-6.18	73.15	0.3033	0.0261	0.0004		
151	SLU 62	0.01	-5.54	73.57	0.2766	0.0261	0.0004		
151	SLU 63	0.01	-5.86	73.85	0.2903	0.0263	0.0004		
151	SLU 64	0.01	-4.93	66.52	0.2467	0.023	0.0003		
151	SLU 65	0.01	-5.45	66.98	0.2696	0.0233	0.0003		
151	SLU 66	0.01	-4.67	67.86	0.2369	0.0233	0.0003		
151	SLU 67	0.01	-4.99	68.14	0.2506	0.0235	0.0003		
151	SLU 68	0.01	-5.14	67.67	0.2566	0.0235	0.0003		
151	SLU 69	0.01	-4.35	68.56	0.2239	0.0235	0.0003		
151	SLU 70	0.01	-4.67	68.83	0.2376	0.0237	0.0003		
151	SLU 71	0.01	-4.29	67.91	0.2207	0.0233	0.0003		
151	SLU 72	0.01	-4.61	68.18	0.2344	0.0235	0.0003		
151	SLU 73	0.01	-6.14	76.18	0.305	0.0268	0.0004		
151	SLU 74	0.01	-5.36	77.07	0.2723	0.0269	0.0004		
151	SLU 75	0.01	-5.67	77.34	0.2861	0.0271	0.0004		
151	SLU 76	0.01	-5.82	76.88	0.292	0.027	0.0004		
151	SLU 77	0.01	-5.04	77.76	0.2593	0.0271	0.0004		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
151	SLU 78	0.01	-5.36	78.04		0.273	0.0273	0.0004	
151	SLU 79	0.01	-4.98	77.11		0.2561	0.0269	0.0004	
151	SLU 80	0.01	-5.3	77.39		0.2698	0.0271	0.0004	
151	SLU 81	0.01	-5.91	79.67		0.2973	0.028	0.0004	
151	SLU 82	0.01	-6.22	79.94		0.3111	0.0282	0.0004	
151	SLU 83	0.01	-5.59	80.36		0.2843	0.0282	0.0004	
151	SLU 84	0.01	-5.91	80.64		0.298	0.0284	0.0004	
151	SLE RA 1	0	-3.78	49.67		0.1881	0.0172	0.0002	
151	SLE RA 2	0	-4.13	49.98		0.2033	0.0174	0.0002	
151	SLE RA 3	0	-3.61	50.57		0.1815	0.0174	0.0002	
151	SLE RA 4	0	-3.82	50.75		0.1907	0.0176	0.0002	
151	SLE RA 5	0	-3.92	50.44		0.1946	0.0175	0.0002	
151	SLE RA 6	0	-3.4	51.03		0.1728	0.0176	0.0002	
151	SLE RA 7	0	-3.61	51.22		0.182	0.0177	0.0003	
151	SLE RA 8	0	-3.36	50.6		0.1707	0.0174	0.0002	
151	SLE RA 9	0	-3.57	50.79		0.1799	0.0176	0.0002	
151	SLE RA 10	0.01	-4.59	56.12		0.2269	0.0198	0.0003	
151	SLE RA 11	0.01	-4.07	56.71		0.2051	0.0198	0.0003	
151	SLE RA 12	0.01	-4.28	56.89		0.2143	0.02	0.0003	
151	SLE RA 13	0.01	-4.38	56.58		0.2183	0.0199	0.0003	
151	SLE RA 14	0.01	-3.86	57.17		0.1965	0.0199	0.0003	
151	SLE RA 15	0.01	-4.07	57.35		0.2056	0.0201	0.0003	
151	SLE RA 16	0.01	-3.81	56.74		0.1943	0.0198	0.0003	
151	SLE RA 17	0.01	-4.03	56.92		0.2035	0.0199	0.0003	
151	SLE RA 18	0.01	-4.43	58.44		0.2218	0.0206	0.0003	
151	SLE RA 19	0.01	-4.64	58.63		0.231	0.0207	0.0003	
151	SLE RA 20	0.01	-4.22	58.9		0.2131	0.0207	0.0003	
151	SLE RA 21	0.01	-4.43	59.09		0.2223	0.0208	0.0003	
151	SLE FR 1	0	-3.78	49.67		0.1881	0.0172	0.0002	
151	SLE FR 2	0	-3.85	49.74		0.1911	0.0172	0.0002	
151	SLE FR 3	0	-3.69	49.86		0.1846	0.0172	0.0002	
151	SLE FR 4	0	-4.05	52.37		0.2012	0.0182	0.0002	
151	SLE FR 5	0	-3.89	52.49		0.1947	0.0183	0.0002	
151	SLE FR 6	0	-4.11	54.06		0.2049	0.0189	0.0003	
151	SLE QP 1	0	-3.78	49.67		0.1881	0.0172	0.0002	
151	SLE QP 2	0	-3.98	52.3		0.1982	0.0182	0.0002	
151	SLD 1	0.01	0.18	43.59		0.0188	0.0761	0.0007	
151	SLD 2	0.01	0.18	43.59		0.0188	0.0761	0.0007	
151	SLD 3	0.02	-4.13	47.82		0.2104	0.0842	0.0009	
151	SLD 4	0.02	-4.13	47.82		0.2104	0.0842	0.0009	
151	SLD 5	0	3.81	43.27		-0.1461	0.0233	0	
151	SLD 6	0	3.81	43.27		-0.1461	0.0233	0	
151	SLD 7	0.01	-10.56	57.37		0.4923	0.0503	0.0008	
151	SLD 8	0.01	-10.56	57.37		0.4923	0.0503	0.0008	
151	SLD 9	-0.01	2.61	47.24		-0.0959	-0.0139	-0.0003	
151	SLD 10	-0.01	2.61	47.24		-0.0959	-0.0139	-0.0003	
151	SLD 11	0.01	-11.76	61.33		0.5425	0.0132	0.0005	
151	SLD 12	0.01	-11.76	61.33		0.5425	0.0132	0.0005	
151	SLD 13	-0.01	-3.82	56.79		0.186	-0.0478	-0.0005	
151	SLD 14	-0.01	-3.82	56.79		0.186	-0.0478	-0.0005	
151	SLD 15	0	-8.13	61.02		0.3775	-0.0397	-0.0002	
151	SLD 16	0	-8.13	61.02		0.3775	-0.0397	-0.0002	
151	SLV 1	0.02	5.79	31.77		-0.2236	0.1638	0.0013	
151	SLV 2	0.02	5.79	31.77		-0.2236	0.1638	0.0013	
151	SLV 3	0.03	-4.34	41.83		0.2264	0.1836	0.0019	
151	SLV 4	0.03	-4.34	41.83		0.2264	0.1836	0.0019	
151	SLV 5	0	14.32	30.89		-0.6108	0.0319	-0.0003	
151	SLV 6	0	14.32	30.89		-0.6108	0.0319	-0.0003	
151	SLV 7	0.03	-19.45	64.42		0.8891	0.0978	0.0016	
151	SLV 8	0.03	-19.45	64.42		0.8891	0.0978	0.0016	
151	SLV 9	-0.02	11.5	40.19		-0.4928	-0.0614	-0.0012	
151	SLV 10	-0.02	11.5	40.19		-0.4928	-0.0614	-0.0012	
151	SLV 11	0.01	-22.27	73.72		1.0072	0.0045	0.0008	
151	SLV 12	0.01	-22.27	73.72		1.0072	0.0045	0.0008	
151	SLV 13	-0.02	-3.61	62.78		0.1699	-0.1472	-0.0014	
151	SLV 14	-0.02	-3.61	62.78		0.1699	-0.1472	-0.0014	
151	SLV 15	-0.01	-13.74	72.84		0.6199	-0.1274	-0.0008	
151	SLV 16	-0.01	-13.74	72.84		0.6199	-0.1274	-0.0008	
152	SLU 1	0	-2.16	41.1		0.0683	-0.0014	0	
152	SLU 2	0	-0.24	39.68		-0.0316	-0.0032	0	
152	SLU 3	0	-2.42	42.76		0.0805	-0.0014	0	
152	SLU 4	0	-1.27	41.9		0.0205	-0.0025	0	
152	SLU 5	0	-0.54	40.91		-0.0175	-0.0032	0	
152	SLU 6	0	-2.72	43.98		0.0946	-0.0014	0	
152	SLU 7	0	-1.57	43.13		0.0346	-0.0025	0	
152	SLU 8	0	-2.75	43.55		0.0965	-0.0014	0	
152	SLU 9	0	-1.61	42.7		0.0366	-0.0025	0	
152	SLU 10	0	-0.34	46.95		-0.0298	-0.0035	0	
152	SLU 11	0	-2.52	50.02		0.0823	-0.0018	0	
152	SLU 12	0	-1.37	49.17		0.0223	-0.0029	0	
152	SLU 13	0	-0.64	48.17		-0.0157	-0.0035	0	
152	SLU 14	0	-2.82	51.25		0.0964	-0.0018	0	
152	SLU 15	0	-1.67	50.4		0.0365	-0.0029	0	
152	SLU 16	0	-2.85	50.82		0.0984	-0.0017	0	
152	SLU 17	0	-1.7	49.97		0.0384	-0.0028	0	
152	SLU 18	0	-2.29	51.48		0.0709	-0.0019	0	
152	SLU 19	0	-1.15	50.63		0.011	-0.0029	0	
152	SLU 20	0	-2.59	52.71		0.085	-0.0019	0	



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
152	SLU 21	0	-1.44	51.86	0.0251	-0.0029	0
152	SLU 22	0	-2.38	48.01	0.0767	-0.0016	0
152	SLU 23	0	-0.47	46.59	-0.0232	-0.0034	0
152	SLU 24	0	-2.64	49.67	0.0889	-0.0017	0
152	SLU 25	0	-1.5	48.81	0.0289	-0.0027	0
152	SLU 26	0	-0.77	47.82	-0.0091	-0.0034	0
152	SLU 27	0	-2.94	50.89	0.103	-0.0017	0
152	SLU 28	0	-1.8	50.04	0.043	-0.0028	0
152	SLU 29	0	-2.98	50.46	0.1049	-0.0016	0
152	SLU 30	0	-1.83	49.61	0.045	-0.0027	0
152	SLU 31	0	-0.56	53.86	-0.0214	-0.0038	0
152	SLU 32	0	-2.74	56.93	0.0907	-0.002	0
152	SLU 33	0	-1.59	56.08	0.0308	-0.0031	0
152	SLU 34	0	-0.86	55.08	-0.0073	-0.0038	0
152	SLU 35	0	-3.04	58.16	0.1048	-0.002	0
152	SLU 36	0	-1.89	57.3	0.0449	-0.0031	0
152	SLU 37	0	-3.07	57.73	0.1068	-0.002	0
152	SLU 38	0	-1.93	56.88	0.0468	-0.003	0
152	SLU 39	0	-2.52	58.39	0.0793	-0.0021	0
152	SLU 40	0	-1.37	57.54	0.0194	-0.0032	0
152	SLU 41	0	-2.82	59.62	0.0934	-0.0021	0
152	SLU 42	0	-1.67	58.76	0.0335	-0.0032	0
152	SLU 43	0	-2.72	51.07	0.0859	-0.0017	0
152	SLU 44	0	-0.81	49.64	-0.014	-0.0035	0
152	SLU 45	0	-2.99	52.72	0.0981	-0.0017	0
152	SLU 46	0	-1.84	51.87	0.0381	-0.0028	0
152	SLU 47	0	-1.11	50.87	0.0001	-0.0035	0
152	SLU 48	0	-3.29	53.95	0.1122	-0.0018	0
152	SLU 49	0	-2.14	53.09	0.0522	-0.0028	0
152	SLU 50	0	-3.32	53.52	0.1141	-0.0017	0
152	SLU 51	0	-2.18	52.66	0.0542	-0.0028	0
152	SLU 52	0	-0.91	56.91	-0.0122	-0.0038	0
152	SLU 53	0	-3.09	59.99	0.0999	-0.0021	0
152	SLU 54	0	-1.94	59.13	0.0399	-0.0032	0
152	SLU 55	0	-1.21	58.14	0.0019	-0.0038	0
152	SLU 56	0	-3.39	61.21	0.114	-0.0021	0
152	SLU 57	0	-2.24	60.36	0.0541	-0.0032	0
152	SLU 58	0	-3.42	60.78	0.116	-0.002	0
152	SLU 59	0	-2.27	59.93	0.056	-0.0031	0
152	SLU 60	0	-2.86	61.45	0.0885	-0.0022	0
152	SLU 61	0	-1.71	60.59	0.0286	-0.0033	0
152	SLU 62	0	-3.16	62.67	0.1026	-0.0022	0
152	SLU 63	0	-2.01	61.82	0.0427	-0.0033	0
152	SLU 64	0	-2.95	57.97	0.0943	-0.0019	0
152	SLU 65	0	-1.04	56.55	-0.0056	-0.0037	0
152	SLU 66	0	-3.21	59.63	0.1065	-0.002	0
152	SLU 67	0	-2.07	58.78	0.0465	-0.0031	0
152	SLU 68	0	-1.34	57.78	0.0085	-0.0037	0
152	SLU 69	0	-3.51	60.85	0.1206	-0.002	0
152	SLU 70	0	-2.37	60	0.0606	-0.0031	0
152	SLU 71	0	-3.55	60.43	0.1225	-0.0019	0
152	SLU 72	0	-2.4	59.57	0.0626	-0.003	0
152	SLU 73	0	-1.13	63.82	-0.0038	-0.0041	0
152	SLU 74	0	-3.31	66.89	0.1083	-0.0023	0
152	SLU 75	0	-2.16	66.04	0.0484	-0.0034	0
152	SLU 76	0	-1.43	65.04	0.0103	-0.0041	0
152	SLU 77	0	-3.61	68.12	0.1224	-0.0023	0
152	SLU 78	0	-2.46	67.27	0.0625	-0.0034	0
152	SLU 79	0	-3.64	67.69	0.1244	-0.0023	0
152	SLU 80	0	-2.5	66.84	0.0644	-0.0034	0
152	SLU 81	0	-3.09	68.35	0.0969	-0.0024	0
152	SLU 82	0	-1.94	67.5	0.037	-0.0035	0
152	SLU 83	0	-3.39	69.58	0.111	-0.0024	0
152	SLU 84	0	-2.24	68.73	0.0511	-0.0035	0
152	SLE RA 1	0	-2.22	43.08	0.0707	-0.0014	0
152	SLE RA 2	0	-0.94	42.13	0.0041	-0.0026	0
152	SLE RA 3	0	-2.4	44.18	0.0788	-0.0015	0
152	SLE RA 4	0	-1.63	43.61	0.0388	-0.0022	0
152	SLE RA 5	0	-1.14	42.95	0.0135	-0.0026	0
152	SLE RA 6	0	-2.6	45	0.0882	-0.0015	0
152	SLE RA 7	0	-1.83	44.43	0.0482	-0.0022	0
152	SLE RA 8	0	-2.62	44.71	0.0895	-0.0014	0
152	SLE RA 9	0	-1.85	44.14	0.0495	-0.0022	0
152	SLE RA 10	0	-1.01	46.97	0.0053	-0.0029	0
152	SLE RA 11	0	-2.46	49.02	0.08	-0.0017	0
152	SLE RA 12	0	-1.69	48.46	0.0401	-0.0024	0
152	SLE RA 13	0	-1.21	47.79	0.0147	-0.0029	0
152	SLE RA 14	0	-2.66	49.84	0.0894	-0.0017	0
152	SLE RA 15	0	-1.89	49.27	0.0495	-0.0024	0
152	SLE RA 16	0	-2.68	49.56	0.0907	-0.0017	0
152	SLE RA 17	0	-1.92	48.99	0.0508	-0.0024	0
152	SLE RA 18	0	-2.31	50	0.0724	-0.0018	0
152	SLE RA 19	0	-1.55	49.43	0.0325	-0.0025	0
152	SLE RA 20	0	-2.51	50.81	0.0819	-0.0018	0
152	SLE RA 21	0	-1.75	50.25	0.0419	-0.0025	0
152	SLE FR 1	0	-2.22	43.08	0.0707	-0.0014	0
152	SLE FR 2	0	-1.96	42.89	0.0574	-0.0017	0
152	SLE FR 3	0	-2.3	43.4	0.0745	-0.0014	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
152	SLE FR 4	0	-1.99	44.96	0.0579	-0.0018	0
152	SLE FR 5	0	-2.33	45.48	0.075	-0.0015	0
152	SLE FR 6	0	-2.26	46.54	0.0716	-0.0016	0
152	SLE QP 1	0	-2.22	43.08	0.0707	-0.0014	0
152	SLE QP 2	0	-2.25	45.15	0.0712	-0.0015	0
152	SLD 1	0.02	-2.07	45.67	0.0617	0.0308	0.0001
152	SLD 2	0.02	-2.07	45.67	0.0617	0.0308	0.0001
152	SLD 3	0.05	-4.69	47.14	0.1925	0.0463	0
152	SLD 4	0.05	-4.69	47.14	0.1925	0.0463	0
152	SLD 5	-0.04	1.77	43.07	-0.13	-0.0153	0.0001
152	SLD 6	-0.04	1.77	43.07	-0.13	-0.0153	0.0001
152	SLD 7	0.06	-6.94	47.98	0.306	0.0363	0
152	SLD 8	0.06	-6.94	47.98	0.306	0.0363	0
152	SLD 9	-0.05	2.45	42.33	-0.1636	-0.0393	0
152	SLD 10	-0.05	2.45	42.33	-0.1636	-0.0393	0
152	SLD 11	0.04	-6.26	47.23	0.2725	0.0122	-0.0001
152	SLD 12	0.04	-6.26	47.23	0.2725	0.0122	-0.0001
152	SLD 13	-0.04	0.19	43.17	-0.0501	-0.0494	0
152	SLD 14	-0.04	0.19	43.17	-0.0501	-0.0494	0
152	SLD 15	-0.02	-2.42	44.64	0.0807	-0.0339	-0.0001
152	SLD 16	-0.02	-2.42	44.64	0.0807	-0.0339	-0.0001
152	SLV 1	0.04	-1.97	46.49	0.0549	0.0767	0.0002
152	SLV 2	0.04	-1.97	46.49	0.0549	0.0767	0.0002
152	SLV 3	0.11	-8.15	50.04	0.3651	0.1161	0.0001
152	SLV 4	0.11	-8.15	50.04	0.3651	0.1161	0.0001
152	SLV 5	-0.09	7.22	40.16	-0.4042	-0.0378	0.0001
152	SLV 6	-0.09	7.22	40.16	-0.4042	-0.0378	0.0001
152	SLV 7	0.14	-13.4	52.01	0.6299	0.0936	0
152	SLV 8	0.14	-13.4	52.01	0.6299	0.0936	0
152	SLV 9	-0.13	8.91	38.29	-0.4875	-0.0966	0
152	SLV 10	-0.13	8.91	38.29	-0.4875	-0.0966	0
152	SLV 11	0.09	-11.71	50.15	0.5466	0.0348	-0.0001
152	SLV 12	0.09	-11.71	50.15	0.5466	0.0348	-0.0001
152	SLV 13	-0.11	3.66	40.26	-0.2227	-0.1192	-0.0001
152	SLV 14	-0.11	3.66	40.26	-0.2227	-0.1192	-0.0001
152	SLV 15	-0.04	-2.53	43.82	0.0875	-0.0798	-0.0002
152	SLV 16	-0.04	-2.53	43.82	0.0875	-0.0798	-0.0002
153	SLU 1	-0.02	2.13	54.98	-0.0932	-0.013	-0.0001
153	SLU 2	-0.02	2.46	56.71	-0.1119	0.0057	-0.0001
153	SLU 3	-0.02	2.26	56.73	-0.0988	-0.0137	-0.0001
153	SLU 4	-0.02	2.46	57.77	-0.11	-0.0026	-0.0001
153	SLU 5	-0.02	2.56	57.82	-0.1162	0.0051	-0.0001
153	SLU 6	-0.02	2.35	57.84	-0.1031	-0.0143	-0.0001
153	SLU 7	-0.02	2.55	58.88	-0.1143	-0.0031	-0.0001
153	SLU 8	-0.02	2.32	57.2	-0.1019	-0.0141	-0.0001
153	SLU 9	-0.02	2.52	58.24	-0.1131	-0.0029	-0.0001
153	SLU 10	-0.03	3	63.83	-0.1329	0.0025	-0.0002
153	SLU 11	-0.02	2.8	63.84	-0.1198	-0.0169	-0.0002
153	SLU 12	-0.03	3	64.89	-0.131	-0.0057	-0.0002
153	SLU 13	-0.03	3.1	64.94	-0.1373	0.0019	-0.0002
153	SLU 14	-0.02	2.89	64.96	-0.1242	-0.0175	-0.0002
153	SLU 15	-0.03	3.09	66	-0.1354	-0.0063	-0.0002
153	SLU 16	-0.02	2.86	64.32	-0.123	-0.0173	-0.0002
153	SLU 17	-0.03	3.06	65.36	-0.1342	-0.0061	-0.0002
153	SLU 18	-0.03	2.9	65.14	-0.1233	-0.0175	-0.0002
153	SLU 19	-0.03	3.1	66.19	-0.1345	-0.0064	-0.0002
153	SLU 20	-0.03	3	66.26	-0.1276	-0.0181	-0.0002
153	SLU 21	-0.03	3.2	67.3	-0.1389	-0.0069	-0.0002
153	SLU 22	-0.02	2.61	62.01	-0.1123	-0.0159	-0.0002
153	SLU 23	-0.02	2.94	63.75	-0.131	0.0027	-0.0002
153	SLU 24	-0.02	2.73	63.76	-0.1179	-0.0167	-0.0002
153	SLU 25	-0.02	2.93	64.8	-0.1291	-0.0055	-0.0002
153	SLU 26	-0.03	3.03	64.86	-0.1353	0.0022	-0.0002
153	SLU 27	-0.02	2.83	64.87	-0.1222	-0.0172	-0.0002
153	SLU 28	-0.03	3.03	65.91	-0.1334	-0.006	-0.0002
153	SLU 29	-0.02	2.8	64.23	-0.121	-0.017	-0.0002
153	SLU 30	-0.03	3	65.27	-0.1322	-0.0058	-0.0002
153	SLU 31	-0.03	3.48	70.86	-0.152	-0.0005	-0.0002
153	SLU 32	-0.03	3.27	70.88	-0.1389	-0.0198	-0.0002
153	SLU 33	-0.03	3.47	71.92	-0.1501	-0.0087	-0.0002
153	SLU 34	-0.03	3.57	71.97	-0.1564	-0.001	-0.0002
153	SLU 35	-0.03	3.37	71.99	-0.1433	-0.0204	-0.0002
153	SLU 36	-0.03	3.57	73.03	-0.1545	-0.0092	-0.0002
153	SLU 37	-0.03	3.34	71.35	-0.1421	-0.0202	-0.0002
153	SLU 38	-0.03	3.54	72.39	-0.1533	-0.009	-0.0002
153	SLU 39	-0.03	3.38	72.18	-0.1424	-0.0205	-0.0002
153	SLU 40	-0.03	3.58	73.22	-0.1536	-0.0093	-0.0002
153	SLU 41	-0.03	3.48	73.29	-0.1468	-0.021	-0.0002
153	SLU 42	-0.03	3.67	74.33	-0.158	-0.0098	-0.0002
153	SLU 43	-0.02	2.61	69.06	-0.1146	-0.0159	-0.0002
153	SLU 44	-0.03	2.94	70.8	-0.1333	0.0028	-0.0002
153	SLU 45	-0.02	2.73	70.81	-0.1202	-0.0166	-0.0002
153	SLU 46	-0.03	2.93	71.85	-0.1314	-0.0054	-0.0002
153	SLU 47	-0.03	3.03	71.91	-0.1376	0.0022	-0.0002
153	SLU 48	-0.03	2.83	71.92	-0.1245	-0.0172	-0.0002
153	SLU 49	-0.03	3.03	72.96	-0.1357	-0.006	-0.0002
153	SLU 50	-0.03	2.8	71.28	-0.1233	-0.017	-0.0002
153	SLU 51	-0.03	3	72.32	-0.1345	-0.0058	-0.0002



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
153	SLU 52	-0.03	3.48	77.91	-0.1543	-0.0004	-0.0002		
153	SLU 53	-0.03	3.27	77.93	-0.1412	-0.0198	-0.0002		
153	SLU 54	-0.03	3.47	78.97	-0.1524	-0.0086	-0.0002		
153	SLU 55	-0.03	3.58	79.02	-0.1587	-0.001	-0.0002		
153	SLU 56	-0.03	3.37	79.04	-0.1456	-0.0204	-0.0002		
153	SLU 57	-0.03	3.57	80.08	-0.1568	-0.0092	-0.0002		
153	SLU 58	-0.03	3.34	78.4	-0.1444	-0.0201	-0.0002		
153	SLU 59	-0.03	3.54	79.44	-0.1556	-0.009	-0.0002		
153	SLU 60	-0.03	3.38	79.23	-0.1447	-0.0204	-0.0002		
153	SLU 61	-0.03	3.58	80.27	-0.1559	-0.0092	-0.0002		
153	SLU 62	-0.03	3.48	80.34	-0.1491	-0.021	-0.0002		
153	SLU 63	-0.03	3.68	81.38	-0.1603	-0.0098	-0.0002		
153	SLU 64	-0.03	3.08	76.09	-0.1337	-0.0188	-0.0002		
153	SLU 65	-0.03	3.41	77.83	-0.1524	-0.0002	-0.0002		
153	SLU 66	-0.03	3.21	77.84	-0.1393	-0.0195	-0.0002		
153	SLU 67	-0.03	3.41	78.88	-0.1505	-0.0084	-0.0002		
153	SLU 68	-0.03	3.51	78.94	-0.1568	-0.0007	-0.0002		
153	SLU 69	-0.03	3.31	78.95	-0.1436	-0.0201	-0.0002		
153	SLU 70	-0.03	3.5	79.99	-0.1548	-0.0089	-0.0002		
153	SLU 71	-0.03	3.28	78.31	-0.1424	-0.0199	-0.0002		
153	SLU 72	-0.03	3.47	79.36	-0.1536	-0.0087	-0.0002		
153	SLU 73	-0.03	3.95	84.95	-0.1735	-0.0034	-0.0002		
153	SLU 74	-0.03	3.75	84.96	-0.1603	-0.0227	-0.0002		
153	SLU 75	-0.03	3.95	86	-0.1715	-0.0116	-0.0002		
153	SLU 76	-0.03	4.05	86.06	-0.1778	-0.0039	-0.0002		
153	SLU 77	-0.03	3.85	86.07	-0.1647	-0.0233	-0.0002		
153	SLU 78	-0.03	4.04	87.11	-0.1759	-0.0121	-0.0002		
153	SLU 79	-0.03	3.82	85.43	-0.1635	-0.0231	-0.0002		
153	SLU 80	-0.03	4.01	86.47	-0.1747	-0.0119	-0.0002		
153	SLU 81	-0.03	3.86	86.26	-0.1638	-0.0233	-0.0002		
153	SLU 82	-0.03	4.05	87.3	-0.175	-0.0122	-0.0002		
153	SLU 83	-0.03	3.95	87.37	-0.1682	-0.0239	-0.0002		
153	SLU 84	-0.03	4.15	88.41	-0.1794	-0.0127	-0.0002		
153	SLE RA 1	-0.02	2.27	56.99	-0.0987	-0.0138	-0.0001		
153	SLE RA 2	-0.02	2.49	58.14	-0.1111	-0.0014	-0.0001		
153	SLE RA 3	-0.02	2.35	58.15	-0.1024	-0.0143	-0.0002		
153	SLE RA 4	-0.02	2.48	58.85	-0.1098	-0.0069	-0.0001		
153	SLE RA 5	-0.02	2.55	58.88	-0.114	-0.0018	-0.0001		
153	SLE RA 6	-0.02	2.42	58.89	-0.1053	-0.0147	-0.0002		
153	SLE RA 7	-0.02	2.55	59.59	-0.1127	-0.0072	-0.0001		
153	SLE RA 8	-0.02	2.4	58.47	-0.1045	-0.0145	-0.0002		
153	SLE RA 9	-0.02	2.53	59.16	-0.1119	-0.0071	-0.0001		
153	SLE RA 10	-0.02	2.85	62.89	-0.1251	-0.0035	-0.0002		
153	SLE RA 11	-0.02	2.71	62.9	-0.1164	-0.0164	-0.0002		
153	SLE RA 12	-0.02	2.84	63.59	-0.1239	-0.009	-0.0002		
153	SLE RA 13	-0.02	2.91	63.63	-0.1281	-0.0039	-0.0002		
153	SLE RA 14	-0.02	2.78	63.64	-0.1193	-0.0168	-0.0002		
153	SLE RA 15	-0.02	2.91	64.33	-0.1268	-0.0094	-0.0002		
153	SLE RA 16	-0.02	2.76	63.21	-0.1185	-0.0167	-0.0002		
153	SLE RA 17	-0.02	2.89	63.91	-0.126	-0.0092	-0.0002		
153	SLE RA 18	-0.02	2.78	63.76	-0.1187	-0.0168	-0.0002		
153	SLE RA 19	-0.02	2.91	64.46	-0.1262	-0.0094	-0.0002		
153	SLE RA 20	-0.02	2.85	64.51	-0.1216	-0.0172	-0.0002		
153	SLE RA 21	-0.03	2.98	65.2	-0.1291	-0.0098	-0.0002		
153	SLE FR 1	-0.02	2.27	56.99	-0.0987	-0.0138	-0.0001		
153	SLE FR 2	-0.02	2.31	57.22	-0.1011	-0.0113	-0.0001		
153	SLE FR 3	-0.02	2.29	57.28	-0.0998	-0.014	-0.0001		
153	SLE FR 4	-0.02	2.47	59.25	-0.1072	-0.0122	-0.0002		
153	SLE FR 5	-0.02	2.45	59.32	-0.1058	-0.0149	-0.0002		
153	SLE FR 6	-0.02	2.53	60.38	-0.1087	-0.0153	-0.0002		
153	SLE QP 1	-0.02	2.27	56.99	-0.0987	-0.0138	-0.0001		
153	SLE QP 2	-0.02	2.42	59.02	-0.1047	-0.0147	-0.0002		
153	SLD 1	-0.12	2.33	43.3	-0.1069	-0.0017	0		
153	SLD 2	-0.12	2.33	43.3	-0.1069	-0.0017	0		
153	SLD 3	-0.02	-0.79	41.55	0.0258	0.062	0		
153	SLD 4	-0.02	-0.79	41.55	0.0258	0.062	0		
153	SLD 5	-0.2	7.13	56.95	-0.3067	-0.1073	0		
153	SLD 6	-0.2	7.13	56.95	-0.3067	-0.1073	0		
153	SLD 7	0.13	-3.27	51.13	0.1358	0.1048	-0.0002		
153	SLD 8	0.13	-3.27	51.13	0.1358	0.1048	-0.0002		
153	SLD 9	-0.17	8.12	66.91	-0.3451	-0.1342	-0.0001		
153	SLD 10	-0.17	8.12	66.91	-0.3451	-0.1342	-0.0001		
153	SLD 11	0.16	-2.28	61.09	0.0973	0.0779	-0.0003		
153	SLD 12	0.16	-2.28	61.09	0.0973	0.0779	-0.0003		
153	SLD 13	-0.02	5.63	76.49	-0.2352	-0.0914	-0.0003		
153	SLD 14	-0.02	5.63	76.49	-0.2352	-0.0914	-0.0003		
153	SLD 15	0.08	2.51	74.74	-0.1024	-0.0278	-0.0003		
153	SLD 16	0.08	2.51	74.74	-0.1024	-0.0278	-0.0003		
153	SLV 1	-0.27	2.19	22.22	-0.1087	0.0117	0.0003		
153	SLV 2	-0.27	2.19	22.22	-0.1087	0.0117	0.0003		
153	SLV 3	-0.01	-5.07	18.08	0.2003	0.174	0.0002		
153	SLV 4	-0.01	-5.07	18.08	0.2003	0.174	0.0002		
153	SLV 5	-0.48	13.36	54.25	-0.5745	-0.253	0.0002		
153	SLV 6	-0.48	13.36	54.25	-0.5745	-0.253	0.0002		
153	SLV 7	0.37	-10.84	40.47	0.4554	0.2881	-0.0002		
153	SLV 8	0.37	-10.84	40.47	0.4554	0.2881	-0.0002		
153	SLV 9	-0.41	15.68	77.57	-0.6648	-0.3175	-0.0001		
153	SLV 10	-0.41	15.68	77.57	-0.6648	-0.3175	-0.0001		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
153	SLV 11	0.44	-8.52	63.79	0.3651	0.2235	-0.0005		
153	SLV 12	0.44	-8.52	63.79	0.3651	0.2235	-0.0005		
153	SLV 13	-0.03	9.92	99.96	-0.4096	-0.2034	-0.0005		
153	SLV 14	-0.03	9.92	99.96	-0.4096	-0.2034	-0.0005		
153	SLV 15	0.22	2.66	95.82	-0.1007	-0.0411	-0.0006		
153	SLV 16	0.22	2.66	95.82	-0.1007	-0.0411	-0.0006		
154	SLU 1	0.08	-5.45	45.19	0.2731	0.0283	-0.0004		
154	SLU 2	0.08	-5.82	45.53	0.2916	0.0281	-0.0004		
154	SLU 3	0.08	-5.28	46.17	0.2644	0.0292	-0.0004		
154	SLU 4	0.08	-5.5	46.38	0.2755	0.0291	-0.0004		
154	SLU 5	0.08	-5.54	45.84	0.277	0.0286	-0.0004		
154	SLU 6	0.08	-5	46.49	0.2498	0.0297	-0.0004		
154	SLU 7	0.08	-5.22	46.69	0.2609	0.0296	-0.0004		
154	SLU 8	0.08	-4.89	45.81	0.244	0.0293	-0.0004		
154	SLU 9	0.08	-5.11	46.01	0.255	0.0292	-0.0004		
154	SLU 10	0.09	-6.8	54.7	0.3424	0.0331	-0.0005		
154	SLU 11	0.1	-6.26	55.34	0.3153	0.0343	-0.0005		
154	SLU 12	0.1	-6.48	55.55	0.3263	0.0341	-0.0005		
154	SLU 13	0.1	-6.52	55.01	0.3278	0.0336	-0.0005		
154	SLU 14	0.1	-5.98	55.65	0.3007	0.0348	-0.0005		
154	SLU 15	0.1	-6.2	55.86	0.3117	0.0346	-0.0005		
154	SLU 16	0.1	-5.87	54.98	0.2948	0.0344	-0.0005		
154	SLU 17	0.1	-6.09	55.18	0.3059	0.0342	-0.0005		
154	SLU 18	0.1	-6.85	58.29	0.3457	0.0355	-0.0006		
154	SLU 19	0.1	-7.08	58.49	0.3568	0.0354	-0.0006		
154	SLU 20	0.1	-6.57	58.6	0.3312	0.036	-0.0006		
154	SLU 21	0.1	-6.8	58.8	0.3422	0.0359	-0.0006		
154	SLU 22	0.09	-5.85	52.02	0.2955	0.0331	-0.0005		
154	SLU 23	0.09	-6.22	52.36	0.3139	0.0329	-0.0005		
154	SLU 24	0.1	-5.68	53	0.2868	0.034	-0.0005		
154	SLU 25	0.1	-5.9	53.21	0.2978	0.0339	-0.0005		
154	SLU 26	0.09	-5.94	52.67	0.2993	0.0334	-0.0005		
154	SLU 27	0.1	-5.39	53.31	0.2722	0.0345	-0.0005		
154	SLU 28	0.1	-5.62	53.52	0.2833	0.0344	-0.0005		
154	SLU 29	0.1	-5.28	52.64	0.2663	0.0341	-0.0005		
154	SLU 30	0.1	-5.51	52.84	0.2774	0.034	-0.0005		
154	SLU 31	0.11	-7.2	61.53	0.3648	0.0379	-0.0006		
154	SLU 32	0.11	-6.66	62.17	0.3376	0.0391	-0.0006		
154	SLU 33	0.11	-6.88	62.38	0.3487	0.0389	-0.0006		
154	SLU 34	0.11	-6.92	61.84	0.3502	0.0384	-0.0006		
154	SLU 35	0.11	-6.38	62.48	0.323	0.0396	-0.0006		
154	SLU 36	0.11	-6.6	62.69	0.3341	0.0394	-0.0006		
154	SLU 37	0.11	-6.27	61.81	0.3172	0.0391	-0.0006		
154	SLU 38	0.11	-6.49	62.01	0.3282	0.039	-0.0006		
154	SLU 39	0.12	-7.25	65.11	0.3681	0.0403	-0.0006		
154	SLU 40	0.12	-7.47	65.32	0.3792	0.0402	-0.0006		
154	SLU 41	0.12	-6.97	65.43	0.3535	0.0408	-0.0007		
154	SLU 42	0.12	-7.19	65.63	0.3646	0.0406	-0.0006		
154	SLU 43	0.1	-6.94	56.4	0.3474	0.0352	-0.0005		
154	SLU 44	0.1	-7.31	56.74	0.3658	0.0349	-0.0005		
154	SLU 45	0.1	-6.77	57.39	0.3387	0.0361	-0.0005		
154	SLU 46	0.1	-7	57.6	0.3497	0.036	-0.0005		
154	SLU 47	0.1	-7.03	57.06	0.3513	0.0354	-0.0005		
154	SLU 48	0.1	-6.49	57.7	0.3241	0.0366	-0.0005		
154	SLU 49	0.1	-6.72	57.91	0.3352	0.0364	-0.0005		
154	SLU 50	0.1	-6.38	57.02	0.3182	0.0362	-0.0005		
154	SLU 51	0.1	-6.61	57.23	0.3293	0.036	-0.0005		
154	SLU 52	0.11	-8.3	65.91	0.4167	0.04	-0.0006		
154	SLU 53	0.12	-7.76	66.56	0.3895	0.0411	-0.0006		
154	SLU 54	0.12	-7.98	66.76	0.4006	0.041	-0.0006		
154	SLU 55	0.11	-8.02	66.23	0.4021	0.0405	-0.0006		
154	SLU 56	0.12	-7.48	66.87	0.3749	0.0416	-0.0006		
154	SLU 57	0.12	-7.7	67.08	0.386	0.0415	-0.0006		
154	SLU 58	0.12	-7.37	66.19	0.3691	0.0412	-0.0006		
154	SLU 59	0.12	-7.59	66.4	0.3801	0.0411	-0.0006		
154	SLU 60	0.12	-8.35	69.5	0.42	0.0424	-0.0007		
154	SLU 61	0.12	-8.57	69.71	0.4311	0.0422	-0.0007		
154	SLU 62	0.12	-8.07	69.81	0.4054	0.0429	-0.0007		
154	SLU 63	0.12	-8.29	70.02	0.4165	0.0427	-0.0007		
154	SLU 64	0.11	-7.34	63.23	0.3697	0.04	-0.0006		
154	SLU 65	0.11	-7.71	63.57	0.3882	0.0397	-0.0006		
154	SLU 66	0.11	-7.17	64.22	0.361	0.0409	-0.0006		
154	SLU 67	0.11	-7.4	64.42	0.3721	0.0407	-0.0006		
154	SLU 68	0.11	-7.43	63.88	0.3736	0.0402	-0.0006		
154	SLU 69	0.12	-6.89	64.53	0.3465	0.0414	-0.0006		
154	SLU 70	0.11	-7.11	64.74	0.3575	0.0412	-0.0006		
154	SLU 71	0.11	-6.78	63.85	0.3406	0.041	-0.0006		
154	SLU 72	0.11	-7	64.06	0.3517	0.0408	-0.0006		
154	SLU 73	0.13	-8.7	72.74	0.439	0.0448	-0.0007		
154	SLU 74	0.13	-8.16	73.39	0.4119	0.0459	-0.0007		
154	SLU 75	0.13	-8.38	73.59	0.4229	0.0458	-0.0007		
154	SLU 76	0.13	-8.42	73.05	0.4245	0.0453	-0.0007		
154	SLU 77	0.13	-7.88	73.7	0.3973	0.0464	-0.0007		
154	SLU 78	0.13	-8.1	73.9	0.4084	0.0463	-0.0007		
154	SLU 79	0.13	-7.77	73.02	0.3914	0.046	-0.0007		
154	SLU 80	0.13	-7.99	73.23	0.4025	0.0459	-0.0007		
154	SLU 81	0.14	-8.75	76.33	0.4424	0.0472	-0.0007		
154	SLU 82	0.14	-8.97	76.54	0.4534	0.047	-0.0007		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
154	SLU 83	0.14	-8.47	76.64	0.4278	0.0477	-0.0008		
154	SLU 84	0.14	-8.69	76.85	0.4389	0.0475	-0.0007		
154	SLE RA 1	0.08	-5.56	47.14	0.2795	0.0297	-0.0004		
154	SLE RA 2	0.08	-5.81	47.37	0.2918	0.0295	-0.0004		
154	SLE RA 3	0.08	-5.45	47.8	0.2737	0.0303	-0.0005		
154	SLE RA 4	0.08	-5.6	47.93	0.2811	0.0302	-0.0005		
154	SLE RA 5	0.08	-5.62	47.57	0.2821	0.0299	-0.0005		
154	SLE RA 6	0.09	-5.26	48	0.264	0.0306	-0.0005		
154	SLE RA 7	0.08	-5.41	48.14	0.2714	0.0305	-0.0005		
154	SLE RA 8	0.08	-5.19	47.55	0.2601	0.0304	-0.0005		
154	SLE RA 9	0.08	-5.33	47.69	0.2674	0.0303	-0.0005		
154	SLE RA 10	0.09	-6.46	53.48	0.3257	0.0329	-0.0005		
154	SLE RA 11	0.1	-6.1	53.91	0.3076	0.0337	-0.0005		
154	SLE RA 12	0.1	-6.25	54.05	0.315	0.0336	-0.0005		
154	SLE RA 13	0.09	-6.28	53.69	0.316	0.0332	-0.0005		
154	SLE RA 14	0.1	-5.92	54.12	0.2979	0.034	-0.0005		
154	SLE RA 15	0.1	-6.07	54.25	0.3053	0.0339	-0.0005		
154	SLE RA 16	0.1	-5.84	53.66	0.294	0.0337	-0.0005		
154	SLE RA 17	0.1	-5.99	53.8	0.3013	0.0336	-0.0005		
154	SLE RA 18	0.1	-6.5	55.87	0.3279	0.0345	-0.0005		
154	SLE RA 19	0.1	-6.65	56.01	0.3353	0.0344	-0.0005		
154	SLE RA 20	0.1	-6.31	56.08	0.3182	0.0348	-0.0005		
154	SLE RA 21	0.1	-6.46	56.22	0.3256	0.0347	-0.0005		
154	SLE FR 1	0.08	-5.56	47.14	0.2795	0.0297	-0.0004		
154	SLE FR 2	0.08	-5.61	47.18	0.282	0.0297	-0.0004		
154	SLE FR 3	0.08	-5.49	47.22	0.2756	0.0298	-0.0005		
154	SLE FR 4	0.09	-5.89	49.8	0.2965	0.0311	-0.0005		
154	SLE FR 5	0.09	-5.77	49.84	0.2901	0.0313	-0.0005		
154	SLE FR 6	0.09	-6.03	51.5	0.3037	0.0321	-0.0005		
154	SLE QP 1	0.08	-5.56	47.14	0.2795	0.0297	-0.0004		
154	SLE QP 2	0.09	-5.84	49.76	0.294	0.0311	-0.0005		
154	SLD 1	0.12	-5.03	52.37	0.2547	0.085	-0.0006		
154	SLD 2	0.12	-5.03	52.37	0.2547	0.085	-0.0006		
154	SLD 3	0.14	-7.88	56.58	0.3997	0.0929	-0.0006		
154	SLD 4	0.14	-7.88	56.58	0.3997	0.0929	-0.0006		
154	SLD 5	0.07	-1.28	44.14	0.0623	0.0353	-0.0004		
154	SLD 6	0.07	-1.28	44.14	0.0623	0.0353	-0.0004		
154	SLD 7	0.13	-10.78	58.2	0.5456	0.0616	-0.0006		
154	SLD 8	0.13	-10.78	58.2	0.5456	0.0616	-0.0006		
154	SLD 9	0.05	-0.91	41.31	0.0424	0.0007	-0.0004		
154	SLD 10	0.05	-0.91	41.31	0.0424	0.0007	-0.0004		
154	SLD 11	0.1	-10.41	55.37	0.5257	0.027	-0.0005		
154	SLD 12	0.1	-10.41	55.37	0.5257	0.027	-0.0005		
154	SLD 13	0.04	-3.8	42.93	0.1884	-0.0306	-0.0004		
154	SLD 14	0.04	-3.8	42.93	0.1884	-0.0306	-0.0004		
154	SLD 15	0.05	-6.65	47.15	0.3334	-0.0227	-0.0004		
154	SLD 16	0.05	-6.65	47.15	0.3334	-0.0227	-0.0004		
154	SLV 1	0.17	-3.95	55.83	0.2021	0.1663	-0.0007		
154	SLV 2	0.17	-3.95	55.83	0.2021	0.1663	-0.0007		
154	SLV 3	0.21	-10.62	65.78	0.5417	0.1859	-0.0008		
154	SLV 4	0.21	-10.62	65.78	0.5417	0.1859	-0.0008		
154	SLV 5	0.05	4.85	36.49	-0.2486	0.042	-0.0004		
154	SLV 6	0.05	4.85	36.49	-0.2486	0.042	-0.0004		
154	SLV 7	0.18	-17.4	69.65	0.8833	0.1073	-0.0007		
154	SLV 8	0.18	-17.4	69.65	0.8833	0.1073	-0.0007		
154	SLV 9	-0.01	5.72	29.86	-0.2953	-0.045	-0.0003		
154	SLV 10	-0.01	5.72	29.86	-0.2953	-0.045	-0.0003		
154	SLV 11	0.12	-16.53	63.02	0.8366	0.0203	-0.0006		
154	SLV 12	0.12	-16.53	63.02	0.8366	0.0203	-0.0006		
154	SLV 13	-0.03	-1.06	33.74	0.0464	-0.1236	-0.0002		
154	SLV 14	-0.03	-1.06	33.74	0.0464	-0.1236	-0.0002		
154	SLV 15	0.01	-7.73	43.68	0.386	-0.104	-0.0003		
154	SLV 16	0.01	-7.73	43.68	0.386	-0.104	-0.0003		
155	SLU 1	0	1.53	23.12	-0.0261	0.0015	0		
155	SLU 2	0	1.53	23.19	-0.026	0.0015	0		
155	SLU 3	0	1.61	23.77	-0.0286	0.0013	0		
155	SLU 4	0	1.61	23.81	-0.0285	0.0014	0		
155	SLU 5	0	1.57	23.54	-0.0281	0.0014	0		
155	SLU 6	0	1.65	24.13	-0.0307	0.0011	0		
155	SLU 7	0	1.65	24.17	-0.0307	0.0012	0		
155	SLU 8	0	1.62	23.82	-0.0303	0.0011	0		
155	SLU 9	0	1.62	23.86	-0.0303	0.0011	0		
155	SLU 10	0	1.69	28.36	-0.0272	0.0019	0		
155	SLU 11	0	1.77	28.95	-0.0298	0.0017	0		
155	SLU 12	0	1.77	28.99	-0.0298	0.0017	0		
155	SLU 13	0	1.73	28.71	-0.0293	0.0017	0		
155	SLU 14	0	1.81	29.3	-0.0319	0.0015	0		
155	SLU 15	0	1.81	29.34	-0.0319	0.0015	0		
155	SLU 16	0	1.78	29	-0.0315	0.0015	0		
155	SLU 17	0	1.77	29.04	-0.0315	0.0015	0		
155	SLU 18	0	1.76	30.51	-0.0278	0.002	0		
155	SLU 19	0	1.76	30.55	-0.0278	0.002	0		
155	SLU 20	0	1.8	30.86	-0.0299	0.0018	0		
155	SLU 21	0	1.8	30.9	-0.0299	0.0019	0		
155	SLU 22	0	1.85	26.36	-0.0338	0.0015	0		
155	SLU 23	0	1.85	26.43	-0.0338	0.0016	0		
155	SLU 24	0	1.93	27.02	-0.0363	0.0014	0		
155	SLU 25	0	1.93	27.06	-0.0363	0.0014	0		





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
155	SLU 26	0	1.89	26.78	-0.0359	0.0014	0
155	SLU 27	0	1.97	27.37	-0.0384	0.0012	0
155	SLU 28	0	1.97	27.41	-0.0384	0.0012	0
155	SLU 29	0	1.94	27.07	-0.038	0.0012	0
155	SLU 30	0	1.94	27.11	-0.038	0.0012	0
155	SLU 31	0	2.01	31.61	-0.035	0.002	0
155	SLU 32	0	2.09	32.19	-0.0376	0.0018	0
155	SLU 33	0	2.09	32.23	-0.0375	0.0018	0
155	SLU 34	0	2.05	31.96	-0.0371	0.0018	0
155	SLU 35	0	2.13	32.54	-0.0397	0.0016	0
155	SLU 36	0	2.13	32.59	-0.0396	0.0016	0
155	SLU 37	0	2.1	32.24	-0.0393	0.0015	0
155	SLU 38	0	2.1	32.28	-0.0392	0.0016	0
155	SLU 39	0	2.08	33.75	-0.0356	0.0021	0
155	SLU 40	0	2.08	33.8	-0.0355	0.0021	0
155	SLU 41	0	2.12	34.11	-0.0377	0.0019	0
155	SLU 42	0	2.12	34.15	-0.0376	0.0019	0
155	SLU 43	0	1.88	28.94	-0.0313	0.0019	0
155	SLU 44	0	1.88	29.01	-0.0312	0.002	0
155	SLU 45	0	1.96	29.6	-0.0338	0.0017	0
155	SLU 46	0	1.96	29.64	-0.0337	0.0018	0
155	SLU 47	0	1.92	29.36	-0.0333	0.0018	0
155	SLU 48	0	2	29.95	-0.0359	0.0015	0
155	SLU 49	0	2	29.99	-0.0358	0.0016	0
155	SLU 50	0	1.97	29.65	-0.0355	0.0015	0
155	SLU 51	0	1.96	29.69	-0.0354	0.0016	0
155	SLU 52	0	2.04	34.19	-0.0324	0.0023	0
155	SLU 53	0	2.12	34.77	-0.035	0.0021	0
155	SLU 54	0	2.11	34.81	-0.0349	0.0021	0
155	SLU 55	0	2.08	34.54	-0.0345	0.0021	0
155	SLU 56	0	2.16	35.12	-0.0371	0.0019	0
155	SLU 57	0	2.16	35.17	-0.037	0.002	0
155	SLU 58	0	2.13	34.82	-0.0367	0.0019	0
155	SLU 59	0	2.12	34.86	-0.0367	0.0019	0
155	SLU 60	0	2.11	36.33	-0.033	0.0024	0
155	SLU 61	0	2.11	36.38	-0.033	0.0025	0
155	SLU 62	0	2.15	36.69	-0.0351	0.0022	0
155	SLU 63	0	2.15	36.73	-0.0351	0.0023	0
155	SLU 64	0	2.2	32.19	-0.039	0.002	0
155	SLU 65	0	2.2	32.25	-0.0389	0.002	0
155	SLU 66	0	2.28	32.84	-0.0415	0.0018	0
155	SLU 67	0	2.28	32.88	-0.0415	0.0018	0
155	SLU 68	0	2.24	32.61	-0.041	0.0018	0
155	SLU 69	0	2.32	33.19	-0.0436	0.0016	0
155	SLU 70	0	2.32	33.23	-0.0436	0.0017	0
155	SLU 71	0	2.29	32.89	-0.0432	0.0016	0
155	SLU 72	0	2.29	32.93	-0.0432	0.0016	0
155	SLU 73	0	2.36	37.43	-0.0402	0.0024	0
155	SLU 74	0	2.44	38.02	-0.0427	0.0022	0
155	SLU 75	0	2.44	38.06	-0.0427	0.0022	0
155	SLU 76	0	2.4	37.78	-0.0423	0.0022	0
155	SLU 77	0	2.48	38.37	-0.0448	0.002	0
155	SLU 78	0	2.48	38.41	-0.0448	0.002	0
155	SLU 79	0	2.45	38.06	-0.0444	0.002	0
155	SLU 80	0	2.45	38.11	-0.0444	0.002	0
155	SLU 81	0	2.43	39.58	-0.0408	0.0025	0
155	SLU 82	0	2.43	39.62	-0.0407	0.0025	0
155	SLU 83	0	2.47	39.93	-0.0429	0.0023	0
155	SLU 84	0	2.47	39.97	-0.0428	0.0023	0
155	SLE RA 1	0	1.62	24.05	-0.0283	0.0015	0
155	SLE RA 2	0	1.62	24.09	-0.0283	0.0015	0
155	SLE RA 3	0	1.67	24.48	-0.03	0.0014	0
155	SLE RA 4	0	1.67	24.51	-0.0299	0.0014	0
155	SLE RA 5	0	1.65	24.33	-0.0297	0.0014	0
155	SLE RA 6	0	1.7	24.72	-0.0314	0.0013	0
155	SLE RA 7	0	1.7	24.74	-0.0313	0.0013	0
155	SLE RA 8	0	1.68	24.51	-0.0311	0.0012	0
155	SLE RA 9	0	1.68	24.54	-0.0311	0.0013	0
155	SLE RA 10	0	1.73	27.54	-0.0291	0.0018	0
155	SLE RA 11	0	1.78	27.93	-0.0308	0.0016	0
155	SLE RA 12	0	1.78	27.96	-0.0308	0.0017	0
155	SLE RA 13	0	1.76	27.78	-0.0305	0.0017	0
155	SLE RA 14	0	1.81	28.17	-0.0322	0.0015	0
155	SLE RA 15	0	1.81	28.19	-0.0322	0.0015	0
155	SLE RA 16	0	1.79	27.96	-0.0319	0.0015	0
155	SLE RA 17	0	1.79	27.99	-0.0319	0.0015	0
155	SLE RA 18	0	1.78	28.97	-0.0295	0.0018	0
155	SLE RA 19	0	1.77	29	-0.0294	0.0019	0
155	SLE RA 20	0	1.8	29.21	-0.0309	0.0017	0
155	SLE RA 21	0	1.8	29.24	-0.0308	0.0017	0
155	SLE FR 1	0	1.62	24.05	-0.0283	0.0015	0
155	SLE FR 2	0	1.62	24.05	-0.0283	0.0015	0
155	SLE FR 3	0	1.64	24.14	-0.0289	0.0014	0
155	SLE FR 4	0	1.67	25.53	-0.0286	0.0016	0
155	SLE FR 5	0	1.68	25.62	-0.0292	0.0015	0
155	SLE FR 6	0	1.7	26.51	-0.0289	0.0017	0
155	SLE QP 1	0	1.62	24.05	-0.0283	0.0015	0
155	SLE QP 2	0	1.67	25.52	-0.0287	0.0016	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
155	SLD 1	0.07	1.74	20.86	-0.0307	0.0571	-0.0003	
155	SLD 2	0.07	1.74	20.86	-0.0307	0.0571	-0.0003	
155	SLD 3	0.05	0.22	22.52	0.0219	0.0484	-0.0002	
155	SLD 4	0.05	0.22	22.52	0.0219	0.0484	-0.0002	
155	SLD 5	0.04	4	21.62	-0.109	0.0313	-0.0002	
155	SLD 6	0.04	4	21.62	-0.109	0.0313	-0.0002	
155	SLD 7	0	-1.07	27.13	0.0662	0.0026	0	
155	SLD 8	0	-1.07	27.13	0.0662	0.0026	0	
155	SLD 9	0	4.41	23.92	-0.1235	0.0006	0	
155	SLD 10	0	4.41	23.92	-0.1235	0.0006	0	
155	SLD 11	-0.04	-0.66	29.43	0.0517	-0.0281	0.0001	
155	SLD 12	-0.04	-0.66	29.43	0.0517	-0.0281	0.0001	
155	SLD 13	-0.05	3.12	28.53	-0.0792	-0.0452	0.0002	
155	SLD 14	-0.05	3.12	28.53	-0.0792	-0.0452	0.0002	
155	SLD 15	-0.06	1.6	30.19	-0.0266	-0.0539	0.0003	
155	SLD 16	-0.06	1.6	30.19	-0.0266	-0.0539	0.0003	
155	SLV 1	0.16	1.83	14.58	-0.0325	0.1405	-0.0007	
155	SLV 2	0.16	1.83	14.58	-0.0325	0.1405	-0.0007	
155	SLV 3	0.13	-1.74	18.48	0.0909	0.1198	-0.0006	
155	SLV 4	0.13	-1.74	18.48	0.0909	0.1198	-0.0006	
155	SLV 5	0.09	7.13	16.33	-0.217	0.0748	-0.0004	
155	SLV 6	0.09	7.13	16.33	-0.217	0.0748	-0.0004	
155	SLV 7	0	-4.77	29.32	0.1944	0.0055	0	
155	SLV 8	0	-4.77	29.32	0.1944	0.0055	0	
155	SLV 9	0.01	8.11	21.73	-0.2517	-0.0023	0	
155	SLV 10	0.01	8.11	21.73	-0.2517	-0.0023	0	
155	SLV 11	-0.09	-3.79	34.72	0.1597	-0.0716	0.0004	
155	SLV 12	-0.09	-3.79	34.72	0.1597	-0.0716	0.0004	
155	SLV 13	-0.13	5.08	32.57	-0.1482	-0.1166	0.0005	
155	SLV 14	-0.13	5.08	32.57	-0.1482	-0.1166	0.0005	
155	SLV 15	-0.16	1.51	36.47	-0.0248	-0.1374	0.0007	
155	SLV 16	-0.16	1.51	36.47	-0.0248	-0.1374	0.0007	
156	SLU 1	-0.05	-1.07	59.21	0.0644	-0.0593	-0.0003	
156	SLU 2	-0.05	-0.91	60.51	0.049	-0.0779	-0.0004	
156	SLU 3	-0.05	-1	61.15	0.0613	-0.0616	-0.0003	
156	SLU 4	-0.05	-0.9	61.93	0.052	-0.0727	-0.0004	
156	SLU 5	-0.06	-0.83	61.78	0.0452	-0.0795	-0.0004	
156	SLU 6	-0.05	-0.93	62.43	0.0574	-0.0633	-0.0004	
156	SLU 7	-0.06	-0.83	63.21	0.0481	-0.0744	-0.0004	
156	SLU 8	-0.05	-0.93	61.76	0.0567	-0.0627	-0.0004	
156	SLU 9	-0.06	-0.83	62.54	0.0475	-0.0738	-0.0004	
156	SLU 10	-0.06	-0.67	68.55	0.0456	-0.084	-0.0004	
156	SLU 11	-0.06	-0.76	69.2	0.0579	-0.0677	-0.0004	
156	SLU 12	-0.06	-0.66	69.98	0.0486	-0.0788	-0.0004	
156	SLU 13	-0.06	-0.6	69.83	0.0418	-0.0856	-0.0004	
156	SLU 14	-0.06	-0.69	70.47	0.054	-0.0694	-0.0004	
156	SLU 15	-0.06	-0.59	71.25	0.0447	-0.0805	-0.0004	
156	SLU 16	-0.06	-0.69	69.8	0.0533	-0.0688	-0.0004	
156	SLU 17	-0.06	-0.59	70.58	0.0441	-0.0799	-0.0004	
156	SLU 18	-0.06	-0.73	70.7	0.0596	-0.0681	-0.0004	
156	SLU 19	-0.06	-0.63	71.48	0.0503	-0.0792	-0.0004	
156	SLU 20	-0.06	-0.66	71.98	0.0557	-0.0697	-0.0004	
156	SLU 21	-0.06	-0.56	72.76	0.0465	-0.0808	-0.0004	
156	SLU 22	-0.05	-0.89	67.12	0.0618	-0.0662	-0.0004	
156	SLU 23	-0.06	-0.73	68.41	0.0464	-0.0847	-0.0004	
156	SLU 24	-0.06	-0.82	69.06	0.0586	-0.0684	-0.0004	
156	SLU 25	-0.06	-0.72	69.84	0.0494	-0.0795	-0.0004	
156	SLU 26	-0.06	-0.65	69.69	0.0425	-0.0864	-0.0004	
156	SLU 27	-0.06	-0.75	70.33	0.0548	-0.0701	-0.0004	
156	SLU 28	-0.06	-0.65	71.11	0.0455	-0.0812	-0.0004	
156	SLU 29	-0.06	-0.75	69.67	0.0541	-0.0695	-0.0004	
156	SLU 30	-0.06	-0.65	70.44	0.0449	-0.0806	-0.0004	
156	SLU 31	-0.06	-0.49	76.46	0.043	-0.0908	-0.0004	
156	SLU 32	-0.06	-0.58	77.1	0.0552	-0.0745	-0.0004	
156	SLU 33	-0.06	-0.48	77.88	0.046	-0.0856	-0.0004	
156	SLU 34	-0.07	-0.41	77.73	0.0391	-0.0925	-0.0004	
156	SLU 35	-0.06	-0.51	78.38	0.0514	-0.0762	-0.0004	
156	SLU 36	-0.07	-0.41	79.16	0.0421	-0.0873	-0.0004	
156	SLU 37	-0.06	-0.51	77.71	0.0507	-0.0756	-0.0004	
156	SLU 38	-0.07	-0.41	78.49	0.0415	-0.0867	-0.0004	
156	SLU 39	-0.06	-0.55	78.61	0.057	-0.0749	-0.0004	
156	SLU 40	-0.06	-0.45	79.39	0.0477	-0.086	-0.0004	
156	SLU 41	-0.06	-0.48	79.88	0.0531	-0.0766	-0.0004	
156	SLU 42	-0.07	-0.38	80.66	0.0439	-0.0877	-0.0004	
156	SLU 43	-0.06	-1.45	74.27	0.0847	-0.0748	-0.0004	
156	SLU 44	-0.07	-1.29	75.56	0.0692	-0.0933	-0.0005	
156	SLU 45	-0.06	-1.38	76.21	0.0815	-0.077	-0.0004	
156	SLU 46	-0.07	-1.29	76.99	0.0722	-0.0882	-0.0005	
156	SLU 47	-0.07	-1.22	76.84	0.0654	-0.095	-0.0005	
156	SLU 48	-0.07	-1.31	77.48	0.0776	-0.0787	-0.0004	
156	SLU 49	-0.07	-1.21	78.26	0.0684	-0.0898	-0.0005	
156	SLU 50	-0.06	-1.31	76.81	0.0769	-0.0781	-0.0004	
156	SLU 51	-0.07	-1.21	77.59	0.0677	-0.0893	-0.0005	
156	SLU 52	-0.07	-1.05	83.61	0.0658	-0.0994	-0.0005	
156	SLU 53	-0.07	-1.14	84.25	0.0781	-0.0831	-0.0005	
156	SLU 54	-0.07	-1.05	85.03	0.0688	-0.0943	-0.0005	
156	SLU 55	-0.07	-0.98	84.88	0.062	-0.1011	-0.0005	
156	SLU 56	-0.07	-1.07	85.53	0.0742	-0.0848	-0.0005	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
156	SLU 57			-0.07	-0.97	86.3	0.065	-0.0959	-0.0005
156	SLU 58			-0.07	-1.07	84.86	0.0735	-0.0842	-0.0005
156	SLU 59			-0.07	-0.97	85.64	0.0643	-0.0954	-0.0005
156	SLU 60			-0.07	-1.11	85.76	0.0798	-0.0835	-0.0005
156	SLU 61			-0.07	-1.01	86.54	0.0705	-0.0946	-0.0005
156	SLU 62			-0.07	-1.04	87.03	0.0759	-0.0852	-0.0005
156	SLU 63			-0.07	-0.94	87.81	0.0667	-0.0963	-0.0005
156	SLU 64			-0.07	-1.27	82.17	0.082	-0.0816	-0.0005
156	SLU 65			-0.07	-1.11	83.47	0.0666	-0.1002	-0.0005
156	SLU 66			-0.07	-1.2	84.11	0.0789	-0.0839	-0.0005
156	SLU 67			-0.07	-1.11	84.89	0.0696	-0.095	-0.0005
156	SLU 68			-0.07	-1.04	84.74	0.0628	-0.1018	-0.0005
156	SLU 69			-0.07	-1.13	85.39	0.075	-0.0855	-0.0005
156	SLU 70			-0.07	-1.03	86.17	0.0658	-0.0967	-0.0005
156	SLU 71			-0.07	-1.13	84.72	0.0743	-0.085	-0.0005
156	SLU 72			-0.07	-1.03	85.5	0.0651	-0.0961	-0.0005
156	SLU 73			-0.08	-0.87	91.51	0.0632	-0.1063	-0.0005
156	SLU 74			-0.07	-0.96	92.16	0.0755	-0.09	-0.0005
156	SLU 75			-0.08	-0.87	92.94	0.0662	-0.1011	-0.0005
156	SLU 76			-0.08	-0.8	92.79	0.0594	-0.1079	-0.0005
156	SLU 77			-0.08	-0.89	93.43	0.0716	-0.0916	-0.0005
156	SLU 78			-0.08	-0.79	94.21	0.0624	-0.1028	-0.0005
156	SLU 79			-0.08	-0.89	92.76	0.0709	-0.0911	-0.0005
156	SLU 80			-0.08	-0.79	93.54	0.0617	-0.1022	-0.0005
156	SLU 81			-0.07	-0.93	93.66	0.0772	-0.0903	-0.0005
156	SLU 82			-0.08	-0.83	94.44	0.0679	-0.1015	-0.0005
156	SLU 83			-0.08	-0.86	94.94	0.0733	-0.092	-0.0005
156	SLU 84			-0.08	-0.76	95.71	0.0641	-0.1031	-0.0005
156	SLE RA 1			-0.05	-1.02	61.47	0.0637	-0.0613	-0.0003
156	SLE RA 2			-0.05	-0.91	62.34	0.0534	-0.0736	-0.0004
156	SLE RA 3			-0.05	-0.97	62.77	0.0616	-0.0628	-0.0004
156	SLE RA 4			-0.05	-0.91	63.28	0.0554	-0.0702	-0.0004
156	SLE RA 5			-0.06	-0.86	63.19	0.0508	-0.0748	-0.0004
156	SLE RA 6			-0.05	-0.92	63.62	0.059	-0.0639	-0.0004
156	SLE RA 7			-0.06	-0.86	64.13	0.0528	-0.0713	-0.0004
156	SLE RA 8			-0.05	-0.92	63.17	0.0585	-0.0635	-0.0004
156	SLE RA 9			-0.05	-0.86	63.69	0.0524	-0.0709	-0.0004
156	SLE RA 10			-0.06	-0.75	67.7	0.0511	-0.0777	-0.0004
156	SLE RA 11			-0.06	-0.81	68.13	0.0593	-0.0669	-0.0004
156	SLE RA 12			-0.06	-0.75	68.65	0.0531	-0.0743	-0.0004
156	SLE RA 13			-0.06	-0.7	68.55	0.0486	-0.0788	-0.0004
156	SLE RA 14			-0.06	-0.76	68.98	0.0567	-0.068	-0.0004
156	SLE RA 15			-0.06	-0.7	69.5	0.0506	-0.0754	-0.0004
156	SLE RA 16			-0.06	-0.76	68.53	0.0563	-0.0676	-0.0004
156	SLE RA 17			-0.06	-0.7	69.05	0.0501	-0.075	-0.0004
156	SLE RA 18			-0.06	-0.79	69.13	0.0605	-0.0671	-0.0004
156	SLE RA 19			-0.06	-0.73	69.65	0.0543	-0.0745	-0.0004
156	SLE RA 20			-0.06	-0.74	69.98	0.0579	-0.0682	-0.0004
156	SLE RA 21			-0.06	-0.68	70.5	0.0517	-0.0756	-0.0004
156	SLE FR 1			-0.05	-1.02	61.47	0.0637	-0.0613	-0.0003
156	SLE FR 2			-0.05	-1	61.64	0.0616	-0.0638	-0.0003
156	SLE FR 3			-0.05	-1	61.81	0.0627	-0.0617	-0.0003
156	SLE FR 4			-0.05	-0.93	63.94	0.0607	-0.0655	-0.0004
156	SLE FR 5			-0.05	-0.93	64.11	0.0617	-0.0635	-0.0004
156	SLE FR 6			-0.05	-0.9	65.3	0.0621	-0.0642	-0.0004
156	SLE QP 1			-0.05	-1.02	61.47	0.0637	-0.0613	-0.0003
156	SLE QP 2			-0.05	-0.95	63.77	0.0627	-0.063	-0.0004
156	SLD 1			-0.05	1.7	82.32	-0.0603	-0.092	-0.0005
156	SLD 2			-0.05	1.7	82.32	-0.0603	-0.092	-0.0005
156	SLD 3			-0.17	-1.56	84.11	0.096	-0.1449	-0.0009
156	SLD 4			-0.17	-1.56	84.11	0.096	-0.1449	-0.0009
156	SLD 5			0.14	4.79	66.62	-0.2113	0.0085	0.0003
156	SLD 6			0.14	4.79	66.62	-0.2113	0.0085	0.0003
156	SLD 7			-0.28	-6.08	72.59	0.3098	-0.1678	-0.0012
156	SLD 8			-0.28	-6.08	72.59	0.3098	-0.1678	-0.0012
156	SLD 9			0.17	4.17	54.95	-0.1844	0.0418	0.0005
156	SLD 10			0.17	4.17	54.95	-0.1844	0.0418	0.0005
156	SLD 11			-0.24	-6.69	60.92	0.3367	-0.1346	-0.001
156	SLD 12			-0.24	-6.69	60.92	0.3367	-0.1346	-0.001
156	SLD 13			0.07	-0.34	43.43	0.0294	0.0188	0.0002
156	SLD 14			0.07	-0.34	43.43	0.0294	0.0188	0.0002
156	SLD 15			-0.06	-3.6	45.22	0.1858	-0.0341	-0.0002
156	SLD 16			-0.06	-3.6	45.22	0.1858	-0.0341	-0.0002
156	SLV 1			-0.03	5.28	107.15	-0.2267	-0.1265	-0.0006
156	SLV 2			-0.03	5.28	107.15	-0.2267	-0.1265	-0.0006
156	SLV 3			-0.35	-2.3	111.37	0.1372	-0.2616	-0.0018
156	SLV 4			-0.35	-2.3	111.37	0.1372	-0.2616	-0.0018
156	SLV 5			0.44	12.41	70.38	-0.576	0.1228	0.0013
156	SLV 6			0.44	12.41	70.38	-0.576	0.1228	0.0013
156	SLV 7			-0.62	-12.85	84.46	0.6369	-0.3275	-0.0025
156	SLV 8			-0.62	-12.85	84.46	0.6369	-0.3275	-0.0025
156	SLV 9			0.52	10.95	43.08	-0.5115	0.2014	0.0018
156	SLV 10			0.52	10.95	43.08	-0.5115	0.2014	0.0018
156	SLV 11			-0.54	-14.31	57.16	0.7014	-0.2489	-0.002
156	SLV 12			-0.54	-14.31	57.16	0.7014	-0.2489	-0.002
156	SLV 13			0.24	0.4	16.17	-0.0118	0.1356	0.0011
156	SLV 14			0.24	0.4	16.17	-0.0118	0.1356	0.0011
156	SLV 15			-0.08	-7.18	20.39	0.3521	0.0005	-0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
156	SLV 16			-0.08	-7.18	20.39	0.3521	0.0005	-0.0001
157	SLU 1			0.12	-0.11	35.55	0.1007	0.0492	-0.0069
157	SLU 2			0.14	1.91	33.86	0.0076	0.0535	-0.0073
157	SLU 3			0.12	-0.32	37.17	0.1143	0.0507	-0.0072
157	SLU 4			0.13	0.89	36.16	0.0584	0.0533	-0.0074
157	SLU 5			0.14	1.62	35.08	0.0235	0.0541	-0.0074
157	SLU 6			0.12	-0.61	38.39	0.1301	0.0513	-0.0073
157	SLU 7			0.13	0.6	37.37	0.0743	0.0539	-0.0075
157	SLU 8			0.12	-0.68	37.99	0.1323	0.0504	-0.0072
157	SLU 9			0.13	0.53	36.97	0.0765	0.053	-0.0074
157	SLU 10			0.17	2.17	40.12	0.0118	0.0633	-0.0086
157	SLU 11			0.15	-0.06	43.43	0.1185	0.0604	-0.0085
157	SLU 12			0.16	1.16	42.41	0.0627	0.063	-0.0087
157	SLU 13			0.17	1.89	41.33	0.0277	0.0639	-0.0087
157	SLU 14			0.15	-0.34	44.64	0.1343	0.061	-0.0087
157	SLU 15			0.16	0.87	43.63	0.0785	0.0636	-0.0089
157	SLU 16			0.14	-0.42	44.24	0.1365	0.0601	-0.0086
157	SLU 17			0.16	0.8	43.23	0.0807	0.0627	-0.0088
157	SLU 18			0.16	0.27	44.49	0.1067	0.0631	-0.0089
157	SLU 19			0.17	1.48	43.48	0.0509	0.0657	-0.0091
157	SLU 20			0.16	-0.02	45.71	0.1225	0.0637	-0.009
157	SLU 21			0.17	1.2	44.69	0.0667	0.0663	-0.0092
157	SLU 22			0.14	-0.02	41.39	0.1117	0.0576	-0.0081
157	SLU 23			0.16	2	39.7	0.0186	0.0619	-0.0085
157	SLU 24			0.14	-0.23	43.01	0.1253	0.0591	-0.0084
157	SLU 25			0.16	0.98	41.99	0.0695	0.0617	-0.0086
157	SLU 26			0.16	1.71	40.92	0.0345	0.0625	-0.0086
157	SLU 27			0.14	-0.52	44.23	0.1411	0.0597	-0.0085
157	SLU 28			0.15	0.69	43.21	0.0853	0.0623	-0.0087
157	SLU 29			0.14	-0.59	43.83	0.1433	0.0588	-0.0084
157	SLU 30			0.15	0.62	42.81	0.0875	0.0614	-0.0086
157	SLU 31			0.19	2.26	45.96	0.0229	0.0717	-0.0098
157	SLU 32			0.17	0.03	49.27	0.1295	0.0688	-0.0097
157	SLU 33			0.18	1.25	48.25	0.0737	0.0714	-0.0099
157	SLU 34			0.19	1.98	47.17	0.0387	0.0723	-0.0099
157	SLU 35			0.17	-0.25	50.48	0.1453	0.0694	-0.0099
157	SLU 36			0.18	0.96	49.47	0.0895	0.072	-0.0101
157	SLU 37			0.16	-0.33	50.08	0.1475	0.0685	-0.0097
157	SLU 38			0.18	0.89	49.07	0.0917	0.0711	-0.0099
157	SLU 39			0.18	0.36	50.33	0.1177	0.0715	-0.0101
157	SLU 40			0.19	1.57	49.32	0.0619	0.0741	-0.0103
157	SLU 41			0.18	0.07	51.55	0.1335	0.0721	-0.0102
157	SLU 42			0.19	1.29	50.53	0.0777	0.0747	-0.0104
157	SLU 43			0.15	-0.18	44.22	0.1271	0.0611	-0.0086
157	SLU 44			0.17	1.84	42.53	0.0341	0.0654	-0.0089
157	SLU 45			0.15	-0.39	45.84	0.1407	0.0625	-0.0088
157	SLU 46			0.16	0.82	44.82	0.0849	0.0651	-0.009
157	SLU 47			0.17	1.56	43.74	0.0499	0.066	-0.0091
157	SLU 48			0.15	-0.67	47.05	0.1565	0.0631	-0.009
157	SLU 49			0.16	0.54	46.04	0.1007	0.0657	-0.0092
157	SLU 50			0.15	-0.75	46.65	0.1587	0.0623	-0.0089
157	SLU 51			0.16	0.46	45.64	0.1029	0.0649	-0.0091
157	SLU 52			0.2	2.11	48.78	0.0383	0.0752	-0.0103
157	SLU 53			0.18	-0.12	52.09	0.1449	0.0723	-0.0102
157	SLU 54			0.19	1.09	51.08	0.0891	0.0749	-0.0104
157	SLU 55			0.2	1.82	50	0.0541	0.0758	-0.0104
157	SLU 56			0.17	-0.41	53.31	0.1607	0.0729	-0.0103
157	SLU 57			0.19	0.81	52.29	0.1049	0.0755	-0.0105
157	SLU 58			0.17	-0.48	52.91	0.163	0.072	-0.0102
157	SLU 59			0.19	0.73	51.89	0.1071	0.0746	-0.0104
157	SLU 60			0.18	0.21	53.16	0.1331	0.075	-0.0105
157	SLU 61			0.2	1.42	52.14	0.0773	0.0776	-0.0107
157	SLU 62			0.18	-0.08	54.37	0.1489	0.0756	-0.0107
157	SLU 63			0.2	1.13	53.36	0.0931	0.0782	-0.0109
157	SLU 64			0.17	-0.09	50.06	0.1381	0.0695	-0.0098
157	SLU 65			0.19	1.93	48.36	0.0451	0.0738	-0.0101
157	SLU 66			0.17	-0.3	51.67	0.1517	0.0709	-0.01
157	SLU 67			0.18	0.91	50.66	0.0959	0.0735	-0.0102
157	SLU 68			0.19	1.65	49.58	0.0609	0.0744	-0.0103
157	SLU 69			0.17	-0.58	52.89	0.1675	0.0715	-0.0102
157	SLU 70			0.18	0.63	51.87	0.1117	0.0741	-0.0104
157	SLU 71			0.17	-0.66	52.49	0.1698	0.0707	-0.0101
157	SLU 72			0.18	0.55	51.47	0.1139	0.0733	-0.0103
157	SLU 73			0.22	2.2	54.62	0.0493	0.0836	-0.0115
157	SLU 74			0.2	-0.03	57.93	0.1559	0.0807	-0.0114
157	SLU 75			0.21	1.18	56.92	0.1001	0.0833	-0.0116
157	SLU 76			0.22	1.91	55.84	0.0651	0.0842	-0.0116
157	SLU 77			0.2	-0.32	59.15	0.1717	0.0813	-0.0115
157	SLU 78			0.21	0.9	58.13	0.1159	0.0839	-0.0117
157	SLU 79			0.19	-0.39	58.75	0.174	0.0804	-0.0114
157	SLU 80			0.21	0.82	57.73	0.1181	0.083	-0.0116
157	SLU 81			0.21	0.3	59	0.1441	0.0834	-0.0117
157	SLU 82			0.22	1.51	57.98	0.0883	0.086	-0.0119
157	SLU 83			0.2	0.01	60.21	0.1599	0.084	-0.0119
157	SLU 84			0.22	1.22	59.2	0.1041	0.0866	-0.0121
157	SLE RA 1			0.13	-0.09	37.22	0.1038	0.0516	-0.0073
157	SLE RA 2			0.14	1.26	36.09	0.0418	0.0545	-0.0075
157	SLE RA 3			0.13	-0.23	38.3	0.1129	0.0526	-0.0074



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
157	SLE RA 4	0.14	0.58	37.62	0.0757	0.0543	-0.0076
157	SLE RA 5	0.14	1.07	36.9	0.0523	0.0549	-0.0076
157	SLE RA 6	0.13	-0.42	39.11	0.1234	0.053	-0.0075
157	SLE RA 7	0.14	0.39	38.43	0.0862	0.0547	-0.0077
157	SLE RA 8	0.12	-0.47	38.84	0.1249	0.0524	-0.0074
157	SLE RA 9	0.13	0.34	38.17	0.0877	0.0541	-0.0076
157	SLE RA 10	0.16	1.44	40.27	0.0446	0.061	-0.0084
157	SLE RA 11	0.14	-0.05	42.47	0.1157	0.0591	-0.0083
157	SLE RA 12	0.15	0.76	41.79	0.0785	0.0608	-0.0085
157	SLE RA 13	0.16	1.25	41.08	0.0551	0.0614	-0.0085
157	SLE RA 14	0.14	-0.24	43.28	0.1262	0.0595	-0.0084
157	SLE RA 15	0.15	0.57	42.61	0.089	0.0612	-0.0086
157	SLE RA 16	0.14	-0.29	43.02	0.1277	0.0589	-0.0084
157	SLE RA 17	0.15	0.52	42.34	0.0905	0.0606	-0.0085
157	SLE RA 18	0.15	0.17	43.18	0.1078	0.0609	-0.0086
157	SLE RA 19	0.16	0.98	42.5	0.0706	0.0626	-0.0087
157	SLE RA 20	0.15	-0.02	43.99	0.1184	0.0613	-0.0086
157	SLE RA 21	0.16	0.79	43.32	0.0812	0.063	-0.0088
157	SLE FR 1	0.13	-0.09	37.22	0.1038	0.0516	-0.0073
157	SLE FR 2	0.13	0.18	37	0.0914	0.0522	-0.0073
157	SLE FR 3	0.13	-0.16	37.55	0.108	0.0518	-0.0073
157	SLE FR 4	0.14	0.26	38.78	0.0926	0.055	-0.0077
157	SLE FR 5	0.13	-0.09	39.33	0.1092	0.0546	-0.0077
157	SLE FR 6	0.14	0.04	40.2	0.1058	0.0563	-0.0079
157	SLE QP 1	0.13	-0.09	37.22	0.1038	0.0516	-0.0073
157	SLE QP 2	0.13	-0.01	39.01	0.105	0.0544	-0.0076
157	SLD 1	0.23	3.4	44.76	-0.0516	0.0835	-0.01
157	SLD 2	0.23	3.4	44.76	-0.0516	0.0835	-0.01
157	SLD 3	0.17	0.43	47.13	0.0917	0.0686	-0.0094
157	SLD 4	0.17	0.43	47.13	0.0917	0.0686	-0.0094
157	SLD 5	0.25	5.51	37.14	-0.1593	0.0857	-0.0092
157	SLD 6	0.25	5.51	37.14	-0.1593	0.0857	-0.0092
157	SLD 7	0.06	-4.38	45.04	0.3183	0.0361	-0.0073
157	SLD 8	0.06	-4.38	45.04	0.3183	0.0361	-0.0073
157	SLD 9	0.21	4.36	32.98	-0.1083	0.0727	-0.008
157	SLD 10	0.21	4.36	32.98	-0.1083	0.0727	-0.008
157	SLD 11	0.02	-5.53	40.88	0.3693	0.0231	-0.0061
157	SLD 12	0.02	-5.53	40.88	0.3693	0.0231	-0.0061
157	SLD 13	0.1	-0.45	30.89	0.1184	0.0402	-0.0059
157	SLD 14	0.1	-0.45	30.89	0.1184	0.0402	-0.0059
157	SLD 15	0.04	-3.42	33.26	0.2616	0.0253	-0.0053
157	SLD 16	0.04	-3.42	33.26	0.2616	0.0253	-0.0053
157	SLV 1	0.36	8.17	52.42	-0.2722	0.1234	-0.0131
157	SLV 2	0.36	8.17	52.42	-0.2722	0.1234	-0.0131
157	SLV 3	0.22	1.08	58.16	0.0702	0.0872	-0.0117
157	SLV 4	0.22	1.08	58.16	0.0702	0.0872	-0.0117
157	SLV 5	0.41	13.2	34.32	-0.5276	0.1301	-0.0113
157	SLV 6	0.41	13.2	34.32	-0.5276	0.1301	-0.0113
157	SLV 7	-0.05	-10.43	53.47	0.614	0.0092	-0.0069
157	SLV 8	-0.05	-10.43	53.47	0.614	0.0092	-0.0069
157	SLV 9	0.31	10.41	24.55	-0.404	0.0996	-0.0084
157	SLV 10	0.31	10.41	24.55	-0.404	0.0996	-0.0084
157	SLV 11	-0.14	-13.22	43.7	0.7376	-0.0213	-0.004
157	SLV 12	-0.14	-13.22	43.7	0.7376	-0.0213	-0.004
157	SLV 13	0.05	-1.1	19.86	0.1398	0.0216	-0.0036
157	SLV 14	0.05	-1.1	19.86	0.1398	0.0216	-0.0036
157	SLV 15	-0.09	-8.19	25.61	0.4823	-0.0146	-0.0022
157	SLV 16	-0.09	-8.19	25.61	0.4823	-0.0146	-0.0022
158	SLU 1	0.03	-6.15	53.67	0.3402	0.0085	-0.0021
158	SLU 2	0.03	-6.64	54.2	0.3613	0.0084	-0.0021
158	SLU 3	0.03	-5.98	55.3	0.337	0.0088	-0.0022
158	SLU 4	0.03	-6.28	55.62	0.3497	0.0088	-0.0022
158	SLU 5	0.03	-6.38	55.05	0.3526	0.0087	-0.0021
158	SLU 6	0.03	-5.73	56.15	0.3284	0.0091	-0.0022
158	SLU 7	0.03	-6.02	56.47	0.341	0.0091	-0.0022
158	SLU 8	0.03	-5.63	55.37	0.3229	0.009	-0.0022
158	SLU 9	0.03	-5.93	55.69	0.3356	0.0089	-0.0022
158	SLU 10	0.03	-7.8	64.76	0.427	0.0102	-0.0025
158	SLU 11	0.03	-7.14	65.86	0.4027	0.0107	-0.0026
158	SLU 12	0.03	-7.44	66.18	0.4154	0.0106	-0.0026
158	SLU 13	0.03	-7.54	65.61	0.4183	0.0105	-0.0025
158	SLU 14	0.04	-6.88	66.71	0.3941	0.0109	-0.0026
158	SLU 15	0.04	-7.18	67.03	0.4067	0.0109	-0.0026
158	SLU 16	0.04	-6.79	65.93	0.3886	0.0108	-0.0026
158	SLU 17	0.03	-7.09	66.25	0.4013	0.0107	-0.0026
158	SLU 18	0.03	-7.8	68.76	0.4341	0.0111	-0.0026
158	SLU 19	0.03	-8.1	69.08	0.4467	0.011	-0.0026
158	SLU 20	0.04	-7.54	69.61	0.4254	0.0113	-0.0027
158	SLU 21	0.04	-7.84	69.93	0.4381	0.0113	-0.0027
158	SLU 22	0.03	-6.55	61.83	0.3731	0.0098	-0.0024
158	SLU 23	0.03	-7.05	62.36	0.3942	0.0098	-0.0024
158	SLU 24	0.03	-6.39	63.46	0.3699	0.0102	-0.0025
158	SLU 25	0.03	-6.69	63.78	0.3826	0.0102	-0.0025
158	SLU 26	0.03	-6.79	63.21	0.3855	0.01	-0.0025
158	SLU 27	0.04	-6.13	64.31	0.3613	0.0104	-0.0026
158	SLU 28	0.03	-6.43	64.63	0.3739	0.0104	-0.0026
158	SLU 29	0.04	-6.04	63.53	0.3558	0.0103	-0.0025
158	SLU 30	0.03	-6.34	63.85	0.3685	0.0103	-0.0025



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
158	SLU 31	0.04	-8.21	72.92	0.4599	0.0116	-0.0028		
158	SLU 32	0.04	-7.55	74.02	0.4356	0.012	-0.0029		
158	SLU 33	0.04	-7.85	74.34	0.4483	0.012	-0.0029		
158	SLU 34	0.04	-7.95	73.77	0.4512	0.0118	-0.0029		
158	SLU 35	0.04	-7.29	74.87	0.427	0.0122	-0.003		
158	SLU 36	0.04	-7.59	75.19	0.4396	0.0122	-0.003		
158	SLU 37	0.04	-7.2	74.09	0.4215	0.0121	-0.0029		
158	SLU 38	0.04	-7.49	74.41	0.4341	0.0121	-0.0029		
158	SLU 39	0.04	-8.21	76.92	0.467	0.0124	-0.003		
158	SLU 40	0.04	-8.51	77.23	0.4796	0.0124	-0.003		
158	SLU 41	0.04	-7.95	77.77	0.4583	0.0126	-0.0031		
158	SLU 42	0.04	-8.25	78.09	0.471	0.0126	-0.0031		
158	SLU 43	0.03	-7.85	66.97	0.431	0.0106	-0.0026		
158	SLU 44	0.03	-8.34	67.5	0.4521	0.0105	-0.0026		
158	SLU 45	0.03	-7.69	68.6	0.4278	0.0109	-0.0027		
158	SLU 46	0.03	-7.98	68.92	0.4405	0.0109	-0.0027		
158	SLU 47	0.03	-8.09	68.35	0.4434	0.0108	-0.0026		
158	SLU 48	0.04	-7.43	69.45	0.4192	0.0112	-0.0027		
158	SLU 49	0.04	-7.73	69.77	0.4318	0.0111	-0.0027		
158	SLU 50	0.04	-7.33	68.67	0.4137	0.011	-0.0027		
158	SLU 51	0.04	-7.63	68.99	0.4264	0.011	-0.0027		
158	SLU 52	0.04	-9.5	78.06	0.5178	0.0123	-0.003		
158	SLU 53	0.04	-8.85	79.16	0.4935	0.0127	-0.0031		
158	SLU 54	0.04	-9.14	79.48	0.5062	0.0127	-0.003		
158	SLU 55	0.04	-9.25	78.91	0.5091	0.0126	-0.003		
158	SLU 56	0.04	-8.59	80.01	0.4849	0.013	-0.0031		
158	SLU 57	0.04	-8.89	80.33	0.4975	0.013	-0.0031		
158	SLU 58	0.04	-8.49	79.23	0.4794	0.0129	-0.0031		
158	SLU 59	0.04	-8.79	79.55	0.4921	0.0128	-0.0031		
158	SLU 60	0.04	-9.5	82.06	0.5249	0.0132	-0.0031		
158	SLU 61	0.04	-9.8	82.38	0.5375	0.0131	-0.0031		
158	SLU 62	0.04	-9.25	82.91	0.5162	0.0134	-0.0032		
158	SLU 63	0.04	-9.54	83.23	0.5289	0.0134	-0.0032		
158	SLU 64	0.04	-8.26	75.13	0.4639	0.0119	-0.0029		
158	SLU 65	0.04	-8.75	75.66	0.485	0.0119	-0.0029		
158	SLU 66	0.04	-8.09	76.76	0.4607	0.0123	-0.003		
158	SLU 67	0.04	-8.39	77.08	0.4734	0.0122	-0.003		
158	SLU 68	0.04	-8.49	76.51	0.4763	0.0121	-0.003		
158	SLU 69	0.04	-7.84	77.61	0.4521	0.0125	-0.0031		
158	SLU 70	0.04	-8.13	77.93	0.4647	0.0125	-0.0031		
158	SLU 71	0.04	-7.74	76.83	0.4466	0.0124	-0.003		
158	SLU 72	0.04	-8.04	77.15	0.4592	0.0123	-0.003		
158	SLU 73	0.04	-9.91	86.22	0.5507	0.0137	-0.0033		
158	SLU 74	0.05	-9.25	87.32	0.5264	0.0141	-0.0034		
158	SLU 75	0.04	-9.55	87.64	0.5391	0.0141	-0.0034		
158	SLU 76	0.04	-9.65	87.07	0.542	0.0139	-0.0034		
158	SLU 77	0.05	-9	88.17	0.5178	0.0143	-0.0035		
158	SLU 78	0.05	-9.29	88.49	0.5304	0.0143	-0.0035		
158	SLU 79	0.05	-8.9	87.39	0.5123	0.0142	-0.0034		
158	SLU 80	0.05	-9.2	87.71	0.5249	0.0142	-0.0034		
158	SLU 81	0.05	-9.91	90.22	0.5578	0.0145	-0.0035		
158	SLU 82	0.04	-10.21	90.54	0.5704	0.0145	-0.0035		
158	SLU 83	0.05	-9.65	91.07	0.5491	0.0147	-0.0036		
158	SLU 84	0.05	-9.95	91.39	0.5617	0.0147	-0.0036		
158	SLE RA 1	0.03	-6.26	56	0.3496	0.0089	-0.0022		
158	SLE RA 2	0.03	-6.59	56.35	0.3637	0.0088	-0.0022		
158	SLE RA 3	0.03	-6.15	57.09	0.3475	0.0091	-0.0022		
158	SLE RA 4	0.03	-6.35	57.3	0.3559	0.0091	-0.0022		
158	SLE RA 5	0.03	-6.42	56.92	0.3579	0.009	-0.0022		
158	SLE RA 6	0.03	-5.98	57.65	0.3417	0.0093	-0.0023		
158	SLE RA 7	0.03	-6.18	57.87	0.3502	0.0092	-0.0023		
158	SLE RA 8	0.03	-5.92	57.13	0.3381	0.0092	-0.0022		
158	SLE RA 9	0.03	-6.12	57.35	0.3465	0.0092	-0.0022		
158	SLE RA 10	0.03	-7.36	63.39	0.4075	0.01	-0.0024		
158	SLE RA 11	0.03	-6.93	64.13	0.3913	0.0103	-0.0025		
158	SLE RA 12	0.03	-7.12	64.34	0.3997	0.0103	-0.0025		
158	SLE RA 13	0.03	-7.19	63.96	0.4017	0.0102	-0.0025		
158	SLE RA 14	0.03	-6.75	64.7	0.3855	0.0105	-0.0025		
158	SLE RA 15	0.03	-6.95	64.91	0.394	0.0105	-0.0025		
158	SLE RA 16	0.03	-6.69	64.17	0.3819	0.0104	-0.0025		
158	SLE RA 17	0.03	-6.89	64.39	0.3903	0.0104	-0.0025		
158	SLE RA 18	0.03	-7.37	66.06	0.4122	0.0106	-0.0026		
158	SLE RA 19	0.03	-7.56	66.27	0.4206	0.0106	-0.0026		
158	SLE RA 20	0.03	-7.19	66.63	0.4064	0.0107	-0.0026		
158	SLE RA 21	0.03	-7.39	66.84	0.4149	0.0107	-0.0026		
158	SLE FR 1	0.03	-6.26	56	0.3496	0.0089	-0.0022		
158	SLE FR 2	0.03	-6.33	56.07	0.3524	0.0089	-0.0022		
158	SLE FR 3	0.03	-6.19	56.23	0.3473	0.0089	-0.0022		
158	SLE FR 4	0.03	-6.66	59.09	0.3712	0.0094	-0.0023		
158	SLE FR 5	0.03	-6.52	59.24	0.3661	0.0094	-0.0023		
158	SLE FR 6	0.03	-6.81	61.03	0.3809	0.0097	-0.0024		
158	SLE QP 1	0.03	-6.26	56	0.3496	0.0089	-0.0022		
158	SLE QP 2	0.03	-6.59	59.02	0.3684	0.0094	-0.0023		
158	SLD 1	0.08	-2.68	47.28	0.2082	0.0328	0.0012		
158	SLD 2	0.08	-2.68	47.28	0.2082	0.0328	0.0012		
158	SLD 3	0.06	-6.7	52.98	0.3857	0.0294	0.0007		
158	SLD 4	0.06	-6.7	52.98	0.3857	0.0294	0.0007		
158	SLD 5	0.06	0.68	46.85	0.0511	0.0215	-0.0005		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
158	SLD 6	0.06	0.68	46.85	0.0511	0.0215	-0.0005		
158	SLD 7	0.02	-12.72	65.85	0.6428	0.0102	-0.0022		
158	SLD 8	0.02	-12.72	65.85	0.6428	0.0102	-0.0022		
158	SLD 9	0.04	-0.46	52.18	0.094	0.0085	-0.0024		
158	SLD 10	0.04	-0.46	52.18	0.094	0.0085	-0.0024		
158	SLD 11	-0.01	-13.86	71.18	0.6857	-0.0028	-0.0041		
158	SLD 12	-0.01	-13.86	71.18	0.6857	-0.0028	-0.0041		
158	SLD 13	-0.01	-6.48	65.05	0.3511	-0.0106	-0.0053		
158	SLD 14	-0.01	-6.48	65.05	0.3511	-0.0106	-0.0053		
158	SLD 15	-0.02	-10.5	70.75	0.5286	-0.014	-0.0058		
158	SLD 16	-0.02	-10.5	70.75	0.5286	-0.014	-0.0058		
158	SLV 1	0.15	2.6	31.38	-0.009	0.0674	0.0063		
158	SLV 2	0.15	2.6	31.38	-0.009	0.0674	0.0063		
158	SLV 3	0.12	-6.85	44.91	0.4087	0.0591	0.0051		
158	SLV 4	0.12	-6.85	44.91	0.4087	0.0591	0.0051		
158	SLV 5	0.12	10.5	30.21	-0.3783	0.0394	0.0021		
158	SLV 6	0.12	10.5	30.21	-0.3783	0.0394	0.0021		
158	SLV 7	0	-21.01	75.3	1.014	0.0117	-0.0019		
158	SLV 8	0	-21.01	75.3	1.014	0.0117	-0.0019		
158	SLV 9	0.05	7.82	42.73	-0.2772	0.007	-0.0027		
158	SLV 10	0.05	7.82	42.73	-0.2772	0.007	-0.0027		
158	SLV 11	-0.06	-23.69	87.83	1.1151	-0.0206	-0.0067		
158	SLV 12	-0.06	-23.69	87.83	1.1151	-0.0206	-0.0067		
158	SLV 13	-0.06	-6.33	73.12	0.3281	-0.0404	-0.0096		
158	SLV 14	-0.06	-6.33	73.12	0.3281	-0.0404	-0.0096		
158	SLV 15	-0.09	-15.79	86.65	0.7458	-0.0487	-0.0109		
158	SLV 16	-0.09	-15.79	86.65	0.7458	-0.0487	-0.0109		
159	SLU 1	0	-5.36	44.54	0.3171	-0.0011	0		
159	SLU 2	0	-3.57	42.02	0.2299	-0.0019	0		
159	SLU 3	0	-5.74	46.46	0.3381	-0.0012	0		
159	SLU 4	0	-4.66	44.95	0.2857	-0.0017	0		
159	SLU 5	0	-3.94	43.48	0.25	-0.0019	0		
159	SLU 6	0	-6.11	47.93	0.3582	-0.0012	0		
159	SLU 7	0	-5.04	46.41	0.3059	-0.0017	0		
159	SLU 8	0	-6.11	47.47	0.3574	-0.0011	0		
159	SLU 9	0	-5.03	45.96	0.305	-0.0016	0		
159	SLU 10	0	-4.25	50.18	0.274	-0.0022	0		
159	SLU 11	0	-6.42	54.62	0.3822	-0.0015	0		
159	SLU 12	0	-5.35	53.11	0.3299	-0.002	0		
159	SLU 13	0	-4.62	51.64	0.2941	-0.0023	0		
159	SLU 14	0	-6.8	56.09	0.4023	-0.0015	0		
159	SLU 15	0	-5.72	54.57	0.35	-0.002	0		
159	SLU 16	0	-6.79	55.63	0.4015	-0.0015	0		
159	SLU 17	0	-5.72	54.12	0.3492	-0.002	0		
159	SLU 18	0	-6.33	56.2	0.3801	-0.0016	0		
159	SLU 19	0	-5.26	54.68	0.3278	-0.0021	0		
159	SLU 20	0	-6.71	57.66	0.4002	-0.0016	0		
159	SLU 21	0	-5.63	56.15	0.3479	-0.0021	0		
159	SLU 22	0	-6.13	52.34	0.3647	-0.0013	0		
159	SLU 23	0	-4.34	49.81	0.2775	-0.0021	0		
159	SLU 24	0	-6.51	54.26	0.3857	-0.0014	0		
159	SLU 25	0	-5.43	52.74	0.3334	-0.0019	0		
159	SLU 26	0	-4.71	51.28	0.2976	-0.0021	0		
159	SLU 27	0	-6.88	55.72	0.4058	-0.0014	0		
159	SLU 28	0	-5.81	54.21	0.3535	-0.0019	0		
159	SLU 29	0	-6.88	55.27	0.405	-0.0013	0		
159	SLU 30	0	-5.8	53.75	0.3526	-0.0018	0		
159	SLU 31	0	-5.02	57.97	0.3216	-0.0025	0		
159	SLU 32	0	-7.19	62.42	0.4298	-0.0017	0		
159	SLU 33	0	-6.12	60.9	0.3775	-0.0022	0		
159	SLU 34	0	-5.39	59.44	0.3417	-0.0025	0		
159	SLU 35	0	-7.57	63.88	0.45	-0.0018	0		
159	SLU 36	0	-6.49	62.37	0.3976	-0.0022	0		
159	SLU 37	0	-7.56	63.43	0.4491	-0.0017	0		
159	SLU 38	0	-6.49	61.91	0.3968	-0.0022	0		
159	SLU 39	0	-7.1	63.99	0.4277	-0.0018	0		
159	SLU 40	0	-6.03	62.48	0.3754	-0.0023	0		
159	SLU 41	0	-7.48	65.46	0.4479	-0.0018	0		
159	SLU 42	0	-6.4	63.94	0.3955	-0.0023	0		
159	SLU 43	0	-6.7	55.23	0.3959	-0.0013	0		
159	SLU 44	0	-4.91	52.7	0.3087	-0.0021	0		
159	SLU 45	0	-7.08	57.15	0.4169	-0.0014	0		
159	SLU 46	0	-6.01	55.64	0.3645	-0.0019	0		
159	SLU 47	0	-5.28	54.17	0.3288	-0.0022	0		
159	SLU 48	0	-7.46	58.62	0.437	-0.0014	0		
159	SLU 49	0	-6.38	57.1	0.3847	-0.0019	0		
159	SLU 50	0	-7.45	58.16	0.4362	-0.0014	0		
159	SLU 51	0	-6.38	56.65	0.3838	-0.0019	0		
159	SLU 52	0	-5.59	60.87	0.3528	-0.0025	0		
159	SLU 53	0	-7.76	65.31	0.461	-0.0018	0		
159	SLU 54	0	-6.69	63.8	0.4087	-0.0023	0		
159	SLU 55	0	-5.97	62.33	0.3729	-0.0025	0		
159	SLU 56	0	-8.14	66.78	0.4811	-0.0018	0		
159	SLU 57	0	-7.06	65.26	0.4288	-0.0023	0		
159	SLU 58	0	-8.13	66.32	0.4803	-0.0017	0		
159	SLU 59	0	-7.06	64.81	0.428	-0.0022	0		
159	SLU 60	0	-7.68	66.89	0.4589	-0.0018	0		
159	SLU 61	0	-6.6	65.37	0.4066	-0.0023	0		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
159	SLU 62	0	-8.05	68.35	0.479	-0.0018		0	
159	SLU 63	0	-6.98	66.84	0.4267	-0.0023		0	
159	SLU 64	0	-7.47	63.02	0.4435	-0.0015		0	
159	SLU 65	0	-5.68	60.5	0.3563	-0.0024		0	
159	SLU 66	0	-7.85	64.95	0.4645	-0.0016		0	
159	SLU 67	0	-6.78	63.43	0.4122	-0.0021		0	
159	SLU 68	0	-6.05	61.97	0.3764	-0.0024		0	
159	SLU 69	0	-8.23	66.41	0.4846	-0.0017		0	
159	SLU 70	0	-7.15	64.9	0.4323	-0.0021		0	
159	SLU 71	0	-8.22	65.96	0.4838	-0.0016		0	
159	SLU 72	0	-7.15	64.44	0.4314	-0.0021		0	
159	SLU 73	0	-6.36	68.66	0.4004	-0.0027		0	
159	SLU 74	0	-8.53	73.11	0.5086	-0.002		0	
159	SLU 75	0	-7.46	71.59	0.4563	-0.0025		0	
159	SLU 76	0	-6.74	70.13	0.4205	-0.0027		0	
159	SLU 77	0	-8.91	74.57	0.5288	-0.002		0	
159	SLU 78	0	-7.83	73.06	0.4764	-0.0025		0	
159	SLU 79	0	-8.9	74.12	0.5279	-0.0019		0	
159	SLU 80	0	-7.83	72.6	0.4756	-0.0024		0	
159	SLU 81	0	-8.45	74.68	0.5065	-0.002		0	
159	SLU 82	0	-7.37	73.17	0.4542	-0.0025		0	
159	SLU 83	0	-8.82	76.15	0.5267	-0.0021		0	
159	SLU 84	0	-7.75	74.63	0.4743	-0.0026		0	
159	SLE RA 1	0	-5.58	46.77	0.3307	-0.0011		0	
159	SLE RA 2	0	-4.38	45.08	0.2725	-0.0017		0	
159	SLE RA 3	0	-5.83	48.05	0.3447	-0.0012		0	
159	SLE RA 4	0	-5.11	47.04	0.3098	-0.0015		0	
159	SLE RA 5	0	-4.63	46.06	0.286	-0.0017		0	
159	SLE RA 6	0	-6.08	49.03	0.3581	-0.0012		0	
159	SLE RA 7	0	-5.36	48.02	0.3232	-0.0015		0	
159	SLE RA 8	0	-6.08	48.72	0.3575	-0.0012		0	
159	SLE RA 9	0	-5.36	47.71	0.3226	-0.0015		0	
159	SLE RA 10	0	-4.84	50.52	0.302	-0.0019		0	
159	SLE RA 11	0	-6.29	53.49	0.3741	-0.0014		0	
159	SLE RA 12	0	-5.57	52.48	0.3392	-0.0018		0	
159	SLE RA 13	0	-5.09	51.5	0.3154	-0.0019		0	
159	SLE RA 14	0	-6.54	54.47	0.3875	-0.0014		0	
159	SLE RA 15	0	-5.82	53.46	0.3526	-0.0018		0	
159	SLE RA 16	0	-6.53	54.16	0.3869	-0.0014		0	
159	SLE RA 17	0	-5.82	53.15	0.3521	-0.0017		0	
159	SLE RA 18	0	-6.23	54.54	0.3727	-0.0015		0	
159	SLE RA 19	0	-5.51	53.53	0.3378	-0.0018		0	
159	SLE RA 20	0	-6.48	55.52	0.3861	-0.0015		0	
159	SLE RA 21	0	-5.76	54.51	0.3512	-0.0018		0	
159	SLE FR 1	0	-5.58	46.77	0.3307	-0.0011		0	
159	SLE FR 2	0	-5.34	46.43	0.319	-0.0012		0	
159	SLE FR 3	0	-5.68	47.16	0.336	-0.0011		0	
159	SLE FR 4	0	-5.53	48.76	0.3317	-0.0013		0	
159	SLE FR 5	0	-5.87	49.49	0.3487	-0.0012		0	
159	SLE FR 6	0	-5.9	50.65	0.3517	-0.0013		0	
159	SLE QP 1	0	-5.58	46.77	0.3307	-0.0011		0	
159	SLE QP 2	0	-5.77	49.1	0.3433	-0.0012		0	
159	SLD 1	0.01	-5.65	49.4	0.3383	0.0152	-0.0001		
159	SLD 2	0.01	-5.65	49.4	0.3383	0.0152	-0.0001		
159	SLD 3	0.05	-8.09	52.11	0.4586	0.0255	-0.0002		
159	SLD 4	0.05	-8.09	52.11	0.4586	0.0255	-0.0002		
159	SLD 5	-0.05	-2.03	45.08	0.1594	-0.012	0.0001		
159	SLD 6	-0.05	-2.03	45.08	0.1594	-0.012	0.0001		
159	SLD 7	0.07	-10.17	54.11	0.5603	0.0225	-0.0002		
159	SLD 8	0.07	-10.17	54.11	0.5603	0.0225	-0.0002		
159	SLD 9	-0.06	-1.37	44.09	0.1263	-0.025	0.0002		
159	SLD 10	-0.06	-1.37	44.09	0.1263	-0.025	0.0002		
159	SLD 11	0.05	-9.52	53.12	0.5272	0.0096	-0.0001		
159	SLD 12	0.05	-9.52	53.12	0.5272	0.0096	-0.0001		
159	SLD 13	-0.04	-3.45	46.09	0.228	-0.028	0.0002		
159	SLD 14	-0.04	-3.45	46.09	0.228	-0.028	0.0002		
159	SLD 15	-0.01	-5.9	48.8	0.3483	-0.0176	0.0001		
159	SLD 16	-0.01	-5.9	48.8	0.3483	-0.0176	0.0001		
159	SLV 1	0.03	-5.61	50.03	0.3382	0.0381	-0.0003		
159	SLV 2	0.03	-5.61	50.03	0.3382	0.0381	-0.0003		
159	SLV 3	0.11	-11.39	56.52	0.6227	0.0643	-0.0005		
159	SLV 4	0.11	-11.39	56.52	0.6227	0.0643	-0.0005		
159	SLV 5	-0.12	3.05	39.52	-0.0897	-0.0292	0.0002		
159	SLV 6	-0.12	3.05	39.52	-0.0897	-0.0292	0.0002		
159	SLV 7	0.16	-16.23	61.18	0.8585	0.0582	-0.0005		
159	SLV 8	0.16	-16.23	61.18	0.8585	0.0582	-0.0005		
159	SLV 9	-0.16	4.69	37.01	-0.172	-0.0607	0.0005		
159	SLV 10	-0.16	4.69	37.01	-0.172	-0.0607	0.0005		
159	SLV 11	0.12	-14.59	58.68	0.7763	0.0267	-0.0002		
159	SLV 12	0.12	-14.59	58.68	0.7763	0.0267	-0.0002		
159	SLV 13	-0.11	-0.15	41.67	0.0639	-0.0668	0.0005		
159	SLV 14	-0.11	-0.15	41.67	0.0639	-0.0668	0.0005		
159	SLV 15	-0.02	-5.93	48.17	0.3484	-0.0406	0.0003		
159	SLV 16	-0.02	-5.93	48.17	0.3484	-0.0406	0.0003		
160	SLU 1	-0.11	2.14	57.93	-0.0587	-0.035	0.0004		
160	SLU 2	-0.12	2.41	59.18	-0.0707	-0.0268	0.0004		
160	SLU 3	-0.12	2.26	59.82	-0.0623	-0.0367	0.0004		
160	SLU 4	-0.12	2.42	60.57	-0.0695	-0.0318	0.0004		





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
160	SLU 5	-0.12	2.5	60.37	-0.0735	-0.028	0.0004
160	SLU 6	-0.12	2.35	61.01	-0.065	-0.0379	0.0004
160	SLU 7	-0.13	2.51	61.76	-0.0722	-0.033	0.0004
160	SLU 8	-0.12	2.32	60.32	-0.0642	-0.0374	0.0004
160	SLU 9	-0.12	2.48	61.06	-0.0714	-0.0325	0.0004
160	SLU 10	-0.14	2.99	67.18	-0.0881	-0.0344	0.0005
160	SLU 11	-0.14	2.84	67.82	-0.0797	-0.0443	0.0005
160	SLU 12	-0.15	3	68.56	-0.0869	-0.0394	0.0005
160	SLU 13	-0.15	3.08	68.37	-0.0909	-0.0356	0.0005
160	SLU 14	-0.15	2.93	69.01	-0.0824	-0.0455	0.0005
160	SLU 15	-0.15	3.09	69.75	-0.0896	-0.0405	0.0005
160	SLU 16	-0.14	2.9	68.31	-0.0816	-0.045	0.0005
160	SLU 17	-0.15	3.06	69.06	-0.0888	-0.04	0.0005
160	SLU 18	-0.15	2.96	69.36	-0.0836	-0.0458	0.0005
160	SLU 19	-0.15	3.13	70.11	-0.0908	-0.0409	0.0005
160	SLU 20	-0.15	3.06	70.55	-0.0863	-0.047	0.0005
160	SLU 21	-0.15	3.22	71.3	-0.0935	-0.0421	0.0005
160	SLU 22	-0.14	2.63	65.71	-0.0733	-0.042	0.0005
160	SLU 23	-0.14	2.9	66.96	-0.0853	-0.0338	0.0005
160	SLU 24	-0.14	2.76	67.6	-0.0768	-0.0437	0.0005
160	SLU 25	-0.14	2.92	68.35	-0.084	-0.0387	0.0005
160	SLU 26	-0.14	3	68.15	-0.088	-0.0349	0.0005
160	SLU 27	-0.14	2.85	68.79	-0.0796	-0.0449	0.0005
160	SLU 28	-0.15	3.01	69.54	-0.0868	-0.0399	0.0005
160	SLU 29	-0.14	2.82	68.09	-0.0788	-0.0444	0.0005
160	SLU 30	-0.15	2.98	68.84	-0.086	-0.0394	0.0005
160	SLU 31	-0.16	3.48	74.96	-0.1027	-0.0413	0.0006
160	SLU 32	-0.16	3.34	75.59	-0.0942	-0.0512	0.0006
160	SLU 33	-0.17	3.5	76.34	-0.1015	-0.0463	0.0006
160	SLU 34	-0.17	3.57	76.15	-0.1054	-0.0425	0.0006
160	SLU 35	-0.17	3.43	76.78	-0.097	-0.0524	0.0006
160	SLU 36	-0.17	3.59	77.53	-0.1042	-0.0475	0.0006
160	SLU 37	-0.17	3.4	76.09	-0.0962	-0.0519	0.0006
160	SLU 38	-0.17	3.56	76.84	-0.1034	-0.047	0.0006
160	SLU 39	-0.17	3.46	77.14	-0.0981	-0.0528	0.0006
160	SLU 40	-0.17	3.62	77.89	-0.1053	-0.0478	0.0006
160	SLU 41	-0.17	3.55	78.33	-0.1009	-0.054	0.0006
160	SLU 42	-0.17	3.72	79.08	-0.1081	-0.049	0.0006
160	SLU 43	-0.14	2.61	72.65	-0.0713	-0.0432	0.0005
160	SLU 44	-0.15	2.88	73.9	-0.0833	-0.0349	0.0005
160	SLU 45	-0.15	2.73	74.53	-0.0749	-0.0449	0.0005
160	SLU 46	-0.15	2.89	75.28	-0.0821	-0.0399	0.0005
160	SLU 47	-0.15	2.97	75.09	-0.0861	-0.0361	0.0005
160	SLU 48	-0.15	2.82	75.72	-0.0776	-0.046	0.0005
160	SLU 49	-0.15	2.98	76.47	-0.0848	-0.0411	0.0005
160	SLU 50	-0.15	2.79	75.03	-0.0768	-0.0455	0.0005
160	SLU 51	-0.15	2.95	75.78	-0.084	-0.0406	0.0005
160	SLU 52	-0.17	3.46	81.89	-0.1007	-0.0425	0.0006
160	SLU 53	-0.17	3.31	82.53	-0.0923	-0.0524	0.0006
160	SLU 54	-0.17	3.47	83.28	-0.0995	-0.0475	0.0006
160	SLU 55	-0.17	3.55	83.08	-0.1035	-0.0437	0.0006
160	SLU 56	-0.17	3.4	83.72	-0.095	-0.0536	0.0006
160	SLU 57	-0.18	3.56	84.47	-0.1023	-0.0487	0.0006
160	SLU 58	-0.17	3.37	83.02	-0.0942	-0.0531	0.0006
160	SLU 59	-0.17	3.53	83.77	-0.1014	-0.0482	0.0006
160	SLU 60	-0.17	3.43	84.07	-0.0962	-0.054	0.0006
160	SLU 61	-0.18	3.6	84.82	-0.1034	-0.049	0.0006
160	SLU 62	-0.18	3.53	85.26	-0.0989	-0.0551	0.0006
160	SLU 63	-0.18	3.69	86.01	-0.1061	-0.0502	0.0006
160	SLU 64	-0.16	3.1	80.43	-0.0859	-0.0501	0.0006
160	SLU 65	-0.17	3.37	81.68	-0.0979	-0.0419	0.0006
160	SLU 66	-0.17	3.23	82.31	-0.0894	-0.0518	0.0006
160	SLU 67	-0.17	3.39	83.06	-0.0967	-0.0469	0.0006
160	SLU 68	-0.17	3.47	82.87	-0.1006	-0.0431	0.0006
160	SLU 69	-0.17	3.32	83.5	-0.0922	-0.053	0.0006
160	SLU 70	-0.17	3.48	84.25	-0.0994	-0.0481	0.0006
160	SLU 71	-0.17	3.29	82.81	-0.0914	-0.0525	0.0006
160	SLU 72	-0.17	3.45	83.56	-0.0986	-0.0475	0.0006
160	SLU 73	-0.19	3.95	89.67	-0.1153	-0.0494	0.0006
160	SLU 74	-0.19	3.81	90.31	-0.1069	-0.0594	0.0007
160	SLU 75	-0.19	3.97	91.06	-0.1141	-0.0544	0.0007
160	SLU 76	-0.19	4.05	90.86	-0.1181	-0.0506	0.0007
160	SLU 77	-0.19	3.9	91.5	-0.1096	-0.0606	0.0007
160	SLU 78	-0.2	4.06	92.25	-0.1168	-0.0556	0.0007
160	SLU 79	-0.19	3.87	90.8	-0.1088	-0.06	0.0007
160	SLU 80	-0.2	4.03	91.55	-0.116	-0.0551	0.0007
160	SLU 81	-0.2	3.93	91.85	-0.1107	-0.0609	0.0007
160	SLU 82	-0.2	4.09	92.6	-0.1179	-0.056	0.0007
160	SLU 83	-0.2	4.02	93.04	-0.1135	-0.0621	0.0007
160	SLU 84	-0.2	4.19	93.79	-0.1207	-0.0572	0.0007
160	SLE RA 1	-0.12	2.28	60.16	-0.0629	-0.037	0.0004
160	SLE RA 2	-0.12	2.46	60.99	-0.0709	-0.0315	0.0004
160	SLE RA 3	-0.12	2.36	61.41	-0.0652	-0.0381	0.0004
160	SLE RA 4	-0.13	2.47	61.91	-0.07	-0.0349	0.0004
160	SLE RA 5	-0.13	2.52	61.78	-0.0727	-0.0323	0.0004
160	SLE RA 6	-0.13	2.42	62.21	-0.0671	-0.0389	0.0005
160	SLE RA 7	-0.13	2.53	62.71	-0.0719	-0.0357	0.0004
160	SLE RA 8	-0.12	2.4	61.74	-0.0665	-0.0386	0.0005



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
160	SLE RA 9	-0.13	2.51	62.24	-0.0713	-0.0353	0.0004	
160	SLE RA 10	-0.14	2.84	66.32	-0.0825	-0.0366	0.0005	
160	SLE RA 11	-0.14	2.75	66.74	-0.0768	-0.0432	0.0005	
160	SLE RA 12	-0.14	2.85	67.24	-0.0816	-0.0399	0.0005	
160	SLE RA 13	-0.14	2.91	67.11	-0.0843	-0.0374	0.0005	
160	SLE RA 14	-0.14	2.81	67.54	-0.0787	-0.044	0.0005	
160	SLE RA 15	-0.14	2.91	68.04	-0.0835	-0.0407	0.0005	
160	SLE RA 16	-0.14	2.79	67.07	-0.0781	-0.0436	0.0005	
160	SLE RA 17	-0.14	2.89	67.57	-0.0829	-0.0404	0.0005	
160	SLE RA 18	-0.14	2.83	67.77	-0.0794	-0.0442	0.0005	
160	SLE RA 19	-0.14	2.94	68.27	-0.0842	-0.0409	0.0005	
160	SLE RA 20	-0.14	2.89	68.57	-0.0813	-0.045	0.0005	
160	SLE RA 21	-0.15	3	69.07	-0.0861	-0.0417	0.0005	
160	SLE FR 1	-0.12	2.28	60.16	-0.0629	-0.037	0.0004	
160	SLE FR 2	-0.12	2.31	60.32	-0.0645	-0.0359	0.0004	
160	SLE FR 3	-0.12	2.3	60.47	-0.0636	-0.0373	0.0004	
160	SLE FR 4	-0.13	2.48	62.61	-0.0694	-0.0381	0.0005	
160	SLE FR 5	-0.13	2.47	62.76	-0.0686	-0.0395	0.0005	
160	SLE FR 6	-0.13	2.55	63.96	-0.0711	-0.0406	0.0005	
160	SLE QP 1	-0.12	2.28	60.16	-0.0629	-0.037	0.0004	
160	SLE QP 2	-0.13	2.44	62.44	-0.0678	-0.0392	0.0005	
160	SLD 1	-0.09	2.07	44.17	-0.0695	-0.0303	0.0002	
160	SLD 2	-0.09	2.07	44.17	-0.0695	-0.0303	0.0002	
160	SLD 3	-0.02	-1.04	42.98	0.0622	0.007	0.0003	
160	SLD 4	-0.02	-1.04	42.98	0.0622	0.007	0.0003	
160	SLD 5	-0.22	7.04	58.76	-0.2681	-0.093	0.0002	
160	SLD 6	-0.22	7.04	58.76	-0.2681	-0.093	0.0002	
160	SLD 7	0.01	-3.31	54.8	0.171	0.0312	0.0005	
160	SLD 8	0.01	-3.31	54.8	0.171	0.0312	0.0005	
160	SLD 9	-0.26	8.2	70.08	-0.3066	-0.1095	0.0004	
160	SLD 10	-0.26	8.2	70.08	-0.3066	-0.1095	0.0004	
160	SLD 11	-0.03	-2.16	66.12	0.1325	0.0147	0.0007	
160	SLD 12	-0.03	-2.16	66.12	0.1325	0.0147	0.0007	
160	SLD 13	-0.23	5.93	81.9	-0.1979	-0.0853	0.0007	
160	SLD 14	-0.23	5.93	81.9	-0.1979	-0.0853	0.0007	
160	SLD 15	-0.16	2.82	80.71	-0.0661	-0.0481	0.0008	
160	SLD 16	-0.16	2.82	80.71	-0.0661	-0.0481	0.0008	
160	SLV 1	-0.05	1.53	19.67	-0.0705	-0.0217	-0.0002	
160	SLV 2	-0.05	1.53	19.67	-0.0705	-0.0217	-0.0002	
160	SLV 3	0.13	-5.7	16.85	0.236	0.0734	0	
160	SLV 4	0.13	-5.7	16.85	0.236	0.0734	0	
160	SLV 5	-0.38	13.14	53.88	-0.5335	-0.1782	-0.0001	
160	SLV 6	-0.38	13.14	53.88	-0.5335	-0.1782	-0.0001	
160	SLV 7	0.22	-10.96	44.49	0.4882	0.1389	0.0007	
160	SLV 8	0.22	-10.96	44.49	0.4882	0.1389	0.0007	
160	SLV 9	-0.48	15.85	80.39	-0.6239	-0.2173	0.0003	
160	SLV 10	-0.48	15.85	80.39	-0.6239	-0.2173	0.0003	
160	SLV 11	0.12	-8.25	71	0.3979	0.0999	0.001	
160	SLV 12	0.12	-8.25	71	0.3979	0.0999	0.001	
160	SLV 13	-0.38	10.59	108.03	-0.3717	-0.1518	0.0009	
160	SLV 14	-0.38	10.59	108.03	-0.3717	-0.1518	0.0009	
160	SLV 15	-0.2	3.36	105.21	-0.0651	-0.0566	0.0012	
160	SLV 16	-0.2	3.36	105.21	-0.0651	-0.0566	0.0012	
161	SLU 1	-0.25	-8.19	46.54	0.4303	-0.0486	0.0191	
161	SLU 2	-0.24	-8.55	47.01	0.4489	-0.0481	0.0188	
161	SLU 3	-0.26	-8.1	47.4	0.4259	-0.0504	0.0199	
161	SLU 4	-0.26	-8.32	47.68	0.437	-0.0501	0.0197	
161	SLU 5	-0.25	-8.31	47.11	0.436	-0.0493	0.0193	
161	SLU 6	-0.27	-7.86	47.5	0.413	-0.0515	0.0204	
161	SLU 7	-0.27	-8.08	47.78	0.4241	-0.0512	0.0202	
161	SLU 8	-0.27	-7.71	46.74	0.4045	-0.0508	0.0202	
161	SLU 9	-0.27	-7.93	47.02	0.4156	-0.0506	0.02	
161	SLU 10	-0.3	-10.12	56.68	0.5336	-0.059	0.0231	
161	SLU 11	-0.32	-9.67	57.07	0.5105	-0.0613	0.0242	
161	SLU 12	-0.31	-9.89	57.35	0.5217	-0.061	0.024	
161	SLU 13	-0.31	-9.88	56.78	0.5207	-0.0602	0.0236	
161	SLU 14	-0.33	-9.43	57.17	0.4976	-0.0624	0.0247	
161	SLU 15	-0.32	-9.65	57.45	0.5088	-0.0621	0.0245	
161	SLU 16	-0.33	-9.27	56.41	0.4891	-0.0617	0.0245	
161	SLU 17	-0.32	-9.49	56.69	0.5003	-0.0615	0.0243	
161	SLU 18	-0.33	-10.43	60.36	0.5512	-0.0642	0.0252	
161	SLU 19	-0.32	-10.65	60.64	0.5624	-0.0639	0.025	
161	SLU 20	-0.34	-10.19	60.46	0.5383	-0.0653	0.0258	
161	SLU 21	-0.33	-10.41	60.74	0.5495	-0.065	0.0256	
161	SLU 22	-0.3	-9.06	53.78	0.4793	-0.0576	0.0229	
161	SLU 23	-0.29	-9.43	54.25	0.498	-0.0571	0.0225	
161	SLU 24	-0.31	-8.98	54.64	0.4749	-0.0594	0.0237	
161	SLU 25	-0.31	-9.2	54.92	0.4861	-0.0591	0.0235	
161	SLU 26	-0.3	-9.19	54.35	0.485	-0.0583	0.0231	
161	SLU 27	-0.33	-8.74	54.74	0.462	-0.0605	0.0242	
161	SLU 28	-0.32	-8.96	55.02	0.4732	-0.0602	0.024	
161	SLU 29	-0.32	-8.58	53.98	0.4535	-0.0598	0.024	
161	SLU 30	-0.32	-8.8	54.26	0.4647	-0.0596	0.0238	
161	SLU 31	-0.35	-10.99	63.92	0.5826	-0.068	0.0268	
161	SLU 32	-0.37	-10.54	64.31	0.5596	-0.0703	0.028	
161	SLU 33	-0.37	-10.76	64.59	0.5707	-0.07	0.0278	
161	SLU 34	-0.36	-10.75	64.02	0.5697	-0.0691	0.0274	
161	SLU 35	-0.38	-10.3	64.41	0.5466	-0.0714	0.0285	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
161	SLU 36	-0.38	-10.52	64.69	0.5578	-0.0711	0.0283
161	SLU 37	-0.38	-10.15	63.65	0.5382	-0.0707	0.0283
161	SLU 38	-0.37	-10.37	63.93	0.5493	-0.0705	0.028
161	SLU 39	-0.38	-11.3	67.6	0.6003	-0.0732	0.029
161	SLU 40	-0.38	-11.52	67.88	0.6114	-0.0729	0.0288
161	SLU 41	-0.39	-11.06	67.7	0.5874	-0.0743	0.0296
161	SLU 42	-0.39	-11.28	67.98	0.5985	-0.074	0.0294
161	SLU 43	-0.31	-10.34	58.02	0.5426	-0.0601	0.0236
161	SLU 44	-0.3	-10.71	58.49	0.5612	-0.0596	0.0232
161	SLU 45	-0.32	-10.26	58.88	0.5382	-0.0619	0.0243
161	SLU 46	-0.31	-10.48	59.16	0.5493	-0.0616	0.0241
161	SLU 47	-0.31	-10.47	58.59	0.5483	-0.0608	0.0237
161	SLU 48	-0.33	-10.02	58.98	0.5252	-0.063	0.0249
161	SLU 49	-0.32	-10.24	59.26	0.5364	-0.0627	0.0247
161	SLU 50	-0.33	-9.86	58.22	0.5167	-0.0623	0.0246
161	SLU 51	-0.32	-10.08	58.5	0.5279	-0.0621	0.0244
161	SLU 52	-0.35	-12.28	68.16	0.6459	-0.0705	0.0275
161	SLU 53	-0.37	-11.83	68.55	0.6228	-0.0728	0.0286
161	SLU 54	-0.37	-12.05	68.83	0.634	-0.0725	0.0284
161	SLU 55	-0.36	-12.04	68.26	0.6329	-0.0717	0.028
161	SLU 56	-0.39	-11.59	68.65	0.6099	-0.0739	0.0292
161	SLU 57	-0.38	-11.81	68.93	0.6211	-0.0736	0.029
161	SLU 58	-0.38	-11.43	67.89	0.6014	-0.0732	0.0289
161	SLU 59	-0.38	-11.65	68.17	0.6126	-0.073	0.0287
161	SLU 60	-0.39	-12.58	71.84	0.6635	-0.0757	0.0297
161	SLU 61	-0.38	-12.8	72.11	0.6747	-0.0754	0.0295
161	SLU 62	-0.4	-12.34	71.94	0.6506	-0.0768	0.0302
161	SLU 63	-0.39	-12.56	72.22	0.6618	-0.0765	0.03
161	SLU 64	-0.36	-11.22	65.26	0.5916	-0.0691	0.0273
161	SLU 65	-0.35	-11.58	65.73	0.6102	-0.0686	0.027
161	SLU 66	-0.37	-11.13	66.12	0.5872	-0.0709	0.0281
161	SLU 67	-0.37	-11.35	66.4	0.5984	-0.0706	0.0279
161	SLU 68	-0.36	-11.34	65.83	0.5973	-0.0697	0.0275
161	SLU 69	-0.38	-10.89	66.22	0.5743	-0.072	0.0287
161	SLU 70	-0.38	-11.11	66.5	0.5854	-0.0717	0.0285
161	SLU 71	-0.38	-10.74	65.46	0.5658	-0.0713	0.0284
161	SLU 72	-0.37	-10.96	65.74	0.5769	-0.0711	0.0282
161	SLU 73	-0.41	-13.15	75.4	0.6949	-0.0795	0.0313
161	SLU 74	-0.43	-12.7	75.79	0.6718	-0.0818	0.0324
161	SLU 75	-0.42	-12.92	76.07	0.683	-0.0815	0.0322
161	SLU 76	-0.42	-12.91	75.5	0.682	-0.0806	0.0318
161	SLU 77	-0.44	-12.46	75.89	0.6589	-0.0829	0.033
161	SLU 78	-0.43	-12.68	76.17	0.6701	-0.0826	0.0327
161	SLU 79	-0.43	-12.3	75.13	0.6504	-0.0822	0.0327
161	SLU 80	-0.43	-12.52	75.41	0.6616	-0.0819	0.0325
161	SLU 81	-0.44	-13.46	79.08	0.7126	-0.0847	0.0335
161	SLU 82	-0.43	-13.68	79.36	0.7237	-0.0844	0.0333
161	SLU 83	-0.45	-13.22	79.18	0.6996	-0.0858	0.034
161	SLU 84	-0.44	-13.44	79.46	0.7108	-0.0855	0.0338
161	SLE RA 1	-0.26	-8.44	48.61	0.4443	-0.0512	0.0202
161	SLE RA 2	-0.26	-8.68	48.92	0.4567	-0.0509	0.02
161	SLE RA 3	-0.27	-8.38	49.18	0.4414	-0.0524	0.0207
161	SLE RA 4	-0.27	-8.53	49.37	0.4488	-0.0522	0.0206
161	SLE RA 5	-0.27	-8.52	48.99	0.4481	-0.0516	0.0203
161	SLE RA 6	-0.28	-8.22	49.25	0.4327	-0.0531	0.0211
161	SLE RA 7	-0.28	-8.37	49.44	0.4402	-0.0529	0.0209
161	SLE RA 8	-0.28	-8.12	48.74	0.4271	-0.0527	0.0209
161	SLE RA 9	-0.27	-8.26	48.93	0.4345	-0.0525	0.0208
161	SLE RA 10	-0.3	-9.73	55.37	0.5132	-0.0581	0.0228
161	SLE RA 11	-0.31	-9.43	55.63	0.4978	-0.0596	0.0236
161	SLE RA 12	-0.31	-9.57	55.82	0.5052	-0.0595	0.0234
161	SLE RA 13	-0.3	-9.57	55.43	0.5045	-0.0589	0.0232
161	SLE RA 14	-0.32	-9.27	55.7	0.4892	-0.0604	0.0239
161	SLE RA 15	-0.31	-9.41	55.88	0.4966	-0.0602	0.0238
161	SLE RA 16	-0.31	-9.16	55.19	0.4835	-0.0599	0.0238
161	SLE RA 17	-0.31	-9.31	55.38	0.491	-0.0597	0.0236
161	SLE RA 18	-0.32	-9.93	57.82	0.5249	-0.0616	0.0243
161	SLE RA 19	-0.31	-10.08	58.01	0.5324	-0.0614	0.0241
161	SLE RA 20	-0.32	-9.77	57.89	0.5163	-0.0623	0.0246
161	SLE RA 21	-0.32	-9.92	58.07	0.5238	-0.0621	0.0245
161	SLE FR 1	-0.26	-8.44	48.61	0.4443	-0.0512	0.0202
161	SLE FR 2	-0.26	-8.49	48.67	0.4468	-0.0511	0.0201
161	SLE FR 3	-0.27	-8.37	48.64	0.4409	-0.0515	0.0203
161	SLE FR 4	-0.28	-8.93	51.43	0.471	-0.0542	0.0214
161	SLE FR 5	-0.28	-8.82	51.4	0.4651	-0.0546	0.0216
161	SLE FR 6	-0.29	-9.18	53.21	0.4846	-0.0564	0.0222
161	SLE QP 1	-0.26	-8.44	48.61	0.4443	-0.0512	0.0202
161	SLE QP 2	-0.28	-8.88	51.37	0.4685	-0.0543	0.0214
161	SLD 1	-0.39	-8.17	54.24	0.438	-0.0201	0.0275
161	SLD 2	-0.39	-8.17	54.24	0.438	-0.0201	0.0275
161	SLD 3	-0.33	-11.1	59.88	0.5911	-0.027	0.0254
161	SLD 4	-0.33	-11.1	59.88	0.5911	-0.027	0.0254
161	SLD 5	-0.4	-4.24	43.69	0.2272	-0.0336	0.0265
161	SLD 6	-0.4	-4.24	43.69	0.2272	-0.0336	0.0265
161	SLD 7	-0.2	-13.98	62.47	0.7374	-0.0565	0.0193
161	SLD 8	-0.2	-13.98	62.47	0.7374	-0.0565	0.0193
161	SLD 9	-0.36	-3.79	40.27	0.1996	-0.0521	0.0235
161	SLD 10	-0.36	-3.79	40.27	0.1996	-0.0521	0.0235



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
161	SLD 11	-0.16	-13.53	59.06	0.7098	-0.075	0.0163
161	SLD 12	-0.16	-13.53	59.06	0.7098	-0.075	0.0163
161	SLD 13	-0.23	-6.67	42.87	0.3459	-0.0816	0.0175
161	SLD 14	-0.23	-6.67	42.87	0.3459	-0.0816	0.0175
161	SLD 15	-0.17	-9.59	48.5	0.499	-0.0885	0.0153
161	SLD 16	-0.17	-9.59	48.5	0.499	-0.0885	0.0153
161	SLV 1	-0.55	-7.28	58.05	0.4002	0.0312	0.0358
161	SLV 2	-0.55	-7.28	58.05	0.4002	0.0312	0.0358
161	SLV 3	-0.41	-14.12	71.33	0.7592	0.0146	0.0308
161	SLV 4	-0.41	-14.12	71.33	0.7592	0.0146	0.0308
161	SLV 5	-0.58	1.98	33.23	-0.0964	-0.0034	0.0334
161	SLV 6	-0.58	1.98	33.23	-0.0964	-0.0034	0.0334
161	SLV 7	-0.1	-20.84	77.5	1.1002	-0.0588	0.0166
161	SLV 8	-0.1	-20.84	77.5	1.1002	-0.0588	0.0166
161	SLV 9	-0.46	3.07	25.24	-0.1632	-0.0498	0.0262
161	SLV 10	-0.46	3.07	25.24	-0.1632	-0.0498	0.0262
161	SLV 11	0.02	-19.75	69.51	1.0334	-0.1052	0.0095
161	SLV 12	0.02	-19.75	69.51	1.0334	-0.1052	0.0095
161	SLV 13	-0.15	-3.64	31.42	0.1778	-0.1232	0.012
161	SLV 14	-0.15	-3.64	31.42	0.1778	-0.1232	0.012
161	SLV 15	-0.01	-10.49	44.7	0.5368	-0.1398	0.007
161	SLV 16	-0.01	-10.49	44.7	0.5368	-0.1398	0.007
162	SLU 1	-0.01	-0.1	27.14	0.0109	-0.0027	0
162	SLU 2	-0.01	-0.11	27.23	0.0115	-0.0027	0
162	SLU 3	-0.01	-0.1	27.95	0.0123	-0.0029	0
162	SLU 4	-0.01	-0.1	28.01	0.0126	-0.0029	0
162	SLU 5	-0.01	-0.12	27.68	0.0137	-0.0029	0
162	SLU 6	-0.01	-0.11	28.4	0.0145	-0.0031	0
162	SLU 7	-0.01	-0.12	28.46	0.0148	-0.0031	0
162	SLU 8	-0.01	-0.13	28.03	0.0153	-0.0031	0
162	SLU 9	-0.01	-0.13	28.09	0.0156	-0.0031	0
162	SLU 10	-0.01	-0.3	33.12	0.0209	-0.003	0
162	SLU 11	-0.01	-0.29	33.84	0.0216	-0.0031	0
162	SLU 12	-0.01	-0.3	33.9	0.022	-0.0032	0
162	SLU 13	-0.01	-0.31	33.56	0.0231	-0.0032	0
162	SLU 14	-0.01	-0.3	34.29	0.0238	-0.0034	0
162	SLU 15	-0.01	-0.31	34.34	0.0242	-0.0034	0
162	SLU 16	-0.01	-0.32	33.92	0.0247	-0.0033	0
162	SLU 17	-0.01	-0.33	33.97	0.025	-0.0034	0
162	SLU 18	-0.01	-0.37	35.54	0.0243	-0.003	0
162	SLU 19	-0.01	-0.38	35.6	0.0247	-0.0031	0
162	SLU 20	-0.01	-0.39	35.99	0.0265	-0.0032	0
162	SLU 21	-0.01	-0.39	36.05	0.0268	-0.0033	0
162	SLU 22	-0.01	-0.06	31.07	0.0119	-0.0031	0
162	SLU 23	-0.01	-0.07	31.17	0.0125	-0.0032	0
162	SLU 24	-0.01	-0.06	31.89	0.0132	-0.0033	0
162	SLU 25	-0.01	-0.06	31.95	0.0136	-0.0034	0
162	SLU 26	-0.01	-0.08	31.62	0.0146	-0.0034	0
162	SLU 27	-0.01	-0.07	32.34	0.0154	-0.0035	0
162	SLU 28	-0.01	-0.08	32.4	0.0157	-0.0036	0
162	SLU 29	-0.01	-0.09	31.97	0.0162	-0.0035	0
162	SLU 30	-0.01	-0.09	32.02	0.0166	-0.0035	0
162	SLU 31	-0.01	-0.26	37.05	0.0218	-0.0034	0
162	SLU 32	-0.01	-0.25	37.77	0.0226	-0.0036	0
162	SLU 33	-0.01	-0.25	37.83	0.0229	-0.0036	0
162	SLU 34	-0.01	-0.27	37.5	0.024	-0.0036	0
162	SLU 35	-0.01	-0.26	38.22	0.0248	-0.0038	0
162	SLU 36	-0.01	-0.27	38.28	0.0251	-0.0038	0
162	SLU 37	-0.01	-0.28	37.85	0.0256	-0.0038	0
162	SLU 38	-0.01	-0.28	37.91	0.026	-0.0038	0
162	SLU 39	-0.01	-0.33	39.47	0.0253	-0.0035	0
162	SLU 40	-0.01	-0.34	39.53	0.0256	-0.0035	0
162	SLU 41	-0.01	-0.35	39.92	0.0274	-0.0037	0
162	SLU 42	-0.01	-0.35	39.98	0.0278	-0.0037	0
162	SLU 43	-0.01	-0.14	33.93	0.0139	-0.0033	0
162	SLU 44	-0.01	-0.15	34.03	0.0145	-0.0034	0
162	SLU 45	-0.01	-0.14	34.75	0.0152	-0.0035	0
162	SLU 46	-0.01	-0.15	34.81	0.0156	-0.0036	0
162	SLU 47	-0.01	-0.17	34.47	0.0166	-0.0036	0
162	SLU 48	-0.01	-0.16	35.2	0.0174	-0.0037	0
162	SLU 49	-0.01	-0.16	35.25	0.0178	-0.0038	0
162	SLU 50	-0.01	-0.17	34.82	0.0182	-0.0037	0
162	SLU 51	-0.01	-0.18	34.88	0.0186	-0.0038	0
162	SLU 52	-0.01	-0.34	39.91	0.0238	-0.0036	0
162	SLU 53	-0.01	-0.34	40.63	0.0246	-0.0038	0
162	SLU 54	-0.01	-0.34	40.69	0.0249	-0.0038	0
162	SLU 55	-0.01	-0.36	40.36	0.026	-0.0038	0
162	SLU 56	-0.01	-0.35	41.08	0.0268	-0.004	0
162	SLU 57	-0.01	-0.35	41.14	0.0271	-0.004	0
162	SLU 58	-0.01	-0.36	40.71	0.0276	-0.004	0
162	SLU 59	-0.01	-0.37	40.77	0.028	-0.004	0
162	SLU 60	-0.01	-0.42	42.33	0.0273	-0.0037	0
162	SLU 61	-0.01	-0.42	42.39	0.0276	-0.0037	0
162	SLU 62	-0.01	-0.43	42.78	0.0294	-0.0039	0
162	SLU 63	-0.01	-0.44	42.84	0.0298	-0.0039	0
162	SLU 64	-0.01	-0.1	37.86	0.0148	-0.0038	0
162	SLU 65	-0.01	-0.11	37.96	0.0154	-0.0038	0
162	SLU 66	-0.01	-0.1	38.68	0.0162	-0.004	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
162	SLU 67	-0.01	-0.11	38.74	0.0165	-0.004	0
162	SLU 68	-0.01	-0.13	38.41	0.0176	-0.004	0
162	SLU 69	-0.01	-0.12	39.13	0.0184	-0.0042	0
162	SLU 70	-0.01	-0.12	39.19	0.0187	-0.0042	0
162	SLU 71	-0.01	-0.13	38.76	0.0192	-0.0042	0
162	SLU 72	-0.01	-0.14	38.82	0.0195	-0.0042	0
162	SLU 73	-0.01	-0.3	43.84	0.0248	-0.0041	0
162	SLU 74	-0.01	-0.29	44.56	0.0255	-0.0042	0
162	SLU 75	-0.01	-0.3	44.62	0.0259	-0.0043	0
162	SLU 76	-0.01	-0.32	44.29	0.027	-0.0043	0
162	SLU 77	-0.01	-0.31	45.01	0.0277	-0.0044	0
162	SLU 78	-0.01	-0.31	45.07	0.0281	-0.0045	0
162	SLU 79	-0.01	-0.32	44.64	0.0286	-0.0044	0
162	SLU 80	-0.01	-0.33	44.7	0.0289	-0.0045	0
162	SLU 81	-0.01	-0.38	46.26	0.0282	-0.0041	0
162	SLU 82	-0.01	-0.38	46.32	0.0286	-0.0042	0
162	SLU 83	-0.01	-0.39	46.71	0.0304	-0.0043	0
162	SLU 84	-0.01	-0.4	46.77	0.0307	-0.0044	0
162	SLE RA 1	-0.01	-0.09	28.26	0.0112	-0.0028	0
162	SLE RA 2	-0.01	-0.09	28.32	0.0116	-0.0028	0
162	SLE RA 3	-0.01	-0.09	28.81	0.0121	-0.0029	0
162	SLE RA 4	-0.01	-0.09	28.84	0.0123	-0.003	0
162	SLE RA 5	-0.01	-0.1	28.62	0.013	-0.003	0
162	SLE RA 6	-0.01	-0.1	29.1	0.0135	-0.0031	0
162	SLE RA 7	-0.01	-0.1	29.14	0.0138	-0.0031	0
162	SLE RA 8	-0.01	-0.11	28.86	0.0141	-0.0031	0
162	SLE RA 9	-0.01	-0.11	28.9	0.0143	-0.0031	0
162	SLE RA 10	-0.01	-0.22	32.25	0.0178	-0.003	0
162	SLE RA 11	-0.01	-0.22	32.73	0.0183	-0.0031	0
162	SLE RA 12	-0.01	-0.22	32.77	0.0186	-0.0031	0
162	SLE RA 13	-0.01	-0.23	32.55	0.0193	-0.0031	0
162	SLE RA 14	-0.01	-0.23	33.03	0.0198	-0.0033	0
162	SLE RA 15	-0.01	-0.23	33.07	0.02	-0.0033	0
162	SLE RA 16	-0.01	-0.24	32.78	0.0203	-0.0032	0
162	SLE RA 17	-0.01	-0.24	32.82	0.0206	-0.0033	0
162	SLE RA 18	-0.01	-0.27	33.86	0.0201	-0.003	0
162	SLE RA 19	-0.01	-0.27	33.9	0.0204	-0.0031	0
162	SLE RA 20	-0.01	-0.28	34.16	0.0216	-0.0032	0
162	SLE RA 21	-0.01	-0.28	34.2	0.0218	-0.0032	0
162	SLE FR 1	-0.01	-0.09	28.26	0.0112	-0.0028	0
162	SLE FR 2	-0.01	-0.09	28.27	0.0113	-0.0028	0
162	SLE FR 3	-0.01	-0.09	28.38	0.0118	-0.0028	0
162	SLE FR 4	-0.01	-0.14	29.95	0.014	-0.0029	0
162	SLE FR 5	-0.01	-0.15	30.06	0.0145	-0.0029	0
162	SLE FR 6	-0.01	-0.18	31.06	0.0157	-0.0029	0
162	SLE QP 1	-0.01	-0.09	28.26	0.0112	-0.0028	0
162	SLE QP 2	-0.01	-0.14	29.94	0.0139	-0.0029	0
162	SLD 1	-0.05	-0.15	22.7	0.0201	0.0158	-0.0001
162	SLD 2	-0.05	-0.15	22.7	0.0201	0.0158	-0.0001
162	SLD 3	-0.05	-1.54	26.29	0.0956	0.012	-0.0001
162	SLD 4	-0.05	-1.54	26.29	0.0956	0.012	-0.0001
162	SLD 5	-0.01	1.97	22.33	-0.0988	0.0085	-0.0001
162	SLD 6	-0.01	1.97	22.33	-0.0988	0.0085	-0.0001
162	SLD 7	-0.03	-2.68	34.28	0.1529	-0.0042	0
162	SLD 8	-0.03	-2.68	34.28	0.1529	-0.0042	0
162	SLD 9	0.02	2.39	25.6	-0.1252	-0.0016	0
162	SLD 10	0.02	2.39	25.6	-0.1252	-0.0016	0
162	SLD 11	0	-2.26	37.55	0.1265	-0.0142	0.0001
162	SLD 12	0	-2.26	37.55	0.1265	-0.0142	0.0001
162	SLD 13	0.04	1.26	33.59	-0.0678	-0.0177	0.0001
162	SLD 14	0.04	1.26	33.59	-0.0678	-0.0177	0.0001
162	SLD 15	0.03	-0.14	37.18	0.0077	-0.0215	0.0001
162	SLD 16	0.03	-0.14	37.18	0.0077	-0.0215	0.0001
162	SLV 1	-0.11	-0.16	12.99	0.0291	0.0407	-0.0003
162	SLV 2	-0.11	-0.16	12.99	0.0291	0.0407	-0.0003
162	SLV 3	-0.12	-3.43	21.39	0.2063	0.0318	-0.0002
162	SLV 4	-0.12	-3.43	21.39	0.2063	0.0318	-0.0002
162	SLV 5	-0.02	4.82	12.1	-0.2503	0.0237	-0.0001
162	SLV 6	-0.02	4.82	12.1	-0.2503	0.0237	-0.0001
162	SLV 7	-0.06	-6.1	40.13	0.3404	-0.0059	0
162	SLV 8	-0.06	-6.1	40.13	0.3404	-0.0059	0
162	SLV 9	0.05	5.81	19.75	-0.3126	0.0002	0
162	SLV 10	0.05	5.81	19.75	-0.3126	0.0002	0
162	SLV 11	0	-5.1	47.78	0.2781	-0.0294	0.0002
162	SLV 12	0	-5.1	47.78	0.2781	-0.0294	0.0002
162	SLV 13	0.11	3.15	38.49	-0.1786	-0.0375	0.0002
162	SLV 14	0.11	3.15	38.49	-0.1786	-0.0375	0.0002
162	SLV 15	0.09	-0.13	46.89	-0.0014	-0.0464	0.0003
162	SLV 16	0.09	-0.13	46.89	-0.0014	-0.0464	0.0003
163	SLU 1	0.14	-3.97	65.17	0.1823	0.0157	-0.0001
163	SLU 2	0.15	-3.98	65.68	0.1805	0.0119	0
163	SLU 3	0.15	-4.02	67.26	0.1839	0.0164	-0.0001
163	SLU 4	0.15	-4.03	67.56	0.1828	0.0141	-0.0001
163	SLU 5	0.15	-3.99	66.97	0.1804	0.0123	0
163	SLU 6	0.15	-4.04	68.55	0.1838	0.0167	-0.0001
163	SLU 7	0.15	-4.04	68.85	0.1828	0.0145	-0.0001
163	SLU 8	0.15	-4	67.76	0.1821	0.0164	-0.0001
163	SLU 9	0.15	-4.01	68.06	0.1811	0.0142	-0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
163	SLU 10	0.17	-4.16	75.23	0.1881	0.017	-0.0001	
163	SLU 11	0.18	-4.21	76.8	0.1915	0.0214	-0.0002	
163	SLU 12	0.18	-4.21	77.11	0.1905	0.0192	-0.0001	
163	SLU 13	0.18	-4.18	76.52	0.1881	0.0173	-0.0001	
163	SLU 14	0.18	-4.22	78.1	0.1914	0.0218	-0.0002	
163	SLU 15	0.18	-4.23	78.4	0.1904	0.0195	-0.0001	
163	SLU 16	0.18	-4.19	77.31	0.1898	0.0215	-0.0002	
163	SLU 17	0.18	-4.19	77.61	0.1887	0.0192	-0.0001	
163	SLU 18	0.18	-4.24	78.81	0.1932	0.0229	-0.0002	
163	SLU 19	0.18	-4.24	79.12	0.1921	0.0206	-0.0001	
163	SLU 20	0.19	-4.25	80.1	0.1931	0.0233	-0.0002	
163	SLU 21	0.19	-4.26	80.41	0.1921	0.021	-0.0001	
163	SLU 22	0.17	-4.21	74.36	0.1925	0.0199	-0.0002	
163	SLU 23	0.17	-4.22	74.87	0.1908	0.0162	-0.0001	
163	SLU 24	0.17	-4.26	76.44	0.1942	0.0206	-0.0002	
163	SLU 25	0.18	-4.27	76.75	0.1931	0.0184	-0.0001	
163	SLU 26	0.18	-4.23	76.16	0.1907	0.0165	-0.0001	
163	SLU 27	0.18	-4.28	77.74	0.1941	0.021	-0.0002	
163	SLU 28	0.18	-4.28	78.04	0.193	0.0187	-0.0001	
163	SLU 29	0.18	-4.24	76.95	0.1924	0.0207	-0.0002	
163	SLU 30	0.18	-4.25	77.25	0.1914	0.0184	-0.0001	
163	SLU 31	0.2	-4.41	84.42	0.1984	0.0212	-0.0001	
163	SLU 32	0.2	-4.45	85.99	0.2018	0.0257	-0.0002	
163	SLU 33	0.2	-4.45	86.29	0.2007	0.0234	-0.0001	
163	SLU 34	0.2	-4.42	85.71	0.1984	0.0216	-0.0001	
163	SLU 35	0.21	-4.46	87.28	0.2017	0.026	-0.0002	
163	SLU 36	0.21	-4.47	87.59	0.2007	0.0238	-0.0001	
163	SLU 37	0.2	-4.43	86.49	0.2	0.0257	-0.0002	
163	SLU 38	0.2	-4.43	86.8	0.199	0.0235	-0.0001	
163	SLU 39	0.21	-4.48	88	0.2034	0.0271	-0.0002	
163	SLU 40	0.21	-4.48	88.3	0.2024	0.0249	-0.0001	
163	SLU 41	0.21	-4.49	89.29	0.2034	0.0275	-0.0002	
163	SLU 42	0.21	-4.5	89.6	0.2023	0.0253	-0.0001	
163	SLU 43	0.18	-5.08	81.58	0.2334	0.0189	-0.0002	
163	SLU 44	0.18	-5.09	82.08	0.2317	0.0152	-0.0001	
163	SLU 45	0.18	-5.13	83.66	0.235	0.0196	-0.0002	
163	SLU 46	0.19	-5.14	83.96	0.234	0.0174	-0.0001	
163	SLU 47	0.18	-5.1	83.38	0.2316	0.0155	-0.0001	
163	SLU 48	0.19	-5.15	84.95	0.235	0.02	-0.0002	
163	SLU 49	0.19	-5.15	85.26	0.2339	0.0177	-0.0001	
163	SLU 50	0.19	-5.11	84.16	0.2333	0.0197	-0.0002	
163	SLU 51	0.19	-5.12	84.47	0.2322	0.0174	-0.0001	
163	SLU 52	0.21	-5.27	91.63	0.2393	0.0202	-0.0001	
163	SLU 53	0.21	-5.32	93.2	0.2427	0.0247	-0.0002	
163	SLU 54	0.21	-5.32	93.51	0.2416	0.0224	-0.0001	
163	SLU 55	0.21	-5.29	92.92	0.2392	0.0206	-0.0001	
163	SLU 56	0.21	-5.33	94.5	0.2426	0.025	-0.0002	
163	SLU 57	0.22	-5.34	94.8	0.2415	0.0228	-0.0001	
163	SLU 58	0.21	-5.3	93.71	0.2409	0.0247	-0.0002	
163	SLU 59	0.21	-5.3	94.01	0.2399	0.0225	-0.0001	
163	SLU 60	0.22	-5.35	95.21	0.2443	0.0261	-0.0002	
163	SLU 61	0.22	-5.35	95.52	0.2433	0.0239	-0.0001	
163	SLU 62	0.22	-5.36	96.51	0.2443	0.0265	-0.0002	
163	SLU 63	0.22	-5.36	96.81	0.2432	0.0243	-0.0001	
163	SLU 64	0.2	-5.32	90.76	0.2437	0.0232	-0.0002	
163	SLU 65	0.21	-5.33	91.27	0.2419	0.0194	-0.0001	
163	SLU 66	0.21	-5.37	92.85	0.2453	0.0239	-0.0002	
163	SLU 67	0.21	-5.38	93.15	0.2443	0.0216	-0.0001	
163	SLU 68	0.21	-5.34	92.56	0.2419	0.0198	-0.0001	
163	SLU 69	0.21	-5.39	94.14	0.2452	0.0242	-0.0002	
163	SLU 70	0.21	-5.39	94.44	0.2442	0.022	-0.0001	
163	SLU 71	0.21	-5.35	93.35	0.2436	0.0239	-0.0002	
163	SLU 72	0.21	-5.36	93.65	0.2425	0.0217	-0.0001	
163	SLU 73	0.23	-5.51	100.82	0.2496	0.0245	-0.0001	
163	SLU 74	0.24	-5.56	102.39	0.2529	0.0289	-0.0002	
163	SLU 75	0.24	-5.56	102.7	0.2519	0.0267	-0.0002	
163	SLU 76	0.24	-5.53	102.11	0.2495	0.0248	-0.0001	
163	SLU 77	0.24	-5.57	103.69	0.2529	0.0293	-0.0002	
163	SLU 78	0.24	-5.58	103.99	0.2518	0.027	-0.0002	
163	SLU 79	0.24	-5.54	102.9	0.2512	0.029	-0.0002	
163	SLU 80	0.24	-5.54	103.2	0.2502	0.0267	-0.0002	
163	SLU 81	0.24	-5.59	104.4	0.2546	0.0304	-0.0002	
163	SLU 82	0.24	-5.59	104.71	0.2535	0.0281	-0.0002	
163	SLU 83	0.25	-5.6	105.69	0.2545	0.0308	-0.0002	
163	SLU 84	0.25	-5.61	106	0.2535	0.0285	-0.0002	
163	SLE RA 1	0.15	-4.04	67.8	0.1852	0.0169	-0.0001	
163	SLE RA 2	0.15	-4.05	68.14	0.184	0.0144	-0.0001	
163	SLE RA 3	0.16	-4.07	69.19	0.1863	0.0174	-0.0001	
163	SLE RA 4	0.16	-4.08	69.39	0.1856	0.0159	-0.0001	
163	SLE RA 5	0.16	-4.06	69	0.184	0.0146	-0.0001	
163	SLE RA 6	0.16	-4.08	70.05	0.1862	0.0176	-0.0001	
163	SLE RA 7	0.16	-4.09	70.25	0.1855	0.0161	-0.0001	
163	SLE RA 8	0.16	-4.06	69.52	0.1851	0.0174	-0.0001	
163	SLE RA 9	0.16	-4.06	69.73	0.1844	0.0159	-0.0001	
163	SLE RA 10	0.17	-4.17	74.5	0.1891	0.0178	-0.0001	
163	SLE RA 11	0.17	-4.2	75.55	0.1914	0.0207	-0.0002	
163	SLE RA 12	0.17	-4.2	75.75	0.1907	0.0192	-0.0001	
163	SLE RA 13	0.17	-4.18	75.36	0.1891	0.018	-0.0001	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
163	SLE RA 14	0.18	-4.21	76.41	0.1913	0.021	-0.0002
163	SLE RA 15	0.18	-4.21	76.62	0.1906	0.0195	-0.0001
163	SLE RA 16	0.17	-4.18	75.89	0.1902	0.0208	-0.0002
163	SLE RA 17	0.18	-4.19	76.09	0.1895	0.0193	-0.0001
163	SLE RA 18	0.18	-4.22	76.89	0.1925	0.0217	-0.0002
163	SLE RA 19	0.18	-4.22	77.09	0.1918	0.0202	-0.0001
163	SLE RA 20	0.18	-4.23	77.75	0.1924	0.022	-0.0002
163	SLE RA 21	0.18	-4.23	77.96	0.1917	0.0205	-0.0001
163	SLE FR 1	0.15	-4.04	67.8	0.1852	0.0169	-0.0001
163	SLE FR 2	0.15	-4.04	67.87	0.185	0.0164	-0.0001
163	SLE FR 3	0.15	-4.05	68.14	0.1852	0.017	-0.0001
163	SLE FR 4	0.16	-4.1	70.59	0.1871	0.0178	-0.0001
163	SLE FR 5	0.16	-4.1	70.87	0.1874	0.0184	-0.0001
163	SLE FR 6	0.16	-4.13	72.34	0.1888	0.0193	-0.0001
163	SLE QP 1	0.15	-4.04	67.8	0.1852	0.0169	-0.0001
163	SLE QP 2	0.16	-4.09	70.53	0.1874	0.0183	-0.0001
163	SLD 1	0.27	-3.97	91.83	0.1747	0.0485	-0.0004
163	SLD 2	0.27	-3.97	91.83	0.1747	0.0485	-0.0004
163	SLD 3	0.18	-6.52	96.27	0.315	0.0351	-0.0005
163	SLD 4	0.18	-6.52	96.27	0.315	0.0351	-0.0005
163	SLD 5	0.33	-0.18	70.17	-0.0291	0.0477	0
163	SLD 6	0.33	-0.18	70.17	-0.0291	0.0477	0
163	SLD 7	0.03	-8.69	84.99	0.4384	0.003	-0.0005
163	SLD 8	0.03	-8.69	84.99	0.4384	0.003	-0.0005
163	SLD 9	0.29	0.51	56.06	-0.0636	0.0337	0.0002
163	SLD 10	0.29	0.51	56.06	-0.0636	0.0337	0.0002
163	SLD 11	-0.01	-8.01	70.88	0.4039	-0.0111	-0.0003
163	SLD 12	-0.01	-8.01	70.88	0.4039	-0.0111	-0.0003
163	SLD 13	0.14	-1.67	44.78	0.0598	0.0016	0.0002
163	SLD 14	0.14	-1.67	44.78	0.0598	0.0016	0.0002
163	SLD 15	0.05	-4.22	49.23	0.2	-0.0118	0.0001
163	SLD 16	0.05	-4.22	49.23	0.2	-0.0118	0.0001
163	SLV 1	0.43	-3.85	120.37	0.1609	0.0904	-0.0007
163	SLV 2	0.43	-3.85	120.37	0.1609	0.0904	-0.0007
163	SLV 3	0.2	-9.79	130.76	0.4872	0.0561	-0.0011
163	SLV 4	0.2	-9.79	130.76	0.4872	0.0561	-0.0011
163	SLV 5	0.58	4.99	69.72	-0.3155	0.092	0.0003
163	SLV 6	0.58	4.99	69.72	-0.3155	0.092	0.0003
163	SLV 7	-0.17	-14.81	104.35	0.7722	-0.0223	-0.0011
163	SLV 8	-0.17	-14.81	104.35	0.7722	-0.0223	-0.0011
163	SLV 9	0.49	6.62	36.7	-0.3975	0.059	0.0008
163	SLV 10	0.49	6.62	36.7	-0.3975	0.059	0.0008
163	SLV 11	-0.26	-13.18	71.33	0.6902	-0.0553	-0.0006
163	SLV 12	-0.26	-13.18	71.33	0.6902	-0.0553	-0.0006
163	SLV 13	0.12	1.6	10.3	-0.1125	-0.0194	0.0008
163	SLV 14	0.12	1.6	10.3	-0.1125	-0.0194	0.0008
163	SLV 15	-0.11	-4.34	20.69	0.2138	-0.0537	0.0004
163	SLV 16	-0.11	-4.34	20.69	0.2138	-0.0537	0.0004
165	SLU 1	13.49	-0.11	61.19	0.0288	0.7126	0
165	SLU 2	13.27	-0.14	61.2	0.0371	0.7022	0
165	SLU 3	14.05	-0.11	63.26	0.0296	0.7426	0
165	SLU 4	13.92	-0.13	63.27	0.0346	0.7364	0
165	SLU 5	13.63	-0.14	62.5	0.0376	0.721	0
165	SLU 6	14.41	-0.12	64.57	0.0301	0.7615	0
165	SLU 7	14.28	-0.13	64.57	0.0351	0.7552	0
165	SLU 8	14.2	-0.12	63.8	0.0298	0.7503	0
165	SLU 9	14.07	-0.13	63.8	0.0347	0.7441	0
165	SLU 10	16.3	-0.15	71.52	0.041	0.8592	0
165	SLU 11	17.09	-0.13	73.59	0.0335	0.8997	0
165	SLU 12	16.96	-0.15	73.59	0.0385	0.8934	0
165	SLU 13	16.66	-0.16	72.83	0.0414	0.8781	0
165	SLU 14	17.44	-0.13	74.89	0.034	0.9186	0
165	SLU 15	17.31	-0.15	74.9	0.039	0.9123	0
165	SLU 16	17.23	-0.13	74.12	0.0337	0.9074	0
165	SLU 17	17.11	-0.15	74.13	0.0386	0.9012	0
165	SLU 18	17.82	-0.13	75.94	0.0344	0.937	0
165	SLU 19	17.69	-0.15	75.95	0.0393	0.9307	0
165	SLU 20	18.18	-0.13	77.24	0.0349	0.9559	0
165	SLU 21	18.05	-0.15	77.25	0.0398	0.9496	0
165	SLU 22	16.21	-0.12	70.86	0.0326	0.8546	0
165	SLU 23	16	-0.16	70.86	0.0409	0.8442	0
165	SLU 24	16.78	-0.13	72.93	0.0334	0.8846	0
165	SLU 25	16.65	-0.15	72.94	0.0384	0.8784	0
165	SLU 26	16.36	-0.16	72.17	0.0414	0.863	0
165	SLU 27	17.14	-0.13	74.23	0.0339	0.9035	0
165	SLU 28	17.01	-0.15	74.24	0.0389	0.8972	0
165	SLU 29	16.93	-0.13	73.46	0.0336	0.8923	0
165	SLU 30	16.8	-0.15	73.47	0.0385	0.8861	0
165	SLU 31	19.03	-0.17	81.19	0.0448	1.0012	0
165	SLU 32	19.81	-0.14	83.26	0.0373	1.0417	0
165	SLU 33	19.68	-0.16	83.26	0.0423	1.0354	0
165	SLU 34	19.39	-0.17	82.49	0.0452	1.0201	0
165	SLU 35	20.17	-0.14	84.56	0.0378	1.0606	0
165	SLU 36	20.04	-0.16	84.57	0.0428	1.0543	0
165	SLU 37	19.96	-0.14	83.79	0.0375	1.0494	0
165	SLU 38	19.83	-0.16	83.79	0.0424	1.0432	0
165	SLU 39	20.55	-0.14	85.61	0.0382	1.079	0
165	SLU 40	20.42	-0.16	85.61	0.0431	1.0727	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
165	SLU 41		20.9	-0.15	86.91	0.0387	1.0979	0	
165	SLU 42		20.78	-0.16	86.92	0.0436	1.0916	0	
165	SLU 43		16.6	-0.14	76.23	0.0361	0.8777	0	
165	SLU 44		16.38	-0.17	76.24	0.0444	0.8673	0	
165	SLU 45		17.16	-0.14	78.31	0.037	0.9077	0	
165	SLU 46		17.03	-0.16	78.31	0.0419	0.9014	0	
165	SLU 47		16.74	-0.17	77.54	0.0449	0.8861	0	
165	SLU 48		17.52	-0.14	79.61	0.0375	0.9266	0	
165	SLU 49		17.39	-0.16	79.61	0.0424	0.9203	0	
165	SLU 50		17.31	-0.14	78.84	0.0371	0.9154	0	
165	SLU 51		17.18	-0.16	78.84	0.0421	0.9092	0	
165	SLU 52		19.41	-0.18	86.56	0.0483	1.0243	0	
165	SLU 53		20.2	-0.16	88.63	0.0409	1.0648	0	
165	SLU 54		20.07	-0.17	88.64	0.0458	1.0585	0	
165	SLU 55		19.77	-0.19	87.87	0.0488	1.0432	0	
165	SLU 56		20.55	-0.16	89.93	0.0414	1.0837	0	
165	SLU 57		20.42	-0.18	89.94	0.0463	1.0774	0	
165	SLU 58		20.35	-0.16	89.16	0.041	1.0725	0	
165	SLU 59		20.22	-0.18	89.17	0.046	1.0663	0	
165	SLU 60		20.93	-0.16	90.98	0.0417	1.1021	0	
165	SLU 61		20.8	-0.18	90.99	0.0467	1.0958	0	
165	SLU 62		21.29	-0.16	92.29	0.0422	1.1209	0	
165	SLU 63		21.16	-0.18	92.29	0.0471	1.1147	0	
165	SLU 64		19.32	-0.15	85.9	0.0399	1.0197	0	
165	SLU 65		19.11	-0.18	85.91	0.0482	1.0092	0	
165	SLU 66		19.89	-0.16	87.97	0.0408	1.0497	0	
165	SLU 67		19.76	-0.17	87.98	0.0457	1.0434	0	
165	SLU 68		19.47	-0.19	87.21	0.0487	1.0281	0	
165	SLU 69		20.25	-0.16	89.28	0.0413	1.0686	0	
165	SLU 70		20.12	-0.18	89.28	0.0462	1.0623	0	
165	SLU 71		20.04	-0.16	88.5	0.0409	1.0574	0	
165	SLU 72		19.91	-0.18	88.51	0.0459	1.0512	0	
165	SLU 73		22.14	-0.2	96.23	0.0521	1.1663	0	
165	SLU 74		22.92	-0.17	98.3	0.0447	1.2068	0	
165	SLU 75		22.8	-0.19	98.3	0.0496	1.2005	0	
165	SLU 76		22.5	-0.2	97.54	0.0526	1.1852	0	
165	SLU 77		23.28	-0.17	99.6	0.0452	1.2256	0	
165	SLU 78		23.15	-0.19	99.61	0.0501	1.2194	0	
165	SLU 79		23.07	-0.17	98.83	0.0448	1.2145	0	
165	SLU 80		22.94	-0.19	98.84	0.0498	1.2083	0	
165	SLU 81		23.66	-0.17	100.65	0.0455	1.2441	0	
165	SLU 82		23.53	-0.19	100.66	0.0505	1.2378	0	
165	SLU 83		24.02	-0.17	101.95	0.046	1.2629	0	
165	SLU 84		23.89	-0.19	101.96	0.0509	1.2567	0	
165	SLE RA 1		14.27	-0.11	63.95	0.0299	0.7531	0	
165	SLE RA 2		14.12	-0.13	63.96	0.0354	0.7462	0	
165	SLE RA 3		14.64	-0.12	65.33	0.0305	0.7732	0	
165	SLE RA 4		14.56	-0.13	65.34	0.0338	0.769	0	
165	SLE RA 5		14.36	-0.14	64.83	0.0357	0.7588	0	
165	SLE RA 6		14.88	-0.12	66.2	0.0308	0.7858	0	
165	SLE RA 7		14.8	-0.13	66.21	0.0341	0.7816	0	
165	SLE RA 8		14.74	-0.12	65.69	0.0305	0.7783	0	
165	SLE RA 9		14.66	-0.13	65.69	0.0339	0.7742	0	
165	SLE RA 10		16.14	-0.14	70.84	0.038	0.8509	0	
165	SLE RA 11		16.67	-0.13	72.22	0.033	0.8779	0	
165	SLE RA 12		16.58	-0.14	72.22	0.0363	0.8737	0	
165	SLE RA 13		16.38	-0.15	71.71	0.0383	0.8635	0	
165	SLE RA 14		16.9	-0.13	73.09	0.0334	0.8905	0	
165	SLE RA 15		16.82	-0.14	73.09	0.0367	0.8863	0	
165	SLE RA 16		16.76	-0.13	72.57	0.0331	0.883	0	
165	SLE RA 17		16.68	-0.14	72.58	0.0364	0.8789	0	
165	SLE RA 18		17.15	-0.13	73.79	0.0336	0.9027	0	
165	SLE RA 19		17.07	-0.14	73.79	0.0369	0.8986	0	
165	SLE RA 20		17.39	-0.13	74.65	0.0339	0.9153	0	
165	SLE RA 21		17.31	-0.14	74.66	0.0372	0.9112	0	
165	SLE FR 1		14.27	-0.11	63.95	0.0299	0.7531	0	
165	SLE FR 2		14.24	-0.12	63.95	0.031	0.7518	0	
165	SLE FR 3		14.36	-0.11	64.3	0.03	0.7582	0	
165	SLE FR 4		15.1	-0.12	66.9	0.0321	0.7966	0	
165	SLE FR 5		15.23	-0.12	67.25	0.0311	0.8031	0	
165	SLE FR 6		15.71	-0.12	68.87	0.0317	0.8279	0	
165	SLE QP 1		14.27	-0.11	63.95	0.0299	0.7531	0	
165	SLE QP 2		15.13	-0.12	66.9	0.031	0.798	0	
165	SLD 1		22.82	-0.17	88.72	0.0286	1.216	-0.0003	
165	SLD 2		22.82	-0.17	88.72	0.0286	1.216	-0.0003	
165	SLD 3		23.47	-0.24	90.48	0.0781	1.2499	0.0001	
165	SLD 4		23.47	-0.24	90.48	0.0781	1.2499	0.0001	
165	SLD 5		16.44	-0.03	70.78	-0.0447	0.872	-0.0007	
165	SLD 6		16.44	-0.03	70.78	-0.0447	0.872	-0.0007	
165	SLD 7		18.63	-0.26	76.64	0.1202	0.985	0.0006	
165	SLD 8		18.63	-0.26	76.64	0.1202	0.985	0.0006	
165	SLD 9		11.63	0.02	57.16	-0.0582	0.6111	-0.0006	
165	SLD 10		11.63	0.02	57.16	-0.0582	0.6111	-0.0006	
165	SLD 11		13.82	-0.21	63.02	0.1067	0.724	0.0006	
165	SLD 12		13.82	-0.21	63.02	0.1067	0.724	0.0006	
165	SLD 13		6.79	0	43.32	-0.0161	0.3462	-0.0001	
165	SLD 14		6.79	0	43.32	-0.0161	0.3462	-0.0001	
165	SLD 15		7.45	-0.07	45.08	0.0334	0.3801	0.0003	





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
165	SLD 16	7.45	-0.07	45.08	0.0334	0.3801	0.0003
165	SLV 1	33.14	-0.23	117.95	0.0218	1.7779	-0.0008
165	SLV 2	33.14	-0.23	117.95	0.0218	1.7779	-0.0008
165	SLV 3	34.71	-0.41	122.09	0.1481	1.8588	0.0002
165	SLV 4	34.71	-0.41	122.09	0.1481	1.8588	0.0002
165	SLV 5	18.17	0.12	75.94	-0.1633	0.9692	-0.0016
165	SLV 6	18.17	0.12	75.94	-0.1633	0.9692	-0.0016
165	SLV 7	23.37	-0.47	89.74	0.2577	1.239	0.0015
165	SLV 8	23.37	-0.47	89.74	0.2577	1.239	0.0015
165	SLV 9	6.89	0.24	44.07	-0.1957	0.357	-0.0015
165	SLV 10	6.89	0.24	44.07	-0.1957	0.357	-0.0015
165	SLV 11	12.1	-0.35	57.87	0.2253	0.6269	0.0016
165	SLV 12	12.1	-0.35	57.87	0.2253	0.6269	0.0016
165	SLV 13	-4.44	0.17	11.72	-0.0861	-0.2628	-0.0002
165	SLV 14	-4.44	0.17	11.72	-0.0861	-0.2628	-0.0002
165	SLV 15	-2.88	-0.01	15.86	0.0402	-0.1818	0.0007
166	SLU 1	11.57	-0.04	56.08	0.0189	0.526	-0.0002
166	SLU 2	11.3	-0.06	56.18	0.0308	0.5129	-0.0002
166	SLU 3	12.1	-0.04	57.91	0.0195	0.5499	-0.0002
166	SLU 4	11.93	-0.06	57.97	0.0266	0.542	-0.0002
166	SLU 5	11.62	-0.07	57.35	0.0311	0.5277	-0.0002
166	SLU 6	12.42	-0.04	59.08	0.0198	0.5647	-0.0002
166	SLU 7	12.25	-0.06	59.14	0.0269	0.5569	-0.0002
166	SLU 8	12.23	-0.04	58.41	0.0196	0.5557	-0.0002
166	SLU 9	12.06	-0.06	58.48	0.0267	0.5478	-0.0002
166	SLU 10	14.17	-0.07	65.51	0.0334	0.6445	-0.0003
166	SLU 11	14.96	-0.05	67.23	0.022	0.6815	-0.0002
166	SLU 12	14.8	-0.06	67.3	0.0292	0.6736	-0.0002
166	SLU 13	14.49	-0.07	66.68	0.0337	0.6593	-0.0003
166	SLU 14	15.29	-0.05	68.4	0.0224	0.6963	-0.0002
166	SLU 15	15.12	-0.06	68.47	0.0295	0.6885	-0.0002
166	SLU 16	15.1	-0.05	67.74	0.0221	0.6873	-0.0002
166	SLU 17	14.93	-0.06	67.8	0.0293	0.6794	-0.0002
166	SLU 18	15.67	-0.05	69.4	0.0226	0.714	-0.0002
166	SLU 19	15.51	-0.06	69.46	0.0297	0.7062	-0.0002
166	SLU 20	16	-0.05	70.56	0.0229	0.7289	-0.0002
166	SLU 21	15.83	-0.06	70.63	0.03	0.721	-0.0002
166	SLU 22	14.12	-0.05	64.8	0.0214	0.6427	-0.0002
166	SLU 23	13.84	-0.07	64.9	0.0333	0.6295	-0.0003
166	SLU 24	14.64	-0.05	66.63	0.022	0.6666	-0.0002
166	SLU 25	14.47	-0.06	66.69	0.0291	0.6587	-0.0002
166	SLU 26	14.17	-0.07	66.07	0.0336	0.6444	-0.0003
166	SLU 27	14.97	-0.05	67.8	0.0223	0.6814	-0.0002
166	SLU 28	14.8	-0.06	67.86	0.0294	0.6735	-0.0002
166	SLU 29	14.77	-0.05	67.13	0.022	0.6723	-0.0002
166	SLU 30	14.61	-0.06	67.2	0.0292	0.6644	-0.0002
166	SLU 31	16.71	-0.08	74.23	0.0359	0.7611	-0.0003
166	SLU 32	17.51	-0.05	75.95	0.0245	0.7982	-0.0002
166	SLU 33	17.34	-0.07	76.02	0.0317	0.7903	-0.0003
166	SLU 34	17.04	-0.08	75.4	0.0362	0.776	-0.0003
166	SLU 35	17.83	-0.06	77.12	0.0248	0.813	-0.0002
166	SLU 36	17.67	-0.07	77.19	0.032	0.8051	-0.0003
166	SLU 37	17.64	-0.06	76.46	0.0246	0.8039	-0.0002
166	SLU 38	17.47	-0.07	76.52	0.0317	0.796	-0.0003
166	SLU 39	18.22	-0.06	78.12	0.0251	0.8307	-0.0002
166	SLU 40	18.05	-0.07	78.18	0.0322	0.8228	-0.0003
166	SLU 41	18.54	-0.06	79.29	0.0254	0.8455	-0.0002
166	SLU 42	18.38	-0.07	79.35	0.0325	0.8376	-0.0003
166	SLU 43	14.17	-0.05	69.91	0.0238	0.6439	-0.0002
166	SLU 44	13.9	-0.08	70.02	0.0356	0.6307	-0.0003
166	SLU 45	14.7	-0.05	71.74	0.0243	0.6677	-0.0002
166	SLU 46	14.53	-0.07	71.81	0.0314	0.6599	-0.0003
166	SLU 47	14.22	-0.08	71.18	0.036	0.6455	-0.0003
166	SLU 48	15.02	-0.06	72.91	0.0246	0.6826	-0.0002
166	SLU 49	14.85	-0.07	72.97	0.0317	0.6747	-0.0003
166	SLU 50	14.83	-0.05	72.24	0.0244	0.6735	-0.0002
166	SLU 51	14.66	-0.07	72.31	0.0315	0.6656	-0.0003
166	SLU 52	16.77	-0.08	79.34	0.0382	0.7623	-0.0003
166	SLU 53	17.56	-0.06	81.07	0.0269	0.7993	-0.0002
166	SLU 54	17.4	-0.07	81.13	0.034	0.7915	-0.0003
166	SLU 55	17.09	-0.08	80.51	0.0385	0.7771	-0.0003
166	SLU 56	17.89	-0.06	82.23	0.0272	0.8142	-0.0002
166	SLU 57	17.72	-0.07	82.3	0.0343	0.8063	-0.0003
166	SLU 58	17.7	-0.06	81.57	0.027	0.8051	-0.0002
166	SLU 59	17.53	-0.07	81.63	0.0341	0.7972	-0.0003
166	SLU 60	18.27	-0.06	83.23	0.0274	0.8319	-0.0002
166	SLU 61	18.11	-0.07	83.29	0.0346	0.824	-0.0003
166	SLU 62	18.6	-0.06	84.4	0.0277	0.8467	-0.0002
166	SLU 63	18.43	-0.08	84.46	0.0349	0.8388	-0.0003
166	SLU 64	16.72	-0.06	78.63	0.0262	0.7605	-0.0002
166	SLU 65	16.44	-0.08	78.74	0.0381	0.7474	-0.0003
166	SLU 66	17.24	-0.06	80.46	0.0268	0.7844	-0.0002
166	SLU 67	17.07	-0.07	80.53	0.0339	0.7765	-0.0003
166	SLU 68	16.77	-0.08	79.9	0.0384	0.7622	-0.0003
166	SLU 69	17.57	-0.06	81.63	0.0271	0.7992	-0.0002
166	SLU 70	17.4	-0.07	81.69	0.0342	0.7913	-0.0003
166	SLU 71	17.37	-0.06	80.97	0.0269	0.7901	-0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
166	SLU 72	17.2	-0.07	81.03	0.034	0.7823	-0.0003
166	SLU 73	19.31	-0.09	88.06	0.0407	0.879	-0.0003
166	SLU 74	20.11	-0.07	89.79	0.0294	0.916	-0.0003
166	SLU 75	19.94	-0.08	89.85	0.0365	0.9081	-0.0003
166	SLU 76	19.64	-0.09	89.23	0.041	0.8938	-0.0003
166	SLU 77	20.43	-0.07	90.95	0.0297	0.9308	-0.0003
166	SLU 78	20.27	-0.08	91.02	0.0368	0.9229	-0.0003
166	SLU 79	20.24	-0.07	90.29	0.0294	0.9217	-0.0003
166	SLU 80	20.07	-0.08	90.35	0.0366	0.9139	-0.0003
166	SLU 81	20.82	-0.07	91.95	0.0299	0.9485	-0.0003
166	SLU 82	20.65	-0.08	92.01	0.0371	0.9406	-0.0003
166	SLU 83	21.14	-0.07	93.12	0.0302	0.9633	-0.0003
166	SLU 84	20.98	-0.08	93.18	0.0374	0.9554	-0.0003
166	SLE RA 1	12.3	-0.04	58.57	0.0196	0.5594	-0.0002
166	SLE RA 2	12.12	-0.06	58.64	0.0276	0.5506	-0.0002
166	SLE RA 3	12.65	-0.04	59.79	0.02	0.5753	-0.0002
166	SLE RA 4	12.54	-0.05	59.83	0.0248	0.57	-0.0002
166	SLE RA 5	12.33	-0.06	59.42	0.0278	0.5605	-0.0002
166	SLE RA 6	12.87	-0.05	60.57	0.0202	0.5852	-0.0002
166	SLE RA 7	12.76	-0.05	60.61	0.025	0.5799	-0.0002
166	SLE RA 8	12.74	-0.04	60.12	0.0201	0.5791	-0.0002
166	SLE RA 9	12.63	-0.05	60.17	0.0248	0.5739	-0.0002
166	SLE RA 10	14.03	-0.06	64.85	0.0293	0.6383	-0.0002
166	SLE RA 11	14.56	-0.05	66.01	0.0217	0.663	-0.0002
166	SLE RA 12	14.45	-0.06	66.05	0.0265	0.6578	-0.0002
166	SLE RA 13	14.25	-0.06	65.63	0.0295	0.6482	-0.0002
166	SLE RA 14	14.78	-0.05	66.78	0.0219	0.6729	-0.0002
166	SLE RA 15	14.67	-0.06	66.83	0.0267	0.6676	-0.0002
166	SLE RA 16	14.65	-0.05	66.34	0.0218	0.6669	-0.0002
166	SLE RA 17	14.54	-0.06	66.38	0.0265	0.6616	-0.0002
166	SLE RA 18	15.03	-0.05	67.45	0.0221	0.6847	-0.0002
166	SLE RA 19	14.92	-0.06	67.49	0.0268	0.6794	-0.0002
166	SLE RA 20	15.25	-0.05	68.23	0.0223	0.6946	-0.0002
166	SLE RA 21	15.14	-0.06	68.27	0.0271	0.6893	-0.0002
166	SLE FR 1	12.3	-0.04	58.57	0.0196	0.5594	-0.0002
166	SLE FR 2	12.26	-0.05	58.58	0.0212	0.5576	-0.0002
166	SLE FR 3	12.39	-0.04	58.88	0.0197	0.5633	-0.0002
166	SLE FR 4	13.08	-0.05	61.25	0.022	0.5952	-0.0002
166	SLE FR 5	13.21	-0.05	61.54	0.0205	0.6009	-0.0002
166	SLE FR 6	13.67	-0.05	63.01	0.0209	0.622	-0.0002
166	SLE QP 1	12.3	-0.04	58.57	0.0196	0.5594	-0.0002
166	SLE QP 2	13.12	-0.05	61.23	0.0204	0.597	-0.0002
166	SLD 1	20.97	-0.13	77.51	0.0033	0.9762	-0.0002
166	SLD 2	20.97	-0.13	77.51	0.0033	0.9762	-0.0002
166	SLD 3	21.69	-0.08	78.72	0.0978	1.0089	-0.0005
166	SLD 4	21.69	-0.08	78.72	0.0978	1.0089	-0.0005
166	SLD 5	14.39	-0.15	64.27	-0.1281	0.661	0.0002
166	SLD 6	14.39	-0.15	64.27	-0.1281	0.661	0.0002
166	SLD 7	16.78	0.02	68.32	0.187	0.7703	-0.0007
166	SLD 8	16.78	0.02	68.32	0.187	0.7703	-0.0007
166	SLD 9	9.46	-0.11	54.14	-0.1463	0.4236	0.0004
166	SLD 10	9.46	-0.11	54.14	-0.1463	0.4236	0.0004
166	SLD 11	11.86	0.06	58.19	0.1689	0.5329	-0.0006
166	SLD 12	11.86	0.06	58.19	0.1689	0.5329	-0.0006
166	SLD 13	4.55	-0.01	43.74	-0.0571	0.185	0.0001
166	SLD 14	4.55	-0.01	43.74	-0.0571	0.185	0.0001
166	SLD 15	5.27	0.04	44.96	0.0375	0.2178	-0.0001
166	SLD 16	5.27	0.04	44.96	0.0375	0.2178	-0.0001
166	SLV 1	31.52	-0.25	99.3	-0.0271	1.4845	-0.0003
166	SLV 2	31.52	-0.25	99.3	-0.0271	1.4845	-0.0003
166	SLV 3	33.23	-0.13	102.17	0.2149	1.5625	-0.001
166	SLV 4	33.23	-0.13	102.17	0.2149	1.5625	-0.001
166	SLV 5	16.04	-0.3	68.3	-0.3608	0.7449	0.0009
166	SLV 6	16.04	-0.3	68.3	-0.3608	0.7449	0.0009
166	SLV 7	21.75	0.12	77.87	0.4457	1.0049	-0.0015
166	SLV 8	21.75	0.12	77.87	0.4457	1.0049	-0.0015
166	SLV 9	4.49	-0.21	44.6	-0.4049	0.189	0.0012
166	SLV 10	4.49	-0.21	44.6	-0.4049	0.189	0.0012
166	SLV 11	10.2	0.21	54.17	0.4016	0.449	-0.0013
166	SLV 12	10.2	0.21	54.17	0.4016	0.449	-0.0013
166	SLV 13	-6.99	0.04	20.29	-0.1741	-0.3686	0.0006
166	SLV 14	-6.99	0.04	20.29	-0.1741	-0.3686	0.0006
166	SLV 15	-5.28	0.16	23.17	0.0678	-0.2905	-0.0001
166	SLV 16	-5.28	0.16	23.17	0.0678	-0.2905	-0.0001
167	SLU 1	10.07	-0.02	54.85	0.012	0.4815	-0.0001
167	SLU 2	9.76	-0.03	54.95	0.0249	0.4672	-0.0002
167	SLU 3	10.55	-0.02	56.61	0.0123	0.5044	-0.0001
167	SLU 4	10.37	-0.03	56.67	0.0201	0.4958	-0.0002
167	SLU 5	10.06	-0.04	56.09	0.0251	0.4815	-0.0002
167	SLU 6	10.85	-0.02	57.75	0.0125	0.5186	-0.0001
167	SLU 7	10.67	-0.03	57.81	0.0202	0.5101	-0.0002
167	SLU 8	10.67	-0.02	57.12	0.0123	0.51	-0.0001
167	SLU 9	10.49	-0.03	57.18	0.02	0.5015	-0.0002
167	SLU 10	12.37	-0.04	64.19	0.0267	0.5882	-0.0002
167	SLU 11	13.16	-0.02	65.85	0.0141	0.6253	-0.0001
167	SLU 12	12.98	-0.03	65.91	0.0218	0.6168	-0.0002
167	SLU 13	12.67	-0.04	65.33	0.0268	0.6025	-0.0002
167	SLU 14	13.47	-0.02	66.98	0.0142	0.6396	-0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
167	SLU 15	13.28	-0.03	67.05	0.0219	0.6311	-0.0002		
167	SLU 16	13.29	-0.02	66.36	0.014	0.631	-0.0001		
167	SLU 17	13.1	-0.03	66.42	0.0218	0.6225	-0.0002		
167	SLU 18	13.8	-0.02	68.05	0.0145	0.6543	-0.0001		
167	SLU 19	13.62	-0.03	68.11	0.0222	0.6457	-0.0002		
167	SLU 20	14.1	-0.02	69.18	0.0146	0.6686	-0.0001		
167	SLU 21	13.92	-0.03	69.25	0.0224	0.66	-0.0002		
167	SLU 22	12.38	-0.02	63.44	0.0136	0.589	-0.0001		
167	SLU 23	12.07	-0.04	63.55	0.0265	0.5748	-0.0002		
167	SLU 24	12.86	-0.02	65.2	0.0139	0.6119	-0.0001		
167	SLU 25	12.67	-0.03	65.27	0.0217	0.6033	-0.0002		
167	SLU 26	12.37	-0.04	64.68	0.0267	0.589	-0.0002		
167	SLU 27	13.16	-0.02	66.34	0.0141	0.6262	-0.0001		
167	SLU 28	12.97	-0.03	66.4	0.0218	0.6176	-0.0002		
167	SLU 29	12.98	-0.02	65.71	0.0139	0.6176	-0.0001		
167	SLU 30	12.79	-0.03	65.78	0.0216	0.609	-0.0002		
167	SLU 31	14.68	-0.04	72.79	0.0283	0.6957	-0.0002		
167	SLU 32	15.47	-0.02	74.44	0.0157	0.7328	-0.0001		
167	SLU 33	15.28	-0.03	74.51	0.0234	0.7243	-0.0002		
167	SLU 34	14.98	-0.04	73.92	0.0284	0.71	-0.0002		
167	SLU 35	15.77	-0.02	75.58	0.0158	0.7471	-0.0001		
167	SLU 36	15.58	-0.03	75.64	0.0235	0.7386	-0.0002		
167	SLU 37	15.59	-0.02	74.95	0.0156	0.7385	-0.0001		
167	SLU 38	15.4	-0.03	75.02	0.0234	0.73	-0.0002		
167	SLU 39	16.11	-0.02	76.64	0.0161	0.7618	-0.0001		
167	SLU 40	15.92	-0.03	76.7	0.0238	0.7533	-0.0002		
167	SLU 41	16.41	-0.02	77.78	0.0162	0.7761	-0.0001		
167	SLU 42	16.22	-0.03	77.84	0.024	0.7675	-0.0002		
167	SLU 43	12.31	-0.02	68.36	0.0151	0.589	-0.0001		
167	SLU 44	11.99	-0.04	68.46	0.028	0.5748	-0.0002		
167	SLU 45	12.79	-0.02	70.12	0.0154	0.6119	-0.0001		
167	SLU 46	12.6	-0.03	70.18	0.0231	0.6034	-0.0002		
167	SLU 47	12.29	-0.04	69.6	0.0281	0.5891	-0.0002		
167	SLU 48	13.09	-0.02	71.25	0.0155	0.6262	-0.0001		
167	SLU 49	12.9	-0.03	71.32	0.0233	0.6177	-0.0002		
167	SLU 50	12.91	-0.02	70.63	0.0154	0.6176	-0.0001		
167	SLU 51	12.72	-0.03	70.69	0.0231	0.6091	-0.0002		
167	SLU 52	14.6	-0.04	77.7	0.0297	0.6958	-0.0002		
167	SLU 53	15.4	-0.02	79.36	0.0171	0.7329	-0.0002		
167	SLU 54	15.21	-0.04	79.42	0.0249	0.7244	-0.0002		
167	SLU 55	14.9	-0.04	78.84	0.0299	0.7101	-0.0002		
167	SLU 56	15.7	-0.02	80.49	0.0173	0.7472	-0.0002		
167	SLU 57	15.51	-0.04	80.56	0.025	0.7386	-0.0002		
167	SLU 58	15.52	-0.02	79.87	0.0171	0.7386	-0.0002		
167	SLU 59	15.33	-0.04	79.93	0.0248	0.73	-0.0002		
167	SLU 60	16.03	-0.02	81.55	0.0176	0.7618	-0.0002		
167	SLU 61	15.85	-0.04	81.62	0.0253	0.7533	-0.0002		
167	SLU 62	16.34	-0.03	82.69	0.0177	0.7761	-0.0002		
167	SLU 63	16.15	-0.04	82.75	0.0254	0.7676	-0.0002		
167	SLU 64	14.61	-0.02	76.95	0.0167	0.6966	-0.0002		
167	SLU 65	14.3	-0.04	77.06	0.0296	0.6823	-0.0002		
167	SLU 66	15.09	-0.02	78.71	0.017	0.7195	-0.0002		
167	SLU 67	14.9	-0.04	78.77	0.0247	0.7109	-0.0002		
167	SLU 68	14.6	-0.04	78.19	0.0297	0.6966	-0.0002		
167	SLU 69	15.39	-0.02	79.85	0.0171	0.7337	-0.0002		
167	SLU 70	15.2	-0.04	79.91	0.0249	0.7252	-0.0002		
167	SLU 71	15.21	-0.02	79.22	0.017	0.7251	-0.0002		
167	SLU 72	15.02	-0.04	79.29	0.0247	0.7166	-0.0002		
167	SLU 73	16.91	-0.04	86.29	0.0313	0.8033	-0.0003		
167	SLU 74	17.7	-0.03	87.95	0.0187	0.8404	-0.0002		
167	SLU 75	17.51	-0.04	88.01	0.0265	0.8319	-0.0002		
167	SLU 76	17.21	-0.04	87.43	0.0315	0.8176	-0.0003		
167	SLU 77	18	-0.03	89.09	0.0189	0.8547	-0.0002		
167	SLU 78	17.81	-0.04	89.15	0.0266	0.8462	-0.0002		
167	SLU 79	17.82	-0.03	88.46	0.0187	0.8461	-0.0002		
167	SLU 80	17.63	-0.04	88.52	0.0264	0.8376	-0.0002		
167	SLU 81	18.34	-0.03	90.15	0.0192	0.8694	-0.0002		
167	SLU 82	18.15	-0.04	90.21	0.0269	0.8608	-0.0002		
167	SLU 83	18.64	-0.03	91.29	0.0193	0.8837	-0.0002		
167	SLU 84	18.45	-0.04	91.35	0.027	0.8751	-0.0002		
167	SLE RA 1	10.73	-0.02	57.3	0.0125	0.5122	-0.0001		
167	SLE RA 2	10.52	-0.03	57.37	0.0211	0.5027	-0.0002		
167	SLE RA 3	11.05	-0.02	58.48	0.0127	0.5274	-0.0001		
167	SLE RA 4	10.93	-0.03	58.52	0.0178	0.5218	-0.0002		
167	SLE RA 5	10.72	-0.03	58.13	0.0212	0.5122	-0.0002		
167	SLE RA 6	11.25	-0.02	59.23	0.0128	0.537	-0.0001		
167	SLE RA 7	11.13	-0.03	59.28	0.0179	0.5313	-0.0002		
167	SLE RA 8	11.13	-0.02	58.82	0.0127	0.5312	-0.0001		
167	SLE RA 9	11.01	-0.03	58.86	0.0178	0.5255	-0.0002		
167	SLE RA 10	12.26	-0.03	63.53	0.0222	0.5833	-0.0002		
167	SLE RA 11	12.79	-0.02	64.64	0.0138	0.6081	-0.0001		
167	SLE RA 12	12.67	-0.03	64.68	0.019	0.6024	-0.0002		
167	SLE RA 13	12.46	-0.03	64.29	0.0223	0.5929	-0.0002		
167	SLE RA 14	12.99	-0.02	65.39	0.0139	0.6176	-0.0001		
167	SLE RA 15	12.87	-0.03	65.44	0.0191	0.6119	-0.0002		
167	SLE RA 16	12.87	-0.02	64.98	0.0138	0.6119	-0.0001		
167	SLE RA 17	12.75	-0.03	65.02	0.019	0.6062	-0.0002		
167	SLE RA 18	13.22	-0.02	66.1	0.0141	0.6274	-0.0001		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
167	SLE RA 19	13.09	-0.03	66.14	0.0193	0.6217	-0.0002
167	SLE RA 20	13.42	-0.02	66.86	0.0142	0.6369	-0.0001
167	SLE RA 21	13.29	-0.03	66.9	0.0194	0.6312	-0.0002
167	SLE FR 1	10.73	-0.02	57.3	0.0125	0.5122	-0.0001
167	SLE FR 2	10.69	-0.02	57.32	0.0142	0.5103	-0.0001
167	SLE FR 3	10.81	-0.02	57.61	0.0125	0.516	-0.0001
167	SLE FR 4	11.44	-0.02	59.96	0.0147	0.5449	-0.0001
167	SLE FR 5	11.56	-0.02	60.25	0.013	0.5506	-0.0001
167	SLE FR 6	11.98	-0.02	61.7	0.0133	0.5698	-0.0001
167	SLE QP 1	10.73	-0.02	57.3	0.0125	0.5122	-0.0001
167	SLE QP 2	11.48	-0.02	59.94	0.013	0.5467	-0.0001
167	SLD 1	19.33	-0.02	73.27	-0.0262	0.9242	-0.0001
167	SLD 2	19.33	-0.02	73.27	-0.0262	0.9242	-0.0001
167	SLD 3	20.04	-0.11	74.18	0.1205	0.957	-0.0007
167	SLD 4	20.04	-0.11	74.18	0.1205	0.957	-0.0007
167	SLD 5	12.75	0.12	62.56	-0.2214	0.6103	0.0008
167	SLD 6	12.75	0.12	62.56	-0.2214	0.6103	0.0008
167	SLD 7	15.12	-0.19	65.6	0.2679	0.7195	-0.0012
167	SLD 8	15.12	-0.19	65.6	0.2679	0.7195	-0.0012
167	SLD 9	7.83	0.15	54.29	-0.2419	0.374	0.001
167	SLD 10	7.83	0.15	54.29	-0.2419	0.374	0.001
167	SLD 11	10.2	-0.16	57.33	0.2474	0.4832	-0.0011
167	SLD 12	10.2	-0.16	57.33	0.2474	0.4832	-0.0011
167	SLD 13	2.92	0.07	45.7	-0.0946	0.1365	0.0004
167	SLD 14	2.92	0.07	45.7	-0.0946	0.1365	0.0004
167	SLD 15	3.63	-0.02	46.61	0.0522	0.1693	-0.0002
167	SLD 16	3.63	-0.02	46.61	0.0522	0.1693	-0.0002
167	SLV 1	29.87	-0.02	91.12	-0.0908	1.4323	0.0001
167	SLV 2	29.87	-0.02	91.12	-0.0908	1.4323	0.0001
167	SLV 3	31.57	-0.25	93.28	0.2852	1.5104	-0.0015
167	SLV 4	31.57	-0.25	93.28	0.2852	1.5104	-0.0015
167	SLV 5	14.43	0.33	66.01	-0.5883	0.6939	0.0024
167	SLV 6	14.43	0.33	66.01	-0.5883	0.6939	0.0024
167	SLV 7	20.08	-0.44	73.23	0.6648	0.9544	-0.0029
167	SLV 8	20.08	-0.44	73.23	0.6648	0.9544	-0.0029
167	SLV 9	2.88	0.4	46.65	-0.6388	0.1391	0.0027
167	SLV 10	2.88	0.4	46.65	-0.6388	0.1391	0.0027
167	SLV 11	8.53	-0.37	53.88	0.6143	0.3996	-0.0026
167	SLV 12	8.53	-0.37	53.88	0.6143	0.3996	-0.0026
167	SLV 13	-8.61	0.21	26.6	-0.2592	-0.4169	0.0013
167	SLV 14	-8.61	0.21	26.6	-0.2592	-0.4169	0.0013
167	SLV 15	-6.92	-0.02	28.77	0.1168	-0.3388	-0.0003
167	SLV 16	-6.92	-0.02	28.77	0.1168	-0.3388	-0.0003
168	SLU 1	8.45	-0.01	54.14	0.0076	0.373	-0.0001
168	SLU 2	8.12	-0.02	54.22	0.0204	0.3585	-0.0002
168	SLU 3	8.88	-0.01	55.86	0.0077	0.3922	-0.0001
168	SLU 4	8.68	-0.02	55.91	0.0154	0.3835	-0.0001
168	SLU 5	8.39	-0.02	55.34	0.0204	0.3704	-0.0002
168	SLU 6	9.15	-0.01	56.98	0.0077	0.4041	-0.0001
168	SLU 7	8.95	-0.02	57.03	0.0154	0.3954	-0.0001
168	SLU 8	8.99	-0.01	56.38	0.0076	0.3967	-0.0001
168	SLU 9	8.79	-0.02	56.43	0.0153	0.388	-0.0001
168	SLU 10	10.44	-0.02	63.49	0.0216	0.4621	-0.0002
168	SLU 11	11.2	-0.01	65.13	0.0089	0.4958	-0.0001
168	SLU 12	11	-0.02	65.18	0.0166	0.4871	-0.0001
168	SLU 13	10.71	-0.02	64.61	0.0216	0.4739	-0.0002
168	SLU 14	11.47	-0.01	66.25	0.0089	0.5077	-0.0001
168	SLU 15	11.27	-0.02	66.3	0.0165	0.499	-0.0001
168	SLU 16	11.31	-0.01	65.66	0.0088	0.5003	-0.0001
168	SLU 17	11.11	-0.02	65.7	0.0164	0.4916	-0.0001
168	SLU 18	11.76	-0.01	67.39	0.0093	0.5209	-0.0001
168	SLU 19	11.57	-0.02	67.43	0.0169	0.5123	-0.0001
168	SLU 20	12.03	-0.01	68.51	0.0093	0.5328	-0.0001
168	SLU 21	11.84	-0.02	68.55	0.0169	0.5241	-0.0001
168	SLU 22	10.48	-0.01	62.72	0.0086	0.4637	-0.0001
168	SLU 23	10.16	-0.02	62.8	0.0214	0.4492	-0.0002
168	SLU 24	10.91	-0.01	64.44	0.0087	0.4829	-0.0001
168	SLU 25	10.72	-0.02	64.48	0.0164	0.4743	-0.0001
168	SLU 26	10.42	-0.02	63.92	0.0214	0.4611	-0.0002
168	SLU 27	11.18	-0.01	65.56	0.0087	0.4948	-0.0001
168	SLU 28	10.99	-0.02	65.6	0.0164	0.4861	-0.0001
168	SLU 29	11.02	-0.01	64.96	0.0086	0.4874	-0.0001
168	SLU 30	10.82	-0.02	65.01	0.0163	0.4787	-0.0001
168	SLU 31	12.48	-0.02	72.07	0.0226	0.5528	-0.0002
168	SLU 32	13.23	-0.01	73.71	0.0099	0.5865	-0.0001
168	SLU 33	13.04	-0.02	73.76	0.0175	0.5779	-0.0001
168	SLU 34	12.74	-0.02	73.19	0.0225	0.5647	-0.0002
168	SLU 35	13.5	-0.01	74.83	0.0099	0.5984	-0.0001
168	SLU 36	13.31	-0.02	74.88	0.0175	0.5897	-0.0001
168	SLU 37	13.34	-0.01	74.23	0.0097	0.591	-0.0001
168	SLU 38	13.14	-0.02	74.28	0.0174	0.5823	-0.0001
168	SLU 39	13.8	-0.01	75.96	0.0103	0.6117	-0.0001
168	SLU 40	13.6	-0.02	76.01	0.0179	0.603	-0.0001
168	SLU 41	14.07	-0.01	77.08	0.0102	0.6235	-0.0001
168	SLU 42	13.87	-0.02	77.13	0.0179	0.6149	-0.0001
168	SLU 43	10.28	-0.01	67.45	0.0096	0.4537	-0.0001
168	SLU 44	9.96	-0.02	67.52	0.0224	0.4393	-0.0002
168	SLU 45	10.72	-0.01	69.16	0.0097	0.473	-0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
168	SLU 46	10.52	-0.02	69.21		0.0174	0.4643	-0.0001	
168	SLU 47	10.23	-0.02	68.64		0.0224	0.4511	-0.0002	
168	SLU 48	10.99	-0.01	70.28		0.0097	0.4849	-0.0001	
168	SLU 49	10.79	-0.02	70.33		0.0174	0.4762	-0.0001	
168	SLU 50	10.82	-0.01	69.69		0.0096	0.4775	-0.0001	
168	SLU 51	10.63	-0.02	69.73		0.0172	0.4688	-0.0001	
168	SLU 52	12.28	-0.02	76.79		0.0235	0.5429	-0.0002	
168	SLU 53	13.04	-0.01	78.44		0.0108	0.5766	-0.0001	
168	SLU 54	12.84	-0.02	78.48		0.0185	0.5679	-0.0002	
168	SLU 55	12.55	-0.02	77.91		0.0235	0.5547	-0.0002	
168	SLU 56	13.31	-0.01	79.56		0.0108	0.5884	-0.0001	
168	SLU 57	13.11	-0.02	79.6		0.0185	0.5798	-0.0002	
168	SLU 58	13.14	-0.01	78.96		0.0107	0.581	-0.0001	
168	SLU 59	12.95	-0.02	79		0.0184	0.5724	-0.0002	
168	SLU 60	13.6	-0.01	80.69		0.0112	0.6017	-0.0001	
168	SLU 61	13.4	-0.02	80.74		0.0189	0.593	-0.0002	
168	SLU 62	13.87	-0.01	81.81		0.0112	0.6136	-0.0001	
168	SLU 63	13.67	-0.02	81.86		0.0189	0.6049	-0.0002	
168	SLU 64	12.32	-0.01	76.02		0.0106	0.5445	-0.0001	
168	SLU 65	11.99	-0.02	76.1		0.0234	0.53	-0.0002	
168	SLU 66	12.75	-0.01	77.74		0.0107	0.5637	-0.0001	
168	SLU 67	12.56	-0.02	77.79		0.0184	0.555	-0.0001	
168	SLU 68	12.26	-0.02	77.22		0.0234	0.5419	-0.0002	
168	SLU 69	13.02	-0.01	78.86		0.0107	0.5756	-0.0001	
168	SLU 70	12.82	-0.02	78.91		0.0183	0.5669	-0.0002	
168	SLU 71	12.86	-0.01	78.26		0.0106	0.5682	-0.0001	
168	SLU 72	12.66	-0.02	78.31		0.0182	0.5595	-0.0002	
168	SLU 73	14.31	-0.02	85.37		0.0245	0.6336	-0.0002	
168	SLU 74	15.07	-0.01	87.01		0.0118	0.6673	-0.0001	
168	SLU 75	14.88	-0.02	87.06		0.0195	0.6586	-0.0002	
168	SLU 76	14.58	-0.02	86.49		0.0245	0.6455	-0.0002	
168	SLU 77	15.34	-0.01	88.13		0.0118	0.6792	-0.0001	
168	SLU 78	15.14	-0.02	88.18		0.0195	0.6705	-0.0002	
168	SLU 79	15.18	-0.01	87.53		0.0117	0.6718	-0.0001	
168	SLU 80	14.98	-0.02	87.58		0.0194	0.6631	-0.0002	
168	SLU 81	15.63	-0.01	89.27		0.0122	0.6924	-0.0001	
168	SLU 82	15.44	-0.02	89.31		0.0199	0.6838	-0.0002	
168	SLU 83	15.9	-0.01	90.39		0.0122	0.7043	-0.0001	
168	SLU 84	15.71	-0.02	90.43		0.0199	0.6956	-0.0002	
168	SLE RA 1	9.03	-0.01	56.59		0.0079	0.3989	-0.0001	
168	SLE RA 2	8.81	-0.02	56.64		0.0165	0.3892	-0.0001	
168	SLE RA 3	9.32	-0.01	57.74		0.008	0.4117	-0.0001	
168	SLE RA 4	9.19	-0.01	57.77		0.0131	0.4059	-0.0001	
168	SLE RA 5	8.99	-0.02	57.39		0.0164	0.3971	-0.0001	
168	SLE RA 6	9.5	-0.01	58.49		0.008	0.4196	-0.0001	
168	SLE RA 7	9.37	-0.01	58.52		0.0131	0.4138	-0.0001	
168	SLE RA 8	9.39	-0.01	58.09		0.0079	0.4147	-0.0001	
168	SLE RA 9	9.26	-0.01	58.12		0.013	0.4089	-0.0001	
168	SLE RA 10	10.36	-0.02	62.83		0.0172	0.4583	-0.0001	
168	SLE RA 11	10.86	-0.01	63.92		0.0088	0.4808	-0.0001	
168	SLE RA 12	10.73	-0.01	63.95		0.0139	0.475	-0.0001	
168	SLE RA 13	10.54	-0.02	63.57		0.0172	0.4662	-0.0001	
168	SLE RA 14	11.04	-0.01	64.67		0.0087	0.4887	-0.0001	
168	SLE RA 15	10.91	-0.01	64.7		0.0139	0.4829	-0.0001	
168	SLE RA 16	10.93	-0.01	64.27		0.0087	0.4838	-0.0001	
168	SLE RA 17	10.8	-0.01	64.3		0.0138	0.478	-0.0001	
168	SLE RA 18	11.24	-0.01	65.42		0.009	0.4975	-0.0001	
168	SLE RA 19	11.11	-0.01	65.45		0.0141	0.4917	-0.0001	
168	SLE RA 20	11.42	-0.01	66.17		0.009	0.5054	-0.0001	
168	SLE RA 21	11.29	-0.01	66.2		0.0141	0.4997	-0.0001	
168	SLE FR 1	9.03	-0.01	56.59		0.0079	0.3989	-0.0001	
168	SLE FR 2	8.99	-0.01	56.6		0.0096	0.3969	-0.0001	
168	SLE FR 3	9.1	-0.01	56.89		0.0079	0.402	-0.0001	
168	SLE FR 4	9.65	-0.01	59.25		0.01	0.4265	-0.0001	
168	SLE FR 5	9.76	-0.01	59.54		0.0082	0.4316	-0.0001	
168	SLE FR 6	10.13	-0.01	61.01		0.0085	0.4482	-0.0001	
168	SLE QP 1	9.03	-0.01	56.59		0.0079	0.3989	-0.0001	
168	SLE QP 2	9.69	-0.01	59.24		0.0082	0.4285	-0.0001	
168	SLD 1	17.48	0.03	70.14		-0.1301	0.7911	0.0002	
168	SLD 2	17.48	0.03	70.14		-0.1301	0.7911	0.0002	
168	SLD 3	18.19	-0.13	70.87		0.071	0.8232	-0.0009	
168	SLD 4	18.19	-0.13	70.87		0.071	0.8232	-0.0009	
168	SLD 5	10.96	0.24	61.41		-0.3382	0.4886	0.0018	
168	SLD 6	10.96	0.24	61.41		-0.3382	0.4886	0.0018	
168	SLD 7	13.31	-0.28	63.84		0.3321	0.5955	-0.0021	
168	SLD 8	13.31	-0.28	63.84		0.3321	0.5955	-0.0021	
168	SLD 9	6.07	0.26	54.65		-0.3156	0.2614	0.0019	
168	SLD 10	6.07	0.26	54.65		-0.3156	0.2614	0.0019	
168	SLD 11	8.43	-0.25	57.08		0.3547	0.3683	-0.0019	
168	SLD 12	8.43	-0.25	57.08		0.3547	0.3683	-0.0019	
168	SLD 13	1.2	0.11	47.61		-0.0545	0.0338	0.0008	
168	SLD 14	1.2	0.11	47.61		-0.0545	0.0338	0.0008	
168	SLD 15	1.9	-0.04	48.34		0.1466	0.0658	-0.0004	
168	SLD 16	1.9	-0.04	48.34		0.1466	0.0658	-0.0004	
168	SLV 1	27.93	0.09	84.73		-0.3437	1.2769	0.0007	
168	SLV 2	27.93	0.09	84.73		-0.3437	1.2769	0.0007	
168	SLV 3	29.61	-0.31	86.47		0.1717	1.3534	-0.0022	
168	SLV 4	29.61	-0.31	86.47		0.1717	1.3534	-0.0022	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
168	SLV 5	12.61	0.62	64.24	-0.879	0.567	0.0046
168	SLV 6	12.61	0.62	64.24	-0.879	0.567	0.0046
168	SLV 7	18.22	-0.7	70.06	0.8389	0.8219	-0.0052
168	SLV 8	18.22	-0.7	70.06	0.8389	0.8219	-0.0052
168	SLV 9	1.16	0.68	48.42	-0.8224	0.035	0.005
168	SLV 10	1.16	0.68	48.42	-0.8224	0.035	0.005
168	SLV 11	6.77	-0.64	54.25	0.8955	0.2899	-0.0048
168	SLV 12	6.77	-0.64	54.25	0.8955	0.2899	-0.0048
168	SLV 13	-10.23	0.29	32.01	-0.1552	-0.4965	0.0021
168	SLV 14	-10.23	0.29	32.01	-0.1552	-0.4965	0.0021
168	SLV 15	-8.55	-0.1	33.76	0.3602	-0.42	-0.0009
168	SLV 16	-8.55	-0.1	33.76	0.3602	-0.42	-0.0009
169	SLU 1	7.56	0	53.63	0.0054	0.3609	0
169	SLU 2	7.21	-0.01	53.67	0.0175	0.3454	-0.0001
169	SLU 3	7.97	0	55.32	0.0054	0.3804	0
169	SLU 4	7.76	-0.01	55.35	0.0127	0.371	-0.0001
169	SLU 5	7.47	-0.01	54.78	0.0174	0.3575	-0.0001
169	SLU 6	8.23	0	56.44	0.0053	0.3925	0
169	SLU 7	8.02	-0.01	56.46	0.0126	0.3832	-0.0001
169	SLU 8	8.07	0	55.86	0.0052	0.3852	0
169	SLU 9	7.87	-0.01	55.88	0.0125	0.3758	-0.0001
169	SLU 10	9.32	-0.01	63	0.0183	0.4423	-0.0001
169	SLU 11	10.07	0	64.66	0.0063	0.4773	0
169	SLU 12	9.86	-0.01	64.68	0.0135	0.468	-0.0001
169	SLU 13	9.57	-0.01	64.12	0.0182	0.4544	-0.0001
169	SLU 14	10.33	0	65.77	0.0061	0.4894	-0.0001
169	SLU 15	10.12	-0.01	65.79	0.0134	0.4801	-0.0001
169	SLU 16	10.17	0	65.2	0.006	0.4821	0
169	SLU 17	9.97	-0.01	65.22	0.0133	0.4728	-0.0001
169	SLU 18	10.56	0	66.97	0.0066	0.4994	-0.0001
169	SLU 19	10.35	-0.01	66.99	0.0139	0.4901	-0.0001
169	SLU 20	10.82	0	68.08	0.0065	0.5115	-0.0001
169	SLU 21	10.61	-0.01	68.1	0.0137	0.5022	-0.0001
169	SLU 22	9.4	0	62.22	0.0061	0.4466	0
169	SLU 23	9.06	-0.01	62.26	0.0182	0.431	-0.0001
169	SLU 24	9.81	0	63.91	0.0061	0.466	0
169	SLU 25	9.61	-0.01	63.93	0.0133	0.4567	-0.0001
169	SLU 26	9.32	-0.01	63.37	0.018	0.4431	-0.0001
169	SLU 27	10.07	0	65.03	0.006	0.4781	0
169	SLU 28	9.86	-0.01	65.05	0.0132	0.4688	-0.0001
169	SLU 29	9.92	0	64.45	0.0059	0.4708	0
169	SLU 30	9.71	-0.01	64.47	0.0131	0.4615	-0.0001
169	SLU 31	11.16	-0.02	71.59	0.019	0.5279	-0.0001
169	SLU 32	11.92	0	73.25	0.0069	0.563	-0.0001
169	SLU 33	11.71	-0.01	73.27	0.0142	0.5536	-0.0001
169	SLU 34	11.42	-0.02	72.71	0.0189	0.5401	-0.0001
169	SLU 35	12.17	0	74.36	0.0068	0.5751	-0.0001
169	SLU 36	11.97	-0.01	74.38	0.014	0.5657	-0.0001
169	SLU 37	12.02	0	73.78	0.0067	0.5678	-0.0001
169	SLU 38	11.81	-0.01	73.81	0.0139	0.5584	-0.0001
169	SLU 39	12.4	0	75.56	0.0073	0.5851	-0.0001
169	SLU 40	12.2	-0.01	75.58	0.0145	0.5757	-0.0001
169	SLU 41	12.66	0	76.67	0.0072	0.5972	-0.0001
169	SLU 42	12.46	-0.01	76.69	0.0144	0.5878	-0.0001
169	SLU 43	9.19	0	66.78	0.0068	0.4398	-0.0001
169	SLU 44	8.85	-0.02	66.82	0.0189	0.4243	-0.0001
169	SLU 45	9.6	0	68.47	0.0068	0.4593	-0.0001
169	SLU 46	9.4	-0.01	68.49	0.0141	0.45	-0.0001
169	SLU 47	9.11	-0.02	67.93	0.0188	0.4364	-0.0001
169	SLU 48	9.86	0	69.58	0.0067	0.4714	-0.0001
169	SLU 49	9.65	-0.01	69.6	0.014	0.4621	-0.0001
169	SLU 50	9.71	0	69.01	0.0066	0.4641	-0.0001
169	SLU 51	9.5	-0.01	69.03	0.0139	0.4547	-0.0001
169	SLU 52	10.95	-0.02	76.15	0.0197	0.5212	-0.0002
169	SLU 53	11.71	0	77.8	0.0077	0.5562	-0.0001
169	SLU 54	11.5	-0.01	77.82	0.0149	0.5469	-0.0001
169	SLU 55	11.21	-0.02	77.26	0.0196	0.5333	-0.0002
169	SLU 56	11.96	0	78.92	0.0075	0.5684	-0.0001
169	SLU 57	11.76	-0.01	78.94	0.0148	0.559	-0.0001
169	SLU 58	11.81	0	78.34	0.0074	0.561	-0.0001
169	SLU 59	11.6	-0.01	78.36	0.0147	0.5517	-0.0001
169	SLU 60	12.19	0	80.11	0.008	0.5783	-0.0001
169	SLU 61	11.99	-0.01	80.13	0.0153	0.569	-0.0001
169	SLU 62	12.45	0	81.23	0.0079	0.5905	-0.0001
169	SLU 63	12.25	-0.01	81.25	0.0151	0.5811	-0.0001
169	SLU 64	11.04	0	75.37	0.0075	0.5255	-0.0001
169	SLU 65	10.69	-0.02	75.41	0.0196	0.5099	-0.0002
169	SLU 66	11.45	0	77.06	0.0075	0.5449	-0.0001
169	SLU 67	11.24	-0.01	77.08	0.0147	0.5356	-0.0001
169	SLU 68	10.95	-0.02	76.52	0.0194	0.522	-0.0002
169	SLU 69	11.71	0	78.17	0.0074	0.5571	-0.0001
169	SLU 70	11.5	-0.01	78.19	0.0146	0.5477	-0.0001
169	SLU 71	11.55	0	77.6	0.0073	0.5497	-0.0001
169	SLU 72	11.34	-0.01	77.62	0.0145	0.5404	-0.0001
169	SLU 73	12.79	-0.02	84.74	0.0204	0.6069	-0.0002
169	SLU 74	13.55	0	86.39	0.0083	0.6419	-0.0001
169	SLU 75	13.34	-0.01	86.41	0.0156	0.6325	-0.0001
169	SLU 76	13.05	-0.02	85.85	0.0203	0.619	-0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
169	SLU 77	13.81	0	87.51	0.0082	0.654	-0.0001
169	SLU 78	13.6	-0.01	87.53	0.0154	0.6447	-0.0001
169	SLU 79	13.65	0	86.93	0.0081	0.6467	-0.0001
169	SLU 80	13.45	-0.01	86.95	0.0153	0.6373	-0.0001
169	SLU 81	14.04	0	88.7	0.0087	0.664	-0.0001
169	SLU 82	13.83	-0.01	88.72	0.0159	0.6546	-0.0001
169	SLU 83	14.3	0	89.82	0.0086	0.6761	-0.0001
169	SLU 84	14.09	-0.01	89.84	0.0158	0.6668	-0.0001
169	SLE RA 1	8.08	0	56.09	0.0056	0.3854	0
169	SLE RA 2	7.85	-0.01	56.11	0.0137	0.375	-0.0001
169	SLE RA 3	8.36	0	57.21	0.0056	0.3984	0
169	SLE RA 4	8.22	-0.01	57.23	0.0104	0.3921	-0.0001
169	SLE RA 5	8.03	-0.01	56.86	0.0136	0.3831	-0.0001
169	SLE RA 6	8.53	0	57.96	0.0055	0.4064	0
169	SLE RA 7	8.39	-0.01	57.97	0.0104	0.4002	-0.0001
169	SLE RA 8	8.43	0	57.57	0.0055	0.4016	0
169	SLE RA 9	8.29	-0.01	57.59	0.0103	0.3953	-0.0001
169	SLE RA 10	9.26	-0.01	62.33	0.0142	0.4396	-0.0001
169	SLE RA 11	9.76	0	63.44	0.0062	0.463	0
169	SLE RA 12	9.62	-0.01	63.45	0.011	0.4568	-0.0001
169	SLE RA 13	9.43	-0.01	63.08	0.0141	0.4477	-0.0001
169	SLE RA 14	9.93	0	64.18	0.0061	0.4711	0
169	SLE RA 15	9.79	-0.01	64.19	0.0109	0.4648	-0.0001
169	SLE RA 16	9.83	0	63.8	0.006	0.4662	0
169	SLE RA 17	9.69	-0.01	63.81	0.0109	0.46	-0.0001
169	SLE RA 18	10.09	0	64.98	0.0064	0.4777	-0.0001
169	SLE RA 19	9.95	-0.01	64.99	0.0112	0.4715	-0.0001
169	SLE RA 20	10.26	0	65.72	0.0063	0.4858	-0.0001
169	SLE RA 21	10.12	-0.01	65.73	0.0112	0.4796	-0.0001
169	SLE FR 1	8.08	0	56.09	0.0056	0.3854	0
169	SLE FR 2	8.04	0	56.09	0.0072	0.3833	-0.0001
169	SLE FR 3	8.15	0	56.38	0.0056	0.3886	0
169	SLE FR 4	8.64	0	58.76	0.0075	0.411	-0.0001
169	SLE FR 5	8.75	0	59.05	0.0058	0.4163	0
169	SLE FR 6	9.08	0	60.53	0.006	0.4316	0
169	SLE QP 1	8.08	0	56.09	0.0056	0.3854	0
169	SLE QP 2	8.68	0	58.75	0.0059	0.4131	0
169	SLD 1	16.63	0.07	67.53	-0.1599	0.7889	0.0005
169	SLD 2	16.63	0.07	67.53	-0.1599	0.7889	0.0005
169	SLD 3	17.33	-0.15	68.15	0.0885	0.8214	-0.0013
169	SLD 4	17.33	-0.15	68.15	0.0885	0.8214	-0.0013
169	SLD 5	9.99	0.34	60.44	-0.4206	0.4765	0.0029
169	SLD 6	9.99	0.34	60.44	-0.4206	0.4765	0.0029
169	SLD 7	12.35	-0.37	62.52	0.4073	0.5849	-0.0031
169	SLD 8	12.35	-0.37	62.52	0.4073	0.5849	-0.0031
169	SLD 9	5.01	0.37	54.99	-0.3956	0.2413	0.0031
169	SLD 10	5.01	0.37	54.99	-0.3956	0.2413	0.0031
169	SLD 11	7.38	-0.35	57.07	0.4323	0.3496	-0.003
169	SLD 12	7.38	-0.35	57.07	0.4323	0.3496	-0.003
169	SLD 13	0.03	0.14	49.36	-0.0768	0.0048	0.0012
169	SLD 14	0.03	0.14	49.36	-0.0768	0.0048	0.0012
169	SLD 15	0.74	-0.07	49.98	0.1716	0.0373	-0.0006
169	SLD 16	0.74	-0.07	49.98	0.1716	0.0373	-0.0006
169	SLV 1	27.29	0.17	79.26	-0.4173	1.2939	0.0015
169	SLV 2	27.29	0.17	79.26	-0.4173	1.2939	0.0015
169	SLV 3	28.98	-0.37	80.77	0.2194	1.3715	-0.0032
169	SLV 4	28.98	-0.37	80.77	0.2194	1.3715	-0.0032
169	SLV 5	11.7	0.88	62.62	-1.0868	0.5597	0.0074
169	SLV 6	11.7	0.88	62.62	-1.0868	0.5597	0.0074
169	SLV 7	17.34	-0.95	67.64	1.0356	0.8183	-0.008
169	SLV 8	17.34	-0.95	67.64	1.0356	0.8183	-0.008
169	SLV 9	0.03	0.94	49.86	-1.0239	0.0079	0.0079
169	SLV 10	0.03	0.94	49.86	-1.0239	0.0079	0.0079
169	SLV 11	5.67	-0.89	54.89	1.0985	0.2665	-0.0075
169	SLV 12	5.67	-0.89	54.89	1.0985	0.2665	-0.0075
169	SLV 13	-11.61	0.37	36.74	-0.2077	-0.5453	0.0031
169	SLV 14	-11.61	0.37	36.74	-0.2077	-0.5453	0.0031
169	SLV 15	-9.92	-0.18	38.25	0.429	-0.4677	-0.0016
169	SLV 16	-9.92	-0.18	38.25	0.429	-0.4677	-0.0016
170	SLU 1	6.32	0	53.28	0.0044	0.2769	0
170	SLU 2	5.97	-0.01	53.27	0.0153	0.2616	-0.0001
170	SLU 3	6.7	0	54.95	0.0043	0.2937	0
170	SLU 4	6.49	-0.01	54.95	0.0109	0.2845	-0.0001
170	SLU 5	6.21	-0.01	54.39	0.0152	0.2721	-0.0001
170	SLU 6	6.94	0	56.07	0.0042	0.3041	0
170	SLU 7	6.73	-0.01	56.06	0.0107	0.295	-0.0001
170	SLU 8	6.79	0	55.51	0.0041	0.2977	0
170	SLU 9	6.59	-0.01	55.51	0.0106	0.2886	-0.0001
170	SLU 10	7.81	-0.01	62.66	0.016	0.3436	-0.0001
170	SLU 11	8.54	0	64.34	0.005	0.3756	0
170	SLU 12	8.33	-0.01	64.34	0.0116	0.3665	-0.0001
170	SLU 13	8.05	-0.01	63.78	0.0159	0.354	-0.0001
170	SLU 14	8.78	0	65.46	0.0048	0.386	0
170	SLU 15	8.57	-0.01	65.46	0.0114	0.3769	-0.0001
170	SLU 16	8.63	0	64.9	0.0047	0.3796	0
170	SLU 17	8.43	-0.01	64.9	0.0113	0.3705	-0.0001
170	SLU 18	8.95	0	66.69	0.0054	0.3939	0
170	SLU 19	8.74	-0.01	66.69	0.0119	0.3848	-0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
170	SLU 20	9.19	0	67.81	0.0052	0.4043	0
170	SLU 21	8.98	-0.01	67.81	0.0118	0.3952	-0.0001
170	SLU 22	7.93	0	61.88	0.0049	0.3484	0
170	SLU 23	7.58	-0.01	61.88	0.0158	0.3331	-0.0001
170	SLU 24	8.31	0	63.56	0.0048	0.3652	0
170	SLU 25	8.1	-0.01	63.55	0.0114	0.356	-0.0001
170	SLU 26	7.82	-0.01	62.99	0.0157	0.3436	-0.0001
170	SLU 27	8.55	0	64.68	0.0047	0.3756	0
170	SLU 28	8.34	-0.01	64.67	0.0112	0.3665	-0.0001
170	SLU 29	8.4	0	64.12	0.0046	0.3692	0
170	SLU 30	8.19	-0.01	64.11	0.0111	0.3601	-0.0001
170	SLU 31	9.42	-0.01	71.27	0.0165	0.4151	-0.0001
170	SLU 32	10.15	0	72.95	0.0055	0.4471	0
170	SLU 33	9.94	-0.01	72.95	0.0121	0.438	-0.0001
170	SLU 34	9.66	-0.01	72.39	0.0164	0.4255	-0.0001
170	SLU 35	10.39	0	74.07	0.0054	0.4575	0
170	SLU 36	10.18	-0.01	74.06	0.0119	0.4484	-0.0001
170	SLU 37	10.24	0	73.51	0.0052	0.4511	0
170	SLU 38	10.04	-0.01	73.51	0.0118	0.442	-0.0001
170	SLU 39	10.56	0	75.3	0.0059	0.4654	0
170	SLU 40	10.35	-0.01	75.3	0.0124	0.4563	-0.0001
170	SLU 41	10.79	0	76.42	0.0057	0.4758	0
170	SLU 42	10.59	-0.01	76.41	0.0123	0.4667	-0.0001
170	SLU 43	7.66	0	66.31	0.0056	0.3354	0
170	SLU 44	7.31	-0.01	66.3	0.0165	0.3202	-0.0001
170	SLU 45	8.04	0	67.98	0.0055	0.3522	0
170	SLU 46	7.83	-0.01	67.98	0.012	0.3431	-0.0001
170	SLU 47	7.55	-0.01	67.42	0.0163	0.3306	-0.0001
170	SLU 48	8.28	0	69.1	0.0053	0.3626	0
170	SLU 49	8.07	-0.01	69.09	0.0119	0.3535	-0.0001
170	SLU 50	8.14	0	68.54	0.0052	0.3563	0
170	SLU 51	7.93	-0.01	68.54	0.0118	0.3471	-0.0001
170	SLU 52	9.15	-0.01	75.69	0.0172	0.4021	-0.0001
170	SLU 53	9.88	0	77.37	0.0062	0.4341	0
170	SLU 54	9.67	-0.01	77.37	0.0127	0.425	-0.0001
170	SLU 55	9.39	-0.01	76.81	0.017	0.4125	-0.0001
170	SLU 56	10.12	0	78.49	0.006	0.4446	0
170	SLU 57	9.91	-0.01	78.49	0.0126	0.4354	-0.0001
170	SLU 58	9.98	0	77.93	0.0059	0.4382	0
170	SLU 59	9.77	-0.01	77.93	0.0125	0.429	-0.0001
170	SLU 60	10.29	0	79.72	0.0065	0.4524	0
170	SLU 61	10.08	-0.01	79.72	0.0131	0.4433	-0.0001
170	SLU 62	10.53	0	80.84	0.0064	0.4629	0
170	SLU 63	10.32	-0.01	80.84	0.0129	0.4537	-0.0001
170	SLU 64	9.27	0	74.92	0.0061	0.4069	0
170	SLU 65	8.92	-0.01	74.91	0.017	0.3917	-0.0001
170	SLU 66	9.65	0	76.59	0.006	0.4237	0
170	SLU 67	9.44	-0.01	76.59	0.0126	0.4146	-0.0001
170	SLU 68	9.16	-0.01	76.03	0.0168	0.4021	-0.0001
170	SLU 69	9.89	0	77.71	0.0058	0.4341	0
170	SLU 70	9.68	-0.01	77.7	0.0124	0.425	-0.0001
170	SLU 71	9.75	0	77.15	0.0057	0.4277	0
170	SLU 72	9.54	-0.01	77.15	0.0123	0.4186	-0.0001
170	SLU 73	10.76	-0.01	84.3	0.0177	0.4736	-0.0001
170	SLU 74	11.49	0	85.98	0.0067	0.5056	0
170	SLU 75	11.28	-0.01	85.98	0.0132	0.4965	-0.0001
170	SLU 76	11	-0.01	85.42	0.0175	0.484	-0.0001
170	SLU 77	11.73	0	87.1	0.0065	0.5161	0
170	SLU 78	11.52	-0.01	87.09	0.0131	0.5069	-0.0001
170	SLU 79	11.59	0	86.54	0.0064	0.5097	0
170	SLU 80	11.38	-0.01	86.54	0.013	0.5005	-0.0001
170	SLU 81	11.9	0	88.33	0.007	0.5239	-0.0001
170	SLU 82	11.69	-0.01	88.33	0.0136	0.5148	-0.0001
170	SLU 83	12.14	0	89.45	0.0069	0.5344	-0.0001
170	SLU 84	11.93	-0.01	89.45	0.0134	0.5252	-0.0001
170	SLE RA 1	6.78	0	55.74	0.0045	0.2973	0
170	SLE RA 2	6.55	-0.01	55.73	0.0118	0.2871	-0.0001
170	SLE RA 3	7.03	0	56.85	0.0045	0.3085	0
170	SLE RA 4	6.89	-0.01	56.85	0.0089	0.3024	-0.0001
170	SLE RA 5	6.71	-0.01	56.48	0.0117	0.2941	-0.0001
170	SLE RA 6	7.19	0	57.6	0.0044	0.3154	0
170	SLE RA 7	7.05	-0.01	57.59	0.0088	0.3094	-0.0001
170	SLE RA 8	7.1	0	57.22	0.0043	0.3112	0
170	SLE RA 9	6.96	-0.01	57.22	0.0087	0.3051	-0.0001
170	SLE RA 10	7.77	-0.01	61.99	0.0123	0.3418	-0.0001
170	SLE RA 11	8.26	0	63.11	0.005	0.3631	0
170	SLE RA 12	8.12	-0.01	63.11	0.0093	0.357	-0.0001
170	SLE RA 13	7.93	-0.01	62.74	0.0122	0.3487	-0.0001
170	SLE RA 14	8.42	0	63.86	0.0048	0.3701	0
170	SLE RA 15	8.28	-0.01	63.85	0.0092	0.364	-0.0001
170	SLE RA 16	8.32	0	63.49	0.0048	0.3658	0
170	SLE RA 17	8.18	-0.01	63.48	0.0091	0.3597	-0.0001
170	SLE RA 18	8.53	0	64.68	0.0052	0.3753	0
170	SLE RA 19	8.39	-0.01	64.68	0.0096	0.3692	-0.0001
170	SLE RA 20	8.69	0	65.43	0.0051	0.3823	0
170	SLE RA 21	8.55	-0.01	65.42	0.0095	0.3762	-0.0001
170	SLE FR 1	6.78	0	55.74	0.0045	0.2973	0
170	SLE FR 2	6.73	0	55.73	0.006	0.2953	0





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
170	SLE FR 3	6.84	0	56.03	0.0045	0.3001	0
170	SLE FR 4	7.26	0	58.42	0.0062	0.3187	0
170	SLE FR 5	7.37	0	58.72	0.0047	0.3235	0
170	SLE FR 6	7.65	0	60.21	0.0049	0.3363	0
170	SLE QP 1	6.78	0	55.74	0.0045	0.2973	0
170	SLE QP 2	7.3	0	58.42	0.0047	0.3207	0
170	SLD 1	15.32	0.17	65.29	-0.1811	0.6909	0.0016
170	SLD 2	15.32	0.17	65.29	-0.1811	0.6909	0.0016
170	SLD 3	16.03	-0.09	65.85	0.1003	0.7232	-0.0009
170	SLD 4	16.03	-0.09	65.85	0.1003	0.7232	-0.0009
170	SLD 5	8.63	0.44	59.63	-0.4778	0.3828	0.0042
170	SLD 6	8.63	0.44	59.63	-0.4778	0.3828	0.0042
170	SLD 7	11	-0.42	61.5	0.4602	0.4905	-0.004
170	SLD 8	11	-0.42	61.5	0.4602	0.4905	-0.004
170	SLD 9	3.61	0.41	55.34	-0.4507	0.1509	0.0039
170	SLD 10	3.61	0.41	55.34	-0.4507	0.1509	0.0039
170	SLD 11	5.98	-0.44	57.21	0.4873	0.2586	-0.0042
170	SLD 12	5.98	-0.44	57.21	0.4873	0.2586	-0.0042
170	SLD 13	-1.43	0.09	50.99	-0.0908	-0.0819	0.0008
170	SLD 14	-1.43	0.09	50.99	-0.0908	-0.0819	0.0008
170	SLD 15	-0.72	-0.17	51.55	0.1906	-0.0495	-0.0016
170	SLD 16	-0.72	-0.17	51.55	0.1906	-0.0495	-0.0016
170	SLV 1	26.07	0.43	74.47	-0.4707	1.1864	0.0041
170	SLV 2	26.07	0.43	74.47	-0.4707	1.1864	0.0041
170	SLV 3	27.76	-0.23	75.85	0.2508	1.2635	-0.0022
170	SLV 4	27.76	-0.23	75.85	0.2508	1.2635	-0.0022
170	SLV 5	10.36	1.12	61.14	-1.2322	0.4635	0.0107
170	SLV 6	10.36	1.12	61.14	-1.2322	0.4635	0.0107
170	SLV 7	16.02	-1.07	65.74	1.1729	0.7205	-0.0102
170	SLV 8	16.02	-1.07	65.74	1.1729	0.7205	-0.0102
170	SLV 9	-1.41	1.06	51.1	-1.1634	-0.0791	0.0101
170	SLV 10	-1.41	1.06	51.1	-1.1634	-0.0791	0.0101
170	SLV 11	4.25	-1.13	55.7	1.2417	0.1779	-0.0108
170	SLV 12	4.25	-1.13	55.7	1.2417	0.1779	-0.0108
170	SLV 13	-13.16	0.22	40.99	-0.2413	-0.6221	0.0021
170	SLV 14	-13.16	0.22	40.99	-0.2413	-0.6221	0.0021
170	SLV 15	-11.46	-0.43	42.37	0.4802	-0.545	-0.0041
170	SLV 16	-11.46	-0.43	42.37	0.4802	-0.545	-0.0041
171	SLU 1	5.64	0	52.9	0.0039	0.2724	0
171	SLU 2	5.28	-0.01	52.84	0.0135	0.2556	-0.0001
171	SLU 3	6.02	0	54.56	0.0038	0.2899	0
171	SLU 4	5.8	-0.01	54.53	0.0096	0.2798	-0.0001
171	SLU 5	5.51	-0.01	53.97	0.0133	0.2666	-0.0001
171	SLU 6	6.25	0	55.69	0.0036	0.3009	0
171	SLU 7	6.03	-0.01	55.66	0.0093	0.2909	-0.0001
171	SLU 8	6.12	0	55.15	0.0035	0.2944	0
171	SLU 9	5.9	-0.01	55.12	0.0092	0.2844	-0.0001
171	SLU 10	6.93	-0.01	62.26	0.0141	0.3326	-0.0001
171	SLU 11	7.67	0	63.99	0.0045	0.3669	0
171	SLU 12	7.45	-0.01	63.95	0.0102	0.3568	-0.0001
171	SLU 13	7.17	-0.01	63.39	0.0139	0.3437	-0.0001
171	SLU 14	7.91	0	65.11	0.0042	0.3779	0
171	SLU 15	7.69	-0.01	65.08	0.01	0.3679	-0.0001
171	SLU 16	7.77	0	64.58	0.0041	0.3715	0
171	SLU 17	7.55	-0.01	64.54	0.0099	0.3614	-0.0001
171	SLU 18	8.01	0	66.36	0.0048	0.3824	0
171	SLU 19	7.79	-0.01	66.33	0.0106	0.3723	-0.0001
171	SLU 20	8.25	0	67.49	0.0046	0.3934	0
171	SLU 21	8.03	-0.01	67.45	0.0103	0.3834	-0.0001
171	SLU 22	7.1	0	61.51	0.0044	0.3404	0
171	SLU 23	6.73	-0.01	61.45	0.0139	0.3236	-0.0001
171	SLU 24	7.47	0	63.17	0.0043	0.3579	0
171	SLU 25	7.25	-0.01	63.14	0.01	0.3479	-0.0001
171	SLU 26	6.97	-0.01	62.58	0.0137	0.3347	-0.0001
171	SLU 27	7.71	0	64.3	0.004	0.369	0
171	SLU 28	7.49	-0.01	64.27	0.0098	0.3589	-0.0001
171	SLU 29	7.57	0	63.76	0.0039	0.3625	0
171	SLU 30	7.35	-0.01	63.73	0.0097	0.3524	-0.0001
171	SLU 31	8.39	-0.01	70.88	0.0145	0.4007	-0.0001
171	SLU 32	9.13	0	72.6	0.0049	0.4349	0
171	SLU 33	8.91	-0.01	72.57	0.0106	0.4249	-0.0001
171	SLU 34	8.62	-0.01	72	0.0143	0.4117	-0.0001
171	SLU 35	9.36	0	73.73	0.0047	0.446	0
171	SLU 36	9.14	-0.01	73.69	0.0104	0.4359	-0.0001
171	SLU 37	9.23	0	73.19	0.0046	0.4395	0
171	SLU 38	9.01	-0.01	73.15	0.0103	0.4294	-0.0001
171	SLU 39	9.46	0	74.97	0.0053	0.4505	0
171	SLU 40	9.24	-0.01	74.94	0.011	0.4404	-0.0001
171	SLU 41	9.7	0	76.1	0.005	0.4615	0
171	SLU 42	9.48	-0.01	76.07	0.0108	0.4514	-0.0001
171	SLU 43	6.84	0	65.81	0.005	0.3308	0
171	SLU 44	6.47	-0.01	65.76	0.0145	0.314	-0.0001
171	SLU 45	7.21	0	67.48	0.0049	0.3483	0
171	SLU 46	6.99	-0.01	67.45	0.0106	0.3382	-0.0001
171	SLU 47	6.71	-0.01	66.88	0.0143	0.325	-0.0001
171	SLU 48	7.45	0	68.61	0.0047	0.3593	0
171	SLU 49	7.23	-0.01	68.57	0.0104	0.3492	-0.0001
171	SLU 50	7.31	0	68.07	0.0045	0.3528	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
171	SLU 51	7.09	-0.01	68.03	0.0103	0.3428	-0.0001
171	SLU 52	8.13	-0.01	75.18	0.0152	0.391	-0.0001
171	SLU 53	8.87	0	76.9	0.0055	0.4253	0
171	SLU 54	8.65	-0.01	76.87	0.0112	0.4152	-0.0001
171	SLU 55	8.36	-0.01	76.31	0.0149	0.402	-0.0001
171	SLU 56	9.1	0	78.03	0.0053	0.4363	0
171	SLU 57	8.88	-0.01	78	0.011	0.4263	-0.0001
171	SLU 58	8.97	0	77.49	0.0052	0.4299	0
171	SLU 59	8.75	-0.01	77.46	0.0109	0.4198	-0.0001
171	SLU 60	9.2	0	79.28	0.0059	0.4408	0
171	SLU 61	8.98	-0.01	79.24	0.0116	0.4307	-0.0001
171	SLU 62	9.44	0	80.4	0.0056	0.4518	0
171	SLU 63	9.22	-0.01	80.37	0.0114	0.4418	-0.0001
171	SLU 64	8.29	0	74.42	0.0054	0.3988	0
171	SLU 65	7.92	-0.01	74.37	0.015	0.382	-0.0001
171	SLU 66	8.67	0	76.09	0.0053	0.4163	0
171	SLU 67	8.44	-0.01	76.06	0.011	0.4062	-0.0001
171	SLU 68	8.16	-0.01	75.49	0.0147	0.3931	-0.0001
171	SLU 69	8.9	0	77.22	0.0051	0.4273	0
171	SLU 70	8.68	-0.01	77.18	0.0108	0.4173	-0.0001
171	SLU 71	8.77	0	76.68	0.005	0.4209	0
171	SLU 72	8.54	-0.01	76.64	0.0107	0.4108	-0.0001
171	SLU 73	9.58	-0.01	83.79	0.0156	0.4591	-0.0001
171	SLU 74	10.32	0	85.52	0.0059	0.4933	-0.0001
171	SLU 75	10.1	-0.01	85.48	0.0117	0.4833	-0.0001
171	SLU 76	9.82	-0.01	84.92	0.0154	0.4701	-0.0001
171	SLU 77	10.56	0	86.64	0.0057	0.5044	0
171	SLU 78	10.34	-0.01	86.61	0.0114	0.4943	-0.0001
171	SLU 79	10.42	0	86.1	0.0056	0.4979	0
171	SLU 80	10.2	-0.01	86.07	0.0113	0.4878	-0.0001
171	SLU 81	10.66	0	87.89	0.0063	0.5088	-0.0001
171	SLU 82	10.44	-0.01	87.85	0.012	0.4988	-0.0001
171	SLU 83	10.9	0	89.02	0.0061	0.5199	-0.0001
171	SLU 84	10.67	-0.01	88.98	0.0118	0.5098	-0.0001
171	SLE RA 1	6.06	0	55.36	0.0041	0.2918	0
171	SLE RA 2	5.81	-0.01	55.32	0.0104	0.2806	-0.0001
171	SLE RA 3	6.31	0	56.47	0.004	0.3035	0
171	SLE RA 4	6.16	-0.01	56.45	0.0078	0.2968	-0.0001
171	SLE RA 5	5.97	-0.01	56.07	0.0103	0.288	-0.0001
171	SLE RA 6	6.47	0	57.22	0.0038	0.3108	0
171	SLE RA 7	6.32	-0.01	57.2	0.0077	0.3041	-0.0001
171	SLE RA 8	6.37	0	56.86	0.0038	0.3065	0
171	SLE RA 9	6.23	-0.01	56.84	0.0076	0.2998	-0.0001
171	SLE RA 10	6.92	-0.01	61.6	0.0108	0.332	-0.0001
171	SLE RA 11	7.41	0	62.75	0.0044	0.3548	0
171	SLE RA 12	7.26	-0.01	62.73	0.0082	0.3481	-0.0001
171	SLE RA 13	7.08	-0.01	62.35	0.0107	0.3393	-0.0001
171	SLE RA 14	7.57	0	63.5	0.0043	0.3622	0
171	SLE RA 15	7.42	-0.01	63.48	0.0081	0.3555	-0.0001
171	SLE RA 16	7.48	0	63.14	0.0042	0.3579	0
171	SLE RA 17	7.33	-0.01	63.12	0.008	0.3512	-0.0001
171	SLE RA 18	7.64	0	64.33	0.0047	0.3652	0
171	SLE RA 19	7.49	-0.01	64.31	0.0085	0.3585	-0.0001
171	SLE RA 20	7.79	0	65.08	0.0045	0.3725	0
171	SLE RA 21	7.65	-0.01	65.06	0.0083	0.3658	-0.0001
171	SLE FR 1	6.06	0	55.36	0.0041	0.2918	0
171	SLE FR 2	6.01	0	55.35	0.0053	0.2896	0
171	SLE FR 3	6.12	0	55.66	0.004	0.2948	0
171	SLE FR 4	6.48	0	58.04	0.0055	0.3116	0
171	SLE FR 5	6.6	0	58.35	0.0042	0.3168	0
171	SLE FR 6	6.85	0	59.84	0.0044	0.3285	0
171	SLE QP 1	6.06	0	55.36	0.0041	0.2918	0
171	SLE QP 2	6.53	0	58.05	0.0042	0.3138	0
171	SLD 1	14.86	0.18	63.2	-0.1916	0.7058	0.0019
171	SLD 2	14.86	0.18	63.2	-0.1916	0.7058	0.0019
171	SLD 3	15.58	-0.1	63.74	0.1043	0.7391	-0.001
171	SLD 4	15.58	-0.1	63.74	0.1043	0.7391	-0.001
171	SLD 5	7.93	0.47	58.78	-0.5032	0.3809	0.0049
171	SLD 6	7.93	0.47	58.78	-0.5032	0.3809	0.0049
171	SLD 7	10.34	-0.45	60.57	0.4829	0.4919	-0.0047
171	SLD 8	10.34	-0.45	60.57	0.4829	0.4919	-0.0047
171	SLD 9	2.72	0.44	55.53	-0.4744	0.1357	0.0046
171	SLD 10	2.72	0.44	55.53	-0.4744	0.1357	0.0046
171	SLD 11	5.13	-0.47	57.32	0.5117	0.2467	-0.005
171	SLD 12	5.13	-0.47	57.32	0.5117	0.2467	-0.005
171	SLD 13	-2.51	0.09	52.36	-0.0958	-0.1114	0.0009
171	SLD 14	-2.51	0.09	52.36	-0.0958	-0.1114	0.0009
171	SLD 15	-1.79	-0.18	52.9	0.2001	-0.0781	-0.0019
171	SLD 16	-1.79	-0.18	52.9	0.2001	-0.0781	-0.0019
171	SLV 1	26.01	0.46	70.08	-0.4972	1.2315	0.0048
171	SLV 2	26.01	0.46	70.08	-0.4972	1.2315	0.0048
171	SLV 3	27.74	-0.25	71.42	0.2613	1.3111	-0.0026
171	SLV 4	27.74	-0.25	71.42	0.2613	1.3111	-0.0026
171	SLV 5	9.75	1.21	59.63	-1.2965	0.4685	0.0126
171	SLV 6	9.75	1.21	59.63	-1.2965	0.4685	0.0126
171	SLV 7	15.52	-1.15	64.09	1.2316	0.7337	-0.012
171	SLV 8	15.52	-1.15	64.09	1.2316	0.7337	-0.012
171	SLV 9	-2.45	1.14	52.01	-1.2232	-0.106	0.0119



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
171	SLV 10	-2.45	1.14	52.01	-1.2232	-0.106	0.0119
171	SLV 11	3.31	-1.21	56.47	1.305	0.1592	-0.0127
171	SLV 12	3.31	-1.21	56.47	1.305	0.1592	-0.0127
171	SLV 13	-14.67	0.24	44.68	-0.2528	-0.6834	0.0025
171	SLV 14	-14.67	0.24	44.68	-0.2528	-0.6834	0.0025
171	SLV 15	-12.94	-0.46	46.02	0.5056	-0.6038	-0.0049
171	SLV 16	-12.94	-0.46	46.02	0.5056	-0.6038	-0.0049
172	SLU 1	4.66	0	52.65	0.0037	0.204	0
172	SLU 2	4.28	-0.01	52.53	0.0117	0.1873	-0.0001
172	SLU 3	5.02	0	54.32	0.0036	0.2198	0
172	SLU 4	4.79	-0.01	54.25	0.0083	0.2098	-0.0001
172	SLU 5	4.51	-0.01	53.68	0.0114	0.1974	-0.0001
172	SLU 6	5.25	0	55.47	0.0033	0.2298	0
172	SLU 7	5.02	-0.01	55.4	0.0081	0.2198	-0.0001
172	SLU 8	5.12	0	54.95	0.0032	0.2241	0
172	SLU 9	4.89	-0.01	54.88	0.008	0.214	-0.0001
172	SLU 10	5.72	-0.01	61.98	0.0123	0.2518	-0.0001
172	SLU 11	6.46	0	63.78	0.0042	0.2843	0
172	SLU 12	6.23	-0.01	63.71	0.0089	0.2743	-0.0001
172	SLU 13	5.95	-0.01	63.14	0.012	0.2618	-0.0001
172	SLU 14	6.69	0	64.93	0.0039	0.2943	0
172	SLU 15	6.46	-0.01	64.86	0.0087	0.2843	-0.0001
172	SLU 16	6.56	0	64.4	0.0038	0.2886	0
172	SLU 17	6.33	-0.01	64.33	0.0086	0.2785	-0.0001
172	SLU 18	6.72	0	66.15	0.0045	0.2962	0
172	SLU 19	6.49	-0.01	66.08	0.0093	0.2861	-0.0001
172	SLU 20	6.95	0	67.3	0.0043	0.3062	0
172	SLU 21	6.72	-0.01	67.23	0.0091	0.2962	-0.0001
172	SLU 22	5.93	0	61.27	0.0041	0.2606	0
172	SLU 23	5.55	-0.01	61.15	0.0121	0.2439	-0.0001
172	SLU 24	6.28	0	62.94	0.004	0.2763	0
172	SLU 25	6.05	-0.01	62.87	0.0087	0.2663	-0.0001
172	SLU 26	5.77	-0.01	62.3	0.0118	0.2539	-0.0001
172	SLU 27	6.51	0	64.1	0.0037	0.2863	0
172	SLU 28	6.28	-0.01	64.03	0.0085	0.2763	-0.0001
172	SLU 29	6.39	0	63.57	0.0036	0.2806	0
172	SLU 30	6.16	-0.01	63.5	0.0084	0.2706	-0.0001
172	SLU 31	6.99	-0.01	70.61	0.0127	0.3084	-0.0001
172	SLU 32	7.72	0	72.4	0.0045	0.3408	0
172	SLU 33	7.5	-0.01	72.33	0.0093	0.3308	-0.0001
172	SLU 34	7.22	-0.01	71.76	0.0124	0.3184	-0.0001
172	SLU 35	7.95	0	73.55	0.0043	0.3508	0
172	SLU 36	7.72	-0.01	73.48	0.0091	0.3408	-0.0001
172	SLU 37	7.83	0	73.03	0.0042	0.3451	0
172	SLU 38	7.6	-0.01	72.96	0.009	0.3351	-0.0001
172	SLU 39	7.99	0	74.78	0.0049	0.3527	-0.0001
172	SLU 40	7.76	-0.01	74.71	0.0097	0.3427	-0.0001
172	SLU 41	8.22	0	75.93	0.0047	0.3627	-0.0001
172	SLU 42	7.99	-0.01	75.86	0.0095	0.3527	-0.0001
172	SLU 43	5.62	0	65.48	0.0047	0.2459	0
172	SLU 44	5.24	-0.01	65.37	0.0127	0.2292	-0.0001
172	SLU 45	5.98	0	67.16	0.0045	0.2616	0
172	SLU 46	5.75	-0.01	67.09	0.0093	0.2516	-0.0001
172	SLU 47	5.47	-0.01	66.52	0.0124	0.2392	-0.0001
172	SLU 48	6.21	0	68.31	0.0043	0.2716	0
172	SLU 49	5.98	-0.01	68.24	0.0091	0.2616	-0.0001
172	SLU 50	6.08	0	67.79	0.0041	0.2659	0
172	SLU 51	5.85	-0.01	67.72	0.0089	0.2559	-0.0001
172	SLU 52	6.68	-0.01	74.82	0.0133	0.2937	-0.0001
172	SLU 53	7.42	0	76.61	0.0051	0.3261	-0.0001
172	SLU 54	7.19	-0.01	76.54	0.0099	0.3161	-0.0001
172	SLU 55	6.91	-0.01	75.97	0.013	0.3037	-0.0001
172	SLU 56	7.65	0	77.77	0.0049	0.3361	-0.0001
172	SLU 57	7.42	-0.01	77.7	0.0097	0.3261	-0.0001
172	SLU 58	7.52	0	77.24	0.0047	0.3304	-0.0001
172	SLU 59	7.29	-0.01	77.17	0.0095	0.3204	-0.0001
172	SLU 60	7.68	0	78.99	0.0055	0.338	-0.0001
172	SLU 61	7.45	-0.01	78.92	0.0103	0.328	-0.0001
172	SLU 62	7.91	0	80.14	0.0052	0.348	-0.0001
172	SLU 63	7.68	-0.01	80.07	0.01	0.338	-0.0001
172	SLU 64	6.89	0	74.11	0.0051	0.3024	-0.0001
172	SLU 65	6.51	-0.01	73.99	0.0131	0.2857	-0.0001
172	SLU 66	7.25	0	75.78	0.0049	0.3182	-0.0001
172	SLU 67	7.02	-0.01	75.71	0.0097	0.3081	-0.0001
172	SLU 68	6.74	-0.01	75.14	0.0128	0.2957	-0.0001
172	SLU 69	7.48	0	76.93	0.0047	0.3282	-0.0001
172	SLU 70	7.25	-0.01	76.86	0.0095	0.3181	-0.0001
172	SLU 71	7.35	0	76.41	0.0045	0.3224	-0.0001
172	SLU 72	7.12	-0.01	76.34	0.0093	0.3124	-0.0001
172	SLU 73	7.95	-0.01	83.44	0.0136	0.3502	-0.0001
172	SLU 74	8.69	0	85.24	0.0055	0.3826	-0.0001
172	SLU 75	8.46	-0.01	85.17	0.0103	0.3726	-0.0001
172	SLU 76	8.18	-0.01	84.6	0.0134	0.3602	-0.0001
172	SLU 77	8.92	0	86.39	0.0053	0.3926	-0.0001
172	SLU 78	8.69	-0.01	86.32	0.0101	0.3826	-0.0001
172	SLU 79	8.79	0	85.86	0.0051	0.3869	-0.0001
172	SLU 80	8.56	-0.01	85.79	0.0099	0.3769	-0.0001
172	SLU 81	8.95	0	87.61	0.0059	0.3945	-0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
172	SLU 82	8.72	-0.01	87.54	0.0107	0.3845	-0.0001
172	SLU 83	9.18	0	88.76	0.0056	0.4045	-0.0001
172	SLU 84	8.95	-0.01	88.7	0.0104	0.3945	-0.0001
172	SLE RA 1	5.02	0	55.11	0.0038	0.2202	0
172	SLE RA 2	4.77	-0.01	55.03	0.0091	0.2091	-0.0001
172	SLE RA 3	5.26	0	56.23	0.0037	0.2307	0
172	SLE RA 4	5.11	-0.01	56.18	0.0069	0.224	-0.0001
172	SLE RA 5	4.92	-0.01	55.8	0.009	0.2157	-0.0001
172	SLE RA 6	5.41	0	56.99	0.0035	0.2374	0
172	SLE RA 7	5.26	-0.01	56.95	0.0067	0.2307	-0.0001
172	SLE RA 8	5.33	0	56.65	0.0035	0.2335	0
172	SLE RA 9	5.17	0	56.6	0.0066	0.2269	-0.0001
172	SLE RA 10	5.73	-0.01	61.34	0.0095	0.2521	-0.0001
172	SLE RA 11	6.22	0	62.53	0.0041	0.2737	0
172	SLE RA 12	6.07	-0.01	62.48	0.0073	0.267	-0.0001
172	SLE RA 13	5.88	-0.01	62.1	0.0094	0.2587	-0.0001
172	SLE RA 14	6.37	0	63.3	0.0039	0.2804	0
172	SLE RA 15	6.22	-0.01	63.25	0.0071	0.2737	-0.0001
172	SLE RA 16	6.29	0	62.95	0.0039	0.2765	0
172	SLE RA 17	6.14	-0.01	62.9	0.007	0.2699	-0.0001
172	SLE RA 18	6.39	0	64.11	0.0044	0.2816	0
172	SLE RA 19	6.24	-0.01	64.07	0.0076	0.2749	-0.0001
172	SLE RA 20	6.55	0	64.88	0.0042	0.2883	0
172	SLE RA 21	6.39	-0.01	64.84	0.0074	0.2816	-0.0001
172	SLE FR 1	5.02	0	55.11	0.0038	0.2202	0
172	SLE FR 2	4.97	0	55.09	0.0049	0.218	0
172	SLE FR 3	5.08	0	55.42	0.0037	0.2229	0
172	SLE FR 4	5.38	0	57.8	0.005	0.2364	0
172	SLE FR 5	5.49	0	58.12	0.0039	0.2413	0
172	SLE FR 6	5.71	0	59.61	0.0041	0.2509	0
172	SLE QP 1	5.02	0	55.11	0.0038	0.2202	0
172	SLE QP 2	5.43	0	57.81	0.004	0.2386	0
172	SLD 1	13.98	0.18	61.49	-0.1903	0.6332	0.002
172	SLD 2	13.98	0.18	61.49	-0.1903	0.6332	0.002
172	SLD 3	14.71	-0.09	62.04	0.0996	0.6664	-0.001
172	SLD 4	14.71	-0.09	62.04	0.0996	0.6664	-0.001
172	SLD 5	6.89	0.46	58.09	-0.4939	0.3067	0.0051
172	SLD 6	6.89	0.46	58.09	-0.4939	0.3067	0.0051
172	SLD 7	9.32	-0.44	59.91	0.4723	0.4173	-0.0049
172	SLD 8	9.32	-0.44	59.91	0.4723	0.4173	-0.0049
172	SLD 9	1.55	0.43	55.72	-0.4644	0.06	0.0048
172	SLD 10	1.55	0.43	55.72	-0.4644	0.06	0.0048
172	SLD 11	3.97	-0.47	57.53	0.5019	0.1706	-0.0052
172	SLD 12	3.97	-0.47	57.53	0.5019	0.1706	-0.0052
172	SLD 13	-3.84	0.09	53.58	-0.0917	-0.1891	0.0009
172	SLD 14	-3.84	0.09	53.58	-0.0917	-0.1891	0.0009
172	SLD 15	-3.12	-0.18	54.13	0.1982	-0.1559	-0.0021
172	SLD 16	-3.12	-0.18	54.13	0.1982	-0.1559	-0.0021
172	SLV 1	25.42	0.46	66.4	-0.4935	1.1609	0.0051
172	SLV 2	25.42	0.46	66.4	-0.4935	1.1609	0.0051
172	SLV 3	27.16	-0.23	67.77	0.2495	1.2402	-0.0026
172	SLV 4	27.16	-0.23	67.77	0.2495	1.2402	-0.0026
172	SLV 5	8.79	1.18	58.31	-1.2722	0.395	0.0132
172	SLV 6	8.79	1.18	58.31	-1.2722	0.395	0.0132
172	SLV 7	14.6	-1.12	62.88	1.2045	0.6594	-0.0125
172	SLV 8	14.6	-1.12	62.88	1.2045	0.6594	-0.0125
172	SLV 9	-3.73	1.11	52.74	-1.1966	-0.1821	0.0124
172	SLV 10	-3.73	1.11	52.74	-1.1966	-0.1821	0.0124
172	SLV 11	2.08	-1.19	57.31	1.2801	0.0822	-0.0133
172	SLV 12	2.08	-1.19	57.31	1.2801	0.0822	-0.0133
172	SLV 13	-16.3	0.23	47.85	-0.2415	-0.7629	0.0025
172	SLV 14	-16.3	0.23	47.85	-0.2415	-0.7629	0.0025
172	SLV 15	-14.56	-0.46	49.22	0.5015	-0.6836	-0.0052
172	SLV 16	-14.56	-0.46	49.22	0.5015	-0.6836	-0.0052
173	SLU 1	4.02	0	52.43	0.0034	0.1966	0
173	SLU 2	3.62	-0.01	52.24	0.0098	0.1781	-0.0001
173	SLU 3	4.38	0	54.13	0.0033	0.2131	0
173	SLU 4	4.14	-0.01	54.02	0.0071	0.202	-0.0001
173	SLU 5	3.85	-0.01	53.43	0.0095	0.1888	-0.0001
173	SLU 6	4.61	0	55.32	0.003	0.2238	0
173	SLU 7	4.37	-0.01	55.21	0.0068	0.2127	-0.0001
173	SLU 8	4.49	0	54.81	0.0028	0.218	0
173	SLU 9	4.25	-0.01	54.7	0.0066	0.2069	-0.0001
173	SLU 10	4.89	-0.01	61.72	0.0103	0.2379	-0.0001
173	SLU 11	5.65	0	63.61	0.0038	0.2729	-0.0001
173	SLU 12	5.41	-0.01	63.49	0.0076	0.2618	-0.0001
173	SLU 13	5.13	-0.01	62.91	0.01	0.2486	-0.0001
173	SLU 14	5.89	0	64.8	0.0035	0.2836	0
173	SLU 15	5.64	-0.01	64.69	0.0073	0.2725	-0.0001
173	SLU 16	5.77	0	64.29	0.0034	0.2778	0
173	SLU 17	5.52	-0.01	64.18	0.0072	0.2667	-0.0001
173	SLU 18	5.85	0	65.97	0.0042	0.2821	-0.0001
173	SLU 19	5.6	-0.01	65.86	0.0081	0.271	-0.0001
173	SLU 20	6.08	0	67.16	0.0039	0.2927	-0.0001
173	SLU 21	5.83	-0.01	67.05	0.0078	0.2816	-0.0001
173	SLU 22	5.16	0	61.07	0.0038	0.25	0
173	SLU 23	4.75	-0.01	60.88	0.0101	0.2315	-0.0001
173	SLU 24	5.51	0	62.77	0.0036	0.2665	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
173	SLU 25	5.27	-0.01	62.66	0.0074	0.2554	-0.0001		
173	SLU 26	4.98	-0.01	62.07	0.0098	0.2421	-0.0001		
173	SLU 27	5.75	0	63.96	0.0033	0.2771	0		
173	SLU 28	5.5	-0.01	63.85	0.0071	0.266	-0.0001		
173	SLU 29	5.62	0	63.45	0.0032	0.2713	0		
173	SLU 30	5.38	-0.01	63.34	0.007	0.2602	-0.0001		
173	SLU 31	6.02	-0.01	70.36	0.0107	0.2913	-0.0001		
173	SLU 32	6.79	0	72.24	0.0042	0.3263	-0.0001		
173	SLU 33	6.54	-0.01	72.13	0.008	0.3152	-0.0001		
173	SLU 34	6.26	-0.01	71.55	0.0104	0.3019	-0.0001		
173	SLU 35	7.02	0	73.44	0.0039	0.3369	-0.0001		
173	SLU 36	6.78	-0.01	73.32	0.0077	0.3258	-0.0001		
173	SLU 37	6.9	0	72.93	0.0038	0.3311	-0.0001		
173	SLU 38	6.65	-0.01	72.81	0.0076	0.32	-0.0001		
173	SLU 39	6.98	-0.01	74.61	0.0046	0.3354	-0.0001		
173	SLU 40	6.73	-0.01	74.49	0.0084	0.3243	-0.0001		
173	SLU 41	7.21	0	75.8	0.0043	0.3461	-0.0001		
173	SLU 42	6.97	-0.01	75.68	0.0081	0.335	-0.0001		
173	SLU 43	4.84	0	65.2	0.0043	0.2373	-0.0001		
173	SLU 44	4.44	-0.01	65.01	0.0107	0.2188	-0.0001		
173	SLU 45	5.2	0	66.9	0.0042	0.2538	-0.0001		
173	SLU 46	4.95	-0.01	66.79	0.008	0.2427	-0.0001		
173	SLU 47	4.67	-0.01	66.2	0.0104	0.2295	-0.0001		
173	SLU 48	5.43	0	68.09	0.0039	0.2645	-0.0001		
173	SLU 49	5.19	-0.01	67.98	0.0077	0.2534	-0.0001		
173	SLU 50	5.31	0	67.58	0.0037	0.2587	-0.0001		
173	SLU 51	5.07	-0.01	67.47	0.0075	0.2476	-0.0001		
173	SLU 52	5.71	-0.01	74.49	0.0112	0.2786	-0.0001		
173	SLU 53	6.47	-0.01	76.37	0.0047	0.3136	-0.0001		
173	SLU 54	6.23	-0.01	76.26	0.0085	0.3025	-0.0001		
173	SLU 55	5.94	-0.01	75.68	0.0109	0.2893	-0.0001		
173	SLU 56	6.71	-0.01	77.57	0.0044	0.3243	-0.0001		
173	SLU 57	6.46	-0.01	77.45	0.0082	0.3132	-0.0001		
173	SLU 58	6.58	0	77.06	0.0043	0.3185	-0.0001		
173	SLU 59	6.34	-0.01	76.94	0.0081	0.3074	-0.0001		
173	SLU 60	6.66	-0.01	78.73	0.0051	0.3228	-0.0001		
173	SLU 61	6.42	-0.01	78.62	0.0089	0.3117	-0.0001		
173	SLU 62	6.9	-0.01	79.93	0.0048	0.3335	-0.0001		
173	SLU 63	6.65	-0.01	79.81	0.0087	0.3223	-0.0001		
173	SLU 64	5.98	-0.01	73.84	0.0047	0.2907	-0.0001		
173	SLU 65	5.57	-0.01	73.65	0.011	0.2722	-0.0001		
173	SLU 66	6.33	-0.01	75.54	0.0045	0.3072	-0.0001		
173	SLU 67	6.09	-0.01	75.42	0.0083	0.2961	-0.0001		
173	SLU 68	5.8	-0.01	74.84	0.0107	0.2828	-0.0001		
173	SLU 69	6.56	0	76.73	0.0042	0.3179	-0.0001		
173	SLU 70	6.32	-0.01	76.62	0.008	0.3067	-0.0001		
173	SLU 71	6.44	0	76.22	0.0041	0.312	-0.0001		
173	SLU 72	6.2	-0.01	76.11	0.0079	0.3009	-0.0001		
173	SLU 73	6.84	-0.01	83.12	0.0116	0.332	-0.0001		
173	SLU 74	7.61	-0.01	85.01	0.0051	0.367	-0.0001		
173	SLU 75	7.36	-0.01	84.9	0.0089	0.3559	-0.0001		
173	SLU 76	7.08	-0.01	84.32	0.0113	0.3426	-0.0001		
173	SLU 77	7.84	-0.01	86.2	0.0048	0.3776	-0.0001		
173	SLU 78	7.59	-0.01	86.09	0.0086	0.3665	-0.0001		
173	SLU 79	7.72	-0.01	85.69	0.0047	0.3718	-0.0001		
173	SLU 80	7.47	-0.01	85.58	0.0085	0.3607	-0.0001		
173	SLU 81	7.8	-0.01	87.37	0.0055	0.3761	-0.0001		
173	SLU 82	7.55	-0.01	87.26	0.0093	0.365	-0.0001		
173	SLU 83	8.03	-0.01	88.56	0.0052	0.3868	-0.0001		
173	SLU 84	7.79	-0.01	88.45	0.009	0.3757	-0.0001		
173	SLE RA 1	4.35	0	54.9	0.0035	0.2119	0		
173	SLE RA 2	4.08	-0.01	54.77	0.0077	0.1995	-0.0001		
173	SLE RA 3	4.58	0	56.03	0.0034	0.2229	0		
173	SLE RA 4	4.42	-0.01	55.96	0.006	0.2155	-0.0001		
173	SLE RA 5	4.23	-0.01	55.57	0.0076	0.2067	-0.0001		
173	SLE RA 6	4.74	0	56.83	0.0032	0.23	0		
173	SLE RA 7	4.58	0	56.75	0.0058	0.2226	-0.0001		
173	SLE RA 8	4.66	0	56.49	0.0031	0.2261	0		
173	SLE RA 9	4.5	0	56.41	0.0057	0.2187	-0.0001		
173	SLE RA 10	4.93	-0.01	61.09	0.0081	0.2394	-0.0001		
173	SLE RA 11	5.43	0	62.35	0.0038	0.2627	-0.0001		
173	SLE RA 12	5.27	-0.01	62.27	0.0063	0.2553	-0.0001		
173	SLE RA 13	5.08	-0.01	61.89	0.0079	0.2465	-0.0001		
173	SLE RA 14	5.59	0	63.14	0.0036	0.2699	0		
173	SLE RA 15	5.43	-0.01	63.07	0.0061	0.2625	-0.0001		
173	SLE RA 16	5.51	0	62.8	0.0035	0.266	0		
173	SLE RA 17	5.35	-0.01	62.73	0.006	0.2586	-0.0001		
173	SLE RA 18	5.56	0	63.92	0.0041	0.2688	-0.0001		
173	SLE RA 19	5.4	-0.01	63.85	0.0066	0.2614	-0.0001		
173	SLE RA 20	5.72	0	64.72	0.0039	0.2759	-0.0001		
173	SLE RA 21	5.55	-0.01	64.64	0.0064	0.2685	-0.0001		
173	SLE FR 1	4.35	0	54.9	0.0035	0.2119	0		
173	SLE FR 2	4.29	0	54.87	0.0044	0.2094	-0.0001		
173	SLE FR 3	4.41	0	55.22	0.0034	0.2147	0		
173	SLE FR 4	4.66	0	57.58	0.0045	0.2265	-0.0001		
173	SLE FR 5	4.77	0	57.92	0.0036	0.2318	0		
173	SLE FR 6	4.95	0	59.41	0.0038	0.2403	0		
173	SLE QP 1	4.35	0	54.9	0.0035	0.2119	0		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
173	SLE QP 2	4.71	0	57.61	0.0037	0.229	0
173	SLD 1	13.58	0.16	60.06	-0.1773	0.6467	0.0019
173	SLD 2	13.58	0.16	60.06	-0.1773	0.6467	0.0019
173	SLD 3	14.32	-0.08	60.64	0.0869	0.6809	-0.0009
173	SLD 4	14.32	-0.08	60.64	0.0869	0.6809	-0.0009
173	SLD 5	6.26	0.41	57.46	-0.4513	0.3023	0.0047
173	SLD 6	6.26	0.41	57.46	-0.4513	0.3023	0.0047
173	SLD 7	8.71	-0.39	59.4	0.4294	0.4165	-0.0044
173	SLD 8	8.71	-0.39	59.4	0.4294	0.4165	-0.0044
173	SLD 9	0.71	0.39	55.81	-0.422	0.0414	0.0043
173	SLD 10	0.71	0.39	55.81	-0.422	0.0414	0.0043
173	SLD 11	3.17	-0.42	57.76	0.4587	0.1556	-0.0048
173	SLD 12	3.17	-0.42	57.76	0.4587	0.1556	-0.0048
173	SLD 13	-4.89	0.07	54.57	-0.0795	-0.223	0.0008
173	SLD 14	-4.89	0.07	54.57	-0.0795	-0.223	0.0008
173	SLD 15	-4.16	-0.17	55.15	0.1847	-0.1888	-0.002
173	SLD 16	-4.16	-0.17	55.15	0.1847	-0.1888	-0.002
173	SLV 1	25.45	0.43	63.31	-0.46	1.2063	0.0049
173	SLV 2	25.45	0.43	63.31	-0.46	1.2063	0.0049
173	SLV 3	27.22	-0.19	64.79	0.2171	1.2883	-0.0021
173	SLV 4	27.22	-0.19	64.79	0.2171	1.2883	-0.0021
173	SLV 5	8.26	1.06	57.07	-1.1623	0.3978	0.012
173	SLV 6	8.26	1.06	57.07	-1.1623	0.3978	0.012
173	SLV 7	14.14	-1	62.01	1.0946	0.6711	-0.0113
173	SLV 8	14.14	-1	62.01	1.0946	0.6711	-0.0113
173	SLV 9	-4.72	0.99	53.2	-1.0872	-0.2132	0.0112
173	SLV 10	-4.72	0.99	53.2	-1.0872	-0.2132	0.0112
173	SLV 11	1.17	-1.07	58.14	1.1696	0.0601	-0.0121
173	SLV 12	1.17	-1.07	58.14	1.1696	0.0601	-0.0121
173	SLV 13	-17.79	0.18	50.42	-0.2097	-0.8304	0.002
173	SLV 14	-17.79	0.18	50.42	-0.2097	-0.8304	0.002
173	SLV 15	-16.03	-0.44	51.9	0.4673	-0.7484	-0.0049
173	SLV 16	-16.03	-0.44	51.9	0.4673	-0.7484	-0.0049
174	SLU 1	2.88	0	52.33	0.0029	0.1259	0
174	SLU 2	2.47	-0.01	52.06	0.0075	0.1078	-0.0001
174	SLU 3	3.21	0	54.07	0.0027	0.1405	0
174	SLU 4	2.96	-0.01	53.91	0.0055	0.1297	-0.0001
174	SLU 5	2.69	-0.01	53.31	0.0072	0.1175	-0.0001
174	SLU 6	3.43	0	55.32	0.0024	0.1502	0
174	SLU 7	3.19	0	55.16	0.0052	0.1393	-0.0001
174	SLU 8	3.32	0	54.83	0.0022	0.1452	0
174	SLU 9	3.08	0	54.67	0.005	0.1343	-0.0001
174	SLU 10	3.5	-0.01	61.56	0.0081	0.1543	-0.0001
174	SLU 11	4.24	0	63.57	0.0032	0.187	-0.0001
174	SLU 12	3.99	-0.01	63.41	0.006	0.1761	-0.0001
174	SLU 13	3.72	-0.01	62.81	0.0077	0.1639	-0.0001
174	SLU 14	4.46	0	64.82	0.0029	0.1966	0
174	SLU 15	4.21	-0.01	64.66	0.0057	0.1858	-0.0001
174	SLU 16	4.35	0	64.32	0.0028	0.1916	0
174	SLU 17	4.11	-0.01	64.16	0.0056	0.1808	-0.0001
174	SLU 18	4.35	-0.01	65.89	0.0037	0.1922	-0.0001
174	SLU 19	4.1	-0.01	65.73	0.0064	0.1814	-0.0001
174	SLU 20	4.57	0	67.14	0.0033	0.2019	-0.0001
174	SLU 21	4.32	-0.01	66.98	0.0061	0.191	-0.0001
174	SLU 22	3.8	0	60.99	0.0032	0.1673	-0.0001
174	SLU 23	3.39	-0.01	60.73	0.0079	0.1492	-0.0001
174	SLU 24	4.13	0	62.74	0.003	0.182	0
174	SLU 25	3.89	-0.01	62.58	0.0058	0.1711	-0.0001
174	SLU 26	3.61	-0.01	61.98	0.0075	0.1589	-0.0001
174	SLU 27	4.35	0	63.99	0.0027	0.1916	0
174	SLU 28	4.11	-0.01	63.83	0.0055	0.1808	-0.0001
174	SLU 29	4.25	0	63.49	0.0025	0.1866	0
174	SLU 30	4	-0.01	63.33	0.0053	0.1758	-0.0001
174	SLU 31	4.42	-0.01	70.22	0.0084	0.1957	-0.0001
174	SLU 32	5.16	-0.01	72.23	0.0036	0.2284	-0.0001
174	SLU 33	4.91	-0.01	72.07	0.0064	0.2176	-0.0001
174	SLU 34	4.64	-0.01	71.47	0.0081	0.2053	-0.0001
174	SLU 35	5.38	-0.01	73.48	0.0032	0.238	-0.0001
174	SLU 36	5.14	-0.01	73.32	0.006	0.2272	-0.0001
174	SLU 37	5.27	-0.01	72.99	0.0031	0.233	-0.0001
174	SLU 38	5.03	-0.01	72.83	0.0059	0.2222	-0.0001
174	SLU 39	5.27	-0.01	74.56	0.004	0.2336	-0.0001
174	SLU 40	5.02	-0.01	74.4	0.0068	0.2228	-0.0001
174	SLU 41	5.49	-0.01	75.81	0.0036	0.2433	-0.0001
174	SLU 42	5.25	-0.01	75.65	0.0064	0.2325	-0.0001
174	SLU 43	3.43	-0.01	65.05	0.0037	0.1495	-0.0001
174	SLU 44	3.02	-0.01	64.79	0.0083	0.1314	-0.0001
174	SLU 45	3.76	-0.01	66.8	0.0035	0.1641	-0.0001
174	SLU 46	3.51	-0.01	66.64	0.0063	0.1533	-0.0001
174	SLU 47	3.24	-0.01	66.04	0.008	0.141	-0.0001
174	SLU 48	3.98	0	68.05	0.0031	0.1738	-0.0001
174	SLU 49	3.73	-0.01	67.89	0.0059	0.1629	-0.0001
174	SLU 50	3.87	0	67.55	0.003	0.1687	-0.0001
174	SLU 51	3.62	-0.01	67.39	0.0058	0.1579	-0.0001
174	SLU 52	4.05	-0.01	74.28	0.0088	0.1778	-0.0001
174	SLU 53	4.79	-0.01	76.29	0.004	0.2105	-0.0001
174	SLU 54	4.54	-0.01	76.13	0.0068	0.1997	-0.0001
174	SLU 55	4.27	-0.01	75.53	0.0085	0.1875	-0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
174	SLU 56	5.01	-0.01	77.54	0.0037	0.2202	-0.0001		
174	SLU 57	4.76	-0.01	77.38	0.0065	0.2094	-0.0001		
174	SLU 58	4.9	-0.01	77.05	0.0035	0.2152	-0.0001		
174	SLU 59	4.65	-0.01	76.89	0.0063	0.2043	-0.0001		
174	SLU 60	4.9	-0.01	78.62	0.0044	0.2158	-0.0001		
174	SLU 61	4.65	-0.01	78.46	0.0072	0.205	-0.0001		
174	SLU 62	5.12	-0.01	79.87	0.0041	0.2254	-0.0001		
174	SLU 63	4.87	-0.01	79.71	0.0069	0.2146	-0.0001		
174	SLU 64	4.35	-0.01	73.72	0.004	0.1909	-0.0001		
174	SLU 65	3.94	-0.01	73.45	0.0086	0.1728	-0.0001		
174	SLU 66	4.68	-0.01	75.46	0.0038	0.2055	-0.0001		
174	SLU 67	4.43	-0.01	75.3	0.0066	0.1947	-0.0001		
174	SLU 68	4.16	-0.01	74.7	0.0083	0.1824	-0.0001		
174	SLU 69	4.9	-0.01	76.71	0.0035	0.2152	-0.0001		
174	SLU 70	4.66	-0.01	76.55	0.0062	0.2043	-0.0001		
174	SLU 71	4.79	-0.01	76.22	0.0033	0.2102	-0.0001		
174	SLU 72	4.55	-0.01	76.06	0.0061	0.1993	-0.0001		
174	SLU 73	4.97	-0.01	82.95	0.0092	0.2192	-0.0001		
174	SLU 74	5.71	-0.01	84.96	0.0043	0.252	-0.0001		
174	SLU 75	5.46	-0.01	84.8	0.0071	0.2411	-0.0001		
174	SLU 76	5.19	-0.01	84.2	0.0088	0.2289	-0.0001		
174	SLU 77	5.93	-0.01	86.21	0.004	0.2616	-0.0001		
174	SLU 78	5.68	-0.01	86.05	0.0068	0.2508	-0.0001		
174	SLU 79	5.82	-0.01	85.72	0.0038	0.2566	-0.0001		
174	SLU 80	5.58	-0.01	85.56	0.0066	0.2458	-0.0001		
174	SLU 81	5.82	-0.01	87.29	0.0047	0.2572	-0.0001		
174	SLU 82	5.57	-0.01	87.13	0.0075	0.2464	-0.0001		
174	SLU 83	6.04	-0.01	88.54	0.0044	0.2669	-0.0001		
174	SLU 84	5.79	-0.01	88.38	0.0072	0.256	-0.0001		
174	SLE RA 1	3.14	0	54.8	0.003	0.1377	0		
174	SLE RA 2	2.87	-0.01	54.63	0.0061	0.1257	-0.0001		
174	SLE RA 3	3.36	0	55.97	0.0029	0.1475	0		
174	SLE RA 4	3.2	0	55.86	0.0047	0.1403	-0.0001		
174	SLE RA 5	3.02	-0.01	55.46	0.0059	0.1321	-0.0001		
174	SLE RA 6	3.51	0	56.8	0.0026	0.1539	0		
174	SLE RA 7	3.35	0	56.69	0.0045	0.1467	-0.0001		
174	SLE RA 8	3.44	0	56.47	0.0025	0.1506	0		
174	SLE RA 9	3.27	0	56.36	0.0044	0.1434	-0.0001		
174	SLE RA 10	3.56	-0.01	60.96	0.0064	0.1566	-0.0001		
174	SLE RA 11	4.05	0	62.3	0.0032	0.1784	-0.0001		
174	SLE RA 12	3.88	-0.01	62.19	0.0051	0.1712	-0.0001		
174	SLE RA 13	3.7	-0.01	61.79	0.0062	0.1631	-0.0001		
174	SLE RA 14	4.2	0	63.13	0.003	0.1849	0		
174	SLE RA 15	4.03	-0.01	63.02	0.0049	0.1777	-0.0001		
174	SLE RA 16	4.12	0	62.8	0.0029	0.1815	0		
174	SLE RA 17	3.96	-0.01	62.69	0.0048	0.1743	-0.0001		
174	SLE RA 18	4.12	0	63.85	0.0035	0.1819	-0.0001		
174	SLE RA 19	3.96	-0.01	63.74	0.0054	0.1747	-0.0001		
174	SLE RA 20	4.27	0	64.68	0.0033	0.1884	-0.0001		
174	SLE RA 21	4.11	-0.01	64.57	0.0051	0.1812	-0.0001		
174	SLE FR 1	3.14	0	54.8	0.003	0.1377	0		
174	SLE FR 2	3.09	0	54.77	0.0036	0.1353	0		
174	SLE FR 3	3.2	0	55.14	0.0029	0.1403	0		
174	SLE FR 4	3.38	0	57.48	0.0038	0.1486	-0.0001		
174	SLE FR 5	3.5	0	57.85	0.003	0.1536	0		
174	SLE FR 6	3.63	0	59.33	0.0032	0.1598	0		
174	SLE QP 1	3.14	0	54.8	0.003	0.1377	0		
174	SLE QP 2	3.44	0	57.52	0.0031	0.151	0		
174	SLD 1	12.31	0.14	59.12	-0.1538	0.5646	0.0015		
174	SLD 2	12.31	0.14	59.12	-0.1538	0.5646	0.0015		
174	SLD 3	13.03	-0.05	59.78	0.0674	0.5976	-0.0006		
174	SLD 4	13.03	-0.05	59.78	0.0674	0.5976	-0.0006		
174	SLD 5	5.01	0.34	57	-0.3795	0.225	0.0036		
174	SLD 6	5.01	0.34	57	-0.3795	0.225	0.0036		
174	SLD 7	7.4	-0.32	59.19	0.3579	0.335	-0.0034		
174	SLD 8	7.4	-0.32	59.19	0.3579	0.335	-0.0034		
174	SLD 9	-0.53	0.31	55.84	-0.3517	-0.0331	0.0033		
174	SLD 10	-0.53	0.31	55.84	-0.3517	-0.0331	0.0033		
174	SLD 11	1.86	-0.35	58.03	0.3857	0.077	-0.0037		
174	SLD 12	1.86	-0.35	58.03	0.3857	0.077	-0.0037		
174	SLD 13	-6.16	0.05	55.25	-0.0611	-0.2956	0.0005		
174	SLD 14	-6.16	0.05	55.25	-0.0611	-0.2956	0.0005		
174	SLD 15	-5.44	-0.15	55.91	0.1601	-0.2626	-0.0016		
174	SLD 16	-5.44	-0.15	55.91	0.1601	-0.2626	-0.0016		
174	SLV 1	24.18	0.37	61.24	-0.3989	1.1176	0.004		
174	SLV 2	24.18	0.37	61.24	-0.3989	1.1176	0.004		
174	SLV 3	25.9	-0.13	62.91	0.1677	1.1966	-0.0014		
174	SLV 4	25.9	-0.13	62.91	0.1677	1.1966	-0.0014		
174	SLV 5	7.05	0.88	56.09	-0.9768	0.3211	0.0093		
174	SLV 6	7.05	0.88	56.09	-0.9768	0.3211	0.0093		
174	SLV 7	12.78	-0.81	61.67	0.9119	0.5845	-0.0086		
174	SLV 8	12.78	-0.81	61.67	0.9119	0.5845	-0.0086		
174	SLV 9	-5.91	0.8	53.36	-0.9056	-0.2825	0.0085		
174	SLV 10	-5.91	0.8	53.36	-0.9056	-0.2825	0.0085		
174	SLV 11	-0.18	-0.89	58.94	0.9831	-0.0192	-0.0094		
174	SLV 12	-0.18	-0.89	58.94	0.9831	-0.0192	-0.0094		
174	SLV 13	-19.03	0.12	52.12	-0.1615	-0.8946	0.0013		
174	SLV 14	-19.03	0.12	52.12	-0.1615	-0.8946	0.0013		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
174	SLV 15	-17.31	-0.38	53.8	0.4051	-0.8156	-0.0041
174	SLV 16	-17.31	-0.38	53.8	0.4051	-0.8156	-0.0041
175	SLU 1	1.54	0	52.05	0.0018	0.0821	0
175	SLU 2	1.14	0	51.71	0.0048	0.0637	0
175	SLU 3	1.83	0	53.83	0.0016	0.0955	0
175	SLU 4	1.59	0	53.63	0.0034	0.0845	0
175	SLU 5	1.34	0	53.03	0.0044	0.0725	0
175	SLU 6	2.03	0	55.14	0.0013	0.1043	0
175	SLU 7	1.79	0	54.94	0.003	0.0933	0
175	SLU 8	1.93	0	54.67	0.0011	0.0997	0
175	SLU 9	1.69	0	54.47	0.0029	0.0887	0
175	SLU 10	1.87	-0.01	61.17	0.0052	0.0988	0
175	SLU 11	2.55	0	63.29	0.002	0.1306	0
175	SLU 12	2.31	0	63.09	0.0038	0.1195	0
175	SLU 13	2.06	0	62.48	0.0048	0.1076	0
175	SLU 14	2.75	0	64.6	0.0017	0.1394	0
175	SLU 15	2.51	0	64.4	0.0034	0.1283	0
175	SLU 16	2.66	0	64.13	0.0015	0.1348	0
175	SLU 17	2.42	0	63.93	0.0033	0.1237	0
175	SLU 18	2.58	0	65.56	0.0024	0.1322	0
175	SLU 19	2.34	-0.01	65.36	0.0042	0.1212	0
175	SLU 20	2.77	0	66.87	0.002	0.141	0
175	SLU 21	2.53	0	66.67	0.0038	0.13	0
175	SLU 22	2.2	0	60.7	0.002	0.114	0
175	SLU 23	1.8	0	60.37	0.005	0.0956	0
175	SLU 24	2.49	0	62.49	0.0018	0.1274	0
175	SLU 25	2.25	0	62.29	0.0036	0.1164	0
175	SLU 26	2	0	61.68	0.0046	0.1044	0
175	SLU 27	2.69	0	63.8	0.0014	0.1362	0
175	SLU 28	2.45	0	63.6	0.0032	0.1252	0
175	SLU 29	2.59	0	63.33	0.0013	0.1316	0
175	SLU 30	2.35	0	63.13	0.003	0.1206	0
175	SLU 31	2.53	-0.01	69.83	0.0054	0.1307	-0.0001
175	SLU 32	3.21	0	71.94	0.0022	0.1625	0
175	SLU 33	2.97	-0.01	71.74	0.004	0.1514	0
175	SLU 34	2.72	-0.01	71.14	0.005	0.1395	0
175	SLU 35	3.41	0	73.26	0.0018	0.1713	0
175	SLU 36	3.17	-0.01	73.05	0.0036	0.1602	0
175	SLU 37	3.32	0	72.78	0.0017	0.1667	0
175	SLU 38	3.08	0	72.58	0.0034	0.1556	0
175	SLU 39	3.24	-0.01	74.21	0.0026	0.1641	0
175	SLU 40	3	-0.01	74.01	0.0044	0.1531	-0.0001
175	SLU 41	3.43	-0.01	75.52	0.0022	0.1729	0
175	SLU 42	3.19	-0.01	75.32	0.004	0.1619	0
175	SLU 43	1.78	0	64.7	0.0023	0.0958	0
175	SLU 44	1.38	-0.01	64.36	0.0053	0.0774	0
175	SLU 45	2.07	0	66.48	0.0021	0.1092	0
175	SLU 46	1.83	-0.01	66.28	0.0039	0.0982	0
175	SLU 47	1.57	-0.01	65.67	0.0049	0.0862	0
175	SLU 48	2.26	0	67.79	0.0017	0.118	0
175	SLU 49	2.02	0	67.59	0.0035	0.107	0
175	SLU 50	2.17	0	67.32	0.0016	0.1134	0
175	SLU 51	1.93	0	67.12	0.0034	0.1024	0
175	SLU 52	2.1	-0.01	73.82	0.0057	0.1125	-0.0001
175	SLU 53	2.79	-0.01	75.94	0.0025	0.1443	0
175	SLU 54	2.55	-0.01	75.74	0.0043	0.1332	-0.0001
175	SLU 55	2.3	-0.01	75.13	0.0053	0.1213	-0.0001
175	SLU 56	2.99	-0.01	77.25	0.0021	0.1531	0
175	SLU 57	2.75	-0.01	77.05	0.0039	0.142	0
175	SLU 58	2.89	0	76.77	0.002	0.1485	0
175	SLU 59	2.65	-0.01	76.57	0.0038	0.1375	0
175	SLU 60	2.81	-0.01	78.2	0.0029	0.1459	0
175	SLU 61	2.57	-0.01	78	0.0047	0.1349	-0.0001
175	SLU 62	3.01	-0.01	79.52	0.0025	0.1547	0
175	SLU 63	2.77	-0.01	79.32	0.0043	0.1437	-0.0001
175	SLU 64	2.44	-0.01	73.35	0.0025	0.1277	0
175	SLU 65	2.04	-0.01	73.02	0.0055	0.1093	-0.0001
175	SLU 66	2.73	-0.01	75.14	0.0023	0.1411	0
175	SLU 67	2.49	-0.01	74.93	0.0041	0.1301	0
175	SLU 68	2.23	-0.01	74.33	0.0051	0.1181	-0.0001
175	SLU 69	2.92	0	76.45	0.0019	0.1499	0
175	SLU 70	2.68	-0.01	76.25	0.0037	0.1389	0
175	SLU 71	2.83	0	75.97	0.0018	0.1453	0
175	SLU 72	2.59	-0.01	75.77	0.0035	0.1343	0
175	SLU 73	2.76	-0.01	82.47	0.0059	0.1444	-0.0001
175	SLU 74	3.45	-0.01	84.59	0.0027	0.1762	-0.0001
175	SLU 75	3.21	-0.01	84.39	0.0045	0.1651	-0.0001
175	SLU 76	2.96	-0.01	83.78	0.0055	0.1532	-0.0001
175	SLU 77	3.65	-0.01	85.9	0.0023	0.185	0
175	SLU 78	3.41	-0.01	85.7	0.0041	0.1739	-0.0001
175	SLU 79	3.55	-0.01	85.43	0.0022	0.1804	0
175	SLU 80	3.31	-0.01	85.23	0.0039	0.1693	-0.0001
175	SLU 81	3.47	-0.01	86.86	0.0031	0.1778	-0.0001
175	SLU 82	3.23	-0.01	86.66	0.0049	0.1668	-0.0001
175	SLU 83	3.67	-0.01	88.17	0.0027	0.1866	-0.0001
175	SLU 84	3.43	-0.01	87.97	0.0045	0.1756	-0.0001
175	SLE RA 1	1.73	0	54.52	0.0019	0.0912	0
175	SLE RA 2	1.46	0	54.3	0.0039	0.079	0





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
175	SLE RA 3	1.92	0	55.71	0.0018	0.1002	0
175	SLE RA 4	1.76	0	55.58	0.0029	0.0928	0
175	SLE RA 5	1.59	0	55.17	0.0036	0.0848	0
175	SLE RA 6	2.05	0	56.59	0.0015	0.106	0
175	SLE RA 7	1.89	0	56.45	0.0027	0.0987	0
175	SLE RA 8	1.99	0	56.27	0.0014	0.103	0
175	SLE RA 9	1.83	0	56.14	0.0026	0.0956	0
175	SLE RA 10	1.95	0	60.6	0.0041	0.1023	0
175	SLE RA 11	2.41	0	62.02	0.002	0.1235	0
175	SLE RA 12	2.25	0	61.88	0.0032	0.1162	0
175	SLE RA 13	2.08	0	61.48	0.0039	0.1082	0
175	SLE RA 14	2.54	0	62.89	0.0018	0.1294	0
175	SLE RA 15	2.38	0	62.76	0.0029	0.122	0
175	SLE RA 16	2.47	0	62.57	0.0017	0.1264	0
175	SLE RA 17	2.31	0	62.44	0.0028	0.119	0
175	SLE RA 18	2.42	0	63.53	0.0023	0.1246	0
175	SLE RA 19	2.26	0	63.39	0.0035	0.1173	0
175	SLE RA 20	2.55	0	64.4	0.002	0.1305	0
175	SLE RA 21	2.39	0	64.27	0.0032	0.1231	0
175	SLE FR 1	1.73	0	54.52	0.0019	0.0912	0
175	SLE FR 2	1.68	0	54.48	0.0023	0.0888	0
175	SLE FR 3	1.78	0	54.87	0.0018	0.0936	0
175	SLE FR 4	1.88	0	57.18	0.0024	0.0988	0
175	SLE FR 5	1.99	0	57.57	0.0019	0.1036	0
175	SLE FR 6	2.08	0	59.02	0.0021	0.1079	0
175	SLE QP 1	1.73	0	54.52	0.0019	0.0912	0
175	SLE QP 2	1.94	0	57.22	0.002	0.1013	0
175	SLD 1	10.55	0.12	55.21	-0.1208	0.5166	0.0011
175	SLD 2	10.55	0.12	55.21	-0.1208	0.5166	0.0011
175	SLD 3	11.23	-0.03	54.44	0.0428	0.5492	-0.0002
175	SLD 4	11.23	-0.03	54.44	0.0428	0.5492	-0.0002
175	SLD 5	3.49	0.25	57.79	-0.2828	0.1764	0.0023
175	SLD 6	3.49	0.25	57.79	-0.2828	0.1764	0.0023
175	SLD 7	5.76	-0.23	55.22	0.2623	0.2851	-0.0021
175	SLD 8	5.76	-0.23	55.22	0.2623	0.2851	-0.0021
175	SLD 9	-1.88	0.22	59.23	-0.2582	-0.0826	0.002
175	SLD 10	-1.88	0.22	59.23	-0.2582	-0.0826	0.002
175	SLD 11	0.39	-0.26	56.66	0.2869	0.0262	-0.0024
175	SLD 12	0.39	-0.26	56.66	0.2869	0.0262	-0.0024
175	SLD 13	-7.36	0.02	60.01	-0.0387	-0.3467	0.0002
175	SLD 14	-7.36	0.02	60.01	-0.0387	-0.3467	0.0002
175	SLD 15	-6.68	-0.12	59.24	0.1248	-0.314	-0.0012
175	SLD 16	-6.68	-0.12	59.24	0.1248	-0.314	-0.0012
175	SLV 1	22.08	0.3	52.57	-0.3123	1.0727	0.0028
175	SLV 2	22.08	0.3	52.57	-0.3123	1.0727	0.0028
175	SLV 3	23.71	-0.06	50.62	0.1061	1.1508	-0.0006
175	SLV 4	23.71	-0.06	50.62	0.1061	1.1508	-0.0006
175	SLV 5	5.51	0.65	58.79	-0.7269	0.2742	0.006
175	SLV 6	5.51	0.65	58.79	-0.7269	0.2742	0.006
175	SLV 7	10.94	-0.58	52.28	0.6679	0.5346	-0.0053
175	SLV 8	10.94	-0.58	52.28	0.6679	0.5346	-0.0053
175	SLV 9	-7.07	0.57	62.17	-0.6638	-0.3321	0.0053
175	SLV 10	-7.07	0.57	62.17	-0.6638	-0.3321	0.0053
175	SLV 11	-1.63	-0.65	55.66	0.7309	-0.0717	-0.006
175	SLV 12	-1.63	-0.65	55.66	0.7309	-0.0717	-0.006
175	SLV 13	-19.84	0.05	63.83	-0.1021	-0.9483	0.0005
175	SLV 14	-19.84	0.05	63.83	-0.1021	-0.9483	0.0005
175	SLV 15	-18.2	-0.31	61.88	0.3163	-0.8701	-0.0029
175	SLV 16	-18.2	-0.31	61.88	0.3163	-0.8701	-0.0029
176	SLU 1	-0.88	0	51.26	-0.0001	-0.0376	0
176	SLU 2	-1.22	0	50.91	0.001	-0.0534	0
176	SLU 3	-0.69	0	53.05	-0.0004	-0.0289	0
176	SLU 4	-0.9	0	52.84	0.0003	-0.0384	0
176	SLU 5	-1.1	0	52.27	0.0006	-0.0478	0
176	SLU 6	-0.57	0	54.41	-0.0008	-0.0233	0
176	SLU 7	-0.77	0	54.2	-0.0001	-0.0328	0
176	SLU 8	-0.63	0	53.97	-0.0009	-0.0264	0
176	SLU 9	-0.84	0	53.76	-0.0003	-0.0359	0
176	SLU 10	-1	0	60.18	0.0011	-0.0418	0
176	SLU 11	-0.48	0	62.32	-0.0002	-0.0173	0
176	SLU 12	-0.68	0	62.11	0.0004	-0.0267	0
176	SLU 13	-0.88	0	61.53	0.0007	-0.0362	0
176	SLU 14	-0.35	0	63.67	-0.0007	-0.0116	0
176	SLU 15	-0.56	0	63.46	0	-0.0211	0
176	SLU 16	-0.41	0	63.24	-0.0008	-0.0147	0
176	SLU 17	-0.62	0	63.03	-0.0002	-0.0242	0
176	SLU 18	-0.57	0	64.5	0.0001	-0.021	0
176	SLU 19	-0.77	0	64.29	0.0008	-0.0305	0
176	SLU 20	-0.44	0	65.85	-0.0003	-0.0154	0
176	SLU 21	-0.65	0	65.64	0.0003	-0.0248	0
176	SLU 22	-0.67	0	59.78	-0.0002	-0.027	0
176	SLU 23	-1.01	0	59.43	0.0009	-0.0428	0
176	SLU 24	-0.49	0	61.57	-0.0004	-0.0183	0
176	SLU 25	-0.69	0	61.36	0.0002	-0.0277	0
176	SLU 26	-0.89	0	60.78	0.0005	-0.0372	0
176	SLU 27	-0.37	0	62.92	-0.0009	-0.0126	0
176	SLU 28	-0.57	0	62.71	-0.0002	-0.0221	0
176	SLU 29	-0.43	0	62.49	-0.001	-0.0157	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
176	SLU 30	-0.63	0	62.28	-0.0004	-0.0252	0
176	SLU 31	-0.8	0	68.69	0.001	-0.0311	0
176	SLU 32	-0.27	0	70.83	-0.0003	-0.0066	0
176	SLU 33	-0.48	0	70.62	0.0003	-0.0161	0
176	SLU 34	-0.67	0	70.05	0.0006	-0.0255	0
176	SLU 35	-0.15	0	72.19	-0.0008	-0.001	0
176	SLU 36	-0.35	0	71.98	-0.0001	-0.0105	0
176	SLU 37	-0.21	0	71.76	-0.0009	-0.0041	0
176	SLU 38	-0.41	0	71.54	-0.0002	-0.0136	0
176	SLU 39	-0.36	0	73.02	0	-0.0103	0
176	SLU 40	-0.57	0	72.81	0.0007	-0.0198	0
176	SLU 41	-0.24	0	74.37	-0.0004	-0.0047	0
176	SLU 42	-0.44	0	74.16	0.0002	-0.0142	0
176	SLU 43	-1.21	0	63.72	-0.0001	-0.0525	0
176	SLU 44	-1.55	0	63.37	0.001	-0.0683	0
176	SLU 45	-1.03	0	65.51	-0.0003	-0.0438	0
176	SLU 46	-1.23	0	65.3	0.0003	-0.0533	0
176	SLU 47	-1.43	0	64.73	0.0006	-0.0627	0
176	SLU 48	-0.9	0	66.87	-0.0008	-0.0382	0
176	SLU 49	-1.11	0	66.65	-0.0001	-0.0477	0
176	SLU 50	-0.97	0	66.43	-0.0009	-0.0413	0
176	SLU 51	-1.17	0	66.22	-0.0003	-0.0508	0
176	SLU 52	-1.34	0	72.64	0.0011	-0.0567	0
176	SLU 53	-0.81	0	74.78	-0.0002	-0.0322	0
176	SLU 54	-1.01	0	74.56	0.0004	-0.0417	0
176	SLU 55	-1.21	0	73.99	0.0007	-0.0511	0
176	SLU 56	-0.69	0	76.13	-0.0006	-0.0266	0
176	SLU 57	-0.89	0	75.92	0	-0.0361	0
176	SLU 58	-0.75	0	75.7	-0.0008	-0.0297	0
176	SLU 59	-0.95	0	75.49	-0.0001	-0.0392	0
176	SLU 60	-0.9	0	76.96	0.0001	-0.0359	0
176	SLU 61	-1.11	0	76.75	0.0008	-0.0454	0
176	SLU 62	-0.78	0	78.31	-0.0003	-0.0303	0
176	SLU 63	-0.98	0	78.1	0.0003	-0.0398	0
176	SLU 64	-1.01	0	72.24	-0.0002	-0.0419	0
176	SLU 65	-1.35	0	71.89	0.0009	-0.0577	0
176	SLU 66	-0.82	0	74.03	-0.0004	-0.0332	0
176	SLU 67	-1.03	0	73.82	0.0002	-0.0427	0
176	SLU 68	-1.22	0	73.24	0.0005	-0.0521	0
176	SLU 69	-0.7	0	75.38	-0.0009	-0.0276	0
176	SLU 70	-0.9	0	75.17	-0.0002	-0.0371	0
176	SLU 71	-0.76	0	74.95	-0.001	-0.0307	0
176	SLU 72	-0.96	0	74.74	-0.0004	-0.0402	0
176	SLU 73	-1.13	0	81.15	0.001	-0.0461	0
176	SLU 74	-0.61	0	83.29	-0.0003	-0.0215	0
176	SLU 75	-0.81	0	83.08	0.0003	-0.031	0
176	SLU 76	-1.01	0	82.51	0.0006	-0.0404	0
176	SLU 77	-0.48	0	84.65	-0.0007	-0.0159	0
176	SLU 78	-0.69	0	84.44	-0.0001	-0.0254	0
176	SLU 79	-0.54	0	84.21	-0.0009	-0.019	0
176	SLU 80	-0.75	0	84	-0.0002	-0.0285	0
176	SLU 81	-0.7	0	85.48	0	-0.0253	0
176	SLU 82	-0.9	0	85.27	0.0007	-0.0347	0
176	SLU 83	-0.57	0	86.83	-0.0004	-0.0197	0
176	SLU 84	-0.78	0	86.62	0.0002	-0.0291	0
176	SLE RA 1	-0.82	0	53.7	-0.0001	-0.0346	0
176	SLE RA 2	-1.05	0	53.46	0.0006	-0.0451	0
176	SLE RA 3	-0.7	0	54.89	-0.0003	-0.0288	0
176	SLE RA 4	-0.83	0	54.75	0.0001	-0.0351	0
176	SLE RA 5	-0.96	0	54.37	0.0003	-0.0414	0
176	SLE RA 6	-0.61	0	55.79	-0.0006	-0.025	0
176	SLE RA 7	-0.75	0	55.65	-0.0001	-0.0313	0
176	SLE RA 8	-0.66	0	55.5	-0.0007	-0.0271	0
176	SLE RA 9	-0.79	0	55.36	-0.0002	-0.0334	0
176	SLE RA 10	-0.9	0	59.64	0.0007	-0.0373	0
176	SLE RA 11	-0.55	0	61.07	-0.0002	-0.021	0
176	SLE RA 12	-0.69	0	60.93	0.0002	-0.0273	0
176	SLE RA 13	-0.82	0	60.54	0.0004	-0.0336	0
176	SLE RA 14	-0.47	0	61.97	-0.0005	-0.0173	0
176	SLE RA 15	-0.61	0	61.83	-0.0001	-0.0236	0
176	SLE RA 16	-0.51	0	61.68	-0.0006	-0.0193	0
176	SLE RA 17	-0.65	0	61.54	-0.0002	-0.0256	0
176	SLE RA 18	-0.61	0	62.52	0	-0.0235	0
176	SLE RA 19	-0.75	0	62.38	0.0005	-0.0298	0
176	SLE RA 20	-0.53	0	63.42	-0.0003	-0.0197	0
176	SLE RA 21	-0.67	0	63.28	0.0002	-0.0261	0
176	SLE FR 1	-0.82	0	53.7	-0.0001	-0.0346	0
176	SLE FR 2	-0.87	0	53.65	0	-0.0367	0
176	SLE FR 3	-0.79	0	54.06	-0.0002	-0.0331	0
176	SLE FR 4	-0.8	0	56.3	0.0001	-0.0334	0
176	SLE FR 5	-0.72	0	56.71	-0.0002	-0.0297	0
176	SLE FR 6	-0.72	0	58.11	0	-0.029	0
176	SLE QP 1	-0.82	0	53.7	-0.0001	-0.0346	0
176	SLE QP 2	-0.76	0	56.35	-0.0001	-0.0312	0
176	SLD 1	6.99	0.08	51.56	-0.0772	0.3524	0.0006
176	SLD 2	6.99	0.08	51.56	-0.0772	0.3524	0.0006
176	SLD 3	7.58	0	50.61	0.0134	0.3813	0
176	SLD 4	7.58	0	50.61	0.0134	0.3813	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione				Reazione a rotazione			
		x	y	z	x	y	z		
176	SLD 5	0.67	0.14	56.35	-0.1606	0.04	0.0011		
176	SLD 6	0.67	0.14	56.35	-0.1606	0.04	0.0011		
176	SLD 7	2.64	-0.12	53.18	0.1414	0.1363	-0.001		
176	SLD 8	2.64	-0.12	53.18	0.1414	0.1363	-0.001		
176	SLD 9	-4.15	0.12	59.51	-0.1415	-0.1988	0.0009		
176	SLD 10	-4.15	0.12	59.51	-0.1415	-0.1988	0.0009		
176	SLD 11	-2.19	-0.15	56.34	0.1605	-0.1025	-0.0011		
176	SLD 12	-2.19	-0.15	56.34	0.1605	-0.1025	-0.0011		
176	SLD 13	-9.09	-0.01	62.08	-0.0135	-0.4438	0		
176	SLD 14	-9.09	-0.01	62.08	-0.0135	-0.4438	0		
176	SLD 15	-8.5	-0.08	61.13	0.0771	-0.4149	-0.0006		
176	SLD 16	-8.5	-0.08	61.13	0.0771	-0.4149	-0.0006		
176	SLV 1	17.35	0.21	45.21	-0.197	0.8655	0.0015		
176	SLV 2	17.35	0.21	45.21	-0.197	0.8655	0.0015		
176	SLV 3	18.76	0.01	42.85	0.0338	0.9344	0		
176	SLV 4	18.76	0.01	42.85	0.0338	0.9344	0		
176	SLV 5	2.53	0.36	56.59	-0.4093	0.1332	0.0028		
176	SLV 6	2.53	0.36	56.59	-0.4093	0.1332	0.0028		
176	SLV 7	7.24	-0.3	48.71	0.3603	0.363	-0.0024		
176	SLV 8	7.24	-0.3	48.71	0.3603	0.363	-0.0024		
176	SLV 9	-8.75	0.3	63.98	-0.3604	-0.4255	0.0024		
176	SLV 10	-8.75	0.3	63.98	-0.3604	-0.4255	0.0024		
176	SLV 11	-4.05	-0.37	56.1	0.4092	-0.1957	-0.0029		
176	SLV 12	-4.05	-0.37	56.1	0.4092	-0.1957	-0.0029		
176	SLV 13	-20.27	-0.01	69.85	-0.034	-0.9969	0		
176	SLV 14	-20.27	-0.01	69.85	-0.034	-0.9969	0		
176	SLV 15	-18.86	-0.21	67.48	0.1969	-0.9279	-0.0016		
176	SLV 16	-18.86	-0.21	67.48	0.1969	-0.9279	-0.0016		
177	SLU 1	-3.84	0.01	50.66	-0.0032	-0.1912	0		
177	SLU 2	-4.07	0.01	50.46	-0.0045	-0.2039	0		
177	SLU 3	-3.82	0.01	52.36	-0.0036	-0.1897	0		
177	SLU 4	-3.96	0.01	52.24	-0.0043	-0.1973	0		
177	SLU 5	-4.07	0.01	51.81	-0.0049	-0.2038	0		
177	SLU 6	-3.82	0.01	53.7	-0.004	-0.1896	0		
177	SLU 7	-3.96	0.01	53.59	-0.0048	-0.1972	0		
177	SLU 8	-3.84	0.01	53.35	-0.0041	-0.191	0		
177	SLU 9	-3.97	0.01	53.23	-0.0049	-0.1987	0		
177	SLU 10	-4.51	0.01	59.4	-0.0048	-0.2244	0		
177	SLU 11	-4.26	0.01	61.3	-0.0039	-0.2101	0		
177	SLU 12	-4.4	0.01	61.18	-0.0047	-0.2178	0		
177	SLU 13	-4.5	0.01	60.75	-0.0053	-0.2243	0		
177	SLU 14	-4.26	0.01	62.65	-0.0044	-0.21	0		
177	SLU 15	-4.39	0.01	62.53	-0.0051	-0.2177	0		
177	SLU 16	-4.27	0.01	62.29	-0.0045	-0.2115	0		
177	SLU 17	-4.41	0.01	62.17	-0.0052	-0.2191	0		
177	SLU 18	-4.47	0.01	63.44	-0.0037	-0.2204	0		
177	SLU 19	-4.6	0.01	63.32	-0.0044	-0.228	0		
177	SLU 20	-4.46	0.01	64.78	-0.0042	-0.2203	0		
177	SLU 21	-4.6	0.01	64.66	-0.0049	-0.228	0		
177	SLU 22	-4.24	0.01	58.92	-0.0037	-0.21	0		
177	SLU 23	-4.47	0.01	58.73	-0.005	-0.2227	0		
177	SLU 24	-4.22	0.01	60.62	-0.0041	-0.2085	0		
177	SLU 25	-4.36	0.01	60.5	-0.0049	-0.2161	0		
177	SLU 26	-4.46	0.01	60.07	-0.0055	-0.2227	0		
177	SLU 27	-4.22	0.01	61.97	-0.0046	-0.2084	0		
177	SLU 28	-4.35	0.01	61.85	-0.0053	-0.2161	0		
177	SLU 29	-4.23	0.01	61.61	-0.0047	-0.2099	0		
177	SLU 30	-4.37	0.01	61.49	-0.0054	-0.2175	0		
177	SLU 31	-4.9	0.01	67.67	-0.0053	-0.2432	0		
177	SLU 32	-4.66	0.01	69.56	-0.0044	-0.2289	0		
177	SLU 33	-4.79	0.01	69.44	-0.0052	-0.2366	0		
177	SLU 34	-4.9	0.01	69.01	-0.0058	-0.2431	0		
177	SLU 35	-4.65	0.01	70.91	-0.0049	-0.2289	0		
177	SLU 36	-4.79	0.01	70.79	-0.0057	-0.2365	0		
177	SLU 37	-4.67	0.01	70.55	-0.005	-0.2303	0		
177	SLU 38	-4.81	0.01	70.43	-0.0058	-0.2379	0		
177	SLU 39	-4.86	0.01	71.7	-0.0042	-0.2392	0		
177	SLU 40	-5	0.01	71.58	-0.005	-0.2469	0		
177	SLU 41	-4.86	0.01	73.04	-0.0047	-0.2392	0		
177	SLU 42	-5	0.01	72.92	-0.0055	-0.2468	0		
177	SLU 43	-4.86	0.01	63.03	-0.004	-0.2421	0		
177	SLU 44	-5.09	0.01	62.83	-0.0052	-0.2548	0		
177	SLU 45	-4.84	0.01	64.73	-0.0043	-0.2406	0		
177	SLU 46	-4.98	0.01	64.61	-0.0051	-0.2482	0		
177	SLU 47	-5.08	0.01	64.17	-0.0057	-0.2547	0		
177	SLU 48	-4.84	0.01	66.07	-0.0048	-0.2405	0		
177	SLU 49	-4.97	0.01	65.95	-0.0056	-0.2481	0		
177	SLU 50	-4.85	0.01	65.71	-0.0049	-0.2419	0		
177	SLU 51	-4.99	0.01	65.59	-0.0057	-0.2496	0		
177	SLU 52	-5.52	0.01	71.77	-0.0056	-0.2753	0		
177	SLU 53	-5.28	0.01	73.67	-0.0047	-0.261	0		
177	SLU 54	-5.41	0.01	73.55	-0.0054	-0.2687	0		
177	SLU 55	-5.52	0.01	73.11	-0.006	-0.2752	0		
177	SLU 56	-5.27	0.01	75.01	-0.0052	-0.2609	0		
177	SLU 57	-5.41	0.01	74.89	-0.0059	-0.2686	0		
177	SLU 58	-5.29	0.01	74.65	-0.0053	-0.2624	0		
177	SLU 59	-5.43	0.01	74.54	-0.006	-0.27	0		
177	SLU 60	-5.48	0.01	75.8	-0.0045	-0.2713	0		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
177	SLU 61	-5.62	0.01	75.68	-0.0052	-0.2789	0
177	SLU 62	-5.48	0.01	77.14	-0.0049	-0.2712	0
177	SLU 63	-5.62	0.01	77.02	-0.0057	-0.2789	0
177	SLU 64	-5.26	0.01	71.29	-0.0045	-0.2609	0
177	SLU 65	-5.48	0.01	71.09	-0.0058	-0.2736	0
177	SLU 66	-5.24	0.01	72.99	-0.0049	-0.2594	0
177	SLU 67	-5.37	0.01	72.87	-0.0056	-0.267	0
177	SLU 68	-5.48	0.01	72.43	-0.0062	-0.2736	0
177	SLU 69	-5.23	0.01	74.33	-0.0053	-0.2593	0
177	SLU 70	-5.37	0.01	74.21	-0.0061	-0.267	0
177	SLU 71	-5.25	0.01	73.98	-0.0054	-0.2607	0
177	SLU 72	-5.39	0.01	73.86	-0.0062	-0.2684	0
177	SLU 73	-5.92	0.01	80.03	-0.0061	-0.2941	0
177	SLU 74	-5.67	0.01	81.93	-0.0052	-0.2798	0
177	SLU 75	-5.81	0.01	81.81	-0.006	-0.2875	0
177	SLU 76	-5.92	0.01	81.37	-0.0066	-0.294	0
177	SLU 77	-5.67	0.01	83.27	-0.0057	-0.2798	0
177	SLU 78	-5.81	0.01	83.15	-0.0064	-0.2874	0
177	SLU 79	-5.69	0.01	82.92	-0.0058	-0.2812	0
177	SLU 80	-5.82	0.01	82.8	-0.0066	-0.2888	0
177	SLU 81	-5.88	0.01	84.06	-0.005	-0.2901	0
177	SLU 82	-6.02	0.01	83.94	-0.0058	-0.2978	0
177	SLU 83	-5.88	0.01	85.41	-0.0055	-0.29	0
177	SLU 84	-6.01	0.01	85.29	-0.0062	-0.2977	0
177	SLE RA 1	-3.96	0.01	53.02	-0.0033	-0.1966	0
177	SLE RA 2	-4.11	0.01	52.89	-0.0042	-0.205	0
177	SLE RA 3	-3.94	0.01	54.16	-0.0036	-0.1955	0
177	SLE RA 4	-4.03	0.01	54.08	-0.0041	-0.2006	0
177	SLE RA 5	-4.11	0.01	53.79	-0.0045	-0.205	0
177	SLE RA 6	-3.94	0.01	55.05	-0.0039	-0.1955	0
177	SLE RA 7	-4.03	0.01	54.97	-0.0044	-0.2006	0
177	SLE RA 8	-3.95	0.01	54.81	-0.004	-0.1965	0
177	SLE RA 9	-4.04	0.01	54.73	-0.0045	-0.2015	0
177	SLE RA 10	-4.4	0.01	58.85	-0.0044	-0.2187	0
177	SLE RA 11	-4.23	0.01	60.12	-0.0038	-0.2092	0
177	SLE RA 12	-4.33	0.01	60.04	-0.0043	-0.2143	0
177	SLE RA 13	-4.4	0.01	59.75	-0.0047	-0.2186	0
177	SLE RA 14	-4.23	0.01	61.01	-0.0041	-0.2091	0
177	SLE RA 15	-4.32	0.01	60.93	-0.0046	-0.2142	0
177	SLE RA 16	-4.24	0.01	60.77	-0.0042	-0.2101	0
177	SLE RA 17	-4.34	0.01	60.69	-0.0047	-0.2152	0
177	SLE RA 18	-4.37	0.01	61.54	-0.0037	-0.216	0
177	SLE RA 19	-4.46	0.01	61.46	-0.0042	-0.2211	0
177	SLE RA 20	-4.37	0.01	62.43	-0.004	-0.216	0
177	SLE RA 21	-4.46	0.01	62.35	-0.0045	-0.2211	0
177	SLE FR 1	-3.96	0.01	53.02	-0.0033	-0.1966	0
177	SLE FR 2	-3.99	0.01	53	-0.0035	-0.1983	0
177	SLE FR 3	-3.96	0.01	53.38	-0.0035	-0.1965	0
177	SLE FR 4	-4.11	0.01	55.55	-0.0036	-0.2041	0
177	SLE FR 5	-4.08	0.01	55.94	-0.0036	-0.2024	0
177	SLE FR 6	-4.16	0.01	57.28	-0.0035	-0.2063	0
177	SLE QP 1	-3.96	0.01	53.02	-0.0033	-0.1966	0
177	SLE QP 2	-4.08	0.01	55.58	-0.0034	-0.2024	0
177	SLD 1	1.94	-0.02	43.26	-0.0348	0.158	0
177	SLD 2	1.94	-0.02	43.26	-0.0348	0.158	0
177	SLD 3	2.39	0.09	41.91	-0.0095	0.1852	0.0004
177	SLD 4	2.39	0.09	41.91	-0.0095	0.1852	0.0004
177	SLD 5	-2.96	-0.16	53.92	-0.0513	-0.1355	-0.0006
177	SLD 6	-2.96	-0.16	53.92	-0.0513	-0.1355	-0.0006
177	SLD 7	-1.46	0.19	49.44	0.0332	-0.0449	0.0008
177	SLD 8	-1.46	0.19	49.44	0.0332	-0.0449	0.0008
177	SLD 9	-6.71	-0.17	61.72	-0.04	-0.3599	-0.0008
177	SLD 10	-6.71	-0.17	61.72	-0.04	-0.3599	-0.0008
177	SLD 11	-5.21	0.17	57.23	0.0444	-0.2693	0.0007
177	SLD 12	-5.21	0.17	57.23	0.0444	-0.2693	0.0007
177	SLD 13	-10.56	-0.08	69.25	0.0026	-0.59	-0.0004
177	SLD 14	-10.56	-0.08	69.25	0.0026	-0.59	-0.0004
177	SLD 15	-10.1	0.03	67.9	0.028	-0.5628	0
177	SLD 16	-10.1	0.03	67.9	0.028	-0.5628	0
177	SLV 1	10.01	-0.05	26.79	-0.0817	0.6409	0
177	SLV 2	10.01	-0.05	26.79	-0.0817	0.6409	0
177	SLV 3	11.08	0.21	23.54	-0.0205	0.7054	0.0011
177	SLV 4	11.08	0.21	23.54	-0.0205	0.7054	0.0011
177	SLV 5	-1.48	-0.41	51.87	-0.1197	-0.0473	-0.0017
177	SLV 6	-1.48	-0.41	51.87	-0.1197	-0.0473	-0.0017
177	SLV 7	2.09	0.46	41.04	0.0842	0.1678	0.002
177	SLV 8	2.09	0.46	41.04	0.0842	0.1678	0.002
177	SLV 9	-10.25	-0.45	70.12	-0.0911	-0.5726	-0.002
177	SLV 10	-10.25	-0.45	70.12	-0.0911	-0.5726	-0.002
177	SLV 11	-6.69	0.42	59.29	0.1128	-0.3575	0.0017
177	SLV 12	-6.69	0.42	59.29	0.1128	-0.3575	0.0017
177	SLV 13	-19.24	-0.2	87.61	0.0136	-1.1102	-0.0011
177	SLV 14	-19.24	-0.2	87.61	0.0136	-1.1102	-0.0011
177	SLV 15	-18.17	0.06	84.36	0.0748	-1.0457	0
177	SLV 16	-18.17	0.06	84.36	0.0748	-1.0457	0
178	SLU 1	-7.34	0.01	28.25	-0.003	-0.1405	-0.0006
178	SLU 2	-7.43	0.02	28.32	-0.0047	-0.1455	-0.001
178	SLU 3	-7.51	0.01	29.1	-0.0033	-0.1417	-0.0007



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
178	SLU 4	-7.57	0.02	29.14	-0.0043	-0.1447	-0.0009	
178	SLU 5	-7.58	0.02	29.02	-0.005	-0.1469	-0.001	
178	SLU 6	-7.66	0.01	29.8	-0.0035	-0.1431	-0.0007	
178	SLU 7	-7.71	0.02	29.84	-0.0045	-0.1461	-0.0009	
178	SLU 8	-7.63	0.01	29.65	-0.0035	-0.1433	-0.0007	
178	SLU 9	-7.69	0.02	29.69	-0.0045	-0.1463	-0.0009	
178	SLU 10	-8.61	0.03	33.11	-0.0051	-0.1645	-0.0011	
178	SLU 11	-8.69	0.02	33.89	-0.0037	-0.1607	-0.0007	
178	SLU 12	-8.74	0.02	33.93	-0.0047	-0.1637	-0.001	
178	SLU 13	-8.75	0.03	33.81	-0.0054	-0.1659	-0.0011	
178	SLU 14	-8.83	0.02	34.58	-0.0039	-0.162	-0.0008	
178	SLU 15	-8.89	0.02	34.63	-0.0049	-0.165	-0.001	
178	SLU 16	-8.81	0.02	34.44	-0.0039	-0.1622	-0.0008	
178	SLU 17	-8.86	0.02	34.48	-0.0049	-0.1652	-0.001	
178	SLU 18	-9.02	0.02	35.09	-0.0036	-0.1676	-0.0007	
178	SLU 19	-9.07	0.02	35.13	-0.0046	-0.1706	-0.001	
178	SLU 20	-9.16	0.02	35.79	-0.0039	-0.169	-0.0008	
178	SLU 21	-9.22	0.02	35.83	-0.0049	-0.172	-0.001	
178	SLU 22	-8.42	0.02	32.69	-0.0035	-0.158	-0.0007	
178	SLU 23	-8.52	0.03	32.76	-0.0052	-0.163	-0.0011	
178	SLU 24	-8.6	0.02	33.54	-0.0037	-0.1591	-0.0008	
178	SLU 25	-8.65	0.02	33.58	-0.0047	-0.1621	-0.001	
178	SLU 26	-8.66	0.03	33.46	-0.0054	-0.1643	-0.0011	
178	SLU 27	-8.74	0.02	34.23	-0.004	-0.1605	-0.0008	
178	SLU 28	-8.8	0.02	34.28	-0.005	-0.1635	-0.001	
178	SLU 29	-8.72	0.02	34.09	-0.004	-0.1607	-0.0008	
178	SLU 30	-8.77	0.02	34.13	-0.005	-0.1637	-0.001	
178	SLU 31	-9.69	0.03	37.55	-0.0056	-0.1819	-0.0012	
178	SLU 32	-9.77	0.02	38.32	-0.0041	-0.1781	-0.0008	
178	SLU 33	-9.83	0.02	38.36	-0.0051	-0.1811	-0.0011	
178	SLU 34	-9.84	0.03	38.25	-0.0058	-0.1833	-0.0012	
178	SLU 35	-9.92	0.02	39.02	-0.0044	-0.1794	-0.0009	
178	SLU 36	-9.97	0.02	39.06	-0.0054	-0.1824	-0.0011	
178	SLU 37	-9.89	0.02	38.87	-0.0044	-0.1796	-0.0009	
178	SLU 38	-9.95	0.02	38.92	-0.0054	-0.1827	-0.0011	
178	SLU 39	-10.1	0.02	39.53	-0.0041	-0.1851	-0.0008	
178	SLU 40	-10.16	0.02	39.57	-0.0051	-0.1881	-0.0011	
178	SLU 41	-10.25	0.02	40.23	-0.0043	-0.1864	-0.0009	
178	SLU 42	-10.31	0.03	40.27	-0.0053	-0.1894	-0.0011	
178	SLU 43	-9.17	0.02	35.21	-0.0038	-0.1767	-0.0008	
178	SLU 44	-9.26	0.03	35.28	-0.0055	-0.1817	-0.0011	
178	SLU 45	-9.34	0.02	36.05	-0.004	-0.1779	-0.0008	
178	SLU 46	-9.4	0.02	36.1	-0.005	-0.1809	-0.001	
178	SLU 47	-9.41	0.03	35.98	-0.0057	-0.1831	-0.0012	
178	SLU 48	-9.49	0.02	36.75	-0.0042	-0.1793	-0.0009	
178	SLU 49	-9.54	0.02	36.8	-0.0053	-0.1823	-0.0011	
178	SLU 50	-9.46	0.02	36.61	-0.0043	-0.1795	-0.0009	
178	SLU 51	-9.52	0.02	36.65	-0.0053	-0.1825	-0.0011	
178	SLU 52	-10.44	0.03	40.07	-0.0059	-0.2007	-0.0012	
178	SLU 53	-10.51	0.02	40.84	-0.0044	-0.1969	-0.0009	
178	SLU 54	-10.57	0.03	40.88	-0.0054	-0.1999	-0.0011	
178	SLU 55	-10.58	0.03	40.76	-0.0061	-0.2021	-0.0013	
178	SLU 56	-10.66	0.02	41.54	-0.0046	-0.1982	-0.0009	
178	SLU 57	-10.72	0.03	41.58	-0.0057	-0.2012	-0.0012	
178	SLU 58	-10.64	0.02	41.39	-0.0047	-0.1984	-0.0009	
178	SLU 59	-10.69	0.03	41.43	-0.0057	-0.2014	-0.0012	
178	SLU 60	-10.85	0.02	42.05	-0.0044	-0.2038	-0.0009	
178	SLU 61	-10.9	0.03	42.09	-0.0054	-0.2068	-0.0011	
178	SLU 62	-10.99	0.02	42.74	-0.0046	-0.2052	-0.0009	
178	SLU 63	-11.05	0.03	42.79	-0.0056	-0.2082	-0.0012	
178	SLU 64	-10.25	0.02	39.64	-0.0043	-0.1942	-0.0009	
178	SLU 65	-10.35	0.03	39.71	-0.006	-0.1992	-0.0012	
178	SLU 66	-10.42	0.02	40.49	-0.0045	-0.1953	-0.0009	
178	SLU 67	-10.48	0.03	40.53	-0.0055	-0.1983	-0.0011	
178	SLU 68	-10.49	0.03	40.41	-0.0062	-0.2005	-0.0013	
178	SLU 69	-10.57	0.02	41.19	-0.0047	-0.1967	-0.001	
178	SLU 70	-10.63	0.03	41.23	-0.0057	-0.1997	-0.0012	
178	SLU 71	-10.55	0.02	41.04	-0.0047	-0.1969	-0.001	
178	SLU 72	-10.6	0.03	41.08	-0.0058	-0.1999	-0.0012	
178	SLU 73	-11.52	0.03	44.5	-0.0064	-0.2181	-0.0013	
178	SLU 74	-11.6	0.02	45.28	-0.0049	-0.2143	-0.001	
178	SLU 75	-11.66	0.03	45.32	-0.0059	-0.2173	-0.0012	
178	SLU 76	-11.67	0.03	45.2	-0.0066	-0.2195	-0.0014	
178	SLU 77	-11.75	0.02	45.98	-0.0051	-0.2156	-0.001	
178	SLU 78	-11.8	0.03	46.02	-0.0061	-0.2186	-0.0013	
178	SLU 79	-11.72	0.02	45.83	-0.0051	-0.2158	-0.001	
178	SLU 80	-11.78	0.03	45.87	-0.0062	-0.2188	-0.0013	
178	SLU 81	-11.93	0.02	46.48	-0.0048	-0.2212	-0.001	
178	SLU 82	-11.99	0.03	46.52	-0.0059	-0.2242	-0.0012	
178	SLU 83	-12.08	0.02	47.18	-0.0051	-0.2226	-0.001	
178	SLU 84	-12.13	0.03	47.22	-0.0061	-0.2256	-0.0012	
178	SLE RA 1	-7.65	0.01	29.52	-0.0032	-0.1455	-0.0006	
178	SLE RA 2	-7.71	0.02	29.57	-0.0043	-0.1489	-0.0009	
178	SLE RA 3	-7.76	0.01	30.08	-0.0033	-0.1463	-0.0007	
178	SLE RA 4	-7.8	0.02	30.11	-0.004	-0.1483	-0.0008	
178	SLE RA 5	-7.81	0.02	30.03	-0.0045	-0.1498	-0.0009	
178	SLE RA 6	-7.86	0.01	30.55	-0.0035	-0.1472	-0.0007	
178	SLE RA 7	-7.9	0.02	30.58	-0.0042	-0.1492	-0.0008	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
178	SLE RA 8	-7.84	0.01	30.45	-0.0035	-0.1473	-0.0007	
178	SLE RA 9	-7.88	0.02	30.48	-0.0042	-0.1493	-0.0008	
178	SLE RA 10	-8.49	0.02	32.76	-0.0046	-0.1615	-0.0009	
178	SLE RA 11	-8.55	0.02	33.28	-0.0036	-0.1589	-0.0007	
178	SLE RA 12	-8.58	0.02	33.3	-0.0043	-0.1609	-0.0009	
178	SLE RA 13	-8.59	0.02	33.22	-0.0047	-0.1624	-0.001	
178	SLE RA 14	-8.64	0.02	33.74	-0.0037	-0.1598	-0.0008	
178	SLE RA 15	-8.68	0.02	33.77	-0.0044	-0.1618	-0.0009	
178	SLE RA 16	-8.63	0.02	33.64	-0.0038	-0.16	-0.0008	
178	SLE RA 17	-8.66	0.02	33.67	-0.0044	-0.162	-0.0009	
178	SLE RA 18	-8.77	0.02	34.08	-0.0036	-0.1636	-0.0007	
178	SLE RA 19	-8.8	0.02	34.11	-0.0042	-0.1656	-0.0009	
178	SLE RA 20	-8.87	0.02	34.55	-0.0037	-0.1645	-0.0008	
178	SLE RA 21	-8.9	0.02	34.57	-0.0044	-0.1665	-0.0009	
178	SLE FR 1	-7.65	0.01	29.52	-0.0032	-0.1455	-0.0006	
178	SLE FR 2	-7.66	0.02	29.53	-0.0034	-0.1462	-0.0007	
178	SLE FR 3	-7.69	0.01	29.71	-0.0032	-0.1459	-0.0007	
178	SLE FR 4	-8	0.02	30.9	-0.0035	-0.1516	-0.0007	
178	SLE FR 5	-8.02	0.01	31.07	-0.0034	-0.1513	-0.0007	
178	SLE FR 6	-8.21	0.02	31.8	-0.0034	-0.1545	-0.0007	
178	SLE QP 1	-7.65	0.01	29.52	-0.0032	-0.1455	-0.0006	
178	SLE QP 2	-7.98	0.01	30.89	-0.0033	-0.1509	-0.0007	
178	SLD 1	-3.19	-0.28	18.25	0.0331	0.017	0.0074	
178	SLD 2	-3.19	-0.28	18.25	0.0331	0.017	0.0074	
178	SLD 3	-2.82	0.15	17.16	-0.0216	0.0292	-0.0049	
178	SLD 4	-2.82	0.15	17.16	-0.0216	0.0292	-0.0049	
178	SLD 5	-7.1	-0.72	28.75	0.0906	-0.1191	0.0204	
178	SLD 6	-7.1	-0.72	28.75	0.0906	-0.1191	0.0204	
178	SLD 7	-5.87	0.7	25.12	-0.0917	-0.0784	-0.0206	
178	SLD 8	-5.87	0.7	25.12	-0.0917	-0.0784	-0.0206	
178	SLD 9	-10.09	-0.67	36.66	0.0852	-0.2235	0.0193	
178	SLD 10	-10.09	-0.67	36.66	0.0852	-0.2235	0.0193	
178	SLD 11	-8.86	0.75	33.03	-0.0972	-0.1828	-0.0218	
178	SLD 12	-8.86	0.75	33.03	-0.0972	-0.1828	-0.0218	
178	SLD 13	-13.15	-0.12	44.62	0.015	-0.3311	0.0035	
178	SLD 14	-13.15	-0.12	44.62	0.015	-0.3311	0.0035	
178	SLD 15	-12.78	0.31	43.53	-0.0397	-0.3189	-0.0088	
178	SLD 16	-12.78	0.31	43.53	-0.0397	-0.3189	-0.0088	
178	SLV 1	3.24	-0.74	1.33	0.0896	0.2416	0.02	
178	SLV 2	3.24	-0.74	1.33	0.0896	0.2416	0.02	
178	SLV 3	4.11	0.36	-1.25	-0.0504	0.2705	-0.0115	
178	SLV 4	4.11	0.36	-1.25	-0.0504	0.2705	-0.0115	
178	SLV 5	-5.94	-1.87	25.93	0.2368	-0.077	0.0533	
178	SLV 6	-5.94	-1.87	25.93	0.2368	-0.077	0.0533	
178	SLV 7	-3.04	1.78	17.33	-0.2297	0.0193	-0.0517	
178	SLV 8	-3.04	1.78	17.33	-0.2297	0.0193	-0.0517	
178	SLV 9	-12.93	-1.75	44.45	0.2231	-0.3212	0.0504	
178	SLV 10	-12.93	-1.75	44.45	0.2231	-0.3212	0.0504	
178	SLV 11	-10.03	1.9	35.84	-0.2434	-0.2249	-0.0547	
178	SLV 12	-10.03	1.9	35.84	-0.2434	-0.2249	-0.0547	
178	SLV 13	-20.07	-0.33	63.03	0.0438	-0.5724	0.0102	
178	SLV 14	-20.07	-0.33	63.03	0.0438	-0.5724	0.0102	
178	SLV 15	-19.2	0.77	60.45	-0.0962	-0.5435	-0.0214	
178	SLV 16	-19.2	0.77	60.45	-0.0962	-0.5435	-0.0214	
179	SLU 1	10.97	-0.12	36.03	0.0192	0.2708	-0.0043	
179	SLU 2	10.45	-0.13	34.14	0.0176	0.2603	-0.0042	
179	SLU 3	11.43	-0.13	37.64	0.0201	0.2809	-0.0045	
179	SLU 4	11.12	-0.13	36.51	0.0192	0.2746	-0.0044	
179	SLU 5	10.74	-0.14	35.25	0.0184	0.2655	-0.0043	
179	SLU 6	11.73	-0.13	38.75	0.0209	0.2861	-0.0046	
179	SLU 7	11.41	-0.14	37.62	0.0199	0.2798	-0.0045	
179	SLU 8	11.56	-0.13	38.24	0.0207	0.2812	-0.0045	
179	SLU 9	11.24	-0.13	37.11	0.0197	0.2749	-0.0045	
179	SLU 10	12.63	-0.16	41.07	0.0211	0.3165	-0.005	
179	SLU 11	13.61	-0.15	44.57	0.0236	0.3371	-0.0053	
179	SLU 12	13.3	-0.16	43.44	0.0227	0.3308	-0.0052	
179	SLU 13	12.92	-0.16	42.18	0.0219	0.3217	-0.0051	
179	SLU 14	13.9	-0.15	45.68	0.0244	0.3423	-0.0054	
179	SLU 15	13.59	-0.16	44.55	0.0235	0.336	-0.0053	
179	SLU 16	13.73	-0.15	45.18	0.0242	0.3374	-0.0053	
179	SLU 17	13.42	-0.16	44.04	0.0233	0.3311	-0.0053	
179	SLU 18	14.08	-0.16	45.93	0.0242	0.3511	-0.0054	
179	SLU 19	13.77	-0.16	44.8	0.0232	0.3448	-0.0054	
179	SLU 20	14.38	-0.16	47.04	0.0249	0.3563	-0.0056	
179	SLU 21	14.06	-0.17	45.91	0.024	0.35	-0.0055	
179	SLU 22	12.86	-0.15	42.22	0.0225	0.3171	-0.005	
179	SLU 23	12.34	-0.16	40.33	0.0209	0.3066	-0.0049	
179	SLU 24	13.32	-0.15	43.83	0.0234	0.3272	-0.0052	
179	SLU 25	13.01	-0.16	42.7	0.0225	0.3209	-0.0052	
179	SLU 26	12.63	-0.16	41.44	0.0217	0.3118	-0.0051	
179	SLU 27	13.61	-0.15	44.94	0.0242	0.3324	-0.0053	
179	SLU 28	13.3	-0.16	43.81	0.0233	0.3261	-0.0053	
179	SLU 29	13.44	-0.15	44.44	0.024	0.3275	-0.0053	
179	SLU 30	13.13	-0.16	43.3	0.0231	0.3212	-0.0052	
179	SLU 31	14.52	-0.18	47.26	0.0244	0.3628	-0.0057	
179	SLU 32	15.5	-0.17	50.77	0.027	0.3834	-0.006	
179	SLU 33	15.19	-0.18	49.63	0.026	0.3771	-0.006	
179	SLU 34	14.81	-0.18	48.37	0.0252	0.368	-0.0059	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
179	SLU 35	15.79	-0.18	51.87	0.0277	0.3886	-0.0061
179	SLU 36	15.48	-0.18	50.74	0.0268	0.3823	-0.0061
179	SLU 37	15.62	-0.17	51.37	0.0275	0.3837	-0.0061
179	SLU 38	15.31	-0.18	50.23	0.0266	0.3774	-0.006
179	SLU 39	15.97	-0.18	52.12	0.0275	0.3974	-0.0062
179	SLU 40	15.66	-0.19	50.99	0.0266	0.3911	-0.0061
179	SLU 41	16.26	-0.18	53.23	0.0283	0.4026	-0.0063
179	SLU 42	15.95	-0.19	52.1	0.0273	0.3963	-0.0063
179	SLU 43	13.62	-0.15	44.72	0.0238	0.3362	-0.0053
179	SLU 44	13.1	-0.16	42.83	0.0222	0.3257	-0.0052
179	SLU 45	14.08	-0.16	46.33	0.0247	0.3462	-0.0055
179	SLU 46	13.77	-0.16	45.2	0.0238	0.3399	-0.0054
179	SLU 47	13.39	-0.17	43.94	0.023	0.3308	-0.0054
179	SLU 48	14.37	-0.16	47.44	0.0255	0.3514	-0.0056
179	SLU 49	14.06	-0.17	46.3	0.0245	0.3451	-0.0056
179	SLU 50	14.2	-0.16	46.93	0.0253	0.3465	-0.0056
179	SLU 51	13.89	-0.16	45.8	0.0244	0.3402	-0.0055
179	SLU 52	15.28	-0.19	49.76	0.0257	0.3819	-0.006
179	SLU 53	16.26	-0.18	53.26	0.0282	0.4025	-0.0063
179	SLU 54	15.94	-0.19	52.13	0.0273	0.3962	-0.0062
179	SLU 55	15.57	-0.19	50.87	0.0265	0.3871	-0.0062
179	SLU 56	16.55	-0.18	54.37	0.029	0.4076	-0.0064
179	SLU 57	16.24	-0.19	53.23	0.0281	0.4013	-0.0064
179	SLU 58	16.38	-0.18	53.86	0.0288	0.4027	-0.0064
179	SLU 59	16.07	-0.19	52.73	0.0279	0.3964	-0.0063
179	SLU 60	16.73	-0.19	54.62	0.0288	0.4165	-0.0065
179	SLU 61	16.42	-0.19	53.49	0.0279	0.4102	-0.0064
179	SLU 62	17.02	-0.19	55.73	0.0296	0.4217	-0.0066
179	SLU 63	16.71	-0.2	54.59	0.0286	0.4153	-0.0065
179	SLU 64	15.51	-0.18	50.91	0.0271	0.3825	-0.006
179	SLU 65	14.99	-0.19	49.02	0.0255	0.372	-0.006
179	SLU 66	15.97	-0.18	52.52	0.028	0.3926	-0.0062
179	SLU 67	15.65	-0.19	51.39	0.0271	0.3863	-0.0062
179	SLU 68	15.28	-0.19	50.13	0.0263	0.3772	-0.0061
179	SLU 69	16.26	-0.18	53.63	0.0288	0.3977	-0.0064
179	SLU 70	15.95	-0.19	52.49	0.0279	0.3914	-0.0063
179	SLU 71	16.09	-0.18	53.12	0.0286	0.3928	-0.0063
179	SLU 72	15.78	-0.19	51.99	0.0277	0.3865	-0.0063
179	SLU 73	17.16	-0.21	55.95	0.029	0.4282	-0.0068
179	SLU 74	18.14	-0.2	59.45	0.0316	0.4488	-0.007
179	SLU 75	17.83	-0.21	58.32	0.0306	0.4425	-0.007
179	SLU 76	17.45	-0.21	57.06	0.0298	0.4334	-0.0069
179	SLU 77	18.43	-0.21	60.56	0.0323	0.4539	-0.0072
179	SLU 78	18.12	-0.21	59.42	0.0314	0.4476	-0.0071
179	SLU 79	18.27	-0.2	60.05	0.0321	0.4491	-0.0071
179	SLU 80	17.95	-0.21	58.92	0.0312	0.4428	-0.0071
179	SLU 81	18.62	-0.21	60.81	0.0321	0.4628	-0.0072
179	SLU 82	18.3	-0.22	59.68	0.0312	0.4565	-0.0072
179	SLU 83	18.91	-0.21	61.92	0.0329	0.468	-0.0073
179	SLU 84	18.6	-0.22	60.78	0.0319	0.4617	-0.0073
179	SLE RA 1	11.51	-0.13	37.8	0.0201	0.284	-0.0045
179	SLE RA 2	11.17	-0.14	36.54	0.0191	0.277	-0.0044
179	SLE RA 3	11.82	-0.13	38.87	0.0207	0.2908	-0.0046
179	SLE RA 4	11.61	-0.14	38.12	0.0201	0.2866	-0.0046
179	SLE RA 5	11.36	-0.14	37.28	0.0196	0.2805	-0.0045
179	SLE RA 6	12.01	-0.13	39.61	0.0213	0.2942	-0.0047
179	SLE RA 7	11.81	-0.14	38.86	0.0206	0.29	-0.0047
179	SLE RA 8	11.9	-0.13	39.28	0.0211	0.2909	-0.0047
179	SLE RA 9	11.69	-0.14	38.52	0.0205	0.2867	-0.0046
179	SLE RA 10	12.62	-0.15	41.16	0.0214	0.3145	-0.005
179	SLE RA 11	13.27	-0.15	43.5	0.0231	0.3282	-0.0052
179	SLE RA 12	13.06	-0.15	42.74	0.0225	0.324	-0.0051
179	SLE RA 13	12.81	-0.15	41.9	0.0219	0.318	-0.0051
179	SLE RA 14	13.47	-0.15	44.23	0.0236	0.3317	-0.0052
179	SLE RA 15	13.26	-0.15	43.48	0.023	0.3275	-0.0052
179	SLE RA 16	13.35	-0.15	43.9	0.0235	0.3284	-0.0052
179	SLE RA 17	13.14	-0.15	43.14	0.0228	0.3242	-0.0052
179	SLE RA 18	13.59	-0.15	44.4	0.0235	0.3376	-0.0053
179	SLE RA 19	13.38	-0.16	43.65	0.0228	0.3334	-0.0052
179	SLE RA 20	13.78	-0.15	45.14	0.024	0.341	-0.0053
179	SLE RA 21	13.57	-0.16	44.38	0.0233	0.3368	-0.0053
179	SLE FR 1	11.51	-0.13	37.8	0.0201	0.284	-0.0045
179	SLE FR 2	11.44	-0.13	37.55	0.0199	0.2826	-0.0045
179	SLE FR 3	11.59	-0.13	38.1	0.0203	0.2854	-0.0045
179	SLE FR 4	12.07	-0.14	39.53	0.0209	0.2987	-0.0047
179	SLE FR 5	12.21	-0.14	40.08	0.0213	0.3015	-0.0048
179	SLE FR 6	12.55	-0.14	41.1	0.0218	0.3108	-0.0049
179	SLE QP 1	11.51	-0.13	37.8	0.0201	0.284	-0.0045
179	SLE QP 2	12.13	-0.14	39.78	0.0211	0.3001	-0.0047
179	SLD 1	17.81	-0.31	54.62	0.0266	0.5032	-0.0101
179	SLD 2	17.81	-0.31	54.62	0.0266	0.5032	-0.0101
179	SLD 3	18.86	-0.17	57.96	0.0437	0.5312	-0.0059
179	SLD 4	18.86	-0.17	57.96	0.0437	0.5312	-0.0059
179	SLD 5	12.24	-0.41	39.16	-0.0033	0.3186	-0.0127
179	SLD 6	12.24	-0.41	39.16	-0.0033	0.3186	-0.0127
179	SLD 7	15.75	0.07	50.31	0.0539	0.4119	0.0013
179	SLD 8	15.75	0.07	50.31	0.0539	0.4119	0.0013
179	SLD 9	8.52	-0.35	29.25	-0.0117	0.1883	-0.0108



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
179	SLD 10	8.52	-0.35	29.25	-0.0117	0.1883	-0.0108
179	SLD 11	12.03	0.14	40.4	0.0455	0.2816	0.0033
179	SLD 12	12.03	0.14	40.4	0.0455	0.2816	0.0033
179	SLD 13	5.4	-0.1	21.6	-0.0015	0.069	-0.0035
179	SLD 14	5.4	-0.1	21.6	-0.0015	0.069	-0.0035
179	SLD 15	6.46	0.04	24.95	0.0157	0.097	0.0007
179	SLD 16	6.46	0.04	24.95	0.0157	0.097	0.0007
179	SLV 1	25.38	-0.56	74.4	0.0336	0.7747	-0.0177
179	SLV 2	25.38	-0.56	74.4	0.0336	0.7747	-0.0177
179	SLV 3	27.92	-0.21	82.45	0.0754	0.8417	-0.0074
179	SLV 4	27.92	-0.21	82.45	0.0754	0.8417	-0.0074
179	SLV 5	12.27	-0.8	37.95	-0.0385	0.3409	-0.0242
179	SLV 6	12.27	-0.8	37.95	-0.0385	0.3409	-0.0242
179	SLV 7	20.71	0.38	64.8	0.1008	0.5641	0.0101
179	SLV 8	20.71	0.38	64.8	0.1008	0.5641	0.0101
179	SLV 9	3.56	-0.65	14.76	-0.0586	0.0361	-0.0195
179	SLV 10	3.56	-0.65	14.76	-0.0586	0.0361	-0.0195
179	SLV 11	12	0.52	41.62	0.0808	0.2593	0.0148
179	SLV 12	12	0.52	41.62	0.0808	0.2593	0.0148
179	SLV 13	-3.65	-0.06	-2.89	-0.0331	-0.2415	-0.0021
179	SLV 14	-3.65	-0.06	-2.89	-0.0331	-0.2415	-0.0021
179	SLV 15	-1.12	0.29	5.17	0.0087	-0.1745	0.0082
179	SLV 16	-1.12	0.29	5.17	0.0087	-0.1745	0.0082
180	SLU 1	10.19	-3.72	86.34	0.0435	0.5376	-0.0077
180	SLU 2	10.23	-2.4	80.74	-0.0207	0.54	-0.0052
180	SLU 3	10.49	-4.02	90.48	0.0525	0.5539	-0.0083
180	SLU 4	10.52	-3.23	87.12	0.014	0.5554	-0.0068
180	SLU 5	10.33	-2.7	83.85	-0.0102	0.5453	-0.0058
180	SLU 6	10.6	-4.32	93.58	0.063	0.5592	-0.0089
180	SLU 7	10.62	-3.52	90.22	0.0245	0.5607	-0.0074
180	SLU 8	10.39	-4.31	92.55	0.0645	0.5481	-0.0089
180	SLU 9	10.42	-3.52	89.19	0.026	0.5496	-0.0074
180	SLU 10	12.43	-2.96	96.65	-0.0177	0.6575	-0.0064
180	SLU 11	12.69	-4.57	106.38	0.0555	0.6714	-0.0095
180	SLU 12	12.72	-3.78	103.02	0.017	0.6729	-0.008
180	SLU 13	12.53	-3.25	99.75	-0.0072	0.6628	-0.007
180	SLU 14	12.8	-4.87	109.48	0.066	0.6767	-0.0101
180	SLU 15	12.82	-4.08	106.12	0.0275	0.6782	-0.0086
180	SLU 16	12.59	-4.86	108.46	0.0675	0.6656	-0.0101
180	SLU 17	12.62	-4.07	105.1	0.029	0.6671	-0.0086
180	SLU 18	13.33	-4.51	109.06	0.0478	0.7054	-0.0094
180	SLU 19	13.35	-3.72	105.7	0.0093	0.7069	-0.0079
180	SLU 20	13.43	-4.81	112.17	0.0583	0.7107	-0.01
180	SLU 21	13.46	-4.01	108.81	0.0198	0.7122	-0.0085
180	SLU 22	11.93	-4.33	101.05	0.0509	0.6306	-0.009
180	SLU 23	11.97	-3.01	95.45	-0.0133	0.633	-0.0065
180	SLU 24	12.24	-4.62	105.18	0.0598	0.6469	-0.0096
180	SLU 25	12.26	-3.83	101.82	0.0213	0.6484	-0.0081
180	SLU 26	12.07	-3.3	98.55	-0.0028	0.6383	-0.0071
180	SLU 27	12.34	-4.92	108.28	0.0704	0.6522	-0.0102
180	SLU 28	12.36	-4.13	104.92	0.0319	0.6537	-0.0087
180	SLU 29	12.13	-4.92	107.26	0.0719	0.6411	-0.0102
180	SLU 30	12.16	-4.12	103.9	0.0334	0.6426	-0.0087
180	SLU 31	14.17	-3.56	111.35	-0.0103	0.7505	-0.0076
180	SLU 32	14.44	-5.18	121.08	0.0628	0.7644	-0.0107
180	SLU 33	14.46	-4.38	117.72	0.0243	0.7659	-0.0092
180	SLU 34	14.27	-3.85	114.45	0.0002	0.7558	-0.0082
180	SLU 35	14.54	-5.47	124.19	0.0733	0.7697	-0.0113
180	SLU 36	14.56	-4.68	120.83	0.0348	0.7712	-0.0098
180	SLU 37	14.34	-5.47	123.16	0.0749	0.7586	-0.0113
180	SLU 38	14.36	-4.67	119.8	0.0364	0.7601	-0.0098
180	SLU 39	15.07	-5.12	123.76	0.0551	0.7984	-0.0106
180	SLU 40	15.1	-4.32	120.4	0.0166	0.7999	-0.0091
180	SLU 41	15.18	-5.41	126.87	0.0656	0.8037	-0.0112
180	SLU 42	15.2	-4.62	123.51	0.0271	0.8052	-0.0097
180	SLU 43	12.64	-4.63	107.21	0.054	0.667	-0.0096
180	SLU 44	12.68	-3.31	101.61	-0.0102	0.6694	-0.0071
180	SLU 45	12.95	-4.93	111.34	0.063	0.6833	-0.0102
180	SLU 46	12.98	-4.14	107.98	0.0245	0.6848	-0.0087
180	SLU 47	12.79	-3.61	104.71	0.0004	0.6747	-0.0077
180	SLU 48	13.06	-5.23	114.44	0.0735	0.6886	-0.0108
180	SLU 49	13.08	-4.43	111.08	0.035	0.6901	-0.0093
180	SLU 50	12.85	-5.22	113.42	0.075	0.6775	-0.0108
180	SLU 51	12.87	-4.43	110.06	0.0365	0.679	-0.0093
180	SLU 52	14.89	-3.87	117.51	-0.0072	0.7869	-0.0083
180	SLU 53	15.15	-5.48	127.24	0.066	0.8008	-0.0114
180	SLU 54	15.18	-4.69	123.88	0.0275	0.8023	-0.0099
180	SLU 55	14.99	-4.16	120.61	0.0033	0.7922	-0.0088
180	SLU 56	15.26	-5.78	130.35	0.0765	0.8061	-0.012
180	SLU 57	15.28	-4.99	126.99	0.038	0.8076	-0.0104
180	SLU 58	15.05	-5.78	129.32	0.078	0.795	-0.0119
180	SLU 59	15.08	-4.98	125.96	0.0395	0.7965	-0.0104
180	SLU 60	15.79	-5.42	129.92	0.0583	0.8348	-0.0113
180	SLU 61	15.81	-4.63	126.57	0.0198	0.8363	-0.0098
180	SLU 62	15.89	-5.72	133.03	0.0688	0.8401	-0.0119
180	SLU 63	15.92	-4.93	129.67	0.0303	0.8416	-0.0103
180	SLU 64	14.39	-5.24	121.91	0.0614	0.7599	-0.0109
180	SLU 65	14.43	-3.92	116.31	-0.0028	0.7624	-0.0084





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
180	SLU 66	14.69	-5.53	126.04	0.0704	0.7763	-0.0115
180	SLU 67	14.72	-4.74	122.68	0.0319	0.7778	-0.01
180	SLU 68	14.53	-4.21	119.41	0.0077	0.7677	-0.0089
180	SLU 69	14.8	-5.83	129.15	0.0809	0.7816	-0.0121
180	SLU 70	14.82	-5.04	125.79	0.0424	0.783	-0.0105
180	SLU 71	14.59	-5.83	128.12	0.0824	0.7705	-0.012
180	SLU 72	14.62	-5.03	124.76	0.0439	0.772	-0.0105
180	SLU 73	16.63	-4.47	132.21	0.0002	0.8799	-0.0095
180	SLU 74	16.9	-6.09	141.94	0.0734	0.8938	-0.0126
180	SLU 75	16.92	-5.29	138.58	0.0349	0.8953	-0.0111
180	SLU 76	16.73	-4.76	135.32	0.0107	0.8852	-0.0101
180	SLU 77	17	-6.38	145.05	0.0839	0.8991	-0.0132
180	SLU 78	17.02	-5.59	141.69	0.0454	0.9006	-0.0117
180	SLU 79	16.79	-6.38	144.02	0.0854	0.888	-0.0132
180	SLU 80	16.82	-5.59	140.66	0.0469	0.8895	-0.0117
180	SLU 81	17.53	-6.03	144.63	0.0656	0.9278	-0.0125
180	SLU 82	17.56	-5.23	141.27	0.0271	0.9293	-0.011
180	SLU 83	17.63	-6.32	147.73	0.0762	0.9331	-0.0131
180	SLU 84	17.66	-5.53	144.37	0.0377	0.9346	-0.0116
180	SLE RA 1	10.68	-3.9	90.54	0.0456	0.5641	-0.0081
180	SLE RA 2	10.71	-3.02	86.81	0.0028	0.5658	-0.0064
180	SLE RA 3	10.89	-4.09	93.3	0.0516	0.575	-0.0085
180	SLE RA 4	10.9	-3.57	91.06	0.0259	0.576	-0.0075
180	SLE RA 5	10.78	-3.21	88.88	0.0098	0.5693	-0.0068
180	SLE RA 6	10.96	-4.29	95.37	0.0586	0.5786	-0.0089
180	SLE RA 7	10.97	-3.76	93.13	0.0329	0.5795	-0.0079
180	SLE RA 8	10.82	-4.29	94.68	0.0596	0.5712	-0.0089
180	SLE RA 9	10.84	-3.76	92.44	0.0339	0.5722	-0.0079
180	SLE RA 10	12.18	-3.38	97.41	0.0048	0.6441	-0.0072
180	SLE RA 11	12.36	-4.46	103.9	0.0536	0.6534	-0.0093
180	SLE RA 12	12.37	-3.93	101.66	0.0279	0.6543	-0.0083
180	SLE RA 13	12.25	-3.58	99.48	0.0118	0.6476	-0.0076
180	SLE RA 14	12.42	-4.66	105.97	0.0606	0.6569	-0.0097
180	SLE RA 15	12.44	-4.13	103.73	0.0349	0.6579	-0.0086
180	SLE RA 16	12.29	-4.66	105.29	0.0616	0.6495	-0.0096
180	SLE RA 17	12.3	-4.13	103.05	0.0359	0.6505	-0.0086
180	SLE RA 18	12.78	-4.42	105.69	0.0484	0.676	-0.0092
180	SLE RA 19	12.8	-3.89	103.45	0.0228	0.677	-0.0082
180	SLE RA 20	12.85	-4.62	107.76	0.0554	0.6796	-0.0096
180	SLE RA 21	12.86	-4.09	105.52	0.0298	0.6805	-0.0086
180	SLE FR 1	10.68	-3.9	90.54	0.0456	0.5641	-0.0081
180	SLE FR 2	10.69	-3.72	89.8	0.037	0.5645	-0.0077
180	SLE FR 3	10.71	-3.97	91.37	0.0484	0.5655	-0.0082
180	SLE FR 4	11.32	-3.88	94.34	0.0379	0.598	-0.0081
180	SLE FR 5	11.34	-4.13	95.92	0.0493	0.5991	-0.0086
180	SLE FR 6	11.73	-4.16	98.12	0.047	0.6201	-0.0086
180	SLE QP 1	10.68	-3.9	90.54	0.0456	0.5641	-0.0081
180	SLE QP 2	11.31	-4.05	95.09	0.0465	0.5977	-0.0084
180	SLD 1	19.47	-4.19	114.71	0.0495	1.0677	-0.0085
180	SLD 2	19.47	-4.19	114.71	0.0495	1.0677	-0.0085
180	SLD 3	20.18	-6.07	123.27	0.1385	1.1067	-0.0122
180	SLD 4	20.18	-6.07	123.27	0.1385	1.1067	-0.0122
180	SLD 5	12.69	-1.25	87.98	-0.0876	0.6795	-0.0029
180	SLD 6	12.69	-1.25	87.98	-0.0876	0.6795	-0.0029
180	SLD 7	15.05	-7.5	116.53	0.2091	0.8096	-0.0151
180	SLD 8	15.05	-7.5	116.53	0.2091	0.8096	-0.0151
180	SLD 9	7.58	-0.6	73.64	-0.1162	0.3858	-0.0018
180	SLD 10	7.58	-0.6	73.64	-0.1162	0.3858	-0.0018
180	SLD 11	9.94	-6.86	102.19	0.1805	0.5159	-0.0139
180	SLD 12	9.94	-6.86	102.19	0.1805	0.5159	-0.0139
180	SLD 13	2.45	-2.04	66.9	-0.0456	0.0887	-0.0047
180	SLD 14	2.45	-2.04	66.9	-0.0456	0.0887	-0.0047
180	SLD 15	3.15	-3.91	75.47	0.0434	0.1277	-0.0083
180	SLD 16	3.15	-3.91	75.47	0.0434	0.1277	-0.0083
180	SLV 1	30.39	-4.43	140.77	0.0563	1.6969	-0.0088
180	SLV 2	30.39	-4.43	140.77	0.0563	1.6969	-0.0088
180	SLV 3	32.08	-8.93	161.44	0.2692	1.7899	-0.0175
180	SLV 4	32.08	-8.93	161.44	0.2692	1.7899	-0.0175
180	SLV 5	14.48	2.64	77.45	-0.2735	0.7864	0.0047
180	SLV 6	14.48	2.64	77.45	-0.2735	0.7864	0.0047
180	SLV 7	20.1	-12.33	146.34	0.4362	1.0964	-0.0244
180	SLV 8	20.1	-12.33	146.34	0.4362	1.0964	-0.0244
180	SLV 9	2.52	4.22	43.84	-0.3433	0.099	0.0075
180	SLV 10	2.52	4.22	43.84	-0.3433	0.099	0.0075
180	SLV 11	8.15	-10.75	112.73	0.3664	0.409	-0.0215
180	SLV 12	8.15	-10.75	112.73	0.3664	0.409	-0.0215
180	SLV 13	-9.46	0.82	28.73	-0.1763	-0.5945	0.0007
180	SLV 14	-9.46	0.82	28.73	-0.1763	-0.5945	0.0007
180	SLV 15	-7.77	-3.67	49.4	0.0366	-0.5015	-0.008
180	SLV 16	-7.77	-3.67	49.4	0.0366	-0.5015	-0.008
181	SLU 1	8.86	0.07	70.87	-0.0128	0.3797	0.0001
181	SLU 2	9.4	0.11	67.76	-0.0228	0.3975	0
181	SLU 3	8.99	0.07	74.14	-0.0122	0.3852	0.0001
181	SLU 4	9.31	0.09	72.27	-0.0182	0.3958	0
181	SLU 5	9.29	0.1	70.2	-0.0217	0.392	0
181	SLU 6	8.87	0.07	76.59	-0.0111	0.3797	0.0001
181	SLU 7	9.2	0.09	74.72	-0.0171	0.3904	0.0001
181	SLU 8	8.63	0.07	75.76	-0.0106	0.3689	0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
181	SLU 9	8.95	0.09	73.89	-0.0166	0.3795	0.0001
181	SLU 10	11.54	0.12	80.79	-0.0263	0.4903	0
181	SLU 11	11.12	0.09	87.17	-0.0156	0.478	0.0001
181	SLU 12	11.45	0.11	85.31	-0.0216	0.4887	0.0001
181	SLU 13	11.42	0.12	83.23	-0.0252	0.4849	0
181	SLU 14	11.01	0.09	89.62	-0.0145	0.4726	0.0001
181	SLU 15	11.34	0.11	87.75	-0.0205	0.4833	0.0001
181	SLU 16	10.77	0.09	88.79	-0.014	0.4618	0.0001
181	SLU 17	11.09	0.11	86.92	-0.02	0.4724	0.0001
181	SLU 18	11.91	0.1	89.49	-0.0177	0.5124	0.0001
181	SLU 19	12.24	0.12	87.62	-0.0237	0.523	0
181	SLU 20	11.8	0.1	91.93	-0.0166	0.507	0.0001
181	SLU 21	12.12	0.12	90.06	-0.0226	0.5176	0.0001
181	SLU 22	10.36	0.09	82.93	-0.0152	0.4439	0.0001
181	SLU 23	10.9	0.12	79.82	-0.0252	0.4616	0
181	SLU 24	10.49	0.09	86.2	-0.0146	0.4493	0.0001
181	SLU 25	10.81	0.11	84.33	-0.0206	0.46	0.0001
181	SLU 26	10.79	0.12	82.26	-0.0241	0.4562	0
181	SLU 27	10.37	0.09	88.64	-0.0135	0.4439	0.0001
181	SLU 28	10.7	0.1	86.78	-0.0195	0.4546	0.0001
181	SLU 29	10.13	0.08	87.82	-0.013	0.4331	0.0001
181	SLU 30	10.46	0.1	85.95	-0.019	0.4437	0.0001
181	SLU 31	13.04	0.14	92.85	-0.0287	0.5545	0
181	SLU 32	12.62	0.11	99.23	-0.018	0.5422	0.0001
181	SLU 33	12.95	0.12	97.36	-0.024	0.5529	0.0001
181	SLU 34	12.92	0.13	95.29	-0.0276	0.5491	0
181	SLU 35	12.51	0.1	101.68	-0.0169	0.5368	0.0001
181	SLU 36	12.84	0.12	99.81	-0.0229	0.5474	0.0001
181	SLU 37	12.27	0.1	100.85	-0.0164	0.526	0.0001
181	SLU 38	12.59	0.12	98.98	-0.0224	0.5366	0.0001
181	SLU 39	13.41	0.11	101.54	-0.0201	0.5766	0.0001
181	SLU 40	13.74	0.13	99.68	-0.0261	0.5872	0.0001
181	SLU 41	13.3	0.11	103.99	-0.019	0.5712	0.0001
181	SLU 42	13.62	0.13	102.12	-0.025	0.5818	0.0001
181	SLU 43	11	0.09	88	-0.0158	0.4716	0.0001
181	SLU 44	11.54	0.12	84.88	-0.0259	0.4894	0
181	SLU 45	11.13	0.09	91.27	-0.0152	0.4771	0.0001
181	SLU 46	11.45	0.11	89.4	-0.0212	0.4877	0.0001
181	SLU 47	11.43	0.12	87.33	-0.0247	0.484	0
181	SLU 48	11.01	0.09	93.71	-0.0141	0.4717	0.0001
181	SLU 49	11.34	0.11	91.84	-0.0201	0.4823	0.0001
181	SLU 50	10.77	0.09	92.88	-0.0136	0.4608	0.0001
181	SLU 51	11.1	0.11	91.02	-0.0196	0.4715	0.0001
181	SLU 52	13.68	0.14	97.91	-0.0293	0.5822	0
181	SLU 53	13.27	0.11	104.3	-0.0186	0.5699	0.0001
181	SLU 54	13.59	0.13	102.43	-0.0247	0.5806	0.0001
181	SLU 55	13.57	0.14	100.36	-0.0282	0.5768	0
181	SLU 56	13.15	0.11	106.74	-0.0175	0.5645	0.0001
181	SLU 57	13.48	0.13	104.88	-0.0235	0.5752	0.0001
181	SLU 58	12.91	0.11	105.92	-0.017	0.5537	0.0001
181	SLU 59	13.24	0.12	104.05	-0.023	0.5643	0.0001
181	SLU 60	14.05	0.12	106.61	-0.0208	0.6043	0.0001
181	SLU 61	14.38	0.14	104.75	-0.0268	0.6149	0.0001
181	SLU 62	13.94	0.11	109.06	-0.0196	0.5989	0.0001
181	SLU 63	14.27	0.13	107.19	-0.0256	0.6095	0.0001
181	SLU 64	12.5	0.11	100.05	-0.0182	0.5358	0.0001
181	SLU 65	13.04	0.14	96.94	-0.0283	0.5536	0
181	SLU 66	12.63	0.11	103.33	-0.0176	0.5413	0.0001
181	SLU 67	12.95	0.12	101.46	-0.0236	0.5519	0.0001
181	SLU 68	12.93	0.13	99.39	-0.0271	0.5481	0.0001
181	SLU 69	12.51	0.1	105.77	-0.0165	0.5358	0.0001
181	SLU 70	12.84	0.12	103.9	-0.0225	0.5465	0.0001
181	SLU 71	12.27	0.1	104.94	-0.016	0.525	0.0001
181	SLU 72	12.6	0.12	103.07	-0.022	0.5356	0.0001
181	SLU 73	15.18	0.15	109.97	-0.0317	0.6464	0
181	SLU 74	14.77	0.12	116.36	-0.021	0.6341	0.0001
181	SLU 75	15.09	0.14	114.49	-0.0271	0.6448	0.0001
181	SLU 76	15.07	0.15	112.42	-0.0306	0.641	0.0001
181	SLU 77	14.65	0.12	118.8	-0.0199	0.6287	0.0001
181	SLU 78	14.98	0.14	116.94	-0.0259	0.6394	0.0001
181	SLU 79	14.41	0.12	117.97	-0.0194	0.6179	0.0002
181	SLU 80	14.74	0.14	116.11	-0.0254	0.6285	0.0001
181	SLU 81	15.55	0.13	118.67	-0.0232	0.6685	0.0001
181	SLU 82	15.88	0.15	116.8	-0.0292	0.6791	0.0001
181	SLU 83	15.44	0.13	121.12	-0.022	0.6631	0.0001
181	SLU 84	15.77	0.15	119.25	-0.028	0.6737	0.0001
181	SLE RA 1	9.29	0.08	74.31	-0.0135	0.3981	0.0001
181	SLE RA 2	9.65	0.1	72.24	-0.0202	0.4099	0
181	SLE RA 3	9.37	0.08	76.5	-0.0131	0.4017	0.0001
181	SLE RA 4	9.59	0.09	75.25	-0.0171	0.4088	0.0001
181	SLE RA 5	9.57	0.1	73.87	-0.0194	0.4063	0
181	SLE RA 6	9.3	0.08	78.13	-0.0123	0.3981	0.0001
181	SLE RA 7	9.51	0.09	76.88	-0.0163	0.4052	0.0001
181	SLE RA 8	9.13	0.08	77.57	-0.012	0.3909	0.0001
181	SLE RA 9	9.35	0.09	76.33	-0.016	0.3979	0.0001
181	SLE RA 10	11.07	0.11	80.93	-0.0225	0.4718	0
181	SLE RA 11	10.8	0.09	85.18	-0.0154	0.4636	0.0001
181	SLE RA 12	11.01	0.1	83.94	-0.0194	0.4707	0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
181	SLE RA 13	11	0.11	82.56	-0.0217	0.4682	0
181	SLE RA 14	10.72	0.09	86.81	-0.0146	0.46	0.0001
181	SLE RA 15	10.94	0.1	85.57	-0.0186	0.4671	0.0001
181	SLE RA 16	10.56	0.09	86.26	-0.0143	0.4528	0.0001
181	SLE RA 17	10.78	0.1	85.02	-0.0183	0.4599	0.0001
181	SLE RA 18	11.32	0.09	86.73	-0.0168	0.4865	0.0001
181	SLE RA 19	11.54	0.11	85.48	-0.0208	0.4936	0.0001
181	SLE RA 20	11.25	0.09	88.36	-0.016	0.4829	0.0001
181	SLE RA 21	11.46	0.11	87.11	-0.02	0.49	0.0001
181	SLE FR 1	9.29	0.08	74.31	-0.0135	0.3981	0.0001
181	SLE FR 2	9.36	0.08	73.9	-0.0148	0.4004	0.0001
181	SLE FR 3	9.25	0.08	74.97	-0.0132	0.3966	0.0001
181	SLE FR 4	9.97	0.09	77.62	-0.0158	0.427	0.0001
181	SLE FR 5	9.87	0.08	78.69	-0.0142	0.4232	0.0001
181	SLE FR 6	10.3	0.09	80.52	-0.0151	0.4423	0.0001
181	SLE QP 1	9.29	0.08	74.31	-0.0135	0.3981	0.0001
181	SLE QP 2	9.9	0.08	78.04	-0.0145	0.4246	0.0001
181	SLD 1	21.68	0.2	86.09	-0.0762	1.0058	-0.0001
181	SLD 2	21.68	0.2	86.09	-0.0762	1.0058	-0.0001
181	SLD 3	22.55	0.11	90.86	-0.0198	1.0474	0.0001
181	SLD 4	22.55	0.11	90.86	-0.0198	1.0474	0.0001
181	SLD 5	12.11	0.26	73.22	-0.1186	0.536	-0.0002
181	SLD 6	12.11	0.26	73.22	-0.1186	0.536	-0.0002
181	SLD 7	15.02	-0.05	89.11	0.0696	0.6745	0.0003
181	SLD 8	15.02	-0.05	89.11	0.0696	0.6745	0.0003
181	SLD 9	4.77	0.22	66.96	-0.0985	0.1748	-0.0001
181	SLD 10	4.77	0.22	66.96	-0.0985	0.1748	-0.0001
181	SLD 11	7.68	-0.09	82.85	0.0897	0.3133	0.0003
181	SLD 12	7.68	-0.09	82.85	0.0897	0.3133	0.0003
181	SLD 13	-2.76	0.06	65.22	-0.0092	-0.1982	0.0001
181	SLD 14	-2.76	0.06	65.22	-0.0092	-0.1982	0.0001
181	SLD 15	-1.89	-0.04	69.99	0.0473	-0.1566	0.0002
181	SLD 16	-1.89	-0.04	69.99	0.0473	-0.1566	0.0002
181	SLV 1	37.47	0.37	96.75	-0.1628	1.7843	-0.0003
181	SLV 2	37.47	0.37	96.75	-0.1628	1.7843	-0.0003
181	SLV 3	39.55	0.14	108.33	-0.0257	1.8832	0
181	SLV 4	39.55	0.14	108.33	-0.0257	1.8832	0
181	SLV 5	15.01	0.51	66.09	-0.2669	0.6826	-0.0005
181	SLV 6	15.01	0.51	66.09	-0.2669	0.6826	-0.0005
181	SLV 7	21.95	-0.24	104.69	0.1901	1.0121	0.0006
181	SLV 8	21.95	-0.24	104.69	0.1901	1.0121	0.0006
181	SLV 9	-2.16	0.41	51.39	-0.219	-0.1629	-0.0004
181	SLV 10	-2.16	0.41	51.39	-0.219	-0.1629	-0.0004
181	SLV 11	4.78	-0.34	89.99	0.2379	0.1666	0.0007
181	SLV 12	4.78	-0.34	89.99	0.2379	0.1666	0.0007
181	SLV 13	-19.76	0.02	47.75	-0.0033	-1.034	0.0001
181	SLV 14	-19.76	0.02	47.75	-0.0033	-1.034	0.0001
181	SLV 15	-17.67	-0.2	59.33	0.1338	-0.9351	0.0005
181	SLV 16	-17.67	-0.2	59.33	0.1338	-0.9351	0.0005
182	SLU 1	6.39	0.06	72.47	-0.0165	0.2986	-0.0001
182	SLU 2	6.86	0.07	70.34	-0.0236	0.3158	-0.0001
182	SLU 3	6.4	0.06	75.67	-0.0162	0.3002	-0.0001
182	SLU 4	6.68	0.07	74.4	-0.0204	0.3105	-0.0001
182	SLU 5	6.65	0.07	72.69	-0.0228	0.3073	-0.0001
182	SLU 6	6.19	0.06	78.02	-0.0155	0.2916	-0.0002
182	SLU 7	6.47	0.07	76.75	-0.0197	0.3019	-0.0001
182	SLU 8	5.97	0.06	77.16	-0.015	0.2815	-0.0002
182	SLU 9	6.25	0.07	75.89	-0.0193	0.2918	-0.0001
182	SLU 10	8.58	0.08	83.73	-0.0275	0.3953	-0.0001
182	SLU 11	8.12	0.07	89.06	-0.0202	0.3797	-0.0002
182	SLU 12	8.41	0.08	87.78	-0.0244	0.39	-0.0001
182	SLU 13	8.37	0.08	86.08	-0.0268	0.3868	-0.0001
182	SLU 14	7.91	0.08	91.41	-0.0194	0.3712	-0.0002
182	SLU 15	8.19	0.08	90.13	-0.0237	0.3815	-0.0002
182	SLU 16	7.69	0.07	90.55	-0.019	0.361	-0.0002
182	SLU 17	7.97	0.08	89.28	-0.0232	0.3714	-0.0002
182	SLU 18	8.85	0.08	91.59	-0.0222	0.4122	-0.0002
182	SLU 19	9.13	0.08	90.31	-0.0264	0.4226	-0.0001
182	SLU 20	8.64	0.08	93.94	-0.0214	0.4037	-0.0002
182	SLU 21	8.92	0.09	92.66	-0.0257	0.414	-0.0002
182	SLU 22	7.46	0.07	84.75	-0.0195	0.3491	-0.0002
182	SLU 23	7.93	0.08	82.63	-0.0266	0.3663	-0.0001
182	SLU 24	7.47	0.07	87.95	-0.0192	0.3507	-0.0002
182	SLU 25	7.75	0.08	86.68	-0.0234	0.361	-0.0001
182	SLU 26	7.72	0.08	84.98	-0.0258	0.3578	-0.0001
182	SLU 27	7.26	0.07	90.3	-0.0184	0.3421	-0.0002
182	SLU 28	7.54	0.08	89.03	-0.0227	0.3525	-0.0002
182	SLU 29	7.03	0.07	89.45	-0.018	0.332	-0.0002
182	SLU 30	7.32	0.08	88.17	-0.0222	0.3423	-0.0002
182	SLU 31	9.65	0.09	96.01	-0.0305	0.4459	-0.0001
182	SLU 32	9.19	0.09	101.34	-0.0232	0.4302	-0.0002
182	SLU 33	9.47	0.09	100.07	-0.0274	0.4405	-0.0002
182	SLU 34	9.44	0.09	98.36	-0.0298	0.4373	-0.0002
182	SLU 35	8.98	0.09	103.69	-0.0224	0.4217	-0.0002
182	SLU 36	9.26	0.09	102.42	-0.0267	0.432	-0.0002
182	SLU 37	8.76	0.09	102.83	-0.022	0.4116	-0.0002
182	SLU 38	9.04	0.09	101.56	-0.0262	0.4219	-0.0002
182	SLU 39	9.92	0.09	103.87	-0.0251	0.4628	-0.0002



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
182	SLU 40	10.2	0.1	102.6	-0.0294	0.4731	-0.0002	
182	SLU 41	9.7	0.09	106.22	-0.0244	0.4542	-0.0002	
182	SLU 42	9.99	0.1	104.95	-0.0286	0.4645	-0.0002	
182	SLU 43	7.94	0.07	89.99	-0.0204	0.3709	-0.0002	
182	SLU 44	8.42	0.08	87.87	-0.0275	0.3881	-0.0001	
182	SLU 45	7.95	0.08	93.2	-0.0201	0.3725	-0.0002	
182	SLU 46	8.24	0.08	91.93	-0.0244	0.3828	-0.0002	
182	SLU 47	8.2	0.09	90.22	-0.0268	0.3795	-0.0001	
182	SLU 48	7.74	0.08	95.55	-0.0194	0.3639	-0.0002	
182	SLU 49	8.02	0.08	94.28	-0.0236	0.3742	-0.0002	
182	SLU 50	7.52	0.08	94.69	-0.0189	0.3538	-0.0002	
182	SLU 51	7.8	0.08	93.42	-0.0232	0.3641	-0.0002	
182	SLU 52	10.14	0.1	101.26	-0.0315	0.4676	-0.0002	
182	SLU 53	9.67	0.09	106.59	-0.0241	0.452	-0.0002	
182	SLU 54	9.96	0.1	105.31	-0.0283	0.4623	-0.0002	
182	SLU 55	9.92	0.1	103.61	-0.0307	0.4591	-0.0002	
182	SLU 56	9.46	0.09	108.93	-0.0234	0.4434	-0.0002	
182	SLU 57	9.74	0.1	107.66	-0.0276	0.4537	-0.0002	
182	SLU 58	9.24	0.09	108.08	-0.0229	0.4333	-0.0002	
182	SLU 59	9.52	0.09	106.8	-0.0271	0.4436	-0.0002	
182	SLU 60	10.4	0.09	109.12	-0.0261	0.4845	-0.0002	
182	SLU 61	10.68	0.1	107.84	-0.0303	0.4948	-0.0002	
182	SLU 62	10.19	0.09	111.46	-0.0253	0.476	-0.0002	
182	SLU 63	10.47	0.1	110.19	-0.0296	0.4863	-0.0002	
182	SLU 64	9.01	0.09	102.28	-0.0234	0.4214	-0.0002	
182	SLU 65	9.48	0.1	100.16	-0.0305	0.4386	-0.0002	
182	SLU 66	9.02	0.09	105.48	-0.0231	0.423	-0.0002	
182	SLU 67	9.3	0.09	104.21	-0.0274	0.4333	-0.0002	
182	SLU 68	9.27	0.1	102.5	-0.0297	0.43	-0.0002	
182	SLU 69	8.81	0.09	107.83	-0.0224	0.4144	-0.0002	
182	SLU 70	9.09	0.09	106.56	-0.0266	0.4247	-0.0002	
182	SLU 71	8.59	0.09	106.97	-0.0219	0.4043	-0.0002	
182	SLU 72	8.87	0.09	105.7	-0.0262	0.4146	-0.0002	
182	SLU 73	11.2	0.11	113.54	-0.0344	0.5181	-0.0002	
182	SLU 74	10.74	0.1	118.87	-0.0271	0.5025	-0.0002	
182	SLU 75	11.02	0.11	117.6	-0.0313	0.5128	-0.0002	
182	SLU 76	10.99	0.11	115.89	-0.0337	0.5096	-0.0002	
182	SLU 77	10.53	0.1	121.22	-0.0263	0.4939	-0.0002	
182	SLU 78	10.81	0.11	119.94	-0.0306	0.5043	-0.0002	
182	SLU 79	10.31	0.1	120.36	-0.0259	0.4838	-0.0002	
182	SLU 80	10.59	0.11	119.09	-0.0301	0.4941	-0.0002	
182	SLU 81	11.47	0.1	121.4	-0.0291	0.535	-0.0002	
182	SLU 82	11.75	0.11	120.13	-0.0333	0.5453	-0.0002	
182	SLU 83	11.26	0.1	123.75	-0.0283	0.5265	-0.0002	
182	SLU 84	11.54	0.11	122.47	-0.0326	0.5368	-0.0002	
182	SLE RA 1	6.7	0.06	75.97	-0.0173	0.3131	-0.0001	
182	SLE RA 2	7.01	0.07	74.56	-0.0221	0.3245	-0.0001	
182	SLE RA 3	6.7	0.06	78.11	-0.0172	0.3141	-0.0001	
182	SLE RA 4	6.89	0.07	77.26	-0.02	0.321	-0.0001	
182	SLE RA 5	6.87	0.07	76.13	-0.0216	0.3188	-0.0001	
182	SLE RA 6	6.56	0.07	79.68	-0.0167	0.3084	-0.0002	
182	SLE RA 7	6.75	0.07	78.83	-0.0195	0.3153	-0.0001	
182	SLE RA 8	6.41	0.06	79.11	-0.0164	0.3017	-0.0002	
182	SLE RA 9	6.6	0.07	78.26	-0.0192	0.3085	-0.0001	
182	SLE RA 10	8.16	0.08	83.48	-0.0247	0.3775	-0.0001	
182	SLE RA 11	7.85	0.07	87.04	-0.0198	0.3671	-0.0002	
182	SLE RA 12	8.04	0.08	86.19	-0.0226	0.374	-0.0002	
182	SLE RA 13	8.02	0.08	85.05	-0.0242	0.3718	-0.0001	
182	SLE RA 14	7.71	0.07	88.6	-0.0193	0.3614	-0.0002	
182	SLE RA 15	7.9	0.08	87.75	-0.0221	0.3683	-0.0002	
182	SLE RA 16	7.56	0.07	88.03	-0.019	0.3547	-0.0002	
182	SLE RA 17	7.75	0.08	87.18	-0.0218	0.3615	-0.0002	
182	SLE RA 18	8.33	0.08	88.72	-0.0211	0.3888	-0.0002	
182	SLE RA 19	8.52	0.08	87.87	-0.024	0.3957	-0.0002	
182	SLE RA 20	8.19	0.08	90.29	-0.0206	0.3831	-0.0002	
182	SLE RA 21	8.38	0.08	89.44	-0.0235	0.39	-0.0002	
182	SLE FR 1	6.7	0.06	75.97	-0.0173	0.3131	-0.0001	
182	SLE FR 2	6.76	0.06	75.69	-0.0183	0.3154	-0.0001	
182	SLE FR 3	6.64	0.06	76.6	-0.0171	0.3108	-0.0001	
182	SLE FR 4	7.25	0.07	79.52	-0.0194	0.3381	-0.0001	
182	SLE FR 5	7.13	0.07	80.43	-0.0183	0.3335	-0.0002	
182	SLE FR 6	7.52	0.07	82.35	-0.0192	0.3509	-0.0002	
182	SLE QP 1	6.7	0.06	75.97	-0.0173	0.3131	-0.0001	
182	SLE QP 2	7.19	0.07	79.8	-0.0185	0.3358	-0.0001	
182	SLD 1	19.96	0.19	83.4	-0.1253	0.9381	0.0002	
182	SLD 2	19.96	0.19	83.4	-0.1253	0.9381	0.0002	
182	SLD 3	20.9	0.09	86.88	-0.0291	0.9829	-0.0001	
182	SLD 4	20.9	0.09	86.88	-0.0291	0.9829	-0.0001	
182	SLD 5	9.59	0.26	75.59	-0.1965	0.4486	0.0004	
182	SLD 6	9.59	0.26	75.59	-0.1965	0.4486	0.0004	
182	SLD 7	12.73	-0.08	87.21	0.1243	0.5978	-0.0006	
182	SLD 8	12.73	-0.08	87.21	0.1243	0.5978	-0.0006	
182	SLD 9	1.65	0.22	72.39	-0.1613	0.0738	0.0003	
182	SLD 10	1.65	0.22	72.39	-0.1613	0.0738	0.0003	
182	SLD 11	4.78	-0.13	84.01	0.1595	0.223	-0.0007	
182	SLD 12	4.78	-0.13	84.01	0.1595	0.223	-0.0007	
182	SLD 13	-6.52	0.04	72.71	-0.0079	-0.3113	-0.0002	
182	SLD 14	-6.52	0.04	72.71	-0.0079	-0.3113	-0.0002	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
182	SLD 15	-5.58	-0.06	76.2	0.0883	-0.2665	-0.0005
182	SLD 16	-5.58	-0.06	76.2	0.0883	-0.2665	-0.0005
182	SLV 1	37.06	0.37	88.16	-0.2744	1.7449	0.0006
182	SLV 2	37.06	0.37	88.16	-0.2744	1.7449	0.0006
182	SLV 3	39.3	0.12	96.68	-0.0409	1.8514	-0.0001
182	SLV 4	39.3	0.12	96.68	-0.0409	1.8514	-0.0001
182	SLV 5	12.75	0.54	69.39	-0.4493	0.5969	0.0011
182	SLV 6	12.75	0.54	69.39	-0.4493	0.5969	0.0011
182	SLV 7	20.22	-0.3	97.79	0.3288	0.9521	-0.0012
182	SLV 8	20.22	-0.3	97.79	0.3288	0.9521	-0.0012
182	SLV 9	-5.85	0.43	61.81	-0.3658	-0.2805	0.0009
182	SLV 10	-5.85	0.43	61.81	-0.3658	-0.2805	0.0009
182	SLV 11	1.62	-0.41	90.21	0.4124	0.0746	-0.0014
182	SLV 12	1.62	-0.41	90.21	0.4124	0.0746	-0.0014
182	SLV 13	-24.93	0.02	62.92	0.004	-1.1798	-0.0002
182	SLV 14	-24.93	0.02	62.92	0.004	-1.1798	-0.0002
182	SLV 15	-22.69	-0.24	71.44	0.2374	-1.0733	-0.0009
182	SLV 16	-22.69	-0.24	71.44	0.2374	-1.0733	-0.0009
183	SLU 1	4.03	0.02	74.04	-0.0074	0.1634	0
183	SLU 2	4.46	0.02	72.46	-0.0124	0.1811	0
183	SLU 3	3.93	0.02	77.21	-0.0067	0.1583	0
183	SLU 4	4.19	0.02	76.26	-0.0097	0.169	0
183	SLU 5	4.17	0.02	74.74	-0.0114	0.1673	0
183	SLU 6	3.63	0.02	79.5	-0.0057	0.1445	0
183	SLU 7	3.89	0.02	78.55	-0.0087	0.1552	0
183	SLU 8	3.44	0.02	78.61	-0.0054	0.1358	0
183	SLU 9	3.7	0.02	77.66	-0.0084	0.1464	0
183	SLU 10	5.76	0.03	86.22	-0.0146	0.236	0
183	SLU 11	5.23	0.02	90.98	-0.0089	0.2132	0
183	SLU 12	5.49	0.03	90.03	-0.0119	0.2238	0
183	SLU 13	5.47	0.03	88.51	-0.0136	0.2222	0
183	SLU 14	4.93	0.02	93.26	-0.0079	0.1994	0
183	SLU 15	5.19	0.03	92.31	-0.0109	0.21	0
183	SLU 16	4.74	0.02	92.37	-0.0075	0.1906	0
183	SLU 17	5	0.03	91.42	-0.0106	0.2013	0
183	SLU 18	5.89	0.03	93.7	-0.0105	0.2418	0
183	SLU 19	6.15	0.03	92.75	-0.0135	0.2524	0
183	SLU 20	5.59	0.03	95.98	-0.0095	0.228	0
183	SLU 21	5.85	0.03	95.04	-0.0125	0.2386	0
183	SLU 22	4.68	0.02	86.55	-0.0087	0.1897	0
183	SLU 23	5.12	0.03	84.97	-0.0137	0.2074	0
183	SLU 24	4.58	0.02	89.72	-0.008	0.1846	0
183	SLU 25	4.84	0.03	88.77	-0.011	0.1952	0
183	SLU 26	4.82	0.03	87.25	-0.0127	0.1936	0
183	SLU 27	4.29	0.02	92.01	-0.007	0.1708	0
183	SLU 28	4.55	0.03	91.06	-0.01	0.1814	0
183	SLU 29	4.09	0.02	91.12	-0.0067	0.162	0
183	SLU 30	4.35	0.03	90.17	-0.0097	0.1727	0
183	SLU 31	6.42	0.03	98.73	-0.0159	0.2623	0
183	SLU 32	5.88	0.03	103.49	-0.0102	0.2394	0
183	SLU 33	6.14	0.03	102.54	-0.0132	0.2501	0
183	SLU 34	6.12	0.03	101.01	-0.0149	0.2484	0
183	SLU 35	5.59	0.03	105.77	-0.0092	0.2256	0
183	SLU 36	5.85	0.03	104.82	-0.0122	0.2363	0
183	SLU 37	5.39	0.03	104.88	-0.0089	0.2169	0
183	SLU 38	5.65	0.03	103.93	-0.0119	0.2275	0
183	SLU 39	6.54	0.03	106.21	-0.0118	0.268	0
183	SLU 40	6.8	0.03	105.26	-0.0149	0.2787	0
183	SLU 41	6.24	0.03	108.49	-0.0108	0.2542	0
183	SLU 42	6.5	0.03	107.55	-0.0138	0.2649	0
183	SLU 43	5.02	0.02	91.96	-0.0091	0.2034	0
183	SLU 44	5.45	0.03	90.38	-0.0142	0.2212	0
183	SLU 45	4.92	0.02	95.13	-0.0084	0.1983	0
183	SLU 46	5.18	0.03	94.19	-0.0115	0.209	0
183	SLU 47	5.15	0.03	92.66	-0.0132	0.2074	0
183	SLU 48	4.62	0.02	97.42	-0.0074	0.1845	0
183	SLU 49	4.88	0.03	96.47	-0.0104	0.1952	0
183	SLU 50	4.42	0.02	96.53	-0.0071	0.1758	0
183	SLU 51	4.68	0.03	95.58	-0.0101	0.1864	0
183	SLU 52	6.75	0.03	104.14	-0.0164	0.276	0
183	SLU 53	6.22	0.03	108.9	-0.0106	0.2532	0
183	SLU 54	6.48	0.03	107.95	-0.0136	0.2638	0
183	SLU 55	6.45	0.03	106.43	-0.0154	0.2622	0
183	SLU 56	5.92	0.03	111.18	-0.0096	0.2394	0
183	SLU 57	6.18	0.03	110.23	-0.0126	0.25	0
183	SLU 58	5.72	0.03	110.29	-0.0093	0.2307	0
183	SLU 59	5.98	0.03	109.34	-0.0123	0.2413	0
183	SLU 60	6.87	0.03	111.62	-0.0123	0.2818	0
183	SLU 61	7.13	0.03	110.67	-0.0153	0.2924	0
183	SLU 62	6.57	0.03	113.91	-0.0113	0.268	0
183	SLU 63	6.83	0.03	112.96	-0.0143	0.2786	0
183	SLU 64	5.67	0.03	104.47	-0.0105	0.2297	0
183	SLU 65	6.1	0.03	102.89	-0.0155	0.2474	0
183	SLU 66	5.57	0.03	107.64	-0.0098	0.2246	0
183	SLU 67	5.83	0.03	106.69	-0.0128	0.2352	0
183	SLU 68	5.81	0.03	105.17	-0.0145	0.2336	0
183	SLU 69	5.27	0.03	109.93	-0.0087	0.2108	0
183	SLU 70	5.53	0.03	108.98	-0.0118	0.2214	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
183	SLU 71	5.07	0.03	109.04	-0.0084	0.2021	0
183	SLU 72	5.33	0.03	108.09	-0.0115	0.2127	0
183	SLU 73	7.4	0.04	116.65	-0.0177	0.3023	0
183	SLU 74	6.87	0.03	121.41	-0.012	0.2795	0
183	SLU 75	7.13	0.03	120.46	-0.015	0.2901	0
183	SLU 76	7.1	0.04	118.94	-0.0167	0.2885	0
183	SLU 77	6.57	0.03	123.69	-0.0109	0.2656	0
183	SLU 78	6.83	0.03	122.74	-0.014	0.2763	0
183	SLU 79	6.37	0.03	122.8	-0.0106	0.2569	0
183	SLU 80	6.63	0.03	121.85	-0.0136	0.2676	0
183	SLU 81	7.52	0.03	124.13	-0.0136	0.308	0
183	SLU 82	7.78	0.04	123.18	-0.0166	0.3187	0
183	SLU 83	7.23	0.03	126.42	-0.0126	0.2942	0
183	SLU 84	7.49	0.04	125.47	-0.0156	0.3049	0
183	SLE RA 1	4.22	0.02	77.61	-0.0078	0.1709	0
183	SLE RA 2	4.51	0.02	76.56	-0.0111	0.1827	0
183	SLE RA 3	4.15	0.02	79.73	-0.0073	0.1675	0
183	SLE RA 4	4.32	0.02	79.1	-0.0093	0.1746	0
183	SLE RA 5	4.31	0.02	78.08	-0.0104	0.1735	0
183	SLE RA 6	3.95	0.02	81.25	-0.0066	0.1583	0
183	SLE RA 7	4.13	0.02	80.62	-0.0086	0.1654	0
183	SLE RA 8	3.82	0.02	80.66	-0.0064	0.1525	0
183	SLE RA 9	3.99	0.02	80.02	-0.0084	0.1596	0
183	SLE RA 10	5.37	0.03	85.73	-0.0126	0.2193	0
183	SLE RA 11	5.02	0.02	88.9	-0.0088	0.2041	0
183	SLE RA 12	5.19	0.03	88.27	-0.0108	0.2112	0
183	SLE RA 13	5.17	0.03	87.26	-0.0119	0.2101	0
183	SLE RA 14	4.82	0.02	90.43	-0.0081	0.1949	0
183	SLE RA 15	4.99	0.03	89.79	-0.0101	0.202	0
183	SLE RA 16	4.69	0.02	89.83	-0.0079	0.1891	0
183	SLE RA 17	4.86	0.03	89.2	-0.0099	0.1962	0
183	SLE RA 18	5.45	0.02	90.72	-0.0098	0.2232	0
183	SLE RA 19	5.63	0.03	90.09	-0.0119	0.2302	0
183	SLE RA 20	5.26	0.02	92.24	-0.0092	0.2139	0
183	SLE RA 21	5.43	0.03	91.61	-0.0112	0.221	0
183	SLE FR 1	4.22	0.02	77.61	-0.0078	0.1709	0
183	SLE FR 2	4.27	0.02	77.4	-0.0084	0.1733	0
183	SLE FR 3	4.14	0.02	78.22	-0.0075	0.1672	0
183	SLE FR 4	4.65	0.02	81.33	-0.0091	0.1889	0
183	SLE FR 5	4.51	0.02	82.15	-0.0081	0.1829	0
183	SLE FR 6	4.84	0.02	84.17	-0.0088	0.197	0
183	SLE QP 1	4.22	0.02	77.61	-0.0078	0.1709	0
183	SLE QP 2	4.59	0.02	81.54	-0.0084	0.1866	0
183	SLD 1	17.8	0.19	77.89	-0.1531	0.81	0.0003
183	SLD 2	17.8	0.19	77.89	-0.1531	0.81	0.0003
183	SLD 3	18.77	0.04	80.88	-0.0236	0.8551	0
183	SLD 4	18.77	0.04	80.88	-0.0236	0.8551	0
183	SLD 5	7.07	0.3	75.92	-0.2483	0.3053	0.0006
183	SLD 6	7.07	0.3	75.92	-0.2483	0.3053	0.0006
183	SLD 7	10.32	-0.2	85.87	0.1836	0.4554	-0.0004
183	SLD 8	10.32	-0.2	85.87	0.1836	0.4554	-0.0004
183	SLD 9	-1.15	0.25	77.22	-0.2003	-0.0822	0.0004
183	SLD 10	-1.15	0.25	77.22	-0.2003	-0.0822	0.0004
183	SLD 11	2.11	-0.26	87.17	0.2315	0.0678	-0.0006
183	SLD 12	2.11	-0.26	87.17	0.2315	0.0678	-0.0006
183	SLD 13	-9.59	0	82.21	0.0068	-0.4819	0
183	SLD 14	-9.59	0	82.21	0.0068	-0.4819	0
183	SLD 15	-8.62	-0.15	85.2	0.1363	-0.4369	-0.0003
183	SLD 16	-8.62	-0.15	85.2	0.1363	-0.4369	-0.0003
183	SLV 1	35.48	0.43	72.56	-0.3545	1.645	0.0008
183	SLV 2	35.48	0.43	72.56	-0.3545	1.645	0.0008
183	SLV 3	37.81	0.07	79.87	-0.0405	1.7523	0.0001
183	SLV 4	37.81	0.07	79.87	-0.0405	1.7523	0.0001
183	SLV 5	10.33	0.7	67.75	-0.5884	0.4614	0.0013
183	SLV 6	10.33	0.7	67.75	-0.5884	0.4614	0.0013
183	SLV 7	18.08	-0.52	92.14	0.4582	0.819	-0.0011
183	SLV 8	18.08	-0.52	92.14	0.4582	0.819	-0.0011
183	SLV 9	-8.91	0.56	70.95	-0.475	-0.4459	0.0011
183	SLV 10	-8.91	0.56	70.95	-0.475	-0.4459	0.0011
183	SLV 11	-1.15	-0.66	95.34	0.5717	-0.0882	-0.0013
183	SLV 12	-1.15	-0.66	95.34	0.5717	-0.0882	-0.0013
183	SLV 13	-28.63	-0.02	83.21	0.0237	-1.3791	-0.0001
183	SLV 14	-28.63	-0.02	83.21	0.0237	-1.3791	-0.0001
183	SLV 15	-26.3	-0.39	90.53	0.3377	-1.2719	-0.0008
183	SLV 16	-26.3	-0.39	90.53	0.3377	-1.2719	-0.0008
184	SLU 1	2.44	0	75.55	-0.0002	0.1144	0
184	SLU 2	2.83	0	74.35	-0.0039	0.1299	0
184	SLU 3	2.28	0	78.7	0.001	0.1078	0
184	SLU 4	2.51	0	77.99	-0.0012	0.1171	0
184	SLU 5	2.49	0	76.58	-0.0024	0.1153	0
184	SLU 6	1.95	0	80.94	0.0025	0.0932	0
184	SLU 7	2.18	0	80.22	0.0003	0.1025	0
184	SLU 8	1.78	0	80.02	0.0028	0.0852	0
184	SLU 9	2.01	0	79.3	0.0006	0.0945	0
184	SLU 10	3.83	0	88.5	-0.0047	0.1759	0
184	SLU 11	3.29	0	92.86	0.0002	0.1537	0
184	SLU 12	3.52	0	92.14	-0.002	0.163	0
184	SLU 13	3.5	0	90.74	-0.0032	0.1613	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
184	SLU 14	2.95	0	95.09	0.0017	0.1391	0
184	SLU 15	3.19	0	94.38	-0.0005	0.1484	0
184	SLU 16	2.78	0	94.17	0.0019	0.1311	0
184	SLU 17	3.01	0	93.45	-0.0003	0.1404	0
184	SLU 18	3.88	0	95.76	-0.0014	0.1801	0
184	SLU 19	4.11	0	95.04	-0.0036	0.1894	0
184	SLU 20	3.54	0	98	0.0001	0.1654	0
184	SLU 21	3.77	0	97.28	-0.0021	0.1747	0
184	SLU 22	2.83	0	88.28	-0.0002	0.1328	0
184	SLU 23	3.21	0	87.09	-0.0038	0.1483	0
184	SLU 24	2.67	0	91.44	0.0011	0.1262	0
184	SLU 25	2.9	0	90.73	-0.0011	0.1355	0
184	SLU 26	2.88	0	89.32	-0.0024	0.1337	0
184	SLU 27	2.34	0	93.68	0.0025	0.1116	0
184	SLU 28	2.57	0	92.96	0.0003	0.1209	0
184	SLU 29	2.16	0	92.76	0.0028	0.1036	0
184	SLU 30	2.39	0	92.04	0.0006	0.1129	0
184	SLU 31	4.22	0	101.24	-0.0047	0.1943	0
184	SLU 32	3.67	0	105.6	0.0002	0.1721	0
184	SLU 33	3.9	0	104.88	-0.002	0.1814	0
184	SLU 34	3.88	0	103.48	-0.0032	0.1796	0
184	SLU 35	3.34	0	107.83	0.0017	0.1575	0
184	SLU 36	3.57	0	107.11	-0.0005	0.1668	0
184	SLU 37	3.16	0	106.91	0.0019	0.1495	0
184	SLU 38	3.4	0	106.19	-0.0002	0.1588	0
184	SLU 39	4.26	0	108.5	-0.0014	0.1985	0
184	SLU 40	4.49	0	107.78	-0.0036	0.2078	0
184	SLU 41	3.93	0	110.74	0.0001	0.1838	0
184	SLU 42	4.16	0	110.02	-0.0021	0.1931	0
184	SLU 43	3.04	0	93.84	-0.0003	0.1425	0
184	SLU 44	3.43	0	92.64	-0.0039	0.158	0
184	SLU 45	2.89	0	97	0.001	0.1358	0
184	SLU 46	3.12	0	96.28	-0.0012	0.1451	0
184	SLU 47	3.09	0	94.88	-0.0024	0.1434	0
184	SLU 48	2.55	0	99.24	0.0025	0.1212	0
184	SLU 49	2.78	0	98.52	0.0003	0.1305	0
184	SLU 50	2.38	0	98.31	0.0027	0.1132	0
184	SLU 51	2.61	0	97.6	0.0005	0.1225	0
184	SLU 52	4.43	0	106.8	-0.0048	0.2039	0
184	SLU 53	3.89	0	111.15	0.0001	0.1818	0
184	SLU 54	4.12	0	110.43	-0.0021	0.1911	0
184	SLU 55	4.1	0	109.03	-0.0033	0.1893	0
184	SLU 56	3.56	0	113.39	0.0016	0.1671	0
184	SLU 57	3.79	0	112.67	-0.0006	0.1765	0
184	SLU 58	3.38	0	112.47	0.0019	0.1592	0
184	SLU 59	3.61	0	111.75	-0.0003	0.1685	0
184	SLU 60	4.48	0	114.06	-0.0015	0.2081	0
184	SLU 61	4.71	0	113.34	-0.0037	0.2174	0
184	SLU 62	4.14	0	116.29	0	0.1935	0
184	SLU 63	4.37	0	115.58	-0.0022	0.2028	0
184	SLU 64	3.43	0	106.58	-0.0002	0.1609	0
184	SLU 65	3.81	0	105.38	-0.0039	0.1764	0
184	SLU 66	3.27	0	109.74	0.001	0.1542	0
184	SLU 67	3.5	0	109.02	-0.0012	0.1635	0
184	SLU 68	3.48	0	107.62	-0.0024	0.1617	0
184	SLU 69	2.94	0	111.98	0.0025	0.1396	0
184	SLU 70	3.17	0	111.26	0.0003	0.1489	0
184	SLU 71	2.76	0	111.05	0.0027	0.1316	0
184	SLU 72	2.99	0	110.33	0.0005	0.1409	0
184	SLU 73	4.82	0	119.54	-0.0048	0.2223	0
184	SLU 74	4.27	0	123.89	0.0001	0.2002	0
184	SLU 75	4.51	0	123.17	-0.002	0.2095	0
184	SLU 76	4.48	0	121.77	-0.0033	0.2077	0
184	SLU 77	3.94	0	126.13	0.0016	0.1855	0
184	SLU 78	4.17	0	125.41	-0.0006	0.1948	0
184	SLU 79	3.77	0	125.2	0.0019	0.1775	0
184	SLU 80	4	0	124.49	-0.0003	0.1868	0
184	SLU 81	4.86	0	126.8	-0.0015	0.2265	0
184	SLU 82	5.09	0	126.08	-0.0037	0.2358	0
184	SLU 83	4.53	0	129.03	0	0.2119	0
184	SLU 84	4.76	0	128.32	-0.0022	0.2212	0
184	SLE RA 1	2.55	0	79.18	-0.0002	0.1197	0
184	SLE RA 2	2.81	0	78.39	-0.0026	0.13	0
184	SLE RA 3	2.45	0	81.29	0.0006	0.1153	0
184	SLE RA 4	2.6	0	80.81	-0.0008	0.1215	0
184	SLE RA 5	2.59	0	79.88	-0.0016	0.1203	0
184	SLE RA 6	2.22	0	82.78	0.0016	0.1055	0
184	SLE RA 7	2.38	0	82.3	0.0002	0.1117	0
184	SLE RA 8	2.11	0	82.17	0.0018	0.1002	0
184	SLE RA 9	2.26	0	81.69	0.0003	0.1064	0
184	SLE RA 10	3.48	0	87.82	-0.0032	0.1607	0
184	SLE RA 11	3.12	0	90.73	0.0001	0.1459	0
184	SLE RA 12	3.27	0	90.25	-0.0014	0.1521	0
184	SLE RA 13	3.26	0	89.31	-0.0022	0.1509	0
184	SLE RA 14	2.89	0	92.22	0.0011	0.1361	0
184	SLE RA 15	3.05	0	91.74	-0.0004	0.1423	0
184	SLE RA 16	2.78	0	91.6	0.0012	0.1308	0
184	SLE RA 17	2.93	0	91.12	-0.0002	0.137	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
184	SLE RA 18	3.51	0	92.66	-0.001	0.1634	0
184	SLE RA 19	3.66	0	92.18	-0.0025	0.1696	0
184	SLE RA 20	3.29	0	94.15	0	0.1537	0
184	SLE RA 21	3.44	0	93.68	-0.0015	0.1599	0
184	SLE FR 1	2.55	0	79.18	-0.0002	0.1197	0
184	SLE FR 2	2.6	0	79.03	-0.0007	0.1218	0
184	SLE FR 3	2.46	0	79.78	0.0002	0.1158	0
184	SLE FR 4	2.89	0	83.07	-0.0009	0.1349	0
184	SLE FR 5	2.75	0	83.82	0	0.1289	0
184	SLE FR 6	3.03	0	85.92	-0.0006	0.1416	0
184	SLE QP 1	2.55	0	79.18	-0.0002	0.1197	0
184	SLE QP 2	2.84	0	83.23	-0.0004	0.1328	0
184	SLD 1	15.85	0.21	78.97	-0.1656	0.7478	0.0003
184	SLD 2	15.85	0.21	78.97	-0.1656	0.7478	0.0003
184	SLD 3	16.83	0.03	81.74	-0.0201	0.7938	0.0001
184	SLD 4	16.83	0.03	81.74	-0.0201	0.7938	0.0001
184	SLD 5	5.26	0.34	77.75	-0.2707	0.2476	0.0005
184	SLD 6	5.26	0.34	77.75	-0.2707	0.2476	0.0005
184	SLD 7	8.52	-0.27	86.98	0.2144	0.4009	-0.0003
184	SLD 8	8.52	-0.27	86.98	0.2144	0.4009	-0.0003
184	SLD 9	-2.84	0.27	79.48	-0.2153	-0.1352	0.0004
184	SLD 10	-2.84	0.27	79.48	-0.2153	-0.1352	0.0004
184	SLD 11	0.42	-0.34	88.7	0.2698	0.0181	-0.0004
184	SLD 12	0.42	-0.34	88.7	0.2698	0.0181	-0.0004
184	SLD 13	-11.15	-0.03	84.72	0.0192	-0.5282	0
184	SLD 14	-11.15	-0.03	84.72	0.0192	-0.5282	0
184	SLD 15	-10.17	-0.21	87.49	0.1647	-0.4822	-0.0003
184	SLD 16	-10.17	-0.21	87.49	0.1647	-0.4822	-0.0003
184	SLV 1	33.27	0.5	72.88	-0.3949	1.5715	0.0007
184	SLV 2	33.27	0.5	72.88	-0.3949	1.5715	0.0007
184	SLV 3	35.61	0.06	79.66	-0.0423	1.681	0.0001
184	SLV 4	35.61	0.06	79.66	-0.0423	1.681	0.0001
184	SLV 5	8.43	0.81	69.83	-0.6534	0.3984	0.0011
184	SLV 6	8.43	0.81	69.83	-0.6534	0.3984	0.0011
184	SLV 7	16.21	-0.64	92.45	0.5217	0.7633	-0.0008
184	SLV 8	16.21	-0.64	92.45	0.5217	0.7633	-0.0008
184	SLV 9	-10.53	0.65	74.01	-0.5225	-0.4977	0.0008
184	SLV 10	-10.53	0.65	74.01	-0.5225	-0.4977	0.0008
184	SLV 11	-2.75	-0.81	96.62	0.6526	-0.1328	-0.001
184	SLV 12	-2.75	-0.81	96.62	0.6526	-0.1328	-0.001
184	SLV 13	-29.93	-0.06	86.79	0.0415	-1.4154	-0.0001
184	SLV 14	-29.93	-0.06	86.79	0.0415	-1.4154	-0.0001
184	SLV 15	-27.59	-0.5	93.58	0.394	-1.3059	-0.0006
184	SLV 16	-27.59	-0.5	93.58	0.394	-1.3059	-0.0006
185	SLU 1	0.18	0	77.25	0.0025	-0.0123	0
185	SLU 2	0.53	0	76.33	-0.0001	0.0025	0
185	SLU 3	-0.05	0	80.43	0.0042	-0.0239	0
185	SLU 4	0.16	0	79.88	0.0027	-0.0151	0
185	SLU 5	0.16	0	78.57	0.002	-0.0152	0
185	SLU 6	-0.43	-0.01	82.67	0.0063	-0.0416	0
185	SLU 7	-0.22	-0.01	82.12	0.0047	-0.0328	0
185	SLU 8	-0.57	-0.01	81.71	0.0065	-0.0477	0
185	SLU 9	-0.36	-0.01	81.17	0.005	-0.0388	0
185	SLU 10	1.08	0	90.9	-0.0004	0.0231	0
185	SLU 11	0.5	0	95	0.0039	-0.0033	0
185	SLU 12	0.71	0	94.45	0.0023	0.0055	0
185	SLU 13	0.71	0	93.14	0.0016	0.0054	0
185	SLU 14	0.12	-0.01	97.24	0.0059	-0.021	0
185	SLU 15	0.33	0	96.69	0.0044	-0.0121	0
185	SLU 16	-0.02	-0.01	96.28	0.0062	-0.0271	0
185	SLU 17	0.19	0	95.73	0.0047	-0.0182	0
185	SLU 18	0.97	0	98.06	0.0019	0.0171	0
185	SLU 19	1.18	0	97.51	0.0004	0.026	0
185	SLU 20	0.59	0	100.3	0.004	-0.0006	0
185	SLU 21	0.8	0	99.75	0.0025	0.0083	0
185	SLU 22	0.18	0	90.28	0.0031	-0.0161	0
185	SLU 23	0.53	0	89.36	0.0005	-0.0013	0
185	SLU 24	-0.05	-0.01	93.46	0.0048	-0.0277	0
185	SLU 25	0.16	0	92.91	0.0033	-0.0188	0
185	SLU 26	0.16	0	91.59	0.0026	-0.0189	0
185	SLU 27	-0.43	-0.01	95.69	0.0069	-0.0454	0
185	SLU 28	-0.22	-0.01	95.14	0.0054	-0.0365	0
185	SLU 29	-0.57	-0.01	94.74	0.0072	-0.0514	0
185	SLU 30	-0.36	-0.01	94.19	0.0056	-0.0425	0
185	SLU 31	1.08	0	103.93	0.0002	0.0193	0
185	SLU 32	0.5	-0.01	108.03	0.0045	-0.0071	0
185	SLU 33	0.71	0	107.48	0.0029	0.0018	0
185	SLU 34	0.71	0	106.16	0.0022	0.0017	0
185	SLU 35	0.12	-0.01	110.26	0.0065	-0.0248	0
185	SLU 36	0.33	-0.01	109.71	0.005	-0.0159	0
185	SLU 37	-0.02	-0.01	109.31	0.0068	-0.0308	0
185	SLU 38	0.19	-0.01	108.76	0.0053	-0.0219	0
185	SLU 39	0.97	0	111.09	0.0026	0.0134	0
185	SLU 40	1.18	0	110.54	0.001	0.0222	0
185	SLU 41	0.59	-0.01	113.32	0.0046	-0.0043	0
185	SLU 42	0.8	0	112.77	0.0031	0.0046	0
185	SLU 43	0.24	0	95.96	0.003	-0.0148	0
185	SLU 44	0.59	0	95.04	0.0004	0	0





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
185	SLU 45	0	-0.01	99.14	0.0047	-0.0264	0
185	SLU 46	0.21	0	98.59	0.0032	-0.0175	0
185	SLU 47	0.21	0	97.27	0.0025	-0.0176	0
185	SLU 48	-0.37	-0.01	101.37	0.0068	-0.0441	0
185	SLU 49	-0.16	-0.01	100.83	0.0053	-0.0352	0
185	SLU 50	-0.51	-0.01	100.42	0.0071	-0.0501	0
185	SLU 51	-0.3	-0.01	99.87	0.0056	-0.0412	0
185	SLU 52	1.14	0	109.61	0.0001	0.0206	0
185	SLU 53	0.55	-0.01	113.71	0.0044	-0.0058	0
185	SLU 54	0.76	0	113.16	0.0029	0.0031	0
185	SLU 55	0.76	0	111.84	0.0021	0.003	0
185	SLU 56	0.18	-0.01	115.94	0.0064	-0.0234	0
185	SLU 57	0.39	-0.01	115.39	0.0049	-0.0146	0
185	SLU 58	0.04	-0.01	114.99	0.0067	-0.0295	0
185	SLU 59	0.25	-0.01	114.44	0.0052	-0.0206	0
185	SLU 60	1.02	0	116.77	0.0025	0.0147	0
185	SLU 61	1.23	0	116.22	0.0009	0.0236	0
185	SLU 62	0.65	-0.01	119	0.0045	-0.003	0
185	SLU 63	0.86	0	118.45	0.003	0.0059	0
185	SLU 64	0.24	0	108.98	0.0036	-0.0185	0
185	SLU 65	0.59	0	108.07	0.0011	-0.0037	0
185	SLU 66	0	-0.01	112.17	0.0054	-0.0301	0
185	SLU 67	0.21	-0.01	111.62	0.0038	-0.0212	0
185	SLU 68	0.21	0	110.3	0.0031	-0.0214	0
185	SLU 69	-0.37	-0.01	114.4	0.0074	-0.0478	0
185	SLU 70	-0.16	-0.01	113.85	0.0059	-0.0389	0
185	SLU 71	-0.51	-0.01	113.45	0.0077	-0.0538	0
185	SLU 72	-0.3	-0.01	112.9	0.0062	-0.045	0
185	SLU 73	1.14	0	122.64	0.0007	0.0169	0
185	SLU 74	0.55	-0.01	126.74	0.005	-0.0095	0
185	SLU 75	0.76	0	126.19	0.0035	-0.0006	0
185	SLU 76	0.76	0	124.87	0.0027	-0.0008	0
185	SLU 77	0.18	-0.01	128.97	0.007	-0.0272	0
185	SLU 78	0.39	-0.01	128.42	0.0055	-0.0183	0
185	SLU 79	0.04	-0.01	128.02	0.0073	-0.0332	0
185	SLU 80	0.25	-0.01	127.47	0.0058	-0.0244	0
185	SLU 81	1.02	0	129.8	0.0031	0.011	0
185	SLU 82	1.23	0	129.25	0.0016	0.0198	0
185	SLU 83	0.65	-0.01	132.03	0.0051	-0.0067	0
185	SLU 84	0.86	0	131.48	0.0036	0.0021	0
185	SLE RA 1	0.18	0	80.97	0.0026	-0.0134	0
185	SLE RA 2	0.42	0	80.36	0.0009	-0.0035	0
185	SLE RA 3	0.03	0	83.09	0.0038	-0.0211	0
185	SLE RA 4	0.17	0	82.73	0.0028	-0.0152	0
185	SLE RA 5	0.17	0	81.85	0.0023	-0.0153	0
185	SLE RA 6	-0.22	-0.01	84.58	0.0052	-0.0329	0
185	SLE RA 7	-0.08	0	84.22	0.0042	-0.027	0
185	SLE RA 8	-0.32	-0.01	83.95	0.0054	-0.037	0
185	SLE RA 9	-0.18	0	83.58	0.0043	-0.0311	0
185	SLE RA 10	0.78	0	90.07	0.0007	0.0102	0
185	SLE RA 11	0.39	0	92.81	0.0036	-0.0074	0
185	SLE RA 12	0.53	0	92.44	0.0026	-0.0015	0
185	SLE RA 13	0.53	0	91.56	0.0021	-0.0016	0
185	SLE RA 14	0.14	-0.01	94.3	0.0049	-0.0192	0
185	SLE RA 15	0.28	0	93.93	0.0039	-0.0133	0
185	SLE RA 16	0.05	-0.01	93.66	0.0051	-0.0232	0
185	SLE RA 17	0.19	0	93.29	0.0041	-0.0173	0
185	SLE RA 18	0.71	0	94.85	0.0023	0.0062	0
185	SLE RA 19	0.85	0	94.48	0.0013	0.0121	0
185	SLE RA 20	0.46	0	96.33	0.0037	-0.0056	0
185	SLE RA 21	0.6	0	95.97	0.0026	0.0004	0
185	SLE FR 1	0.18	0	80.97	0.0026	-0.0134	0
185	SLE FR 2	0.23	0	80.85	0.0023	-0.0114	0
185	SLE FR 3	0.08	0	81.57	0.0032	-0.0181	0
185	SLE FR 4	0.39	0	85.01	0.0022	-0.0055	0
185	SLE FR 5	0.24	0	85.73	0.0031	-0.0122	0
185	SLE FR 6	0.45	0	87.91	0.0025	-0.0036	0
185	SLE QP 1	0.18	0	80.97	0.0026	-0.0134	0
185	SLE QP 2	0.34	0	85.13	0.0025	-0.0075	0
185	SLD 1	12.61	0.2	76.59	-0.1557	0.5822	0.0002
185	SLD 2	12.61	0.2	76.59	-0.1557	0.5822	0.0002
185	SLD 3	13.52	0.03	79.3	-0.0195	0.6242	0.0001
185	SLD 4	13.52	0.03	79.3	-0.0195	0.6242	0.0001
185	SLD 5	2.65	0.32	78.47	-0.2514	0.1059	0.0003
185	SLD 6	2.65	0.32	78.47	-0.2514	0.1059	0.0003
185	SLD 7	5.67	-0.26	87.49	0.2024	0.2455	-0.0002
185	SLD 8	5.67	-0.26	87.49	0.2024	0.2455	-0.0002
185	SLD 9	-4.99	0.25	82.78	-0.1973	-0.2606	0.0002
185	SLD 10	-4.99	0.25	82.78	-0.1973	-0.2606	0.0002
185	SLD 11	-1.97	-0.33	91.8	0.2565	-0.1209	-0.0003
185	SLD 12	-1.97	-0.33	91.8	0.2565	-0.1209	-0.0003
185	SLD 13	-12.84	-0.04	90.97	0.0246	-0.6392	0
185	SLD 14	-12.84	-0.04	90.97	0.0246	-0.6392	0
185	SLD 15	-11.93	-0.21	93.67	0.1607	-0.5973	-0.0002
185	SLD 16	-11.93	-0.21	93.67	0.1607	-0.5973	-0.0002
185	SLV 1	29.05	0.49	64.88	-0.3749	1.3722	0.0005
185	SLV 2	29.05	0.49	64.88	-0.3749	1.3722	0.0005
185	SLV 3	31.21	0.07	71.51	-0.0451	1.472	0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
185	SLV 4	31.21	0.07	71.51	-0.0451	1.472	0.0001
185	SLV 5	5.68	0.78	69.01	-0.6109	0.255	0.0007
185	SLV 6	5.68	0.78	69.01	-0.6109	0.255	0.0007
185	SLV 7	12.88	-0.62	91.09	0.4884	0.5877	-0.0005
185	SLV 8	12.88	-0.62	91.09	0.4884	0.5877	-0.0005
185	SLV 9	-12.19	0.61	79.18	-0.4833	-0.6028	0.0005
185	SLV 10	-12.19	0.61	79.18	-0.4833	-0.6028	0.0005
185	SLV 11	-5	-0.79	101.25	0.6159	-0.27	-0.0006
185	SLV 12	-5	-0.79	101.25	0.6159	-0.27	-0.0006
185	SLV 13	-30.52	-0.08	98.76	0.0502	-1.487	-0.0001
185	SLV 14	-30.52	-0.08	98.76	0.0502	-1.487	-0.0001
185	SLV 15	-28.36	-0.5	105.38	0.38	-1.3872	-0.0004
185	SLV 16	-28.36	-0.5	105.38	0.38	-1.3872	-0.0004
186	SLU 1	-2.86	0	78.73	0.0024	-0.1226	0
186	SLU 2	-2.55	0	78.02	0.0009	-0.1093	0
186	SLU 3	-3.19	0	81.98	0.0047	-0.1376	0
186	SLU 4	-3	0	81.55	0.0039	-0.1296	0
186	SLU 5	-2.96	0	80.31	0.0037	-0.1284	0
186	SLU 6	-3.6	-0.01	84.27	0.0075	-0.1567	0
186	SLU 7	-3.42	-0.01	83.84	0.0066	-0.1487	0
186	SLU 8	-3.69	-0.01	83.31	0.0079	-0.1608	0
186	SLU 9	-3.5	-0.01	82.88	0.007	-0.1528	0
186	SLU 10	-2.64	0	92.91	0.0005	-0.1117	0
186	SLU 11	-3.28	0	96.87	0.0043	-0.14	0
186	SLU 12	-3.1	0	96.45	0.0034	-0.132	0
186	SLU 13	-3.06	0	95.2	0.0032	-0.1308	0
186	SLU 14	-3.7	-0.01	99.17	0.007	-0.1591	0
186	SLU 15	-3.51	-0.01	98.74	0.0062	-0.1511	0
186	SLU 16	-3.78	-0.01	98.21	0.0074	-0.1632	0
186	SLU 17	-3.59	-0.01	97.78	0.0066	-0.1552	0
186	SLU 18	-3	0	100.01	0.0017	-0.126	0
186	SLU 19	-2.81	0	99.58	0.0009	-0.118	0
186	SLU 20	-3.41	0	102.3	0.0045	-0.1451	0
186	SLU 21	-3.22	0	101.87	0.0036	-0.1371	0
186	SLU 22	-3.37	0	92.03	0.0032	-0.1448	0
186	SLU 23	-3.06	0	91.32	0.0017	-0.1315	0
186	SLU 24	-3.7	-0.01	95.29	0.0055	-0.1598	0
186	SLU 25	-3.52	0	94.86	0.0046	-0.1518	0
186	SLU 26	-3.48	0	93.61	0.0045	-0.1506	0
186	SLU 27	-4.12	-0.01	97.58	0.0083	-0.1789	0
186	SLU 28	-3.93	-0.01	97.15	0.0074	-0.1709	0
186	SLU 29	-4.2	-0.01	96.62	0.0087	-0.183	0
186	SLU 30	-4.01	-0.01	96.19	0.0078	-0.175	0
186	SLU 31	-3.16	0	106.22	0.0013	-0.1339	0
186	SLU 32	-3.8	0	110.18	0.0051	-0.1622	0
186	SLU 33	-3.61	0	109.75	0.0042	-0.1542	0
186	SLU 34	-3.57	0	108.51	0.004	-0.153	0
186	SLU 35	-4.21	-0.01	112.47	0.0078	-0.1813	0
186	SLU 36	-4.02	-0.01	112.04	0.007	-0.1733	0
186	SLU 37	-4.29	-0.01	111.51	0.0082	-0.1854	0
186	SLU 38	-4.11	-0.01	111.08	0.0073	-0.1774	0
186	SLU 39	-3.51	0	113.31	0.0025	-0.1482	0
186	SLU 40	-3.32	0	112.88	0.0017	-0.1402	0
186	SLU 41	-3.92	0	115.6	0.0053	-0.1673	0
186	SLU 42	-3.73	0	115.17	0.0044	-0.1593	0
186	SLU 43	-3.54	0	97.79	0.0028	-0.1518	0
186	SLU 44	-3.23	0	97.08	0.0014	-0.1385	0
186	SLU 45	-3.87	-0.01	101.04	0.0052	-0.1668	0
186	SLU 46	-3.69	0	100.61	0.0043	-0.1588	0
186	SLU 47	-3.64	0	99.37	0.0041	-0.1576	0
186	SLU 48	-4.29	-0.01	103.33	0.0079	-0.1859	0
186	SLU 49	-4.1	-0.01	102.9	0.0071	-0.1779	0
186	SLU 50	-4.37	-0.01	102.37	0.0083	-0.19	0
186	SLU 51	-4.18	-0.01	101.94	0.0074	-0.182	0
186	SLU 52	-3.33	0	111.97	0.0009	-0.1408	0
186	SLU 53	-3.97	0	115.93	0.0047	-0.1692	0
186	SLU 54	-3.78	0	115.5	0.0039	-0.1612	0
186	SLU 55	-3.74	0	114.26	0.0037	-0.1599	0
186	SLU 56	-4.38	-0.01	118.22	0.0075	-0.1882	0
186	SLU 57	-4.19	-0.01	117.8	0.0066	-0.1802	0
186	SLU 58	-4.46	-0.01	117.26	0.0079	-0.1924	0
186	SLU 59	-4.28	-0.01	116.84	0.007	-0.1844	0
186	SLU 60	-3.68	0	119.06	0.0022	-0.1552	0
186	SLU 61	-3.49	0	118.64	0.0013	-0.1472	0
186	SLU 62	-4.09	0	121.36	0.0049	-0.1743	0
186	SLU 63	-3.9	0	120.93	0.0041	-0.1663	0
186	SLU 64	-4.06	0	111.09	0.0036	-0.174	0
186	SLU 65	-3.74	0	110.38	0.0021	-0.1607	0
186	SLU 66	-4.39	-0.01	114.34	0.006	-0.189	0
186	SLU 67	-4.2	-0.01	113.92	0.0051	-0.181	0
186	SLU 68	-4.16	-0.01	112.67	0.0049	-0.1798	0
186	SLU 69	-4.8	-0.01	116.63	0.0087	-0.2081	0
186	SLU 70	-4.61	-0.01	116.21	0.0078	-0.2001	0
186	SLU 71	-4.88	-0.01	115.67	0.0091	-0.2122	0
186	SLU 72	-4.7	-0.01	115.25	0.0082	-0.2042	0
186	SLU 73	-3.84	0	125.27	0.0017	-0.163	0
186	SLU 74	-4.48	-0.01	129.24	0.0055	-0.1914	0
186	SLU 75	-4.29	0	128.81	0.0046	-0.1834	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
186	SLU 76	-4.25	0	127.56	0.0045	-0.1821	0		
186	SLU 77	-4.89	-0.01	131.53	0.0083	-0.2104	0		
186	SLU 78	-4.71	-0.01	131.1	0.0074	-0.2024	0		
186	SLU 79	-4.98	-0.01	130.57	0.0087	-0.2146	0		
186	SLU 80	-4.79	-0.01	130.14	0.0078	-0.2066	0		
186	SLU 81	-4.19	0	132.37	0.003	-0.1774	0		
186	SLU 82	-4	0	131.94	0.0021	-0.1694	0		
186	SLU 83	-4.6	-0.01	134.66	0.0057	-0.1965	0		
186	SLU 84	-4.42	0	134.23	0.0049	-0.1885	0		
186	SLE RA 1	-3.01	0	82.53	0.0026	-0.129	0		
186	SLE RA 2	-2.8	0	82.06	0.0016	-0.1201	0		
186	SLE RA 3	-3.23	0	84.7	0.0042	-0.139	0		
186	SLE RA 4	-3.1	0	84.41	0.0036	-0.1336	0		
186	SLE RA 5	-3.08	0	83.58	0.0035	-0.1328	0		
186	SLE RA 6	-3.5	-0.01	86.23	0.006	-0.1517	0		
186	SLE RA 7	-3.38	-0.01	85.94	0.0054	-0.1463	0		
186	SLE RA 8	-3.56	-0.01	85.59	0.0063	-0.1544	0		
186	SLE RA 9	-3.43	-0.01	85.3	0.0057	-0.1491	0		
186	SLE RA 10	-2.86	0	91.99	0.0013	-0.1217	0		
186	SLE RA 11	-3.29	0	94.63	0.0039	-0.1405	0		
186	SLE RA 12	-3.17	0	94.34	0.0033	-0.1352	0		
186	SLE RA 13	-3.14	0	93.51	0.0032	-0.1344	0		
186	SLE RA 14	-3.57	-0.01	96.15	0.0057	-0.1533	0		
186	SLE RA 15	-3.44	0	95.87	0.0051	-0.1479	0		
186	SLE RA 16	-3.62	-0.01	95.51	0.006	-0.156	0		
186	SLE RA 17	-3.5	-0.01	95.23	0.0054	-0.1507	0		
186	SLE RA 18	-3.1	0	96.72	0.0022	-0.1312	0		
186	SLE RA 19	-2.97	0	96.43	0.0016	-0.1259	0		
186	SLE RA 20	-3.37	0	98.24	0.004	-0.144	0		
186	SLE RA 21	-3.25	0	97.96	0.0034	-0.1386	0		
186	SLE FR 1	-3.01	0	82.53	0.0026	-0.129	0		
186	SLE FR 2	-2.97	0	82.44	0.0024	-0.1272	0		
186	SLE FR 3	-3.12	0	83.14	0.0033	-0.1341	0		
186	SLE FR 4	-2.99	0	86.69	0.0023	-0.1279	0		
186	SLE FR 5	-3.14	0	87.4	0.0032	-0.1347	0		
186	SLE FR 6	-3.05	0	89.62	0.0024	-0.1301	0		
186	SLE QP 1	-3.01	0	82.53	0.0026	-0.129	0		
186	SLE QP 2	-3.03	0	86.79	0.0025	-0.1296	0		
186	SLD 1	8.09	0.17	71.4	-0.118	0.43	0.0002		
186	SLD 2	8.09	0.17	71.4	-0.118	0.43	0.0002		
186	SLD 3	8.88	0.03	74.11	-0.0183	0.4689	0		
186	SLD 4	8.88	0.03	74.11	-0.0183	0.4689	0		
186	SLD 5	-0.9	0.25	78.06	-0.1849	-0.0208	0.0003		
186	SLD 6	-0.9	0.25	78.06	-0.1849	-0.0208	0.0003		
186	SLD 7	1.74	-0.19	87.1	0.1475	0.109	-0.0002		
186	SLD 8	1.74	-0.19	87.1	0.1475	0.109	-0.0002		
186	SLD 9	-7.81	0.19	86.48	-0.1425	-0.3682	0.0003		
186	SLD 10	-7.81	0.19	86.48	-0.1425	-0.3682	0.0003		
186	SLD 11	-5.17	-0.26	95.52	0.1899	-0.2385	-0.0003		
186	SLD 12	-5.17	-0.26	95.52	0.1899	-0.2385	-0.0003		
186	SLD 13	-14.95	-0.04	99.46	0.0233	-0.7282	0		
186	SLD 14	-14.95	-0.04	99.46	0.0233	-0.7282	0		
186	SLD 15	-14.16	-0.17	102.17	0.123	-0.6893	-0.0002		
186	SLD 16	-14.16	-0.17	102.17	0.123	-0.6893	-0.0002		
186	SLV 1	22.98	0.4	50.55	-0.2846	1.1797	0.0005		
186	SLV 2	22.98	0.4	50.55	-0.2846	1.1797	0.0005		
186	SLV 3	24.87	0.07	57.17	-0.0433	1.2724	0.0001		
186	SLV 4	24.87	0.07	57.17	-0.0433	1.2724	0.0001		
186	SLV 5	1.91	0.61	65.87	-0.4496	0.1226	0.0008		
186	SLV 6	1.91	0.61	65.87	-0.4496	0.1226	0.0008		
186	SLV 7	8.2	-0.47	87.94	0.3547	0.4315	-0.0006		
186	SLV 8	8.2	-0.47	87.94	0.3547	0.4315	-0.0006		
186	SLV 9	-14.27	0.46	85.63	-0.3498	-0.6908	0.0006		
186	SLV 10	-14.27	0.46	85.63	-0.3498	-0.6908	0.0006		
186	SLV 11	-7.98	-0.61	107.7	0.4546	-0.3819	-0.0008		
186	SLV 12	-7.98	-0.61	107.7	0.4546	-0.3819	-0.0008		
186	SLV 13	-30.94	-0.08	116.41	0.0483	-1.5317	-0.0001		
186	SLV 14	-30.94	-0.08	116.41	0.0483	-1.5317	-0.0001		
186	SLV 15	-29.05	-0.4	123.03	0.2896	-1.439	-0.0005		
186	SLV 16	-29.05	-0.4	123.03	0.2896	-1.439	-0.0005		
187	SLU 1	-7.56	0	81.97	0.0009	-0.4146	0		
187	SLU 2	-7.3	0	81.32	0.0008	-0.4018	0		
187	SLU 3	-8.03	0	85.49	0.004	-0.4402	0		
187	SLU 4	-7.87	0	85.09	0.0039	-0.4326	0		
187	SLU 5	-7.76	-0.01	83.9	0.0044	-0.427	0		
187	SLU 6	-8.49	-0.01	88.07	0.0076	-0.4654	0		
187	SLU 7	-8.34	-0.01	87.67	0.0075	-0.4578	0		
187	SLU 8	-8.49	-0.01	87.14	0.0082	-0.465	0		
187	SLU 9	-8.33	-0.01	86.74	0.0081	-0.4573	0		
187	SLU 10	-8.42	0	96.67	0	-0.4643	0		
187	SLU 11	-9.15	0	100.84	0.0032	-0.5027	0		
187	SLU 12	-8.99	0	100.44	0.0032	-0.4951	0		
187	SLU 13	-8.88	0	99.25	0.0037	-0.4895	0		
187	SLU 14	-9.61	-0.01	103.42	0.0069	-0.5279	0		
187	SLU 15	-9.46	-0.01	103.02	0.0068	-0.5202	0		
187	SLU 16	-9.61	-0.01	102.49	0.0074	-0.5274	0		
187	SLU 17	-9.45	-0.01	102.09	0.0073	-0.5198	0		
187	SLU 18	-9.16	0	103.91	-0.0002	-0.5039	0		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
187	SLU 19	-9.01	0	103.51	-0.0002	-0.4962	0		
187	SLU 20	-9.62	0	106.49	0.0035	-0.5291	0		
187	SLU 21	-9.47	0	106.09	0.0034	-0.5214	0		
187	SLU 22	-8.88	0	95.9	0.0017	-0.487	0		
187	SLU 23	-8.61	0	95.24	0.0016	-0.4743	0		
187	SLU 24	-9.34	0	99.41	0.0048	-0.5127	0		
187	SLU 25	-9.19	-0.01	99.02	0.0047	-0.505	0		
187	SLU 26	-9.08	-0.01	97.82	0.0052	-0.4994	0		
187	SLU 27	-9.81	-0.01	101.99	0.0084	-0.5378	0		
187	SLU 28	-9.65	-0.01	101.6	0.0083	-0.5302	0		
187	SLU 29	-9.8	-0.01	101.06	0.0089	-0.5374	0		
187	SLU 30	-9.64	-0.01	100.67	0.0089	-0.5297	0		
187	SLU 31	-9.73	0	110.6	0.0008	-0.5368	0		
187	SLU 32	-10.46	0	114.76	0.004	-0.5752	0		
187	SLU 33	-10.31	0	114.37	0.0039	-0.5675	0		
187	SLU 34	-10.19	0	113.18	0.0044	-0.5619	0		
187	SLU 35	-10.93	-0.01	117.35	0.0076	-0.6003	0		
187	SLU 36	-10.77	-0.01	116.95	0.0075	-0.5927	0		
187	SLU 37	-10.92	-0.01	116.42	0.0082	-0.5999	0		
187	SLU 38	-10.76	-0.01	116.02	0.0081	-0.5922	0		
187	SLU 39	-10.48	0	117.83	0.0006	-0.5763	0		
187	SLU 40	-10.32	0	117.44	0.0005	-0.5686	0		
187	SLU 41	-10.94	0	120.41	0.0042	-0.6015	0		
187	SLU 42	-10.78	0	120.02	0.0041	-0.5938	0		
187	SLU 43	-9.38	0	101.79	0.001	-0.5142	0		
187	SLU 44	-9.12	0	101.13	0.0008	-0.5014	0		
187	SLU 45	-9.85	0	105.3	0.004	-0.5398	0		
187	SLU 46	-9.69	0	104.91	0.004	-0.5321	0		
187	SLU 47	-9.58	-0.01	103.72	0.0045	-0.5266	0		
187	SLU 48	-10.31	-0.01	107.89	0.0076	-0.565	0		
187	SLU 49	-10.16	-0.01	107.49	0.0076	-0.5573	0		
187	SLU 50	-10.31	-0.01	106.95	0.0082	-0.5645	0		
187	SLU 51	-10.15	-0.01	106.56	0.0081	-0.5568	0		
187	SLU 52	-10.24	0	116.49	0.0001	-0.5639	0		
187	SLU 53	-10.97	0	120.66	0.0033	-0.6023	0		
187	SLU 54	-10.81	0	120.26	0.0032	-0.5946	0		
187	SLU 55	-10.7	0	119.07	0.0037	-0.5891	0		
187	SLU 56	-11.43	-0.01	123.24	0.0069	-0.6275	0		
187	SLU 57	-11.27	-0.01	122.84	0.0068	-0.6198	0		
187	SLU 58	-11.43	-0.01	122.31	0.0074	-0.627	0		
187	SLU 59	-11.27	-0.01	121.91	0.0074	-0.6193	0		
187	SLU 60	-10.98	0	123.72	-0.0001	-0.6034	0		
187	SLU 61	-10.82	0	123.33	-0.0002	-0.5958	0		
187	SLU 62	-11.44	0	126.3	0.0035	-0.6286	0		
187	SLU 63	-11.29	0	125.91	0.0034	-0.6209	0		
187	SLU 64	-10.7	0	115.72	0.0017	-0.5866	0		
187	SLU 65	-10.43	0	115.06	0.0016	-0.5738	0		
187	SLU 66	-11.16	0	119.23	0.0048	-0.6122	0		
187	SLU 67	-11.01	0	118.84	0.0047	-0.6046	0		
187	SLU 68	-10.89	-0.01	117.64	0.0052	-0.599	0		
187	SLU 69	-11.63	-0.01	121.81	0.0084	-0.6374	0		
187	SLU 70	-11.47	-0.01	121.42	0.0083	-0.6297	0		
187	SLU 71	-11.62	-0.01	120.88	0.0089	-0.6369	0		
187	SLU 72	-11.46	-0.01	120.49	0.0089	-0.6293	0		
187	SLU 73	-11.55	0	130.41	0.0008	-0.6363	0		
187	SLU 74	-12.28	0	134.58	0.004	-0.6747	0		
187	SLU 75	-12.13	0	134.19	0.0039	-0.667	0		
187	SLU 76	-12.01	0	132.99	0.0044	-0.6615	0		
187	SLU 77	-12.75	-0.01	137.16	0.0076	-0.6999	0		
187	SLU 78	-12.59	-0.01	136.77	0.0076	-0.6922	0		
187	SLU 79	-12.74	-0.01	136.23	0.0082	-0.6994	0		
187	SLU 80	-12.58	-0.01	135.84	0.0081	-0.6918	0		
187	SLU 81	-12.29	0	137.65	0.0006	-0.6759	0		
187	SLU 82	-12.14	0	137.26	0.0005	-0.6682	0		
187	SLU 83	-12.76	0	140.23	0.0042	-0.701	0		
187	SLU 84	-12.6	0	139.84	0.0042	-0.6934	0		
187	SLE RA 1	-7.94	0	85.95	0.0011	-0.4353	0		
187	SLE RA 2	-7.76	0	85.52	0.0011	-0.4268	0		
187	SLE RA 3	-8.25	0	88.29	0.0032	-0.4524	0		
187	SLE RA 4	-8.15	0	88.03	0.0031	-0.4473	0		
187	SLE RA 5	-8.07	0	87.24	0.0035	-0.4436	0		
187	SLE RA 6	-8.56	-0.01	90.02	0.0056	-0.4692	0		
187	SLE RA 7	-8.45	-0.01	89.75	0.0056	-0.4641	0		
187	SLE RA 8	-8.55	-0.01	89.4	0.006	-0.4689	0		
187	SLE RA 9	-8.45	-0.01	89.13	0.0059	-0.4638	0		
187	SLE RA 10	-8.51	0	95.75	0.0006	-0.4685	0		
187	SLE RA 11	-9	0	98.53	0.0027	-0.4941	0		
187	SLE RA 12	-8.89	0	98.27	0.0026	-0.4889	0		
187	SLE RA 13	-8.82	0	97.47	0.003	-0.4852	0		
187	SLE RA 14	-9.31	-0.01	100.25	0.0051	-0.5108	0		
187	SLE RA 15	-9.2	-0.01	99.99	0.005	-0.5057	0		
187	SLE RA 16	-9.3	-0.01	99.63	0.0055	-0.5105	0		
187	SLE RA 17	-9.2	-0.01	99.37	0.0054	-0.5054	0		
187	SLE RA 18	-9	0	100.57	0.0004	-0.4948	0		
187	SLE RA 19	-8.9	0	100.31	0.0004	-0.4897	0		
187	SLE RA 20	-9.31	0	102.3	0.0028	-0.5116	0		
187	SLE RA 21	-9.21	0	102.03	0.0028	-0.5065	0		
187	SLE FR 1	-7.94	0	85.95	0.0011	-0.4353	0		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
187	SLE FR 2	-7.9	0	85.87	0.0011	-0.4336	0
187	SLE FR 3	-8.06	0	86.64	0.0021	-0.442	0
187	SLE FR 4	-8.22	0	90.25	0.0009	-0.4515	0
187	SLE FR 5	-8.38	0	91.03	0.0019	-0.4599	0
187	SLE FR 6	-8.47	0	93.26	0.0008	-0.4651	0
187	SLE QP 1	-7.94	0	85.95	0.0011	-0.4353	0
187	SLE QP 2	-8.26	0	90.34	0.0009	-0.4532	0
187	SLD 1	0.94	0.06	61.06	-0.0511	0.0814	0.0002
187	SLD 2	0.94	0.06	61.06	-0.0511	0.0814	0.0002
187	SLD 3	1.54	0.02	63.92	-0.0127	0.115	0
187	SLD 4	1.54	0.02	63.92	-0.0127	0.115	0
187	SLD 5	-6.41	0.08	77.22	-0.0729	-0.3438	0.0003
187	SLD 6	-6.41	0.08	77.22	-0.0729	-0.3438	0.0003
187	SLD 7	-4.41	-0.06	86.75	0.055	-0.2318	-0.0002
187	SLD 8	-4.41	-0.06	86.75	0.055	-0.2318	-0.0002
187	SLD 9	-12.11	0.06	93.93	-0.0532	-0.6746	0.0002
187	SLD 10	-12.11	0.06	93.93	-0.0532	-0.6746	0.0002
187	SLD 11	-10.11	-0.08	103.46	0.0748	-0.5626	-0.0003
187	SLD 12	-10.11	-0.08	103.46	0.0748	-0.5626	-0.0003
187	SLD 13	-18.05	-0.02	116.76	0.0146	-1.0213	0
187	SLD 14	-18.05	-0.02	116.76	0.0146	-1.0213	0
187	SLD 15	-17.45	-0.06	119.62	0.053	-0.9877	-0.0002
187	SLD 16	-17.45	-0.06	119.62	0.053	-0.9877	-0.0002
187	SLV 1	13.26	0.15	21.59	-0.1218	0.7977	0.0004
187	SLV 2	13.26	0.15	21.59	-0.1218	0.7977	0.0004
187	SLV 3	14.69	0.05	28.53	-0.0306	0.878	0
187	SLV 4	14.69	0.05	28.53	-0.0306	0.878	0
187	SLV 5	-3.98	0.19	59.18	-0.1741	-0.1997	0.0006
187	SLV 6	-3.98	0.19	59.18	-0.1741	-0.1997	0.0006
187	SLV 7	0.81	-0.13	82.33	0.1297	0.0679	-0.0005
187	SLV 8	0.81	-0.13	82.33	0.1297	0.0679	-0.0005
187	SLV 9	-17.32	0.13	98.35	-0.1278	-0.9743	0.0005
187	SLV 10	-17.32	0.13	98.35	-0.1278	-0.9743	0.0005
187	SLV 11	-12.53	-0.19	121.5	0.176	-0.7067	-0.0006
187	SLV 12	-12.53	-0.19	121.5	0.176	-0.7067	-0.0006
187	SLV 13	-31.21	-0.05	152.15	0.0325	-1.7843	0
187	SLV 14	-31.21	-0.05	152.15	0.0325	-1.7843	0
187	SLV 15	-29.77	-0.15	159.09	0.1237	-1.704	-0.0004
187	SLV 16	-29.77	-0.15	159.09	0.1237	-1.704	-0.0004
188	SLU 1	-11.92	0.01	48.06	-0.0003	-0.297	-0.0001
188	SLU 2	-11.74	0	47.61	0.0002	-0.2906	0
188	SLU 3	-12.52	0	50.24	0.0014	-0.3134	0.0002
188	SLU 4	-12.41	0	49.97	0.0017	-0.3096	0.0003
188	SLU 5	-12.24	0	49.31	0.0023	-0.3056	0.0004
188	SLU 6	-13.01	0	51.95	0.0035	-0.3284	0.0005
188	SLU 7	-12.9	0	51.68	0.0038	-0.3246	0.0006
188	SLU 8	-12.92	0	51.47	0.0038	-0.327	0.0006
188	SLU 9	-12.81	0	51.2	0.0041	-0.3232	0.0006
188	SLU 10	-13.84	0	56.41	-0.0003	-0.3393	-0.0001
188	SLU 11	-14.61	0	59.05	0.0009	-0.3621	0.0001
188	SLU 12	-14.5	0	58.78	0.0012	-0.3583	0.0002
188	SLU 13	-14.34	0	58.12	0.0018	-0.3544	0.0003
188	SLU 14	-15.11	0	60.75	0.003	-0.3771	0.0004
188	SLU 15	-15	0	60.48	0.0033	-0.3733	0.0005
188	SLU 16	-15.01	0	60.27	0.0033	-0.3757	0.0005
188	SLU 17	-14.9	0	60	0.0036	-0.3719	0.0005
188	SLU 18	-14.92	0.01	60.64	-0.0011	-0.3666	-0.0002
188	SLU 19	-14.81	0	60.37	-0.0007	-0.3628	-0.0001
188	SLU 20	-15.41	0	62.34	0.001	-0.3816	0.0001
188	SLU 21	-15.31	0	62.07	0.0013	-0.3778	0.0002
188	SLU 22	-13.98	0.01	56.28	0	-0.3485	0
188	SLU 23	-13.8	0	55.83	0.0005	-0.3422	0.0001
188	SLU 24	-14.57	0	58.46	0.0017	-0.3649	0.0002
188	SLU 25	-14.46	0	58.19	0.0021	-0.3611	0.0003
188	SLU 26	-14.3	0	57.53	0.0026	-0.3572	0.0004
188	SLU 27	-15.07	0	60.17	0.0038	-0.38	0.0006
188	SLU 28	-14.96	0	59.9	0.0041	-0.3761	0.0006
188	SLU 29	-14.97	0	59.69	0.0041	-0.3786	0.0006
188	SLU 30	-14.86	0	59.41	0.0044	-0.3747	0.0007
188	SLU 31	-15.89	0	64.63	0	-0.3909	0
188	SLU 32	-16.66	0	67.27	0.0012	-0.4137	0.0002
188	SLU 33	-16.56	0	67	0.0015	-0.4099	0.0002
188	SLU 34	-16.39	0	66.34	0.0021	-0.4059	0.0003
188	SLU 35	-17.16	0	68.97	0.0033	-0.4287	0.0005
188	SLU 36	-17.05	0	68.7	0.0036	-0.4249	0.0005
188	SLU 37	-17.07	0	68.49	0.0036	-0.4273	0.0005
188	SLU 38	-16.96	0	68.22	0.0039	-0.4235	0.0006
188	SLU 39	-16.97	0.01	68.85	-0.0008	-0.4182	-0.0002
188	SLU 40	-16.86	0	68.58	-0.0004	-0.4143	-0.0001
188	SLU 41	-17.47	0	70.56	0.0013	-0.4332	0.0002
188	SLU 42	-17.36	0	70.29	0.0016	-0.4294	0.0002
188	SLU 43	-14.8	0.01	59.66	-0.0005	-0.3684	-0.0001
188	SLU 44	-14.62	0	59.21	0	-0.362	0
188	SLU 45	-15.39	0	61.84	0.0012	-0.3848	0.0002
188	SLU 46	-15.28	0	61.57	0.0015	-0.381	0.0002
188	SLU 47	-15.11	0	60.91	0.0021	-0.377	0.0003
188	SLU 48	-15.88	0	63.55	0.0033	-0.3998	0.0005
188	SLU 49	-15.78	0	63.28	0.0036	-0.396	0.0005



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
188	SLU 50	-15.79	0	63.07	0.0036	-0.3984	0.0005
188	SLU 51	-15.68	0	62.8	0.0039	-0.3946	0.0006
188	SLU 52	-16.71	0	68.01	-0.0005	-0.4108	-0.0001
188	SLU 53	-17.48	0.01	70.65	0.0007	-0.4335	0.0001
188	SLU 54	-17.37	0	70.38	0.001	-0.4297	0.0001
188	SLU 55	-17.21	0	69.72	0.0016	-0.4258	0.0002
188	SLU 56	-17.98	0	72.35	0.0027	-0.4485	0.0004
188	SLU 57	-17.87	0	72.08	0.0031	-0.4447	0.0005
188	SLU 58	-17.88	0	71.87	0.0031	-0.4471	0.0004
188	SLU 59	-17.78	0	71.6	0.0034	-0.4433	0.0005
188	SLU 60	-17.79	0.01	72.24	-0.0013	-0.438	-0.0002
188	SLU 61	-17.68	0.01	71.96	-0.0009	-0.4342	-0.0002
188	SLU 62	-18.29	0.01	73.94	0.0008	-0.453	0.0001
188	SLU 63	-18.18	0	73.67	0.0011	-0.4492	0.0002
188	SLU 64	-16.85	0.01	67.88	-0.0002	-0.42	-0.0001
188	SLU 65	-16.67	0	67.43	0.0003	-0.4136	0
188	SLU 66	-17.44	0	70.06	0.0015	-0.4364	0.0002
188	SLU 67	-17.33	0	69.79	0.0018	-0.4325	0.0003
188	SLU 68	-17.17	0	69.13	0.0024	-0.4286	0.0004
188	SLU 69	-17.94	0	71.76	0.0036	-0.4514	0.0005
188	SLU 70	-17.83	0	71.49	0.0039	-0.4475	0.0006
188	SLU 71	-17.85	0	71.28	0.0039	-0.45	0.0006
188	SLU 72	-17.74	0	71.01	0.0042	-0.4462	0.0006
188	SLU 73	-18.77	0	76.23	-0.0002	-0.4623	0
188	SLU 74	-19.54	0.01	78.87	0.001	-0.4851	0.0001
188	SLU 75	-19.43	0	78.59	0.0013	-0.4813	0.0002
188	SLU 76	-19.26	0	77.93	0.0019	-0.4773	0.0003
188	SLU 77	-20.03	0	80.57	0.0031	-0.5001	0.0004
188	SLU 78	-19.93	0	80.3	0.0034	-0.4963	0.0005
188	SLU 79	-19.94	0	80.09	0.0034	-0.4987	0.0005
188	SLU 80	-19.83	0	79.82	0.0037	-0.4949	0.0006
188	SLU 81	-19.84	0.01	80.45	-0.001	-0.4896	-0.0002
188	SLU 82	-19.74	0.01	80.18	-0.0006	-0.4858	-0.0001
188	SLU 83	-20.34	0.01	82.16	0.0011	-0.5046	0.0001
188	SLU 84	-20.23	0	81.89	0.0014	-0.5008	0.0002
188	SLE RA 1	-12.51	0.01	50.41	-0.0002	-0.3117	-0.0001
188	SLE RA 2	-12.39	0	50.11	0.0001	-0.3075	0
188	SLE RA 3	-12.91	0	51.86	0.0009	-0.3226	0.0001
188	SLE RA 4	-12.83	0	51.68	0.0011	-0.3201	0.0002
188	SLE RA 5	-12.72	0	51.24	0.0015	-0.3175	0.0002
188	SLE RA 6	-13.24	0	53	0.0023	-0.3326	0.0003
188	SLE RA 7	-13.16	0	52.82	0.0025	-0.3301	0.0004
188	SLE RA 8	-13.17	0	52.68	0.0025	-0.3317	0.0004
188	SLE RA 9	-13.1	0	52.5	0.0027	-0.3292	0.0004
188	SLE RA 10	-13.79	0	55.98	-0.0002	-0.34	0
188	SLE RA 11	-14.3	0	57.73	0.0006	-0.3551	0.0001
188	SLE RA 12	-14.23	0	57.55	0.0008	-0.3526	0.0001
188	SLE RA 13	-14.12	0	57.11	0.0012	-0.35	0.0002
188	SLE RA 14	-14.63	0	58.87	0.0019	-0.3651	0.0003
188	SLE RA 15	-14.56	0	58.69	0.0022	-0.3626	0.0003
188	SLE RA 16	-14.57	0	58.55	0.0022	-0.3642	0.0003
188	SLE RA 17	-14.5	0	58.37	0.0024	-0.3617	0.0004
188	SLE RA 18	-14.51	0.01	58.79	-0.0007	-0.3581	-0.0001
188	SLE RA 19	-14.43	0.01	58.61	-0.0005	-0.3556	-0.0001
188	SLE RA 20	-14.84	0	59.93	0.0006	-0.3681	0.0001
188	SLE RA 21	-14.77	0	59.75	0.0009	-0.3656	0.0001
188	SLE FR 1	-12.51	0.01	50.41	-0.0002	-0.3117	-0.0001
188	SLE FR 2	-12.49	0	50.35	-0.0002	-0.3109	-0.0001
188	SLE FR 3	-12.64	0	50.86	0.0003	-0.3157	0
188	SLE FR 4	-13.09	0.01	52.86	-0.0003	-0.3248	-0.0001
188	SLE FR 5	-13.24	0	53.38	0.0002	-0.3296	0
188	SLE FR 6	-13.51	0.01	54.6	-0.0005	-0.3349	-0.0001
188	SLE QP 1	-12.51	0.01	50.41	-0.0002	-0.3117	-0.0001
188	SLE QP 2	-13.11	0.01	52.92	-0.0004	-0.3256	-0.0001
188	SLD 1	-4.46	-0.25	26.96	-0.0264	-0.0268	-0.0057
188	SLD 2	-4.46	-0.25	26.96	-0.0264	-0.0268	-0.0057
188	SLD 3	-4.99	-0.02	28.78	0	-0.0086	-0.0001
188	SLD 4	-4.99	-0.02	28.78	0	-0.0086	-0.0001
188	SLD 5	-9.71	-0.43	42.37	-0.0482	-0.2636	-0.0103
188	SLD 6	-9.71	-0.43	42.37	-0.0482	-0.2636	-0.0103
188	SLD 7	-11.48	0.36	48.44	0.0397	-0.2029	0.0084
188	SLD 8	-11.48	0.36	48.44	0.0397	-0.2029	0.0084
188	SLD 9	-14.74	-0.34	57.41	-0.0405	-0.4483	-0.0086
188	SLD 10	-14.74	-0.34	57.41	-0.0405	-0.4483	-0.0086
188	SLD 11	-16.51	0.44	63.47	0.0474	-0.3877	0.0101
188	SLD 12	-16.51	0.44	63.47	0.0474	-0.3877	0.0101
188	SLD 13	-21.23	0.03	77.07	-0.0007	-0.6427	-0.0001
188	SLD 14	-21.23	0.03	77.07	-0.0007	-0.6427	-0.0001
188	SLD 15	-21.76	0.26	78.89	0.0256	-0.6245	0.0055
188	SLD 16	-21.76	0.26	78.89	0.0256	-0.6245	0.0055
188	SLV 1	7.18	-0.61	-7.98	-0.0625	0.3738	-0.0135
188	SLV 2	7.18	-0.61	-7.98	-0.0625	0.3738	-0.0135
188	SLV 3	5.9	-0.04	-3.58	0.001	0.4173	0
188	SLV 4	5.9	-0.04	-3.58	0.001	0.4173	0
188	SLV 5	-5.09	-1.05	27.99	-0.1153	-0.1817	-0.0247
188	SLV 6	-5.09	-1.05	27.99	-0.1153	-0.1817	-0.0247
188	SLV 7	-9.34	0.86	42.64	0.0963	-0.0368	0.0205
188	SLV 8	-9.34	0.86	42.64	0.0963	-0.0368	0.0205



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z		x	y	z
188	SLV 9	-16.88	-0.85	63.21		-0.0971	-0.6144	-0.0207
188	SLV 10	-16.88	-0.85	63.21		-0.0971	-0.6144	-0.0207
188	SLV 11	-21.13	1.06	77.86		0.1145	-0.4695	0.0245
188	SLV 12	-21.13	1.06	77.86		0.1145	-0.4695	0.0245
188	SLV 13	-32.12	0.05	109.42		-0.0018	-1.0685	-0.0002
188	SLV 14	-32.12	0.05	109.42		-0.0018	-1.0685	-0.0002
188	SLV 15	-33.4	0.62	113.82		0.0617	-1.0251	0.0134
188	SLV 16	-33.4	0.62	113.82		0.0617	-1.0251	0.0134
189	SLU 1	7.61	-0.11	34.36		0.0237	0.0272	-0.005
189	SLU 2	7.74	-0.11	34.76		0.0245	0.0296	-0.0052
189	SLU 3	7.79	-0.12	35.28		0.0241	0.0253	-0.0051
189	SLU 4	7.86	-0.12	35.52		0.0246	0.0267	-0.0052
189	SLU 5	7.78	-0.12	35.1		0.0246	0.0265	-0.0052
189	SLU 6	7.83	-0.12	35.62		0.0243	0.0221	-0.0052
189	SLU 7	7.9	-0.12	35.86		0.0248	0.0236	-0.0053
189	SLU 8	7.69	-0.12	35.03		0.0239	0.021	-0.0051
189	SLU 9	7.77	-0.12	35.27		0.0245	0.0224	-0.0052
189	SLU 10	9.29	-0.14	41.72		0.0293	0.0358	-0.0062
189	SLU 11	9.34	-0.14	42.24		0.0289	0.0314	-0.0062
189	SLU 12	9.41	-0.14	42.48		0.0294	0.0329	-0.0063
189	SLU 13	9.32	-0.14	42.05		0.0295	0.0327	-0.0063
189	SLU 14	9.37	-0.14	42.57		0.0291	0.0283	-0.0062
189	SLU 15	9.45	-0.14	42.81		0.0296	0.0298	-0.0063
189	SLU 16	9.24	-0.14	41.99		0.0288	0.0271	-0.0062
189	SLU 17	9.31	-0.14	42.23		0.0293	0.0286	-0.0063
189	SLU 18	9.83	-0.14	44.3		0.0305	0.036	-0.0065
189	SLU 19	9.9	-0.15	44.54		0.031	0.0375	-0.0066
189	SLU 20	9.86	-0.15	44.64		0.0307	0.0329	-0.0065
189	SLU 21	9.94	-0.15	44.87		0.0312	0.0344	-0.0066
189	SLU 22	8.73	-0.13	39.6		0.0268	0.0277	-0.0057
189	SLU 23	8.86	-0.13	40		0.0277	0.0301	-0.0059
189	SLU 24	8.91	-0.13	40.52		0.0273	0.0257	-0.0058
189	SLU 25	8.98	-0.13	40.76		0.0278	0.0272	-0.0059
189	SLU 26	8.9	-0.13	40.34		0.0278	0.027	-0.0059
189	SLU 27	8.95	-0.14	40.86		0.0274	0.0226	-0.0059
189	SLU 28	9.02	-0.14	41.1		0.0279	0.0241	-0.006
189	SLU 29	8.81	-0.13	40.28		0.0271	0.0214	-0.0058
189	SLU 30	8.88	-0.14	40.51		0.0276	0.0229	-0.0059
189	SLU 31	10.41	-0.15	46.96		0.0325	0.0363	-0.0069
189	SLU 32	10.46	-0.16	47.48		0.0321	0.0319	-0.0069
189	SLU 33	10.53	-0.16	47.72		0.0326	0.0334	-0.007
189	SLU 34	10.44	-0.16	47.29		0.0326	0.0332	-0.007
189	SLU 35	10.49	-0.16	47.82		0.0322	0.0288	-0.0069
189	SLU 36	10.57	-0.16	48.06		0.0328	0.0302	-0.007
189	SLU 37	10.36	-0.16	47.23		0.0319	0.0276	-0.0069
189	SLU 38	10.43	-0.16	47.47		0.0324	0.0291	-0.007
189	SLU 39	10.95	-0.16	49.54		0.0337	0.0365	-0.0072
189	SLU 40	11.02	-0.16	49.78		0.0342	0.0379	-0.0073
189	SLU 41	10.98	-0.16	49.88		0.0338	0.0334	-0.0072
189	SLU 42	11.06	-0.17	50.12		0.0343	0.0348	-0.0073
189	SLU 43	9.51	-0.14	42.87		0.0297	0.0352	-0.0063
189	SLU 44	9.64	-0.14	43.27		0.0305	0.0376	-0.0064
189	SLU 45	9.69	-0.14	43.79		0.0301	0.0332	-0.0064
189	SLU 46	9.76	-0.15	44.03		0.0306	0.0347	-0.0065
189	SLU 47	9.68	-0.15	43.61		0.0307	0.0345	-0.0065
189	SLU 48	9.73	-0.15	44.13		0.0303	0.0301	-0.0065
189	SLU 49	9.8	-0.15	44.37		0.0308	0.0316	-0.0066
189	SLU 50	9.59	-0.15	43.55		0.03	0.029	-0.0064
189	SLU 51	9.67	-0.15	43.78		0.0305	0.0304	-0.0065
189	SLU 52	11.19	-0.17	50.23		0.0353	0.0438	-0.0075
189	SLU 53	11.24	-0.17	50.75		0.0349	0.0394	-0.0074
189	SLU 54	11.31	-0.17	50.99		0.0355	0.0409	-0.0075
189	SLU 55	11.22	-0.17	50.56		0.0355	0.0407	-0.0075
189	SLU 56	11.27	-0.17	51.09		0.0351	0.0363	-0.0075
189	SLU 57	11.35	-0.17	51.32		0.0356	0.0378	-0.0076
189	SLU 58	11.14	-0.17	50.5		0.0348	0.0351	-0.0074
189	SLU 59	11.21	-0.17	50.74		0.0353	0.0366	-0.0075
189	SLU 60	11.73	-0.17	52.81		0.0365	0.044	-0.0078
189	SLU 61	11.8	-0.17	53.05		0.037	0.0455	-0.0078
189	SLU 62	11.76	-0.18	53.15		0.0367	0.0409	-0.0078
189	SLU 63	11.84	-0.18	53.39		0.0372	0.0424	-0.0079
189	SLU 64	10.63	-0.16	48.12		0.0328	0.0357	-0.007
189	SLU 65	10.76	-0.16	48.51		0.0337	0.0381	-0.0071
189	SLU 66	10.81	-0.16	49.04		0.0333	0.0337	-0.0071
189	SLU 67	10.88	-0.16	49.27		0.0338	0.0352	-0.0072
189	SLU 68	10.8	-0.16	48.85		0.0338	0.035	-0.0072
189	SLU 69	10.85	-0.16	49.37		0.0334	0.0306	-0.0072
189	SLU 70	10.92	-0.17	49.61		0.034	0.0321	-0.0073
189	SLU 71	10.71	-0.16	48.79		0.0331	0.0294	-0.0071
189	SLU 72	10.79	-0.16	49.03		0.0336	0.0309	-0.0072
189	SLU 73	12.31	-0.18	55.47		0.0385	0.0443	-0.0082
189	SLU 74	12.36	-0.18	55.99		0.0381	0.0399	-0.0081
189	SLU 75	12.43	-0.19	56.23		0.0386	0.0414	-0.0082
189	SLU 76	12.34	-0.18	55.81		0.0386	0.0412	-0.0082
189	SLU 77	12.39	-0.19	56.33		0.0383	0.0368	-0.0082
189	SLU 78	12.47	-0.19	56.57		0.0388	0.0382	-0.0083
189	SLU 79	12.26	-0.19	55.74		0.0379	0.0356	-0.0081
189	SLU 80	12.33	-0.19	55.98		0.0384	0.0371	-0.0082



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
189	SLU 81	12.85	-0.19	58.05	0.0397	0.0445	-0.0084
189	SLU 82	12.92	-0.19	58.29	0.0402	0.0459	-0.0085
189	SLU 83	12.88	-0.19	58.39	0.0399	0.0414	-0.0085
189	SLU 84	12.96	-0.19	58.63	0.0404	0.0428	-0.0086
189	SLE RA 1	7.93	-0.12	35.86	0.0246	0.0273	-0.0052
189	SLE RA 2	8.02	-0.12	36.13	0.0251	0.0289	-0.0053
189	SLE RA 3	8.05	-0.12	36.47	0.0249	0.026	-0.0053
189	SLE RA 4	8.1	-0.12	36.63	0.0252	0.027	-0.0054
189	SLE RA 5	8.04	-0.12	36.35	0.0252	0.0269	-0.0054
189	SLE RA 6	8.08	-0.12	36.7	0.025	0.024	-0.0053
189	SLE RA 7	8.12	-0.12	36.86	0.0253	0.0249	-0.0054
189	SLE RA 8	7.99	-0.12	36.31	0.0248	0.0232	-0.0053
189	SLE RA 9	8.03	-0.12	36.47	0.0251	0.0241	-0.0054
189	SLE RA 10	9.05	-0.13	40.76	0.0283	0.0331	-0.006
189	SLE RA 11	9.08	-0.14	41.11	0.0281	0.0302	-0.006
189	SLE RA 12	9.13	-0.14	41.27	0.0284	0.0311	-0.006
189	SLE RA 13	9.07	-0.14	40.99	0.0284	0.031	-0.006
189	SLE RA 14	9.11	-0.14	41.33	0.0282	0.0281	-0.006
189	SLE RA 15	9.16	-0.14	41.49	0.0285	0.029	-0.0061
189	SLE RA 16	9.02	-0.14	40.95	0.028	0.0273	-0.006
189	SLE RA 17	9.07	-0.14	41.1	0.0283	0.0283	-0.006
189	SLE RA 18	9.41	-0.14	42.49	0.0291	0.0332	-0.0062
189	SLE RA 19	9.46	-0.14	42.64	0.0295	0.0342	-0.0063
189	SLE RA 20	9.43	-0.14	42.71	0.0292	0.0311	-0.0062
189	SLE RA 21	9.48	-0.14	42.87	0.0296	0.0321	-0.0063
189	SLE FR 1	7.93	-0.12	35.86	0.0246	0.0273	-0.0052
189	SLE FR 2	7.95	-0.12	35.91	0.0247	0.0276	-0.0052
189	SLE FR 3	7.94	-0.12	35.95	0.0246	0.0265	-0.0052
189	SLE FR 4	8.39	-0.12	37.9	0.0261	0.0294	-0.0055
189	SLE FR 5	8.39	-0.12	37.94	0.026	0.0283	-0.0055
189	SLE FR 6	8.67	-0.13	39.17	0.0269	0.0303	-0.0057
189	SLE QP 1	7.93	-0.12	35.86	0.0246	0.0273	-0.0052
189	SLE QP 2	8.38	-0.12	37.85	0.0259	0.0291	-0.0055
189	SLD 1	9.33	-0.39	31	0.0527	0.1164	-0.013
189	SLD 2	9.33	-0.39	31	0.0527	0.1164	-0.013
189	SLD 3	10.53	-0.45	35.26	0.0628	0.1347	-0.0153
189	SLD 4	10.53	-0.45	35.26	0.0628	0.1347	-0.0153
189	SLD 5	6.84	-0.11	29.35	0.0186	0.0276	-0.0043
189	SLD 6	6.84	-0.11	29.35	0.0186	0.0276	-0.0043
189	SLD 7	10.85	-0.31	43.52	0.0523	0.0885	-0.0119
189	SLD 8	10.85	-0.31	43.52	0.0523	0.0885	-0.0119
189	SLD 9	5.9	0.07	32.18	-0.0005	-0.0303	0.0009
189	SLD 10	5.9	0.07	32.18	-0.0005	-0.0303	0.0009
189	SLD 11	9.92	-0.13	46.35	0.0333	0.0306	-0.0067
189	SLD 12	9.92	-0.13	46.35	0.0333	0.0306	-0.0067
189	SLD 13	6.22	0.21	40.44	-0.0109	-0.0765	0.0042
189	SLD 14	6.22	0.21	40.44	-0.0109	-0.0765	0.0042
189	SLD 15	7.43	0.15	44.69	-0.0008	-0.0583	0.002
189	SLD 16	7.43	0.15	44.69	-0.0008	-0.0583	0.002
189	SLV 1	10.58	-0.8	21.77	0.0936	0.2334	-0.0243
189	SLV 2	10.58	-0.8	21.77	0.0936	0.2334	-0.0243
189	SLV 3	13.43	-0.95	31.86	0.1175	0.2765	-0.0298
189	SLV 4	13.43	-0.95	31.86	0.1175	0.2765	-0.0298
189	SLV 5	4.71	-0.1	17.73	0.0099	0.025	-0.0029
189	SLV 6	4.71	-0.1	17.73	0.0099	0.025	-0.0029
189	SLV 7	14.22	-0.59	51.35	0.0897	0.1687	-0.0211
189	SLV 8	14.22	-0.59	51.35	0.0897	0.1687	-0.0211
189	SLV 9	2.54	0.35	24.35	-0.0379	-0.1105	0.01
189	SLV 10	2.54	0.35	24.35	-0.0379	-0.1105	0.01
189	SLV 11	12.04	-0.14	57.97	0.042	0.0332	-0.0081
189	SLV 12	12.04	-0.14	57.97	0.042	0.0332	-0.0081
189	SLV 13	3.32	0.7	43.84	-0.0657	-0.2183	0.0188
189	SLV 14	3.32	0.7	43.84	-0.0657	-0.2183	0.0188
189	SLV 15	6.17	0.56	53.92	-0.0417	-0.1752	0.0133
189	SLV 16	6.17	0.56	53.92	-0.0417	-0.1752	0.0133
190	SLU 1	0.19	-9.08	86.71	0.2973	-0.0497	-0.0043
190	SLU 2	0.22	-9.41	87.72	0.3131	-0.0488	-0.0044
190	SLU 3	0.19	-9.18	89.31	0.2968	-0.054	-0.0043
190	SLU 4	0.2	-9.38	89.92	0.3063	-0.0534	-0.0044
190	SLU 5	0.21	-9.37	89	0.3078	-0.0532	-0.0044
190	SLU 6	0.19	-9.14	90.59	0.2915	-0.0583	-0.0044
190	SLU 7	0.2	-9.34	91.19	0.301	-0.0578	-0.0044
190	SLU 8	0.19	-9	89.27	0.2867	-0.0584	-0.0043
190	SLU 9	0.2	-9.19	89.87	0.2962	-0.0579	-0.0044
190	SLU 10	0.24	-11.21	105.01	0.3717	-0.0577	-0.0052
190	SLU 11	0.21	-10.98	106.6	0.3554	-0.0629	-0.0052
190	SLU 12	0.23	-11.18	107.21	0.3649	-0.0623	-0.0053
190	SLU 13	0.24	-11.17	106.29	0.3664	-0.0621	-0.0052
190	SLU 14	0.21	-10.94	107.88	0.3501	-0.0673	-0.0052
190	SLU 15	0.23	-11.14	108.49	0.3596	-0.0667	-0.0053
190	SLU 16	0.21	-10.8	106.56	0.3453	-0.0674	-0.0051
190	SLU 17	0.23	-10.99	107.17	0.3548	-0.0668	-0.0052
190	SLU 18	0.23	-11.65	111.41	0.381	-0.0625	-0.0055
190	SLU 19	0.24	-11.85	112.02	0.3905	-0.0619	-0.0055
190	SLU 20	0.23	-11.61	112.69	0.3757	-0.0668	-0.0055
190	SLU 21	0.24	-11.81	113.3	0.3852	-0.0663	-0.0056
190	SLU 22	0.2	-10.24	100.17	0.3301	-0.0609	-0.0049
190	SLU 23	0.23	-10.57	101.18	0.3458	-0.06	-0.005





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
190	SLU 24	0.2	-10.34	102.77	0.3295	-0.0652	-0.0049
190	SLU 25	0.22	-10.54	103.38	0.339	-0.0647	-0.005
190	SLU 26	0.23	-10.53	102.46	0.3405	-0.0644	-0.005
190	SLU 27	0.2	-10.3	104.05	0.3242	-0.0696	-0.005
190	SLU 28	0.21	-10.5	104.66	0.3337	-0.069	-0.005
190	SLU 29	0.2	-10.16	102.73	0.3194	-0.0697	-0.0049
190	SLU 30	0.21	-10.36	103.34	0.3289	-0.0691	-0.005
190	SLU 31	0.25	-12.37	118.48	0.4044	-0.0689	-0.0058
190	SLU 32	0.23	-12.14	120.07	0.3881	-0.0741	-0.0058
190	SLU 33	0.24	-12.34	120.67	0.3976	-0.0736	-0.0058
190	SLU 34	0.25	-12.33	119.76	0.3991	-0.0733	-0.0058
190	SLU 35	0.22	-12.1	121.35	0.3828	-0.0785	-0.0058
190	SLU 36	0.24	-12.3	121.95	0.3923	-0.0779	-0.0059
190	SLU 37	0.22	-11.96	120.02	0.378	-0.0786	-0.0057
190	SLU 38	0.24	-12.16	120.63	0.3875	-0.078	-0.0058
190	SLU 39	0.24	-12.81	124.88	0.4137	-0.0737	-0.0061
190	SLU 40	0.25	-13.01	125.48	0.4232	-0.0731	-0.0061
190	SLU 41	0.24	-12.77	126.16	0.4084	-0.0781	-0.0061
190	SLU 42	0.25	-12.97	126.76	0.4179	-0.0775	-0.0061
190	SLU 43	0.24	-11.41	108.1	0.3753	-0.0608	-0.0053
190	SLU 44	0.27	-11.74	109.12	0.3911	-0.0598	-0.0055
190	SLU 45	0.24	-11.51	110.7	0.3748	-0.065	-0.0054
190	SLU 46	0.26	-11.7	111.31	0.3843	-0.0645	-0.0055
190	SLU 47	0.27	-11.69	110.4	0.3858	-0.0642	-0.0055
190	SLU 48	0.24	-11.46	111.98	0.3695	-0.0694	-0.0054
190	SLU 49	0.26	-11.66	112.59	0.379	-0.0688	-0.0055
190	SLU 50	0.24	-11.32	110.66	0.3647	-0.0695	-0.0054
190	SLU 51	0.25	-11.52	111.27	0.3742	-0.0689	-0.0055
190	SLU 52	0.29	-13.54	126.41	0.4497	-0.0688	-0.0063
190	SLU 53	0.27	-13.31	128	0.4334	-0.074	-0.0063
190	SLU 54	0.28	-13.5	128.61	0.4429	-0.0734	-0.0063
190	SLU 55	0.29	-13.49	127.69	0.4444	-0.0731	-0.0063
190	SLU 56	0.27	-13.26	129.28	0.4281	-0.0783	-0.0063
190	SLU 57	0.28	-13.46	129.88	0.4376	-0.0778	-0.0064
190	SLU 58	0.27	-13.12	127.96	0.4233	-0.0784	-0.0062
190	SLU 59	0.28	-13.32	128.56	0.4328	-0.0779	-0.0063
190	SLU 60	0.28	-13.98	132.81	0.459	-0.0735	-0.0065
190	SLU 61	0.29	-14.18	133.42	0.4685	-0.073	-0.0066
190	SLU 62	0.28	-13.94	134.09	0.4537	-0.0779	-0.0066
190	SLU 63	0.29	-14.13	134.7	0.4632	-0.0773	-0.0066
190	SLU 64	0.25	-12.57	121.57	0.408	-0.072	-0.0059
190	SLU 65	0.28	-12.9	122.58	0.4238	-0.0711	-0.006
190	SLU 66	0.25	-12.67	124.17	0.4075	-0.0763	-0.006
190	SLU 67	0.27	-12.87	124.78	0.417	-0.0757	-0.0061
190	SLU 68	0.28	-12.86	123.86	0.4185	-0.0754	-0.0061
190	SLU 69	0.25	-12.63	125.45	0.4022	-0.0806	-0.006
190	SLU 70	0.27	-12.82	126.05	0.4117	-0.0801	-0.0061
190	SLU 71	0.25	-12.48	124.13	0.3974	-0.0807	-0.006
190	SLU 72	0.27	-12.68	124.73	0.4069	-0.0802	-0.006
190	SLU 73	0.31	-14.7	139.87	0.4824	-0.08	-0.0069
190	SLU 74	0.28	-14.47	141.46	0.4661	-0.0852	-0.0069
190	SLU 75	0.29	-14.67	142.07	0.4756	-0.0846	-0.0069
190	SLU 76	0.31	-14.66	141.15	0.4771	-0.0844	-0.0069
190	SLU 77	0.28	-14.43	142.74	0.4608	-0.0896	-0.0069
190	SLU 78	0.29	-14.62	143.35	0.4703	-0.089	-0.0069
190	SLU 79	0.28	-14.28	141.42	0.456	-0.0897	-0.0068
190	SLU 80	0.29	-14.48	142.03	0.4655	-0.0891	-0.0069
190	SLU 81	0.29	-15.14	146.27	0.4917	-0.0847	-0.0071
190	SLU 82	0.31	-15.34	146.88	0.5012	-0.0842	-0.0072
190	SLU 83	0.29	-15.1	147.55	0.4864	-0.0891	-0.0072
190	SLU 84	0.31	-15.3	148.16	0.4959	-0.0886	-0.0072
190	SLE RA 1	0.19	-9.41	90.56	0.3067	-0.0529	-0.0044
190	SLE RA 2	0.21	-9.63	91.23	0.3172	-0.0523	-0.0045
190	SLE RA 3	0.19	-9.48	92.29	0.3063	-0.0558	-0.0045
190	SLE RA 4	0.2	-9.61	92.69	0.3127	-0.0554	-0.0045
190	SLE RA 5	0.21	-9.6	92.08	0.3137	-0.0552	-0.0045
190	SLE RA 6	0.19	-9.45	93.14	0.3028	-0.0587	-0.0045
190	SLE RA 7	0.2	-9.58	93.55	0.3091	-0.0583	-0.0045
190	SLE RA 8	0.19	-9.36	92.26	0.2996	-0.0587	-0.0045
190	SLE RA 9	0.2	-9.49	92.67	0.3059	-0.0584	-0.0045
190	SLE RA 10	0.23	-10.83	102.76	0.3563	-0.0583	-0.0051
190	SLE RA 11	0.21	-10.68	103.82	0.3454	-0.0617	-0.005
190	SLE RA 12	0.22	-10.81	104.22	0.3517	-0.0613	-0.0051
190	SLE RA 13	0.23	-10.8	103.61	0.3527	-0.0612	-0.0051
190	SLE RA 14	0.21	-10.65	104.67	0.3419	-0.0646	-0.0051
190	SLE RA 15	0.22	-10.78	105.08	0.3482	-0.0642	-0.0051
190	SLE RA 16	0.21	-10.56	103.79	0.3387	-0.0647	-0.005
190	SLE RA 17	0.22	-10.69	104.19	0.345	-0.0643	-0.0051
190	SLE RA 18	0.22	-11.13	107.03	0.3625	-0.0614	-0.0052
190	SLE RA 19	0.23	-11.26	107.43	0.3688	-0.061	-0.0053
190	SLE RA 20	0.22	-11.1	107.88	0.3589	-0.0643	-0.0052
190	SLE RA 21	0.23	-11.23	108.28	0.3653	-0.064	-0.0053
190	SLE FR 1	0.19	-9.41	90.56	0.3067	-0.0529	-0.0044
190	SLE FR 2	0.2	-9.46	90.69	0.3088	-0.0528	-0.0044
190	SLE FR 3	0.19	-9.4	90.9	0.3053	-0.0541	-0.0044
190	SLE FR 4	0.2	-9.97	95.63	0.3255	-0.0553	-0.0047
190	SLE FR 5	0.2	-9.92	95.84	0.322	-0.0566	-0.0047
190	SLE FR 6	0.2	-10.27	98.79	0.3346	-0.0572	-0.0048



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
190	SLE QP 1	0.19	-9.41	90.56	0.3067	-0.0529	-0.0044		
190	SLE QP 2	0.2	-9.93	95.5	0.3234	-0.0555	-0.0047		
190	SLD 1	-0.74	-7.26	76.55	0.2033	0.0686	-0.0032		
190	SLD 2	-0.74	-7.26	76.55	0.2033	0.0686	-0.0032		
190	SLD 3	-0.5	-10.18	87.67	0.3392	0.0753	-0.0042		
190	SLD 4	-0.5	-10.18	87.67	0.3392	0.0753	-0.0042		
190	SLD 5	-0.44	-4.69	72.94	0.0813	-0.0284	-0.0026		
190	SLD 6	-0.44	-4.69	72.94	0.0813	-0.0284	-0.0026		
190	SLD 7	0.34	-14.44	110.02	0.5343	-0.0061	-0.0062		
190	SLD 8	0.34	-14.44	110.02	0.5343	-0.0061	-0.0062		
190	SLD 9	0.05	-5.42	80.97	0.1126	-0.1048	-0.0032		
190	SLD 10	0.05	-5.42	80.97	0.1126	-0.1048	-0.0032		
190	SLD 11	0.84	-15.16	118.05	0.5656	-0.0825	-0.0068		
190	SLD 12	0.84	-15.16	118.05	0.5656	-0.0825	-0.0068		
190	SLD 13	0.9	-9.67	103.32	0.3077	-0.1862	-0.0051		
190	SLD 14	0.9	-9.67	103.32	0.3077	-0.1862	-0.0051		
190	SLD 15	1.14	-12.6	114.44	0.4436	-0.1795	-0.0062		
190	SLD 16	1.14	-12.6	114.44	0.4436	-0.1795	-0.0062		
190	SLV 1	-2	-3.62	50.84	0.0396	0.235	-0.0011		
190	SLV 2	-2	-3.62	50.84	0.0396	0.235	-0.0011		
190	SLV 3	-1.45	-10.51	77.2	0.3594	0.2508	-0.0037		
190	SLV 4	-1.45	-10.51	77.2	0.3594	0.2508	-0.0037		
190	SLV 5	-1.3	2.41	42.13	-0.2467	0.0078	0.0003		
190	SLV 6	-1.3	2.41	42.13	-0.2467	0.0078	0.0003		
190	SLV 7	0.54	-20.55	129.98	0.8192	0.0603	-0.0082		
190	SLV 8	0.54	-20.55	129.98	0.8192	0.0603	-0.0082		
190	SLV 9	-0.14	0.7	61.02	-0.1724	-0.1712	-0.0011		
190	SLV 10	-0.14	0.7	61.02	-0.1724	-0.1712	-0.0011		
190	SLV 11	1.7	-22.26	148.86	0.8936	-0.1187	-0.0096		
190	SLV 12	1.7	-22.26	148.86	0.8936	-0.1187	-0.0096		
190	SLV 13	1.85	-9.34	113.8	0.2875	-0.3617	-0.0057		
190	SLV 14	1.85	-9.34	113.8	0.2875	-0.3617	-0.0057		
190	SLV 15	2.4	-16.23	140.15	0.6073	-0.3459	-0.0082		
190	SLV 16	2.4	-16.23	140.15	0.6073	-0.3459	-0.0082		
191	SLU 1	-8.94	0.01	24.04	0.0088	-0.0638	0.0026		
191	SLU 2	-9.03	0.01	24.27	0.0093	-0.0646	0.0028		
191	SLU 3	-9.25	0.01	24.87	0.0086	-0.0662	0.0026		
191	SLU 4	-9.3	0.01	25.01	0.009	-0.0666	0.0027		
191	SLU 5	-9.21	0.01	24.77	0.009	-0.0662	0.0027		
191	SLU 6	-9.43	0.01	25.37	0.0083	-0.0678	0.0025		
191	SLU 7	-9.48	0.01	25.51	0.0086	-0.0682	0.0026		
191	SLU 8	-9.3	0.01	25.03	0.0081	-0.067	0.0024		
191	SLU 9	-9.36	0.01	25.17	0.0085	-0.0675	0.0025		
191	SLU 10	-10.81	0.01	29.03	0.011	-0.0771	0.0033		
191	SLU 11	-11.03	0.01	29.64	0.0103	-0.0786	0.0031		
191	SLU 12	-11.08	0.01	29.77	0.0107	-0.0791	0.0032		
191	SLU 13	-10.99	0.01	29.53	0.0107	-0.0787	0.0032		
191	SLU 14	-11.21	0.02	30.13	0.01	-0.0802	0.003		
191	SLU 15	-11.26	0.02	30.27	0.0103	-0.0807	0.0031		
191	SLU 16	-11.08	0.02	29.8	0.0099	-0.0795	0.0029		
191	SLU 17	-11.14	0.02	29.94	0.0102	-0.0799	0.003		
191	SLU 18	-11.49	0.01	30.84	0.0112	-0.0816	0.0034		
191	SLU 19	-11.54	0.01	30.98	0.0115	-0.0821	0.0035		
191	SLU 20	-11.67	0.01	31.34	0.0109	-0.0832	0.0033		
191	SLU 21	-11.72	0.01	31.48	0.0112	-0.0837	0.0034		
191	SLU 22	-10.39	0.01	27.93	0.0097	-0.0743	0.0029		
191	SLU 23	-10.48	0.01	28.16	0.0102	-0.0751	0.0031		
191	SLU 24	-10.69	0.01	28.76	0.0095	-0.0766	0.0029		
191	SLU 25	-10.75	0.01	28.9	0.0099	-0.0771	0.003		
191	SLU 26	-10.66	0.01	28.65	0.0099	-0.0767	0.003		
191	SLU 27	-10.87	0.02	29.25	0.0092	-0.0782	0.0028		
191	SLU 28	-10.93	0.02	29.39	0.0095	-0.0787	0.0029		
191	SLU 29	-10.75	0.02	28.92	0.0091	-0.0775	0.0027		
191	SLU 30	-10.8	0.02	29.06	0.0094	-0.0779	0.0028		
191	SLU 31	-12.26	0.01	32.92	0.0119	-0.0875	0.0036		
191	SLU 32	-12.47	0.02	33.52	0.0112	-0.0891	0.0034		
191	SLU 33	-12.53	0.02	33.66	0.0116	-0.0895	0.0035		
191	SLU 34	-12.44	0.02	33.41	0.0116	-0.0891	0.0035		
191	SLU 35	-12.65	0.02	34.02	0.0109	-0.0907	0.0033		
191	SLU 36	-12.71	0.02	34.15	0.0112	-0.0911	0.0034		
191	SLU 37	-12.53	0.02	33.68	0.0108	-0.0899	0.0032		
191	SLU 38	-12.58	0.02	33.82	0.0111	-0.0904	0.0033		
191	SLU 39	-12.93	0.01	34.73	0.0121	-0.0921	0.0036		
191	SLU 40	-12.98	0.01	34.87	0.0124	-0.0925	0.0037		
191	SLU 41	-13.11	0.02	35.23	0.0118	-0.0937	0.0035		
191	SLU 42	-13.16	0.02	35.36	0.0121	-0.0941	0.0036		
191	SLU 43	-11.13	0.01	29.92	0.0111	-0.0794	0.0033		
191	SLU 44	-11.22	0.01	30.15	0.0116	-0.0802	0.0035		
191	SLU 45	-11.44	0.01	30.75	0.011	-0.0817	0.0033		
191	SLU 46	-11.49	0.01	30.89	0.0113	-0.0822	0.0034		
191	SLU 47	-11.4	0.01	30.65	0.0113	-0.0818	0.0034		
191	SLU 48	-11.62	0.01	31.25	0.0106	-0.0833	0.0032		
191	SLU 49	-11.67	0.01	31.39	0.011	-0.0838	0.0033		
191	SLU 50	-11.49	0.02	30.91	0.0105	-0.0826	0.0031		
191	SLU 51	-11.55	0.01	31.05	0.0108	-0.083	0.0032		
191	SLU 52	-13	0.01	34.91	0.0133	-0.0926	0.004		
191	SLU 53	-13.22	0.01	35.52	0.0127	-0.0942	0.0038		
191	SLU 54	-13.27	0.01	35.65	0.013	-0.0946	0.0039		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
191	SLU 55	-13.18	0.01	35.41	0.013	-0.0942	0.0039
191	SLU 56	-13.4	0.02	36.01	0.0123	-0.0958	0.0037
191	SLU 57	-13.45	0.02	36.15	0.0127	-0.0962	0.0038
191	SLU 58	-13.27	0.02	35.68	0.0122	-0.095	0.0036
191	SLU 59	-13.33	0.02	35.82	0.0125	-0.0955	0.0037
191	SLU 60	-13.67	0.01	36.73	0.0135	-0.0972	0.0041
191	SLU 61	-13.73	0.01	36.86	0.0139	-0.0976	0.0042
191	SLU 62	-13.85	0.02	37.22	0.0132	-0.0988	0.004
191	SLU 63	-13.91	0.01	37.36	0.0135	-0.0992	0.0041
191	SLU 64	-12.58	0.01	33.81	0.012	-0.0898	0.0036
191	SLU 65	-12.67	0.01	34.04	0.0125	-0.0906	0.0038
191	SLU 66	-12.88	0.02	34.64	0.0119	-0.0922	0.0036
191	SLU 67	-12.94	0.01	34.78	0.0122	-0.0926	0.0037
191	SLU 68	-12.85	0.01	34.53	0.0122	-0.0922	0.0037
191	SLU 69	-13.06	0.02	35.13	0.0115	-0.0938	0.0035
191	SLU 70	-13.12	0.02	35.27	0.0119	-0.0942	0.0036
191	SLU 71	-12.94	0.02	34.8	0.0114	-0.093	0.0034
191	SLU 72	-12.99	0.02	34.94	0.0117	-0.0935	0.0035
191	SLU 73	-14.45	0.01	38.8	0.0142	-0.1031	0.0043
191	SLU 74	-14.66	0.02	39.4	0.0136	-0.1046	0.0041
191	SLU 75	-14.71	0.02	39.54	0.0139	-0.1051	0.0042
191	SLU 76	-14.63	0.02	39.3	0.0139	-0.1047	0.0042
191	SLU 77	-14.84	0.02	39.9	0.0132	-0.1062	0.004
191	SLU 78	-14.89	0.02	40.04	0.0136	-0.1067	0.0041
191	SLU 79	-14.71	0.02	39.56	0.0131	-0.1055	0.0039
191	SLU 80	-14.77	0.02	39.7	0.0134	-0.106	0.004
191	SLU 81	-15.12	0.02	40.61	0.0144	-0.1076	0.0043
191	SLU 82	-15.17	0.01	40.75	0.0148	-0.1081	0.0044
191	SLU 83	-15.3	0.02	41.11	0.0141	-0.1092	0.0042
191	SLU 84	-15.35	0.02	41.24	0.0144	-0.1097	0.0043
191	SLE RA 1	-9.36	0.01	25.15	0.009	-0.0668	0.0027
191	SLE RA 2	-9.42	0.01	25.3	0.0094	-0.0673	0.0028
191	SLE RA 3	-9.56	0.01	25.71	0.0089	-0.0684	0.0027
191	SLE RA 4	-9.6	0.01	25.8	0.0092	-0.0687	0.0028
191	SLE RA 5	-9.54	0.01	25.64	0.0092	-0.0684	0.0028
191	SLE RA 6	-9.68	0.01	26.04	0.0087	-0.0694	0.0026
191	SLE RA 7	-9.72	0.01	26.13	0.0089	-0.0697	0.0027
191	SLE RA 8	-9.6	0.01	25.81	0.0086	-0.0689	0.0026
191	SLE RA 9	-9.63	0.01	25.91	0.0088	-0.0693	0.0027
191	SLE RA 10	-10.6	0.01	28.48	0.0105	-0.0756	0.0032
191	SLE RA 11	-10.75	0.01	28.88	0.0101	-0.0767	0.003
191	SLE RA 12	-10.78	0.01	28.97	0.0103	-0.077	0.0031
191	SLE RA 13	-10.72	0.01	28.81	0.0103	-0.0767	0.0031
191	SLE RA 14	-10.87	0.01	29.21	0.0099	-0.0777	0.003
191	SLE RA 15	-10.9	0.01	29.3	0.0101	-0.078	0.003
191	SLE RA 16	-10.78	0.01	28.99	0.0098	-0.0772	0.0029
191	SLE RA 17	-10.82	0.01	29.08	0.01	-0.0776	0.003
191	SLE RA 18	-11.05	0.01	29.69	0.0107	-0.0787	0.0032
191	SLE RA 19	-11.09	0.01	29.78	0.0109	-0.079	0.0033
191	SLE RA 20	-11.17	0.01	30.02	0.0104	-0.0797	0.0031
191	SLE RA 21	-11.21	0.01	30.11	0.0107	-0.0801	0.0032
191	SLE FR 1	-9.36	0.01	25.15	0.009	-0.0668	0.0027
191	SLE FR 2	-9.37	0.01	25.18	0.0091	-0.0669	0.0027
191	SLE FR 3	-9.4	0.01	25.28	0.0089	-0.0672	0.0027
191	SLE FR 4	-9.88	0.01	26.54	0.0096	-0.0705	0.0029
191	SLE FR 5	-9.91	0.01	26.64	0.0094	-0.0708	0.0028
191	SLE FR 6	-10.2	0.01	27.42	0.0098	-0.0727	0.003
191	SLE QP 1	-9.36	0.01	25.15	0.009	-0.0668	0.0027
191	SLE QP 2	-9.86	0.01	26.51	0.0095	-0.0704	0.0029
191	SLD 1	-6.25	0.29	16.57	-0.0077	-0.0249	-0.0034
191	SLD 2	-6.25	0.29	16.57	-0.0077	-0.0249	-0.0034
191	SLD 3	-7.35	0.24	19.42	-0.0027	-0.0345	-0.0018
191	SLD 4	-7.35	0.24	19.42	-0.0027	-0.0345	-0.0018
191	SLD 5	-7.11	0.16	19.2	-0.0033	-0.0422	-0.0015
191	SLD 6	-7.11	0.16	19.2	-0.0033	-0.0422	-0.0015
191	SLD 7	-10.78	0.01	28.71	0.0135	-0.0741	0.0039
191	SLD 8	-10.78	0.01	28.71	0.0135	-0.0741	0.0039
191	SLD 9	-8.94	0.01	24.31	0.0055	-0.0666	0.0018
191	SLD 10	-8.94	0.01	24.31	0.0055	-0.0666	0.0018
191	SLD 11	-12.62	-0.15	33.82	0.0223	-0.0985	0.0072
191	SLD 12	-12.62	-0.15	33.82	0.0223	-0.0985	0.0072
191	SLD 13	-12.37	-0.23	33.6	0.0217	-0.1063	0.0075
191	SLD 14	-12.37	-0.23	33.6	0.0217	-0.1063	0.0075
191	SLD 15	-13.48	-0.27	36.45	0.0267	-0.1159	0.0092
191	SLD 16	-13.48	-0.27	36.45	0.0267	-0.1159	0.0092
191	SLV 1	-1.38	0.71	3.17	-0.0331	0.0363	-0.0127
191	SLV 2	-1.38	0.71	3.17	-0.0331	0.0363	-0.0127
191	SLV 3	-3.99	0.6	9.92	-0.021	0.0137	-0.0088
191	SLV 4	-3.99	0.6	9.92	-0.021	0.0137	-0.0088
191	SLV 5	-3.36	0.39	9.26	-0.0216	-0.0041	-0.0077
191	SLV 6	-3.36	0.39	9.26	-0.0216	-0.0041	-0.0077
191	SLV 7	-12.07	0.01	31.78	0.0187	-0.0795	0.0053
191	SLV 8	-12.07	0.01	31.78	0.0187	-0.0795	0.0053
191	SLV 9	-7.66	0.01	21.24	0.0004	-0.0613	0.0004
191	SLV 10	-7.66	0.01	21.24	0.0004	-0.0613	0.0004
191	SLV 11	-16.37	-0.37	43.76	0.0406	-0.1367	0.0135
191	SLV 12	-16.37	-0.37	43.76	0.0406	-0.1367	0.0135
191	SLV 13	-15.74	-0.58	43.1	0.04	-0.1544	0.0145



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
191	SLV 14	-15.74	-0.58	43.1	0.04	-0.1544	0.0145
191	SLV 15	-18.35	-0.69	49.86	0.0521	-0.177	0.0184
191	SLV 16	-18.35	-0.69	49.86	0.0521	-0.177	0.0184
192	SLU 1	5.66	0.01	42.16	-0.0044	-0.222	0.0007
192	SLU 2	5.68	0.01	42.29	-0.0045	-0.223	0.0008
192	SLU 3	5.82	0.01	43.45	-0.0046	-0.2322	0.0008
192	SLU 4	5.83	0.01	43.53	-0.0046	-0.2328	0.0008
192	SLU 5	5.75	0.01	42.91	-0.0046	-0.2297	0.0008
192	SLU 6	5.9	0.01	44.08	-0.0046	-0.2389	0.0008
192	SLU 7	5.91	0.01	44.16	-0.0047	-0.2395	0.0008
192	SLU 8	5.81	0.01	43.4	-0.0045	-0.2354	0.0008
192	SLU 9	5.82	0.01	43.48	-0.0046	-0.236	0.0008
192	SLU 10	6.83	0.01	50.82	-0.0054	-0.2679	0.0009
192	SLU 11	6.97	0.01	51.98	-0.0055	-0.277	0.0009
192	SLU 12	6.98	0.01	52.06	-0.0056	-0.2777	0.001
192	SLU 13	6.9	0.01	51.44	-0.0055	-0.2746	0.0009
192	SLU 14	7.05	0.01	52.61	-0.0056	-0.2837	0.001
192	SLU 15	7.06	0.01	52.69	-0.0056	-0.2844	0.001
192	SLU 16	6.96	0.01	51.93	-0.0055	-0.2802	0.0009
192	SLU 17	6.97	0.01	52.01	-0.0055	-0.2809	0.0009
192	SLU 18	7.3	0.01	54.34	-0.0058	-0.286	0.001
192	SLU 19	7.31	0.01	54.42	-0.0058	-0.2867	0.001
192	SLU 20	7.37	0.01	54.97	-0.0058	-0.2927	0.001
192	SLU 21	7.38	0.01	55.05	-0.0059	-0.2934	0.001
192	SLU 22	6.54	0.01	48.85	-0.0053	-0.261	0.0009
192	SLU 23	6.56	0.01	48.98	-0.0053	-0.262	0.0009
192	SLU 24	6.71	0.01	50.14	-0.0054	-0.2712	0.0009
192	SLU 25	6.72	0.01	50.22	-0.0055	-0.2718	0.0009
192	SLU 26	6.64	0.01	49.6	-0.0054	-0.2687	0.0009
192	SLU 27	6.78	0.01	50.77	-0.0055	-0.2779	0.0009
192	SLU 28	6.79	0.01	50.85	-0.0055	-0.2785	0.001
192	SLU 29	6.69	0.01	50.09	-0.0054	-0.2744	0.0009
192	SLU 30	6.7	0.01	50.17	-0.0054	-0.275	0.0009
192	SLU 31	7.71	0.01	57.51	-0.0063	-0.3068	0.0011
192	SLU 32	7.86	0.01	58.67	-0.0063	-0.316	0.0011
192	SLU 33	7.87	0.01	58.75	-0.0064	-0.3166	0.0011
192	SLU 34	7.78	0.01	58.13	-0.0063	-0.3136	0.0011
192	SLU 35	7.93	0.01	59.3	-0.0064	-0.3227	0.0011
192	SLU 36	7.94	0.01	59.38	-0.0064	-0.3234	0.0011
192	SLU 37	7.84	0.01	58.62	-0.0063	-0.3192	0.0011
192	SLU 38	7.85	0.01	58.7	-0.0063	-0.3199	0.0011
192	SLU 39	8.18	0.01	61.03	-0.0066	-0.325	0.0011
192	SLU 40	8.19	0.01	61.11	-0.0066	-0.3256	0.0011
192	SLU 41	8.26	0.01	61.66	-0.0066	-0.3317	0.0011
192	SLU 42	8.27	0.01	61.74	-0.0067	-0.3324	0.0012
192	SLU 43	7.05	0.01	52.51	-0.0055	-0.2752	0.0009
192	SLU 44	7.07	0.01	52.65	-0.0056	-0.2763	0.0009
192	SLU 45	7.22	0.01	53.81	-0.0056	-0.2854	0.0009
192	SLU 46	7.23	0.01	53.89	-0.0057	-0.2861	0.001
192	SLU 47	7.15	0.01	53.27	-0.0056	-0.283	0.0009
192	SLU 48	7.29	0.01	54.43	-0.0057	-0.2921	0.001
192	SLU 49	7.3	0.01	54.51	-0.0057	-0.2928	0.001
192	SLU 50	7.2	0.01	53.76	-0.0056	-0.2886	0.0009
192	SLU 51	7.21	0.01	53.84	-0.0056	-0.2893	0.001
192	SLU 52	8.22	0.01	61.18	-0.0065	-0.3211	0.0011
192	SLU 53	8.37	0.01	62.34	-0.0066	-0.3303	0.0011
192	SLU 54	8.38	0.01	62.42	-0.0066	-0.3309	0.0011
192	SLU 55	8.29	0.01	61.8	-0.0065	-0.3278	0.0011
192	SLU 56	8.44	0.01	62.96	-0.0066	-0.337	0.0011
192	SLU 57	8.45	0.01	63.04	-0.0067	-0.3376	0.0011
192	SLU 58	8.35	0.01	62.29	-0.0065	-0.3335	0.0011
192	SLU 59	8.36	0.01	62.37	-0.0066	-0.3341	0.0011
192	SLU 60	8.69	0.01	64.7	-0.0068	-0.3393	0.0011
192	SLU 61	8.7	0.01	64.78	-0.0069	-0.3399	0.0012
192	SLU 62	8.77	0.01	65.32	-0.0069	-0.346	0.0012
192	SLU 63	8.78	0.01	65.4	-0.0069	-0.3466	0.0012
192	SLU 64	7.94	0.01	59.2	-0.0063	-0.3142	0.0011
192	SLU 65	7.96	0.01	59.34	-0.0064	-0.3153	0.0011
192	SLU 66	8.1	0.01	60.5	-0.0065	-0.3244	0.0011
192	SLU 67	8.11	0.01	60.58	-0.0065	-0.325	0.0011
192	SLU 68	8.03	0.01	59.96	-0.0064	-0.322	0.0011
192	SLU 69	8.18	0.01	61.12	-0.0065	-0.3311	0.0011
192	SLU 70	8.19	0.01	61.2	-0.0066	-0.3318	0.0011
192	SLU 71	8.09	0.01	60.45	-0.0064	-0.3276	0.0011
192	SLU 72	8.1	0.01	60.53	-0.0065	-0.3283	0.0011
192	SLU 73	9.1	0.01	67.87	-0.0073	-0.3601	0.0013
192	SLU 74	9.25	0.01	69.03	-0.0074	-0.3693	0.0013
192	SLU 75	9.26	0.01	69.11	-0.0074	-0.3699	0.0013
192	SLU 76	9.18	0.01	68.49	-0.0074	-0.3668	0.0013
192	SLU 77	9.32	0.01	69.65	-0.0074	-0.376	0.0013
192	SLU 78	9.34	0.01	69.73	-0.0075	-0.3766	0.0013
192	SLU 79	9.24	0.01	68.98	-0.0073	-0.3725	0.0013
192	SLU 80	9.25	0.01	69.06	-0.0074	-0.3731	0.0013
192	SLU 81	9.58	0.01	71.39	-0.0076	-0.3782	0.0013
192	SLU 82	9.59	0.01	71.47	-0.0077	-0.3789	0.0013
192	SLU 83	9.65	0.01	72.01	-0.0077	-0.385	0.0013
192	SLU 84	9.66	0.01	72.09	-0.0077	-0.3856	0.0013
192	SLE RA 1	5.91	0.01	44.07	-0.0047	-0.2331	0.0008



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z		x	y	z
192	SLE RA 2	5.92	0.01	44.16		-0.0047	-0.2338	0.0008
192	SLE RA 3	6.02	0.01	44.93		-0.0048	-0.2399	0.0008
192	SLE RA 4	6.03	0.01	44.99		-0.0048	-0.2404	0.0008
192	SLE RA 5	5.97	0.01	44.57		-0.0048	-0.2383	0.0008
192	SLE RA 6	6.07	0.01	45.35		-0.0048	-0.2444	0.0008
192	SLE RA 7	6.08	0.01	45.4		-0.0048	-0.2448	0.0008
192	SLE RA 8	6.01	0.01	44.9		-0.0047	-0.2421	0.0008
192	SLE RA 9	6.02	0.01	44.95		-0.0048	-0.2425	0.0008
192	SLE RA 10	6.69	0.01	49.85		-0.0053	-0.2637	0.0009
192	SLE RA 11	6.79	0.01	50.62		-0.0054	-0.2698	0.0009
192	SLE RA 12	6.79	0.01	50.67		-0.0054	-0.2702	0.0009
192	SLE RA 13	6.74	0.01	50.26		-0.0054	-0.2682	0.0009
192	SLE RA 14	6.84	0.01	51.04		-0.0054	-0.2743	0.0009
192	SLE RA 15	6.84	0.01	51.09		-0.0055	-0.2747	0.0009
192	SLE RA 16	6.78	0.01	50.59		-0.0054	-0.272	0.0009
192	SLE RA 17	6.78	0.01	50.64		-0.0054	-0.2724	0.0009
192	SLE RA 18	7.01	0.01	52.19		-0.0056	-0.2758	0.0009
192	SLE RA 19	7.01	0.01	52.25		-0.0056	-0.2762	0.0009
192	SLE RA 20	7.05	0.01	52.61		-0.0056	-0.2803	0.001
192	SLE RA 21	7.06	0.01	52.66		-0.0056	-0.2807	0.001
192	SLE FR 1	5.91	0.01	44.07		-0.0047	-0.2331	0.0008
192	SLE FR 2	5.91	0.01	44.09		-0.0047	-0.2333	0.0008
192	SLE FR 3	5.93	0.01	44.24		-0.0047	-0.2349	0.0008
192	SLE FR 4	6.24	0.01	46.52		-0.0049	-0.2461	0.0008
192	SLE FR 5	6.26	0.01	46.67		-0.005	-0.2477	0.0008
192	SLE FR 6	6.46	0.01	48.13		-0.0051	-0.2545	0.0009
192	SLE QP 1	5.91	0.01	44.07		-0.0047	-0.2331	0.0008
192	SLE QP 2	6.24	0.01	46.51		-0.0049	-0.2459	0.0008
192	SLD 1	5.61	0.03	41.51		-0.0039	-0.0929	0.0011
192	SLD 2	5.61	0.03	41.51		-0.0039	-0.0929	0.0011
192	SLD 3	6.01	0.17	43.98		-0.0195	-0.1056	0.005
192	SLD 4	6.01	0.17	43.98		-0.0195	-0.1056	0.005
192	SLD 5	5.44	-0.19	41.26		0.0191	-0.1808	-0.0049
192	SLD 6	5.44	-0.19	41.26		0.0191	-0.1808	-0.0049
192	SLD 7	6.78	0.26	49.5		-0.0331	-0.223	0.0079
192	SLD 8	6.78	0.26	49.5		-0.0331	-0.223	0.0079
192	SLD 9	5.7	-0.25	43.52		0.0232	-0.2689	-0.0063
192	SLD 10	5.7	-0.25	43.52		0.0232	-0.2689	-0.0063
192	SLD 11	7.04	0.21	51.76		-0.029	-0.311	0.0066
192	SLD 12	7.04	0.21	51.76		-0.029	-0.311	0.0066
192	SLD 13	6.47	-0.15	49.04		0.0097	-0.3863	-0.0033
192	SLD 14	6.47	-0.15	49.04		0.0097	-0.3863	-0.0033
192	SLD 15	6.87	-0.02	51.51		-0.006	-0.3989	0.0006
192	SLD 16	6.87	-0.02	51.51		-0.006	-0.3989	0.0006
192	SLV 1	4.76	0.07	34.75		-0.0029	0.1132	0.0016
192	SLV 2	4.76	0.07	34.75		-0.0029	0.1132	0.0016
192	SLV 3	5.71	0.39	40.63		-0.0396	0.0825	0.0106
192	SLV 4	5.71	0.39	40.63		-0.0396	0.0825	0.0106
192	SLV 5	4.36	-0.46	34.06		0.0513	-0.0915	-0.0127
192	SLV 6	4.36	-0.46	34.06		0.0513	-0.0915	-0.0127
192	SLV 7	7.52	0.61	53.67		-0.0709	-0.1941	0.0175
192	SLV 8	7.52	0.61	53.67		-0.0709	-0.1941	0.0175
192	SLV 9	4.96	-0.59	39.35		0.0611	-0.2978	-0.0158
192	SLV 10	4.96	-0.59	39.35		0.0611	-0.2978	-0.0158
192	SLV 11	8.12	0.47	58.95		-0.0612	-0.4003	0.0143
192	SLV 12	8.12	0.47	58.95		-0.0612	-0.4003	0.0143
192	SLV 13	6.77	-0.38	52.38		0.0297	-0.5743	-0.009
192	SLV 14	6.77	-0.38	52.38		0.0297	-0.5743	-0.009
192	SLV 15	7.72	-0.06	58.26		-0.007	-0.6051	0.0001
192	SLV 16	7.72	-0.06	58.26		-0.007	-0.6051	0.0001
194	SLU 1	-6.68	-3.29	62.11		0.0623	3.7144	0.7402
194	SLU 2	-6.7	-3.3	62.36		0.0626	3.7293	0.7435
194	SLU 3	-6.92	-3.38	64.25		0.0633	3.8265	0.7604
194	SLU 4	-6.94	-3.39	64.4		0.0635	3.8354	0.7624
194	SLU 5	-6.85	-3.35	63.56		0.0626	3.79	0.7541
194	SLU 6	-7.07	-3.42	65.46		0.0634	3.8872	0.771
194	SLU 7	-7.09	-3.43	65.61		0.0635	3.8962	0.773
194	SLU 8	-6.97	-3.38	64.53		0.0624	3.8359	0.7613
194	SLU 9	-6.99	-3.39	64.67		0.0626	3.8448	0.7633
194	SLU 10	-8.03	-4.08	75.05		0.078	4.5415	0.9178
194	SLU 11	-8.25	-4.15	76.94		0.0787	4.6387	0.9347
194	SLU 12	-8.26	-4.16	77.09		0.0788	4.6476	0.9367
194	SLU 13	-8.17	-4.12	76.26		0.078	4.6023	0.9283
194	SLU 14	-8.39	-4.2	78.15		0.0787	4.6995	0.9452
194	SLU 15	-8.41	-4.21	78.3		0.0789	4.7084	0.9472
194	SLU 16	-8.29	-4.15	77.22		0.0778	4.6481	0.9355
194	SLU 17	-8.31	-4.16	77.36		0.0779	4.6571	0.9375
194	SLU 18	-8.57	-4.39	80.24		0.0843	4.8747	0.9891
194	SLU 19	-8.58	-4.4	80.39		0.0844	4.8837	0.9911
194	SLU 20	-8.71	-4.44	81.45		0.0843	4.9355	0.9997
194	SLU 21	-8.73	-4.45	81.6		0.0845	4.9444	1.0017
194	SLU 22	-7.74	-3.74	71.82		0.0697	4.2596	0.8419
194	SLU 23	-7.77	-3.75	72.07		0.07	4.2745	0.8453
194	SLU 24	-7.99	-3.83	73.96		0.0707	4.3717	0.8622
194	SLU 25	-8	-3.84	74.11		0.0709	4.3806	0.8642
194	SLU 26	-7.91	-3.8	73.28		0.0701	4.3353	0.8558
194	SLU 27	-8.13	-3.88	75.17		0.0708	4.4325	0.8728
194	SLU 28	-8.15	-3.89	75.32		0.0709	4.4414	0.8748



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
194	SLU 29	-8.03	-3.83	74.24	0.0698	4.3811	0.8631
194	SLU 30	-8.05	-3.84	74.39	0.07	4.3901	0.8651
194	SLU 31	-9.09	-4.53	84.76	0.0854	5.0867	1.0195
194	SLU 32	-9.31	-4.6	86.65	0.0861	5.1839	1.0365
194	SLU 33	-9.32	-4.61	86.8	0.0863	5.1929	1.0385
194	SLU 34	-9.23	-4.58	85.97	0.0854	5.1475	1.0301
194	SLU 35	-9.45	-4.65	87.86	0.0861	5.2447	1.047
194	SLU 36	-9.47	-4.66	88.01	0.0863	5.2536	1.049
194	SLU 37	-9.35	-4.61	86.93	0.0852	5.1934	1.0373
194	SLU 38	-9.37	-4.62	87.08	0.0854	5.2023	1.0393
194	SLU 39	-9.63	-4.84	89.95	0.0917	5.4199	1.0909
194	SLU 40	-9.64	-4.85	90.1	0.0918	5.4289	1.0929
194	SLU 41	-9.77	-4.89	91.16	0.0917	5.4807	1.1014
194	SLU 42	-9.79	-4.9	91.31	0.0919	5.4896	1.1034
194	SLU 43	-8.32	-4.12	77.41	0.0785	4.6417	0.9273
194	SLU 44	-8.34	-4.13	77.66	0.0787	4.6566	0.9306
194	SLU 45	-8.56	-4.21	79.55	0.0795	4.7538	0.9476
194	SLU 46	-8.58	-4.22	79.7	0.0796	4.7628	0.9496
194	SLU 47	-8.49	-4.18	78.87	0.0788	4.7174	0.9412
194	SLU 48	-8.71	-4.25	80.76	0.0795	4.8146	0.9581
194	SLU 49	-8.73	-4.26	80.91	0.0797	4.8235	0.9601
194	SLU 50	-8.61	-4.21	79.83	0.0786	4.7633	0.9484
194	SLU 51	-8.62	-4.22	79.98	0.0787	4.7722	0.9504
194	SLU 52	-9.67	-4.91	90.35	0.0941	5.4689	1.1049
194	SLU 53	-9.89	-4.98	92.24	0.0948	5.5661	1.1218
194	SLU 54	-9.9	-4.99	92.39	0.095	5.575	1.1238
194	SLU 55	-9.81	-4.95	91.56	0.0942	5.5296	1.1155
194	SLU 56	-10.03	-5.03	93.45	0.0949	5.6268	1.1324
194	SLU 57	-10.05	-5.04	93.6	0.095	5.6358	1.1344
194	SLU 58	-9.93	-4.99	92.52	0.0939	5.5755	1.1227
194	SLU 59	-9.95	-4.99	92.67	0.0941	5.5845	1.1247
194	SLU 60	-10.21	-5.22	95.54	0.1004	5.8021	1.1763
194	SLU 61	-10.22	-5.23	95.69	0.1006	5.811	1.1783
194	SLU 62	-10.35	-5.27	96.75	0.1005	5.8629	1.1868
194	SLU 63	-10.37	-5.28	96.9	0.1006	5.8718	1.1888
194	SLU 64	-9.38	-4.57	87.12	0.0859	5.187	1.0291
194	SLU 65	-9.4	-4.58	87.37	0.0862	5.2019	1.0324
194	SLU 66	-9.62	-4.66	89.27	0.0869	5.2991	1.0494
194	SLU 67	-9.64	-4.67	89.41	0.087	5.308	1.0514
194	SLU 68	-9.55	-4.63	88.58	0.0862	5.2626	1.043
194	SLU 69	-9.77	-4.71	90.47	0.0869	5.3598	1.0599
194	SLU 70	-9.79	-4.72	90.62	0.0871	5.3688	1.0619
194	SLU 71	-9.67	-4.66	89.54	0.086	5.3085	1.0502
194	SLU 72	-9.69	-4.67	89.69	0.0861	5.3174	1.0522
194	SLU 73	-10.73	-5.36	100.06	0.1015	6.0141	1.2067
194	SLU 74	-10.95	-5.43	101.96	0.1022	6.1113	1.2236
194	SLU 75	-10.96	-5.44	102.11	0.1024	6.1202	1.2256
194	SLU 76	-10.87	-5.41	101.27	0.1016	6.0749	1.2172
194	SLU 77	-11.09	-5.48	103.17	0.1023	6.1721	1.2342
194	SLU 78	-11.11	-5.49	103.31	0.1025	6.181	1.2362
194	SLU 79	-10.99	-5.44	102.23	0.1013	6.1207	1.2245
194	SLU 80	-11.01	-5.45	102.38	0.1015	6.1297	1.2265
194	SLU 81	-11.27	-5.67	105.25	0.1078	6.3473	1.278
194	SLU 82	-11.28	-5.68	105.4	0.108	6.3563	1.28
194	SLU 83	-11.41	-5.72	106.46	0.1079	6.4081	1.2886
194	SLU 84	-11.43	-5.73	106.61	0.108	6.417	1.2906
194	SLE RA 1	-6.98	-3.41	64.88	0.0644	3.8701	0.7692
194	SLE RA 2	-7	-3.43	65.05	0.0646	3.8801	0.7715
194	SLE RA 3	-7.15	-3.48	66.31	0.0651	3.9449	0.7827
194	SLE RA 4	-7.16	-3.48	66.41	0.0652	3.9508	0.7841
194	SLE RA 5	-7.1	-3.46	65.85	0.0646	3.9206	0.7785
194	SLE RA 6	-7.24	-3.51	67.12	0.0651	3.9854	0.7898
194	SLE RA 7	-7.25	-3.51	67.22	0.0652	3.9913	0.7911
194	SLE RA 8	-7.17	-3.48	66.5	0.0645	3.9512	0.7833
194	SLE RA 9	-7.19	-3.48	66.59	0.0646	3.9571	0.7847
194	SLE RA 10	-7.88	-3.94	73.51	0.0749	4.4216	0.8876
194	SLE RA 11	-8.03	-3.99	74.77	0.0753	4.4864	0.8989
194	SLE RA 12	-8.04	-4	74.87	0.0755	4.4923	0.9003
194	SLE RA 13	-7.98	-3.97	74.32	0.0749	4.4621	0.8947
194	SLE RA 14	-8.12	-4.02	75.58	0.0754	4.5269	0.906
194	SLE RA 15	-8.14	-4.03	75.68	0.0755	4.5328	0.9073
194	SLE RA 16	-8.06	-3.99	74.96	0.0747	4.4927	0.8995
194	SLE RA 17	-8.07	-4	75.05	0.0749	4.4986	0.9008
194	SLE RA 18	-8.24	-4.15	76.97	0.0791	4.6437	0.9352
194	SLE RA 19	-8.25	-4.16	77.07	0.0792	4.6497	0.9365
194	SLE RA 20	-8.34	-4.18	77.78	0.0791	4.6842	0.9422
194	SLE RA 21	-8.35	-4.19	77.88	0.0792	4.6902	0.9436
194	SLE FR 1	-6.98	-3.41	64.88	0.0644	3.8701	0.7692
194	SLE FR 2	-6.98	-3.42	64.92	0.0645	3.8721	0.7697
194	SLE FR 3	-7.02	-3.43	65.21	0.0644	3.8863	0.7721
194	SLE FR 4	-7.36	-3.64	68.54	0.0689	4.1042	0.8195
194	SLE FR 5	-7.4	-3.65	68.83	0.0688	4.1184	0.8218
194	SLE FR 6	-7.61	-3.78	70.93	0.0717	4.2569	0.8522
194	SLE QP 1	-6.98	-3.41	64.88	0.0644	3.8701	0.7692
194	SLE QP 2	-7.36	-3.64	68.51	0.0688	4.1022	0.819
194	SLD 1	-4.82	-2.14	48.38	0.0692	2.9829	0.5059
194	SLD 2	-4.82	-2.14	48.38	0.0692	2.9829	0.5059
194	SLD 3	-5.25	-3.29	54.18	0.1099	3.7324	0.745



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
194	SLD 4	-5.25	-3.29	54.18	0.1099	3.7324	0.745	
194	SLD 5	-5.94	-1.45	53.67	0.0073	2.6297	0.3625	
194	SLD 6	-5.94	-1.45	53.67	0.0073	2.6297	0.3625	
194	SLD 7	-7.39	-5.27	73.01	0.1428	5.128	1.1594	
194	SLD 8	-7.39	-5.27	73.01	0.1428	5.128	1.1594	
194	SLD 9	-7.33	-2	64.01	-0.0051	3.0764	0.4787	
194	SLD 10	-7.33	-2	64.01	-0.0051	3.0764	0.4787	
194	SLD 11	-8.78	-5.82	83.34	0.1303	5.5748	1.2756	
194	SLD 12	-8.78	-5.82	83.34	0.1303	5.5748	1.2756	
194	SLD 13	-9.46	-3.98	82.84	0.0278	4.472	0.8931	
194	SLD 14	-9.46	-3.98	82.84	0.0278	4.472	0.8931	
194	SLD 15	-9.9	-5.13	88.64	0.0684	5.2215	1.1322	
194	SLD 16	-9.9	-5.13	88.64	0.0684	5.2215	1.1322	
194	SLV 1	-1.4	-0.14	21.3	0.0702	1.4818	0.0857	
194	SLV 2	-1.4	-0.14	21.3	0.0702	1.4818	0.0857	
194	SLV 3	-2.43	-2.83	34.97	0.1654	3.2393	0.646	
194	SLV 4	-2.43	-2.83	34.97	0.1654	3.2393	0.646	
194	SLV 5	-4	1.49	33.62	-0.0751	0.6504	-0.2509	
194	SLV 6	-4	1.49	33.62	-0.0751	0.6504	-0.2509	
194	SLV 7	-7.45	-7.47	79.18	0.2422	6.509	1.617	
194	SLV 8	-7.45	-7.47	79.18	0.2422	6.509	1.617	
194	SLV 9	-7.27	0.2	57.84	-0.1045	1.6954	0.021	
194	SLV 10	-7.27	0.2	57.84	-0.1045	1.6954	0.021	
194	SLV 11	-10.71	-8.76	103.4	0.2128	7.554	1.8889	
194	SLV 12	-10.71	-8.76	103.4	0.2128	7.554	1.8889	
194	SLV 13	-12.29	-4.44	102.05	-0.0278	4.9651	0.992	
194	SLV 14	-12.29	-4.44	102.05	-0.0278	4.9651	0.992	
194	SLV 15	-13.32	-7.13	115.72	0.0674	6.7227	1.5524	
194	SLV 16	-13.32	-7.13	115.72	0.0674	6.7227	1.5524	
195	SLU 1	9.05	-0.19	27.53	0.0242	0.0778	-0.0069	
195	SLU 2	9.13	-0.19	27.75	0.0246	0.0786	-0.007	
195	SLU 3	9.16	-0.19	27.88	0.0244	0.0781	-0.007	
195	SLU 4	9.21	-0.19	28.01	0.0247	0.0786	-0.007	
195	SLU 5	9.08	-0.19	27.62	0.0244	0.0775	-0.007	
195	SLU 6	9.11	-0.19	27.76	0.0242	0.0769	-0.007	
195	SLU 7	9.16	-0.19	27.89	0.0245	0.0774	-0.007	
195	SLU 8	8.95	-0.19	27.28	0.0238	0.0755	-0.0068	
195	SLU 9	9	-0.19	27.42	0.0241	0.076	-0.0069	
195	SLU 10	11.07	-0.22	33.65	0.0293	0.0953	-0.0083	
195	SLU 11	11.1	-0.23	33.79	0.0291	0.0948	-0.0083	
195	SLU 12	11.15	-0.23	33.92	0.0294	0.0953	-0.0084	
195	SLU 13	11.02	-0.23	33.53	0.0291	0.0942	-0.0083	
195	SLU 14	11.06	-0.23	33.67	0.0289	0.0936	-0.0083	
195	SLU 15	11.11	-0.23	33.8	0.0292	0.0941	-0.0084	
195	SLU 16	10.9	-0.23	33.19	0.0285	0.0922	-0.0082	
195	SLU 17	10.95	-0.23	33.32	0.0288	0.0927	-0.0082	
195	SLU 18	11.83	-0.24	35.96	0.0309	0.1017	-0.0088	
195	SLU 19	11.87	-0.24	36.09	0.0312	0.1021	-0.0089	
195	SLU 20	11.78	-0.24	35.84	0.0307	0.1005	-0.0088	
195	SLU 21	11.83	-0.24	35.97	0.031	0.101	-0.0088	
195	SLU 22	10.54	-0.22	32.08	0.0276	0.0905	-0.0079	
195	SLU 23	10.62	-0.22	32.3	0.0281	0.0913	-0.008	
195	SLU 24	10.65	-0.22	32.43	0.0279	0.0908	-0.008	
195	SLU 25	10.7	-0.22	32.56	0.0282	0.0913	-0.0081	
195	SLU 26	10.57	-0.22	32.17	0.0279	0.0902	-0.008	
195	SLU 27	10.61	-0.22	32.31	0.0277	0.0896	-0.008	
195	SLU 28	10.65	-0.22	32.44	0.028	0.0901	-0.008	
195	SLU 29	10.45	-0.22	31.83	0.0273	0.0882	-0.0078	
195	SLU 30	10.49	-0.22	31.96	0.0275	0.0887	-0.0079	
195	SLU 31	12.56	-0.25	38.2	0.0328	0.108	-0.0094	
195	SLU 32	12.6	-0.26	38.34	0.0326	0.1075	-0.0093	
195	SLU 33	12.64	-0.26	38.47	0.0329	0.108	-0.0094	
195	SLU 34	12.52	-0.26	38.08	0.0326	0.1069	-0.0093	
195	SLU 35	12.55	-0.26	38.21	0.0324	0.1063	-0.0093	
195	SLU 36	12.6	-0.26	38.35	0.0327	0.1068	-0.0094	
195	SLU 37	12.39	-0.26	37.74	0.032	0.1049	-0.0092	
195	SLU 38	12.44	-0.26	37.87	0.0322	0.1054	-0.0092	
195	SLU 39	13.32	-0.27	40.51	0.0344	0.1144	-0.0098	
195	SLU 40	13.37	-0.27	40.64	0.0346	0.1148	-0.0099	
195	SLU 41	13.27	-0.27	40.39	0.0342	0.1132	-0.0098	
195	SLU 42	13.32	-0.27	40.52	0.0344	0.1137	-0.0099	
195	SLU 43	11.25	-0.23	34.22	0.0302	0.0968	-0.0086	
195	SLU 44	11.33	-0.24	34.44	0.0307	0.0976	-0.0087	
195	SLU 45	11.36	-0.24	34.58	0.0305	0.0971	-0.0087	
195	SLU 46	11.41	-0.24	34.71	0.0307	0.0976	-0.0088	
195	SLU 47	11.28	-0.24	34.32	0.0305	0.0965	-0.0087	
195	SLU 48	11.31	-0.24	34.46	0.0303	0.0959	-0.0087	
195	SLU 49	11.36	-0.24	34.59	0.0305	0.0964	-0.0087	
195	SLU 50	11.16	-0.24	33.98	0.0298	0.0945	-0.0085	
195	SLU 51	11.2	-0.24	34.11	0.0301	0.095	-0.0086	
195	SLU 52	13.27	-0.27	40.35	0.0354	0.1143	-0.0101	
195	SLU 53	13.31	-0.27	40.48	0.0352	0.1138	-0.01	
195	SLU 54	13.35	-0.27	40.62	0.0354	0.1142	-0.0101	
195	SLU 55	13.23	-0.27	40.23	0.0352	0.1132	-0.01	
195	SLU 56	13.26	-0.28	40.36	0.035	0.1126	-0.01	
195	SLU 57	13.31	-0.28	40.5	0.0352	0.1131	-0.0101	
195	SLU 58	13.1	-0.27	39.88	0.0345	0.1112	-0.0099	
195	SLU 59	13.15	-0.27	40.02	0.0348	0.1117	-0.0099	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
195	SLU 60	14.03	-0.29	42.66	0.0369	0.1207	-0.0105
195	SLU 61	14.07	-0.29	42.79	0.0372	0.1211	-0.0106
195	SLU 62	13.98	-0.29	42.54	0.0367	0.1195	-0.0105
195	SLU 63	14.03	-0.29	42.67	0.037	0.12	-0.0106
195	SLU 64	12.74	-0.26	38.77	0.0337	0.1095	-0.0096
195	SLU 65	12.82	-0.27	38.99	0.0342	0.1103	-0.0097
195	SLU 66	12.85	-0.27	39.13	0.0339	0.1098	-0.0097
195	SLU 67	12.9	-0.27	39.26	0.0342	0.1103	-0.0098
195	SLU 68	12.77	-0.27	38.87	0.034	0.1092	-0.0097
195	SLU 69	12.81	-0.27	39.01	0.0338	0.1086	-0.0097
195	SLU 70	12.86	-0.27	39.14	0.034	0.1091	-0.0098
195	SLU 71	12.65	-0.27	38.53	0.0333	0.1072	-0.0096
195	SLU 72	12.7	-0.27	38.66	0.0336	0.1077	-0.0096
195	SLU 73	14.77	-0.3	44.9	0.0389	0.127	-0.0111
195	SLU 74	14.8	-0.3	45.03	0.0386	0.1265	-0.0111
195	SLU 75	14.85	-0.3	45.17	0.0389	0.1269	-0.0111
195	SLU 76	14.72	-0.3	44.78	0.0387	0.1259	-0.011
195	SLU 77	14.75	-0.31	44.91	0.0385	0.1253	-0.011
195	SLU 78	14.8	-0.31	45.04	0.0387	0.1258	-0.0111
195	SLU 79	14.59	-0.3	44.43	0.038	0.1239	-0.0109
195	SLU 80	14.64	-0.3	44.57	0.0383	0.1244	-0.011
195	SLU 81	15.52	-0.32	47.21	0.0404	0.1333	-0.0115
195	SLU 82	15.57	-0.32	47.34	0.0407	0.1338	-0.0116
195	SLU 83	15.47	-0.32	47.09	0.0402	0.1322	-0.0115
195	SLU 84	15.52	-0.32	47.22	0.0405	0.1327	-0.0116
195	SLE RA 1	9.47	-0.2	28.83	0.0252	0.0814	-0.0072
195	SLE RA 2	9.53	-0.2	28.97	0.0255	0.082	-0.0073
195	SLE RA 3	9.55	-0.2	29.06	0.0253	0.0816	-0.0072
195	SLE RA 4	9.58	-0.2	29.15	0.0255	0.0819	-0.0073
195	SLE RA 5	9.5	-0.2	28.89	0.0253	0.0812	-0.0072
195	SLE RA 6	9.52	-0.2	28.98	0.0252	0.0808	-0.0072
195	SLE RA 7	9.55	-0.2	29.07	0.0254	0.0812	-0.0073
195	SLE RA 8	9.41	-0.2	28.66	0.0249	0.0799	-0.0071
195	SLE RA 9	9.44	-0.2	28.75	0.0251	0.0802	-0.0072
195	SLE RA 10	10.82	-0.22	32.91	0.0286	0.0931	-0.0081
195	SLE RA 11	10.84	-0.22	33	0.0285	0.0927	-0.0081
195	SLE RA 12	10.88	-0.22	33.09	0.0286	0.0931	-0.0082
195	SLE RA 13	10.79	-0.22	32.83	0.0285	0.0923	-0.0081
195	SLE RA 14	10.81	-0.22	32.92	0.0283	0.092	-0.0081
195	SLE RA 15	10.85	-0.22	33.01	0.0285	0.0923	-0.0082
195	SLE RA 16	10.71	-0.22	32.6	0.028	0.091	-0.008
195	SLE RA 17	10.74	-0.22	32.69	0.0282	0.0914	-0.0081
195	SLE RA 18	11.33	-0.23	34.45	0.0296	0.0973	-0.0085
195	SLE RA 19	11.36	-0.23	34.54	0.0298	0.0977	-0.0085
195	SLE RA 20	11.29	-0.23	34.37	0.0295	0.0966	-0.0084
195	SLE RA 21	11.33	-0.23	34.46	0.0297	0.0969	-0.0085
195	SLE FR 1	9.47	-0.2	28.83	0.0252	0.0814	-0.0072
195	SLE FR 2	9.48	-0.2	28.85	0.0252	0.0816	-0.0072
195	SLE FR 3	9.46	-0.2	28.79	0.0251	0.0811	-0.0072
195	SLE FR 4	10.04	-0.21	30.54	0.0266	0.0863	-0.0076
195	SLE FR 5	10.02	-0.21	30.48	0.0265	0.0859	-0.0076
195	SLE FR 6	10.4	-0.21	31.64	0.0274	0.0894	-0.0078
195	SLE QP 1	9.47	-0.2	28.83	0.0252	0.0814	-0.0072
195	SLE QP 2	10.03	-0.21	30.51	0.0265	0.0862	-0.0076
195	SLD 1	13.25	-0.48	40.42	0.0454	0.1408	-0.0139
195	SLD 2	13.25	-0.48	40.42	0.0454	0.1408	-0.0139
195	SLD 3	14.57	-0.55	44.28	0.0529	0.1549	-0.0162
195	SLD 4	14.57	-0.55	44.28	0.0529	0.1549	-0.0162
195	SLD 5	8.99	-0.18	27.63	0.0208	0.0811	-0.006
195	SLD 6	8.99	-0.18	27.63	0.0208	0.0811	-0.006
195	SLD 7	13.39	-0.42	40.5	0.0458	0.1283	-0.0136
195	SLD 8	13.39	-0.42	40.5	0.0458	0.1283	-0.0136
195	SLD 9	6.66	0.01	20.52	0.0072	0.0441	-0.0016
195	SLD 10	6.66	0.01	20.52	0.0072	0.0441	-0.0016
195	SLD 11	11.06	-0.24	33.4	0.0322	0.0913	-0.0091
195	SLD 12	11.06	-0.24	33.4	0.0322	0.0913	-0.0091
195	SLD 13	5.48	0.14	16.74	0.0001	0.0175	0.001
195	SLD 14	5.48	0.14	16.74	0.0001	0.0175	0.001
195	SLD 15	6.8	0.06	20.6	0.0076	0.0316	-0.0012
195	SLD 16	6.8	0.06	20.6	0.0076	0.0316	-0.0012
195	SLV 1	17.58	-0.89	53.71	0.0744	0.214	-0.0236
195	SLV 2	17.58	-0.89	53.71	0.0744	0.214	-0.0236
195	SLV 3	20.69	-1.07	62.81	0.0924	0.2473	-0.0291
195	SLV 4	20.69	-1.07	62.81	0.0924	0.2473	-0.0291
195	SLV 5	7.58	-0.14	23.66	0.0135	0.0741	-0.0041
195	SLV 6	7.58	-0.14	23.66	0.0135	0.0741	-0.0041
195	SLV 7	17.94	-0.74	54.01	0.0736	0.185	-0.0223
195	SLV 8	17.94	-0.74	54.01	0.0736	0.185	-0.0223
195	SLV 9	2.12	0.32	7.02	-0.0206	-0.0126	0.0072
195	SLV 10	2.12	0.32	7.02	-0.0206	-0.0126	0.0072
195	SLV 11	12.48	-0.28	37.36	0.0395	0.0984	-0.011
195	SLV 12	12.48	-0.28	37.36	0.0395	0.0984	-0.011
195	SLV 13	-0.63	0.65	-1.78	-0.0394	-0.0749	0.0139
195	SLV 14	-0.63	0.65	-1.78	-0.0394	-0.0749	0.0139
195	SLV 15	2.48	0.47	7.32	-0.0214	-0.0416	0.0085
195	SLV 16	2.48	0.47	7.32	-0.0214	-0.0416	0.0085
196	SLU 1	-0.64	-9.58	83.62	0.2982	0.2683	0.0631
196	SLU 2	-0.67	-9.83	84.71	0.3085	0.2678	0.0647





Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
196	SLU 3	-0.62	-9.63	84.9	0.2974	0.2718	0.0634		
196	SLU 4	-0.64	-9.78	85.55	0.3036	0.2715	0.0644		
196	SLU 5	-0.64	-9.7	84.52	0.302	0.267	0.0639		
196	SLU 6	-0.59	-9.51	84.7	0.2909	0.2709	0.0626		
196	SLU 7	-0.61	-9.65	85.36	0.2971	0.2706	0.0635		
196	SLU 8	-0.58	-9.33	83.24	0.2852	0.2666	0.0614		
196	SLU 9	-0.59	-9.48	83.89	0.2914	0.2663	0.0624		
196	SLU 10	-0.79	-11.78	102.35	0.3681	0.3265	0.0775		
196	SLU 11	-0.75	-11.58	102.54	0.3571	0.3305	0.0762		
196	SLU 12	-0.76	-11.73	103.19	0.3632	0.3302	0.0772		
196	SLU 13	-0.76	-11.65	102.16	0.3616	0.3257	0.0767		
196	SLU 14	-0.71	-11.46	102.34	0.3506	0.3296	0.0754		
196	SLU 15	-0.73	-11.6	103	0.3567	0.3293	0.0763		
196	SLU 16	-0.7	-11.28	100.88	0.3449	0.3253	0.0742		
196	SLU 17	-0.71	-11.43	101.53	0.351	0.325	0.0752		
196	SLU 18	-0.82	-12.37	108.82	0.3834	0.3521	0.0814		
196	SLU 19	-0.83	-12.51	109.48	0.3896	0.3519	0.0824		
196	SLU 20	-0.78	-12.24	108.63	0.3769	0.3513	0.0806		
196	SLU 21	-0.8	-12.39	109.28	0.3831	0.351	0.0815		
196	SLU 22	-0.71	-10.91	96.83	0.336	0.3157	0.0718		
196	SLU 23	-0.74	-11.15	97.91	0.3463	0.3153	0.0734		
196	SLU 24	-0.69	-10.96	98.1	0.3352	0.3192	0.0721		
196	SLU 25	-0.71	-11.1	98.75	0.3414	0.3189	0.0731		
196	SLU 26	-0.7	-11.02	97.72	0.3398	0.3144	0.0726		
196	SLU 27	-0.66	-10.83	97.91	0.3287	0.3184	0.0713		
196	SLU 28	-0.67	-10.98	98.56	0.3349	0.3181	0.0722		
196	SLU 29	-0.64	-10.66	96.44	0.323	0.314	0.0701		
196	SLU 30	-0.66	-10.8	97.09	0.3292	0.3137	0.0711		
196	SLU 31	-0.86	-13.1	115.55	0.406	0.374	0.0862		
196	SLU 32	-0.81	-12.9	115.74	0.3949	0.3779	0.0849		
196	SLU 33	-0.83	-13.05	116.39	0.4011	0.3776	0.0859		
196	SLU 34	-0.82	-12.97	115.36	0.3995	0.3731	0.0854		
196	SLU 35	-0.78	-12.78	115.55	0.3884	0.377	0.0841		
196	SLU 36	-0.8	-12.93	116.2	0.3946	0.3768	0.085		
196	SLU 37	-0.77	-12.61	114.08	0.3827	0.3727	0.0829		
196	SLU 38	-0.78	-12.75	114.73	0.3889	0.3724	0.0839		
196	SLU 39	-0.88	-13.69	122.03	0.4213	0.3996	0.0901		
196	SLU 40	-0.9	-13.84	122.68	0.4274	0.3993	0.0911		
196	SLU 41	-0.85	-13.57	121.83	0.4148	0.3987	0.0893		
196	SLU 42	-0.87	-13.71	122.49	0.4209	0.3985	0.0902		
196	SLU 43	-0.81	-12	104.18	0.3747	0.3325	0.079		
196	SLU 44	-0.84	-12.25	105.27	0.385	0.3321	0.0806		
196	SLU 45	-0.79	-12.05	105.46	0.3739	0.336	0.0793		
196	SLU 46	-0.81	-12.2	106.11	0.3801	0.3357	0.0803		
196	SLU 47	-0.81	-12.12	105.08	0.3785	0.3312	0.0798		
196	SLU 48	-0.76	-11.93	105.27	0.3674	0.3351	0.0785		
196	SLU 49	-0.78	-12.08	105.92	0.3736	0.3349	0.0795		
196	SLU 50	-0.75	-11.76	103.8	0.3617	0.3308	0.0774		
196	SLU 51	-0.76	-11.9	104.45	0.3679	0.3305	0.0783		
196	SLU 52	-0.96	-14.2	122.91	0.4446	0.3908	0.0935		
196	SLU 53	-0.92	-14	123.1	0.4336	0.3947	0.0922		
196	SLU 54	-0.93	-14.15	123.75	0.4397	0.3944	0.0931		
196	SLU 55	-0.93	-14.07	122.72	0.4381	0.3899	0.0926		
196	SLU 56	-0.88	-13.88	122.9	0.4271	0.3938	0.0913		
196	SLU 57	-0.9	-14.02	123.56	0.4332	0.3935	0.0923		
196	SLU 58	-0.87	-13.71	121.44	0.4214	0.3895	0.0902		
196	SLU 59	-0.88	-13.85	122.09	0.4275	0.3892	0.0911		
196	SLU 60	-0.99	-14.79	129.38	0.4599	0.4164	0.0974		
196	SLU 61	-1	-14.94	130.04	0.4661	0.4161	0.0983		
196	SLU 62	-0.95	-14.66	129.19	0.4534	0.4155	0.0965		
196	SLU 63	-0.97	-14.81	129.84	0.4596	0.4152	0.0975		
196	SLU 64	-0.88	-13.33	117.39	0.4125	0.38	0.0877		
196	SLU 65	-0.91	-13.57	118.47	0.4228	0.3795	0.0893		
196	SLU 66	-0.86	-13.38	118.66	0.4117	0.3834	0.088		
196	SLU 67	-0.88	-13.52	119.31	0.4179	0.3832	0.089		
196	SLU 68	-0.87	-13.45	118.28	0.4163	0.3786	0.0885		
196	SLU 69	-0.83	-13.25	118.47	0.4052	0.3826	0.0872		
196	SLU 70	-0.84	-13.4	119.12	0.4114	0.3823	0.0882		
196	SLU 71	-0.81	-13.08	117	0.3995	0.3782	0.0861		
196	SLU 72	-0.83	-13.22	117.66	0.4057	0.378	0.087		
196	SLU 73	-1.03	-15.52	136.11	0.4824	0.4382	0.1022		
196	SLU 74	-0.98	-15.33	136.3	0.4714	0.4421	0.1009		
196	SLU 75	-1	-15.47	136.95	0.4775	0.4419	0.1018		
196	SLU 76	-0.99	-15.4	135.92	0.476	0.4373	0.1013		
196	SLU 77	-0.95	-15.2	136.11	0.4649	0.4413	0.1		
196	SLU 78	-0.97	-15.35	136.76	0.4711	0.441	0.101		
196	SLU 79	-0.94	-15.03	134.64	0.4592	0.4369	0.0989		
196	SLU 80	-0.95	-15.17	135.29	0.4653	0.4367	0.0998		
196	SLU 81	-1.05	-16.11	142.59	0.4977	0.4638	0.1061		
196	SLU 82	-1.07	-16.26	143.24	0.5039	0.4635	0.107		
196	SLU 83	-1.02	-15.99	142.39	0.4913	0.463	0.1052		
196	SLU 84	-1.04	-16.13	143.05	0.4974	0.4627	0.1062		
196	SLE RA 1	-0.66	-9.96	87.4	0.309	0.2819	0.0656		
196	SLE RA 2	-0.68	-10.12	88.12	0.3158	0.2815	0.0667		
196	SLE RA 3	-0.65	-9.99	88.24	0.3085	0.2842	0.0658		
196	SLE RA 4	-0.66	-10.09	88.68	0.3126	0.284	0.0664		
196	SLE RA 5	-0.66	-10.04	87.99	0.3115	0.281	0.0661		
196	SLE RA 6	-0.63	-9.91	88.12	0.3041	0.2836	0.0652		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
196	SLE RA 7	-0.64	-10.01	88.55	0.3082	0.2834	0.0659
196	SLE RA 8	-0.62	-9.8	87.14	0.3003	0.2807	0.0645
196	SLE RA 9	-0.63	-9.89	87.57	0.3044	0.2805	0.0651
196	SLE RA 10	-0.76	-11.42	99.88	0.3556	0.3207	0.0752
196	SLE RA 11	-0.73	-11.29	100	0.3483	0.3233	0.0743
196	SLE RA 12	-0.74	-11.39	100.44	0.3524	0.3231	0.075
196	SLE RA 13	-0.74	-11.34	99.75	0.3513	0.3201	0.0746
196	SLE RA 14	-0.71	-11.21	99.88	0.3439	0.3227	0.0738
196	SLE RA 15	-0.72	-11.31	100.31	0.348	0.3225	0.0744
196	SLE RA 16	-0.7	-11.09	98.9	0.3401	0.3198	0.073
196	SLE RA 17	-0.71	-11.19	99.33	0.3442	0.3196	0.0737
196	SLE RA 18	-0.78	-11.82	104.2	0.3658	0.3378	0.0778
196	SLE RA 19	-0.79	-11.91	104.63	0.3699	0.3376	0.0784
196	SLE RA 20	-0.76	-11.73	104.07	0.3615	0.3372	0.0772
196	SLE RA 21	-0.77	-11.83	104.5	0.3656	0.337	0.0779
196	SLE FR 1	-0.66	-9.96	87.4	0.309	0.2819	0.0656
196	SLE FR 2	-0.67	-9.99	87.54	0.3104	0.2818	0.0658
196	SLE FR 3	-0.65	-9.93	87.34	0.3073	0.2816	0.0654
196	SLE FR 4	-0.7	-10.55	92.58	0.3274	0.2986	0.0695
196	SLE FR 5	-0.69	-10.48	92.38	0.3243	0.2984	0.069
196	SLE FR 6	-0.72	-10.89	95.8	0.3374	0.3098	0.0717
196	SLE QP 1	-0.66	-9.96	87.4	0.309	0.2819	0.0656
196	SLE QP 2	-0.7	-10.52	92.44	0.326	0.2986	0.0692
196	SLD 1	-1.35	-10.48	96.35	0.3122	0.5126	0.0696
196	SLD 2	-1.35	-10.48	96.35	0.3122	0.5126	0.0696
196	SLD 3	-1.59	-12.67	109.07	0.3994	0.5416	0.0842
196	SLD 4	-1.59	-12.67	109.07	0.3994	0.5416	0.0842
196	SLD 5	-0.52	-7.17	74.32	0.1896	0.3189	0.0472
196	SLD 6	-0.52	-7.17	74.32	0.1896	0.3189	0.0472
196	SLD 7	-1.34	-14.49	116.71	0.4803	0.4155	0.0959
196	SLD 8	-1.34	-14.49	116.71	0.4803	0.4155	0.0959
196	SLD 9	-0.05	-6.54	68.16	0.1718	0.1818	0.0426
196	SLD 10	-0.05	-6.54	68.16	0.1718	0.1818	0.0426
196	SLD 11	-0.88	-13.86	110.55	0.4625	0.2784	0.0913
196	SLD 12	-0.88	-13.86	110.55	0.4625	0.2784	0.0913
196	SLD 13	0.2	-8.36	75.8	0.2527	0.0557	0.0543
196	SLD 14	0.2	-8.36	75.8	0.2527	0.0557	0.0543
196	SLD 15	-0.05	-10.56	88.52	0.3399	0.0846	0.0689
196	SLD 16	-0.05	-10.56	88.52	0.3399	0.0846	0.0689
196	SLV 1	-2.23	-10.45	101.65	0.2944	0.7995	0.0704
196	SLV 2	-2.23	-10.45	101.65	0.2944	0.7995	0.0704
196	SLV 3	-2.81	-15.61	131.61	0.4991	0.8679	0.1047
196	SLV 4	-2.81	-15.61	131.61	0.4991	0.8679	0.1047
196	SLV 5	-0.28	-2.68	49.76	0.0063	0.3451	0.0176
196	SLV 6	-0.28	-2.68	49.76	0.0063	0.3451	0.0176
196	SLV 7	-2.21	-19.87	149.63	0.6883	0.5732	0.1318
196	SLV 8	-2.21	-19.87	149.63	0.6883	0.5732	0.1318
196	SLV 9	0.82	-1.17	35.25	-0.0362	0.0241	0.0067
196	SLV 10	0.82	-1.17	35.25	-0.0362	0.0241	0.0067
196	SLV 11	-1.12	-18.36	135.11	0.6458	0.2521	0.1209
196	SLV 12	-1.12	-18.36	135.11	0.6458	0.2521	0.1209
196	SLV 13	1.41	-5.42	53.26	0.153	-0.2707	0.0338
196	SLV 14	1.41	-5.42	53.26	0.153	-0.2707	0.0338
196	SLV 15	0.83	-10.58	83.22	0.3576	-0.2023	0.0681
196	SLV 16	0.83	-10.58	83.22	0.3576	-0.2023	0.0681
197	SLU 1	-7.1	0.07	32.26	0.0077	-0.0472	0.0003
197	SLU 2	-7.25	0.07	32.81	0.0084	-0.0504	0.0005
197	SLU 3	-7.22	0.07	32.87	0.0072	-0.0484	0.0002
197	SLU 4	-7.31	0.07	33.2	0.0077	-0.0504	0.0003
197	SLU 5	-7.24	0.07	32.84	0.0078	-0.0506	0.0004
197	SLU 6	-7.2	0.08	32.9	0.0065	-0.0486	0.0001
197	SLU 7	-7.3	0.08	33.23	0.007	-0.0505	0.0002
197	SLU 8	-7.07	0.08	32.32	0.0063	-0.0476	0.0001
197	SLU 9	-7.17	0.07	32.65	0.0068	-0.0495	0.0002
197	SLU 10	-8.72	0.08	39.57	0.0104	-0.059	0.0007
197	SLU 11	-8.69	0.08	39.62	0.0091	-0.057	0.0004
197	SLU 12	-8.78	0.08	39.95	0.0096	-0.0589	0.0005
197	SLU 13	-8.71	0.08	39.6	0.0097	-0.0592	0.0005
197	SLU 14	-8.68	0.09	39.65	0.0085	-0.0572	0.0003
197	SLU 15	-8.77	0.09	39.98	0.009	-0.0591	0.0004
197	SLU 16	-8.55	0.09	39.08	0.0083	-0.0562	0.0002
197	SLU 17	-8.64	0.09	39.41	0.0088	-0.0581	0.0003
197	SLU 18	-9.2	0.09	41.91	0.0104	-0.0594	0.0006
197	SLU 19	-9.29	0.08	42.24	0.0109	-0.0614	0.0007
197	SLU 20	-9.19	0.09	41.94	0.0098	-0.0596	0.0005
197	SLU 21	-9.28	0.09	42.27	0.0103	-0.0616	0.0006
197	SLU 22	-8.14	0.08	37.23	0.0082	-0.0511	0.0003
197	SLU 23	-8.3	0.08	37.78	0.009	-0.0544	0.0004
197	SLU 24	-8.26	0.09	37.83	0.0078	-0.0523	0.0002
197	SLU 25	-8.36	0.09	38.16	0.0082	-0.0543	0.0002
197	SLU 26	-8.29	0.08	37.81	0.0084	-0.0546	0.0003
197	SLU 27	-8.25	0.09	37.86	0.0071	-0.0525	0
197	SLU 28	-8.34	0.09	38.19	0.0076	-0.0545	0.0001
197	SLU 29	-8.12	0.09	37.29	0.0069	-0.0515	0
197	SLU 30	-8.21	0.09	37.62	0.0074	-0.0535	0.0001
197	SLU 31	-9.77	0.09	44.53	0.011	-0.063	0.0006
197	SLU 32	-9.73	0.1	44.59	0.0097	-0.0609	0.0003
197	SLU 33	-9.83	0.1	44.92	0.0102	-0.0629	0.0004



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
197	SLU 34	-9.76	0.09	44.56		0.0103	-0.0632	0.0005	
197	SLU 35	-9.72	0.1	44.62		0.0091	-0.0611	0.0002	
197	SLU 36	-9.82	0.1	44.95		0.0095	-0.0631	0.0003	
197	SLU 37	-9.59	0.1	44.04		0.0089	-0.0601	0.0002	
197	SLU 38	-9.69	0.1	44.37		0.0093	-0.062	0.0003	
197	SLU 39	-10.25	0.1	46.88		0.011	-0.0634	0.0005	
197	SLU 40	-10.34	0.1	47.21		0.0115	-0.0653	0.0006	
197	SLU 41	-10.23	0.1	46.91		0.0104	-0.0636	0.0004	
197	SLU 42	-10.33	0.1	47.24		0.0108	-0.0655	0.0005	
197	SLU 43	-8.87	0.09	40.24		0.0097	-0.06	0.0005	
197	SLU 44	-9.02	0.08	40.79		0.0105	-0.0632	0.0006	
197	SLU 45	-8.99	0.09	40.84		0.0093	-0.0612	0.0004	
197	SLU 46	-9.08	0.09	41.17		0.0098	-0.0632	0.0005	
197	SLU 47	-9.01	0.09	40.82		0.0099	-0.0634	0.0005	
197	SLU 48	-8.97	0.09	40.87		0.0086	-0.0614	0.0002	
197	SLU 49	-9.07	0.09	41.2		0.0091	-0.0633	0.0003	
197	SLU 50	-8.84	0.09	40.3		0.0084	-0.0604	0.0002	
197	SLU 51	-8.94	0.09	40.63		0.0089	-0.0623	0.0003	
197	SLU 52	-10.49	0.09	47.54		0.0125	-0.0718	0.0008	
197	SLU 53	-10.46	0.1	47.6		0.0112	-0.0698	0.0005	
197	SLU 54	-10.55	0.1	47.93		0.0117	-0.0717	0.0006	
197	SLU 55	-10.48	0.1	47.57		0.0118	-0.072	0.0007	
197	SLU 56	-10.45	0.1	47.63		0.0106	-0.07	0.0004	
197	SLU 57	-10.54	0.1	47.96		0.0111	-0.0719	0.0005	
197	SLU 58	-10.32	0.1	47.05		0.0104	-0.069	0.0004	
197	SLU 59	-10.41	0.1	47.38		0.0109	-0.0709	0.0005	
197	SLU 60	-10.97	0.1	49.89		0.0125	-0.0722	0.0007	
197	SLU 61	-11.06	0.1	50.22		0.013	-0.0742	0.0008	
197	SLU 62	-10.96	0.1	49.92		0.0119	-0.0724	0.0006	
197	SLU 63	-11.05	0.1	50.25		0.0124	-0.0744	0.0007	
197	SLU 64	-9.91	0.1	45.2		0.0103	-0.0639	0.0004	
197	SLU 65	-10.07	0.1	45.75		0.0111	-0.0672	0.0006	
197	SLU 66	-10.03	0.1	45.81		0.0099	-0.0651	0.0003	
197	SLU 67	-10.13	0.1	46.14		0.0103	-0.0671	0.0004	
197	SLU 68	-10.06	0.1	45.78		0.0105	-0.0674	0.0004	
197	SLU 69	-10.02	0.11	45.84		0.0092	-0.0653	0.0001	
197	SLU 70	-10.11	0.11	46.17		0.0097	-0.0673	0.0002	
197	SLU 71	-9.89	0.11	45.26		0.009	-0.0643	0.0001	
197	SLU 72	-9.98	0.1	45.59		0.0095	-0.0663	0.0002	
197	SLU 73	-11.54	0.11	52.51		0.0131	-0.0758	0.0007	
197	SLU 74	-11.5	0.11	52.57		0.0118	-0.0737	0.0005	
197	SLU 75	-11.6	0.11	52.89		0.0123	-0.0757	0.0006	
197	SLU 76	-11.53	0.11	52.54		0.0124	-0.076	0.0006	
197	SLU 77	-11.49	0.12	52.6		0.0112	-0.0739	0.0003	
197	SLU 78	-11.59	0.12	52.92		0.0116	-0.0759	0.0004	
197	SLU 79	-11.36	0.12	52.02		0.011	-0.0729	0.0003	
197	SLU 80	-11.46	0.12	52.35		0.0114	-0.0748	0.0004	
197	SLU 81	-12.02	0.12	54.86		0.0131	-0.0762	0.0006	
197	SLU 82	-12.11	0.11	55.19		0.0136	-0.0781	0.0007	
197	SLU 83	-12	0.12	54.89		0.0125	-0.0764	0.0005	
197	SLU 84	-12.1	0.12	55.21		0.0129	-0.0783	0.0006	
197	SLE RA 1	-7.4	0.07	33.68		0.0078	-0.0483	0.0003	
197	SLE RA 2	-7.5	0.07	34.05		0.0083	-0.0505	0.0004	
197	SLE RA 3	-7.47	0.08	34.08		0.0075	-0.0491	0.0002	
197	SLE RA 4	-7.54	0.08	34.3		0.0078	-0.0504	0.0003	
197	SLE RA 5	-7.49	0.07	34.07		0.0079	-0.0506	0.0003	
197	SLE RA 6	-7.47	0.08	34.1		0.0071	-0.0492	0.0002	
197	SLE RA 7	-7.53	0.08	34.32		0.0074	-0.0505	0.0002	
197	SLE RA 8	-7.38	0.08	33.72		0.0069	-0.0486	0.0001	
197	SLE RA 9	-7.44	0.08	33.94		0.0073	-0.0499	0.0002	
197	SLE RA 10	-8.48	0.08	38.55		0.0096	-0.0562	0.0006	
197	SLE RA 11	-8.46	0.08	38.59		0.0088	-0.0548	0.0004	
197	SLE RA 12	-8.52	0.08	38.81		0.0091	-0.0561	0.0004	
197	SLE RA 13	-8.47	0.08	38.57		0.0092	-0.0563	0.0005	
197	SLE RA 14	-8.45	0.09	38.61		0.0084	-0.055	0.0003	
197	SLE RA 15	-8.51	0.08	38.83		0.0087	-0.0563	0.0003	
197	SLE RA 16	-8.36	0.09	38.23		0.0082	-0.0543	0.0003	
197	SLE RA 17	-8.42	0.08	38.44		0.0086	-0.0556	0.0003	
197	SLE RA 18	-8.8	0.08	40.12		0.0097	-0.0565	0.0005	
197	SLE RA 19	-8.86	0.08	40.34		0.01	-0.0578	0.0006	
197	SLE RA 20	-8.79	0.09	40.14		0.0092	-0.0566	0.0004	
197	SLE RA 21	-8.85	0.09	40.35		0.0096	-0.0579	0.0005	
197	SLE FR 1	-7.4	0.07	33.68		0.0078	-0.0483	0.0003	
197	SLE FR 2	-7.42	0.07	33.75		0.0079	-0.0487	0.0003	
197	SLE FR 3	-7.39	0.07	33.69		0.0076	-0.0484	0.0003	
197	SLE FR 4	-7.84	0.08	35.68		0.0085	-0.0512	0.0004	
197	SLE FR 5	-7.81	0.08	35.62		0.0082	-0.0508	0.0003	
197	SLE FR 6	-8.1	0.08	36.9		0.0087	-0.0524	0.0004	
197	SLE QP 1	-7.4	0.07	33.68		0.0078	-0.0483	0.0003	
197	SLE QP 2	-7.82	0.08	35.61		0.0084	-0.0508	0.0004	
197	SLD 1	-4.7	0.39	25.32		-0.0337	0.0879	-0.0108	
197	SLD 2	-4.7	0.39	25.32		-0.0337	0.0879	-0.0108	
197	SLD 3	-6.03	0.46	30.53		-0.0245	0.0692	-0.0084	
197	SLD 4	-6.03	0.46	30.53		-0.0245	0.0692	-0.0084	
197	SLD 5	-4.86	0.05	24.62		-0.0182	0.0191	-0.0065	
197	SLD 6	-4.86	0.05	24.62		-0.0182	0.0191	-0.0065	
197	SLD 7	-9.3	0.31	41.99		0.0125	-0.043	0.0012	
197	SLD 8	-9.3	0.31	41.99		0.0125	-0.043	0.0012	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
197	SLD 9	-6.33	-0.16	29.23	0.0043	-0.0585	-0.0005	
197	SLD 10	-6.33	-0.16	29.23	0.0043	-0.0585	-0.0005	
197	SLD 11	-10.78	0.1	46.61	0.035	-0.1206	0.0072	
197	SLD 12	-10.78	0.1	46.61	0.035	-0.1206	0.0072	
197	SLD 13	-9.6	-0.31	40.69	0.0413	-0.1708	0.0092	
197	SLD 14	-9.6	-0.31	40.69	0.0413	-0.1708	0.0092	
197	SLD 15	-10.93	-0.23	45.91	0.0505	-0.1894	0.0115	
197	SLD 16	-10.93	-0.23	45.91	0.0505	-0.1894	0.0115	
197	SLV 1	-0.49	0.86	11.43	-0.0969	0.274	-0.0275	
197	SLV 2	-0.49	0.86	11.43	-0.0969	0.274	-0.0275	
197	SLV 3	-3.64	1.05	23.71	-0.0745	0.2303	-0.0218	
197	SLV 4	-3.64	1.05	23.71	-0.0745	0.2303	-0.0218	
197	SLV 5	-0.85	0.02	9.73	-0.0571	0.113	-0.0165	
197	SLV 6	-0.85	0.02	9.73	-0.0571	0.113	-0.0165	
197	SLV 7	-11.33	0.66	50.66	0.0174	-0.0328	0.0023	
197	SLV 8	-11.33	0.66	50.66	0.0174	-0.0328	0.0023	
197	SLV 9	-4.31	-0.5	20.56	-0.0006	-0.0687	-0.0015	
197	SLV 10	-4.31	-0.5	20.56	-0.0006	-0.0687	-0.0015	
197	SLV 11	-14.78	0.13	61.49	0.0738	-0.2145	0.0173	
197	SLV 12	-14.78	0.13	61.49	0.0738	-0.2145	0.0173	
197	SLV 13	-12	-0.89	47.52	0.0913	-0.3318	0.0226	
197	SLV 14	-12	-0.89	47.52	0.0913	-0.3318	0.0226	
197	SLV 15	-15.14	-0.7	59.8	0.1136	-0.3755	0.0282	
197	SLV 16	-15.14	-0.7	59.8	0.1136	-0.3755	0.0282	
198	SLU 1	9.76	-0.01	37.99	0.0028	0.2177	-0.0005	
198	SLU 2	9.43	-0.01	37.14	0.0032	0.2061	-0.0006	
198	SLU 3	10.02	-0.01	38.97	0.0048	0.2235	-0.0008	
198	SLU 4	9.82	-0.01	38.46	0.005	0.2166	-0.0009	
198	SLU 5	9.6	-0.01	37.68	0.0055	0.2105	-0.001	
198	SLU 6	10.19	-0.01	39.52	0.0071	0.2279	-0.0012	
198	SLU 7	9.99	-0.01	39.01	0.0074	0.221	-0.0013	
198	SLU 8	10.09	-0.01	39.08	0.0075	0.2266	-0.0013	
198	SLU 9	9.9	-0.01	38.57	0.0077	0.2196	-0.0014	
198	SLU 10	11.32	-0.01	44.75	0.0031	0.2458	-0.0006	
198	SLU 11	11.92	-0.01	46.58	0.0048	0.2632	-0.0008	
198	SLU 12	11.72	-0.01	46.07	0.005	0.2563	-0.0009	
198	SLU 13	11.49	-0.01	45.3	0.0055	0.2502	-0.001	
198	SLU 14	12.08	-0.01	47.13	0.0071	0.2677	-0.0012	
198	SLU 15	11.89	-0.01	46.62	0.0073	0.2607	-0.0013	
198	SLU 16	11.99	-0.01	46.69	0.0074	0.2663	-0.0013	
198	SLU 17	11.79	-0.02	46.18	0.0077	0.2593	-0.0014	
198	SLU 18	12.46	-0.01	48.86	0.0027	0.2745	-0.0005	
198	SLU 19	12.27	-0.01	48.35	0.003	0.2675	-0.0005	
198	SLU 20	12.63	-0.01	49.41	0.0051	0.2789	-0.0009	
198	SLU 21	12.44	-0.01	48.9	0.0053	0.2719	-0.0009	
198	SLU 22	11.55	-0.01	44.85	0.0041	0.2585	-0.0007	
198	SLU 23	11.22	-0.01	44	0.0045	0.2468	-0.0008	
198	SLU 24	11.81	-0.01	45.83	0.0061	0.2643	-0.0011	
198	SLU 25	11.61	-0.01	45.32	0.0064	0.2573	-0.0011	
198	SLU 26	11.39	-0.01	44.55	0.0068	0.2512	-0.0012	
198	SLU 27	11.98	-0.01	46.38	0.0085	0.2687	-0.0015	
198	SLU 28	11.78	-0.02	45.87	0.0087	0.2617	-0.0015	
198	SLU 29	11.88	-0.02	45.95	0.0088	0.2673	-0.0015	
198	SLU 30	11.69	-0.02	45.44	0.009	0.2603	-0.0016	
198	SLU 31	13.11	-0.01	51.61	0.0045	0.2865	-0.0008	
198	SLU 32	13.7	-0.01	53.45	0.0061	0.304	-0.0011	
198	SLU 33	13.51	-0.01	52.94	0.0063	0.297	-0.0011	
198	SLU 34	13.28	-0.02	52.16	0.0068	0.291	-0.0012	
198	SLU 35	13.87	-0.01	53.99	0.0084	0.3084	-0.0015	
198	SLU 36	13.68	-0.02	53.48	0.0087	0.3014	-0.0015	
198	SLU 37	13.78	-0.02	53.56	0.0088	0.307	-0.0015	
198	SLU 38	13.58	-0.02	53.05	0.009	0.3	-0.0016	
198	SLU 39	14.25	-0.01	55.73	0.0041	0.3152	-0.0007	
198	SLU 40	14.06	-0.01	55.22	0.0043	0.3082	-0.0008	
198	SLU 41	14.42	-0.01	56.27	0.0064	0.3196	-0.0011	
198	SLU 42	14.23	-0.01	55.76	0.0066	0.3126	-0.0012	
198	SLU 43	12.07	-0.01	47.03	0.0032	0.2691	-0.0006	
198	SLU 44	11.74	-0.01	46.18	0.0036	0.2575	-0.0006	
198	SLU 45	12.33	-0.01	48.01	0.0052	0.2749	-0.0009	
198	SLU 46	12.14	-0.01	47.5	0.0054	0.2679	-0.001	
198	SLU 47	11.91	-0.01	46.73	0.0059	0.2619	-0.0011	
198	SLU 48	12.5	-0.01	48.56	0.0075	0.2793	-0.0013	
198	SLU 49	12.3	-0.02	48.05	0.0077	0.2723	-0.0014	
198	SLU 50	12.41	-0.01	48.12	0.0079	0.2779	-0.0014	
198	SLU 51	12.21	-0.02	47.61	0.0081	0.2709	-0.0014	
198	SLU 52	13.64	-0.01	53.79	0.0035	0.2972	-0.0006	
198	SLU 53	14.23	-0.01	55.62	0.0051	0.3146	-0.0009	
198	SLU 54	14.03	-0.01	55.11	0.0054	0.3076	-0.001	
198	SLU 55	13.81	-0.01	54.34	0.0059	0.3016	-0.001	
198	SLU 56	14.4	-0.01	56.17	0.0075	0.319	-0.0013	
198	SLU 57	14.2	-0.02	55.66	0.0077	0.312	-0.0014	
198	SLU 58	14.3	-0.01	55.74	0.0078	0.3176	-0.0014	
198	SLU 59	14.11	-0.02	55.23	0.0081	0.3107	-0.0014	
198	SLU 60	14.78	-0.01	57.9	0.0031	0.3258	-0.0006	
198	SLU 61	14.58	-0.01	57.39	0.0034	0.3188	-0.0006	
198	SLU 62	14.95	-0.01	58.45	0.0055	0.3302	-0.001	
198	SLU 63	14.75	-0.01	57.94	0.0057	0.3233	-0.001	
198	SLU 64	13.86	-0.01	53.89	0.0045	0.3098	-0.0008	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
198	SLU 65	13.53	-0.01	53.04	0.0049	0.2982	-0.0009		
198	SLU 66	14.12	-0.01	54.88	0.0065	0.3156	-0.0011		
198	SLU 67	13.93	-0.01	54.37	0.0067	0.3086	-0.0012		
198	SLU 68	13.7	-0.02	53.59	0.0072	0.3026	-0.0013		
198	SLU 69	14.29	-0.02	55.42	0.0089	0.32	-0.0015		
198	SLU 70	14.09	-0.02	54.91	0.0091	0.313	-0.0016		
198	SLU 71	14.2	-0.02	54.99	0.0092	0.3186	-0.0016		
198	SLU 72	14	-0.02	54.48	0.0094	0.3117	-0.0017		
198	SLU 73	15.43	-0.01	60.66	0.0048	0.3379	-0.0009		
198	SLU 74	16.02	-0.01	62.49	0.0065	0.3553	-0.0011		
198	SLU 75	15.82	-0.01	61.98	0.0067	0.3483	-0.0012		
198	SLU 76	15.6	-0.02	61.2	0.0072	0.3423	-0.0013		
198	SLU 77	16.19	-0.02	63.04	0.0088	0.3597	-0.0015		
198	SLU 78	15.99	-0.02	62.53	0.009	0.3528	-0.0016		
198	SLU 79	16.09	-0.02	62.6	0.0092	0.3584	-0.0016		
198	SLU 80	15.9	-0.02	62.09	0.0094	0.3514	-0.0017		
198	SLU 81	16.57	-0.01	64.77	0.0045	0.3665	-0.0008		
198	SLU 82	16.37	-0.01	64.26	0.0047	0.3596	-0.0008		
198	SLU 83	16.74	-0.01	65.32	0.0068	0.371	-0.0012		
198	SLU 84	16.54	-0.01	64.81	0.007	0.364	-0.0012		
198	SLE RA 1	10.27	-0.01	39.95	0.0032	0.2294	-0.0006		
198	SLE RA 2	10.05	-0.01	39.38	0.0034	0.2216	-0.0006		
198	SLE RA 3	10.44	-0.01	40.6	0.0045	0.2332	-0.0008		
198	SLE RA 4	10.31	-0.01	40.26	0.0047	0.2286	-0.0008		
198	SLE RA 5	10.16	-0.01	39.75	0.005	0.2246	-0.0009		
198	SLE RA 6	10.55	-0.01	40.97	0.0061	0.2362	-0.0011		
198	SLE RA 7	10.42	-0.01	40.63	0.0062	0.2315	-0.0011		
198	SLE RA 8	10.49	-0.01	40.68	0.0063	0.2353	-0.0011		
198	SLE RA 9	10.36	-0.01	40.34	0.0065	0.2306	-0.0011		
198	SLE RA 10	11.31	-0.01	44.46	0.0034	0.2481	-0.0006		
198	SLE RA 11	11.71	-0.01	45.68	0.0045	0.2597	-0.0008		
198	SLE RA 12	11.58	-0.01	45.34	0.0046	0.2551	-0.0008		
198	SLE RA 13	11.43	-0.01	44.82	0.005	0.251	-0.0009		
198	SLE RA 14	11.82	-0.01	46.04	0.006	0.2627	-0.0011		
198	SLE RA 15	11.69	-0.01	45.7	0.0062	0.258	-0.0011		
198	SLE RA 16	11.76	-0.01	45.75	0.0063	0.2617	-0.0011		
198	SLE RA 17	11.63	-0.01	45.41	0.0064	0.2571	-0.0011		
198	SLE RA 18	12.07	-0.01	47.2	0.0031	0.2672	-0.0006		
198	SLE RA 19	11.94	-0.01	46.86	0.0033	0.2625	-0.0006		
198	SLE RA 20	12.19	-0.01	47.56	0.0047	0.2701	-0.0008		
198	SLE RA 21	12.05	-0.01	47.22	0.0049	0.2655	-0.0009		
198	SLE FR 1	10.27	-0.01	39.95	0.0032	0.2294	-0.0006		
198	SLE FR 2	10.22	-0.01	39.83	0.0032	0.2278	-0.0006		
198	SLE FR 3	10.31	-0.01	40.09	0.0038	0.2305	-0.0007		
198	SLE FR 4	10.77	-0.01	42.01	0.0032	0.2392	-0.0006		
198	SLE FR 5	10.85	-0.01	42.27	0.0038	0.2419	-0.0007		
198	SLE FR 6	11.17	-0.01	43.57	0.0032	0.2483	-0.0006		
198	SLE QP 1	10.27	-0.01	39.95	0.0032	0.2294	-0.0006		
198	SLE QP 2	10.81	-0.01	42.12	0.0032	0.2407	-0.0006		
198	SLD 1	19.4	0.02	67.08	0.0042	0.5615	-0.0009		
198	SLD 2	19.4	0.02	67.08	0.0042	0.5615	-0.0009		
198	SLD 3	19.9	0.27	68.87	0.0317	0.5436	-0.0071		
198	SLD 4	19.9	0.27	68.87	0.0317	0.5436	-0.0071		
198	SLD 5	12.63	-0.38	46.89	-0.0382	0.3641	0.0088		
198	SLD 6	12.63	-0.38	46.89	-0.0382	0.3641	0.0088		
198	SLD 7	14.29	0.46	52.87	0.0534	0.3045	-0.012		
198	SLD 8	14.29	0.46	52.87	0.0534	0.3045	-0.012		
198	SLD 9	7.32	-0.47	31.38	-0.0471	0.177	0.0108		
198	SLD 10	7.32	-0.47	31.38	-0.0471	0.177	0.0108		
198	SLD 11	8.99	0.37	37.36	0.0446	0.1173	-0.0099		
198	SLD 12	8.99	0.37	37.36	0.0446	0.1173	-0.0099		
198	SLD 13	1.71	-0.28	15.37	-0.0254	-0.0622	0.006		
198	SLD 14	1.71	-0.28	15.37	-0.0254	-0.0622	0.006		
198	SLD 15	2.21	-0.03	17.17	0.0021	-0.0801	-0.0003		
198	SLD 16	2.21	-0.03	17.17	0.0021	-0.0801	-0.0003		
198	SLV 1	30.94	0.04	100.56	0.0047	0.9927	-0.001		
198	SLV 2	30.94	0.04	100.56	0.0047	0.9927	-0.001		
198	SLV 3	32.13	0.66	104.83	0.072	0.9503	-0.0163		
198	SLV 4	32.13	0.66	104.83	0.072	0.9503	-0.0163		
198	SLV 5	15.05	-0.93	53.18	-0.0985	0.5306	0.0225		
198	SLV 6	15.05	-0.93	53.18	-0.0985	0.5306	0.0225		
198	SLV 7	19	1.13	67.41	0.1259	0.3893	-0.0285		
198	SLV 8	19	1.13	67.41	0.1259	0.3893	-0.0285		
198	SLV 9	2.61	-1.14	16.84	-0.1196	0.0921	0.0274		
198	SLV 10	2.61	-1.14	16.84	-0.1196	0.0921	0.0274		
198	SLV 11	6.57	0.92	31.07	0.1048	-0.0492	-0.0236		
198	SLV 12	6.57	0.92	31.07	0.1048	-0.0492	-0.0236		
198	SLV 13	-10.51	-0.67	-20.58	-0.0657	-0.4689	0.0152		
198	SLV 14	-10.51	-0.67	-20.58	-0.0657	-0.4689	0.0152		
198	SLV 15	-9.32	-0.05	-16.31	0.0016	-0.5113	-0.0001		
198	SLV 16	-9.32	-0.05	-16.31	0.0016	-0.5113	-0.0001		
199	SLU 1	5.42	-0.01	66.77	0.0047	0.2828	0		
199	SLU 2	5.01	-0.01	65.7	0.0047	0.2607	0		
199	SLU 3	5.59	-0.01	68.59	0.0083	0.2907	0		
199	SLU 4	5.34	-0.01	67.95	0.0082	0.2774	0		
199	SLU 5	5.16	-0.01	66.68	0.0089	0.268	0		
199	SLU 6	5.75	-0.02	69.57	0.0124	0.298	0		
199	SLU 7	5.5	-0.02	68.92	0.0124	0.2848	0		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	Ind. N.br.	x	y	z	x	y	z
199	SLU 8	5.74	-0.02	68.72	0.0131	0.2975	0.0001
199	SLU 9	5.49	-0.02	68.08	0.013	0.2842	0.0001
199	SLU 10	5.9	-0.01	79.33	0.0045	0.3073	0
199	SLU 11	6.49	-0.01	82.22	0.0081	0.3373	0
199	SLU 12	6.24	-0.01	81.58	0.0081	0.324	0
199	SLU 13	6.06	-0.01	80.31	0.0087	0.3146	0
199	SLU 14	6.65	-0.02	83.2	0.0123	0.3447	0
199	SLU 15	6.4	-0.02	82.56	0.0123	0.3314	0
199	SLU 16	6.64	-0.02	82.35	0.0129	0.3441	0.0001
199	SLU 17	6.39	-0.02	81.71	0.0129	0.3308	0.0001
199	SLU 18	6.71	-0.01	86.24	0.0045	0.3493	0
199	SLU 19	6.46	-0.01	85.6	0.0045	0.3361	0
199	SLU 20	6.86	-0.01	87.22	0.0087	0.3567	0
199	SLU 21	6.61	-0.01	86.58	0.0087	0.3434	0
199	SLU 22	6.45	-0.01	78.75	0.007	0.3365	0
199	SLU 23	6.03	-0.01	77.68	0.007	0.3144	0
199	SLU 24	6.62	-0.01	80.57	0.0106	0.3444	0
199	SLU 25	6.37	-0.01	79.93	0.0106	0.3311	0
199	SLU 26	6.19	-0.02	78.66	0.0112	0.3217	0
199	SLU 27	6.78	-0.02	81.55	0.0148	0.3518	0.0001
199	SLU 28	6.53	-0.02	80.9	0.0147	0.3385	0.0001
199	SLU 29	6.76	-0.02	80.7	0.0154	0.3512	0.0001
199	SLU 30	6.51	-0.02	80.06	0.0154	0.3379	0.0001
199	SLU 31	6.93	-0.01	91.31	0.0069	0.361	0
199	SLU 32	7.52	-0.01	94.2	0.0105	0.391	0
199	SLU 33	7.27	-0.01	93.56	0.0104	0.3778	0
199	SLU 34	7.09	-0.02	92.29	0.0111	0.3684	0
199	SLU 35	7.68	-0.02	95.18	0.0146	0.3984	0.0001
199	SLU 36	7.43	-0.02	94.53	0.0146	0.3851	0.0001
199	SLU 37	7.66	-0.02	94.33	0.0153	0.3978	0.0001
199	SLU 38	7.41	-0.02	93.69	0.0152	0.3846	0.0001
199	SLU 39	7.73	-0.01	98.22	0.0068	0.4031	0
199	SLU 40	7.48	-0.01	97.58	0.0068	0.3898	0
199	SLU 41	7.89	-0.01	99.2	0.011	0.4104	0
199	SLU 42	7.64	-0.02	98.56	0.011	0.3972	0
199	SLU 43	6.7	-0.01	82.69	0.0053	0.3492	0
199	SLU 44	6.28	-0.01	81.62	0.0053	0.3271	0
199	SLU 45	6.87	-0.01	84.51	0.0089	0.3571	0
199	SLU 46	6.62	-0.01	83.87	0.0088	0.3438	0
199	SLU 47	6.44	-0.01	82.6	0.0095	0.3344	0
199	SLU 48	7.02	-0.02	85.49	0.0131	0.3645	0.0001
199	SLU 49	6.77	-0.02	84.85	0.013	0.3512	0.0001
199	SLU 50	7.01	-0.02	84.64	0.0137	0.3639	0.0001
199	SLU 51	6.76	-0.02	84	0.0137	0.3506	0.0001
199	SLU 52	7.18	-0.01	95.25	0.0052	0.3737	0
199	SLU 53	7.77	-0.01	98.14	0.0087	0.4037	0
199	SLU 54	7.52	-0.01	97.5	0.0087	0.3904	0
199	SLU 55	7.34	-0.01	96.23	0.0093	0.381	0
199	SLU 56	7.92	-0.02	99.12	0.0129	0.4111	0.0001
199	SLU 57	7.67	-0.02	98.48	0.0129	0.3978	0.0001
199	SLU 58	7.91	-0.02	98.28	0.0136	0.4105	0.0001
199	SLU 59	7.66	-0.02	97.63	0.0135	0.3972	0.0001
199	SLU 60	7.98	-0.01	102.17	0.0051	0.4157	0
199	SLU 61	7.73	-0.01	101.52	0.0051	0.4025	0
199	SLU 62	8.14	-0.01	103.14	0.0093	0.4231	0
199	SLU 63	7.89	-0.01	102.5	0.0093	0.4099	0
199	SLU 64	7.72	-0.01	94.67	0.0076	0.4029	0
199	SLU 65	7.31	-0.01	93.6	0.0076	0.3808	0
199	SLU 66	7.9	-0.02	96.49	0.0112	0.4108	0
199	SLU 67	7.65	-0.02	95.85	0.0112	0.3976	0
199	SLU 68	7.46	-0.02	94.58	0.0118	0.3882	0
199	SLU 69	8.05	-0.02	97.47	0.0154	0.4182	0.0001
199	SLU 70	7.8	-0.02	96.83	0.0154	0.4049	0.0001
199	SLU 71	8.04	-0.02	96.62	0.016	0.4176	0.0001
199	SLU 72	7.79	-0.02	95.98	0.016	0.4044	0.0001
199	SLU 73	8.21	-0.01	107.23	0.0075	0.4274	0
199	SLU 74	8.79	-0.01	110.12	0.0111	0.4574	0
199	SLU 75	8.54	-0.02	109.48	0.011	0.4442	0
199	SLU 76	8.36	-0.02	108.21	0.0117	0.4348	0
199	SLU 77	8.95	-0.02	111.1	0.0153	0.4648	0.0001
199	SLU 78	8.7	-0.02	110.46	0.0152	0.4515	0.0001
199	SLU 79	8.94	-0.02	110.26	0.0159	0.4642	0.0001
199	SLU 80	8.69	-0.02	109.61	0.0159	0.451	0.0001
199	SLU 81	9.01	-0.01	114.14	0.0075	0.4695	0
199	SLU 82	8.76	-0.01	113.5	0.0074	0.4562	0
199	SLU 83	9.17	-0.02	115.12	0.0116	0.4768	0
199	SLU 84	8.92	-0.02	114.48	0.0116	0.4636	0
199	SLE RA 1	5.72	-0.01	70.19	0.0054	0.2981	0
199	SLE RA 2	5.44	-0.01	69.48	0.0053	0.2834	0
199	SLE RA 3	5.83	-0.01	71.41	0.0077	0.3034	0
199	SLE RA 4	5.66	-0.01	70.98	0.0077	0.2946	0
199	SLE RA 5	5.54	-0.01	70.13	0.0081	0.2883	0
199	SLE RA 6	5.93	-0.01	72.06	0.0105	0.3083	0
199	SLE RA 7	5.77	-0.01	71.63	0.0105	0.2995	0
199	SLE RA 8	5.93	-0.01	71.49	0.0109	0.3079	0
199	SLE RA 9	5.76	-0.02	71.07	0.0109	0.2991	0
199	SLE RA 10	6.04	-0.01	78.57	0.0053	0.3145	0
199	SLE RA 11	6.43	-0.01	80.49	0.0077	0.3345	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
199	SLE RA 12			6.26	-0.01	80.07	0.0076	0.3256	0
199	SLE RA 13			6.14	-0.01	79.22	0.008	0.3194	0
199	SLE RA 14			6.53	-0.01	81.14	0.0104	0.3394	0
199	SLE RA 15			6.37	-0.01	80.72	0.0104	0.3305	0
199	SLE RA 16			6.52	-0.01	80.58	0.0109	0.339	0
199	SLE RA 17			6.36	-0.01	80.15	0.0108	0.3302	0
199	SLE RA 18			6.57	-0.01	83.17	0.0052	0.3425	0
199	SLE RA 19			6.4	-0.01	82.75	0.0052	0.3337	0
199	SLE RA 20			6.68	-0.01	83.82	0.008	0.3474	0
199	SLE RA 21			6.51	-0.01	83.4	0.008	0.3386	0
199	SLE FR 1			5.72	-0.01	70.19	0.0054	0.2981	0
199	SLE FR 2			5.66	-0.01	70.05	0.0054	0.2952	0
199	SLE FR 3			5.76	-0.01	70.45	0.0065	0.3001	0
199	SLE FR 4			5.92	-0.01	73.94	0.0053	0.3085	0
199	SLE FR 5			6.01	-0.01	74.35	0.0064	0.3134	0
199	SLE FR 6			6.14	-0.01	76.68	0.0053	0.3203	0
199	SLE QP 1			5.72	-0.01	70.19	0.0054	0.2981	0
199	SLE QP 2			5.97	-0.01	74.09	0.0053	0.3114	0
199	SLD 1			15.7	-0.02	100.94	0.011	0.8969	-0.0001
199	SLD 2			15.7	-0.02	100.94	0.011	0.8969	-0.0001
199	SLD 3			15.09	-0.06	104.19	0.0402	0.8613	0
199	SLD 4			15.09	-0.06	104.19	0.0402	0.8613	0
199	SLD 5			9.81	0.05	77.21	-0.0372	0.5411	-0.0001
199	SLD 6			9.81	0.05	77.21	-0.0372	0.5411	-0.0001
199	SLD 7			7.79	-0.08	88.05	0.0601	0.4224	0.0001
199	SLD 8			7.79	-0.08	88.05	0.0601	0.4224	0.0001
199	SLD 9			4.15	0.07	60.12	-0.0494	0.2005	-0.0001
199	SLD 10			4.15	0.07	60.12	-0.0494	0.2005	-0.0001
199	SLD 11			2.14	-0.07	70.96	0.0479	0.0818	0.0002
199	SLD 12			2.14	-0.07	70.96	0.0479	0.0818	0.0002
199	SLD 13			-3.15	0.04	43.98	-0.0296	-0.2385	0
199	SLD 14			-3.15	0.04	43.98	-0.0296	-0.2385	0
199	SLD 15			-3.76	0	47.23	-0.0004	-0.2741	0.0001
199	SLD 16			-3.76	0	47.23	-0.0004	-0.2741	0.0001
199	SLV 1			28.78	-0.03	136.95	0.0189	1.684	-0.0002
199	SLV 2			28.78	-0.03	136.95	0.0189	1.684	-0.0002
199	SLV 3			27.35	-0.12	144.68	0.0879	1.5998	0
199	SLV 4			27.35	-0.12	144.68	0.0879	1.5998	0
199	SLV 5			14.99	0.13	81.23	-0.0951	0.851	-0.0003
199	SLV 6			14.99	0.13	81.23	-0.0951	0.851	-0.0003
199	SLV 7			10.21	-0.19	106.98	0.1346	0.5701	0.0003
199	SLV 8			10.21	-0.19	106.98	0.1346	0.5701	0.0003
199	SLV 9			1.73	0.17	41.19	-0.124	0.0527	-0.0003
199	SLV 10			1.73	0.17	41.19	-0.124	0.0527	-0.0003
199	SLV 11			-3.04	-0.14	66.95	0.1058	-0.2282	0.0004
199	SLV 12			-3.04	-0.14	66.95	0.1058	-0.2282	0.0004
199	SLV 13			-15.4	0.11	3.5	-0.0772	-0.9769	0
199	SLV 14			-15.4	0.11	3.5	-0.0772	-0.9769	0
199	SLV 15			-16.84	0.01	11.22	-0.0083	-1.0612	0.0002
199	SLV 16			-16.84	0.01	11.22	-0.0083	-1.0612	0.0002
200	SLU 1			1.46	0	66.43	0.0035	0.0598	0
200	SLU 2			0.97	0	65.56	0.0026	0.0367	0
200	SLU 3			1.52	0	68.4	0.0063	0.0615	0
200	SLU 4			1.22	0	67.88	0.0057	0.0476	0
200	SLU 5			1.09	-0.01	66.65	0.0059	0.0414	0
200	SLU 6			1.64	-0.01	69.49	0.0095	0.0661	0
200	SLU 7			1.34	-0.01	68.97	0.009	0.0523	0
200	SLU 8			1.7	-0.01	68.6	0.01	0.0691	0
200	SLU 9			1.4	-0.01	68.08	0.0095	0.0553	0
200	SLU 10			0.96	0	79.25	0.0024	0.0346	0
200	SLU 11			1.51	0	82.09	0.0061	0.0594	0
200	SLU 12			1.22	0	81.57	0.0056	0.0455	0
200	SLU 13			1.08	0	80.34	0.0057	0.0393	0
200	SLU 14			1.63	-0.01	83.18	0.0094	0.0641	0
200	SLU 15			1.34	-0.01	82.66	0.0088	0.0502	0
200	SLU 16			1.69	-0.01	82.29	0.0099	0.0671	0
200	SLU 17			1.4	-0.01	81.77	0.0093	0.0532	0
200	SLU 18			1.45	0	85.98	0.0033	0.0569	0
200	SLU 19			1.16	0	85.47	0.0027	0.043	0
200	SLU 20			1.57	0	87.07	0.0065	0.0615	0
200	SLU 21			1.28	0	86.55	0.006	0.0477	0
200	SLU 22			1.79	0	78.31	0.0053	0.0739	0
200	SLU 23			1.3	0	77.45	0.0044	0.0508	0
200	SLU 24			1.85	-0.01	80.29	0.008	0.0755	0
200	SLU 25			1.55	-0.01	79.77	0.0075	0.0617	0
200	SLU 26			1.42	-0.01	78.54	0.0076	0.0554	0
200	SLU 27			1.97	-0.01	81.37	0.0113	0.0802	0
200	SLU 28			1.67	-0.01	80.86	0.0108	0.0663	0
200	SLU 29			2.03	-0.01	80.49	0.0118	0.0832	0
200	SLU 30			1.73	-0.01	79.97	0.0113	0.0693	0
200	SLU 31			1.29	0	91.14	0.0042	0.0487	0
200	SLU 32			1.84	-0.01	93.98	0.0079	0.0735	0
200	SLU 33			1.55	-0.01	93.46	0.0073	0.0596	0
200	SLU 34			1.41	-0.01	92.23	0.0075	0.0534	0
200	SLU 35			1.96	-0.01	95.06	0.0112	0.0781	0
200	SLU 36			1.67	-0.01	94.55	0.0106	0.0642	0
200	SLU 37			2.02	-0.01	94.18	0.0117	0.0811	0
200	SLU 38			1.73	-0.01	93.66	0.0111	0.0673	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
200	SLU 39	1.78	0	97.87	0.005	0.0709	0
200	SLU 40	1.49	0	97.35	0.0045	0.0571	0
200	SLU 41	1.9	-0.01	98.96	0.0083	0.0756	0
200	SLU 42	1.61	-0.01	98.44	0.0078	0.0617	0
200	SLU 43	1.78	0	82.28	0.0039	0.073	0
200	SLU 44	1.29	0	81.41	0.003	0.0499	0
200	SLU 45	1.84	-0.01	84.25	0.0067	0.0746	0
200	SLU 46	1.55	0	83.73	0.0062	0.0607	0
200	SLU 47	1.41	-0.01	82.5	0.0063	0.0545	0
200	SLU 48	1.96	-0.01	85.34	0.01	0.0793	0
200	SLU 49	1.67	-0.01	84.82	0.0094	0.0654	0
200	SLU 50	2.02	-0.01	84.45	0.0105	0.0823	0
200	SLU 51	1.73	-0.01	83.93	0.0099	0.0684	0
200	SLU 52	1.28	0	95.1	0.0029	0.0478	0
200	SLU 53	1.83	0	97.94	0.0065	0.0725	0
200	SLU 54	1.54	0	97.42	0.006	0.0587	0
200	SLU 55	1.41	0	96.19	0.0062	0.0524	0
200	SLU 56	1.95	-0.01	99.03	0.0098	0.0772	0
200	SLU 57	1.66	-0.01	98.51	0.0093	0.0633	0
200	SLU 58	2.01	-0.01	98.14	0.0103	0.0802	0
200	SLU 59	1.72	-0.01	97.62	0.0098	0.0663	0
200	SLU 60	1.77	0	101.83	0.0037	0.07	0
200	SLU 61	1.48	0	101.32	0.0032	0.0561	0
200	SLU 62	1.89	0	102.92	0.007	0.0747	0
200	SLU 63	1.6	0	102.4	0.0064	0.0608	0
200	SLU 64	2.11	0	94.17	0.0057	0.087	0
200	SLU 65	1.62	0	93.3	0.0048	0.0639	0
200	SLU 66	2.17	-0.01	96.14	0.0085	0.0887	0
200	SLU 67	1.88	-0.01	95.62	0.0079	0.0748	0
200	SLU 68	1.74	-0.01	94.39	0.0081	0.0686	0
200	SLU 69	2.29	-0.01	97.23	0.0117	0.0933	0
200	SLU 70	2	-0.01	96.71	0.0112	0.0794	0
200	SLU 71	2.35	-0.01	96.34	0.0122	0.0963	0
200	SLU 72	2.06	-0.01	95.82	0.0117	0.0825	0
200	SLU 73	1.62	0	106.99	0.0047	0.0618	0
200	SLU 74	2.17	-0.01	109.83	0.0083	0.0866	0
200	SLU 75	1.87	-0.01	109.31	0.0078	0.0727	0
200	SLU 76	1.74	-0.01	108.08	0.0079	0.0665	0
200	SLU 77	2.29	-0.01	110.92	0.0116	0.0912	0
200	SLU 78	1.99	-0.01	110.4	0.0111	0.0774	0
200	SLU 79	2.34	-0.01	110.03	0.0121	0.0943	0
200	SLU 80	2.05	-0.01	109.51	0.0116	0.0804	0
200	SLU 81	2.1	0	113.72	0.0055	0.0841	0
200	SLU 82	1.81	0	113.21	0.0049	0.0702	0
200	SLU 83	2.22	-0.01	114.81	0.0088	0.0887	0
200	SLU 84	1.93	-0.01	114.29	0.0082	0.0748	0
200	SLE RA 1	1.55	0	69.82	0.004	0.0639	0
200	SLE RA 2	1.22	0	69.25	0.0034	0.0484	0
200	SLE RA 3	1.59	0	71.14	0.0058	0.0649	0
200	SLE RA 4	1.39	0	70.79	0.0055	0.0557	0
200	SLE RA 5	1.3	0	69.97	0.0056	0.0515	0
200	SLE RA 6	1.67	-0.01	71.86	0.008	0.068	0
200	SLE RA 7	1.48	-0.01	71.52	0.0077	0.0588	0
200	SLE RA 8	1.71	-0.01	71.27	0.0084	0.0701	0
200	SLE RA 9	1.51	-0.01	70.92	0.008	0.0608	0
200	SLE RA 10	1.22	0	78.37	0.0033	0.0471	0
200	SLE RA 11	1.59	0	80.27	0.0057	0.0636	0
200	SLE RA 12	1.39	0	79.92	0.0054	0.0543	0
200	SLE RA 13	1.3	0	79.1	0.0055	0.0502	0
200	SLE RA 14	1.67	-0.01	80.99	0.0079	0.0667	0
200	SLE RA 15	1.47	-0.01	80.64	0.0076	0.0574	0
200	SLE RA 16	1.71	-0.01	80.4	0.0083	0.0687	0
200	SLE RA 17	1.51	-0.01	80.05	0.0079	0.0594	0
200	SLE RA 18	1.55	0	82.86	0.0038	0.0619	0
200	SLE RA 19	1.35	0	82.52	0.0035	0.0526	0
200	SLE RA 20	1.63	0	83.58	0.006	0.065	0
200	SLE RA 21	1.43	0	83.24	0.0057	0.0557	0
200	SLE FR 1	1.55	0	69.82	0.004	0.0639	0
200	SLE FR 2	1.48	0	69.71	0.0039	0.0608	0
200	SLE FR 3	1.58	0	70.11	0.0049	0.0651	0
200	SLE FR 4	1.48	0	73.62	0.0038	0.0602	0
200	SLE FR 5	1.58	0	74.02	0.0048	0.0645	0
200	SLE FR 6	1.55	0	76.34	0.0039	0.0629	0
200	SLE QP 1	1.55	0	69.82	0.004	0.0639	0
200	SLE QP 2	1.55	0	73.73	0.0039	0.0633	0
200	SLD 1	13.3	-0.02	85.24	0.0167	0.6768	0
200	SLD 2	13.3	-0.02	85.24	0.0167	0.6768	0
200	SLD 3	12.36	-0.12	88.75	0.0994	0.6287	0.0001
200	SLD 4	12.36	-0.12	88.75	0.0994	0.6287	0.0001
200	SLD 5	6.51	0.15	71.86	-0.1177	0.3202	-0.0001
200	SLD 6	6.51	0.15	71.86	-0.1177	0.3202	-0.0001
200	SLD 7	3.36	-0.19	83.56	0.1581	0.16	0.0002
200	SLD 8	3.36	-0.19	83.56	0.1581	0.16	0.0002
200	SLD 9	-0.26	0.19	63.91	-0.1502	-0.0335	-0.0002
200	SLD 10	-0.26	0.19	63.91	-0.1502	-0.0335	-0.0002
200	SLD 11	-3.41	-0.15	75.6	0.1256	-0.1937	0.0001
200	SLD 12	-3.41	-0.15	75.6	0.1256	-0.1937	0.0001
200	SLD 13	-9.26	0.12	58.72	-0.0915	-0.5022	-0.0001





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
200	SLD 14	-9.26	0.12	58.72	-0.0915	-0.5022	-0.0001
200	SLD 15	-10.21	0.02	62.23	-0.0088	-0.5503	0
200	SLD 16	-10.21	0.02	62.23	-0.0088	-0.5503	0
200	SLV 1	29.11	-0.04	100.63	0.0319	1.5016	0
200	SLV 2	29.11	-0.04	100.63	0.0319	1.5016	0
200	SLV 3	26.87	-0.29	108.97	0.2343	1.3882	0.0002
200	SLV 4	26.87	-0.29	108.97	0.2343	1.3882	0.0002
200	SLV 5	13.21	0.37	69.16	-0.2946	0.6668	-0.0003
200	SLV 6	13.21	0.37	69.16	-0.2946	0.6668	-0.0003
200	SLV 7	5.76	-0.47	96.94	0.38	0.2887	0.0004
200	SLV 8	5.76	-0.47	96.94	0.38	0.2887	0.0004
200	SLV 9	-2.66	0.47	50.52	-0.3721	-0.1622	-0.0004
200	SLV 10	-2.66	0.47	50.52	-0.3721	-0.1622	-0.0004
200	SLV 11	-10.11	-0.37	78.31	0.3025	-0.5403	0.0003
200	SLV 12	-10.11	-0.37	78.31	0.3025	-0.5403	0.0003
200	SLV 13	-23.78	0.29	38.5	-0.2264	-1.2617	-0.0002
200	SLV 14	-23.78	0.29	38.5	-0.2264	-1.2617	-0.0002
200	SLV 15	-26.01	0.04	46.84	-0.0241	-1.3751	0
200	SLV 16	-26.01	0.04	46.84	-0.0241	-1.3751	0
201	SLU 1	-2.13	0	67.34	0.0028	-0.105	0
201	SLU 2	-2.6	0	66.46	0.0012	-0.1262	0
201	SLU 3	-2.18	0	69.5	0.0049	-0.1084	0
201	SLU 4	-2.46	0	68.97	0.0039	-0.1211	0
201	SLU 5	-2.54	0	67.71	0.0037	-0.1243	0
201	SLU 6	-2.11	0	70.75	0.0074	-0.1064	0
201	SLU 7	-2.4	0	70.22	0.0064	-0.1192	0
201	SLU 8	-2	-0.01	69.83	0.0078	-0.1011	0
201	SLU 9	-2.28	0	69.31	0.0068	-0.1139	0
201	SLU 10	-3.37	0	80.36	0.0011	-0.1633	0
201	SLU 11	-2.95	0	83.4	0.0048	-0.1455	0
201	SLU 12	-3.23	0	82.87	0.0038	-0.1582	0
201	SLU 13	-3.31	0	81.61	0.0036	-0.1614	0
201	SLU 14	-2.88	0	84.65	0.0073	-0.1435	0
201	SLU 15	-3.17	0	84.12	0.0063	-0.1562	0
201	SLU 16	-2.77	0	83.73	0.0077	-0.1382	0
201	SLU 17	-3.05	0	83.21	0.0067	-0.1509	0
201	SLU 18	-3.23	0	87.19	0.0026	-0.158	0
201	SLU 19	-3.51	0	86.67	0.0017	-0.1707	0
201	SLU 20	-3.17	0	88.44	0.0051	-0.156	0
201	SLU 21	-3.45	0	87.91	0.0042	-0.1688	0
201	SLU 22	-2.44	0	79.42	0.0042	-0.121	0
201	SLU 23	-2.91	0	78.54	0.0026	-0.1422	0
201	SLU 24	-2.49	0	81.58	0.0063	-0.1244	0
201	SLU 25	-2.77	0	81.05	0.0053	-0.1371	0
201	SLU 26	-2.85	0	79.78	0.0051	-0.1403	0
201	SLU 27	-2.43	-0.01	82.83	0.0088	-0.1224	0
201	SLU 28	-2.71	-0.01	82.3	0.0078	-0.1351	0
201	SLU 29	-2.31	-0.01	81.91	0.0092	-0.1171	0
201	SLU 30	-2.6	-0.01	81.38	0.0082	-0.1298	0
201	SLU 31	-3.68	0	92.44	0.0025	-0.1793	0
201	SLU 32	-3.26	0	95.48	0.0062	-0.1614	0
201	SLU 33	-3.54	0	94.95	0.0052	-0.1742	0
201	SLU 34	-3.62	0	93.68	0.005	-0.1773	0
201	SLU 35	-3.2	-0.01	96.73	0.0087	-0.1595	0
201	SLU 36	-3.48	0	96.2	0.0077	-0.1722	0
201	SLU 37	-3.08	-0.01	95.81	0.0091	-0.1542	0
201	SLU 38	-3.37	0	95.28	0.0081	-0.1669	0
201	SLU 39	-3.54	0	99.27	0.004	-0.174	0
201	SLU 40	-3.82	0	98.75	0.0031	-0.1867	0
201	SLU 41	-3.48	0	100.52	0.0065	-0.172	0
201	SLU 42	-3.76	0	99.99	0.0056	-0.1847	0
201	SLU 43	-2.66	0	83.4	0.0031	-0.1311	0
201	SLU 44	-3.13	0	82.52	0.0015	-0.1523	0
201	SLU 45	-2.71	0	85.56	0.0052	-0.1344	0
201	SLU 46	-2.99	0	85.03	0.0043	-0.1472	0
201	SLU 47	-3.07	0	83.77	0.004	-0.1503	0
201	SLU 48	-2.64	0	86.81	0.0077	-0.1325	0
201	SLU 49	-2.93	0	86.28	0.0068	-0.1452	0
201	SLU 50	-2.53	-0.01	85.89	0.0081	-0.1272	0
201	SLU 51	-2.81	0	85.37	0.0072	-0.1399	0
201	SLU 52	-3.9	0	96.42	0.0014	-0.1894	0
201	SLU 53	-3.48	0	99.46	0.0051	-0.1715	0
201	SLU 54	-3.76	0	98.93	0.0042	-0.1842	0
201	SLU 55	-3.84	0	97.67	0.0039	-0.1874	0
201	SLU 56	-3.42	0	100.71	0.0076	-0.1696	0
201	SLU 57	-3.7	0	100.18	0.0067	-0.1823	0
201	SLU 58	-3.3	0	99.79	0.008	-0.1642	0
201	SLU 59	-3.59	0	99.27	0.0071	-0.177	0
201	SLU 60	-3.76	0	103.25	0.003	-0.184	0
201	SLU 61	-4.04	0	102.73	0.002	-0.1968	0
201	SLU 62	-3.7	0	104.5	0.0055	-0.1821	0
201	SLU 63	-3.98	0	103.97	0.0045	-0.1948	0
201	SLU 64	-2.97	0	95.48	0.0045	-0.147	0
201	SLU 65	-3.44	0	94.6	0.0029	-0.1683	0
201	SLU 66	-3.02	0	97.64	0.0066	-0.1504	0
201	SLU 67	-3.3	0	97.11	0.0057	-0.1631	0
201	SLU 68	-3.38	0	95.84	0.0054	-0.1663	0
201	SLU 69	-2.96	-0.01	98.89	0.0091	-0.1485	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
Ind.	N.br.						
201	SLU 70	-3.24	-0.01	98.36	0.0082	-0.1612	0
201	SLU 71	-2.84	-0.01	97.97	0.0095	-0.1431	0
201	SLU 72	-3.13	-0.01	97.44	0.0086	-0.1559	0
201	SLU 73	-4.21	0	108.5	0.0028	-0.2053	0
201	SLU 74	-3.79	0	111.54	0.0065	-0.1875	0
201	SLU 75	-4.07	0	111.01	0.0056	-0.2002	0
201	SLU 76	-4.15	0	109.74	0.0053	-0.2034	0
201	SLU 77	-3.73	-0.01	112.79	0.009	-0.1855	0
201	SLU 78	-4.01	0	112.26	0.0081	-0.1982	0
201	SLU 79	-3.61	-0.01	111.87	0.0094	-0.1802	0
201	SLU 80	-3.9	-0.01	111.34	0.0085	-0.1929	0
201	SLU 81	-4.07	0	115.33	0.0044	-0.2	0
201	SLU 82	-4.36	0	114.81	0.0034	-0.2127	0
201	SLU 83	-4.01	0	116.58	0.0069	-0.198	0
201	SLU 84	-4.29	0	116.05	0.0059	-0.2108	0
201	SLE RA 1	-2.22	0	70.79	0.0032	-0.1096	0
201	SLE RA 2	-2.53	0	70.2	0.0021	-0.1237	0
201	SLE RA 3	-2.25	0	72.23	0.0046	-0.1118	0
201	SLE RA 4	-2.44	0	71.88	0.0039	-0.1203	0
201	SLE RA 5	-2.49	0	71.03	0.0038	-0.1224	0
201	SLE RA 6	-2.21	0	73.06	0.0062	-0.1105	0
201	SLE RA 7	-2.4	0	72.71	0.0056	-0.119	0
201	SLE RA 8	-2.13	0	72.45	0.0065	-0.107	0
201	SLE RA 9	-2.32	0	72.1	0.0059	-0.1155	0
201	SLE RA 10	-3.05	0	79.47	0.002	-0.1485	0
201	SLE RA 11	-2.76	0	81.5	0.0045	-0.1366	0
201	SLE RA 12	-2.95	0	81.15	0.0039	-0.145	0
201	SLE RA 13	-3	0	80.3	0.0037	-0.1471	0
201	SLE RA 14	-2.72	0	82.33	0.0062	-0.1353	0
201	SLE RA 15	-2.91	0	81.98	0.0055	-0.1437	0
201	SLE RA 16	-2.65	0	81.72	0.0064	-0.1317	0
201	SLE RA 17	-2.83	0	81.37	0.0058	-0.1402	0
201	SLE RA 18	-2.95	0	84.03	0.0031	-0.1449	0
201	SLE RA 19	-3.14	0	83.67	0.0024	-0.1534	0
201	SLE RA 20	-2.91	0	84.86	0.0047	-0.1436	0
201	SLE RA 21	-3.1	0	84.51	0.0041	-0.1521	0
201	SLE FR 1	-2.22	0	70.79	0.0032	-0.1096	0
201	SLE FR 2	-2.28	0	70.67	0.003	-0.1124	0
201	SLE FR 3	-2.2	0	71.12	0.0038	-0.1091	0
201	SLE FR 4	-2.5	0	74.64	0.0029	-0.123	0
201	SLE FR 5	-2.42	0	75.09	0.0038	-0.1197	0
201	SLE FR 6	-2.58	0	77.41	0.0031	-0.1273	0
201	SLE QP 1	-2.22	0	70.79	0.0032	-0.1096	0
201	SLE QP 2	-2.44	0	74.76	0.0031	-0.1202	0
201	SLD 1	9.69	-0.02	77.2	0.0209	0.4844	0
201	SLD 2	9.69	-0.02	77.2	0.0209	0.4844	0
201	SLD 3	8.55	-0.16	80.91	0.1443	0.4298	0
201	SLD 4	8.55	-0.16	80.91	0.1443	0.4298	0
201	SLD 5	2.93	0.21	69.87	-0.1787	0.144	0
201	SLD 6	2.93	0.21	69.87	-0.1787	0.144	0
201	SLD 7	-0.87	-0.27	82.22	0.2326	-0.0381	0.0001
201	SLD 8	-0.87	-0.27	82.22	0.2326	-0.0381	0.0001
201	SLD 9	-4	0.26	67.3	-0.2263	-0.2023	-0.0001
201	SLD 10	-4	0.26	67.3	-0.2263	-0.2023	-0.0001
201	SLD 11	-7.81	-0.21	79.65	0.1849	-0.3844	0
201	SLD 12	-7.81	-0.21	79.65	0.1849	-0.3844	0
201	SLD 13	-13.42	0.16	68.61	-0.138	-0.6702	0
201	SLD 14	-13.42	0.16	68.61	-0.138	-0.6702	0
201	SLD 15	-14.56	0.02	72.32	-0.0147	-0.7248	0
201	SLD 16	-14.56	0.02	72.32	-0.0147	-0.7248	0
201	SLV 1	26	-0.05	80.43	0.0417	1.2974	0
201	SLV 2	26	-0.05	80.43	0.0417	1.2974	0
201	SLV 3	23.3	-0.39	89.23	0.3441	1.1684	0.0001
201	SLV 4	23.3	-0.39	89.23	0.3441	1.1684	0.0001
201	SLV 5	10.18	0.51	63.12	-0.4439	0.5007	-0.0001
201	SLV 6	10.18	0.51	63.12	-0.4439	0.5007	-0.0001
201	SLV 7	1.19	-0.65	92.44	0.5641	0.0708	0.0001
201	SLV 8	1.19	-0.65	92.44	0.5641	0.0708	0.0001
201	SLV 9	-6.07	0.64	57.08	-0.5578	-0.3112	-0.0001
201	SLV 10	-6.07	0.64	57.08	-0.5578	-0.3112	-0.0001
201	SLV 11	-15.06	-0.51	86.4	0.4502	-0.741	0.0001
201	SLV 12	-15.06	-0.51	86.4	0.4502	-0.741	0.0001
201	SLV 13	-28.18	0.39	60.29	-0.3379	-1.4088	-0.0001
201	SLV 14	-28.18	0.39	60.29	-0.3379	-1.4088	-0.0001
201	SLV 15	-30.87	0.04	69.09	-0.0355	-1.5377	0
201	SLV 16	-30.87	0.04	69.09	-0.0355	-1.5377	0
202	SLU 1	-5.38	0	68.03	0.0027	-0.2478	0
202	SLU 2	-5.78	0	67.14	0.0004	-0.2671	0
202	SLU 3	-5.54	0	70.38	0.0043	-0.2562	0
202	SLU 4	-5.78	0	69.85	0.0029	-0.2678	0
202	SLU 5	-5.79	0	68.55	0.0023	-0.2683	0
202	SLU 6	-5.55	0	71.79	0.0062	-0.2574	0
202	SLU 7	-5.79	0	71.25	0.0048	-0.2689	0
202	SLU 8	-5.4	0	70.85	0.0065	-0.2502	0
202	SLU 9	-5.64	0	70.31	0.0051	-0.2618	0
202	SLU 10	-7.2	0	81.23	0.0004	-0.3334	0
202	SLU 11	-6.96	0	84.47	0.0043	-0.3225	0
202	SLU 12	-7.2	0	83.93	0.0029	-0.3341	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
202	SLU 13	-7.21	0	82.64	0.0023	-0.3346	0
202	SLU 14	-6.97	0	85.88	0.0062	-0.3237	0
202	SLU 15	-7.21	0	85.34	0.0048	-0.3353	0
202	SLU 16	-6.82	0	84.93	0.0065	-0.3165	0
202	SLU 17	-7.06	0	84.4	0.0051	-0.3281	0
202	SLU 18	-7.41	0	88.16	0.0027	-0.3426	0
202	SLU 19	-7.65	0	87.62	0.0013	-0.3541	0
202	SLU 20	-7.42	0	89.56	0.0046	-0.3437	0
202	SLU 21	-7.66	0	89.03	0.0032	-0.3553	0
202	SLU 22	-6.28	0	80.28	0.0038	-0.2896	0
202	SLU 23	-6.68	0	79.39	0.0015	-0.3089	0
202	SLU 24	-6.44	0	82.63	0.0054	-0.298	0
202	SLU 25	-6.68	0	82.1	0.004	-0.3096	0
202	SLU 26	-6.69	0	80.8	0.0034	-0.3101	0
202	SLU 27	-6.45	0	84.04	0.0073	-0.2992	0
202	SLU 28	-6.69	0	83.51	0.0059	-0.3108	0
202	SLU 29	-6.3	0	83.1	0.0076	-0.292	0
202	SLU 30	-6.54	0	82.56	0.0062	-0.3036	0
202	SLU 31	-8.11	0	93.48	0.0016	-0.3752	0
202	SLU 32	-7.87	0	96.72	0.0055	-0.3643	0
202	SLU 33	-8.11	0	96.19	0.0041	-0.3759	0
202	SLU 34	-8.12	0	94.89	0.0034	-0.3764	0
202	SLU 35	-7.88	0	98.13	0.0074	-0.3655	0
202	SLU 36	-8.12	0	97.59	0.006	-0.3771	0
202	SLU 37	-7.72	0	97.19	0.0077	-0.3583	0
202	SLU 38	-7.97	0	96.65	0.0063	-0.3699	0
202	SLU 39	-8.32	0	100.41	0.0039	-0.3844	0
202	SLU 40	-8.56	0	99.87	0.0025	-0.3959	0
202	SLU 41	-8.33	0	101.81	0.0058	-0.3856	0
202	SLU 42	-8.57	0	101.28	0.0044	-0.3971	0
202	SLU 43	-6.68	0	84.24	0.0031	-0.3078	0
202	SLU 44	-7.08	0	83.35	0.0008	-0.3271	0
202	SLU 45	-6.84	0	86.59	0.0047	-0.3162	0
202	SLU 46	-7.08	0	86.06	0.0033	-0.3278	0
202	SLU 47	-7.09	0	84.76	0.0027	-0.3283	0
202	SLU 48	-6.85	0	88	0.0066	-0.3174	0
202	SLU 49	-7.09	0	87.46	0.0052	-0.329	0
202	SLU 50	-6.7	0	87.06	0.0069	-0.3102	0
202	SLU 51	-6.94	0	86.52	0.0055	-0.3218	0
202	SLU 52	-8.51	0	97.44	0.0008	-0.3934	0
202	SLU 53	-8.27	0	100.68	0.0047	-0.3825	0
202	SLU 54	-8.51	0	100.14	0.0033	-0.3941	0
202	SLU 55	-8.52	0	98.85	0.0027	-0.3946	0
202	SLU 56	-8.28	0	102.09	0.0066	-0.3837	0
202	SLU 57	-8.52	0	101.55	0.0052	-0.3953	0
202	SLU 58	-8.12	0	101.14	0.0069	-0.3765	0
202	SLU 59	-8.36	0	100.61	0.0055	-0.3881	0
202	SLU 60	-8.72	0	104.37	0.0031	-0.4026	0
202	SLU 61	-8.96	0	103.83	0.0018	-0.4141	0
202	SLU 62	-8.73	0	105.77	0.005	-0.4038	0
202	SLU 63	-8.97	0	105.24	0.0036	-0.4153	0
202	SLU 64	-7.58	0	96.49	0.0042	-0.3497	0
202	SLU 65	-7.99	0	95.6	0.0019	-0.3689	0
202	SLU 66	-7.74	0	98.84	0.0058	-0.358	0
202	SLU 67	-7.99	0	98.31	0.0045	-0.3696	0
202	SLU 68	-7.99	0	97.01	0.0038	-0.3701	0
202	SLU 69	-7.75	0	100.25	0.0077	-0.3592	0
202	SLU 70	-7.99	0	99.71	0.0063	-0.3708	0
202	SLU 71	-7.6	-0.01	99.31	0.008	-0.352	0
202	SLU 72	-7.84	0	98.77	0.0066	-0.3636	0
202	SLU 73	-9.41	0	109.69	0.002	-0.4352	0
202	SLU 74	-9.17	0	112.93	0.0059	-0.4243	0
202	SLU 75	-9.41	0	112.39	0.0045	-0.4359	0
202	SLU 76	-9.42	0	111.1	0.0039	-0.4364	0
202	SLU 77	-9.18	0	114.34	0.0078	-0.4255	0
202	SLU 78	-9.42	0	113.8	0.0064	-0.4371	0
202	SLU 79	-9.03	0	113.39	0.0081	-0.4184	0
202	SLU 80	-9.27	0	112.86	0.0067	-0.4299	0
202	SLU 81	-9.62	0	116.62	0.0043	-0.4444	0
202	SLU 82	-9.86	0	116.08	0.0029	-0.4559	0
202	SLU 83	-9.63	0	118.02	0.0062	-0.4456	0
202	SLU 84	-9.87	0	117.49	0.0048	-0.4571	0
202	SLE RA 1	-5.64	0	71.53	0.003	-0.2598	0
202	SLE RA 2	-5.9	0	70.94	0.0015	-0.2726	0
202	SLE RA 3	-5.74	0	73.1	0.0041	-0.2654	0
202	SLE RA 4	-5.9	0	72.74	0.0032	-0.2731	0
202	SLE RA 5	-5.91	0	71.88	0.0027	-0.2734	0
202	SLE RA 6	-5.75	0	74.04	0.0053	-0.2662	0
202	SLE RA 7	-5.91	0	73.68	0.0044	-0.2739	0
202	SLE RA 8	-5.65	0	73.41	0.0055	-0.2614	0
202	SLE RA 9	-5.81	0	73.05	0.0046	-0.2691	0
202	SLE RA 10	-6.85	0	80.33	0.0015	-0.3168	0
202	SLE RA 11	-6.69	0	82.49	0.0041	-0.3096	0
202	SLE RA 12	-6.85	0	82.13	0.0032	-0.3173	0
202	SLE RA 13	-6.86	0	81.27	0.0028	-0.3176	0
202	SLE RA 14	-6.7	0	83.43	0.0054	-0.3104	0
202	SLE RA 15	-6.86	0	83.07	0.0044	-0.3181	0
202	SLE RA 16	-6.6	0	82.8	0.0056	-0.3056	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
202	SLE RA 17	-6.76	0	82.44	0.0046	-0.3133	0
202	SLE RA 18	-6.99	0	84.95	0.003	-0.3229	0
202	SLE RA 19	-7.15	0	84.59	0.0021	-0.3306	0
202	SLE RA 20	-7	0	85.89	0.0043	-0.3237	0
202	SLE RA 21	-7.16	0	85.53	0.0034	-0.3314	0
202	SLE FR 1	-5.64	0	71.53	0.003	-0.2598	0
202	SLE FR 2	-5.69	0	71.41	0.0027	-0.2623	0
202	SLE FR 3	-5.64	0	71.91	0.0035	-0.2601	0
202	SLE FR 4	-6.1	0	75.44	0.0027	-0.2813	0
202	SLE FR 5	-6.05	0	75.93	0.0035	-0.279	0
202	SLE FR 6	-6.31	0	78.24	0.003	-0.2913	0
202	SLE QP 1	-5.64	0	71.53	0.003	-0.2598	0
202	SLE QP 2	-6.04	0	75.56	0.003	-0.2787	0
202	SLD 1	5.59	-0.03	68.12	0.0259	0.3268	0.0001
202	SLD 2	5.59	-0.03	68.12	0.0259	0.3268	0.0001
202	SLD 3	4.35	-0.2	72.07	0.1751	0.2663	0
202	SLD 4	4.35	-0.2	72.07	0.1751	0.2663	0
202	SLD 5	-0.68	0.25	67.34	-0.2165	-0.0053	0.0001
202	SLD 6	-0.68	0.25	67.34	-0.2165	-0.0053	0.0001
202	SLD 7	-4.8	-0.32	80.5	0.281	-0.2069	-0.0001
202	SLD 8	-4.8	-0.32	80.5	0.281	-0.2069	-0.0001
202	SLD 9	-7.29	0.31	70.61	-0.275	-0.3505	0.0001
202	SLD 10	-7.29	0.31	70.61	-0.275	-0.3505	0.0001
202	SLD 11	-11.41	-0.25	83.78	0.2225	-0.5521	-0.0001
202	SLD 12	-11.41	-0.25	83.78	0.2225	-0.5521	-0.0001
202	SLD 13	-16.44	0.19	79.04	-0.1691	-0.8238	0
202	SLD 14	-16.44	0.19	79.04	-0.1691	-0.8238	0
202	SLD 15	-17.67	0.02	82.99	-0.0198	-0.8842	-0.0001
202	SLD 16	-17.67	0.02	82.99	-0.0198	-0.8842	-0.0001
202	SLV 1	21.23	-0.06	58.07	0.0529	1.1409	0.0001
202	SLV 2	21.23	-0.06	58.07	0.0529	1.1409	0.0001
202	SLV 3	18.31	-0.47	67.45	0.4184	0.9982	0
202	SLV 4	18.31	-0.47	67.45	0.4184	0.9982	0
202	SLV 5	6.56	0.61	56.09	-0.5364	0.3636	0.0002
202	SLV 6	6.56	0.61	56.09	-0.5364	0.3636	0.0002
202	SLV 7	-3.16	-0.77	87.35	0.6821	-0.1121	-0.0002
202	SLV 8	-3.16	-0.77	87.35	0.6821	-0.1121	-0.0002
202	SLV 9	-8.92	0.77	63.76	-0.676	-0.4454	0.0002
202	SLV 10	-8.92	0.77	63.76	-0.676	-0.4454	0.0002
202	SLV 11	-18.65	-0.61	95.02	0.5425	-0.921	-0.0002
202	SLV 12	-18.65	-0.61	95.02	0.5425	-0.921	-0.0002
202	SLV 13	-30.39	0.47	83.66	-0.4124	-1.5556	0
202	SLV 14	-30.39	0.47	83.66	-0.4124	-1.5556	0
202	SLV 15	-33.31	0.05	93.04	-0.0468	-1.6983	-0.0001
202	SLV 16	-33.31	0.05	93.04	-0.0468	-1.6983	-0.0001
203	SLU 1	-8.59	0	71.9	0.003	-0.471	0
203	SLU 2	-8.82	0	71.16	-0.0001	-0.4831	0
203	SLU 3	-8.88	0	74.56	0.0041	-0.4877	0
203	SLU 4	-9.02	0	74.12	0.0023	-0.495	0
203	SLU 5	-8.93	0	72.77	0.0012	-0.4901	0
203	SLU 6	-8.98	0	76.16	0.0054	-0.4947	0
203	SLU 7	-9.12	0	75.72	0.0035	-0.502	0
203	SLU 8	-8.81	-0.01	75.11	0.0056	-0.485	0
203	SLU 9	-8.95	0	74.67	0.0037	-0.4923	0
203	SLU 10	-10.85	0	86.27	0.0002	-0.5943	0
203	SLU 11	-10.9	0	89.66	0.0044	-0.599	0
203	SLU 12	-11.04	0	89.22	0.0025	-0.6062	0
203	SLU 13	-10.95	0	87.87	0.0015	-0.6013	0
203	SLU 14	-11.01	-0.01	91.27	0.0056	-0.606	0
203	SLU 15	-11.14	0	90.83	0.0038	-0.6132	0
203	SLU 16	-10.83	-0.01	90.22	0.0058	-0.5962	0
203	SLU 17	-10.97	0	89.78	0.004	-0.6035	0
203	SLU 18	-11.48	0	93.47	0.0034	-0.6299	0
203	SLU 19	-11.62	0	93.03	0.0015	-0.6371	0
203	SLU 20	-11.59	0	95.08	0.0047	-0.6369	0
203	SLU 21	-11.73	0	94.64	0.0028	-0.6441	0
203	SLU 22	-10.1	0	84.9	0.004	-0.5545	0
203	SLU 23	-10.33	0	84.16	0.001	-0.5666	0
203	SLU 24	-10.39	0	87.55	0.0051	-0.5712	0
203	SLU 25	-10.53	0	87.11	0.0033	-0.5785	0
203	SLU 26	-10.44	0	85.77	0.0022	-0.5736	0
203	SLU 27	-10.49	-0.01	89.16	0.0064	-0.5782	0
203	SLU 28	-10.63	0	88.72	0.0045	-0.5855	0
203	SLU 29	-10.32	-0.01	88.11	0.0066	-0.5685	0
203	SLU 30	-10.46	0	87.67	0.0047	-0.5757	0
203	SLU 31	-12.36	0	99.26	0.0012	-0.6778	0
203	SLU 32	-12.41	0	102.66	0.0054	-0.6824	0
203	SLU 33	-12.55	0	102.22	0.0035	-0.6897	0
203	SLU 34	-12.46	0	100.87	0.0025	-0.6848	0
203	SLU 35	-12.51	-0.01	104.26	0.0066	-0.6895	0
203	SLU 36	-12.65	0	103.82	0.0048	-0.6967	0
203	SLU 37	-12.34	-0.01	103.21	0.0068	-0.6797	0
203	SLU 38	-12.48	0	102.77	0.005	-0.687	0
203	SLU 39	-12.99	0	106.47	0.0044	-0.7134	0
203	SLU 40	-13.13	0	106.03	0.0026	-0.7206	0
203	SLU 41	-13.1	-0.01	108.08	0.0057	-0.7204	0
203	SLU 42	-13.24	0	107.64	0.0038	-0.7276	0
203	SLU 43	-10.65	0	89.01	0.0036	-0.5836	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
203	SLU 44	-10.89	0	88.28	0.0005	-0.5957	0
203	SLU 45	-10.94	0	91.67	0.0047	-0.6004	0
203	SLU 46	-11.08	0	91.23	0.0028	-0.6077	0
203	SLU 47	-10.99	0	89.88	0.0018	-0.6028	0
203	SLU 48	-11.04	-0.01	93.28	0.0059	-0.6074	0
203	SLU 49	-11.18	0	92.84	0.0041	-0.6147	0
203	SLU 50	-10.87	-0.01	92.23	0.0061	-0.5977	0
203	SLU 51	-11.01	0	91.79	0.0043	-0.6049	0
203	SLU 52	-12.91	0	103.38	0.0008	-0.707	0
203	SLU 53	-12.96	0	106.77	0.0049	-0.7116	0
203	SLU 54	-13.1	0	106.33	0.0031	-0.7189	0
203	SLU 55	-13.01	0	104.99	0.002	-0.714	0
203	SLU 56	-13.07	-0.01	108.38	0.0062	-0.7186	0
203	SLU 57	-13.2	0	107.94	0.0044	-0.7259	0
203	SLU 58	-12.89	-0.01	107.33	0.0064	-0.7089	0
203	SLU 59	-13.03	0	106.89	0.0045	-0.7161	0
203	SLU 60	-13.54	0	110.59	0.004	-0.7425	0
203	SLU 61	-13.68	0	110.15	0.0021	-0.7498	0
203	SLU 62	-13.65	0	112.2	0.0052	-0.7495	0
203	SLU 63	-13.79	0	111.75	0.0034	-0.7568	0
203	SLU 64	-12.16	0	102.01	0.0046	-0.6671	0
203	SLU 65	-12.39	0	101.27	0.0015	-0.6792	0
203	SLU 66	-12.45	-0.01	104.67	0.0057	-0.6839	0
203	SLU 67	-12.59	0	104.23	0.0038	-0.6911	0
203	SLU 68	-12.5	0	102.88	0.0028	-0.6862	0
203	SLU 69	-12.55	-0.01	106.27	0.0069	-0.6909	0
203	SLU 70	-12.69	0	105.83	0.0051	-0.6982	0
203	SLU 71	-12.38	-0.01	105.22	0.0071	-0.6811	0
203	SLU 72	-12.52	0	104.78	0.0053	-0.6884	0
203	SLU 73	-14.42	0	116.38	0.0018	-0.7905	0
203	SLU 74	-14.47	-0.01	119.77	0.0059	-0.7951	0
203	SLU 75	-14.61	0	119.33	0.0041	-0.8024	0
203	SLU 76	-14.52	0	117.98	0.003	-0.7975	0
203	SLU 77	-14.57	-0.01	121.38	0.0072	-0.8021	0
203	SLU 78	-14.71	0	120.94	0.0054	-0.8094	0
203	SLU 79	-14.4	-0.01	120.33	0.0074	-0.7924	0
203	SLU 80	-14.54	0	119.89	0.0055	-0.7996	0
203	SLU 81	-15.05	0	123.59	0.005	-0.826	0
203	SLU 82	-15.19	0	123.14	0.0031	-0.8333	0
203	SLU 83	-15.16	-0.01	125.19	0.0062	-0.833	0
203	SLU 84	-15.3	0	124.75	0.0044	-0.8403	0
203	SLE RA 1	-9.02	0	75.61	0.0033	-0.4948	0
203	SLE RA 2	-9.18	0	75.12	0.0013	-0.5029	0
203	SLE RA 3	-9.21	0	77.38	0.004	-0.506	0
203	SLE RA 4	-9.31	0	77.09	0.0028	-0.5108	0
203	SLE RA 5	-9.25	0	76.19	0.0021	-0.5076	0
203	SLE RA 6	-9.28	0	78.46	0.0049	-0.5107	0
203	SLE RA 7	-9.38	0	78.16	0.0037	-0.5155	0
203	SLE RA 8	-9.17	0	77.76	0.005	-0.5042	0
203	SLE RA 9	-9.26	0	77.46	0.0038	-0.509	0
203	SLE RA 10	-10.53	0	85.19	0.0014	-0.577	0
203	SLE RA 11	-10.56	0	87.45	0.0042	-0.5801	0
203	SLE RA 12	-10.65	0	87.16	0.003	-0.585	0
203	SLE RA 13	-10.6	0	86.26	0.0023	-0.5817	0
203	SLE RA 14	-10.63	0	88.52	0.0051	-0.5848	0
203	SLE RA 15	-10.73	0	88.23	0.0038	-0.5897	0
203	SLE RA 16	-10.51	0	87.82	0.0052	-0.5783	0
203	SLE RA 17	-10.61	0	87.53	0.0039	-0.5832	0
203	SLE RA 18	-10.95	0	90	0.0036	-0.6008	0
203	SLE RA 19	-11.04	0	89.7	0.0023	-0.6056	0
203	SLE RA 20	-11.02	0	91.07	0.0044	-0.6054	0
203	SLE RA 21	-11.11	0	90.77	0.0032	-0.6103	0
203	SLE FR 1	-9.02	0	75.61	0.0033	-0.4948	0
203	SLE FR 2	-9.05	0	75.51	0.0029	-0.4964	0
203	SLE FR 3	-9.05	0	76.04	0.0037	-0.4967	0
203	SLE FR 4	-9.63	0	79.83	0.003	-0.5282	0
203	SLE FR 5	-9.63	0	80.36	0.0037	-0.5285	0
203	SLE FR 6	-9.99	0	82.8	0.0034	-0.5478	0
203	SLE QP 1	-9.02	0	75.61	0.0033	-0.4948	0
203	SLE QP 2	-9.6	0	79.93	0.0034	-0.5266	0
203	SLD 1	-0.22	-0.04	57.41	0.0315	0.0404	-0.0001
203	SLD 2	-0.22	-0.04	57.41	0.0315	0.0404	-0.0001
203	SLD 3	-1.4	-0.25	62.23	0.1895	-0.0257	-0.0006
203	SLD 4	-1.4	-0.25	62.23	0.1895	-0.0257	-0.0006
203	SLD 5	-5.01	0.3	65.87	-0.2277	-0.2562	0.0007
203	SLD 6	-5.01	0.3	65.87	-0.2277	-0.2562	0.0007
203	SLD 7	-8.92	-0.39	81.92	0.2988	-0.4766	-0.0009
203	SLD 8	-8.92	-0.39	81.92	0.2988	-0.4766	-0.0009
203	SLD 9	-10.28	0.38	77.93	-0.292	-0.5766	0.0009
203	SLD 10	-10.28	0.38	77.93	-0.292	-0.5766	0.0009
203	SLD 11	-14.19	-0.31	93.99	0.2345	-0.797	-0.0007
203	SLD 12	-14.19	-0.31	93.99	0.2345	-0.797	-0.0007
203	SLD 13	-17.81	0.24	97.62	-0.1827	-1.0275	0.0006
203	SLD 14	-17.81	0.24	97.62	-0.1827	-1.0275	0.0006
203	SLD 15	-18.98	0.04	102.44	-0.0247	-1.0936	0.0001
203	SLD 16	-18.98	0.04	102.44	-0.0247	-1.0936	0.0001
203	SLV 1	12.39	-0.09	27.12	0.0658	0.8029	-0.0002
203	SLV 2	12.39	-0.09	27.12	0.0658	0.8029	-0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
203	SLV 3	9.62	-0.6	38.54	0.4519	0.6468	-0.0014
203	SLV 4	9.62	-0.6	38.54	0.4519	0.6468	-0.0014
203	SLV 5	1.2	0.74	46.76	-0.5635	0.1091	0.0017
203	SLV 6	1.2	0.74	46.76	-0.5635	0.1091	0.0017
203	SLV 7	-8.04	-0.95	84.83	0.7235	-0.4114	-0.0022
203	SLV 8	-8.04	-0.95	84.83	0.7235	-0.4114	-0.0022
203	SLV 9	-11.16	0.94	75.02	-0.7167	-0.6418	0.0022
203	SLV 10	-11.16	0.94	75.02	-0.7167	-0.6418	0.0022
203	SLV 11	-20.4	-0.74	113.09	0.5702	-1.1623	-0.0018
203	SLV 12	-20.4	-0.74	113.09	0.5702	-1.1623	-0.0018
203	SLV 13	-28.82	0.59	121.32	-0.4452	-1.7	0.0014
203	SLV 14	-28.82	0.59	121.32	-0.4452	-1.7	0.0014
203	SLV 15	-31.59	0.09	132.74	-0.0591	-1.8561	0.0002
203	SLV 16	-31.59	0.09	132.74	-0.0591	-1.8561	0.0002
204	SLU 1	-12.03	0	43.64	0.0016	-0.3013	0.0003
204	SLU 2	-12.07	0	43.43	-0.0001	-0.3064	0
204	SLU 3	-12.47	0	45.31	0.0019	-0.3125	0.0003
204	SLU 4	-12.5	0	45.18	0.0009	-0.3155	0.0001
204	SLU 5	-12.31	0	44.41	0.0002	-0.3117	0
204	SLU 6	-12.71	0	46.29	0.0022	-0.3179	0.0004
204	SLU 7	-12.74	0	46.16	0.0012	-0.3209	0.0002
204	SLU 8	-12.51	0	45.61	0.0023	-0.3121	0.0004
204	SLU 9	-12.54	0	45.48	0.0012	-0.3151	0.0002
204	SLU 10	-14.73	0	52.8	0.0001	-0.3754	0
204	SLU 11	-15.13	0	54.67	0.0021	-0.3815	0.0004
204	SLU 12	-15.15	0	54.55	0.0011	-0.3845	0.0002
204	SLU 13	-14.97	0	53.78	0.0004	-0.3808	0.0001
204	SLU 14	-15.37	0	55.66	0.0025	-0.3869	0.0004
204	SLU 15	-15.4	0	55.53	0.0014	-0.3899	0.0002
204	SLU 16	-15.17	0	54.97	0.0025	-0.3811	0.0004
204	SLU 17	-15.19	0	54.85	0.0015	-0.3842	0.0002
204	SLU 18	-15.82	0	57.02	0.0019	-0.4	0.0003
204	SLU 19	-15.85	0	56.9	0.0009	-0.403	0.0002
204	SLU 20	-16.06	0	58	0.0023	-0.4053	0.0004
204	SLU 21	-16.09	0	57.88	0.0012	-0.4084	0.0002
204	SLU 22	-14.19	0	51.54	0.002	-0.3552	0.0003
204	SLU 23	-14.24	0	51.33	0.0003	-0.3602	0
204	SLU 24	-14.64	0	53.21	0.0023	-0.3663	0.0004
204	SLU 25	-14.67	0	53.08	0.0013	-0.3694	0.0002
204	SLU 26	-14.48	0	52.31	0.0006	-0.3656	0.0001
204	SLU 27	-14.88	0	54.19	0.0027	-0.3717	0.0004
204	SLU 28	-14.91	0	54.06	0.0016	-0.3747	0.0002
204	SLU 29	-14.68	0	53.5	0.0027	-0.366	0.0004
204	SLU 30	-14.7	0	53.38	0.0017	-0.369	0.0002
204	SLU 31	-16.89	0	60.69	0.0005	-0.4292	0.0001
204	SLU 32	-17.3	0	62.57	0.0026	-0.4354	0.0004
204	SLU 33	-17.32	0	62.45	0.0015	-0.4384	0.0002
204	SLU 34	-17.14	0	61.68	0.0009	-0.4346	0.0001
204	SLU 35	-17.54	0	63.55	0.0029	-0.4408	0.0005
204	SLU 36	-17.56	0	63.43	0.0018	-0.4438	0.0003
204	SLU 37	-17.33	0	62.87	0.0029	-0.435	0.0005
204	SLU 38	-17.36	0	62.74	0.0019	-0.438	0.0003
204	SLU 39	-17.99	0	64.92	0.0024	-0.4538	0.0004
204	SLU 40	-18.01	0	64.79	0.0013	-0.4568	0.0002
204	SLU 41	-18.23	0	65.9	0.0027	-0.4592	0.0004
204	SLU 42	-18.26	0	65.78	0.0016	-0.4622	0.0003
204	SLU 43	-14.89	0	54.03	0.002	-0.3733	0.0003
204	SLU 44	-14.94	0	53.82	0.0002	-0.3783	0
204	SLU 45	-15.34	0	55.69	0.0023	-0.3844	0.0004
204	SLU 46	-15.36	0	55.57	0.0012	-0.3874	0.0002
204	SLU 47	-15.18	0	54.8	0.0006	-0.3837	0.0001
204	SLU 48	-15.58	0	56.67	0.0026	-0.3898	0.0004
204	SLU 49	-15.61	0	56.55	0.0016	-0.3928	0.0002
204	SLU 50	-15.37	0	55.99	0.0026	-0.3841	0.0004
204	SLU 51	-15.4	0	55.86	0.0016	-0.3871	0.0002
204	SLU 52	-17.59	0	63.18	0.0005	-0.4473	0.0001
204	SLU 53	-17.99	0	65.06	0.0025	-0.4535	0.0004
204	SLU 54	-18.02	0	64.93	0.0014	-0.4565	0.0002
204	SLU 55	-17.83	0	64.16	0.0008	-0.4527	0.0001
204	SLU 56	-18.23	0	66.04	0.0028	-0.4588	0.0005
204	SLU 57	-18.26	0	65.91	0.0018	-0.4619	0.0003
204	SLU 58	-18.03	0	65.36	0.0028	-0.4531	0.0005
204	SLU 59	-18.06	0	65.23	0.0018	-0.4561	0.0003
204	SLU 60	-18.68	0	67.41	0.0023	-0.4719	0.0004
204	SLU 61	-18.71	0	67.28	0.0012	-0.4749	0.0002
204	SLU 62	-18.93	0	68.39	0.0026	-0.4773	0.0004
204	SLU 63	-18.95	0	68.26	0.0016	-0.4803	0.0003
204	SLU 64	-17.06	0	61.92	0.0024	-0.4271	0.0004
204	SLU 65	-17.1	0	61.71	0.0007	-0.4321	0.0001
204	SLU 66	-17.51	0	63.59	0.0027	-0.4383	0.0004
204	SLU 67	-17.53	0	63.46	0.0016	-0.4413	0.0003
204	SLU 68	-17.34	0	62.7	0.001	-0.4375	0.0001
204	SLU 69	-17.75	0	64.57	0.003	-0.4437	0.0005
204	SLU 70	-17.77	0	64.45	0.002	-0.4467	0.0003
204	SLU 71	-17.54	0	63.89	0.003	-0.4379	0.0005
204	SLU 72	-17.57	0	63.76	0.002	-0.4409	0.0003
204	SLU 73	-19.76	0	71.08	0.0009	-0.5012	0.0001
204	SLU 74	-20.16	0	72.96	0.0029	-0.5073	0.0005



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
204	SLU 75	-20.19	0	72.83	0.0019	-0.5103	0.0003
204	SLU 76	-20	0	72.06	0.0012	-0.5066	0.0002
204	SLU 77	-20.4	0	73.94	0.0032	-0.5127	0.0005
204	SLU 78	-20.43	0	73.81	0.0022	-0.5157	0.0003
204	SLU 79	-20.2	0	73.25	0.0033	-0.5069	0.0005
204	SLU 80	-20.22	0	73.13	0.0022	-0.5099	0.0003
204	SLU 81	-20.85	0	75.3	0.0027	-0.5258	0.0005
204	SLU 82	-20.88	0	75.18	0.0017	-0.5288	0.0003
204	SLU 83	-21.09	0	76.29	0.003	-0.5311	0.0005
204	SLU 84	-21.12	0	76.16	0.002	-0.5341	0.0003
204	SLE RA 1	-12.65	0	45.9	0.0017	-0.3167	0.0003
204	SLE RA 2	-12.68	0	45.76	0.0006	-0.3201	0.0001
204	SLE RA 3	-12.94	0	47.01	0.0019	-0.3242	0.0003
204	SLE RA 4	-12.96	0	46.92	0.0012	-0.3262	0.0002
204	SLE RA 5	-12.84	0	46.41	0.0008	-0.3237	0.0001
204	SLE RA 6	-13.1	0	47.66	0.0022	-0.3278	0.0004
204	SLE RA 7	-13.12	0	47.58	0.0015	-0.3298	0.0002
204	SLE RA 8	-12.97	0	47.21	0.0022	-0.3239	0.0004
204	SLE RA 9	-12.99	0	47.12	0.0015	-0.3259	0.0002
204	SLE RA 10	-14.45	0	52	0.0007	-0.3661	0.0001
204	SLE RA 11	-14.71	0	53.25	0.0021	-0.3702	0.0004
204	SLE RA 12	-14.73	0	53.17	0.0014	-0.3722	0.0002
204	SLE RA 13	-14.61	0	52.66	0.001	-0.3697	0.0002
204	SLE RA 14	-14.87	0	53.91	0.0023	-0.3738	0.0004
204	SLE RA 15	-14.89	0	53.82	0.0016	-0.3758	0.0003
204	SLE RA 16	-14.74	0	53.45	0.0023	-0.3699	0.0004
204	SLE RA 17	-14.76	0	53.37	0.0016	-0.3719	0.0003
204	SLE RA 18	-15.17	0	54.82	0.0019	-0.3825	0.0003
204	SLE RA 19	-15.19	0	54.73	0.0013	-0.3845	0.0002
204	SLE RA 20	-15.34	0	55.47	0.0022	-0.3861	0.0004
204	SLE RA 21	-15.35	0	55.39	0.0015	-0.3881	0.0002
204	SLE FR 1	-12.65	0	45.9	0.0017	-0.3167	0.0003
204	SLE FR 2	-12.65	0	45.87	0.0015	-0.3174	0.0003
204	SLE FR 3	-12.71	0	46.16	0.0018	-0.3182	0.0003
204	SLE FR 4	-13.41	0	48.55	0.0016	-0.3371	0.0003
204	SLE FR 5	-13.47	0	48.84	0.0019	-0.3379	0.0003
204	SLE FR 6	-13.91	0	50.36	0.0018	-0.3496	0.0003
204	SLE QP 1	-12.65	0	45.9	0.0017	-0.3167	0.0003
204	SLE QP 2	-13.4	0	48.57	0.0018	-0.3365	0.0003
204	SLD 1	-5.25	0.02	25.9	0.0172	-0.0374	0.003
204	SLD 2	-5.25	0.02	25.9	0.0172	-0.0374	0.003
204	SLD 3	-6.39	0.05	29.39	0.0901	-0.0734	0.015
204	SLD 4	-6.39	0.05	29.39	0.0901	-0.0734	0.015
204	SLD 5	-9.23	-0.06	36.49	-0.1042	-0.1921	-0.0171
204	SLD 6	-9.23	-0.06	36.49	-0.1042	-0.1921	-0.0171
204	SLD 7	-13.03	0.07	48.1	0.1389	-0.3122	0.0229
204	SLD 8	-13.03	0.07	48.1	0.1389	-0.3122	0.0229
204	SLD 9	-13.78	-0.08	49.05	-0.1353	-0.3607	-0.0223
204	SLD 10	-13.78	-0.08	49.05	-0.1353	-0.3607	-0.0223
204	SLD 11	-17.58	0.05	60.66	0.1078	-0.4808	0.0177
204	SLD 12	-17.58	0.05	60.66	0.1078	-0.4808	0.0177
204	SLD 13	-20.42	-0.06	67.76	-0.0865	-0.5995	-0.0144
204	SLD 14	-20.42	-0.06	67.76	-0.0865	-0.5995	-0.0144
204	SLD 15	-21.56	-0.02	71.24	-0.0136	-0.6355	-0.0024
204	SLD 16	-21.56	-0.02	71.24	-0.0136	-0.6355	-0.0024
204	SLV 1	5.71	0.04	-4.58	0.0366	0.3646	0.0064
204	SLV 2	5.71	0.04	-4.58	0.0366	0.3646	0.0064
204	SLV 3	3.02	0.13	3.66	0.2144	0.2796	0.0356
204	SLV 4	3.02	0.13	3.66	0.2144	0.2796	0.0356
204	SLV 5	-3.59	-0.13	20.12	-0.2575	0.0028	-0.0422
204	SLV 6	-3.59	-0.13	20.12	-0.2575	0.0028	-0.0422
204	SLV 7	-12.56	0.18	47.61	0.3353	-0.2806	0.0552
204	SLV 8	-12.56	0.18	47.61	0.3353	-0.2806	0.0552
204	SLV 9	-14.25	-0.18	49.54	-0.3317	-0.3923	-0.0546
204	SLV 10	-14.25	-0.18	49.54	-0.3317	-0.3923	-0.0546
204	SLV 11	-23.22	0.13	77.03	0.2611	-0.6757	0.0428
204	SLV 12	-23.22	0.13	77.03	0.2611	-0.6757	0.0428
204	SLV 13	-29.83	-0.14	93.48	-0.2108	-0.9525	-0.035
204	SLV 14	-29.83	-0.14	93.48	-0.2108	-0.9525	-0.035
204	SLV 15	-32.52	-0.04	101.73	-0.033	-1.0375	-0.0058
204	SLV 16	-32.52	-0.04	101.73	-0.033	-1.0375	-0.0058
205	SLU 1	6.87	-0.04	25.23	0.0127	0.0542	-0.0029
205	SLU 2	6.21	-0.02	23.05	0.0088	0.0455	-0.002
205	SLU 3	7.17	-0.04	26.32	0.0135	0.0562	-0.0031
205	SLU 4	6.77	-0.03	25.01	0.0112	0.051	-0.0026
205	SLU 5	6.46	-0.03	23.93	0.0096	0.0476	-0.0022
205	SLU 6	7.42	-0.05	27.2	0.0143	0.0584	-0.0033
205	SLU 7	7.02	-0.04	25.89	0.0119	0.0532	-0.0027
205	SLU 8	7.37	-0.05	27	0.0142	0.0584	-0.0033
205	SLU 9	6.97	-0.04	25.69	0.0119	0.0532	-0.0027
205	SLU 10	7.44	-0.03	27.61	0.0109	0.0531	-0.0025
205	SLU 11	8.4	-0.05	30.87	0.0156	0.0638	-0.0036
205	SLU 12	8	-0.04	29.56	0.0133	0.0586	-0.003
205	SLU 13	7.69	-0.03	28.49	0.0117	0.0552	-0.0027
205	SLU 14	8.64	-0.05	31.75	0.0164	0.066	-0.0038
205	SLU 15	8.25	-0.04	30.44	0.0141	0.0608	-0.0032
205	SLU 16	8.59	-0.05	31.55	0.0163	0.066	-0.0038
205	SLU 17	8.2	-0.04	30.24	0.014	0.0608	-0.0032



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
205	SLU 18	8.62	-0.05	31.74	0.0157	0.0651	-0.0036
205	SLU 19	8.23	-0.04	30.43	0.0134	0.0598	-0.0031
205	SLU 20	8.87	-0.05	32.62	0.0165	0.0672	-0.0038
205	SLU 21	8.48	-0.04	31.31	0.0141	0.062	-0.0032
205	SLU 22	8.09	-0.05	29.73	0.0149	0.0631	-0.0034
205	SLU 23	7.44	-0.03	27.55	0.011	0.0544	-0.0025
205	SLU 24	8.39	-0.05	30.82	0.0157	0.0651	-0.0036
205	SLU 25	8	-0.04	29.51	0.0134	0.0599	-0.0031
205	SLU 26	7.69	-0.03	28.43	0.0118	0.0565	-0.0027
205	SLU 27	8.64	-0.05	31.7	0.0165	0.0673	-0.0038
205	SLU 28	8.25	-0.04	30.39	0.0141	0.062	-0.0032
205	SLU 29	8.59	-0.05	31.5	0.0164	0.0673	-0.0038
205	SLU 30	8.2	-0.04	30.19	0.0141	0.0621	-0.0032
205	SLU 31	8.67	-0.04	32.11	0.0131	0.062	-0.003
205	SLU 32	9.62	-0.06	35.37	0.0178	0.0727	-0.0041
205	SLU 33	9.23	-0.05	34.06	0.0155	0.0675	-0.0035
205	SLU 34	8.91	-0.04	32.99	0.0139	0.0641	-0.0032
205	SLU 35	9.87	-0.06	36.25	0.0186	0.0749	-0.0043
205	SLU 36	9.48	-0.05	34.94	0.0163	0.0696	-0.0037
205	SLU 37	9.82	-0.06	36.05	0.0185	0.0749	-0.0043
205	SLU 38	9.42	-0.05	34.74	0.0162	0.0697	-0.0037
205	SLU 39	9.85	-0.06	36.24	0.0179	0.0739	-0.0041
205	SLU 40	9.45	-0.05	34.93	0.0156	0.0687	-0.0036
205	SLU 41	10.09	-0.06	37.12	0.0187	0.0761	-0.0043
205	SLU 42	9.7	-0.05	35.81	0.0163	0.0709	-0.0037
205	SLU 43	8.51	-0.05	31.26	0.0157	0.0674	-0.0036
205	SLU 44	7.85	-0.03	29.08	0.0118	0.0587	-0.0027
205	SLU 45	8.81	-0.05	32.34	0.0166	0.0695	-0.0038
205	SLU 46	8.42	-0.04	31.03	0.0142	0.0642	-0.0033
205	SLU 47	8.1	-0.04	29.96	0.0126	0.0608	-0.0029
205	SLU 48	9.06	-0.06	33.22	0.0173	0.0716	-0.004
205	SLU 49	8.66	-0.05	31.91	0.015	0.0664	-0.0034
205	SLU 50	9.01	-0.06	33.02	0.0173	0.0716	-0.004
205	SLU 51	8.61	-0.05	31.71	0.0149	0.0664	-0.0034
205	SLU 52	9.08	-0.04	33.63	0.014	0.0663	-0.0032
205	SLU 53	10.04	-0.06	36.9	0.0187	0.0771	-0.0043
205	SLU 54	9.64	-0.05	35.59	0.0163	0.0718	-0.0037
205	SLU 55	9.33	-0.04	34.51	0.0147	0.0684	-0.0034
205	SLU 56	10.29	-0.06	37.78	0.0194	0.0792	-0.0045
205	SLU 57	9.89	-0.05	36.47	0.0171	0.074	-0.0039
205	SLU 58	10.23	-0.06	37.58	0.0194	0.0793	-0.0045
205	SLU 59	9.84	-0.05	36.27	0.0171	0.074	-0.0039
205	SLU 60	10.26	-0.06	37.77	0.0188	0.0783	-0.0043
205	SLU 61	9.87	-0.05	36.46	0.0164	0.073	-0.0038
205	SLU 62	10.51	-0.06	38.65	0.0195	0.0804	-0.0045
205	SLU 63	10.12	-0.05	37.34	0.0172	0.0752	-0.0039
205	SLU 64	9.73	-0.06	35.76	0.0179	0.0763	-0.0041
205	SLU 65	9.08	-0.04	33.58	0.014	0.0676	-0.0032
205	SLU 66	10.03	-0.06	36.84	0.0188	0.0784	-0.0043
205	SLU 67	9.64	-0.05	35.53	0.0164	0.0731	-0.0038
205	SLU 68	9.33	-0.04	34.46	0.0148	0.0697	-0.0034
205	SLU 69	10.28	-0.06	37.72	0.0195	0.0805	-0.0045
205	SLU 70	9.89	-0.05	36.41	0.0172	0.0753	-0.0039
205	SLU 71	10.23	-0.06	37.52	0.0195	0.0805	-0.0045
205	SLU 72	9.84	-0.05	36.21	0.0171	0.0753	-0.0039
205	SLU 73	10.31	-0.05	38.13	0.0162	0.0752	-0.0037
205	SLU 74	11.26	-0.07	41.4	0.0209	0.086	-0.0048
205	SLU 75	10.87	-0.06	40.09	0.0185	0.0807	-0.0042
205	SLU 76	10.55	-0.05	39.01	0.0169	0.0773	-0.0039
205	SLU 77	11.51	-0.07	42.28	0.0216	0.0881	-0.005
205	SLU 78	11.12	-0.06	40.97	0.0193	0.0829	-0.0044
205	SLU 79	11.46	-0.07	42.08	0.0216	0.0881	-0.005
205	SLU 80	11.07	-0.06	40.77	0.0193	0.0829	-0.0044
205	SLU 81	11.49	-0.07	42.27	0.021	0.0872	-0.0048
205	SLU 82	11.09	-0.06	40.96	0.0186	0.0819	-0.0043
205	SLU 83	11.74	-0.07	43.15	0.0217	0.0893	-0.005
205	SLU 84	11.34	-0.06	41.84	0.0194	0.0841	-0.0044
205	SLE RA 1	7.22	-0.04	26.52	0.0133	0.0567	-0.0031
205	SLE RA 2	6.78	-0.03	25.06	0.0107	0.0509	-0.0024
205	SLE RA 3	7.42	-0.04	27.24	0.0139	0.0581	-0.0032
205	SLE RA 4	7.16	-0.04	26.37	0.0123	0.0546	-0.0028
205	SLE RA 5	6.95	-0.03	25.65	0.0112	0.0524	-0.0026
205	SLE RA 6	7.58	-0.05	27.83	0.0144	0.0595	-0.0033
205	SLE RA 7	7.32	-0.04	26.96	0.0128	0.056	-0.0029
205	SLE RA 8	7.55	-0.05	27.69	0.0143	0.0596	-0.0033
205	SLE RA 9	7.29	-0.04	26.82	0.0128	0.0561	-0.0029
205	SLE RA 10	7.6	-0.04	28.1	0.0121	0.056	-0.0028
205	SLE RA 11	8.24	-0.05	30.28	0.0153	0.0632	-0.0035
205	SLE RA 12	7.97	-0.04	29.4	0.0137	0.0597	-0.0031
205	SLE RA 13	7.77	-0.04	28.69	0.0126	0.0574	-0.0029
205	SLE RA 14	8.4	-0.05	30.87	0.0158	0.0646	-0.0036
205	SLE RA 15	8.14	-0.04	29.99	0.0142	0.0611	-0.0033
205	SLE RA 16	8.37	-0.05	30.73	0.0157	0.0646	-0.0036
205	SLE RA 17	8.11	-0.04	29.86	0.0142	0.0612	-0.0033
205	SLE RA 18	8.39	-0.05	30.86	0.0153	0.064	-0.0035
205	SLE RA 19	8.13	-0.04	29.98	0.0138	0.0605	-0.0032
205	SLE RA 20	8.55	-0.05	31.45	0.0158	0.0654	-0.0036
205	SLE RA 21	8.29	-0.04	30.57	0.0143	0.0619	-0.0033





Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
205	SLE FR 1	7.22	-0.04	26.52	0.0133	0.0567	-0.0031
205	SLE FR 2	7.13	-0.04	26.23	0.0128	0.0556	-0.0029
205	SLE FR 3	7.28	-0.04	26.75	0.0135	0.0573	-0.0031
205	SLE FR 4	7.48	-0.04	27.53	0.0134	0.0578	-0.0031
205	SLE FR 5	7.63	-0.05	28.06	0.0141	0.0595	-0.0032
205	SLE FR 6	7.8	-0.05	28.69	0.0143	0.0604	-0.0033
205	SLE QP 1	7.22	-0.04	26.52	0.0133	0.0567	-0.0031
205	SLE QP 2	7.57	-0.04	27.82	0.0139	0.0589	-0.0032
205	SLD 1	9.5	-0.18	34.31	0.0249	0.1229	-0.0066
205	SLD 2	9.5	-0.18	34.31	0.0249	0.1229	-0.0066
205	SLD 3	10.05	-0.32	36.16	0.0389	0.1298	-0.0107
205	SLD 4	10.05	-0.32	36.16	0.0389	0.1298	-0.0107
205	SLD 5	7.31	0.13	26.97	-0.004	0.0675	0.0021
205	SLD 6	7.31	0.13	26.97	-0.004	0.0675	0.0021
205	SLD 7	9.15	-0.34	33.12	0.0427	0.0908	-0.0117
205	SLD 8	9.15	-0.34	33.12	0.0427	0.0908	-0.0117
205	SLD 9	5.98	0.25	22.52	-0.0149	0.027	0.0053
205	SLD 10	5.98	0.25	22.52	-0.0149	0.027	0.0053
205	SLD 11	7.83	-0.22	28.67	0.0319	0.0503	-0.0084
205	SLD 12	7.83	-0.22	28.67	0.0319	0.0503	-0.0084
205	SLD 13	5.09	0.23	19.49	-0.0111	-0.012	0.0043
205	SLD 14	5.09	0.23	19.49	-0.0111	-0.012	0.0043
205	SLD 15	5.64	0.09	21.33	0.0029	-0.005	0.0002
205	SLD 16	5.64	0.09	21.33	0.0029	-0.005	0.0002
205	SLV 1	12.09	-0.37	43.05	0.0407	0.2087	-0.0114
205	SLV 2	12.09	-0.37	43.05	0.0407	0.2087	-0.0114
205	SLV 3	13.42	-0.72	47.49	0.0759	0.2255	-0.0217
205	SLV 4	13.42	-0.72	47.49	0.0759	0.2255	-0.0217
205	SLV 5	6.9	0.4	25.65	-0.0314	0.0784	0.0101
205	SLV 6	6.9	0.4	25.65	-0.0314	0.0784	0.0101
205	SLV 7	11.35	-0.78	40.46	0.0859	0.1344	-0.0245
205	SLV 8	11.35	-0.78	40.46	0.0859	0.1344	-0.0245
205	SLV 9	3.79	0.69	15.18	-0.058	-0.0165	0.0181
205	SLV 10	3.79	0.69	15.18	-0.058	-0.0165	0.0181
205	SLV 11	8.23	-0.49	29.99	0.0592	0.0395	-0.0165
205	SLV 12	8.23	-0.49	29.99	0.0592	0.0395	-0.0165
205	SLV 13	1.71	0.63	8.15	-0.0481	-0.1076	0.0154
205	SLV 14	1.71	0.63	8.15	-0.0481	-0.1076	0.0154
205	SLV 15	3.04	0.28	12.59	-0.0129	-0.0909	0.005
205	SLV 16	3.04	0.28	12.59	-0.0129	-0.0909	0.005
206	SLU 1	0.1	-7.41	77.71	0.198	-0.024	-0.0001
206	SLU 2	0.12	-6.1	71.26	0.139	-0.0246	-0.0001
206	SLU 3	0.11	-7.83	81.33	0.2114	-0.0268	-0.0001
206	SLU 4	0.12	-7.04	77.45	0.176	-0.0271	-0.0001
206	SLU 5	0.13	-6.46	74.1	0.1516	-0.026	-0.0001
206	SLU 6	0.12	-8.19	84.17	0.224	-0.0282	-0.0001
206	SLU 7	0.13	-7.4	80.3	0.1886	-0.0285	-0.0001
206	SLU 8	0.12	-8.14	83.4	0.2232	-0.0269	-0.0001
206	SLU 9	0.13	-7.35	79.53	0.1878	-0.0272	-0.0001
206	SLU 10	0.15	-7.35	85.81	0.1702	-0.0333	-0.0001
206	SLU 11	0.14	-9.08	95.88	0.2426	-0.0355	-0.0001
206	SLU 12	0.15	-8.29	92	0.2072	-0.0358	-0.0002
206	SLU 13	0.16	-7.71	88.65	0.1829	-0.0348	-0.0002
206	SLU 14	0.15	-9.44	98.72	0.2553	-0.0369	-0.0002
206	SLU 15	0.16	-8.65	94.85	0.2199	-0.0373	-0.0002
206	SLU 16	0.15	-9.39	97.95	0.2545	-0.0356	-0.0001
206	SLU 17	0.16	-8.6	94.08	0.2191	-0.036	-0.0002
206	SLU 18	0.14	-9.2	98.5	0.2427	-0.0365	-0.0001
206	SLU 19	0.16	-8.41	94.63	0.2072	-0.0369	-0.0002
206	SLU 20	0.15	-9.56	101.35	0.2553	-0.038	-0.0002
206	SLU 21	0.16	-8.77	97.47	0.2199	-0.0383	-0.0002
206	SLU 22	0.13	-8.67	91.71	0.2313	-0.0298	-0.0001
206	SLU 23	0.15	-7.36	85.25	0.1723	-0.0303	-0.0001
206	SLU 24	0.14	-9.09	95.32	0.2447	-0.0325	-0.0001
206	SLU 25	0.15	-8.3	91.45	0.2093	-0.0328	-0.0001
206	SLU 26	0.15	-7.72	88.1	0.1849	-0.0318	-0.0001
206	SLU 27	0.14	-9.45	98.17	0.2573	-0.0339	-0.0001
206	SLU 28	0.16	-8.66	94.29	0.2219	-0.0343	-0.0001
206	SLU 29	0.14	-9.4	97.4	0.2566	-0.0326	-0.0001
206	SLU 30	0.15	-8.61	93.52	0.2212	-0.033	-0.0001
206	SLU 31	0.18	-8.61	99.81	0.2036	-0.0391	-0.0002
206	SLU 32	0.17	-10.34	109.88	0.276	-0.0413	-0.0002
206	SLU 33	0.18	-9.55	106	0.2406	-0.0416	-0.0002
206	SLU 34	0.18	-8.97	102.65	0.2162	-0.0405	-0.0002
206	SLU 35	0.17	-10.7	112.72	0.2886	-0.0427	-0.0002
206	SLU 36	0.19	-9.91	108.84	0.2532	-0.043	-0.0002
206	SLU 37	0.17	-10.65	111.95	0.2878	-0.0414	-0.0002
206	SLU 38	0.18	-9.86	108.08	0.2524	-0.0417	-0.0002
206	SLU 39	0.17	-10.46	112.5	0.276	-0.0423	-0.0002
206	SLU 40	0.18	-9.67	108.62	0.2406	-0.0426	-0.0002
206	SLU 41	0.18	-10.82	115.34	0.2886	-0.0437	-0.0002
206	SLU 42	0.19	-10.03	111.47	0.2532	-0.044	-0.0002
206	SLU 43	0.12	-9.2	96.23	0.246	-0.0293	-0.0001
206	SLU 44	0.14	-7.89	89.77	0.1869	-0.0298	-0.0001
206	SLU 45	0.13	-9.62	99.84	0.2593	-0.032	-0.0001
206	SLU 46	0.14	-8.83	95.97	0.2239	-0.0323	-0.0001
206	SLU 47	0.15	-8.25	92.62	0.1996	-0.0312	-0.0001
206	SLU 48	0.14	-9.98	102.69	0.272	-0.0334	-0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
206	SLU 49	0.15	-9.19	98.81	0.2366	-0.0337	-0.0001		
206	SLU 50	0.14	-9.93	101.92	0.2712	-0.0321	-0.0001		
206	SLU 51	0.15	-9.14	98.04	0.2358	-0.0324	-0.0001		
206	SLU 52	0.17	-9.14	104.32	0.2182	-0.0386	-0.0002		
206	SLU 53	0.16	-10.87	114.39	0.2906	-0.0407	-0.0002		
206	SLU 54	0.17	-10.08	110.52	0.2552	-0.0411	-0.0002		
206	SLU 55	0.18	-9.5	107.17	0.2308	-0.04	-0.0002		
206	SLU 56	0.17	-11.23	117.24	0.3032	-0.0422	-0.0002		
206	SLU 57	0.18	-10.44	113.36	0.2678	-0.0425	-0.0002		
206	SLU 58	0.17	-11.18	116.47	0.3025	-0.0409	-0.0002		
206	SLU 59	0.18	-10.39	112.59	0.2671	-0.0412	-0.0002		
206	SLU 60	0.16	-10.99	117.02	0.2906	-0.0418	-0.0002		
206	SLU 61	0.18	-10.2	113.14	0.2552	-0.0421	-0.0002		
206	SLU 62	0.17	-11.35	119.86	0.3033	-0.0432	-0.0002		
206	SLU 63	0.18	-10.56	115.99	0.2678	-0.0435	-0.0002		
206	SLU 64	0.15	-10.47	110.23	0.2793	-0.035	-0.0001		
206	SLU 65	0.17	-9.15	103.77	0.2203	-0.0356	-0.0002		
206	SLU 66	0.16	-10.88	113.84	0.2927	-0.0377	-0.0002		
206	SLU 67	0.17	-10.09	109.97	0.2573	-0.0381	-0.0002		
206	SLU 68	0.17	-9.51	106.61	0.2329	-0.037	-0.0002		
206	SLU 69	0.16	-11.24	116.68	0.3053	-0.0392	-0.0002		
206	SLU 70	0.18	-10.45	112.81	0.2699	-0.0395	-0.0002		
206	SLU 71	0.16	-11.19	115.91	0.3045	-0.0379	-0.0002		
206	SLU 72	0.17	-10.4	112.04	0.2691	-0.0382	-0.0002		
206	SLU 73	0.2	-10.4	118.32	0.2515	-0.0443	-0.0002		
206	SLU 74	0.19	-12.13	128.39	0.3239	-0.0465	-0.0002		
206	SLU 75	0.2	-11.34	124.52	0.2885	-0.0468	-0.0002		
206	SLU 76	0.2	-10.76	121.16	0.2642	-0.0458	-0.0002		
206	SLU 77	0.19	-12.49	131.23	0.3366	-0.0479	-0.0002		
206	SLU 78	0.21	-11.7	127.36	0.3012	-0.0483	-0.0002		
206	SLU 79	0.19	-12.44	130.47	0.3358	-0.0466	-0.0002		
206	SLU 80	0.2	-11.65	126.59	0.3004	-0.0469	-0.0002		
206	SLU 81	0.19	-12.25	131.01	0.324	-0.0475	-0.0002		
206	SLU 82	0.2	-11.46	127.14	0.2885	-0.0479	-0.0002		
206	SLU 83	0.2	-12.61	133.86	0.3366	-0.0489	-0.0002		
206	SLU 84	0.21	-11.83	129.98	0.3012	-0.0493	-0.0002		
206	SLE RA 1	0.11	-7.77	81.71	0.2075	-0.0257	-0.0001		
206	SLE RA 2	0.12	-6.9	77.41	0.1682	-0.026	-0.0001		
206	SLE RA 3	0.11	-8.05	84.12	0.2164	-0.0275	-0.0001		
206	SLE RA 4	0.12	-7.52	81.54	0.1928	-0.0277	-0.0001		
206	SLE RA 5	0.13	-7.14	79.3	0.1766	-0.027	-0.0001		
206	SLE RA 6	0.12	-8.29	86.02	0.2249	-0.0284	-0.0001		
206	SLE RA 7	0.13	-7.76	83.44	0.2012	-0.0287	-0.0001		
206	SLE RA 8	0.12	-8.26	85.51	0.2243	-0.0276	-0.0001		
206	SLE RA 9	0.13	-7.73	82.92	0.2007	-0.0278	-0.0001		
206	SLE RA 10	0.14	-7.73	87.11	0.189	-0.0319	-0.0001		
206	SLE RA 11	0.13	-8.88	93.82	0.2373	-0.0333	-0.0001		
206	SLE RA 12	0.14	-8.36	91.24	0.2137	-0.0336	-0.0001		
206	SLE RA 13	0.15	-7.97	89.01	0.1974	-0.0328	-0.0001		
206	SLE RA 14	0.14	-9.12	95.72	0.2457	-0.0343	-0.0001		
206	SLE RA 15	0.15	-8.6	93.14	0.2221	-0.0345	-0.0001		
206	SLE RA 16	0.14	-9.09	95.21	0.2452	-0.0334	-0.0001		
206	SLE RA 17	0.15	-8.56	92.62	0.2216	-0.0336	-0.0001		
206	SLE RA 18	0.14	-8.96	95.57	0.2373	-0.034	-0.0001		
206	SLE RA 19	0.14	-8.44	92.99	0.2137	-0.0342	-0.0001		
206	SLE RA 20	0.14	-9.21	97.47	0.2457	-0.035	-0.0001		
206	SLE RA 21	0.15	-8.68	94.88	0.2221	-0.0352	-0.0001		
206	SLE FR 1	0.11	-7.77	81.71	0.2075	-0.0257	-0.0001		
206	SLE FR 2	0.11	-7.6	80.85	0.1996	-0.0257	-0.0001		
206	SLE FR 3	0.11	-7.87	82.47	0.2109	-0.0261	-0.0001		
206	SLE FR 4	0.12	-7.96	85.01	0.2086	-0.0283	-0.0001		
206	SLE FR 5	0.12	-8.23	86.63	0.2198	-0.0286	-0.0001		
206	SLE FR 6	0.12	-8.37	88.64	0.2224	-0.0298	-0.0001		
206	SLE QP 1	0.11	-7.77	81.71	0.2075	-0.0257	-0.0001		
206	SLE QP 2	0.12	-8.13	85.87	0.2164	-0.0282	-0.0001		
206	SLD 1	-0.33	-8.07	86.03	0.2124	0.1235	0.0005		
206	SLD 2	-0.33	-8.07	86.03	0.2124	0.1235	0.0005		
206	SLD 3	-0.37	-9.71	93.26	0.2872	0.1041	0.0004		
206	SLD 4	-0.37	-9.71	93.26	0.2872	0.1041	0.0004		
206	SLD 5	0.06	-5.62	74.97	0.1017	0.0468	0.0003		
206	SLD 6	0.06	-5.62	74.97	0.1017	0.0468	0.0003		
206	SLD 7	-0.1	-11.1	99.04	0.3512	-0.018	-0.0002		
206	SLD 8	-0.1	-11.1	99.04	0.3512	-0.018	-0.0002		
206	SLD 9	0.34	-5.16	72.7	0.0817	-0.0384	-0.0001		
206	SLD 10	0.34	-5.16	72.7	0.0817	-0.0384	-0.0001		
206	SLD 11	0.18	-10.64	96.78	0.3312	-0.1031	-0.0005		
206	SLD 12	0.18	-10.64	96.78	0.3312	-0.1031	-0.0005		
206	SLD 13	0.61	-6.55	78.49	0.1457	-0.1604	-0.0006		
206	SLD 14	0.61	-6.55	78.49	0.1457	-0.1604	-0.0006		
206	SLD 15	0.56	-8.19	85.71	0.2205	-0.1798	-0.0008		
206	SLD 16	0.56	-8.19	85.71	0.2205	-0.1798	-0.0008		
206	SLV 1	-0.92	-8.09	86.78	0.211	0.3276	0.0014		
206	SLV 2	-0.92	-8.09	86.78	0.211	0.3276	0.0014		
206	SLV 3	-1.04	-11.99	104.04	0.3885	0.2816	0.0011		
206	SLV 4	-1.04	-11.99	104.04	0.3885	0.2816	0.0011		
206	SLV 5	-0.01	-2.2	59.97	-0.0545	0.1484	0.0009		
206	SLV 6	-0.01	-2.2	59.97	-0.0545	0.1484	0.0009		
206	SLV 7	-0.41	-15.21	117.49	0.5374	-0.0051	-0.0003		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
206	SLV 8	-0.41	-15.21	117.49	0.5374	-0.0051	-0.0003	
206	SLV 9	0.64	-1.06	54.25	-0.1045	-0.0513	0	
206	SLV 10	0.64	-1.06	54.25	-0.1045	-0.0513	0	
206	SLV 11	0.25	-14.06	111.77	0.4874	-0.2047	-0.0011	
206	SLV 12	0.25	-14.06	111.77	0.4874	-0.2047	-0.0011	
206	SLV 13	1.27	-4.27	67.7	0.0443	-0.3379	-0.0013	
206	SLV 14	1.27	-4.27	67.7	0.0443	-0.3379	-0.0013	
206	SLV 15	1.15	-8.17	84.96	0.2219	-0.3839	-0.0017	
206	SLV 16	1.15	-8.17	84.96	0.2219	-0.3839	-0.0017	
207	SLU 1	-7.73	-0.04	30.12	0.0132	-0.0849	0.0028	
207	SLU 2	-7.09	-0.04	27.88	0.0111	-0.0763	0.0024	
207	SLU 3	-8.13	-0.04	31.61	0.014	-0.0901	0.0029	
207	SLU 4	-7.74	-0.04	30.27	0.0127	-0.0849	0.0027	
207	SLU 5	-7.39	-0.04	29.01	0.0118	-0.0801	0.0026	
207	SLU 6	-8.43	-0.04	32.74	0.0146	-0.094	0.0031	
207	SLU 7	-8.04	-0.04	31.4	0.0134	-0.0888	0.0029	
207	SLU 8	-8.33	-0.04	32.38	0.0146	-0.0926	0.0031	
207	SLU 9	-7.95	-0.04	31.04	0.0133	-0.0874	0.0029	
207	SLU 10	-8.62	-0.05	33.81	0.0132	-0.0941	0.0029	
207	SLU 11	-9.65	-0.05	37.54	0.0161	-0.108	0.0034	
207	SLU 12	-9.27	-0.05	36.2	0.0148	-0.1028	0.0032	
207	SLU 13	-8.92	-0.05	34.94	0.0139	-0.098	0.003	
207	SLU 14	-9.95	-0.05	38.67	0.0168	-0.1118	0.0035	
207	SLU 15	-9.57	-0.05	37.32	0.0155	-0.1067	0.0033	
207	SLU 16	-9.86	-0.05	38.31	0.0167	-0.1105	0.0035	
207	SLU 17	-9.47	-0.05	36.96	0.0154	-0.1053	0.0033	
207	SLU 18	-9.91	-0.05	38.59	0.0162	-0.1104	0.0034	
207	SLU 19	-9.53	-0.05	37.25	0.015	-0.1052	0.0032	
207	SLU 20	-10.21	-0.05	39.72	0.0169	-0.1143	0.0036	
207	SLU 21	-9.83	-0.05	38.38	0.0156	-0.1091	0.0033	
207	SLU 22	-9.16	-0.05	35.67	0.0154	-0.1009	0.0032	
207	SLU 23	-8.52	-0.05	33.44	0.0133	-0.0923	0.0029	
207	SLU 24	-9.56	-0.05	37.16	0.0161	-0.1061	0.0034	
207	SLU 25	-9.17	-0.05	35.82	0.0149	-0.1009	0.0032	
207	SLU 26	-8.82	-0.05	34.57	0.014	-0.0961	0.003	
207	SLU 27	-9.86	-0.05	38.29	0.0168	-0.11	0.0035	
207	SLU 28	-9.47	-0.05	36.95	0.0156	-0.1048	0.0033	
207	SLU 29	-9.76	-0.05	37.93	0.0168	-0.1086	0.0035	
207	SLU 30	-9.38	-0.05	36.59	0.0155	-0.1034	0.0033	
207	SLU 31	-10.05	-0.06	39.36	0.0154	-0.1101	0.0033	
207	SLU 32	-11.08	-0.05	43.09	0.0183	-0.124	0.0038	
207	SLU 33	-10.7	-0.06	41.75	0.017	-0.1188	0.0036	
207	SLU 34	-10.35	-0.06	40.49	0.0161	-0.114	0.0035	
207	SLU 35	-11.38	-0.05	44.22	0.019	-0.1278	0.004	
207	SLU 36	-11	-0.06	42.88	0.0177	-0.1227	0.0038	
207	SLU 37	-11.29	-0.05	43.86	0.0189	-0.1265	0.004	
207	SLU 38	-10.9	-0.06	42.52	0.0176	-0.1213	0.0038	
207	SLU 39	-11.34	-0.05	44.14	0.0184	-0.1264	0.0039	
207	SLU 40	-10.96	-0.06	42.8	0.0172	-0.1213	0.0037	
207	SLU 41	-11.64	-0.06	45.27	0.0191	-0.1303	0.004	
207	SLU 42	-11.26	-0.06	43.93	0.0178	-0.1251	0.0038	
207	SLU 43	-9.57	-0.05	37.25	0.0164	-0.1049	0.0035	
207	SLU 44	-8.92	-0.05	35.02	0.0143	-0.0962	0.0031	
207	SLU 45	-9.96	-0.05	38.74	0.0172	-0.1101	0.0036	
207	SLU 46	-9.57	-0.05	37.4	0.0159	-0.1049	0.0034	
207	SLU 47	-9.22	-0.05	36.15	0.015	-0.1001	0.0033	
207	SLU 48	-10.26	-0.05	39.87	0.0178	-0.114	0.0037	
207	SLU 49	-9.87	-0.05	38.53	0.0166	-0.1088	0.0035	
207	SLU 50	-10.17	-0.05	39.51	0.0178	-0.1126	0.0037	
207	SLU 51	-9.78	-0.05	38.17	0.0165	-0.1074	0.0035	
207	SLU 52	-10.45	-0.06	40.95	0.0164	-0.1141	0.0036	
207	SLU 53	-11.48	-0.06	44.67	0.0193	-0.128	0.0041	
207	SLU 54	-11.1	-0.06	43.33	0.018	-0.1228	0.0039	
207	SLU 55	-10.75	-0.06	42.07	0.0171	-0.118	0.0037	
207	SLU 56	-11.78	-0.06	45.8	0.02	-0.1318	0.0042	
207	SLU 57	-11.4	-0.06	44.46	0.0187	-0.1266	0.004	
207	SLU 58	-11.69	-0.06	45.44	0.0199	-0.1305	0.0042	
207	SLU 59	-11.31	-0.06	44.1	0.0186	-0.1253	0.004	
207	SLU 60	-11.74	-0.06	45.72	0.0194	-0.1304	0.0041	
207	SLU 61	-11.36	-0.06	44.38	0.0182	-0.1252	0.0039	
207	SLU 62	-12.04	-0.06	46.85	0.0201	-0.1343	0.0042	
207	SLU 63	-11.66	-0.06	45.51	0.0189	-0.1291	0.004	
207	SLU 64	-10.99	-0.06	42.81	0.0186	-0.1209	0.0039	
207	SLU 65	-10.35	-0.06	40.57	0.0165	-0.1122	0.0036	
207	SLU 66	-11.39	-0.06	44.3	0.0193	-0.1261	0.0041	
207	SLU 67	-11	-0.06	42.95	0.0181	-0.1209	0.0039	
207	SLU 68	-10.65	-0.06	41.7	0.0172	-0.1161	0.0037	
207	SLU 69	-11.69	-0.06	45.42	0.02	-0.13	0.0042	
207	SLU 70	-11.3	-0.06	44.08	0.0188	-0.1248	0.004	
207	SLU 71	-11.59	-0.06	45.06	0.02	-0.1286	0.0042	
207	SLU 72	-11.21	-0.06	43.72	0.0187	-0.1234	0.004	
207	SLU 73	-11.88	-0.07	46.5	0.0186	-0.1301	0.004	
207	SLU 74	-12.91	-0.06	50.22	0.0215	-0.144	0.0045	
207	SLU 75	-12.53	-0.07	48.88	0.0202	-0.1388	0.0043	
207	SLU 76	-12.18	-0.07	47.63	0.0193	-0.134	0.0042	
207	SLU 77	-13.21	-0.06	51.35	0.0222	-0.1478	0.0046	
207	SLU 78	-12.83	-0.07	50.01	0.0209	-0.1426	0.0044	
207	SLU 79	-13.12	-0.06	50.99	0.0221	-0.1465	0.0046	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
207	SLU 80	-12.73	-0.07	49.65		0.0208	-0.1413	0.0044	
207	SLU 81	-13.17	-0.06	51.28		0.0216	-0.1464	0.0045	
207	SLU 82	-12.79	-0.07	49.93		0.0204	-0.1412	0.0043	
207	SLU 83	-13.47	-0.07	52.4		0.0223	-0.1503	0.0047	
207	SLU 84	-13.09	-0.07	51.06		0.021	-0.1451	0.0045	
207	SLE RA 1	-8.14	-0.04	31.71		0.0138	-0.0895	0.0029	
207	SLE RA 2	-7.71	-0.04	30.22		0.0124	-0.0837	0.0027	
207	SLE RA 3	-8.41	-0.04	32.7		0.0143	-0.093	0.003	
207	SLE RA 4	-8.15	-0.04	31.81		0.0135	-0.0895	0.0029	
207	SLE RA 5	-7.91	-0.04	30.97		0.0129	-0.0863	0.0028	
207	SLE RA 6	-8.6	-0.04	33.45		0.0148	-0.0955	0.0031	
207	SLE RA 7	-8.35	-0.04	32.56		0.0139	-0.0921	0.003	
207	SLE RA 8	-8.54	-0.04	33.21		0.0147	-0.0946	0.0031	
207	SLE RA 9	-8.29	-0.04	32.32		0.0139	-0.0912	0.003	
207	SLE RA 10	-8.73	-0.05	34.17		0.0138	-0.0956	0.003	
207	SLE RA 11	-9.42	-0.05	36.65		0.0157	-0.1049	0.0033	
207	SLE RA 12	-9.16	-0.05	35.76		0.0149	-0.1014	0.0032	
207	SLE RA 13	-8.93	-0.05	34.92		0.0143	-0.0982	0.0031	
207	SLE RA 14	-9.62	-0.05	37.4		0.0162	-0.1074	0.0034	
207	SLE RA 15	-9.36	-0.05	36.51		0.0154	-0.104	0.0033	
207	SLE RA 16	-9.56	-0.05	37.16		0.0161	-0.1065	0.0034	
207	SLE RA 17	-9.3	-0.05	36.27		0.0153	-0.1031	0.0033	
207	SLE RA 18	-9.6	-0.05	37.35		0.0158	-0.1065	0.0033	
207	SLE RA 19	-9.34	-0.05	36.46		0.015	-0.103	0.0032	
207	SLE RA 20	-9.8	-0.05	38.11		0.0163	-0.1091	0.0034	
207	SLE RA 21	-9.54	-0.05	37.21		0.0155	-0.1056	0.0033	
207	SLE FR 1	-8.14	-0.04	31.71		0.0138	-0.0895	0.0029	
207	SLE FR 2	-8.06	-0.04	31.41		0.0135	-0.0883	0.0029	
207	SLE FR 3	-8.22	-0.04	32.01		0.014	-0.0905	0.0029	
207	SLE FR 4	-8.49	-0.04	33.1		0.0141	-0.0934	0.003	
207	SLE FR 5	-8.66	-0.04	33.7		0.0146	-0.0956	0.0031	
207	SLE FR 6	-8.87	-0.04	34.53		0.0148	-0.098	0.0031	
207	SLE QP 1	-8.14	-0.04	31.71		0.0138	-0.0895	0.0029	
207	SLE QP 2	-8.58	-0.04	33.4		0.0144	-0.0946	0.003	
207	SLD 1	-5.83	0.1	23.86		-0.0125	-0.0096	-0.0046	
207	SLD 2	-5.83	0.1	23.86		-0.0125	-0.0096	-0.0046	
207	SLD 3	-6.8	0.23	27.12		0.0004	-0.0282	-0.0009	
207	SLD 4	-6.8	0.23	27.12		0.0004	-0.0282	-0.0009	
207	SLD 5	-6.29	-0.21	25.6		-0.0132	-0.0409	-0.0048	
207	SLD 6	-6.29	-0.21	25.6		-0.0132	-0.0409	-0.0048	
207	SLD 7	-9.51	0.25	36.46		0.0298	-0.1029	0.0074	
207	SLD 8	-9.51	0.25	36.46		0.0298	-0.1029	0.0074	
207	SLD 9	-7.65	-0.33	30.34		-0.0009	-0.0863	-0.0014	
207	SLD 10	-7.65	-0.33	30.34		-0.0009	-0.0863	-0.0014	
207	SLD 11	-10.86	0.12	41.21		0.042	-0.1483	0.0109	
207	SLD 12	-10.86	0.12	41.21		0.042	-0.1483	0.0109	
207	SLD 13	-10.36	-0.32	39.68		0.0284	-0.161	0.007	
207	SLD 14	-10.36	-0.32	39.68		0.0284	-0.161	0.007	
207	SLD 15	-11.33	-0.18	42.94		0.0413	-0.1796	0.0106	
207	SLD 16	-11.33	-0.18	42.94		0.0413	-0.1796	0.0106	
207	SLV 1	-2.13	0.29	10.99		-0.0524	0.1046	-0.0158	
207	SLV 2	-2.13	0.29	10.99		-0.0524	0.1046	-0.0158	
207	SLV 3	-4.42	0.64	18.74		-0.02	0.0606	-0.0065	
207	SLV 4	-4.42	0.64	18.74		-0.02	0.0606	-0.0065	
207	SLV 5	-3.17	-0.47	14.92		-0.0547	0.032	-0.0166	
207	SLV 6	-3.17	-0.47	14.92		-0.0547	0.032	-0.0166	
207	SLV 7	-10.81	0.69	40.76		0.0532	-0.1148	0.0142	
207	SLV 8	-10.81	0.69	40.76		0.0532	-0.1148	0.0142	
207	SLV 9	-6.35	-0.77	26.04		-0.0244	-0.0743	-0.0081	
207	SLV 10	-6.35	-0.77	26.04		-0.0244	-0.0743	-0.0081	
207	SLV 11	-13.99	0.38	51.89		0.0836	-0.2212	0.0227	
207	SLV 12	-13.99	0.38	51.89		0.0836	-0.2212	0.0227	
207	SLV 13	-12.74	-0.73	48.06		0.0488	-0.2498	0.0126	
207	SLV 14	-12.74	-0.73	48.06		0.0488	-0.2498	0.0126	
207	SLV 15	-15.03	-0.38	55.82		0.0812	-0.2938	0.0219	
207	SLV 16	-15.03	-0.38	55.82		0.0812	-0.2938	0.0219	
208	SLU 1	6.52	0.01	27.05		-0.0052	0.113	0.0009	
208	SLU 2	6.64	0.03	27.09		-0.0076	0.1199	0.0014	
208	SLU 3	6.49	0.01	27.34		-0.0054	0.1078	0.0009	
208	SLU 4	6.57	0.02	27.36		-0.0069	0.1119	0.0012	
208	SLU 5	6.59	0.03	27.23		-0.0078	0.1151	0.0014	
208	SLU 6	6.45	0.01	27.49		-0.0056	0.1029	0.001	
208	SLU 7	6.52	0.02	27.5		-0.0071	0.1071	0.0013	
208	SLU 8	6.43	0.01	27.34		-0.0055	0.1033	0.001	
208	SLU 9	6.5	0.02	27.36		-0.007	0.1075	0.0013	
208	SLU 10	7.6	0.03	31.59		-0.0085	0.1304	0.0016	
208	SLU 11	7.46	0.01	31.85		-0.0063	0.1183	0.0011	
208	SLU 12	7.53	0.02	31.87		-0.0078	0.1224	0.0014	
208	SLU 13	7.55	0.03	31.74		-0.0087	0.1256	0.0016	
208	SLU 14	7.41	0.01	31.99		-0.0065	0.1134	0.0011	
208	SLU 15	7.48	0.02	32.01		-0.008	0.1176	0.0014	
208	SLU 16	7.39	0.01	31.85		-0.0065	0.1138	0.0011	
208	SLU 17	7.46	0.02	31.87		-0.0079	0.118	0.0014	
208	SLU 18	7.89	0.01	33.49		-0.0065	0.128	0.0011	
208	SLU 19	7.96	0.02	33.51		-0.008	0.1322	0.0014	
208	SLU 20	7.85	0.01	33.64		-0.0067	0.1232	0.0011	
208	SLU 21	7.92	0.02	33.66		-0.0082	0.1273	0.0015	
208	SLU 22	7.38	0.01	31.15		-0.0061	0.1217	0.001	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
208	SLU 23	7.5	0.03	31.18	-0.0085	0.1286	0.0016		
208	SLU 24	7.36	0.01	31.44	-0.0063	0.1165	0.0011		
208	SLU 25	7.43	0.02	31.46	-0.0078	0.1206	0.0014		
208	SLU 26	7.45	0.03	31.33	-0.0087	0.1238	0.0016		
208	SLU 27	7.31	0.01	31.58	-0.0065	0.1116	0.0011		
208	SLU 28	7.38	0.02	31.6	-0.008	0.1158	0.0014		
208	SLU 29	7.29	0.01	31.44	-0.0065	0.112	0.0011		
208	SLU 30	7.36	0.02	31.46	-0.0079	0.1162	0.0014		
208	SLU 31	8.46	0.03	35.69	-0.0095	0.1391	0.0017		
208	SLU 32	8.32	0.01	35.94	-0.0072	0.127	0.0012		
208	SLU 33	8.39	0.02	35.96	-0.0087	0.1311	0.0015		
208	SLU 34	8.41	0.03	35.83	-0.0097	0.1343	0.0017		
208	SLU 35	8.27	0.02	36.09	-0.0074	0.1221	0.0013		
208	SLU 36	8.34	0.02	36.11	-0.0089	0.1263	0.0016		
208	SLU 37	8.25	0.02	35.95	-0.0074	0.1225	0.0013		
208	SLU 38	8.32	0.02	35.97	-0.0089	0.1267	0.0016		
208	SLU 39	8.75	0.02	37.59	-0.0074	0.1367	0.0013		
208	SLU 40	8.82	0.02	37.61	-0.0089	0.1409	0.0016		
208	SLU 41	8.71	0.02	37.73	-0.0076	0.1319	0.0013		
208	SLU 42	8.78	0.03	37.75	-0.0091	0.136	0.0016		
208	SLU 43	8.18	0.01	33.77	-0.0064	0.1439	0.0011		
208	SLU 44	8.3	0.03	33.8	-0.0088	0.1509	0.0016		
208	SLU 45	8.15	0.01	34.05	-0.0066	0.1387	0.0011		
208	SLU 46	8.23	0.02	34.07	-0.0081	0.1428	0.0014		
208	SLU 47	8.25	0.03	33.94	-0.009	0.146	0.0016		
208	SLU 48	8.11	0.01	34.2	-0.0068	0.1338	0.0012		
208	SLU 49	8.18	0.02	34.22	-0.0083	0.138	0.0015		
208	SLU 50	8.09	0.01	34.06	-0.0068	0.1343	0.0012		
208	SLU 51	8.16	0.02	34.07	-0.0083	0.1384	0.0015		
208	SLU 52	9.26	0.03	38.31	-0.0098	0.1614	0.0018		
208	SLU 53	9.12	0.02	38.56	-0.0076	0.1492	0.0013		
208	SLU 54	9.19	0.03	38.58	-0.009	0.1533	0.0016		
208	SLU 55	9.21	0.03	38.45	-0.01	0.1565	0.0018		
208	SLU 56	9.07	0.02	38.7	-0.0077	0.1443	0.0013		
208	SLU 57	9.14	0.03	38.72	-0.0092	0.1485	0.0016		
208	SLU 58	9.05	0.02	38.56	-0.0077	0.1448	0.0013		
208	SLU 59	9.12	0.03	38.58	-0.0092	0.1489	0.0016		
208	SLU 60	9.55	0.02	40.21	-0.0077	0.1589	0.0013		
208	SLU 61	9.62	0.03	40.22	-0.0092	0.1631	0.0016		
208	SLU 62	9.51	0.02	40.35	-0.0079	0.1541	0.0014		
208	SLU 63	9.58	0.03	40.37	-0.0094	0.1583	0.0017		
208	SLU 64	9.04	0.02	37.86	-0.0073	0.1526	0.0013		
208	SLU 65	9.16	0.03	37.89	-0.0098	0.1596	0.0018		
208	SLU 66	9.02	0.02	38.15	-0.0075	0.1474	0.0013		
208	SLU 67	9.09	0.03	38.17	-0.009	0.1515	0.0016		
208	SLU 68	9.11	0.03	38.04	-0.01	0.1547	0.0018		
208	SLU 69	8.97	0.02	38.29	-0.0077	0.1425	0.0013		
208	SLU 70	9.04	0.03	38.31	-0.0092	0.1467	0.0016		
208	SLU 71	8.95	0.02	38.15	-0.0077	0.143	0.0013		
208	SLU 72	9.02	0.03	38.17	-0.0092	0.1471	0.0016		
208	SLU 73	10.12	0.03	42.4	-0.0107	0.1701	0.0019		
208	SLU 74	9.98	0.02	42.66	-0.0085	0.1579	0.0015		
208	SLU 75	10.05	0.03	42.68	-0.0099	0.162	0.0018		
208	SLU 76	10.07	0.03	42.55	-0.0109	0.1652	0.002		
208	SLU 77	9.93	0.02	42.8	-0.0087	0.153	0.0015		
208	SLU 78	10	0.03	42.82	-0.0101	0.1572	0.0018		
208	SLU 79	9.91	0.02	42.66	-0.0086	0.1535	0.0015		
208	SLU 80	9.98	0.03	42.68	-0.0101	0.1576	0.0018		
208	SLU 81	10.41	0.02	44.3	-0.0086	0.1676	0.0015		
208	SLU 82	10.48	0.03	44.32	-0.0101	0.1718	0.0018		
208	SLU 83	10.37	0.02	44.45	-0.0088	0.1628	0.0015		
208	SLU 84	10.44	0.03	44.47	-0.0103	0.167	0.0018		
208	SLE RA 1	6.76	0.01	28.22	-0.0054	0.1155	0.0009		
208	SLE RA 2	6.84	0.02	28.25	-0.0071	0.1201	0.0013		
208	SLE RA 3	6.75	0.01	28.41	-0.0056	0.112	0.001		
208	SLE RA 4	6.8	0.02	28.43	-0.0066	0.1148	0.0012		
208	SLE RA 5	6.81	0.02	28.34	-0.0072	0.1169	0.0013		
208	SLE RA 6	6.72	0.01	28.51	-0.0057	0.1088	0.001		
208	SLE RA 7	6.77	0.02	28.52	-0.0067	0.1115	0.0012		
208	SLE RA 8	6.7	0.01	28.42	-0.0057	0.109	0.001		
208	SLE RA 9	6.75	0.02	28.43	-0.0067	0.1118	0.0012		
208	SLE RA 10	7.48	0.02	31.25	-0.0077	0.1271	0.0014		
208	SLE RA 11	7.39	0.01	31.42	-0.0062	0.119	0.0011		
208	SLE RA 12	7.44	0.02	31.43	-0.0072	0.1218	0.0013		
208	SLE RA 13	7.45	0.02	31.35	-0.0078	0.1239	0.0014		
208	SLE RA 14	7.36	0.01	31.52	-0.0063	0.1158	0.0011		
208	SLE RA 15	7.41	0.02	31.53	-0.0073	0.1185	0.0013		
208	SLE RA 16	7.35	0.01	31.42	-0.0063	0.116	0.0011		
208	SLE RA 17	7.39	0.02	31.44	-0.0073	0.1188	0.0013		
208	SLE RA 18	7.68	0.01	32.52	-0.0063	0.1255	0.0011		
208	SLE RA 19	7.73	0.02	32.53	-0.0073	0.1283	0.0013		
208	SLE RA 20	7.65	0.01	32.61	-0.0064	0.1223	0.0011		
208	SLE RA 21	7.7	0.02	32.63	-0.0074	0.125	0.0013		
208	SLE FR 1	6.76	0.01	28.22	-0.0054	0.1155	0.0009		
208	SLE FR 2	6.78	0.01	28.23	-0.0057	0.1164	0.001		
208	SLE FR 3	6.75	0.01	28.26	-0.0055	0.1142	0.0009		
208	SLE FR 4	7.05	0.01	29.52	-0.006	0.1194	0.001		
208	SLE FR 5	7.03	0.01	29.55	-0.0057	0.1172	0.001		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
208	SLE FR 6	7.22	0.01	30.37	-0.0059	0.1205	0.001
208	SLE QP 1	6.76	0.01	28.22	-0.0054	0.1155	0.0009
208	SLE QP 2	7.04	0.01	29.51	-0.0057	0.1185	0.001
208	SLD 1	13.53	-0.13	47.85	0.0356	0.3474	-0.0074
208	SLD 2	13.53	-0.13	47.85	0.0356	0.3474	-0.0074
208	SLD 3	13.08	0.33	46.52	-0.0183	0.3325	0.0047
208	SLD 4	13.08	0.33	46.52	-0.0183	0.3325	0.0047
208	SLD 5	9.66	-0.73	37.04	0.0884	0.2097	-0.0198
208	SLD 6	9.66	-0.73	37.04	0.0884	0.2097	-0.0198
208	SLD 7	8.18	0.8	32.59	-0.0912	0.1601	0.0204
208	SLD 8	8.18	0.8	32.59	-0.0912	0.1601	0.0204
208	SLD 9	5.9	-0.78	26.43	0.0798	0.0769	-0.0184
208	SLD 10	5.9	-0.78	26.43	0.0798	0.0769	-0.0184
208	SLD 11	4.42	0.75	21.99	-0.0998	0.0272	0.0218
208	SLD 12	4.42	0.75	21.99	-0.0998	0.0272	0.0218
208	SLD 13	0.99	-0.3	12.51	0.0069	-0.0955	-0.0027
208	SLD 14	0.99	-0.3	12.51	0.0069	-0.0955	-0.0027
208	SLD 15	0.55	0.16	11.17	-0.0469	-0.1104	0.0093
208	SLD 16	0.55	0.16	11.17	-0.0469	-0.1104	0.0093
208	SLV 1	22.24	-0.36	72.51	0.0993	0.6546	-0.0203
208	SLV 2	22.24	-0.36	72.51	0.0993	0.6546	-0.0203
208	SLV 3	21.2	0.81	69.36	-0.0384	0.6195	0.0105
208	SLV 4	21.2	0.81	69.36	-0.0384	0.6195	0.0105
208	SLV 5	13.18	-1.88	47.19	0.2346	0.3327	-0.0522
208	SLV 6	13.18	-1.88	47.19	0.2346	0.3327	-0.0522
208	SLV 7	9.71	2.03	36.69	-0.2243	0.2154	0.0506
208	SLV 8	9.71	2.03	36.69	-0.2243	0.2154	0.0506
208	SLV 9	4.37	-2.01	22.34	0.2129	0.0215	-0.0486
208	SLV 10	4.37	-2.01	22.34	0.2129	0.0215	-0.0486
208	SLV 11	0.9	1.9	11.84	-0.246	-0.0957	0.0541
208	SLV 12	0.9	1.9	11.84	-0.246	-0.0957	0.0541
208	SLV 13	-7.12	-0.79	-10.33	0.027	-0.3825	-0.0086
208	SLV 14	-7.12	-0.79	-10.33	0.027	-0.3825	-0.0086
208	SLV 15	-8.16	0.38	-13.48	-0.1106	-0.4177	0.0223
208	SLV 16	-8.16	0.38	-13.48	-0.1106	-0.4177	0.0223
209	SLU 1	3.2	0.01	49.57	-0.0086	0.1742	-0.0001
209	SLU 2	3.51	0.02	49.26	-0.0098	0.1895	-0.0001
209	SLU 3	3	0.01	50.55	-0.0089	0.1629	-0.0001
209	SLU 4	3.18	0.02	50.36	-0.0097	0.1721	-0.0001
209	SLU 5	3.32	0.02	49.89	-0.0101	0.1793	-0.0001
209	SLU 6	2.8	0.01	51.18	-0.0093	0.1527	-0.0001
209	SLU 7	2.99	0.02	51	-0.01	0.1619	-0.0001
209	SLU 8	2.82	0.01	50.83	-0.0092	0.1538	-0.0001
209	SLU 9	3	0.02	50.65	-0.01	0.1629	-0.0001
209	SLU 10	3.68	0.02	58.07	-0.0114	0.1993	-0.0001
209	SLU 11	3.17	0.02	59.35	-0.0105	0.1727	-0.0001
209	SLU 12	3.35	0.02	59.17	-0.0112	0.1819	-0.0001
209	SLU 13	3.49	0.02	58.7	-0.0117	0.1891	-0.0001
209	SLU 14	2.97	0.02	59.99	-0.0108	0.1625	-0.0001
209	SLU 15	3.16	0.02	59.8	-0.0116	0.1717	-0.0001
209	SLU 16	2.99	0.02	59.64	-0.0108	0.1636	-0.0001
209	SLU 17	3.17	0.02	59.45	-0.0115	0.1727	-0.0001
209	SLU 18	3.45	0.02	62.15	-0.0108	0.1882	-0.0001
209	SLU 19	3.63	0.02	61.96	-0.0115	0.1974	-0.0001
209	SLU 20	3.26	0.02	62.78	-0.0111	0.178	-0.0001
209	SLU 21	3.44	0.02	62.6	-0.0119	0.1872	-0.0001
209	SLU 22	3.33	0.01	57.59	-0.0101	0.1821	-0.0001
209	SLU 23	3.64	0.02	57.29	-0.0113	0.1974	-0.0001
209	SLU 24	3.12	0.02	58.57	-0.0105	0.1708	-0.0001
209	SLU 25	3.31	0.02	58.39	-0.0112	0.18	-0.0001
209	SLU 26	3.44	0.02	57.92	-0.0117	0.1872	-0.0001
209	SLU 27	2.93	0.02	59.2	-0.0108	0.1606	-0.0001
209	SLU 28	3.11	0.02	59.02	-0.0116	0.1698	-0.0001
209	SLU 29	2.95	0.02	58.86	-0.0108	0.1617	-0.0001
209	SLU 30	3.13	0.02	58.67	-0.0115	0.1709	-0.0001
209	SLU 31	3.81	0.02	66.09	-0.0129	0.2072	-0.0001
209	SLU 32	3.29	0.02	67.38	-0.0121	0.1806	-0.0001
209	SLU 33	3.48	0.02	67.19	-0.0128	0.1898	-0.0001
209	SLU 34	3.61	0.02	66.72	-0.0132	0.197	-0.0001
209	SLU 35	3.1	0.02	68.01	-0.0124	0.1704	-0.0001
209	SLU 36	3.28	0.02	67.83	-0.0131	0.1796	-0.0001
209	SLU 37	3.12	0.02	67.66	-0.0123	0.1715	-0.0001
209	SLU 38	3.3	0.02	67.48	-0.0131	0.1806	-0.0001
209	SLU 39	3.58	0.02	70.17	-0.0123	0.1961	-0.0001
209	SLU 40	3.76	0.02	69.99	-0.0131	0.2053	-0.0001
209	SLU 41	3.38	0.02	70.8	-0.0127	0.1859	-0.0001
209	SLU 42	3.57	0.02	70.62	-0.0134	0.1951	-0.0001
209	SLU 43	4.12	0.02	61.69	-0.0106	0.2238	-0.0001
209	SLU 44	4.42	0.02	61.38	-0.0118	0.239	-0.0001
209	SLU 45	3.91	0.02	62.67	-0.011	0.2125	-0.0001
209	SLU 46	4.09	0.02	62.48	-0.0117	0.2216	-0.0001
209	SLU 47	4.23	0.02	62.01	-0.0122	0.2288	-0.0001
209	SLU 48	3.72	0.02	63.3	-0.0113	0.2022	-0.0001
209	SLU 49	3.9	0.02	63.12	-0.0121	0.2114	-0.0001
209	SLU 50	3.74	0.02	62.95	-0.0113	0.2033	-0.0001
209	SLU 51	3.92	0.02	62.77	-0.012	0.2125	-0.0001
209	SLU 52	4.59	0.02	70.19	-0.0134	0.2488	-0.0001
209	SLU 53	4.08	0.02	71.47	-0.0125	0.2223	-0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
209	SLU 54	4.26	0.02	71.29	-0.0133	0.2314	-0.0001		
209	SLU 55	4.4	0.02	70.82	-0.0137	0.2386	-0.0001		
209	SLU 56	3.89	0.02	72.1	-0.0129	0.212	-0.0001		
209	SLU 57	4.07	0.02	71.92	-0.0136	0.2212	-0.0001		
209	SLU 58	3.91	0.02	71.76	-0.0128	0.2131	-0.0001		
209	SLU 59	4.09	0.02	71.57	-0.0136	0.2223	-0.0001		
209	SLU 60	4.37	0.02	74.27	-0.0128	0.2377	-0.0001		
209	SLU 61	4.55	0.02	74.08	-0.0136	0.2469	-0.0001		
209	SLU 62	4.17	0.02	74.9	-0.0132	0.2275	-0.0001		
209	SLU 63	4.35	0.02	74.71	-0.0139	0.2367	-0.0001		
209	SLU 64	4.25	0.02	69.71	-0.0122	0.2317	-0.0001		
209	SLU 65	4.55	0.02	69.4	-0.0134	0.2469	-0.0001		
209	SLU 66	4.04	0.02	70.69	-0.0125	0.2204	-0.0001		
209	SLU 67	4.22	0.02	70.51	-0.0133	0.2295	-0.0001		
209	SLU 68	4.36	0.02	70.04	-0.0137	0.2367	-0.0001		
209	SLU 69	3.85	0.02	71.32	-0.0129	0.2102	-0.0001		
209	SLU 70	4.03	0.02	71.14	-0.0136	0.2193	-0.0001		
209	SLU 71	3.87	0.02	70.98	-0.0128	0.2112	-0.0001		
209	SLU 72	4.05	0.02	70.79	-0.0136	0.2204	-0.0001		
209	SLU 73	4.72	0.03	78.21	-0.0149	0.2567	-0.0001		
209	SLU 74	4.21	0.02	79.5	-0.0141	0.2302	-0.0001		
209	SLU 75	4.39	0.02	79.31	-0.0148	0.2393	-0.0001		
209	SLU 76	4.53	0.03	78.84	-0.0153	0.2465	-0.0001		
209	SLU 77	4.02	0.02	80.13	-0.0144	0.2199	-0.0001		
209	SLU 78	4.2	0.02	79.94	-0.0152	0.2291	-0.0001		
209	SLU 79	4.04	0.02	79.78	-0.0144	0.221	-0.0001		
209	SLU 80	4.22	0.02	79.6	-0.0151	0.2302	-0.0001		
209	SLU 81	4.49	0.02	82.29	-0.0144	0.2457	-0.0001		
209	SLU 82	4.68	0.02	82.11	-0.0151	0.2548	-0.0001		
209	SLU 83	4.3	0.02	82.92	-0.0147	0.2354	-0.0001		
209	SLU 84	4.48	0.02	82.74	-0.0155	0.2446	-0.0001		
209	SLE RA 1	3.24	0.01	51.86	-0.009	0.1765	-0.0001		
209	SLE RA 2	3.44	0.02	51.66	-0.0098	0.1866	-0.0001		
209	SLE RA 3	3.1	0.01	52.51	-0.0093	0.1689	-0.0001		
209	SLE RA 4	3.22	0.02	52.39	-0.0098	0.175	-0.0001		
209	SLE RA 5	3.32	0.02	52.08	-0.0101	0.1798	-0.0001		
209	SLE RA 6	2.97	0.01	52.94	-0.0095	0.1621	-0.0001		
209	SLE RA 7	3.1	0.02	52.81	-0.01	0.1682	-0.0001		
209	SLE RA 8	2.99	0.01	52.7	-0.0095	0.1628	-0.0001		
209	SLE RA 9	3.11	0.02	52.58	-0.01	0.169	-0.0001		
209	SLE RA 10	3.56	0.02	57.53	-0.0109	0.1932	-0.0001		
209	SLE RA 11	3.22	0.02	58.38	-0.0103	0.1755	-0.0001		
209	SLE RA 12	3.34	0.02	58.26	-0.0108	0.1816	-0.0001		
209	SLE RA 13	3.43	0.02	57.95	-0.0111	0.1864	-0.0001		
209	SLE RA 14	3.09	0.02	58.81	-0.0105	0.1687	-0.0001		
209	SLE RA 15	3.21	0.02	58.68	-0.011	0.1748	-0.0001		
209	SLE RA 16	3.1	0.02	58.57	-0.0105	0.1694	-0.0001		
209	SLE RA 17	3.22	0.02	58.45	-0.011	0.1755	-0.0001		
209	SLE RA 18	3.4	0.02	60.25	-0.0105	0.1858	-0.0001		
209	SLE RA 19	3.52	0.02	60.12	-0.011	0.1919	-0.0001		
209	SLE RA 20	3.28	0.02	60.67	-0.0107	0.179	-0.0001		
209	SLE RA 21	3.4	0.02	60.55	-0.0112	0.1851	-0.0001		
209	SLE FR 1	3.24	0.01	51.86	-0.009	0.1765	-0.0001		
209	SLE FR 2	3.28	0.01	51.82	-0.0092	0.1785	-0.0001		
209	SLE FR 3	3.19	0.01	52.03	-0.0091	0.1737	-0.0001		
209	SLE FR 4	3.33	0.01	54.34	-0.0096	0.1813	-0.0001		
209	SLE FR 5	3.24	0.01	54.55	-0.0095	0.1765	-0.0001		
209	SLE FR 6	3.32	0.01	56.05	-0.0097	0.1811	-0.0001		
209	SLE QP 1	3.24	0.01	51.86	-0.009	0.1765	-0.0001		
209	SLE QP 2	3.29	0.01	54.38	-0.0094	0.1793	-0.0001		
209	SLD 1	10.91	-0.08	74.24	0.0163	0.6255	0.0003		
209	SLD 2	10.91	-0.08	74.24	0.0163	0.6255	0.0003		
209	SLD 3	10.36	0	72.68	0.0394	0.5915	0.0001		
209	SLD 4	10.36	0	72.68	0.0394	0.5915	0.0001		
209	SLD 5	6.41	-0.14	62.7	-0.0366	0.3648	0.0004		
209	SLD 6	6.41	-0.14	62.7	-0.0366	0.3648	0.0004		
209	SLD 7	4.58	0.13	57.5	0.0401	0.2512	-0.0003		
209	SLD 8	4.58	0.13	57.5	0.0401	0.2512	-0.0003		
209	SLD 9	2	-0.1	51.25	-0.059	0.1073	0.0002		
209	SLD 10	2	-0.1	51.25	-0.059	0.1073	0.0002		
209	SLD 11	0.17	0.17	46.05	0.0177	-0.0063	-0.0005		
209	SLD 12	0.17	0.17	46.05	0.0177	-0.0063	-0.0005		
209	SLD 13	-3.78	0.03	36.07	-0.0583	-0.2329	-0.0002		
209	SLD 14	-3.78	0.03	36.07	-0.0583	-0.2329	-0.0002		
209	SLD 15	-4.33	0.11	34.51	-0.0352	-0.267	-0.0005		
209	SLD 16	-4.33	0.11	34.51	-0.0352	-0.267	-0.0005		
209	SLV 1	21.15	-0.23	100.97	0.0583	1.2257	0.0009		
209	SLV 2	21.15	-0.23	100.97	0.0583	1.2257	0.0009		
209	SLV 3	19.85	-0.02	97.27	0.1131	1.1446	0.0004		
209	SLV 4	19.85	-0.02	97.27	0.1131	1.1446	0.0004		
209	SLV 5	10.62	-0.37	73.97	-0.0723	0.6162	0.001		
209	SLV 6	10.62	-0.37	73.97	-0.0723	0.6162	0.001		
209	SLV 7	6.29	0.31	61.63	0.1104	0.3459	-0.0008		
209	SLV 8	6.29	0.31	61.63	0.1104	0.3459	-0.0008		
209	SLV 9	0.29	-0.29	47.12	-0.1293	0.0126	0.0006		
209	SLV 10	0.29	-0.29	47.12	-0.1293	0.0126	0.0006		
209	SLV 11	-4.04	0.4	34.79	0.0534	-0.2576	-0.0012		
209	SLV 12	-4.04	0.4	34.79	0.0534	-0.2576	-0.0012		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
209	SLV 13	-13.27	0.05	11.48	-0.132	-0.7861	-0.0005
209	SLV 14	-13.27	0.05	11.48	-0.132	-0.7861	-0.0005
209	SLV 15	-14.57	0.26	7.78	-0.0772	-0.8672	-0.0011
209	SLV 16	-14.57	0.26	7.78	-0.0772	-0.8672	-0.0011
210	SLU 1	-0.43	0.01	50.69	-0.006	-0.0423	0
210	SLU 2	0.03	0.01	50.28	-0.0032	-0.0217	0
210	SLU 3	-0.84	0.01	51.96	-0.0063	-0.0627	0
210	SLU 4	-0.57	0.01	51.71	-0.0046	-0.0502	0
210	SLU 5	-0.32	0.01	51.13	-0.0035	-0.0385	0
210	SLU 6	-1.19	0.01	52.81	-0.0065	-0.0796	0
210	SLU 7	-0.92	0.01	52.57	-0.0049	-0.0671	0
210	SLU 8	-1.13	0.01	52.39	-0.0065	-0.0761	0
210	SLU 9	-0.85	0.01	52.14	-0.0049	-0.0637	0
210	SLU 10	-0.65	0.01	59.56	-0.0044	-0.0571	0
210	SLU 11	-1.52	0.01	61.24	-0.0074	-0.0981	0
210	SLU 12	-1.24	0.01	60.99	-0.0057	-0.0857	0
210	SLU 13	-1	0.01	60.41	-0.0046	-0.0739	0
210	SLU 14	-1.86	0.01	62.09	-0.0076	-0.115	0
210	SLU 15	-1.59	0.01	61.84	-0.006	-0.1025	0
210	SLU 16	-1.8	0.01	61.67	-0.0076	-0.1115	0
210	SLU 17	-1.53	0.01	61.42	-0.006	-0.0991	0
210	SLU 18	-1.39	0.01	63.94	-0.0076	-0.0929	0
210	SLU 19	-1.12	0.01	63.7	-0.0059	-0.0805	0
210	SLU 20	-1.74	0.01	64.79	-0.0078	-0.1098	0
210	SLU 21	-1.47	0.01	64.55	-0.0062	-0.0974	0
210	SLU 22	-1.08	0.01	59.14	-0.0071	-0.0764	0
210	SLU 23	-0.62	0.01	58.73	-0.0044	-0.0557	0
210	SLU 24	-1.49	0.01	60.41	-0.0074	-0.0967	0
210	SLU 25	-1.22	0.01	60.17	-0.0057	-0.0843	0
210	SLU 26	-0.97	0.01	59.58	-0.0046	-0.0726	0
210	SLU 27	-1.84	0.01	61.26	-0.0077	-0.1136	0
210	SLU 28	-1.57	0.01	61.02	-0.006	-0.1012	0
210	SLU 29	-1.78	0.01	60.84	-0.0076	-0.1101	0
210	SLU 30	-1.5	0.01	60.59	-0.006	-0.0977	0
210	SLU 31	-1.3	0.01	68.01	-0.0055	-0.0911	0
210	SLU 32	-2.17	0.01	69.69	-0.0085	-0.1321	0
210	SLU 33	-1.89	0.01	69.44	-0.0068	-0.1197	0
210	SLU 34	-1.65	0.01	68.86	-0.0057	-0.108	0
210	SLU 35	-2.52	0.01	70.54	-0.0088	-0.149	0
210	SLU 36	-2.24	0.01	70.29	-0.0071	-0.1366	0
210	SLU 37	-2.45	0.01	70.12	-0.0087	-0.1455	0
210	SLU 38	-2.18	0.01	69.87	-0.0071	-0.1331	0
210	SLU 39	-2.04	0.01	72.39	-0.0087	-0.1269	0
210	SLU 40	-1.77	0.01	72.15	-0.007	-0.1145	0
210	SLU 41	-2.39	0.01	73.24	-0.0089	-0.1438	0
210	SLU 42	-2.12	0.01	73	-0.0073	-0.1314	0
210	SLU 43	-0.33	0.01	63	-0.0074	-0.0434	0
210	SLU 44	0.12	0.01	62.59	-0.0047	-0.0227	0
210	SLU 45	-0.75	0.01	64.27	-0.0077	-0.0637	0
210	SLU 46	-0.47	0.01	64.02	-0.006	-0.0513	0
210	SLU 47	-0.23	0.01	63.44	-0.0049	-0.0396	0
210	SLU 48	-1.1	0.01	65.12	-0.0079	-0.0806	0
210	SLU 49	-0.82	0.01	64.87	-0.0063	-0.0682	0
210	SLU 50	-1.03	0.01	64.7	-0.0079	-0.0772	0
210	SLU 51	-0.76	0.01	64.45	-0.0063	-0.0647	0
210	SLU 52	-0.55	0.01	71.87	-0.0058	-0.0581	0
210	SLU 53	-1.42	0.01	73.55	-0.0088	-0.0991	0
210	SLU 54	-1.15	0.01	73.3	-0.0071	-0.0867	0
210	SLU 55	-0.9	0.01	72.72	-0.006	-0.075	0
210	SLU 56	-1.77	0.01	74.4	-0.009	-0.116	0
210	SLU 57	-1.5	0.01	74.15	-0.0074	-0.1036	0
210	SLU 58	-1.71	0.01	73.98	-0.009	-0.1126	0
210	SLU 59	-1.43	0.01	73.73	-0.0074	-0.1002	0
210	SLU 60	-1.3	0.01	76.25	-0.009	-0.094	0
210	SLU 61	-1.02	0.01	76.01	-0.0073	-0.0815	0
210	SLU 62	-1.65	0.01	77.1	-0.0092	-0.1108	0
210	SLU 63	-1.37	0.01	76.86	-0.0076	-0.0984	0
210	SLU 64	-0.99	0.01	71.45	-0.0085	-0.0774	0
210	SLU 65	-0.53	0.01	71.04	-0.0058	-0.0567	0
210	SLU 66	-1.4	0.01	72.72	-0.0088	-0.0977	0
210	SLU 67	-1.13	0.01	72.47	-0.0072	-0.0853	0
210	SLU 68	-0.88	0.01	71.89	-0.006	-0.0736	0
210	SLU 69	-1.75	0.01	73.57	-0.0091	-0.1146	0
210	SLU 70	-1.47	0.01	73.32	-0.0074	-0.1022	0
210	SLU 71	-1.68	0.01	73.15	-0.009	-0.1112	0
210	SLU 72	-1.41	0.01	72.9	-0.0074	-0.0988	0
210	SLU 73	-1.2	0.01	80.32	-0.0069	-0.0921	0
210	SLU 74	-2.07	0.01	82	-0.0099	-0.1331	0
210	SLU 75	-1.8	0.01	81.75	-0.0083	-0.1207	0
210	SLU 76	-1.55	0.01	81.17	-0.0071	-0.109	0
210	SLU 77	-2.42	0.01	82.85	-0.0102	-0.15	0
210	SLU 78	-2.15	0.01	82.6	-0.0085	-0.1376	0
210	SLU 79	-2.36	0.01	82.43	-0.0101	-0.1466	0
210	SLU 80	-2.08	0.01	82.18	-0.0085	-0.1342	0
210	SLU 81	-1.95	0.01	84.7	-0.0101	-0.128	0
210	SLU 82	-1.68	0.01	84.46	-0.0085	-0.1156	0
210	SLU 83	-2.3	0.01	85.55	-0.0104	-0.1449	0
210	SLU 84	-2.02	0.01	85.31	-0.0087	-0.1325	0





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
210	SLE RA 1	-0.61	0.01	53.1	-0.0063	-0.0521	0
210	SLE RA 2	-0.31	0.01	52.83	-0.0045	-0.0383	0
210	SLE RA 3	-0.89	0.01	53.95	-0.0065	-0.0656	0
210	SLE RA 4	-0.71	0.01	53.79	-0.0054	-0.0573	0
210	SLE RA 5	-0.54	0.01	53.4	-0.0047	-0.0495	0
210	SLE RA 6	-1.12	0.01	54.52	-0.0067	-0.0769	0
210	SLE RA 7	-0.94	0.01	54.35	-0.0056	-0.0686	0
210	SLE RA 8	-1.08	0.01	54.24	-0.0067	-0.0746	0
210	SLE RA 9	-0.9	0.01	54.07	-0.0056	-0.0663	0
210	SLE RA 10	-0.76	0.01	59.02	-0.0052	-0.0619	0
210	SLE RA 11	-1.34	0.01	60.14	-0.0072	-0.0892	0
210	SLE RA 12	-1.16	0.01	59.97	-0.0061	-0.0809	0
210	SLE RA 13	-0.99	0.01	59.58	-0.0054	-0.0731	0
210	SLE RA 14	-1.57	0.01	60.7	-0.0074	-0.1005	0
210	SLE RA 15	-1.39	0.01	60.54	-0.0063	-0.0922	0
210	SLE RA 16	-1.53	0.01	60.42	-0.0074	-0.0982	0
210	SLE RA 17	-1.35	0.01	60.26	-0.0063	-0.0899	0
210	SLE RA 18	-1.26	0.01	61.94	-0.0074	-0.0858	0
210	SLE RA 19	-1.07	0.01	61.78	-0.0063	-0.0775	0
210	SLE RA 20	-1.49	0.01	62.51	-0.0075	-0.097	0
210	SLE RA 21	-1.31	0.01	62.34	-0.0064	-0.0888	0
210	SLE FR 1	-0.61	0.01	53.1	-0.0063	-0.0521	0
210	SLE FR 2	-0.55	0.01	53.05	-0.0059	-0.0493	0
210	SLE FR 3	-0.71	0.01	53.33	-0.0064	-0.0566	0
210	SLE FR 4	-0.75	0.01	55.7	-0.0063	-0.0594	0
210	SLE FR 5	-0.9	0.01	55.98	-0.0067	-0.0667	0
210	SLE FR 6	-0.94	0.01	57.52	-0.0068	-0.0689	0
210	SLE QP 1	-0.61	0.01	53.1	-0.0063	-0.0521	0
210	SLE QP 2	-0.81	0.01	55.75	-0.0066	-0.0622	0
210	SLD 1	8.66	0	65.66	-0.0184	0.4006	-0.0001
210	SLD 2	8.66	0	65.66	-0.0184	0.4006	-0.0001
210	SLD 3	7.98	-0.12	64.7	0.1076	0.3684	0.0005
210	SLD 4	7.98	-0.12	64.7	0.1076	0.3684	0.0005
210	SLD 5	3.06	0.18	60.17	-0.2013	0.1255	-0.0009
210	SLD 6	3.06	0.18	60.17	-0.2013	0.1255	-0.0009
210	SLD 7	0.8	-0.21	56.99	0.2188	0.0182	0.001
210	SLD 8	0.8	-0.21	56.99	0.2188	0.0182	0.001
210	SLD 9	-2.42	0.22	54.52	-0.2321	-0.1426	-0.001
210	SLD 10	-2.42	0.22	54.52	-0.2321	-0.1426	-0.001
210	SLD 11	-4.67	-0.17	51.33	0.1881	-0.2498	0.0008
210	SLD 12	-4.67	-0.17	51.33	0.1881	-0.2498	0.0008
210	SLD 13	-9.59	0.13	46.81	-0.1209	-0.4928	-0.0005
210	SLD 14	-9.59	0.13	46.81	-0.1209	-0.4928	-0.0005
210	SLD 15	-10.27	0.01	45.85	0.0052	-0.525	0
210	SLD 16	-10.27	0.01	45.85	0.0052	-0.525	0
210	SLV 1	21.36	-0.02	79.03	-0.0366	1.0219	-0.0001
210	SLV 2	21.36	-0.02	79.03	-0.0366	1.0219	-0.0001
210	SLV 3	19.76	-0.32	76.73	0.2857	0.9455	0.0012
210	SLV 4	19.76	-0.32	76.73	0.2857	0.9455	0.0012
210	SLV 5	8.28	0.46	66.23	-0.5045	0.3789	-0.0022
210	SLV 6	8.28	0.46	66.23	-0.5045	0.3789	-0.0022
210	SLV 7	2.92	-0.55	58.55	0.5699	0.1242	0.0025
210	SLV 8	2.92	-0.55	58.55	0.5699	0.1242	0.0025
210	SLV 9	-4.54	0.56	52.96	-0.5832	-0.2486	-0.0025
210	SLV 10	-4.54	0.56	52.96	-0.5832	-0.2486	-0.0025
210	SLV 11	-9.9	-0.45	45.28	0.4912	-0.5033	0.0021
210	SLV 12	-9.9	-0.45	45.28	0.4912	-0.5033	0.0021
210	SLV 13	-21.37	0.33	34.78	-0.299	-1.0698	-0.0013
210	SLV 14	-21.37	0.33	34.78	-0.299	-1.0698	-0.0013
210	SLV 15	-22.98	0.03	32.48	0.0234	-1.1463	0.0001
210	SLV 16	-22.98	0.03	32.48	0.0234	-1.1463	0.0001
211	SLU 1	-2.65	0	51.42	-0.004	-0.1104	0
211	SLU 2	-2.14	0	51.13	0.0019	-0.0885	0
211	SLU 3	-3.16	0	52.77	-0.0042	-0.133	0
211	SLU 4	-2.85	0	52.59	-0.0006	-0.1199	0
211	SLU 5	-2.56	0	52.02	0.0017	-0.1069	0
211	SLU 6	-3.57	0	53.66	-0.0044	-0.1515	0
211	SLU 7	-3.27	0	53.48	-0.0008	-0.1383	0
211	SLU 8	-3.48	0	53.2	-0.0044	-0.1473	0
211	SLU 9	-3.18	0	53.02	-0.0008	-0.1341	0
211	SLU 10	-3.32	0	60.54	0.0012	-0.1398	0
211	SLU 11	-4.34	0	62.18	-0.0049	-0.1844	0
211	SLU 12	-4.04	0	62	-0.0014	-0.1712	0
211	SLU 13	-3.74	0	61.43	0.001	-0.1583	0
211	SLU 14	-4.76	0	63.07	-0.0051	-0.2028	0
211	SLU 15	-4.45	0	62.89	-0.0016	-0.1896	0
211	SLU 16	-4.67	0	62.61	-0.0051	-0.1986	0
211	SLU 17	-4.36	0	62.44	-0.0016	-0.1855	0
211	SLU 18	-4.34	0	64.87	-0.005	-0.1837	0
211	SLU 19	-4.03	0	64.69	-0.0015	-0.1706	0
211	SLU 20	-4.76	0	65.76	-0.0052	-0.2022	0
211	SLU 21	-4.45	0	65.58	-0.0017	-0.189	0
211	SLU 22	-3.75	0	59.98	-0.0048	-0.1582	0
211	SLU 23	-3.24	0	59.68	0.0011	-0.1362	0
211	SLU 24	-4.26	0	61.32	-0.005	-0.1808	0
211	SLU 25	-3.96	0	61.14	-0.0014	-0.1676	0
211	SLU 26	-3.66	0	60.57	0.0009	-0.1547	0
211	SLU 27	-4.68	0	62.21	-0.0052	-0.1992	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
211	SLU 28	-4.37	0	62.03		-0.0016	-0.186	0	
211	SLU 29	-4.59	0	61.75		-0.0052	-0.195	0	
211	SLU 30	-4.28	0	61.58		-0.0016	-0.1819	0	
211	SLU 31	-4.43	0	69.09		0.0004	-0.1876	0	
211	SLU 32	-5.45	0	70.73		-0.0057	-0.2321	0	
211	SLU 33	-5.14	0	70.56		-0.0022	-0.2189	0	
211	SLU 34	-4.85	0	69.98		0.0002	-0.206	0	
211	SLU 35	-5.87	0	71.62		-0.0059	-0.2505	0	
211	SLU 36	-5.56	0	71.44		-0.0024	-0.2374	0	
211	SLU 37	-5.77	0	71.16		-0.0059	-0.2463	0	
211	SLU 38	-5.47	0	70.99		-0.0024	-0.2332	0	
211	SLU 39	-5.45	0	73.42		-0.0058	-0.2315	0	
211	SLU 40	-5.14	0	73.25		-0.0023	-0.2183	0	
211	SLU 41	-5.86	0	74.31		-0.006	-0.2499	0	
211	SLU 42	-5.56	0	74.13		-0.0025	-0.2368	0	
211	SLU 43	-3.06	0	63.92		-0.0049	-0.1272	0	
211	SLU 44	-2.55	0	63.63		0.001	-0.1053	0	
211	SLU 45	-3.57	0	65.27		-0.0051	-0.1498	0	
211	SLU 46	-3.27	0	65.09		-0.0016	-0.1366	0	
211	SLU 47	-2.97	0	64.51		0.0008	-0.1237	0	
211	SLU 48	-3.99	0	66.15		-0.0053	-0.1682	0	
211	SLU 49	-3.68	0	65.98		-0.0018	-0.1551	0	
211	SLU 50	-3.89	0	65.7		-0.0053	-0.164	0	
211	SLU 51	-3.59	0	65.52		-0.0018	-0.1509	0	
211	SLU 52	-3.74	0	73.04		0.0002	-0.1566	0	
211	SLU 53	-4.76	0	74.68		-0.0058	-0.2011	0	
211	SLU 54	-4.45	0	74.5		-0.0023	-0.188	0	
211	SLU 55	-4.16	0	73.93		0	-0.175	0	
211	SLU 56	-5.17	0	75.57		-0.006	-0.2195	0	
211	SLU 57	-4.87	0	75.39		-0.0025	-0.2064	0	
211	SLU 58	-5.08	0	75.11		-0.006	-0.2154	0	
211	SLU 59	-4.78	0	74.93		-0.0025	-0.2022	0	
211	SLU 60	-4.75	0	77.37		-0.006	-0.2005	0	
211	SLU 61	-4.45	0	77.19		-0.0024	-0.1873	0	
211	SLU 62	-5.17	0	78.25		-0.0062	-0.2189	0	
211	SLU 63	-4.87	0	78.08		-0.0026	-0.2058	0	
211	SLU 64	-4.17	0	72.47		-0.0057	-0.1749	0	
211	SLU 65	-3.66	0	72.18		0.0002	-0.153	0	
211	SLU 66	-4.68	0	73.82		-0.0059	-0.1975	0	
211	SLU 67	-4.37	0	73.64		-0.0024	-0.1844	0	
211	SLU 68	-4.08	0	73.07		0	-0.1714	0	
211	SLU 69	-5.09	0	74.7		-0.0061	-0.216	0	
211	SLU 70	-4.79	0	74.53		-0.0025	-0.2028	0	
211	SLU 71	-5	0	74.25		-0.0061	-0.2118	0	
211	SLU 72	-4.7	0	74.07		-0.0025	-0.1986	0	
211	SLU 73	-4.84	0	81.59		-0.0006	-0.2043	0	
211	SLU 74	-5.86	0.01	83.23		-0.0066	-0.2489	0	
211	SLU 75	-5.56	0	83.05		-0.0031	-0.2357	0	
211	SLU 76	-5.26	0	82.48		-0.0007	-0.2228	0	
211	SLU 77	-6.28	0.01	84.12		-0.0068	-0.2673	0	
211	SLU 78	-5.97	0	83.94		-0.0033	-0.2541	0	
211	SLU 79	-6.19	0.01	83.66		-0.0068	-0.2631	0	
211	SLU 80	-5.88	0	83.48		-0.0033	-0.25	0	
211	SLU 81	-5.86	0.01	85.92		-0.0068	-0.2482	0	
211	SLU 82	-5.56	0	85.74		-0.0032	-0.2351	0	
211	SLU 83	-6.28	0.01	86.81		-0.0069	-0.2667	0	
211	SLU 84	-5.97	0	86.63		-0.0034	-0.2535	0	
211	SLE RA 1	-2.96	0	53.87		-0.0042	-0.1241	0	
211	SLE RA 2	-2.62	0	53.67		-0.0003	-0.1094	0	
211	SLE RA 3	-3.3	0	54.76		-0.0043	-0.1391	0	
211	SLE RA 4	-3.1	0	54.65		-0.002	-0.1304	0	
211	SLE RA 5	-2.9	0	54.26		-0.0004	-0.1217	0	
211	SLE RA 6	-3.58	0	55.36		-0.0045	-0.1514	0	
211	SLE RA 7	-3.38	0	55.24		-0.0021	-0.1426	0	
211	SLE RA 8	-3.52	0	55.05		-0.0045	-0.1486	0	
211	SLE RA 9	-3.32	0	54.93		-0.0021	-0.1399	0	
211	SLE RA 10	-3.41	0	59.95		-0.0008	-0.1437	0	
211	SLE RA 11	-4.09	0	61.04		-0.0048	-0.1733	0	
211	SLE RA 12	-3.89	0	60.92		-0.0025	-0.1646	0	
211	SLE RA 13	-3.69	0	60.54		-0.0009	-0.1559	0	
211	SLE RA 14	-4.37	0	61.63		-0.005	-0.1856	0	
211	SLE RA 15	-4.17	0	61.51		-0.0026	-0.1769	0	
211	SLE RA 16	-4.31	0	61.33		-0.005	-0.1829	0	
211	SLE RA 17	-4.11	0	61.21		-0.0026	-0.1741	0	
211	SLE RA 18	-4.09	0	62.83		-0.0049	-0.1729	0	
211	SLE RA 19	-3.89	0	62.71		-0.0026	-0.1642	0	
211	SLE RA 20	-4.37	0	63.42		-0.005	-0.1852	0	
211	SLE RA 21	-4.17	0	63.31		-0.0027	-0.1765	0	
211	SLE FR 1	-2.96	0	53.87		-0.0042	-0.1241	0	
211	SLE FR 2	-2.89	0	53.83		-0.0034	-0.1211	0	
211	SLE FR 3	-3.07	0	54.1		-0.0043	-0.129	0	
211	SLE FR 4	-3.23	0	56.52		-0.0036	-0.1358	0	
211	SLE FR 5	-3.41	0	56.79		-0.0045	-0.1436	0	
211	SLE FR 6	-3.53	0	58.35		-0.0046	-0.1485	0	
211	SLE QP 1	-2.96	0	53.87		-0.0042	-0.1241	0	
211	SLE QP 2	-3.3	0	56.56		-0.0044	-0.1387	0	
211	SLD 1	7.14	0.03	61.34		-0.05	0.3507	-0.0001	
211	SLD 2	7.14	0.03	61.34		-0.05	0.3507	-0.0001	



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
211	SLD 3	6.34	-0.16	62.03	0.1593	0.3127	0.0007
211	SLD 4	6.34	-0.16	62.03	0.1593	0.3127	0.0007
211	SLD 5	1.04	0.31	56.95	-0.3355	0.0659	-0.0013
211	SLD 6	1.04	0.31	56.95	-0.3355	0.0659	-0.0013
211	SLD 7	-1.61	-0.34	59.25	0.3622	-0.0611	0.0015
211	SLD 8	-1.61	-0.34	59.25	0.3622	-0.0611	0.0015
211	SLD 9	-4.99	0.35	53.87	-0.371	-0.2164	-0.0015
211	SLD 10	-4.99	0.35	53.87	-0.371	-0.2164	-0.0015
211	SLD 11	-7.64	-0.3	56.17	0.3267	-0.3433	0.0013
211	SLD 12	-7.64	-0.3	56.17	0.3267	-0.3433	0.0013
211	SLD 13	-12.94	0.17	51.08	-0.1681	-0.5901	-0.0008
211	SLD 14	-12.94	0.17	51.08	-0.1681	-0.5901	-0.0008
211	SLD 15	-13.74	-0.02	51.77	0.0412	-0.6282	0.0001
211	SLD 16	-13.74	-0.02	51.77	0.0412	-0.6282	0.0001
211	SLV 1	21.16	0.07	67.78	-0.121	1.0086	-0.0003
211	SLV 2	21.16	0.07	67.78	-0.121	1.0086	-0.0003
211	SLV 3	19.27	-0.42	69.47	0.415	0.9178	0.0019
211	SLV 4	19.27	-0.42	69.47	0.415	0.9178	0.0019
211	SLV 5	6.91	0.78	57.37	-0.8523	0.3432	-0.0034
211	SLV 6	6.91	0.78	57.37	-0.8523	0.3432	-0.0034
211	SLV 7	0.6	-0.88	62.99	0.9343	0.0405	0.0039
211	SLV 8	0.6	-0.88	62.99	0.9343	0.0405	0.0039
211	SLV 9	-7.2	0.89	50.13	-0.9431	-0.318	-0.0039
211	SLV 10	-7.2	0.89	50.13	-0.9431	-0.318	-0.0039
211	SLV 11	-13.51	-0.77	55.75	0.8435	-0.6206	0.0034
211	SLV 12	-13.51	-0.77	55.75	0.8435	-0.6206	0.0034
211	SLV 13	-25.87	0.43	43.65	-0.4238	-1.1953	-0.0019
211	SLV 14	-25.87	0.43	43.65	-0.4238	-1.1953	-0.0019
211	SLV 15	-27.76	-0.07	45.33	0.1122	-1.2861	0.0003
211	SLV 16	-27.76	-0.07	45.33	0.1122	-1.2861	0.0003
212	SLU 1	-4.32	0	51.5	-0.0025	-0.1998	0
212	SLU 2	-3.81	0	51.36	0.0063	-0.1782	0
212	SLU 3	-4.89	0	52.85	-0.0026	-0.2251	0
212	SLU 4	-4.58	0	52.77	0.0026	-0.2121	0
212	SLU 5	-4.26	0	52.24	0.0061	-0.1983	0
212	SLU 6	-5.34	0	53.72	-0.0028	-0.2453	0
212	SLU 7	-5.03	0	53.64	0.0025	-0.2323	0
212	SLU 8	-5.22	0	53.25	-0.0028	-0.2401	0
212	SLU 9	-4.92	0	53.17	0.0025	-0.2271	0
212	SLU 10	-5.38	0	60.7	0.0058	-0.2485	0
212	SLU 11	-6.45	0	62.19	-0.0031	-0.2954	0
212	SLU 12	-6.15	0	62.1	0.0021	-0.2824	0
212	SLU 13	-5.83	0	61.57	0.0056	-0.2686	0
212	SLU 14	-6.9	0	63.06	-0.0033	-0.3156	0
212	SLU 15	-6.6	0	62.98	0.002	-0.3026	0
212	SLU 16	-6.79	0	62.58	-0.0033	-0.3104	0
212	SLU 17	-6.49	0	62.5	0.002	-0.2974	0
212	SLU 18	-6.56	0	64.84	-0.0032	-0.3003	0
212	SLU 19	-6.25	0	64.75	0.0021	-0.2873	0
212	SLU 20	-7.01	0	65.71	-0.0033	-0.3204	0
212	SLU 21	-6.7	0	65.63	0.0019	-0.3074	0
212	SLU 22	-5.76	0	59.97	-0.003	-0.2646	0
212	SLU 23	-5.25	0	59.83	0.0057	-0.2429	0
212	SLU 24	-6.33	0	61.32	-0.0032	-0.2899	0
212	SLU 25	-6.02	0	61.24	0.0021	-0.2769	0
212	SLU 26	-5.71	0	60.71	0.0056	-0.2631	0
212	SLU 27	-6.78	0	62.19	-0.0033	-0.31	0
212	SLU 28	-6.47	0	62.11	0.0019	-0.297	0
212	SLU 29	-6.66	0	61.72	-0.0033	-0.3049	0
212	SLU 30	-6.36	0	61.64	0.0019	-0.2919	0
212	SLU 31	-6.82	0	69.17	0.0052	-0.3132	0
212	SLU 32	-7.89	0	70.66	-0.0036	-0.3602	0
212	SLU 33	-7.59	0	70.57	0.0016	-0.3472	0
212	SLU 34	-7.27	0	70.04	0.0051	-0.3334	0
212	SLU 35	-8.34	0	71.53	-0.0038	-0.3803	0
212	SLU 36	-8.04	0	71.45	0.0014	-0.3673	0
212	SLU 37	-8.23	0	71.05	-0.0038	-0.3752	0
212	SLU 38	-7.93	0	70.97	0.0014	-0.3622	0
212	SLU 39	-8	0	73.31	-0.0037	-0.365	0
212	SLU 40	-7.69	0	73.22	0.0015	-0.352	0
212	SLU 41	-8.45	0	74.18	-0.0039	-0.3852	0
212	SLU 42	-8.14	0	74.1	0.0014	-0.3722	0
212	SLU 43	-5.12	0	64.05	-0.003	-0.2376	0
212	SLU 44	-4.62	0	63.91	0.0057	-0.2159	0
212	SLU 45	-5.69	0	65.4	-0.0032	-0.2629	0
212	SLU 46	-5.38	0	65.32	0.0021	-0.2499	0
212	SLU 47	-5.07	0	64.78	0.0055	-0.2361	0
212	SLU 48	-6.14	0	66.27	-0.0033	-0.283	0
212	SLU 49	-5.83	0	66.19	0.0019	-0.27	0
212	SLU 50	-6.03	0	65.8	-0.0033	-0.2779	0
212	SLU 51	-5.72	0	65.71	0.0019	-0.2649	0
212	SLU 52	-6.18	0	73.25	0.0052	-0.2862	0
212	SLU 53	-7.25	0	74.73	-0.0037	-0.3332	0
212	SLU 54	-6.95	0	74.65	0.0016	-0.3202	0
212	SLU 55	-6.63	0	74.12	0.0051	-0.3064	0
212	SLU 56	-7.7	0	75.61	-0.0038	-0.3533	0
212	SLU 57	-7.4	0	75.52	0.0014	-0.3403	0
212	SLU 58	-7.59	0	75.13	-0.0038	-0.3482	0



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
212	SLU 59	-7.29	0	75.05	0.0014	-0.3352	0
212	SLU 60	-7.36	0	77.38	-0.0037	-0.338	0
212	SLU 61	-7.06	0	77.3	0.0015	-0.325	0
212	SLU 62	-7.81	0	78.26	-0.0039	-0.3582	0
212	SLU 63	-7.51	0	78.17	0.0014	-0.3452	0
212	SLU 64	-6.56	0	72.52	-0.0036	-0.3023	0
212	SLU 65	-6.06	0	72.38	0.0052	-0.2807	0
212	SLU 66	-7.13	0	73.87	-0.0037	-0.3276	0
212	SLU 67	-6.82	0	73.78	0.0015	-0.3146	0
212	SLU 68	-6.51	0	73.25	0.005	-0.3008	0
212	SLU 69	-7.58	0	74.74	-0.0039	-0.3478	0
212	SLU 70	-7.27	0	74.66	0.0014	-0.3348	0
212	SLU 71	-7.47	0	74.27	-0.0039	-0.3426	0
212	SLU 72	-7.16	0	74.18	0.0014	-0.3296	0
212	SLU 73	-7.62	0	81.71	0.0047	-0.351	0
212	SLU 74	-8.69	0	83.2	-0.0042	-0.3979	0
212	SLU 75	-8.39	0	83.12	0.001	-0.3849	0
212	SLU 76	-8.07	0	82.59	0.0045	-0.3711	0
212	SLU 77	-9.14	0	84.08	-0.0044	-0.4181	0
212	SLU 78	-8.84	0	83.99	0.0009	-0.4051	0
212	SLU 79	-9.03	0	83.6	-0.0044	-0.4129	0
212	SLU 80	-8.73	0	83.52	0.0009	-0.3999	0
212	SLU 81	-8.8	0	85.85	-0.0043	-0.4028	0
212	SLU 82	-8.5	0	85.77	0.001	-0.3898	0
212	SLU 83	-9.25	0	86.73	-0.0044	-0.4229	0
212	SLU 84	-8.95	0	86.64	0.0008	-0.4099	0
212	SLE RA 1	-4.73	0	53.92	-0.0026	-0.2183	0
212	SLE RA 2	-4.39	0	53.83	0.0032	-0.2039	0
212	SLE RA 3	-5.11	0	54.82	-0.0027	-0.2352	0
212	SLE RA 4	-4.91	0	54.77	0.0008	-0.2265	0
212	SLE RA 5	-4.7	0	54.41	0.0031	-0.2173	0
212	SLE RA 6	-5.41	0	55.4	-0.0028	-0.2486	0
212	SLE RA 7	-5.21	0	55.35	0.0007	-0.24	0
212	SLE RA 8	-5.33	0	55.09	-0.0028	-0.2452	0
212	SLE RA 9	-5.13	0	55.03	0.0007	-0.2365	0
212	SLE RA 10	-5.44	0	60.05	0.0029	-0.2508	0
212	SLE RA 11	-6.15	0	61.04	-0.0031	-0.2821	0
212	SLE RA 12	-5.95	0	60.99	0.0004	-0.2734	0
212	SLE RA 13	-5.74	0	60.64	0.0028	-0.2642	0
212	SLE RA 14	-6.45	0	61.63	-0.0032	-0.2955	0
212	SLE RA 15	-6.25	0	61.57	0.0003	-0.2868	0
212	SLE RA 16	-6.38	0	61.31	-0.0032	-0.2921	0
212	SLE RA 17	-6.18	0	61.25	0.0003	-0.2834	0
212	SLE RA 18	-6.22	0	62.81	-0.0031	-0.2853	0
212	SLE RA 19	-6.02	0	62.76	0.0004	-0.2766	0
212	SLE RA 20	-6.52	0	63.39	-0.0032	-0.2987	0
212	SLE RA 21	-6.32	0	63.34	0.0003	-0.2901	0
212	SLE FR 1	-4.73	0	53.92	-0.0026	-0.2183	0
212	SLE FR 2	-4.66	0	53.9	-0.0015	-0.2154	0
212	SLE FR 3	-4.85	0	54.15	-0.0027	-0.2237	0
212	SLE FR 4	-5.11	0	56.57	-0.0016	-0.2355	0
212	SLE FR 5	-5.3	0	56.82	-0.0028	-0.2438	0
212	SLE FR 6	-5.48	0	58.37	-0.0029	-0.2518	0
212	SLE QP 1	-4.73	0	53.92	-0.0026	-0.2183	0
212	SLE QP 2	-5.18	0	56.59	-0.0028	-0.2384	0
212	SLD 1	5.63	0.06	58.91	-0.076	0.251	-0.0003
212	SLD 2	5.63	0.06	58.91	-0.076	0.251	-0.0003
212	SLD 3	4.8	-0.19	59.46	0.1954	0.2142	0.001
212	SLD 4	4.8	-0.19	59.46	0.1954	0.2142	0.001
212	SLD 5	-0.67	0.41	56.46	-0.4364	-0.0358	-0.002
212	SLD 6	-0.67	0.41	56.46	-0.4364	-0.0358	-0.002
212	SLD 7	-3.45	-0.44	58.28	0.4683	-0.1584	0.0022
212	SLD 8	-3.45	-0.44	58.28	0.4683	-0.1584	0.0022
212	SLD 9	-6.91	0.45	54.9	-0.4739	-0.3184	-0.0022
212	SLD 10	-6.91	0.45	54.9	-0.4739	-0.3184	-0.0022
212	SLD 11	-9.69	-0.4	56.72	0.4309	-0.441	0.002
212	SLD 12	-9.69	-0.4	56.72	0.4309	-0.441	0.002
212	SLD 13	-15.16	0.2	53.72	-0.2009	-0.691	-0.001
212	SLD 14	-15.16	0.2	53.72	-0.2009	-0.691	-0.001
212	SLD 15	-15.99	-0.06	54.26	0.0705	-0.7278	0.0003
212	SLD 16	-15.99	-0.06	54.26	0.0705	-0.7278	0.0003
212	SLV 1	20.16	0.16	62.06	-0.1903	0.908	-0.0007
212	SLV 2	20.16	0.16	62.06	-0.1903	0.908	-0.0007
212	SLV 3	18.18	-0.49	63.4	0.5049	0.8207	0.0025
212	SLV 4	18.18	-0.49	63.4	0.5049	0.8207	0.0025
212	SLV 5	5.43	1.04	56.2	-1.1134	0.238	-0.0052
212	SLV 6	5.43	1.04	56.2	-1.1134	0.238	-0.0052
212	SLV 7	-1.18	-1.14	60.66	1.2039	-0.0532	0.0057
212	SLV 8	-1.18	-1.14	60.66	1.2039	-0.0532	0.0057
212	SLV 9	-9.18	1.14	52.51	-1.2094	-0.4236	-0.0057
212	SLV 10	-9.18	1.14	52.51	-1.2094	-0.4236	-0.0057
212	SLV 11	-15.79	-1.04	56.98	1.1079	-0.7149	0.0052
212	SLV 12	-15.79	-1.04	56.98	1.1079	-0.7149	0.0052
212	SLV 13	-28.54	0.5	49.78	-0.5104	-1.2975	-0.0025
212	SLV 14	-28.54	0.5	49.78	-0.5104	-1.2975	-0.0025
212	SLV 15	-30.52	-0.15	51.12	0.1848	-1.3849	0.0007
212	SLV 16	-30.52	-0.15	51.12	0.1848	-1.3849	0.0007
213	SLU 1	-5.24	0	51.38	-0.0013	-0.2254	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
213	SLU 2	-4.76	-0.01	51.4	0.0101	-0.2049	0
213	SLU 3	-5.82	0	52.72	-0.0014	-0.2505	0
213	SLU 4	-5.53	0	52.73	0.0054	-0.2382	0
213	SLU 5	-5.22	-0.01	52.24	0.01	-0.2247	0
213	SLU 6	-6.27	0	53.57	-0.0016	-0.2703	0
213	SLU 7	-5.99	0	53.58	0.0053	-0.258	0
213	SLU 8	-6.15	0	53.08	-0.0016	-0.265	0
213	SLU 9	-5.86	0	53.09	0.0053	-0.2527	0
213	SLU 10	-6.55	-0.01	60.57	0.0098	-0.2818	0
213	SLU 11	-7.61	0	61.89	-0.0017	-0.3275	0
213	SLU 12	-7.32	0	61.9	0.0051	-0.3152	0
213	SLU 13	-7	-0.01	61.42	0.0097	-0.3016	0
213	SLU 14	-8.06	0	62.74	-0.0019	-0.3473	0
213	SLU 15	-7.77	0	62.75	0.005	-0.335	0
213	SLU 16	-7.94	0	62.25	-0.0019	-0.3419	0
213	SLU 17	-7.65	0	62.26	0.005	-0.3296	0
213	SLU 18	-7.8	0	64.49	-0.0018	-0.3353	0
213	SLU 19	-7.51	0	64.49	0.0051	-0.323	0
213	SLU 20	-8.25	0	65.33	-0.0019	-0.3551	0
213	SLU 21	-7.96	0	65.34	0.005	-0.3428	0
213	SLU 22	-6.87	0	59.71	-0.0017	-0.2953	0
213	SLU 23	-6.39	-0.01	59.72	0.0097	-0.2748	0
213	SLU 24	-7.44	0	61.04	-0.0018	-0.3205	0
213	SLU 25	-7.16	0	61.05	0.0051	-0.3082	0
213	SLU 26	-6.84	-0.01	60.57	0.0096	-0.2946	0
213	SLU 27	-7.9	0	61.89	-0.0019	-0.3403	0
213	SLU 28	-7.61	0	61.9	0.005	-0.328	0
213	SLU 29	-7.78	0	61.41	-0.0019	-0.3349	0
213	SLU 30	-7.49	0	61.41	0.0049	-0.3226	0
213	SLU 31	-8.18	-0.01	68.9	0.0094	-0.3518	0
213	SLU 32	-9.23	0	70.22	-0.0021	-0.3975	0
213	SLU 33	-8.94	0	70.23	0.0048	-0.3852	0
213	SLU 34	-8.63	-0.01	69.75	0.0093	-0.3716	0
213	SLU 35	-9.68	0	71.07	-0.0022	-0.4173	0
213	SLU 36	-9.4	0	71.08	0.0047	-0.405	0
213	SLU 37	-9.56	0	70.58	-0.0022	-0.4119	0
213	SLU 38	-9.27	0	70.59	0.0046	-0.3996	0
213	SLU 39	-9.42	0	72.81	-0.0021	-0.4052	0
213	SLU 40	-9.13	0	72.82	0.0047	-0.3929	0
213	SLU 41	-9.87	0	73.66	-0.0022	-0.425	0
213	SLU 42	-9.59	0	73.67	0.0046	-0.4127	0
213	SLU 43	-6.26	0	63.94	-0.0016	-0.269	0
213	SLU 44	-5.78	-0.01	63.95	0.0098	-0.2485	0
213	SLU 45	-6.84	0	65.28	-0.0017	-0.2942	0
213	SLU 46	-6.55	0	65.29	0.0051	-0.2819	0
213	SLU 47	-6.23	-0.01	64.8	0.0097	-0.2683	0
213	SLU 48	-7.29	0	66.13	-0.0018	-0.314	0
213	SLU 49	-7	0	66.13	0.005	-0.3017	0
213	SLU 50	-7.17	0	65.64	-0.0019	-0.3086	0
213	SLU 51	-6.88	0	65.65	0.005	-0.2963	0
213	SLU 52	-7.57	-0.01	73.13	0.0095	-0.3254	0
213	SLU 53	-8.62	0	74.45	-0.002	-0.3711	0
213	SLU 54	-8.33	0	74.46	0.0048	-0.3588	0
213	SLU 55	-8.02	-0.01	73.98	0.0094	-0.3452	0
213	SLU 56	-9.08	0	75.3	-0.0021	-0.3909	0
213	SLU 57	-8.79	0	75.31	0.0047	-0.3786	0
213	SLU 58	-8.95	0	74.81	-0.0022	-0.3855	0
213	SLU 59	-8.67	0	74.82	0.0047	-0.3732	0
213	SLU 60	-8.81	0	77.04	-0.002	-0.3789	0
213	SLU 61	-8.52	0	77.05	0.0048	-0.3666	0
213	SLU 62	-9.27	0	77.89	-0.0022	-0.3987	0
213	SLU 63	-8.98	0	77.9	0.0047	-0.3864	0
213	SLU 64	-7.88	0	72.27	-0.002	-0.3389	0
213	SLU 65	-7.4	-0.01	72.28	0.0095	-0.3184	0
213	SLU 66	-8.46	0	73.6	-0.0021	-0.3641	0
213	SLU 67	-8.17	0	73.61	0.0048	-0.3518	0
213	SLU 68	-7.86	-0.01	73.13	0.0093	-0.3382	0
213	SLU 69	-8.91	0	74.45	-0.0022	-0.3839	0
213	SLU 70	-8.63	0	74.46	0.0047	-0.3716	0
213	SLU 71	-8.79	0	73.96	-0.0022	-0.3785	0
213	SLU 72	-8.5	0	73.97	0.0047	-0.3662	0
213	SLU 73	-9.19	-0.01	81.46	0.0092	-0.3954	0
213	SLU 74	-10.25	0	82.78	-0.0024	-0.4411	0
213	SLU 75	-9.96	0	82.79	0.0045	-0.4288	0
213	SLU 76	-9.65	-0.01	82.3	0.009	-0.4152	0
213	SLU 77	-10.7	0	83.63	-0.0025	-0.4609	0
213	SLU 78	-10.41	0	83.64	0.0044	-0.4486	0
213	SLU 79	-10.58	0	83.14	-0.0025	-0.4555	0
213	SLU 80	-10.29	0	83.15	0.0044	-0.4432	0
213	SLU 81	-10.44	0	85.37	-0.0024	-0.4489	0
213	SLU 82	-10.15	0	85.38	0.0045	-0.4366	0
213	SLU 83	-10.89	0	86.22	-0.0025	-0.4687	0
213	SLU 84	-10.6	0	86.23	0.0043	-0.4564	0
213	SLE RA 1	-5.71	0	53.76	-0.0014	-0.2453	0
213	SLE RA 2	-5.39	0	53.77	0.0062	-0.2317	0
213	SLE RA 3	-6.09	0	54.65	-0.0015	-0.2621	0
213	SLE RA 4	-5.9	0	54.66	0.0031	-0.2539	0
213	SLE RA 5	-5.69	0	54.34	0.0061	-0.2449	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
213	SLE RA 6	-6.39	0	55.22	-0.0016	-0.2753	0	
213	SLE RA 7	-6.2	0	55.22	0.003	-0.2671	0	
213	SLE RA 8	-6.31	0	54.89	-0.0016	-0.2717	0	
213	SLE RA 9	-6.12	0	54.9	0.003	-0.2635	0	
213	SLE RA 10	-6.58	0	59.89	0.006	-0.283	0	
213	SLE RA 11	-7.28	0	60.77	-0.0017	-0.3134	0	
213	SLE RA 12	-7.09	0	60.77	0.0029	-0.3052	0	
213	SLE RA 13	-6.88	0	60.45	0.0059	-0.2962	0	
213	SLE RA 14	-7.59	0	61.33	-0.0018	-0.3266	0	
213	SLE RA 15	-7.39	0	61.34	0.0028	-0.3184	0	
213	SLE RA 16	-7.5	0	61.01	-0.0018	-0.323	0	
213	SLE RA 17	-7.31	0	61.01	0.0028	-0.3148	0	
213	SLE RA 18	-7.41	0	62.5	-0.0017	-0.3186	0	
213	SLE RA 19	-7.22	0	62.5	0.0028	-0.3104	0	
213	SLE RA 20	-7.71	0	63.06	-0.0018	-0.3318	0	
213	SLE RA 21	-7.52	0	63.07	0.0028	-0.3236	0	
213	SLE FR 1	-5.71	0	53.76	-0.0014	-0.2453	0	
213	SLE FR 2	-5.64	0	53.76	0.0001	-0.2426	0	
213	SLE FR 3	-5.83	0	53.99	-0.0015	-0.2506	0	
213	SLE FR 4	-6.15	0	56.38	0	-0.2646	0	
213	SLE FR 5	-6.34	0	56.61	-0.0016	-0.2726	0	
213	SLE FR 6	-6.56	0	58.13	-0.0016	-0.282	0	
213	SLE QP 1	-5.71	0	53.76	-0.0014	-0.2453	0	
213	SLE QP 2	-6.22	0	56.38	-0.0015	-0.2673	0	
213	SLD 1	4.66	0.09	57.27	-0.0951	0.224	-0.0005	
213	SLD 2	4.66	0.09	57.27	-0.0951	0.224	-0.0005	
213	SLD 3	3.79	-0.21	57.73	0.2171	0.1845	0.0011	
213	SLD 4	3.79	-0.21	57.73	0.2171	0.1845	0.0011	
213	SLD 5	-1.63	0.48	55.95	-0.5032	-0.0599	-0.0025	
213	SLD 6	-1.63	0.48	55.95	-0.5032	-0.0599	-0.0025	
213	SLD 7	-4.54	-0.52	57.48	0.5377	-0.1918	0.0027	
213	SLD 8	-4.54	-0.52	57.48	0.5377	-0.1918	0.0027	
213	SLD 9	-7.89	0.52	55.28	-0.5407	-0.3429	-0.0028	
213	SLD 10	-7.89	0.52	55.28	-0.5407	-0.3429	-0.0028	
213	SLD 11	-10.81	-0.48	56.81	0.5002	-0.4747	0.0025	
213	SLD 12	-10.81	-0.48	56.81	0.5002	-0.4747	0.0025	
213	SLD 13	-16.23	0.21	55.03	-0.2202	-0.7191	-0.0011	
213	SLD 14	-16.23	0.21	55.03	-0.2202	-0.7191	-0.0011	
213	SLD 15	-17.1	-0.09	55.49	0.0921	-0.7587	0.0004	
213	SLD 16	-17.1	-0.09	55.49	0.0921	-0.7587	0.0004	
213	SLV 1	19.28	0.22	58.5	-0.2413	0.8842	-0.0012	
213	SLV 2	19.28	0.22	58.5	-0.2413	0.8842	-0.0012	
213	SLV 3	17.2	-0.54	59.63	0.5585	0.7901	0.0029	
213	SLV 4	17.2	-0.54	59.63	0.5585	0.7901	0.0029	
213	SLV 5	4.58	1.23	55.3	-1.2865	0.2208	-0.0065	
213	SLV 6	4.58	1.23	55.3	-1.2865	0.2208	-0.0065	
213	SLV 7	-2.35	-1.32	59.07	1.3795	-0.0928	0.007	
213	SLV 8	-2.35	-1.32	59.07	1.3795	-0.0928	0.007	
213	SLV 9	-10.09	1.32	53.69	-1.3826	-0.4419	-0.007	
213	SLV 10	-10.09	1.32	53.69	-1.3826	-0.4419	-0.007	
213	SLV 11	-17.02	-1.22	57.46	1.2835	-0.7555	0.0065	
213	SLV 12	-17.02	-1.22	57.46	1.2835	-0.7555	0.0065	
213	SLV 13	-29.64	0.54	53.13	-0.5615	-1.3248	-0.0029	
213	SLV 14	-29.64	0.54	53.13	-0.5615	-1.3248	-0.0029	
213	SLV 15	-31.71	-0.22	54.27	0.2383	-1.4189	0.0011	
213	SLV 16	-31.71	-0.22	54.27	0.2383	-1.4189	0.0011	
214	SLU 1	-6.22	0	51.31	-0.0005	-0.2773	0	
214	SLU 2	-5.78	-0.01	51.45	0.0134	-0.2589	0.0001	
214	SLU 3	-6.81	0	52.65	-0.0005	-0.303	0	
214	SLU 4	-6.54	-0.01	52.73	0.0078	-0.2919	0	
214	SLU 5	-6.24	-0.01	52.29	0.0133	-0.2787	0.0001	
214	SLU 6	-7.26	0	53.49	-0.0006	-0.3228	0	
214	SLU 7	-6.99	-0.01	53.57	0.0077	-0.3118	0	
214	SLU 8	-7.13	0	52.99	-0.0006	-0.3169	0	
214	SLU 9	-6.86	-0.01	53.07	0.0077	-0.3059	0	
214	SLU 10	-7.79	-0.01	60.45	0.0132	-0.3466	0.0001	
214	SLU 11	-8.81	0	61.65	-0.0007	-0.3907	0	
214	SLU 12	-8.55	-0.01	61.73	0.0076	-0.3797	0	
214	SLU 13	-8.24	-0.01	61.29	0.0131	-0.3665	0.0001	
214	SLU 14	-9.26	0	62.48	-0.0008	-0.4106	0	
214	SLU 15	-9	-0.01	62.57	0.0075	-0.3995	0	
214	SLU 16	-9.13	0	61.99	-0.0008	-0.4047	0	
214	SLU 17	-8.87	-0.01	62.07	0.0075	-0.3937	0	
214	SLU 18	-9.09	0	64.17	-0.0007	-0.4027	0	
214	SLU 19	-8.83	-0.01	64.25	0.0076	-0.3916	0	
214	SLU 20	-9.54	0	65	-0.0008	-0.4225	0	
214	SLU 21	-9.28	-0.01	65.09	0.0075	-0.4114	0	
214	SLU 22	-8.03	0	59.5	-0.0007	-0.3567	0	
214	SLU 23	-7.6	-0.01	59.64	0.0132	-0.3383	0.0001	
214	SLU 24	-8.62	0	60.83	-0.0007	-0.3824	0	
214	SLU 25	-8.35	-0.01	60.92	0.0076	-0.3713	0	
214	SLU 26	-8.05	-0.01	60.48	0.0131	-0.3581	0	
214	SLU 27	-9.07	0	61.67	-0.0008	-0.4022	0	
214	SLU 28	-8.81	-0.01	61.76	0.0075	-0.3911	0	
214	SLU 29	-8.94	0	61.17	-0.0008	-0.3963	0	
214	SLU 30	-8.67	-0.01	61.26	0.0075	-0.3853	0	
214	SLU 31	-9.6	-0.01	68.64	0.013	-0.426	0.0001	
214	SLU 32	-10.62	0	69.83	-0.0009	-0.4701	0	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
Ind.	N.br.						
214	SLU 33	-10.36	-0.01	69.92	0.0074	-0.4591	0
214	SLU 34	-10.05	-0.01	69.47	0.0129	-0.4459	0
214	SLU 35	-11.08	0	70.67	-0.001	-0.4899	0
214	SLU 36	-10.81	-0.01	70.75	0.0073	-0.4789	0
214	SLU 37	-10.94	0	70.17	-0.001	-0.4841	0
214	SLU 38	-10.68	-0.01	70.25	0.0073	-0.473	0
214	SLU 39	-10.9	0	72.35	-0.0009	-0.482	0
214	SLU 40	-10.64	-0.01	72.44	0.0074	-0.471	0
214	SLU 41	-11.35	0	73.19	-0.001	-0.5019	0
214	SLU 42	-11.09	-0.01	73.27	0.0073	-0.4908	0
214	SLU 43	-7.47	0	63.9	-0.0005	-0.3333	0
214	SLU 44	-7.03	-0.01	64.04	0.0133	-0.3149	0.0001
214	SLU 45	-8.05	0	65.24	-0.0006	-0.3589	0
214	SLU 46	-7.79	-0.01	65.32	0.0077	-0.3479	0
214	SLU 47	-7.48	-0.01	64.88	0.0132	-0.3347	0.0001
214	SLU 48	-8.5	0	66.07	-0.0007	-0.3788	0
214	SLU 49	-8.24	-0.01	66.16	0.0076	-0.3677	0
214	SLU 50	-8.37	0	65.57	-0.0007	-0.3729	0
214	SLU 51	-8.11	-0.01	65.66	0.0076	-0.3619	0
214	SLU 52	-9.04	-0.01	73.04	0.0132	-0.4026	0.0001
214	SLU 53	-10.06	0	74.23	-0.0007	-0.4467	0
214	SLU 54	-9.8	-0.01	74.32	0.0076	-0.4357	0
214	SLU 55	-9.49	-0.01	73.88	0.0131	-0.4224	0.0001
214	SLU 56	-10.51	0	75.07	-0.0008	-0.4665	0
214	SLU 57	-10.25	-0.01	75.16	0.0075	-0.4555	0
214	SLU 58	-10.38	0	74.57	-0.0008	-0.4607	0
214	SLU 59	-10.12	-0.01	74.66	0.0074	-0.4496	0
214	SLU 60	-10.34	0	76.76	-0.0007	-0.4586	0
214	SLU 61	-10.07	-0.01	76.84	0.0076	-0.4476	0
214	SLU 62	-10.79	0	77.59	-0.0008	-0.4785	0
214	SLU 63	-10.52	-0.01	77.68	0.0075	-0.4674	0
214	SLU 64	-9.28	0	72.09	-0.0007	-0.4126	0
214	SLU 65	-8.84	-0.01	72.23	0.0131	-0.3942	0.0001
214	SLU 66	-9.86	0	73.42	-0.0008	-0.4383	0
214	SLU 67	-9.6	-0.01	73.51	0.0075	-0.4273	0
214	SLU 68	-9.29	-0.01	73.06	0.013	-0.4141	0.0001
214	SLU 69	-10.31	0	74.26	-0.0009	-0.4582	0
214	SLU 70	-10.05	-0.01	74.34	0.0074	-0.4471	0
214	SLU 71	-10.18	0	73.76	-0.0009	-0.4523	0
214	SLU 72	-9.92	-0.01	73.84	0.0074	-0.4413	0
214	SLU 73	-10.85	-0.01	81.23	0.0129	-0.482	0.0001
214	SLU 74	-11.87	0	82.42	-0.0009	-0.5261	0
214	SLU 75	-11.61	-0.01	82.5	0.0074	-0.515	0
214	SLU 76	-11.3	-0.01	82.06	0.0129	-0.5018	0.0001
214	SLU 77	-12.32	0	83.26	-0.001	-0.5459	0
214	SLU 78	-12.06	-0.01	83.34	0.0073	-0.5349	0
214	SLU 79	-12.19	0	82.76	-0.001	-0.5401	0
214	SLU 80	-11.93	-0.01	82.84	0.0072	-0.529	0
214	SLU 81	-12.15	0	84.94	-0.0009	-0.538	0
214	SLU 82	-11.88	-0.01	85.02	0.0074	-0.527	0
214	SLU 83	-12.6	0	85.78	-0.001	-0.5578	0
214	SLU 84	-12.34	-0.01	85.86	0.0073	-0.5468	0
214	SLE RA 1	-6.74	0	53.65	-0.0005	-0.3	0
214	SLE RA 2	-6.45	-0.01	53.75	0.0087	-0.2877	0
214	SLE RA 3	-7.13	0	54.54	-0.0006	-0.3171	0
214	SLE RA 4	-6.95	0	54.6	0.005	-0.3097	0
214	SLE RA 5	-6.75	-0.01	54.3	0.0086	-0.3009	0
214	SLE RA 6	-7.43	0	55.1	-0.0006	-0.3303	0
214	SLE RA 7	-7.25	0	55.16	0.0049	-0.3229	0
214	SLE RA 8	-7.34	0	54.77	-0.0006	-0.3264	0
214	SLE RA 9	-7.17	0	54.82	0.0049	-0.319	0
214	SLE RA 10	-7.79	-0.01	59.74	0.0086	-0.3462	0
214	SLE RA 11	-8.47	0	60.54	-0.0007	-0.3756	0
214	SLE RA 12	-8.29	0	60.6	0.0049	-0.3682	0
214	SLE RA 13	-8.09	-0.01	60.3	0.0085	-0.3594	0
214	SLE RA 14	-8.77	0	61.1	-0.0007	-0.3888	0
214	SLE RA 15	-8.59	0	61.16	0.0048	-0.3815	0
214	SLE RA 16	-8.68	0	60.77	-0.0007	-0.3849	0
214	SLE RA 17	-8.51	0	60.82	0.0048	-0.3775	0
214	SLE RA 18	-8.65	0	62.22	-0.0007	-0.3836	0
214	SLE RA 19	-8.48	0	62.28	0.0049	-0.3762	0
214	SLE RA 20	-8.95	0	62.78	-0.0007	-0.3968	0
214	SLE RA 21	-8.78	0	62.84	0.0048	-0.3894	0
214	SLE FR 1	-6.74	0	53.65	-0.0005	-0.3	0
214	SLE FR 2	-6.68	0	53.67	0.0013	-0.2975	0
214	SLE FR 3	-6.86	0	53.87	-0.0005	-0.3053	0
214	SLE FR 4	-7.26	0	56.24	0.0013	-0.3226	0
214	SLE FR 5	-7.43	0	56.45	-0.0006	-0.3303	0
214	SLE FR 6	-7.7	0	57.94	-0.0006	-0.3418	0
214	SLE QP 1	-6.74	0	53.65	-0.0005	-0.3	0
214	SLE QP 2	-7.31	0	56.22	-0.0006	-0.325	0
214	SLD 1	3.29	0.1	54.5	-0.1054	0.145	-0.0005
214	SLD 2	3.29	0.1	54.5	-0.1054	0.145	-0.0005
214	SLD 3	2.43	-0.22	54.92	0.2232	0.1078	0.0011
214	SLD 4	2.43	-0.22	54.92	0.2232	0.1078	0.0011
214	SLD 5	-2.83	0.51	55.08	-0.5303	-0.1276	-0.0027
214	SLD 6	-2.83	0.51	55.08	-0.5303	-0.1276	-0.0027
214	SLD 7	-5.69	-0.54	56.46	0.5649	-0.2516	0.0029



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
214	SLD 8	-5.69	-0.54	56.46	0.5649	-0.2516	0.0029		
214	SLD 9	-8.93	0.54	55.99	-0.566	-0.3985	-0.0029		
214	SLD 10	-8.93	0.54	55.99	-0.566	-0.3985	-0.0029		
214	SLD 11	-11.8	-0.51	57.36	0.5292	-0.5225	0.0027		
214	SLD 12	-11.8	-0.51	57.36	0.5292	-0.5225	0.0027		
214	SLD 13	-17.06	0.22	57.53	-0.2243	-0.7579	-0.0011		
214	SLD 14	-17.06	0.22	57.53	-0.2243	-0.7579	-0.0011		
214	SLD 15	-17.92	-0.1	57.94	0.1043	-0.7951	0.0005		
214	SLD 16	-17.92	-0.1	57.94	0.1043	-0.7951	0.0005		
214	SLV 1	17.52	0.26	52.16	-0.2691	0.776	-0.0013		
214	SLV 2	17.52	0.26	52.16	-0.2691	0.776	-0.0013		
214	SLV 3	15.48	-0.55	53.17	0.5724	0.6877	0.0029		
214	SLV 4	15.48	-0.55	53.17	0.5724	0.6877	0.0029		
214	SLV 5	3.23	1.3	53.47	-1.3574	0.1392	-0.0068		
214	SLV 6	3.23	1.3	53.47	-1.3574	0.1392	-0.0068		
214	SLV 7	-3.57	-1.39	56.84	1.4477	-0.1551	0.0073		
214	SLV 8	-3.57	-1.39	56.84	1.4477	-0.1551	0.0073		
214	SLV 9	-11.06	1.39	55.6	-1.4488	-0.495	-0.0073		
214	SLV 10	-11.06	1.39	55.6	-1.4488	-0.495	-0.0073		
214	SLV 11	-17.86	-1.3	58.98	1.3563	-0.7893	0.0068		
214	SLV 12	-17.86	-1.3	58.98	1.3563	-0.7893	0.0068		
214	SLV 13	-30.11	0.55	59.27	-0.5736	-1.3378	-0.0029		
214	SLV 14	-30.11	0.55	59.27	-0.5736	-1.3378	-0.0029		
214	SLV 15	-32.15	-0.26	60.28	0.268	-1.4261	0.0013		
214	SLV 16	-32.15	-0.26	60.28	0.268	-1.4261	0.0013		
215	SLU 1	-7.07	0	51.28	0.0002	-0.3046	0		
215	SLU 2	-6.67	-0.01	51.52	0.016	-0.2873	0.0001		
215	SLU 3	-7.66	0	52.63	0.0002	-0.3303	0		
215	SLU 4	-7.42	-0.01	52.77	0.0096	-0.3199	0		
215	SLU 5	-7.12	-0.01	52.36	0.0159	-0.3069	0.0001		
215	SLU 6	-8.11	0	53.46	0.0001	-0.3499	0		
215	SLU 7	-7.87	-0.01	53.61	0.0096	-0.3395	0		
215	SLU 8	-7.97	0	52.95	0.0001	-0.3438	0		
215	SLU 9	-7.73	-0.01	53.1	0.0095	-0.3334	0		
215	SLU 10	-8.87	-0.01	60.33	0.0159	-0.3816	0.0001		
215	SLU 11	-9.86	0	61.43	0.0002	-0.4246	0		
215	SLU 12	-9.62	-0.01	61.58	0.0096	-0.4142	0		
215	SLU 13	-9.32	-0.01	61.17	0.0159	-0.4012	0.0001		
215	SLU 14	-10.31	0	62.27	0.0001	-0.4442	0		
215	SLU 15	-10.07	-0.01	62.42	0.0095	-0.4338	0		
215	SLU 16	-10.17	0	61.76	0.0001	-0.4381	0		
215	SLU 17	-9.93	-0.01	61.91	0.0095	-0.4277	0		
215	SLU 18	-10.22	0	63.86	0.0002	-0.4394	0		
215	SLU 19	-9.97	-0.01	64	0.0096	-0.429	0		
215	SLU 20	-10.67	0	64.7	0.0001	-0.459	0		
215	SLU 21	-10.42	-0.01	64.84	0.0096	-0.4486	0		
215	SLU 22	-9.05	0	59.32	0.0002	-0.3895	0		
215	SLU 23	-8.64	-0.01	59.56	0.0159	-0.3722	0.0001		
215	SLU 24	-9.64	0	60.67	0.0001	-0.4152	0		
215	SLU 25	-9.39	-0.01	60.81	0.0095	-0.4048	0		
215	SLU 26	-9.09	-0.01	60.4	0.0158	-0.3917	0.0001		
215	SLU 27	-10.09	0	61.5	0.0001	-0.4347	0		
215	SLU 28	-9.84	-0.01	61.65	0.0095	-0.4243	0		
215	SLU 29	-9.95	0	60.99	0	-0.4287	0		
215	SLU 30	-9.71	-0.01	61.14	0.0095	-0.4183	0		
215	SLU 31	-10.85	-0.01	68.37	0.0158	-0.4665	0.0001		
215	SLU 32	-11.84	0	69.47	0.0001	-0.5095	0		
215	SLU 33	-11.6	-0.01	69.62	0.0095	-0.4991	0		
215	SLU 34	-11.3	-0.01	69.21	0.0158	-0.486	0.0001		
215	SLU 35	-12.29	0	70.31	0	-0.5291	0		
215	SLU 36	-12.05	-0.01	70.46	0.0094	-0.5187	0		
215	SLU 37	-12.15	0	69.8	0	-0.523	0		
215	SLU 38	-11.91	-0.01	69.95	0.0094	-0.5126	0		
215	SLU 39	-12.2	0	71.9	0.0001	-0.5242	0		
215	SLU 40	-11.95	-0.01	72.04	0.0095	-0.5138	0		
215	SLU 41	-12.64	0	72.74	0	-0.5438	0		
215	SLU 42	-12.4	-0.01	72.88	0.0095	-0.5334	0		
215	SLU 43	-8.52	0	63.91	0.0003	-0.367	0		
215	SLU 44	-8.11	-0.01	64.15	0.0161	-0.3496	0.0001		
215	SLU 45	-9.1	0	65.25	0.0003	-0.3926	0		
215	SLU 46	-8.86	-0.01	65.4	0.0097	-0.3822	0		
215	SLU 47	-8.56	-0.01	64.99	0.016	-0.3692	0.0001		
215	SLU 48	-9.55	0	66.09	0.0002	-0.4122	0		
215	SLU 49	-9.31	-0.01	66.24	0.0097	-0.4018	0		
215	SLU 50	-9.41	0	65.58	0.0002	-0.4061	0		
215	SLU 51	-9.17	-0.01	65.73	0.0096	-0.3957	0		
215	SLU 52	-10.31	-0.01	72.96	0.016	-0.4439	0.0001		
215	SLU 53	-11.31	0	74.06	0.0003	-0.4869	0		
215	SLU 54	-11.06	-0.01	74.21	0.0097	-0.4765	0		
215	SLU 55	-10.76	-0.01	73.79	0.016	-0.4635	0.0001		
215	SLU 56	-11.76	0	74.9	0.0002	-0.5065	0		
215	SLU 57	-11.51	-0.01	75.04	0.0096	-0.4961	0		
215	SLU 58	-11.62	0	74.39	0.0002	-0.5004	0		
215	SLU 59	-11.37	-0.01	74.53	0.0096	-0.49	0		
215	SLU 60	-11.66	0	76.49	0.0003	-0.5017	0		
215	SLU 61	-11.42	-0.01	76.63	0.0097	-0.4913	0		
215	SLU 62	-12.11	0	77.32	0.0002	-0.5213	0		
215	SLU 63	-11.87	-0.01	77.47	0.0097	-0.5109	0		





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
215	SLU 64	-10.49	0	71.94	0.0003	-0.4518	0
215	SLU 65	-10.09	-0.01	72.19	0.016	-0.4345	0.0001
215	SLU 66	-11.08	0	73.29	0.0002	-0.4775	0
215	SLU 67	-10.84	-0.01	73.44	0.0096	-0.4671	0
215	SLU 68	-10.54	-0.01	73.03	0.0159	-0.454	0.0001
215	SLU 69	-11.53	0	74.13	0.0002	-0.4971	0
215	SLU 70	-11.29	-0.01	74.28	0.0096	-0.4866	0
215	SLU 71	-11.39	0	73.62	0.0001	-0.491	0
215	SLU 72	-11.15	-0.01	73.77	0.0096	-0.4806	0
215	SLU 73	-12.29	-0.01	81	0.0159	-0.5288	0.0001
215	SLU 74	-13.28	0	82.1	0.0002	-0.5718	0
215	SLU 75	-13.04	-0.01	82.25	0.0096	-0.5614	0
215	SLU 76	-12.74	-0.01	81.83	0.0159	-0.5483	0.0001
215	SLU 77	-13.73	0	82.94	0.0001	-0.5914	0
215	SLU 78	-13.49	-0.01	83.08	0.0096	-0.581	0
215	SLU 79	-13.59	0	82.43	0.0001	-0.5853	0
215	SLU 80	-13.35	-0.01	82.57	0.0095	-0.5749	0
215	SLU 81	-13.64	0	84.52	0.0002	-0.5865	0
215	SLU 82	-13.4	-0.01	84.67	0.0096	-0.5761	0
215	SLU 83	-14.09	0	85.36	0.0001	-0.6061	0
215	SLU 84	-13.85	-0.01	85.51	0.0096	-0.5957	0
215	SLE RA 1	-7.64	0	53.58	0.0002	-0.3289	0
215	SLE RA 2	-7.37	-0.01	53.74	0.0107	-0.3173	0
215	SLE RA 3	-8.03	0	54.47	0.0002	-0.346	0
215	SLE RA 4	-7.87	-0.01	54.57	0.0065	-0.3391	0
215	SLE RA 5	-7.67	-0.01	54.3	0.0107	-0.3304	0
215	SLE RA 6	-8.33	0	55.03	0.0001	-0.3591	0
215	SLE RA 7	-8.17	-0.01	55.13	0.0064	-0.3521	0
215	SLE RA 8	-8.24	0	54.69	0.0001	-0.355	0
215	SLE RA 9	-8.07	-0.01	54.79	0.0064	-0.3481	0
215	SLE RA 10	-8.83	-0.01	59.61	0.0107	-0.3802	0
215	SLE RA 11	-9.5	0	60.34	0.0002	-0.4089	0
215	SLE RA 12	-9.33	-0.01	60.44	0.0065	-0.4019	0
215	SLE RA 13	-9.13	-0.01	60.17	0.0106	-0.3933	0
215	SLE RA 14	-9.8	0	60.9	0.0001	-0.4219	0
215	SLE RA 15	-9.63	-0.01	61	0.0064	-0.415	0
215	SLE RA 16	-9.7	0	60.56	0.0001	-0.4179	0
215	SLE RA 17	-9.54	-0.01	60.66	0.0064	-0.4109	0
215	SLE RA 18	-9.73	0	61.96	0.0002	-0.4187	0
215	SLE RA 19	-9.57	-0.01	62.06	0.0065	-0.4118	0
215	SLE RA 20	-10.03	0	62.52	0.0001	-0.4318	0
215	SLE RA 21	-9.87	-0.01	62.62	0.0064	-0.4248	0
215	SLE FR 1	-7.64	0	53.58	0.0002	-0.3289	0
215	SLE FR 2	-7.58	0	53.61	0.0023	-0.3266	0
215	SLE FR 3	-7.76	0	53.8	0.0002	-0.3341	0
215	SLE FR 4	-8.21	0	56.12	0.0023	-0.3535	0
215	SLE FR 5	-8.39	0	56.31	0.0002	-0.3611	0
215	SLE FR 6	-8.69	0	57.77	0.0002	-0.3738	0
215	SLE QP 1	-7.64	0	53.58	0.0002	-0.3289	0
215	SLE QP 2	-8.27	0	56.09	0.0002	-0.3558	0
215	SLD 1	2.1	0.1	52.86	-0.1058	0.1065	-0.0005
215	SLD 2	2.1	0.1	52.86	-0.1058	0.1065	-0.0005
215	SLD 3	1.24	-0.2	53.25	0.2128	0.0686	0.001
215	SLD 4	1.24	-0.2	53.25	0.2128	0.0686	0.001
215	SLD 5	-3.86	0.49	54.52	-0.5148	-0.1596	-0.0024
215	SLD 6	-3.86	0.49	54.52	-0.5148	-0.1596	-0.0024
215	SLD 7	-6.71	-0.52	55.84	0.5472	-0.286	0.0025
215	SLD 8	-6.71	-0.52	55.84	0.5472	-0.286	0.0025
215	SLD 9	-9.82	0.52	56.35	-0.5468	-0.4257	-0.0025
215	SLD 10	-9.82	0.52	56.35	-0.5468	-0.4257	-0.0025
215	SLD 11	-12.68	-0.49	57.66	0.5152	-0.552	0.0024
215	SLD 12	-12.68	-0.49	57.66	0.5152	-0.552	0.0024
215	SLD 13	-17.77	0.2	58.93	-0.2124	-0.7803	-0.001
215	SLD 14	-17.77	0.2	58.93	-0.2124	-0.7803	-0.001
215	SLD 15	-18.63	-0.1	59.33	0.1062	-0.8182	0.0005
215	SLD 16	-18.63	-0.1	59.33	0.1062	-0.8182	0.0005
215	SLV 1	16.02	0.26	48.5	-0.2714	0.7276	-0.0013
215	SLV 2	16.02	0.26	48.5	-0.2714	0.7276	-0.0013
215	SLV 3	13.98	-0.51	49.46	0.5446	0.6375	0.0025
215	SLV 4	13.98	-0.51	49.46	0.5446	0.6375	0.0025
215	SLV 5	2.11	1.25	52.36	-1.3189	0.1057	-0.0061
215	SLV 6	2.11	1.25	52.36	-1.3189	0.1057	-0.0061
215	SLV 7	-4.68	-1.33	55.56	1.4012	-0.1944	0.0065
215	SLV 8	-4.68	-1.33	55.56	1.4012	-0.1944	0.0065
215	SLV 9	-11.85	1.32	56.62	-1.4008	-0.5173	-0.0065
215	SLV 10	-11.85	1.32	56.62	-1.4008	-0.5173	-0.0065
215	SLV 11	-18.64	-1.25	59.83	1.3194	-0.8174	0.0061
215	SLV 12	-18.64	-1.25	59.83	1.3194	-0.8174	0.0061
215	SLV 13	-30.51	0.51	62.72	-0.5442	-1.3492	-0.0025
215	SLV 14	-30.51	0.51	62.72	-0.5442	-1.3492	-0.0025
215	SLV 15	-32.55	-0.26	63.68	0.2718	-1.4393	0.0013
215	SLV 16	-32.55	-0.26	63.68	0.2718	-1.4393	0.0013
216	SLU 1	-8.18	0	51.25	0.0008	-0.3578	0
216	SLU 2	-7.81	-0.02	51.58	0.0176	-0.3424	0.0001
216	SLU 3	-8.78	0	52.62	0.0007	-0.3841	0
216	SLU 4	-8.56	-0.01	52.82	0.0109	-0.3749	0
216	SLU 5	-8.26	-0.02	52.43	0.0176	-0.3621	0.0001
216	SLU 6	-9.24	0	53.47	0.0007	-0.4039	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione				Reazione a rotazione		
		x	y	z	x	y	z	
216	SLU 7	-9.02	-0.01	53.67	0.0108	-0.3947	0	
216	SLU 8	-9.09	0	52.95	0.0007	-0.3973	0	
216	SLU 9	-8.87	-0.01	53.15	0.0108	-0.3881	0	
216	SLU 10	-10.25	-0.02	60.17	0.0177	-0.4473	0.0001	
216	SLU 11	-11.22	0	61.21	0.0008	-0.489	0	
216	SLU 12	-11	-0.01	61.41	0.0109	-0.4798	0	
216	SLU 13	-10.7	-0.02	61.02	0.0176	-0.4671	0.0001	
216	SLU 14	-11.68	0	62.06	0.0008	-0.5088	0	
216	SLU 15	-11.45	-0.01	62.26	0.0109	-0.4996	0	
216	SLU 16	-11.53	0	61.54	0.0007	-0.5023	0	
216	SLU 17	-11.3	-0.01	61.74	0.0108	-0.493	0	
216	SLU 18	-11.66	0	63.52	0.0009	-0.5077	0	
216	SLU 19	-11.44	-0.01	63.72	0.011	-0.4984	0	
216	SLU 20	-12.12	0	64.37	0.0008	-0.5274	0	
216	SLU 21	-11.89	-0.01	64.57	0.0109	-0.5182	0	
216	SLU 22	-10.37	0	59.13	0.0008	-0.452	0	
216	SLU 23	-9.99	-0.02	59.46	0.0176	-0.4366	0.0001	
216	SLU 24	-10.97	0	60.51	0.0008	-0.4784	0	
216	SLU 25	-10.75	-0.01	60.7	0.0109	-0.4691	0	
216	SLU 26	-10.45	-0.02	60.31	0.0176	-0.4564	0.0001	
216	SLU 27	-11.42	0	61.36	0.0007	-0.4982	0	
216	SLU 28	-11.2	-0.01	61.55	0.0108	-0.4889	0	
216	SLU 29	-11.27	0	60.83	0.0007	-0.4916	0	
216	SLU 30	-11.05	-0.01	61.03	0.0108	-0.4824	0	
216	SLU 31	-12.43	-0.02	68.06	0.0177	-0.5416	0.0001	
216	SLU 32	-13.41	0	69.1	0.0008	-0.5833	0	
216	SLU 33	-13.18	-0.01	69.3	0.0109	-0.5741	0	
216	SLU 34	-12.89	-0.02	68.9	0.0176	-0.5613	0.0001	
216	SLU 35	-13.86	0	69.95	0.0008	-0.6031	0	
216	SLU 36	-13.64	-0.01	70.15	0.0109	-0.5939	0	
216	SLU 37	-13.71	0	69.42	0.0007	-0.5965	0	
216	SLU 38	-13.49	-0.01	69.62	0.0109	-0.5873	0	
216	SLU 39	-13.85	0	71.41	0.0009	-0.6019	0	
216	SLU 40	-13.62	-0.01	71.61	0.011	-0.5927	0	
216	SLU 41	-14.3	0	72.26	0.0008	-0.6217	0	
216	SLU 42	-14.08	-0.01	72.46	0.0109	-0.6125	0	
216	SLU 43	-9.89	0	63.92	0.001	-0.4328	0	
216	SLU 44	-9.52	-0.02	64.25	0.0178	-0.4174	0.0001	
216	SLU 45	-10.49	0	65.3	0.001	-0.4591	0	
216	SLU 46	-10.27	-0.01	65.49	0.0111	-0.4499	0	
216	SLU 47	-9.97	-0.02	65.1	0.0178	-0.4371	0.0001	
216	SLU 48	-10.94	0	66.14	0.0009	-0.4789	0	
216	SLU 49	-10.72	-0.01	66.34	0.011	-0.4697	0	
216	SLU 50	-10.8	0	65.62	0.0009	-0.4723	0	
216	SLU 51	-10.57	-0.01	65.82	0.011	-0.4631	0	
216	SLU 52	-11.95	-0.02	72.84	0.0179	-0.5223	0.0001	
216	SLU 53	-12.93	0	73.89	0.001	-0.564	0	
216	SLU 54	-12.71	-0.01	74.08	0.0111	-0.5548	0	
216	SLU 55	-12.41	-0.02	73.69	0.0179	-0.5421	0.0001	
216	SLU 56	-13.38	0	74.74	0.001	-0.5838	0	
216	SLU 57	-13.16	-0.01	74.93	0.0111	-0.5746	0	
216	SLU 58	-13.23	0	74.21	0.001	-0.5773	0	
216	SLU 59	-13.01	-0.01	74.41	0.0111	-0.568	0	
216	SLU 60	-13.37	0	76.2	0.0011	-0.5827	0	
216	SLU 61	-13.15	-0.01	76.39	0.0112	-0.5734	0	
216	SLU 62	-13.82	0	77.05	0.001	-0.6024	0	
216	SLU 63	-13.6	-0.01	77.24	0.0111	-0.5932	0	
216	SLU 64	-12.07	0	71.81	0.001	-0.527	0	
216	SLU 65	-11.7	-0.02	72.14	0.0179	-0.5116	0.0001	
216	SLU 66	-12.67	0	73.18	0.001	-0.5534	0	
216	SLU 67	-12.45	-0.01	73.38	0.0111	-0.5441	0	
216	SLU 68	-12.15	-0.02	72.98	0.0178	-0.5314	0.0001	
216	SLU 69	-13.13	0	74.03	0.0009	-0.5732	0	
216	SLU 70	-12.91	-0.01	74.23	0.011	-0.5639	0	
216	SLU 71	-12.98	0	73.5	0.0009	-0.5666	0	
216	SLU 72	-12.76	-0.01	73.7	0.011	-0.5574	0	
216	SLU 73	-14.14	-0.02	80.73	0.0179	-0.6166	0.0001	
216	SLU 74	-15.11	0	81.77	0.001	-0.6583	0	
216	SLU 75	-14.89	-0.01	81.97	0.0112	-0.6491	0	
216	SLU 76	-14.59	-0.02	81.58	0.0179	-0.6363	0.0001	
216	SLU 77	-15.57	0	82.62	0.001	-0.6781	0	
216	SLU 78	-15.34	-0.01	82.82	0.0111	-0.6689	0	
216	SLU 79	-15.42	0	82.1	0.001	-0.6715	0	
216	SLU 80	-15.19	-0.01	82.29	0.0111	-0.6623	0	
216	SLU 81	-15.55	0	84.08	0.0011	-0.6769	0	
216	SLU 82	-15.33	-0.01	84.28	0.0112	-0.6677	0	
216	SLU 83	-16.01	0	84.93	0.001	-0.6967	0	
216	SLU 84	-15.78	-0.01	85.13	0.0112	-0.6875	0	
216	SLE RA 1	-8.81	0	53.5	0.0008	-0.3847	0	
216	SLE RA 2	-8.56	-0.01	53.72	0.012	-0.3744	0	
216	SLE RA 3	-9.21	0	54.42	0.0008	-0.4023	0	
216	SLE RA 4	-9.06	-0.01	54.55	0.0075	-0.3961	0	
216	SLE RA 5	-8.86	-0.01	54.29	0.012	-0.3876	0	
216	SLE RA 6	-9.51	0	54.98	0.0007	-0.4154	0	
216	SLE RA 7	-9.36	-0.01	55.12	0.0075	-0.4093	0	
216	SLE RA 8	-9.41	0	54.64	0.0007	-0.4111	0	
216	SLE RA 9	-9.26	-0.01	54.77	0.0075	-0.4049	0	
216	SLE RA 10	-10.18	-0.01	59.45	0.012	-0.4444	0	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
216	SLE RA 11	-10.83	0	60.15	0.0008	-0.4722	0
216	SLE RA 12	-10.68	-0.01	60.28	0.0075	-0.466	0
216	SLE RA 13	-10.49	-0.01	60.02	0.012	-0.4576	0
216	SLE RA 14	-11.14	0	60.71	0.0008	-0.4854	0
216	SLE RA 15	-10.99	-0.01	60.84	0.0075	-0.4792	0
216	SLE RA 16	-11.04	0	60.36	0.0008	-0.481	0
216	SLE RA 17	-10.89	-0.01	60.49	0.0075	-0.4749	0
216	SLE RA 18	-11.13	0	61.69	0.0008	-0.4846	0
216	SLE RA 19	-10.98	-0.01	61.82	0.0076	-0.4785	0
216	SLE RA 20	-11.43	0	62.25	0.0008	-0.4978	0
216	SLE RA 21	-11.28	-0.01	62.38	0.0075	-0.4917	0
216	SLE FR 1	-8.81	0	53.5	0.0008	-0.3847	0
216	SLE FR 2	-8.76	0	53.55	0.003	-0.3826	0
216	SLE FR 3	-8.93	0	53.73	0.0008	-0.39	0
216	SLE FR 4	-9.45	0	56	0.003	-0.4126	0
216	SLE FR 5	-9.62	0	56.18	0.0008	-0.4199	0
216	SLE FR 6	-9.97	0	57.59	0.0008	-0.4347	0
216	SLE QP 1	-8.81	0	53.5	0.0008	-0.3847	0
216	SLE QP 2	-9.5	0	55.96	0.0008	-0.4147	0
216	SLD 1	0.55	0.17	50.93	-0.0967	0.0282	-0.0007
216	SLD 2	0.55	0.17	50.93	-0.0967	0.0282	-0.0007
216	SLD 3	-0.27	-0.09	51.33	0.1871	-0.0074	0.0004
216	SLD 4	-0.27	-0.09	51.33	0.1871	-0.0074	0.0004
216	SLD 5	-5.23	0.44	53.85	-0.4589	-0.2278	-0.0019
216	SLD 6	-5.23	0.44	53.85	-0.4589	-0.2278	-0.0019
216	SLD 7	-7.99	-0.42	55.17	0.4871	-0.3465	0.0018
216	SLD 8	-7.99	-0.42	55.17	0.4871	-0.3465	0.0018
216	SLD 9	-11.01	0.41	56.74	-0.4855	-0.4828	-0.0018
216	SLD 10	-11.01	0.41	56.74	-0.4855	-0.4828	-0.0018
216	SLD 11	-13.77	-0.44	58.07	0.4605	-0.6015	0.0019
216	SLD 12	-13.77	-0.44	58.07	0.4605	-0.6015	0.0019
216	SLD 13	-18.73	0.09	60.59	-0.1855	-0.8219	-0.0004
216	SLD 14	-18.73	0.09	60.59	-0.1855	-0.8219	-0.0004
216	SLD 15	-19.56	-0.17	60.99	0.0983	-0.8575	0.0007
216	SLD 16	-19.56	-0.17	60.99	0.0983	-0.8575	0.0007
216	SLV 1	14.05	0.43	44.17	-0.2489	0.6227	-0.0019
216	SLV 2	14.05	0.43	44.17	-0.2489	0.6227	-0.0019
216	SLV 3	12.09	-0.23	45.14	0.478	0.5382	0.001
216	SLV 4	12.09	-0.23	45.14	0.478	0.5382	0.001
216	SLV 5	0.55	1.12	50.95	-1.1765	0.0246	-0.0049
216	SLV 6	0.55	1.12	50.95	-1.1765	0.0246	-0.0049
216	SLV 7	-6.01	-1.07	54.18	1.2463	-0.2569	0.0047
216	SLV 8	-6.01	-1.07	54.18	1.2463	-0.2569	0.0047
216	SLV 9	-13	1.06	57.74	-1.2448	-0.5724	-0.0047
216	SLV 10	-13	1.06	57.74	-1.2448	-0.5724	-0.0047
216	SLV 11	-19.55	-1.13	60.96	1.1781	-0.8539	0.0049
216	SLV 12	-19.55	-1.13	60.96	1.1781	-0.8539	0.0049
216	SLV 13	-31.09	0.23	66.78	-0.4764	-1.3675	-0.001
216	SLV 14	-31.09	0.23	66.78	-0.4764	-1.3675	-0.001
216	SLV 15	-33.06	-0.43	67.75	0.2504	-1.452	0.0019
216	SLV 16	-33.06	-0.43	67.75	0.2504	-1.452	0.0019
217	SLU 1	-9.34	0	51.19	0.0011	-0.4002	0
217	SLU 2	-8.99	-0.02	51.6	0.018	-0.3853	0.0001
217	SLU 3	-9.97	0	52.6	0.0011	-0.4272	0
217	SLU 4	-9.76	-0.01	52.84	0.0113	-0.4183	0
217	SLU 5	-9.46	-0.02	52.46	0.018	-0.4054	0.0001
217	SLU 6	-10.43	0	53.47	0.0011	-0.4474	0
217	SLU 7	-10.22	-0.01	53.71	0.0112	-0.4384	0
217	SLU 8	-10.27	0	52.93	0.0011	-0.4404	0
217	SLU 9	-10.06	-0.01	53.17	0.0112	-0.4315	0
217	SLU 10	-11.67	-0.02	59.94	0.0182	-0.4989	0.0001
217	SLU 11	-12.64	0	60.95	0.0012	-0.5409	0
217	SLU 12	-12.43	-0.01	61.19	0.0114	-0.5319	0
217	SLU 13	-12.13	-0.02	60.81	0.0181	-0.519	0.0001
217	SLU 14	-13.1	0	61.81	0.0012	-0.561	0
217	SLU 15	-12.89	-0.01	62.06	0.0114	-0.5521	0
217	SLU 16	-12.94	0	61.28	0.0012	-0.554	0
217	SLU 17	-12.74	-0.01	61.52	0.0113	-0.5451	0
217	SLU 18	-13.16	0	63.12	0.0013	-0.5625	0
217	SLU 19	-12.95	-0.01	63.36	0.0115	-0.5535	0
217	SLU 20	-13.63	0	63.98	0.0013	-0.5826	0
217	SLU 21	-13.42	-0.01	64.23	0.0114	-0.5737	0
217	SLU 22	-11.74	0	58.9	0.0012	-0.5021	0
217	SLU 23	-11.39	-0.02	59.31	0.0181	-0.4872	0.0001
217	SLU 24	-12.36	0	60.31	0.0012	-0.5292	0
217	SLU 25	-12.15	-0.01	60.55	0.0113	-0.5203	0
217	SLU 26	-11.85	-0.02	60.17	0.0181	-0.5074	0.0001
217	SLU 27	-12.82	0	61.18	0.0012	-0.5493	0
217	SLU 28	-12.61	-0.01	61.42	0.0113	-0.5404	0
217	SLU 29	-12.66	0	60.64	0.0011	-0.5424	0
217	SLU 30	-12.45	-0.01	60.88	0.0113	-0.5334	0
217	SLU 31	-14.06	-0.02	67.65	0.0182	-0.6008	0.0001
217	SLU 32	-15.03	0	68.66	0.0013	-0.6428	0
217	SLU 33	-14.82	-0.01	68.9	0.0115	-0.6339	0
217	SLU 34	-14.53	-0.02	68.52	0.0182	-0.621	0.0001
217	SLU 35	-15.5	0	69.52	0.0013	-0.6629	0
217	SLU 36	-15.29	-0.01	69.77	0.0114	-0.654	0
217	SLU 37	-15.34	0	68.99	0.0013	-0.656	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
217	SLU 38			-15.13	-0.01	69.23	0.0114	-0.6471	0
217	SLU 39			-15.56	0	70.83	0.0014	-0.6644	0
217	SLU 40			-15.35	-0.01	71.07	0.0115	-0.6555	0
217	SLU 41			-16.02	0	71.7	0.0014	-0.6845	0
217	SLU 42			-15.81	-0.01	71.94	0.0115	-0.6756	0
217	SLU 43			-11.32	0	63.91	0.0014	-0.4853	0
217	SLU 44			-10.98	-0.02	64.31	0.0183	-0.4704	0.0001
217	SLU 45			-11.95	0	65.31	0.0014	-0.5123	0
217	SLU 46			-11.74	-0.01	65.55	0.0116	-0.5034	0
217	SLU 47			-11.44	-0.02	65.18	0.0183	-0.4905	0.0001
217	SLU 48			-12.41	0	66.18	0.0014	-0.5325	0
217	SLU 49			-12.2	-0.01	66.42	0.0115	-0.5235	0
217	SLU 50			-12.25	0	65.64	0.0014	-0.5255	0
217	SLU 51			-12.04	-0.01	65.89	0.0115	-0.5166	0
217	SLU 52			-13.65	-0.02	72.66	0.0185	-0.584	0.0001
217	SLU 53			-14.62	0	73.66	0.0016	-0.6259	0
217	SLU 54			-14.41	-0.01	73.9	0.0117	-0.617	0
217	SLU 55			-14.11	-0.02	73.52	0.0184	-0.6041	0.0001
217	SLU 56			-15.09	0	74.53	0.0015	-0.6461	0
217	SLU 57			-14.88	-0.01	74.77	0.0117	-0.6371	0
217	SLU 58			-14.93	0	73.99	0.0015	-0.6391	0
217	SLU 59			-14.72	-0.01	74.23	0.0116	-0.6302	0
217	SLU 60			-15.14	0	75.83	0.0016	-0.6476	0
217	SLU 61			-14.93	-0.01	76.07	0.0118	-0.6386	0
217	SLU 62			-15.61	0	76.7	0.0016	-0.6677	0
217	SLU 63			-15.4	-0.01	76.94	0.0117	-0.6587	0
217	SLU 64			-13.72	0	71.62	0.0015	-0.5872	0
217	SLU 65			-13.37	-0.02	72.02	0.0184	-0.5723	0.0001
217	SLU 66			-14.34	0	73.02	0.0015	-0.6143	0
217	SLU 67			-14.13	-0.01	73.27	0.0117	-0.6054	0
217	SLU 68			-13.83	-0.02	72.89	0.0184	-0.5924	0.0001
217	SLU 69			-14.81	0	73.89	0.0015	-0.6344	0
217	SLU 70			-14.6	-0.01	74.13	0.0116	-0.6255	0
217	SLU 71			-14.65	0	73.35	0.0014	-0.6275	0
217	SLU 72			-14.44	-0.01	73.6	0.0116	-0.6185	0
217	SLU 73			-16.04	-0.02	80.37	0.0186	-0.6859	0.0001
217	SLU 74			-17.02	0	81.37	0.0016	-0.7279	0
217	SLU 75			-16.81	-0.01	81.61	0.0118	-0.719	0
217	SLU 76			-16.51	-0.02	81.24	0.0185	-0.7061	0.0001
217	SLU 77			-17.48	0	82.24	0.0016	-0.748	0
217	SLU 78			-17.27	-0.01	82.48	0.0117	-0.7391	0
217	SLU 79			-17.32	0	81.7	0.0016	-0.7411	0
217	SLU 80			-17.11	-0.01	81.94	0.0117	-0.7321	0
217	SLU 81			-17.54	0	83.54	0.0017	-0.7495	0
217	SLU 82			-17.33	-0.01	83.78	0.0118	-0.7406	0
217	SLU 83			-18	0	84.41	0.0017	-0.7696	0
217	SLU 84			-17.79	-0.01	84.65	0.0118	-0.7607	0
217	SLE RA 1			-10.03	0	53.4	0.0011	-0.4293	0
217	SLE RA 2			-9.79	-0.01	53.66	0.0124	-0.4194	0
217	SLE RA 3			-10.44	0	54.33	0.0011	-0.4473	0
217	SLE RA 4			-10.3	-0.01	54.49	0.0079	-0.4414	0
217	SLE RA 5			-10.1	-0.01	54.24	0.0124	-0.4328	0
217	SLE RA 6			-10.75	0	54.91	0.0011	-0.4608	0
217	SLE RA 7			-10.61	-0.01	55.07	0.0079	-0.4548	0
217	SLE RA 8			-10.64	0	54.55	0.0011	-0.4561	0
217	SLE RA 9			-10.51	-0.01	54.71	0.0079	-0.4502	0
217	SLE RA 10			-11.58	-0.01	59.23	0.0125	-0.4951	0
217	SLE RA 11			-12.22	0	59.9	0.0012	-0.5231	0
217	SLE RA 12			-12.09	-0.01	60.06	0.008	-0.5171	0
217	SLE RA 13			-11.89	-0.01	59.81	0.0125	-0.5085	0
217	SLE RA 14			-12.53	0	60.48	0.0012	-0.5365	0
217	SLE RA 15			-12.39	-0.01	60.64	0.008	-0.5306	0
217	SLE RA 16			-12.43	0	60.12	0.0012	-0.5319	0
217	SLE RA 17			-12.29	-0.01	60.28	0.008	-0.5259	0
217	SLE RA 18			-12.57	0	61.34	0.0013	-0.5375	0
217	SLE RA 19			-12.43	-0.01	61.51	0.008	-0.5315	0
217	SLE RA 20			-12.88	0	61.92	0.0012	-0.5509	0
217	SLE RA 21			-12.74	-0.01	62.08	0.008	-0.545	0
217	SLE FR 1			-10.03	0	53.4	0.0011	-0.4293	0
217	SLE FR 2			-9.98	0	53.45	0.0034	-0.4273	0
217	SLE FR 3			-10.15	0	53.63	0.0011	-0.4347	0
217	SLE FR 4			-10.74	0	55.83	0.0034	-0.4598	0
217	SLE FR 5			-10.91	0	56.01	0.0012	-0.4671	0
217	SLE FR 6			-11.3	0	57.37	0.0012	-0.4834	0
217	SLE QP 1			-10.03	0	53.4	0.0011	-0.4293	0
217	SLE QP 2			-10.79	0	55.78	0.0012	-0.4617	0
217	SLD 1			-0.89	0.12	48.74	-0.1476	-0.0224	-0.0005
217	SLD 2			-0.89	0.12	48.74	-0.1476	-0.0224	-0.0005
217	SLD 3			-1.7	-0.07	49.17	0.0814	-0.058	0.0003
217	SLD 4			-1.7	-0.07	49.17	0.0814	-0.058	0.0003
217	SLD 5			-6.59	0.32	53.02	-0.3907	-0.2761	-0.0012
217	SLD 6			-6.59	0.32	53.02	-0.3907	-0.2761	-0.0012
217	SLD 7			-9.29	-0.3	54.44	0.3725	-0.3945	0.0012
217	SLD 8			-9.29	-0.3	54.44	0.3725	-0.3945	0.0012
217	SLD 9			-12.29	0.3	57.11	-0.3701	-0.529	-0.0012
217	SLD 10			-12.29	0.3	57.11	-0.3701	-0.529	-0.0012
217	SLD 11			-14.99	-0.32	58.54	0.3931	-0.6474	0.0012
217	SLD 12			-14.99	-0.32	58.54	0.3931	-0.6474	0.0012



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
217	SLD 13	-19.88	0.06	62.39	-0.079	-0.8655	-0.0002
217	SLD 14	-19.88	0.06	62.39	-0.079	-0.8655	-0.0002
217	SLD 15	-20.69	-0.12	62.82	0.15	-0.9011	0.0005
217	SLD 16	-20.69	-0.12	62.82	0.15	-0.9011	0.0005
217	SLV 1	12.41	0.31	39.29	-0.3798	0.5675	-0.0012
217	SLV 2	12.41	0.31	39.29	-0.3798	0.5675	-0.0012
217	SLV 3	10.48	-0.17	40.32	0.2065	0.4831	0.0007
217	SLV 4	10.48	-0.17	40.32	0.2065	0.4831	0.0007
217	SLV 5	-0.91	0.81	49.26	-1.0023	-0.025	-0.0031
217	SLV 6	-0.91	0.81	49.26	-1.0023	-0.025	-0.0031
217	SLV 7	-7.33	-0.77	52.71	0.952	-0.3063	0.003
217	SLV 8	-7.33	-0.77	52.71	0.952	-0.3063	0.003
217	SLV 9	-14.25	0.77	58.85	-0.9496	-0.6172	-0.003
217	SLV 10	-14.25	0.77	58.85	-0.9496	-0.6172	-0.003
217	SLV 11	-20.67	-0.82	62.3	1.0047	-0.8985	0.0031
217	SLV 12	-20.67	-0.82	62.3	1.0047	-0.8985	0.0031
217	SLV 13	-32.06	0.16	71.24	-0.2041	-1.4066	-0.0006
217	SLV 14	-32.06	0.16	71.24	-0.2041	-1.4066	-0.0006
217	SLV 15	-33.99	-0.31	72.27	0.3821	-1.491	0.0012
217	SLV 16	-33.99	-0.31	72.27	0.3821	-1.491	0.0012
218	SLU 1	-10.82	0	51.17	0.0013	-0.4681	0
218	SLU 2	-10.51	-0.02	51.64	0.0168	-0.4552	0
218	SLU 3	-11.48	0	52.63	0.0013	-0.4965	0
218	SLU 4	-11.29	-0.01	52.91	0.0106	-0.4888	0
218	SLU 5	-10.99	-0.02	52.54	0.0168	-0.476	0
218	SLU 6	-11.96	0	53.53	0.0012	-0.5173	0
218	SLU 7	-11.77	-0.01	53.81	0.0106	-0.5096	0
218	SLU 8	-11.78	0	52.97	0.0012	-0.5097	0
218	SLU 9	-11.59	-0.01	53.25	0.0105	-0.502	0
218	SLU 10	-13.45	-0.02	59.73	0.0169	-0.5806	0
218	SLU 11	-14.42	0	60.72	0.0014	-0.6219	0
218	SLU 12	-14.23	-0.01	61	0.0107	-0.6142	0
218	SLU 13	-13.93	-0.02	60.63	0.0169	-0.6015	0
218	SLU 14	-14.9	0	61.62	0.0014	-0.6428	0
218	SLU 15	-14.71	-0.01	61.9	0.0107	-0.635	0
218	SLU 16	-14.72	0	61.06	0.0014	-0.6351	0
218	SLU 17	-14.53	-0.01	61.34	0.0107	-0.6274	0
218	SLU 18	-15.02	0	62.73	0.0015	-0.6473	0
218	SLU 19	-14.84	-0.01	63.01	0.0108	-0.6396	0
218	SLU 20	-15.5	0	63.63	0.0015	-0.6681	0
218	SLU 21	-15.32	-0.01	63.91	0.0108	-0.6604	0
218	SLU 22	-13.46	0	58.71	0.0014	-0.5808	0
218	SLU 23	-13.14	-0.02	59.18	0.0169	-0.5679	0
218	SLU 24	-14.11	0	60.16	0.0014	-0.6092	0
218	SLU 25	-13.92	-0.01	60.45	0.0107	-0.6015	0
218	SLU 26	-13.62	-0.02	60.08	0.0169	-0.5887	0
218	SLU 27	-14.59	0	61.06	0.0014	-0.63	0
218	SLU 28	-14.4	-0.01	61.34	0.0107	-0.6223	0
218	SLU 29	-14.42	0	60.51	0.0013	-0.6224	0
218	SLU 30	-14.23	-0.01	60.79	0.0107	-0.6147	0
218	SLU 31	-16.09	-0.02	67.27	0.0171	-0.6934	0
218	SLU 32	-17.05	0	68.25	0.0016	-0.7347	0
218	SLU 33	-16.87	-0.01	68.54	0.0109	-0.727	0
218	SLU 34	-16.57	-0.02	68.17	0.017	-0.7142	0
218	SLU 35	-17.53	0	69.15	0.0015	-0.7555	0
218	SLU 36	-17.34	-0.01	69.43	0.0108	-0.7478	0
218	SLU 37	-17.36	0	68.6	0.0015	-0.7479	0
218	SLU 38	-17.17	-0.01	68.88	0.0108	-0.7402	0
218	SLU 39	-17.66	0	70.27	0.0016	-0.76	0
218	SLU 40	-17.47	-0.01	70.55	0.0109	-0.7523	0
218	SLU 41	-18.14	0	71.17	0.0016	-0.7808	0
218	SLU 42	-17.95	-0.01	71.45	0.0109	-0.7731	0
218	SLU 43	-13.17	0	63.94	0.0016	-0.5698	0
218	SLU 44	-12.85	-0.02	64.41	0.0171	-0.557	0
218	SLU 45	-13.82	0	65.4	0.0016	-0.5982	0
218	SLU 46	-13.63	-0.01	65.68	0.0109	-0.5905	0
218	SLU 47	-13.33	-0.02	65.31	0.0171	-0.5778	0
218	SLU 48	-14.3	0	66.3	0.0016	-0.6191	0
218	SLU 49	-14.11	-0.01	66.58	0.0109	-0.6113	0
218	SLU 50	-14.12	0	65.74	0.0016	-0.6114	0
218	SLU 51	-13.94	-0.01	66.02	0.0109	-0.6037	0
218	SLU 52	-15.79	-0.02	72.5	0.0173	-0.6824	0
218	SLU 53	-16.76	0	73.49	0.0018	-0.7237	0
218	SLU 54	-16.57	-0.01	73.77	0.0111	-0.716	0
218	SLU 55	-16.27	-0.02	73.4	0.0173	-0.7032	0
218	SLU 56	-17.24	0	74.39	0.0017	-0.7445	0
218	SLU 57	-17.05	-0.01	74.67	0.0111	-0.7368	0
218	SLU 58	-17.07	0	73.83	0.0017	-0.7369	0
218	SLU 59	-16.88	-0.01	74.11	0.011	-0.7292	0
218	SLU 60	-17.37	0	75.5	0.0018	-0.749	0
218	SLU 61	-17.18	-0.01	75.78	0.0112	-0.7413	0
218	SLU 62	-17.85	0	76.4	0.0018	-0.7699	0
218	SLU 63	-17.66	-0.01	76.68	0.0111	-0.7621	0
218	SLU 64	-15.8	0	71.48	0.0017	-0.6826	0
218	SLU 65	-15.49	-0.02	71.95	0.0172	-0.6697	0
218	SLU 66	-16.45	0	72.93	0.0017	-0.711	0
218	SLU 67	-16.27	-0.01	73.21	0.011	-0.7033	0
218	SLU 68	-15.97	-0.02	72.85	0.0172	-0.6905	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
218	SLU 69	-16.93	0	73.83	0.0017	-0.7318	0
218	SLU 70	-16.75	-0.01	74.11	0.011	-0.7241	0
218	SLU 71	-16.76	0	73.28	0.0017	-0.7242	0
218	SLU 72	-16.57	-0.01	73.56	0.011	-0.7165	0
218	SLU 73	-18.43	-0.02	80.04	0.0174	-0.7951	0
218	SLU 74	-19.4	0	81.02	0.0019	-0.8364	0
218	SLU 75	-19.21	-0.01	81.3	0.0112	-0.8287	0
218	SLU 76	-18.91	-0.02	80.94	0.0174	-0.816	0
218	SLU 77	-19.88	0	81.92	0.0019	-0.8573	0
218	SLU 78	-19.69	-0.01	82.2	0.0112	-0.8495	0
218	SLU 79	-19.7	0	81.37	0.0019	-0.8496	0
218	SLU 80	-19.51	-0.01	81.65	0.0112	-0.8419	0
218	SLU 81	-20	0	83.04	0.002	-0.8618	0
218	SLU 82	-19.81	-0.01	83.32	0.0113	-0.8541	0
218	SLU 83	-20.48	0	83.94	0.0019	-0.8826	0
218	SLU 84	-20.29	-0.01	84.22	0.0113	-0.8749	0
218	SLE RA 1	-11.58	0	53.33	0.0013	-0.5003	0
218	SLE RA 2	-11.37	-0.01	53.64	0.0116	-0.4917	0
218	SLE RA 3	-12.01	0	54.3	0.0013	-0.5192	0
218	SLE RA 4	-11.89	-0.01	54.48	0.0075	-0.5141	0
218	SLE RA 5	-11.69	-0.01	54.24	0.0116	-0.5056	0
218	SLE RA 6	-12.33	0	54.9	0.0013	-0.5331	0
218	SLE RA 7	-12.21	-0.01	55.08	0.0075	-0.5279	0
218	SLE RA 8	-12.21	0	54.53	0.0013	-0.528	0
218	SLE RA 9	-12.09	-0.01	54.71	0.0075	-0.5229	0
218	SLE RA 10	-13.33	-0.01	59.03	0.0118	-0.5753	0
218	SLE RA 11	-13.97	0	59.69	0.0014	-0.6029	0
218	SLE RA 12	-13.85	-0.01	59.88	0.0076	-0.5977	0
218	SLE RA 13	-13.65	-0.01	59.63	0.0117	-0.5892	0
218	SLE RA 14	-14.29	0	60.29	0.0014	-0.6167	0
218	SLE RA 15	-14.17	-0.01	60.48	0.0076	-0.6116	0
218	SLE RA 16	-14.18	0	59.92	0.0014	-0.6117	0
218	SLE RA 17	-14.05	-0.01	60.11	0.0076	-0.6065	0
218	SLE RA 18	-14.38	0	61.03	0.0015	-0.6198	0
218	SLE RA 19	-14.25	-0.01	61.22	0.0077	-0.6146	0
218	SLE RA 20	-14.7	0	61.63	0.0014	-0.6336	0
218	SLE RA 21	-14.57	-0.01	61.82	0.0077	-0.6285	0
218	SLE FR 1	-11.58	0	53.33	0.0013	-0.5003	0
218	SLE FR 2	-11.53	0	53.39	0.0034	-0.4986	0
218	SLE FR 3	-11.7	0	53.57	0.0013	-0.5058	0
218	SLE FR 4	-12.37	0	55.7	0.0034	-0.5344	0
218	SLE FR 5	-12.54	0	55.88	0.0013	-0.5417	0
218	SLE FR 6	-12.98	0	57.18	0.0014	-0.56	0
218	SLE QP 1	-11.58	0	53.33	0.0013	-0.5003	0
218	SLE QP 2	-12.42	0	55.64	0.0014	-0.5361	0
218	SLD 1	-2.66	0.08	46.34	-0.1048	-0.1071	-0.0002
218	SLD 2	-2.66	0.08	46.34	-0.1048	-0.1071	-0.0002
218	SLD 3	-3.45	-0.03	46.82	0.0576	-0.1407	0.0001
218	SLD 4	-3.45	-0.03	46.82	0.0576	-0.1407	0.0001
218	SLD 5	-8.31	0.18	52.12	-0.2768	-0.3565	-0.0006
218	SLD 6	-8.31	0.18	52.12	-0.2768	-0.3565	-0.0006
218	SLD 7	-10.91	-0.17	53.72	0.2646	-0.4684	0.0006
218	SLD 8	-10.91	-0.17	53.72	0.2646	-0.4684	0.0006
218	SLD 9	-13.92	0.16	57.56	-0.2618	-0.6038	-0.0006
218	SLD 10	-13.92	0.16	57.56	-0.2618	-0.6038	-0.0006
218	SLD 11	-16.53	-0.18	59.16	0.2795	-0.7157	0.0007
218	SLD 12	-16.53	-0.18	59.16	0.2795	-0.7157	0.0007
218	SLD 13	-21.39	0.02	64.46	-0.0549	-0.9316	-0.0001
218	SLD 14	-21.39	0.02	64.46	-0.0549	-0.9316	-0.0001
218	SLD 15	-22.17	-0.08	64.94	0.1075	-0.9651	0.0003
218	SLD 16	-22.17	-0.08	64.94	0.1075	-0.9651	0.0003
218	SLV 1	10.42	0.2	33.85	-0.2702	0.4687	-0.0006
218	SLV 2	10.42	0.2	33.85	-0.2702	0.4687	-0.0006
218	SLV 3	8.57	-0.06	35.01	0.1455	0.3891	0.0003
218	SLV 4	8.57	-0.06	35.01	0.1455	0.3891	0.0003
218	SLV 5	-2.75	0.45	47.35	-0.7105	-0.1139	-0.0016
218	SLV 6	-2.75	0.45	47.35	-0.7105	-0.1139	-0.0016
218	SLV 7	-8.93	-0.42	51.21	0.675	-0.3793	0.0016
218	SLV 8	-8.93	-0.42	51.21	0.675	-0.3793	0.0016
218	SLV 9	-15.9	0.41	60.07	-0.6723	-0.6929	-0.0015
218	SLV 10	-15.9	0.41	60.07	-0.6723	-0.6929	-0.0015
218	SLV 11	-22.08	-0.46	63.93	0.7133	-0.9584	0.0017
218	SLV 12	-22.08	-0.46	63.93	0.7133	-0.9584	0.0017
218	SLV 13	-33.4	0.06	76.27	-0.1428	-1.4613	-0.0003
218	SLV 14	-33.4	0.06	76.27	-0.1428	-1.4613	-0.0003
218	SLV 15	-35.26	-0.2	77.43	0.2729	-1.541	0.0007
218	SLV 16	-35.26	-0.2	77.43	0.2729	-1.541	0.0007
219	SLU 1	-12.66	0	51.28	0.0012	-0.539	0
219	SLU 2	-12.38	-0.02	51.81	0.0134	-0.5268	0
219	SLU 3	-13.36	0	52.81	0.0012	-0.5691	0
219	SLU 4	-13.19	-0.01	53.12	0.0085	-0.5619	0
219	SLU 5	-12.88	-0.02	52.76	0.0133	-0.5486	0
219	SLU 6	-13.86	0	53.75	0.0012	-0.5909	0
219	SLU 7	-13.69	-0.01	54.07	0.0085	-0.5837	0
219	SLU 8	-13.67	0	53.17	0.0012	-0.5826	0
219	SLU 9	-13.5	-0.01	53.49	0.0085	-0.5753	0
219	SLU 10	-15.61	-0.02	59.67	0.0135	-0.6635	0
219	SLU 11	-16.59	0	60.66	0.0014	-0.7058	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
219	SLU 12	-16.42	-0.01	60.98	0.0087	-0.6985	0
219	SLU 13	-16.12	-0.02	60.61	0.0135	-0.6853	0
219	SLU 14	-17.1	0	61.61	0.0014	-0.7276	0
219	SLU 15	-16.93	-0.01	61.92	0.0086	-0.7203	0
219	SLU 16	-16.9	0	61.03	0.0013	-0.7193	0
219	SLU 17	-16.73	-0.01	61.35	0.0086	-0.712	0
219	SLU 18	-17.28	0	62.51	0.0014	-0.7342	0
219	SLU 19	-17.11	-0.01	62.82	0.0087	-0.7269	0
219	SLU 20	-17.78	0	63.45	0.0014	-0.756	0
219	SLU 21	-17.61	-0.01	63.77	0.0087	-0.7487	0
219	SLU 22	-15.57	0	58.67	0.0013	-0.6622	0
219	SLU 23	-15.29	-0.02	59.2	0.0135	-0.65	0
219	SLU 24	-16.27	0	60.19	0.0014	-0.6923	0
219	SLU 25	-16.1	-0.01	60.51	0.0086	-0.685	0
219	SLU 26	-15.79	-0.02	60.14	0.0135	-0.6718	0
219	SLU 27	-16.77	0	61.14	0.0013	-0.7141	0
219	SLU 28	-16.6	-0.01	61.46	0.0086	-0.7068	0
219	SLU 29	-16.58	0	60.56	0.0013	-0.7058	0
219	SLU 30	-16.41	-0.01	60.88	0.0086	-0.6985	0
219	SLU 31	-18.52	-0.02	67.06	0.0137	-0.7867	0
219	SLU 32	-19.5	0	68.05	0.0015	-0.829	0
219	SLU 33	-19.33	-0.01	68.37	0.0088	-0.8217	0
219	SLU 34	-19.02	-0.02	68	0.0136	-0.8085	0
219	SLU 35	-20	0	69	0.0015	-0.8508	0
219	SLU 36	-19.83	-0.01	69.31	0.0088	-0.8435	0
219	SLU 37	-19.81	0	68.42	0.0015	-0.8424	0
219	SLU 38	-19.64	-0.01	68.74	0.0088	-0.8352	0
219	SLU 39	-20.19	0	69.9	0.0016	-0.8574	0
219	SLU 40	-20.02	-0.01	70.21	0.0089	-0.8501	0
219	SLU 41	-20.69	0	70.84	0.0016	-0.8792	0
219	SLU 42	-20.52	-0.01	71.16	0.0089	-0.8719	0
219	SLU 43	-15.46	0	64.13	0.0015	-0.6584	0
219	SLU 44	-15.18	-0.02	64.66	0.0137	-0.6463	0
219	SLU 45	-16.16	0	65.66	0.0015	-0.6886	0
219	SLU 46	-15.99	-0.01	65.97	0.0088	-0.6813	0
219	SLU 47	-15.69	-0.02	65.61	0.0136	-0.6681	0
219	SLU 48	-16.67	0	66.6	0.0015	-0.7104	0
219	SLU 49	-16.5	-0.01	66.92	0.0088	-0.7031	0
219	SLU 50	-16.47	0	66.02	0.0015	-0.702	0
219	SLU 51	-16.3	-0.01	66.34	0.0088	-0.6948	0
219	SLU 52	-18.41	-0.02	72.52	0.0138	-0.783	0
219	SLU 53	-19.4	0	73.51	0.0017	-0.8253	0
219	SLU 54	-19.23	-0.01	73.83	0.009	-0.818	0
219	SLU 55	-18.92	-0.02	73.46	0.0138	-0.8048	0
219	SLU 56	-19.9	0	74.46	0.0017	-0.8471	0
219	SLU 57	-19.73	-0.01	74.77	0.009	-0.8398	0
219	SLU 58	-19.71	0	73.88	0.0016	-0.8387	0
219	SLU 59	-19.54	-0.01	74.2	0.0089	-0.8314	0
219	SLU 60	-20.08	0	75.36	0.0018	-0.8537	0
219	SLU 61	-19.91	-0.01	75.67	0.009	-0.8464	0
219	SLU 62	-20.59	0	76.3	0.0017	-0.8755	0
219	SLU 63	-20.42	-0.01	76.62	0.009	-0.8682	0
219	SLU 64	-18.37	0	71.52	0.0017	-0.7816	0
219	SLU 65	-18.09	-0.02	72.05	0.0138	-0.7695	0
219	SLU 66	-19.07	0	73.05	0.0017	-0.8118	0
219	SLU 67	-18.9	-0.01	73.36	0.009	-0.8045	0
219	SLU 68	-18.59	-0.02	73	0.0138	-0.7913	0
219	SLU 69	-19.57	0	73.99	0.0016	-0.8336	0
219	SLU 70	-19.4	-0.01	74.31	0.0089	-0.8263	0
219	SLU 71	-19.38	0	73.41	0.0016	-0.8252	0
219	SLU 72	-19.21	-0.01	73.73	0.0089	-0.8179	0
219	SLU 73	-21.32	-0.02	79.91	0.014	-0.9061	0
219	SLU 74	-22.3	0	80.9	0.0018	-0.9485	0
219	SLU 75	-22.13	-0.01	81.22	0.0091	-0.9412	0
219	SLU 76	-21.82	-0.02	80.85	0.014	-0.928	0
219	SLU 77	-22.81	0	81.85	0.0018	-0.9703	0
219	SLU 78	-22.64	-0.01	82.16	0.0091	-0.963	0
219	SLU 79	-22.61	0	81.27	0.0018	-0.9619	0
219	SLU 80	-22.44	-0.01	81.59	0.0091	-0.9546	0
219	SLU 81	-22.99	0	82.75	0.0019	-0.9769	0
219	SLU 82	-22.82	-0.01	83.06	0.0092	-0.9696	0
219	SLU 83	-23.49	0	83.69	0.0019	-0.9987	0
219	SLU 84	-23.32	-0.01	84.01	0.0092	-0.9914	0
219	SLE RA 1	-13.49	0	53.39	0.0012	-0.5742	0
219	SLE RA 2	-13.3	-0.01	53.75	0.0093	-0.5661	0
219	SLE RA 3	-13.96	0	54.41	0.0012	-0.5943	0
219	SLE RA 4	-13.84	-0.01	54.62	0.0061	-0.5894	0
219	SLE RA 5	-13.64	-0.01	54.38	0.0093	-0.5806	0
219	SLE RA 6	-14.29	0	55.04	0.0012	-0.6088	0
219	SLE RA 7	-14.18	-0.01	55.25	0.0061	-0.604	0
219	SLE RA 8	-14.16	0	54.65	0.0012	-0.6032	0
219	SLE RA 9	-14.05	-0.01	54.87	0.0061	-0.5984	0
219	SLE RA 10	-15.46	-0.01	58.98	0.0095	-0.6572	0
219	SLE RA 11	-16.11	0	59.65	0.0014	-0.6854	0
219	SLE RA 12	-16	-0.01	59.86	0.0062	-0.6805	0
219	SLE RA 13	-15.8	-0.01	59.61	0.0094	-0.6717	0
219	SLE RA 14	-16.45	0	60.28	0.0013	-0.6999	0
219	SLE RA 15	-16.34	-0.01	60.49	0.0062	-0.6951	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
219	SLE RA 16			-16.32	0	59.89	0.0013	-0.6944	0
219	SLE RA 17			-16.21	-0.01	60.1	0.0062	-0.6895	0
219	SLE RA 18			-16.57	0	60.88	0.0014	-0.7043	0
219	SLE RA 19			-16.46	-0.01	61.09	0.0063	-0.6995	0
219	SLE RA 20			-16.91	0	61.51	0.0014	-0.7189	0
219	SLE RA 21			-16.79	-0.01	61.72	0.0063	-0.714	0
219	SLE FR 1			-13.49	0	53.39	0.0012	-0.5742	0
219	SLE FR 2			-13.46	0	53.46	0.0029	-0.5725	0
219	SLE FR 3			-13.63	0	53.65	0.0012	-0.58	0
219	SLE FR 4			-14.38	0	55.71	0.0029	-0.6116	0
219	SLE FR 5			-14.55	0	55.89	0.0013	-0.619	0
219	SLE FR 6			-15.03	0	57.14	0.0013	-0.6393	0
219	SLE QP 1			-13.49	0	53.39	0.0012	-0.5742	0
219	SLE QP 2			-14.42	0	55.64	0.0013	-0.6132	0
219	SLD 1			-4.59	0.01	43.71	-0.0642	-0.1773	-0.0001
219	SLD 2			-4.59	0.01	43.71	-0.0642	-0.1773	-0.0001
219	SLD 3			-5.35	0.05	44.28	0.0317	-0.2106	0
219	SLD 4			-5.35	0.05	44.28	0.0317	-0.2106	0
219	SLD 5			-10.32	-0.07	51.21	-0.1637	-0.432	-0.0003
219	SLD 6			-10.32	-0.07	51.21	-0.1637	-0.432	-0.0003
219	SLD 7			-12.85	0.09	53.09	0.1558	-0.5429	0.0003
219	SLD 8			-12.85	0.09	53.09	0.1558	-0.5429	0.0003
219	SLD 9			-15.98	-0.09	58.19	-0.1532	-0.6835	-0.0003
219	SLD 10			-15.98	-0.09	58.19	-0.1532	-0.6835	-0.0003
219	SLD 11			-18.52	0.07	60.07	0.1663	-0.7945	0.0003
219	SLD 12			-18.52	0.07	60.07	0.1663	-0.7945	0.0003
219	SLD 13			-23.48	-0.06	67	-0.0291	-1.0158	0
219	SLD 14			-23.48	-0.06	67	-0.0291	-1.0158	0
219	SLD 15			-24.24	-0.01	67.56	0.0668	-1.0491	0.0001
219	SLD 16			-24.24	-0.01	67.56	0.0668	-1.0491	0.0001
219	SLV 1			8.59	0.02	27.7	-0.1658	0.408	-0.0003
219	SLV 2			8.59	0.02	27.7	-0.1658	0.408	-0.0003
219	SLV 3			6.79	0.14	29.05	0.0793	0.3289	0.0001
219	SLV 4			6.79	0.14	29.05	0.0793	0.3289	0.0001
219	SLV 5			-4.77	-0.17	45.21	-0.4205	-0.1869	-0.0007
219	SLV 6			-4.77	-0.17	45.21	-0.4205	-0.1869	-0.0007
219	SLV 7			-10.79	0.22	49.72	0.3963	-0.4505	0.0007
219	SLV 8			-10.79	0.22	49.72	0.3963	-0.4505	0.0007
219	SLV 9			-18.04	-0.22	61.56	-0.3938	-0.7759	-0.0007
219	SLV 10			-18.04	-0.22	61.56	-0.3938	-0.7759	-0.0007
219	SLV 11			-24.06	0.17	66.07	0.4231	-1.0395	0.0008
219	SLV 12			-24.06	0.17	66.07	0.4231	-1.0395	0.0008
219	SLV 13			-35.62	-0.15	82.22	-0.0767	-1.5553	-0.0001
219	SLV 14			-35.62	-0.15	82.22	-0.0767	-1.5553	-0.0001
219	SLV 15			-37.43	-0.03	83.58	0.1684	-1.6344	0.0003
219	SLV 16			-37.43	-0.03	83.58	0.1684	-1.6344	0.0003
220	SLU 1			-15.22	0	53.07	0.0009	-0.68	0
220	SLU 2			-15	-0.01	53.64	0.0073	-0.6711	0
220	SLU 3			-15.97	0	54.75	0.0009	-0.714	0
220	SLU 4			-15.84	-0.01	55.09	0.0047	-0.7087	0
220	SLU 5			-15.54	-0.01	54.69	0.0072	-0.6952	0
220	SLU 6			-16.51	0	55.81	0.0009	-0.738	0
220	SLU 7			-16.38	-0.01	56.15	0.0047	-0.7327	0
220	SLU 8			-16.29	0	55.18	0.0008	-0.7281	0
220	SLU 9			-16.16	-0.01	55.52	0.0047	-0.7228	0
220	SLU 10			-18.55	-0.01	61.63	0.0074	-0.8277	0
220	SLU 11			-19.53	0	62.75	0.001	-0.8705	0
220	SLU 12			-19.4	-0.01	63.09	0.0049	-0.8652	0
220	SLU 13			-19.09	-0.01	62.69	0.0074	-0.8517	0
220	SLU 14			-20.06	0	63.81	0.001	-0.8946	0
220	SLU 15			-19.93	-0.01	64.15	0.0048	-0.8892	0
220	SLU 16			-19.84	0	63.18	0.001	-0.8846	0
220	SLU 17			-19.71	-0.01	63.52	0.0048	-0.8793	0
220	SLU 18			-20.29	0	64.49	0.0011	-0.9036	0
220	SLU 19			-20.16	-0.01	64.84	0.0049	-0.8983	0
220	SLU 20			-20.83	0	65.55	0.0011	-0.9276	0
220	SLU 21			-20.7	-0.01	65.89	0.0049	-0.9223	0
220	SLU 22			-18.43	0	60.66	0.001	-0.8222	0
220	SLU 23			-18.22	-0.01	61.23	0.0074	-0.8133	0
220	SLU 24			-19.19	0	62.34	0.001	-0.8562	0
220	SLU 25			-19.06	-0.01	62.68	0.0049	-0.8509	0
220	SLU 26			-18.75	-0.01	62.28	0.0074	-0.8374	0
220	SLU 27			-19.73	0	63.4	0.001	-0.8802	0
220	SLU 28			-19.6	-0.01	63.74	0.0048	-0.8749	0
220	SLU 29			-19.51	0	62.77	0.001	-0.8703	0
220	SLU 30			-19.38	-0.01	63.11	0.0048	-0.865	0
220	SLU 31			-21.77	-0.01	69.22	0.0075	-0.9698	0
220	SLU 32			-22.75	0	70.34	0.0012	-1.0127	0
220	SLU 33			-22.61	-0.01	70.68	0.005	-1.0074	0
220	SLU 34			-22.31	-0.01	70.28	0.0075	-0.9939	0
220	SLU 35			-23.28	0	71.4	0.0011	-1.0367	0
220	SLU 36			-23.15	-0.01	71.74	0.005	-1.0314	0
220	SLU 37			-23.06	0	70.77	0.0011	-1.0268	0
220	SLU 38			-22.93	-0.01	71.11	0.005	-1.0215	0
220	SLU 39			-23.51	0	72.08	0.0012	-1.0458	0
220	SLU 40			-23.38	-0.01	72.43	0.005	-1.0405	0
220	SLU 41			-24.05	0	73.14	0.0012	-1.0698	0
220	SLU 42			-23.92	-0.01	73.48	0.005	-1.0645	0





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
220	SLU 43	-18.68	0	66.39	0.0011	-0.8352	0
220	SLU 44	-18.46	-0.01	66.96	0.0075	-0.8264	0
220	SLU 45	-19.44	0	68.07	0.0011	-0.8692	0
220	SLU 46	-19.3	-0.01	68.41	0.0049	-0.8639	0
220	SLU 47	-19	-0.01	68.01	0.0075	-0.8504	0
220	SLU 48	-19.97	0	69.13	0.0011	-0.8933	0
220	SLU 49	-19.84	-0.01	69.47	0.0049	-0.888	0
220	SLU 50	-19.75	0	68.5	0.0011	-0.8833	0
220	SLU 51	-19.62	-0.01	68.84	0.0049	-0.878	0
220	SLU 52	-22.01	-0.01	74.95	0.0076	-0.9829	0
220	SLU 53	-22.99	0	76.07	0.0012	-1.0258	0
220	SLU 54	-22.86	-0.01	76.41	0.0051	-1.0204	0
220	SLU 55	-22.55	-0.01	76.01	0.0076	-1.007	0
220	SLU 56	-23.53	0	77.12	0.0012	-1.0498	0
220	SLU 57	-23.39	-0.01	77.46	0.005	-1.0445	0
220	SLU 58	-23.3	0	76.5	0.0012	-1.0398	0
220	SLU 59	-23.17	-0.01	76.84	0.005	-1.0345	0
220	SLU 60	-23.76	0	77.81	0.0013	-1.0588	0
220	SLU 61	-23.63	-0.01	78.15	0.0051	-1.0535	0
220	SLU 62	-24.29	0	78.87	0.0013	-1.0829	0
220	SLU 63	-24.16	-0.01	79.21	0.0051	-1.0776	0
220	SLU 64	-21.9	0	73.98	0.0012	-0.9774	0
220	SLU 65	-21.68	-0.01	74.55	0.0076	-0.9686	0
220	SLU 66	-22.65	0	75.66	0.0012	-1.0114	0
220	SLU 67	-22.52	-0.01	76	0.0051	-1.0061	0
220	SLU 68	-22.21	-0.01	75.6	0.0076	-0.9926	0
220	SLU 69	-23.19	0	76.72	0.0012	-1.0355	0
220	SLU 70	-23.06	-0.01	77.06	0.005	-1.0302	0
220	SLU 71	-22.97	0	76.09	0.0012	-1.0255	0
220	SLU 72	-22.84	-0.01	76.43	0.005	-1.0202	0
220	SLU 73	-25.23	-0.01	82.54	0.0078	-1.1251	0
220	SLU 74	-26.21	0	83.66	0.0014	-1.1679	0
220	SLU 75	-26.08	-0.01	84	0.0052	-1.1626	0
220	SLU 76	-25.77	-0.01	83.6	0.0077	-1.1491	0
220	SLU 77	-26.74	0	84.71	0.0014	-1.192	0
220	SLU 78	-26.61	-0.01	85.05	0.0052	-1.1867	0
220	SLU 79	-26.52	0	84.09	0.0013	-1.182	0
220	SLU 80	-26.39	-0.01	84.43	0.0052	-1.1767	0
220	SLU 81	-26.97	0	85.4	0.0014	-1.201	0
220	SLU 82	-26.84	-0.01	85.74	0.0053	-1.1957	0
220	SLU 83	-27.51	0	86.46	0.0014	-1.2251	0
220	SLU 84	-27.38	-0.01	86.8	0.0052	-1.2198	0
220	SLE RA 1	-16.14	0	55.24	0.0009	-0.7206	0
220	SLE RA 2	-15.99	-0.01	55.62	0.0052	-0.7147	0
220	SLE RA 3	-16.64	0	56.36	0.0009	-0.7433	0
220	SLE RA 4	-16.55	-0.01	56.59	0.0035	-0.7397	0
220	SLE RA 5	-16.35	-0.01	56.32	0.0052	-0.7307	0
220	SLE RA 6	-17	0	57.06	0.0009	-0.7593	0
220	SLE RA 7	-16.91	-0.01	57.29	0.0035	-0.7558	0
220	SLE RA 8	-16.85	0	56.65	0.0009	-0.7527	0
220	SLE RA 9	-16.76	-0.01	56.87	0.0034	-0.7491	0
220	SLE RA 10	-18.36	-0.01	60.95	0.0053	-0.8191	0
220	SLE RA 11	-19.01	0	61.69	0.001	-0.8476	0
220	SLE RA 12	-18.92	-0.01	61.92	0.0036	-0.8441	0
220	SLE RA 13	-18.72	-0.01	61.65	0.0053	-0.8351	0
220	SLE RA 14	-19.37	0	62.4	0.001	-0.8637	0
220	SLE RA 15	-19.28	-0.01	62.62	0.0036	-0.8601	0
220	SLE RA 16	-19.22	0	61.98	0.001	-0.857	0
220	SLE RA 17	-19.13	-0.01	62.21	0.0035	-0.8535	0
220	SLE RA 18	-19.52	0	62.86	0.0011	-0.8697	0
220	SLE RA 19	-19.43	-0.01	63.08	0.0036	-0.8661	0
220	SLE RA 20	-19.88	0	63.56	0.001	-0.8857	0
220	SLE RA 21	-19.79	-0.01	63.79	0.0036	-0.8822	0
220	SLE FR 1	-16.14	0	55.24	0.0009	-0.7206	0
220	SLE FR 2	-16.11	0	55.32	0.0018	-0.7194	0
220	SLE FR 3	-16.28	0	55.52	0.0009	-0.727	0
220	SLE FR 4	-17.12	0	57.6	0.0018	-0.7641	0
220	SLE FR 5	-17.29	0	57.81	0.001	-0.7717	0
220	SLE FR 6	-17.83	0	59.05	0.001	-0.7951	0
220	SLE QP 1	-16.14	0	55.24	0.0009	-0.7206	0
220	SLE QP 2	-17.15	0	57.52	0.001	-0.7653	0
220	SLD 1	-7.21	0	41.68	-0.0301	-0.311	0
220	SLD 2	-7.21	0	41.68	-0.0301	-0.311	0
220	SLD 3	-7.93	0.05	42.41	0.0115	-0.3433	-0.0001
220	SLD 4	-7.93	0.05	42.41	0.0115	-0.3433	-0.0001
220	SLD 5	-13.08	-0.07	51.66	-0.0715	-0.5801	0.0002
220	SLD 6	-13.08	-0.07	51.66	-0.0715	-0.5801	0.0002
220	SLD 7	-15.48	0.08	54.1	0.0673	-0.6876	-0.0002
220	SLD 8	-15.48	0.08	54.1	0.0673	-0.6876	-0.0002
220	SLD 9	-18.82	-0.09	60.95	-0.0653	-0.843	0.0002
220	SLD 10	-18.82	-0.09	60.95	-0.0653	-0.843	0.0002
220	SLD 11	-21.23	0.07	63.38	0.0734	-0.9505	-0.0002
220	SLD 12	-21.23	0.07	63.38	0.0734	-0.9505	-0.0002
220	SLD 13	-26.37	-0.05	72.64	-0.0096	-1.1874	0.0001
220	SLD 14	-26.37	-0.05	72.64	-0.0096	-1.1874	0.0001
220	SLD 15	-27.09	-0.01	73.37	0.032	-1.2196	0
220	SLD 16	-27.09	-0.01	73.37	0.032	-1.2196	0
220	SLV 1	6.13	0.01	20.41	-0.0779	0.2987	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
220	SLV 2	6.13	0.01	20.41	-0.0779	0.2987	0
220	SLV 3	4.42	0.13	22.15	0.0283	0.2222	-0.0003
220	SLV 4	4.42	0.13	22.15	0.0283	0.2222	-0.0003
220	SLV 5	-7.57	-0.18	43.75	-0.1836	-0.33	0.0005
220	SLV 6	-7.57	-0.18	43.75	-0.1836	-0.33	0.0005
220	SLV 7	-13.28	0.22	49.55	0.1701	-0.5852	-0.0006
220	SLV 8	-13.28	0.22	49.55	0.1701	-0.5852	-0.0006
220	SLV 9	-21.02	-0.22	65.5	-0.1682	-0.9455	0.0006
220	SLV 10	-21.02	-0.22	65.5	-0.1682	-0.9455	0.0006
220	SLV 11	-26.73	0.18	71.3	0.1855	-1.2007	-0.0005
220	SLV 12	-26.73	0.18	71.3	0.1855	-1.2007	-0.0005
220	SLV 13	-38.72	-0.13	92.9	-0.0263	-1.7528	0.0003
220	SLV 14	-38.72	-0.13	92.9	-0.0263	-1.7528	0.0003
220	SLV 15	-40.43	-0.01	94.64	0.0798	-1.8294	0
220	SLV 16	-40.43	-0.01	94.64	0.0798	-1.8294	0
221	SLU 1	-13.3	-0.16	96.76	-0.0068	-0.4528	0.0001
221	SLU 2	-13.25	0.22	97.8	-0.0253	-0.4491	0
221	SLU 3	-13.87	-0.17	100.04	-0.0074	-0.4741	0.0001
221	SLU 4	-13.84	0.06	100.66	-0.0185	-0.4718	0
221	SLU 5	-13.64	0.22	99.87	-0.0261	-0.4639	0
221	SLU 6	-14.26	-0.18	102.11	-0.0082	-0.4889	0.0001
221	SLU 7	-14.23	0.05	102.73	-0.0193	-0.4866	0
221	SLU 8	-14.08	-0.17	100.92	-0.0083	-0.4824	0.0001
221	SLU 9	-14.05	0.06	101.54	-0.0194	-0.4802	0
221	SLU 10	-15.89	0.18	112.35	-0.0257	-0.5464	0
221	SLU 11	-16.51	-0.22	114.59	-0.0078	-0.5714	0.0001
221	SLU 12	-16.48	0.01	115.21	-0.0189	-0.5691	0.0001
221	SLU 13	-16.28	0.17	114.43	-0.0265	-0.5612	0
221	SLU 14	-16.9	-0.22	116.67	-0.0086	-0.5862	0.0001
221	SLU 15	-16.87	0.01	117.29	-0.0197	-0.5839	0.0001
221	SLU 16	-16.72	-0.21	115.47	-0.0087	-0.5797	0.0001
221	SLU 17	-16.69	0.02	116.09	-0.0198	-0.5775	0.0001
221	SLU 18	-17.07	-0.23	117.56	-0.0074	-0.5918	0.0001
221	SLU 19	-17.04	0.01	118.18	-0.0185	-0.5896	0.0001
221	SLU 20	-17.46	-0.23	119.64	-0.0081	-0.6066	0.0001
221	SLU 21	-17.43	0	120.26	-0.0192	-0.6044	0.0001
221	SLU 22	-15.73	-0.22	110.67	-0.0068	-0.5418	0.0001
221	SLU 23	-15.68	0.16	111.7	-0.0253	-0.5381	0
221	SLU 24	-16.3	-0.23	113.94	-0.0074	-0.5631	0.0001
221	SLU 25	-16.27	0	114.56	-0.0185	-0.5608	0.0001
221	SLU 26	-16.07	0.16	113.78	-0.026	-0.5529	0
221	SLU 27	-16.69	-0.24	116.02	-0.0081	-0.5779	0.0001
221	SLU 28	-16.67	-0.01	116.64	-0.0192	-0.5757	0.0001
221	SLU 29	-16.51	-0.23	114.82	-0.0083	-0.5715	0.0001
221	SLU 30	-16.48	0	115.44	-0.0194	-0.5692	0.0001
221	SLU 31	-18.32	0.12	126.26	-0.0256	-0.6354	0
221	SLU 32	-18.94	-0.28	128.5	-0.0077	-0.6604	0.0001
221	SLU 33	-18.91	-0.05	129.12	-0.0188	-0.6581	0.0001
221	SLU 34	-18.71	0.11	128.34	-0.0264	-0.6502	0
221	SLU 35	-19.33	-0.28	130.58	-0.0085	-0.6752	0.0001
221	SLU 36	-19.3	-0.05	131.2	-0.0196	-0.6729	0.0001
221	SLU 37	-19.15	-0.28	129.38	-0.0087	-0.6687	0.0001
221	SLU 38	-19.12	-0.04	130	-0.0198	-0.6665	0.0001
221	SLU 39	-19.5	-0.29	131.47	-0.0073	-0.6808	0.0001
221	SLU 40	-19.47	-0.06	132.09	-0.0184	-0.6786	0.0001
221	SLU 41	-19.89	-0.29	133.54	-0.0081	-0.6956	0.0001
221	SLU 42	-19.86	-0.06	134.16	-0.0192	-0.6934	0.0001
221	SLU 43	-16.45	-0.19	121.02	-0.0089	-0.5582	0.0001
221	SLU 44	-16.41	0.19	122.06	-0.0274	-0.5544	0
221	SLU 45	-17.03	-0.2	124.3	-0.0095	-0.5794	0.0001
221	SLU 46	-17	0.03	124.92	-0.0206	-0.5772	0.0001
221	SLU 47	-16.8	0.19	124.13	-0.0282	-0.5692	0
221	SLU 48	-17.42	-0.21	126.37	-0.0103	-0.5942	0.0001
221	SLU 49	-17.39	0.02	126.99	-0.0214	-0.592	0.0001
221	SLU 50	-17.24	-0.2	125.18	-0.0104	-0.5878	0.0001
221	SLU 51	-17.21	0.03	125.8	-0.0215	-0.5855	0.0001
221	SLU 52	-19.05	0.15	136.62	-0.0278	-0.6517	0
221	SLU 53	-19.67	-0.25	138.85	-0.0099	-0.6767	0.0001
221	SLU 54	-19.64	-0.01	139.48	-0.021	-0.6744	0.0001
221	SLU 55	-19.44	0.15	138.69	-0.0285	-0.6665	0
221	SLU 56	-20.06	-0.25	140.93	-0.0106	-0.6915	0.0001
221	SLU 57	-20.03	-0.02	141.55	-0.0217	-0.6892	0.0001
221	SLU 58	-19.87	-0.24	139.73	-0.0108	-0.6851	0.0001
221	SLU 59	-19.85	-0.01	140.36	-0.0219	-0.6828	0.0001
221	SLU 60	-20.22	-0.25	141.82	-0.0095	-0.6971	0.0001
221	SLU 61	-20.2	-0.02	142.44	-0.0206	-0.6949	0.0001
221	SLU 62	-20.62	-0.26	143.9	-0.0102	-0.7119	0.0001
221	SLU 63	-20.59	-0.03	144.52	-0.0213	-0.7097	0.0001
221	SLU 64	-18.89	-0.25	134.93	-0.0088	-0.6472	0.0001
221	SLU 65	-18.84	0.13	135.96	-0.0273	-0.6434	0
221	SLU 66	-19.46	-0.26	138.2	-0.0094	-0.6684	0.0001
221	SLU 67	-19.43	-0.03	138.82	-0.0205	-0.6662	0.0001
221	SLU 68	-19.23	0.13	138.04	-0.0281	-0.6582	0
221	SLU 69	-19.85	-0.27	140.28	-0.0102	-0.6832	0.0001
221	SLU 70	-19.82	-0.04	140.9	-0.0213	-0.681	0.0001
221	SLU 71	-19.67	-0.26	139.08	-0.0103	-0.6768	0.0001
221	SLU 72	-19.64	-0.03	139.7	-0.0214	-0.6745	0.0001
221	SLU 73	-21.48	0.09	150.52	-0.0277	-0.7407	0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
221	SLU 74	-22.1	-0.31	152.76	-0.0098	-0.7657	0.0001	
221	SLU 75	-22.07	-0.08	153.38	-0.0209	-0.7635	0.0001	
221	SLU 76	-21.87	0.08	152.6	-0.0285	-0.7555	0.0001	
221	SLU 77	-22.49	-0.31	154.84	-0.0106	-0.7805	0.0001	
221	SLU 78	-22.46	-0.08	155.46	-0.0217	-0.7783	0.0001	
221	SLU 79	-22.31	-0.3	153.64	-0.0107	-0.7741	0.0001	
221	SLU 80	-22.28	-0.07	154.26	-0.0218	-0.7718	0.0001	
221	SLU 81	-22.66	-0.31	155.73	-0.0094	-0.7861	0.0001	
221	SLU 82	-22.63	-0.08	156.35	-0.0205	-0.7839	0.0001	
221	SLU 83	-23.05	-0.32	157.8	-0.0101	-0.8009	0.0001	
221	SLU 84	-23.02	-0.09	158.42	-0.0212	-0.7987	0.0001	
221	SLE RA 1	-13.99	-0.18	100.74	-0.0068	-0.4783	0.0001	
221	SLE RA 2	-13.96	0.08	101.43	-0.0191	-0.4758	0	
221	SLE RA 3	-14.37	-0.19	102.92	-0.0072	-0.4924	0.0001	
221	SLE RA 4	-14.36	-0.03	103.33	-0.0146	-0.4909	0.0001	
221	SLE RA 5	-14.22	0.07	102.81	-0.0196	-0.4856	0	
221	SLE RA 6	-14.64	-0.19	104.3	-0.0077	-0.5023	0.0001	
221	SLE RA 7	-14.62	-0.04	104.72	-0.0151	-0.5008	0.0001	
221	SLE RA 8	-14.51	-0.19	103.5	-0.0078	-0.498	0.0001	
221	SLE RA 9	-14.5	-0.03	103.92	-0.0152	-0.4965	0.0001	
221	SLE RA 10	-15.72	0.05	111.13	-0.0194	-0.5406	0	
221	SLE RA 11	-16.13	-0.22	112.62	-0.0075	-0.5573	0.0001	
221	SLE RA 12	-16.12	-0.06	113.04	-0.0149	-0.5558	0.0001	
221	SLE RA 13	-15.98	0.04	112.52	-0.0199	-0.5505	0	
221	SLE RA 14	-16.39	-0.22	114.01	-0.008	-0.5671	0.0001	
221	SLE RA 15	-16.38	-0.07	114.42	-0.0154	-0.5657	0.0001	
221	SLE RA 16	-16.27	-0.21	113.21	-0.0081	-0.5629	0.0001	
221	SLE RA 17	-16.26	-0.06	113.62	-0.0155	-0.5614	0.0001	
221	SLE RA 18	-16.51	-0.22	114.6	-0.0072	-0.5709	0.0001	
221	SLE RA 19	-16.49	-0.07	115.01	-0.0146	-0.5694	0.0001	
221	SLE RA 20	-16.77	-0.22	115.98	-0.0077	-0.5808	0.0001	
221	SLE RA 21	-16.75	-0.07	116.4	-0.0151	-0.5793	0.0001	
221	SLE FR 1	-13.99	-0.18	100.74	-0.0068	-0.4783	0.0001	
221	SLE FR 2	-13.99	-0.13	100.87	-0.0093	-0.4778	0.0001	
221	SLE FR 3	-14.1	-0.18	101.29	-0.007	-0.4822	0.0001	
221	SLE FR 4	-14.74	-0.14	105.03	-0.0094	-0.5056	0.0001	
221	SLE FR 5	-14.85	-0.19	105.45	-0.0071	-0.51	0.0001	
221	SLE FR 6	-15.25	-0.2	107.67	-0.007	-0.5246	0.0001	
221	SLE QP 1	-13.99	-0.18	100.74	-0.0068	-0.4783	0.0001	
221	SLE QP 2	-14.75	-0.19	104.9	-0.0069	-0.5061	0.0001	
221	SLD 1	-7.8	0.71	69.64	-0.0443	-0.2301	-0.0004	
221	SLD 2	-7.8	0.71	69.64	-0.0443	-0.2301	-0.0004	
221	SLD 3	-8.24	-2.56	71.3	0.0964	-0.2489	0.0003	
221	SLD 4	-8.24	-2.56	71.3	0.0964	-0.2489	0.0003	
221	SLD 5	-12	5.04	91.8	-0.2316	-0.3947	-0.001	
221	SLD 6	-12	5.04	91.8	-0.2316	-0.3947	-0.001	
221	SLD 7	-13.46	-5.86	97.34	0.2375	-0.4574	0.0011	
221	SLD 8	-13.46	-5.86	97.34	0.2375	-0.4574	0.0011	
221	SLD 9	-16.04	5.48	112.45	-0.2513	-0.5547	-0.0009	
221	SLD 10	-16.04	5.48	112.45	-0.2513	-0.5547	-0.0009	
221	SLD 11	-17.5	-5.42	117.99	0.2177	-0.6174	0.0012	
221	SLD 12	-17.5	-5.42	117.99	0.2177	-0.6174	0.0012	
221	SLD 13	-21.26	2.18	138.49	-0.1102	-0.7633	-0.0001	
221	SLD 14	-21.26	2.18	138.49	-0.1102	-0.7633	-0.0001	
221	SLD 15	-21.69	-1.09	140.15	0.0305	-0.7821	0.0006	
221	SLD 16	-21.69	-1.09	140.15	0.0305	-0.7821	0.0006	
221	SLV 1	1.52	1.87	22.3	-0.0928	0.1406	-0.001	
221	SLV 2	1.52	1.87	22.3	-0.0928	0.1406	-0.001	
221	SLV 3	0.48	-5.73	26.25	0.2349	0.0959	0.0005	
221	SLV 4	0.48	-5.73	26.25	0.2349	0.0959	0.0005	
221	SLV 5	-8.29	11.96	74.13	-0.5298	-0.2443	-0.0025	
221	SLV 6	-8.29	11.96	74.13	-0.5298	-0.2443	-0.0025	
221	SLV 7	-11.76	-13.39	87.29	0.5627	-0.3932	0.0025	
221	SLV 8	-11.76	-13.39	87.29	0.5627	-0.3932	0.0025	
221	SLV 9	-17.74	13.01	122.5	-0.5765	-0.6189	-0.0023	
221	SLV 10	-17.74	13.01	122.5	-0.5765	-0.6189	-0.0023	
221	SLV 11	-21.21	-12.35	135.66	0.5159	-0.7678	0.0027	
221	SLV 12	-21.21	-12.35	135.66	0.5159	-0.7678	0.0027	
221	SLV 13	-29.98	5.35	183.54	-0.2488	-1.108	-0.0003	
221	SLV 14	-29.98	5.35	183.54	-0.2488	-1.108	-0.0003	
221	SLV 15	-31.02	-2.26	187.49	0.079	-1.1527	0.0012	
221	SLV 16	-31.02	-2.26	187.49	0.079	-1.1527	0.0012	
222	SLU 1	13.7	-10.21	78.4	-8.537	0.4191	3.034	
222	SLU 2	13.64	-10.16	78.2	-8.5141	0.4165	3.0075	
222	SLU 3	14.23	-10.51	81	-8.8433	0.4361	3.1503	
222	SLU 4	14.19	-10.48	80.88	-8.8295	0.4346	3.1345	
222	SLU 5	13.97	-10.34	79.78	-8.7056	0.4272	3.0804	
222	SLU 6	14.56	-10.68	82.57	-9.0348	0.4468	3.2232	
222	SLU 7	14.52	-10.65	82.46	-9.021	0.4453	3.2073	
222	SLU 8	14.36	-10.55	81.55	-8.9199	0.4404	3.1797	
222	SLU 9	14.32	-10.52	81.44	-8.9062	0.4389	3.1638	
222	SLU 10	16.35	-11.62	91.05	-10.0417	0.5067	3.6083	
222	SLU 11	16.94	-11.96	93.85	-10.3709	0.5263	3.7512	
222	SLU 12	16.9	-11.94	93.73	-10.3572	0.5248	3.7353	
222	SLU 13	16.68	-11.79	92.63	-10.2332	0.5174	3.6812	
222	SLU 14	17.27	-12.13	95.43	-10.5624	0.537	3.8241	
222	SLU 15	17.23	-12.11	95.31	-10.5487	0.5355	3.8082	
222	SLU 16	17.07	-12.01	94.41	-10.4476	0.5306	3.7806	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
222	SLU 17	17.03	-11.98	94.29	-10.4339	0.5291	3.7647
222	SLU 18	17.57	-12.29	96.76	-10.7193	0.5479	3.8923
222	SLU 19	17.53	-12.26	96.64	-10.7056	0.5464	3.8764
222	SLU 20	17.9	-12.46	98.34	-10.9108	0.5586	3.9652
222	SLU 21	17.86	-12.43	98.22	-10.8971	0.557	3.9493
222	SLU 22	16.19	-11.61	90.49	-9.957	0.5007	3.5841
222	SLU 23	16.12	-11.56	90.3	-9.9341	0.4982	3.5576
222	SLU 24	16.71	-11.91	93.09	-10.2633	0.5177	3.7005
222	SLU 25	16.67	-11.88	92.97	-10.2496	0.5162	3.6846
222	SLU 26	16.45	-11.74	91.87	-10.1256	0.5088	3.6305
222	SLU 27	17.04	-12.08	94.67	-10.4548	0.5284	3.7734
222	SLU 28	17	-12.05	94.55	-10.4411	0.5269	3.7575
222	SLU 29	16.84	-11.95	93.65	-10.34	0.522	3.7299
222	SLU 30	16.8	-11.93	93.53	-10.3263	0.5205	3.714
222	SLU 31	18.83	-13.02	103.15	-11.4618	0.5884	4.1585
222	SLU 32	19.42	-13.36	105.94	-11.791	0.6079	4.3013
222	SLU 33	19.38	-13.34	105.83	-11.7773	0.6064	4.2854
222	SLU 34	19.16	-13.19	104.73	-11.6533	0.599	4.2314
222	SLU 35	19.75	-13.53	107.52	-11.9825	0.6186	4.3742
222	SLU 36	19.71	-13.51	107.4	-11.9688	0.6171	4.3583
222	SLU 37	19.55	-13.41	106.5	-11.8677	0.6122	4.3307
222	SLU 38	19.51	-13.38	106.38	-11.8539	0.6107	4.3148
222	SLU 39	20.05	-13.69	108.86	-12.1394	0.6295	4.4424
222	SLU 40	20.01	-13.66	108.74	-12.1257	0.628	4.4266
222	SLU 41	20.38	-13.86	110.43	-12.3309	0.6402	4.5153
222	SLU 42	20.34	-13.83	110.31	-12.3172	0.6387	4.4994
222	SLU 43	16.96	-12.79	97.77	-10.6112	0.5168	3.7555
222	SLU 44	16.9	-12.75	97.57	-10.5883	0.5143	3.7291
222	SLU 45	17.49	-13.09	100.37	-10.9175	0.5339	3.8719
222	SLU 46	17.45	-13.06	100.25	-10.9037	0.5323	3.856
222	SLU 47	17.23	-12.92	99.15	-10.7798	0.5249	3.8019
222	SLU 48	17.82	-13.26	101.95	-11.109	0.5445	3.9448
222	SLU 49	17.78	-13.23	101.83	-11.0952	0.543	3.9289
222	SLU 50	17.62	-13.13	100.93	-10.9941	0.5381	3.9013
222	SLU 51	17.58	-13.11	100.81	-10.9804	0.5366	3.8854
222	SLU 52	19.61	-14.2	110.43	-12.1159	0.6045	4.3299
222	SLU 53	20.2	-14.55	113.22	-12.4452	0.624	4.4727
222	SLU 54	20.16	-14.52	113.1	-12.4314	0.6225	4.4569
222	SLU 55	19.94	-14.37	112	-12.3074	0.6151	4.4028
222	SLU 56	20.53	-14.72	114.8	-12.6366	0.6347	4.5456
222	SLU 57	20.49	-14.69	114.68	-12.6229	0.6332	4.5297
222	SLU 58	20.33	-14.59	113.78	-12.5218	0.6283	4.5021
222	SLU 59	20.29	-14.56	113.66	-12.5081	0.6268	4.4862
222	SLU 60	20.83	-14.87	116.13	-12.7935	0.6456	4.6139
222	SLU 61	20.79	-14.84	116.01	-12.7798	0.6441	4.598
222	SLU 62	21.16	-15.04	117.71	-12.985	0.6563	4.6867
222	SLU 63	21.12	-15.01	117.59	-12.9713	0.6548	4.6709
222	SLU 64	19.45	-14.19	109.87	-12.0312	0.5984	4.3057
222	SLU 65	19.38	-14.15	109.67	-12.0083	0.5959	4.2792
222	SLU 66	19.97	-14.49	112.46	-12.3375	0.6155	4.4221
222	SLU 67	19.93	-14.46	112.35	-12.3238	0.614	4.4062
222	SLU 68	19.71	-14.32	111.25	-12.1998	0.6066	4.3521
222	SLU 69	20.3	-14.66	114.04	-12.529	0.6261	4.4949
222	SLU 70	20.26	-14.63	113.92	-12.5153	0.6246	4.4791
222	SLU 71	20.11	-14.54	113.02	-12.4142	0.6197	4.4514
222	SLU 72	20.07	-14.51	112.9	-12.4005	0.6182	4.4356
222	SLU 73	22.09	-15.6	122.52	-13.536	0.6861	4.88
222	SLU 74	22.68	-15.95	125.32	-13.8652	0.7057	5.0229
222	SLU 75	22.64	-15.92	125.2	-13.8515	0.7042	5.007
222	SLU 76	22.42	-15.77	124.1	-13.7275	0.6967	4.9529
222	SLU 77	23.01	-16.12	126.9	-14.0567	0.7163	5.0958
222	SLU 78	22.97	-16.09	126.78	-14.043	0.7148	5.0799
222	SLU 79	22.81	-15.99	125.88	-13.9419	0.7099	5.0523
222	SLU 80	22.77	-15.96	125.76	-13.9281	0.7084	5.0364
222	SLU 81	23.31	-16.27	128.23	-14.2136	0.7273	5.164
222	SLU 82	23.27	-16.24	128.11	-14.1999	0.7257	5.1481
222	SLU 83	23.64	-16.44	129.81	-14.4051	0.7379	5.2369
222	SLU 84	23.6	-16.42	129.69	-14.3914	0.7364	5.221
222	SLE RA 1	14.41	-10.61	81.85	-8.9427	0.4424	3.1912
222	SLE RA 2	14.37	-10.58	81.72	-8.9274	0.4407	3.1735
222	SLE RA 3	14.76	-10.81	83.59	-9.1469	0.4538	3.2687
222	SLE RA 4	14.74	-10.79	83.51	-9.1377	0.4527	3.2581
222	SLE RA 5	14.59	-10.69	82.77	-9.0551	0.4478	3.2221
222	SLE RA 6	14.98	-10.92	84.64	-9.2746	0.4609	3.3173
222	SLE RA 7	14.96	-10.9	84.56	-9.2654	0.4599	3.3067
222	SLE RA 8	14.85	-10.84	83.96	-9.198	0.4566	3.2883
222	SLE RA 9	14.83	-10.82	83.88	-9.1889	0.4556	3.2777
222	SLE RA 10	16.17	-11.55	90.29	-9.9459	0.5008	3.5741
222	SLE RA 11	16.57	-11.78	92.15	-10.1653	0.5139	3.6693
222	SLE RA 12	16.54	-11.76	92.08	-10.1562	0.5129	3.6587
222	SLE RA 13	16.39	-11.66	91.34	-10.0735	0.5079	3.6226
222	SLE RA 14	16.79	-11.89	93.21	-10.293	0.521	3.7179
222	SLE RA 15	16.76	-11.87	93.13	-10.2839	0.52	3.7073
222	SLE RA 16	16.66	-11.81	92.53	-10.2165	0.5167	3.6889
222	SLE RA 17	16.63	-11.79	92.45	-10.2073	0.5157	3.6783
222	SLE RA 18	16.99	-12	94.1	-10.3976	0.5283	3.7634
222	SLE RA 19	16.97	-11.98	94.02	-10.3885	0.5273	3.7528
222	SLE RA 20	17.21	-12.11	95.15	-10.5253	0.5354	3.812



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
222	SLE RA 21	17.19	-12.09	95.07	-10.5161	0.5344	3.8014		
222	SLE FR 1	14.41	-10.61	81.85	-8.9427	0.4424	3.1912		
222	SLE FR 2	14.4	-10.6	81.83	-8.9396	0.442	3.1876		
222	SLE FR 3	14.5	-10.66	82.28	-8.9937	0.4452	3.2106		
222	SLE FR 4	15.18	-11.02	85.5	-9.3761	0.4678	3.3593		
222	SLE FR 5	15.27	-11.07	85.95	-9.4302	0.471	3.3823		
222	SLE FR 6	15.7	-11.3	87.97	-9.6701	0.4853	3.4773		
222	SLE QP 1	14.41	-10.61	81.85	-8.9427	0.4424	3.1912		
222	SLE QP 2	15.19	-11.03	85.53	-9.3792	0.4682	3.3628		
222	SLD 1	21.81	-13.9	114.59	-13.0203	0.7004	4.8479		
222	SLD 2	21.81	-13.9	114.59	-13.0203	0.7004	4.8479		
222	SLD 3	22.3	-15.75	120.3	-13.2558	0.7221	4.94		
222	SLD 4	22.3	-15.75	120.3	-13.2558	0.7221	4.94		
222	SLD 5	16.43	-9.09	85.59	-10.1145	0.5049	3.6688		
222	SLD 6	16.43	-9.09	85.59	-10.1145	0.5049	3.6688		
222	SLD 7	18.07	-15.24	104.62	-10.8992	0.5773	3.9755		
222	SLD 8	18.07	-15.24	104.62	-10.8992	0.5773	3.9755		
222	SLD 9	12.3	-6.81	66.44	-7.8591	0.359	2.7501		
222	SLD 10	12.3	-6.81	66.44	-7.8591	0.359	2.7501		
222	SLD 11	13.95	-12.96	85.46	-8.6439	0.4315	3.0568		
222	SLD 12	13.95	-12.96	85.46	-8.6439	0.4315	3.0568		
222	SLD 13	8.07	-6.31	50.75	-5.5026	0.2142	1.7857		
222	SLD 14	8.07	-6.31	50.75	-5.5026	0.2142	1.7857		
222	SLD 15	8.56	-8.15	56.46	-5.738	0.2359	1.8777		
222	SLD 16	8.56	-8.15	56.46	-5.738	0.2359	1.8777		
222	SLV 1	30.68	-17.76	153.54	-17.8956	1.0105	6.8381		
222	SLV 2	30.68	-17.76	153.54	-17.8956	1.0105	6.8381		
222	SLV 3	31.87	-22.06	166.88	-18.4547	1.0638	7.0571		
222	SLV 4	31.87	-22.06	166.88	-18.4547	1.0638	7.0571		
222	SLV 5	18.02	-6.53	85.69	-11.0861	0.5501	4.0733		
222	SLV 6	18.02	-6.53	85.69	-11.0861	0.5501	4.0733		
222	SLV 7	22	-20.86	130.17	-12.9498	0.7276	4.8032		
222	SLV 8	22	-20.86	130.17	-12.9498	0.7276	4.8032		
222	SLV 9	8.37	-1.2	40.88	-5.8085	0.2087	1.9225		
222	SLV 10	8.37	-1.2	40.88	-5.8085	0.2087	1.9225		
222	SLV 11	12.35	-15.52	85.36	-7.6722	0.3862	2.6523		
222	SLV 12	12.35	-15.52	85.36	-7.6722	0.3862	2.6523		
222	SLV 13	-1.5	0.01	4.17	-0.3036	-0.1275	-0.3314		
222	SLV 14	-1.5	0.01	4.17	-0.3036	-0.1275	-0.3314		
222	SLV 15	-0.3	-4.29	17.52	-0.8627	-0.0742	-0.1125		
222	SLV 16	-0.3	-4.29	17.52	-0.8627	-0.0742	-0.1125		
223	SLU 1	-0.11	-2.8	60.87	0.0951	-0.0374	-0.0004		
223	SLU 2	-0.13	-2.37	61.32	0.0774	-0.0458	-0.0004		
223	SLU 3	-0.12	-2.96	62.72	0.1006	-0.0392	-0.0005		
223	SLU 4	-0.13	-2.71	62.99	0.0899	-0.0442	-0.0005		
223	SLU 5	-0.13	-2.49	62.43	0.0812	-0.047	-0.0004		
223	SLU 6	-0.12	-3.08	63.84	0.1044	-0.0405	-0.0005		
223	SLU 7	-0.13	-2.82	64.11	0.0938	-0.0454	-0.0005		
223	SLU 8	-0.12	-3.03	63.1	0.1028	-0.0399	-0.0005		
223	SLU 9	-0.13	-2.78	63.37	0.0921	-0.0449	-0.0005		
223	SLU 10	-0.15	-3.08	69.67	0.1005	-0.0537	-0.0005		
223	SLU 11	-0.14	-3.67	71.07	0.1237	-0.0472	-0.0006		
223	SLU 12	-0.15	-3.42	71.34	0.113	-0.0522	-0.0005		
223	SLU 13	-0.15	-3.2	70.78	0.1043	-0.055	-0.0005		
223	SLU 14	-0.14	-3.79	72.19	0.1275	-0.0484	-0.0006		
223	SLU 15	-0.15	-3.53	72.46	0.1169	-0.0534	-0.0006		
223	SLU 16	-0.14	-3.74	71.45	0.1259	-0.0479	-0.0006		
223	SLU 17	-0.15	-3.48	71.72	0.1153	-0.0529	-0.0006		
223	SLU 18	-0.15	-3.81	72.8	0.1282	-0.0488	-0.0006		
223	SLU 19	-0.15	-3.55	73.07	0.1175	-0.0538	-0.0006		
223	SLU 20	-0.15	-3.93	73.91	0.132	-0.0501	-0.0006		
223	SLU 21	-0.16	-3.67	74.18	0.1213	-0.0551	-0.0006		
223	SLU 22	-0.13	-3.46	68.92	0.1172	-0.0447	-0.0005		
223	SLU 23	-0.15	-3.04	69.37	0.0995	-0.0531	-0.0005		
223	SLU 24	-0.14	-3.63	70.78	0.1226	-0.0465	-0.0006		
223	SLU 25	-0.15	-3.37	71.05	0.112	-0.0515	-0.0005		
223	SLU 26	-0.15	-3.16	70.48	0.1033	-0.0543	-0.0005		
223	SLU 27	-0.14	-3.74	71.89	0.1265	-0.0478	-0.0006		
223	SLU 28	-0.15	-3.49	72.16	0.1158	-0.0527	-0.0006		
223	SLU 29	-0.14	-3.7	71.15	0.1249	-0.0472	-0.0006		
223	SLU 30	-0.15	-3.44	71.42	0.1142	-0.0522	-0.0005		
223	SLU 31	-0.17	-3.75	77.72	0.1226	-0.061	-0.0006		
223	SLU 32	-0.16	-4.34	79.13	0.1458	-0.0545	-0.0006		
223	SLU 33	-0.17	-4.08	79.4	0.1351	-0.0595	-0.0006		
223	SLU 34	-0.17	-3.87	78.83	0.1264	-0.0623	-0.0006		
223	SLU 35	-0.17	-4.45	80.24	0.1496	-0.0557	-0.0007		
223	SLU 36	-0.17	-4.2	80.51	0.1389	-0.0607	-0.0006		
223	SLU 37	-0.16	-4.41	79.5	0.148	-0.0552	-0.0006		
223	SLU 38	-0.17	-4.15	79.77	0.1373	-0.0602	-0.0006		
223	SLU 39	-0.17	-4.48	80.85	0.1502	-0.0561	-0.0007		
223	SLU 40	-0.17	-4.22	81.12	0.1396	-0.0611	-0.0007		
223	SLU 41	-0.17	-4.59	81.96	0.1541	-0.0574	-0.0007		
223	SLU 42	-0.18	-4.34	82.23	0.1434	-0.0624	-0.0007		
223	SLU 43	-0.14	-3.41	76.37	0.1161	-0.0462	-0.0006		
223	SLU 44	-0.15	-2.98	76.82	0.0984	-0.0545	-0.0005		
223	SLU 45	-0.15	-3.57	78.23	0.1216	-0.0479	-0.0006		
223	SLU 46	-0.15	-3.32	78.49	0.1109	-0.0529	-0.0006		
223	SLU 47	-0.16	-3.1	77.93	0.1022	-0.0557	-0.0006		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
223	SLU 48			-0.15	-3.69	79.34	0.1254	-0.0492	-0.0006
223	SLU 49			-0.16	-3.43	79.61	0.1147	-0.0542	-0.0006
223	SLU 50			-0.15	-3.64	78.6	0.1238	-0.0486	-0.0006
223	SLU 51			-0.15	-3.39	78.87	0.1131	-0.0536	-0.0006
223	SLU 52			-0.18	-3.69	85.17	0.1215	-0.0624	-0.0006
223	SLU 53			-0.17	-4.28	86.57	0.1447	-0.0559	-0.0007
223	SLU 54			-0.18	-4.03	86.84	0.134	-0.0609	-0.0007
223	SLU 55			-0.18	-3.81	86.28	0.1253	-0.0637	-0.0006
223	SLU 56			-0.17	-4.4	87.69	0.1485	-0.0572	-0.0007
223	SLU 57			-0.18	-4.14	87.96	0.1378	-0.0621	-0.0007
223	SLU 58			-0.17	-4.35	86.95	0.1469	-0.0566	-0.0007
223	SLU 59			-0.18	-4.1	87.22	0.1362	-0.0616	-0.0007
223	SLU 60			-0.17	-4.42	88.3	0.1491	-0.0576	-0.0007
223	SLU 61			-0.18	-4.17	88.57	0.1385	-0.0625	-0.0007
223	SLU 62			-0.18	-4.54	89.41	0.153	-0.0588	-0.0007
223	SLU 63			-0.18	-4.28	89.68	0.1423	-0.0638	-0.0007
223	SLU 64			-0.16	-4.07	84.42	0.1382	-0.0535	-0.0006
223	SLU 65			-0.17	-3.65	84.87	0.1204	-0.0618	-0.0006
223	SLU 66			-0.17	-4.24	86.28	0.1436	-0.0552	-0.0007
223	SLU 67			-0.17	-3.98	86.55	0.133	-0.0602	-0.0006
223	SLU 68			-0.18	-3.77	85.98	0.1243	-0.063	-0.0006
223	SLU 69			-0.17	-4.35	87.39	0.1474	-0.0565	-0.0007
223	SLU 70			-0.18	-4.1	87.66	0.1368	-0.0615	-0.0007
223	SLU 71			-0.17	-4.31	86.65	0.1458	-0.0559	-0.0007
223	SLU 72			-0.18	-4.05	86.92	0.1352	-0.0609	-0.0007
223	SLU 73			-0.2	-4.36	93.22	0.1436	-0.0698	-0.0007
223	SLU 74			-0.19	-4.95	94.63	0.1667	-0.0632	-0.0007
223	SLU 75			-0.2	-4.69	94.9	0.1561	-0.0682	-0.0007
223	SLU 76			-0.2	-4.48	94.33	0.1474	-0.071	-0.0007
223	SLU 77			-0.19	-5.06	95.74	0.1706	-0.0645	-0.0008
223	SLU 78			-0.2	-4.81	96.01	0.1599	-0.0694	-0.0008
223	SLU 79			-0.19	-5.02	95	0.1689	-0.0639	-0.0008
223	SLU 80			-0.2	-4.76	95.27	0.1583	-0.0689	-0.0007
223	SLU 81			-0.19	-5.09	96.35	0.1712	-0.0649	-0.0008
223	SLU 82			-0.2	-4.83	96.62	0.1606	-0.0698	-0.0008
223	SLU 83			-0.2	-5.2	97.46	0.175	-0.0661	-0.0008
223	SLU 84			-0.2	-4.95	97.73	0.1644	-0.0711	-0.0008
223	SLE RA 1			-0.12	-2.99	63.17	0.1014	-0.0395	-0.0005
223	SLE RA 2			-0.13	-2.71	63.47	0.0896	-0.0451	-0.0005
223	SLE RA 3			-0.12	-3.1	64.41	0.1051	-0.0407	-0.0005
223	SLE RA 4			-0.13	-2.93	64.59	0.098	-0.044	-0.0005
223	SLE RA 5			-0.13	-2.78	64.21	0.0922	-0.0459	-0.0005
223	SLE RA 6			-0.13	-3.17	65.15	0.1076	-0.0415	-0.0005
223	SLE RA 7			-0.13	-3.01	65.33	0.1005	-0.0449	-0.0005
223	SLE RA 8			-0.12	-3.14	64.65	0.1065	-0.0412	-0.0005
223	SLE RA 9			-0.13	-2.97	64.83	0.0994	-0.0445	-0.0005
223	SLE RA 10			-0.14	-3.18	69.04	0.105	-0.0504	-0.0005
223	SLE RA 11			-0.14	-3.57	69.97	0.1205	-0.046	-0.0005
223	SLE RA 12			-0.14	-3.4	70.15	0.1134	-0.0494	-0.0005
223	SLE RA 13			-0.15	-3.26	69.78	0.1076	-0.0512	-0.0005
223	SLE RA 14			-0.14	-3.65	70.72	0.123	-0.0468	-0.0006
223	SLE RA 15			-0.15	-3.48	70.9	0.1159	-0.0502	-0.0005
223	SLE RA 16			-0.14	-3.62	70.22	0.122	-0.0465	-0.0006
223	SLE RA 17			-0.14	-3.45	70.4	0.1149	-0.0498	-0.0005
223	SLE RA 18			-0.14	-3.66	71.12	0.1235	-0.0471	-0.0006
223	SLE RA 19			-0.15	-3.49	71.3	0.1164	-0.0504	-0.0006
223	SLE RA 20			-0.14	-3.74	71.86	0.126	-0.0479	-0.0006
223	SLE RA 21			-0.15	-3.57	72.04	0.1189	-0.0513	-0.0006
223	SLE FR 1			-0.12	-2.99	63.17	0.1014	-0.0395	-0.0005
223	SLE FR 2			-0.12	-2.93	63.23	0.0991	-0.0406	-0.0005
223	SLE FR 3			-0.12	-3.02	63.47	0.1025	-0.0399	-0.0005
223	SLE FR 4			-0.13	-3.13	65.62	0.1057	-0.0429	-0.0005
223	SLE FR 5			-0.13	-3.22	65.85	0.1091	-0.0421	-0.0005
223	SLE FR 6			-0.13	-3.32	67.15	0.1125	-0.0433	-0.0005
223	SLE QP 1			-0.12	-2.99	63.17	0.1014	-0.0395	-0.0005
223	SLE QP 2			-0.13	-3.19	65.56	0.108	-0.0418	-0.0005
223	SLD 1			-0.01	0.26	45.41	-0.0189	0.0107	-0.0003
223	SLD 2			-0.01	0.26	45.41	-0.0189	0.0107	-0.0003
223	SLD 3			-0.08	-3.13	46.48	0.1212	-0.032	-0.0002
223	SLD 4			-0.08	-3.13	46.48	0.1212	-0.032	-0.0002
223	SLD 5			0.03	2.99	57.9	-0.1425	0.0387	-0.0006
223	SLD 6			0.03	2.99	57.9	-0.1425	0.0387	-0.0006
223	SLD 7			-0.23	-8.31	61.45	0.3244	-0.1036	-0.0003
223	SLD 8			-0.23	-8.31	61.45	0.3244	-0.1036	-0.0003
223	SLD 9			-0.02	1.94	69.67	-0.1084	0.02	-0.0007
223	SLD 10			-0.02	1.94	69.67	-0.1084	0.02	-0.0007
223	SLD 11			-0.28	-9.37	73.21	0.3586	-0.1223	-0.0004
223	SLD 12			-0.28	-9.37	73.21	0.3586	-0.1223	-0.0004
223	SLD 13			-0.17	-3.25	84.64	0.0949	-0.0516	-0.0008
223	SLD 14			-0.17	-3.25	84.64	0.0949	-0.0516	-0.0008
223	SLD 15			-0.25	-6.64	85.7	0.235	-0.0943	-0.0007
223	SLD 16			-0.25	-6.64	85.7	0.235	-0.0943	-0.0007
223	SLV 1			0.16	4.87	18.36	-0.1887	0.0871	0
223	SLV 2			0.16	4.87	18.36	-0.1887	0.0871	0
223	SLV 3			-0.03	-3.02	20.9	0.1372	-0.0218	0.0003
223	SLV 4			-0.03	-3.02	20.9	0.1372	-0.0218	0.0003
223	SLV 5			0.26	11.19	47.55	-0.4753	0.162	-0.0006
223	SLV 6			0.26	11.19	47.55	-0.4753	0.162	-0.0006



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
223	SLV 7	-0.39	-15.1	56.01	0.6111	-0.201	0
223	SLV 8	-0.39	-15.1	56.01	0.6111	-0.201	0
223	SLV 9	0.14	8.72	75.11	-0.395	0.1174	-0.001
223	SLV 10	0.14	8.72	75.11	-0.395	0.1174	-0.001
223	SLV 11	-0.51	-17.57	83.56	0.6914	-0.2456	-0.0003
223	SLV 12	-0.51	-17.57	83.56	0.6914	-0.2456	-0.0003
223	SLV 13	-0.22	-3.36	110.21	0.0789	-0.0618	-0.0013
223	SLV 14	-0.22	-3.36	110.21	0.0789	-0.0618	-0.0013
223	SLV 15	-0.42	-11.25	112.75	0.4048	-0.1707	-0.001
223	SLV 16	-0.42	-11.25	112.75	0.4048	-0.1707	-0.001
224	SLU 1	-0.02	-2.41	56.9	0.0811	-0.0155	0.0002
224	SLU 2	-0.04	-1.96	57	0.0594	-0.0301	0.0002
224	SLU 3	-0.02	-2.56	58.47	0.0855	-0.0163	0.0002
224	SLU 4	-0.03	-2.28	58.53	0.0724	-0.0251	0.0002
224	SLU 5	-0.04	-2.06	57.88	0.0622	-0.0307	0.0002
224	SLU 6	-0.02	-2.66	59.35	0.0883	-0.0168	0.0002
224	SLU 7	-0.03	-2.38	59.4	0.0753	-0.0256	0.0002
224	SLU 8	-0.02	-2.62	58.66	0.0868	-0.0166	0.0002
224	SLU 9	-0.03	-2.34	58.72	0.0738	-0.0254	0.0002
224	SLU 10	-0.04	-2.58	64.28	0.0806	-0.0337	0.0002
224	SLU 11	-0.03	-3.18	65.74	0.1067	-0.0198	0.0002
224	SLU 12	-0.04	-2.9	65.8	0.0936	-0.0286	0.0002
224	SLU 13	-0.04	-2.68	65.16	0.0834	-0.0342	0.0002
224	SLU 14	-0.03	-3.28	66.62	0.1095	-0.0204	0.0002
224	SLU 15	-0.04	-3.01	66.68	0.0965	-0.0292	0.0002
224	SLU 16	-0.03	-3.24	65.94	0.108	-0.0201	0.0002
224	SLU 17	-0.04	-2.96	65.99	0.095	-0.0289	0.0002
224	SLU 18	-0.03	-3.3	67.3	0.1113	-0.0205	0.0002
224	SLU 19	-0.04	-3.03	67.36	0.0983	-0.0293	0.0002
224	SLU 20	-0.03	-3.4	68.18	0.1142	-0.0211	0.0002
224	SLU 21	-0.04	-3.13	68.24	0.1012	-0.0299	0.0002
224	SLU 22	-0.02	-3	63.95	0.1009	-0.0187	0.0002
224	SLU 23	-0.04	-2.54	64.05	0.0792	-0.0333	0.0002
224	SLU 24	-0.02	-3.14	65.52	0.1053	-0.0195	0.0002
224	SLU 25	-0.04	-2.87	65.57	0.0923	-0.0283	0.0002
224	SLU 26	-0.04	-2.64	64.93	0.0821	-0.0339	0.0002
224	SLU 27	-0.03	-3.25	66.39	0.1082	-0.02	0.0002
224	SLU 28	-0.04	-2.97	66.45	0.0952	-0.0288	0.0002
224	SLU 29	-0.03	-3.2	65.71	0.1066	-0.0198	0.0002
224	SLU 30	-0.04	-2.93	65.77	0.0936	-0.0286	0.0002
224	SLU 31	-0.05	-3.16	71.33	0.1004	-0.0369	0.0002
224	SLU 32	-0.03	-3.77	72.79	0.1265	-0.023	0.0002
224	SLU 33	-0.04	-3.49	72.85	0.1135	-0.0318	0.0002
224	SLU 34	-0.05	-3.27	72.2	0.1033	-0.0374	0.0002
224	SLU 35	-0.03	-3.87	73.67	0.1294	-0.0236	0.0002
224	SLU 36	-0.04	-3.59	73.73	0.1164	-0.0324	0.0002
224	SLU 37	-0.03	-3.82	72.98	0.1278	-0.0233	0.0002
224	SLU 38	-0.04	-3.55	73.04	0.1148	-0.0321	0.0002
224	SLU 39	-0.03	-3.89	74.35	0.1312	-0.0237	0.0002
224	SLU 40	-0.04	-3.61	74.41	0.1182	-0.0325	0.0002
224	SLU 41	-0.03	-3.99	75.23	0.1341	-0.0243	0.0002
224	SLU 42	-0.04	-3.72	75.28	0.121	-0.0331	0.0002
224	SLU 43	-0.02	-2.94	71.56	0.0986	-0.019	0.0002
224	SLU 44	-0.04	-2.48	71.65	0.0769	-0.0337	0.0002
224	SLU 45	-0.03	-3.08	73.12	0.103	-0.0198	0.0002
224	SLU 46	-0.04	-2.81	73.18	0.09	-0.0286	0.0002
224	SLU 47	-0.04	-2.58	72.53	0.0797	-0.0342	0.0002
224	SLU 48	-0.03	-3.18	74	0.1059	-0.0204	0.0002
224	SLU 49	-0.04	-2.91	74.06	0.0928	-0.0292	0.0002
224	SLU 50	-0.03	-3.14	73.31	0.1043	-0.0201	0.0002
224	SLU 51	-0.04	-2.86	73.37	0.0913	-0.0289	0.0002
224	SLU 52	-0.05	-3.1	78.93	0.0981	-0.0372	0.0002
224	SLU 53	-0.03	-3.7	80.4	0.1242	-0.0234	0.0002
224	SLU 54	-0.04	-3.43	80.46	0.1112	-0.0322	0.0002
224	SLU 55	-0.05	-3.2	79.81	0.1009	-0.0378	0.0002
224	SLU 56	-0.03	-3.8	81.28	0.1271	-0.0239	0.0002
224	SLU 57	-0.04	-3.53	81.34	0.114	-0.0327	0.0002
224	SLU 58	-0.03	-3.76	80.59	0.1255	-0.0237	0.0002
224	SLU 59	-0.04	-3.49	80.65	0.1125	-0.0325	0.0002
224	SLU 60	-0.03	-3.82	81.95	0.1289	-0.0241	0.0002
224	SLU 61	-0.04	-3.55	82.01	0.1158	-0.0329	0.0002
224	SLU 62	-0.03	-3.93	82.83	0.1317	-0.0246	0.0003
224	SLU 63	-0.04	-3.65	82.89	0.1187	-0.0334	0.0003
224	SLU 64	-0.03	-3.52	78.61	0.1184	-0.0222	0.0002
224	SLU 65	-0.05	-3.07	78.7	0.0967	-0.0369	0.0002
224	SLU 66	-0.03	-3.67	80.17	0.1228	-0.023	0.0002
224	SLU 67	-0.04	-3.39	80.23	0.1098	-0.0318	0.0002
224	SLU 68	-0.05	-3.17	79.58	0.0996	-0.0374	0.0002
224	SLU 69	-0.03	-3.77	81.05	0.1257	-0.0236	0.0002
224	SLU 70	-0.04	-3.49	81.11	0.1127	-0.0324	0.0002
224	SLU 71	-0.03	-3.73	80.36	0.1242	-0.0233	0.0002
224	SLU 72	-0.04	-3.45	80.42	0.1111	-0.0321	0.0002
224	SLU 73	-0.05	-3.69	85.98	0.1179	-0.0404	0.0003
224	SLU 74	-0.03	-4.29	87.45	0.144	-0.0266	0.0003
224	SLU 75	-0.04	-4.01	87.51	0.131	-0.0354	0.0003
224	SLU 76	-0.05	-3.79	86.86	0.1208	-0.041	0.0003
224	SLU 77	-0.03	-4.39	88.33	0.1469	-0.0271	0.0003
224	SLU 78	-0.05	-4.12	88.38	0.1339	-0.0359	0.0003



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
224	SLU 79	-0.03	-4.35	87.64	0.1454	-0.0269	0.0003
224	SLU 80	-0.05	-4.07	87.7	0.1323	-0.0357	0.0003
224	SLU 81	-0.03	-4.41	89	0.1487	-0.0273	0.0003
224	SLU 82	-0.05	-4.14	89.06	0.1357	-0.0361	0.0003
224	SLU 83	-0.03	-4.51	89.88	0.1516	-0.0278	0.0003
224	SLU 84	-0.05	-4.24	89.94	0.1386	-0.0366	0.0003
224	SLE RA 1	-0.02	-2.58	58.92	0.0867	-0.0164	0.0002
224	SLE RA 2	-0.03	-2.28	58.98	0.0723	-0.0262	0.0002
224	SLE RA 3	-0.02	-2.68	59.96	0.0897	-0.0169	0.0002
224	SLE RA 4	-0.03	-2.49	60	0.081	-0.0228	0.0002
224	SLE RA 5	-0.03	-2.34	59.57	0.0742	-0.0265	0.0002
224	SLE RA 6	-0.02	-2.74	60.55	0.0916	-0.0173	0.0002
224	SLE RA 7	-0.03	-2.56	60.58	0.0829	-0.0232	0.0002
224	SLE RA 8	-0.02	-2.72	60.09	0.0906	-0.0171	0.0002
224	SLE RA 9	-0.03	-2.53	60.13	0.0819	-0.023	0.0002
224	SLE RA 10	-0.04	-2.69	63.83	0.0864	-0.0285	0.0002
224	SLE RA 11	-0.02	-3.09	64.81	0.1038	-0.0193	0.0002
224	SLE RA 12	-0.03	-2.91	64.85	0.0951	-0.0252	0.0002
224	SLE RA 13	-0.04	-2.76	64.42	0.0883	-0.0289	0.0002
224	SLE RA 14	-0.02	-3.16	65.4	0.1057	-0.0197	0.0002
224	SLE RA 15	-0.03	-2.98	65.44	0.097	-0.0255	0.0002
224	SLE RA 16	-0.02	-3.13	64.94	0.1047	-0.0195	0.0002
224	SLE RA 17	-0.03	-2.95	64.98	0.096	-0.0254	0.0002
224	SLE RA 18	-0.02	-3.17	65.85	0.1069	-0.0198	0.0002
224	SLE RA 19	-0.03	-2.99	65.89	0.0982	-0.0256	0.0002
224	SLE RA 20	-0.03	-3.24	66.43	0.1088	-0.0201	0.0002
224	SLE RA 21	-0.03	-3.06	66.47	0.1002	-0.026	0.0002
224	SLE FR 1	-0.02	-2.58	58.92	0.0867	-0.0164	0.0002
224	SLE FR 2	-0.02	-2.52	58.93	0.0838	-0.0183	0.0002
224	SLE FR 3	-0.02	-2.61	59.15	0.0875	-0.0165	0.0002
224	SLE FR 4	-0.02	-2.7	61.01	0.0899	-0.0194	0.0002
224	SLE FR 5	-0.02	-2.79	61.23	0.0935	-0.0176	0.0002
224	SLE FR 6	-0.02	-2.88	62.38	0.0968	-0.0181	0.0002
224	SLE QP 1	-0.02	-2.58	58.92	0.0867	-0.0164	0.0002
224	SLE QP 2	-0.02	-2.76	61	0.0928	-0.0174	0.0002
224	SLD 1	-0.03	0.35	43.45	-0.0269	0.0702	0
224	SLD 2	-0.03	0.35	43.45	-0.0269	0.0702	0
224	SLD 3	-0.13	-3.03	44.91	0.1138	-0.0016	0
224	SLD 4	-0.13	-3.03	44.91	0.1138	-0.0016	0
224	SLD 5	0.14	3.3	53.52	-0.1566	0.1179	0.0002
224	SLD 6	0.14	3.3	53.52	-0.1566	0.1179	0.0002
224	SLD 7	-0.21	-7.97	58.38	0.3126	-0.1217	0
224	SLD 8	-0.21	-7.97	58.38	0.3126	-0.1217	0
224	SLD 9	0.17	2.45	63.61	-0.127	0.0869	0.0003
224	SLD 10	0.17	2.45	63.61	-0.127	0.0869	0.0003
224	SLD 11	-0.18	-8.82	68.47	0.3422	-0.1527	0.0002
224	SLD 12	-0.18	-8.82	68.47	0.3422	-0.1527	0.0002
224	SLD 13	0.09	-2.49	77.08	0.0717	-0.0332	0.0004
224	SLD 14	0.09	-2.49	77.08	0.0717	-0.0332	0.0004
224	SLD 15	-0.02	-5.87	78.54	0.2125	-0.105	0.0004
224	SLD 16	-0.02	-5.87	78.54	0.2125	-0.105	0.0004
224	SLV 1	-0.02	4.51	19.89	-0.1873	0.2002	-0.0002
224	SLV 2	-0.02	4.51	19.89	-0.1873	0.2002	-0.0002
224	SLV 3	-0.29	-3.36	23.36	0.1405	0.0168	-0.0004
224	SLV 4	-0.29	-3.36	23.36	0.1405	0.0168	-0.0004
224	SLV 5	0.38	11.36	43.4	-0.4882	0.326	0.0003
224	SLV 6	0.38	11.36	43.4	-0.4882	0.326	0.0003
224	SLV 7	-0.51	-14.88	54.97	0.6041	-0.2852	-0.0002
224	SLV 8	-0.51	-14.88	54.97	0.6041	-0.2852	-0.0002
224	SLV 9	0.46	9.36	67.03	-0.4185	0.2504	0.0006
224	SLV 10	0.46	9.36	67.03	-0.4185	0.2504	0.0006
224	SLV 11	-0.43	-16.88	78.59	0.6738	-0.3608	0.0001
224	SLV 12	-0.43	-16.88	78.59	0.6738	-0.3608	0.0001
224	SLV 13	0.25	-2.16	98.63	0.0451	-0.0516	0.0007
224	SLV 14	0.25	-2.16	98.63	0.0451	-0.0516	0.0007
224	SLV 15	-0.02	-10.03	102.1	0.3728	-0.235	0.0006
224	SLV 16	-0.02	-10.03	102.1	0.3728	-0.235	0.0006
225	SLU 1	0	7.71	28.81	-0.2079	0.0006	-0.0001
225	SLU 2	0	7.7	28.68	-0.2084	0.0004	-0.0001
225	SLU 3	0	8.09	30.21	-0.2186	0.0007	-0.0001
225	SLU 4	0	8.08	30.12	-0.2189	0.0005	-0.0001
225	SLU 5	0	8.04	29.9	-0.2185	0.0004	-0.0001
225	SLU 6	0	8.43	31.43	-0.2287	0.0007	-0.0001
225	SLU 7	0	8.42	31.34	-0.229	0.0006	-0.0001
225	SLU 8	0	8.39	31.26	-0.228	0.0007	-0.0001
225	SLU 9	0	8.39	31.17	-0.2283	0.0006	-0.0001
225	SLU 10	0	8.95	33.5	-0.2412	0.0005	-0.0001
225	SLU 11	0	9.34	35.03	-0.2513	0.0008	-0.0001
225	SLU 12	0	9.33	34.94	-0.2517	0.0007	-0.0001
225	SLU 13	0	9.29	34.72	-0.2512	0.0006	-0.0001
225	SLU 14	0	9.68	36.25	-0.2614	0.0009	-0.0001
225	SLU 15	0	9.67	36.16	-0.2617	0.0007	-0.0001
225	SLU 16	0	9.64	36.08	-0.2608	0.0009	-0.0001
225	SLU 17	0	9.64	35.99	-0.2611	0.0007	-0.0001
225	SLU 18	0	9.5	35.7	-0.2547	0.0008	-0.0001
225	SLU 19	0	9.49	35.62	-0.255	0.0007	-0.0001
225	SLU 20	0	9.84	36.92	-0.2647	0.0009	-0.0001
225	SLU 21	0	9.83	36.84	-0.2651	0.0007	-0.0001





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
225	SLU 22	0	8.97	33.6	-0.2415	0.0008	-0.0001
225	SLU 23	0	8.96	33.46	-0.2421	0.0005	-0.0001
225	SLU 24	0	9.35	34.99	-0.2522	0.0008	-0.0001
225	SLU 25	0	9.34	34.91	-0.2526	0.0007	-0.0001
225	SLU 26	0	9.3	34.68	-0.2521	0.0006	-0.0001
225	SLU 27	0	9.69	36.21	-0.2623	0.0009	-0.0001
225	SLU 28	0	9.68	36.13	-0.2626	0.0007	-0.0001
225	SLU 29	0	9.65	36.04	-0.2617	0.0009	-0.0001
225	SLU 30	0	9.64	35.96	-0.262	0.0007	-0.0001
225	SLU 31	0	10.21	38.28	-0.2748	0.0007	-0.0001
225	SLU 32	0	10.6	39.81	-0.285	0.001	-0.0002
225	SLU 33	0	10.59	39.73	-0.2853	0.0008	-0.0001
225	SLU 34	0	10.55	39.5	-0.2849	0.0007	-0.0001
225	SLU 35	0	10.94	41.03	-0.295	0.0011	-0.0002
225	SLU 36	0	10.93	40.95	-0.2954	0.0009	-0.0001
225	SLU 37	0	10.9	40.86	-0.2944	0.001	-0.0002
225	SLU 38	0	10.9	40.78	-0.2947	0.0009	-0.0001
225	SLU 39	0	10.76	40.49	-0.2883	0.001	-0.0002
225	SLU 40	0	10.75	40.41	-0.2886	0.0008	-0.0001
225	SLU 41	0	11.1	41.71	-0.2984	0.0011	-0.0002
225	SLU 42	0	11.09	41.63	-0.2987	0.0009	-0.0001
225	SLU 43	0	9.59	35.82	-0.2587	0.0007	-0.0001
225	SLU 44	0	9.58	35.68	-0.2593	0.0005	-0.0001
225	SLU 45	0	9.97	37.21	-0.2694	0.0008	-0.0001
225	SLU 46	0	9.96	37.13	-0.2697	0.0006	-0.0001
225	SLU 47	0	9.92	36.9	-0.2693	0.0005	-0.0001
225	SLU 48	0	10.31	38.43	-0.2795	0.0009	-0.0001
225	SLU 49	0	10.3	38.35	-0.2798	0.0007	-0.0001
225	SLU 50	0	10.27	38.26	-0.2788	0.0008	-0.0001
225	SLU 51	0	10.27	38.18	-0.2792	0.0007	-0.0001
225	SLU 52	0	10.83	40.5	-0.292	0.0006	-0.0001
225	SLU 53	0	11.22	42.03	-0.3022	0.001	-0.0002
225	SLU 54	0	11.22	41.95	-0.3025	0.0008	-0.0001
225	SLU 55	0	11.17	41.72	-0.3021	0.0007	-0.0001
225	SLU 56	0	11.56	43.25	-0.3122	0.001	-0.0002
225	SLU 57	0	11.56	43.17	-0.3126	0.0009	-0.0001
225	SLU 58	0	11.53	43.08	-0.3116	0.001	-0.0002
225	SLU 59	0	11.52	43	-0.3119	0.0009	-0.0001
225	SLU 60	0	11.38	42.71	-0.3055	0.001	-0.0002
225	SLU 61	0	11.37	42.62	-0.3058	0.0008	-0.0001
225	SLU 62	0	11.72	43.93	-0.3156	0.001	-0.0002
225	SLU 63	0	11.71	43.84	-0.3159	0.0009	-0.0001
225	SLU 64	0	10.85	40.61	-0.2924	0.0009	-0.0001
225	SLU 65	0	10.84	40.47	-0.2929	0.0006	-0.0001
225	SLU 66	0	11.23	42	-0.3031	0.001	-0.0002
225	SLU 67	0	11.22	41.91	-0.3034	0.0008	-0.0001
225	SLU 68	0	11.18	41.69	-0.303	0.0007	-0.0001
225	SLU 69	0	11.57	43.22	-0.3131	0.001	-0.0002
225	SLU 70	0	11.56	43.13	-0.3134	0.0009	-0.0001
225	SLU 71	0	11.53	43.05	-0.3125	0.001	-0.0002
225	SLU 72	0	11.53	42.96	-0.3128	0.0009	-0.0001
225	SLU 73	0	12.09	45.29	-0.3257	0.0008	-0.0001
225	SLU 74	0	12.48	46.82	-0.3358	0.0011	-0.0002
225	SLU 75	0	12.47	46.73	-0.3361	0.001	-0.0002
225	SLU 76	0	12.43	46.51	-0.3357	0.0009	-0.0001
225	SLU 77	0	12.82	48.04	-0.3459	0.0012	-0.0002
225	SLU 78	0	12.81	47.95	-0.3462	0.001	-0.0002
225	SLU 79	0	12.78	47.87	-0.3452	0.0012	-0.0002
225	SLU 80	0	12.78	47.78	-0.3456	0.001	-0.0002
225	SLU 81	0	12.64	47.49	-0.3392	0.0011	-0.0002
225	SLU 82	0	12.63	47.41	-0.3395	0.001	-0.0002
225	SLU 83	0	12.98	48.71	-0.3492	0.0012	-0.0002
225	SLU 84	0	12.97	48.63	-0.3495	0.001	-0.0002
225	SLE RA 1	0	8.07	30.18	-0.2175	0.0007	-0.0001
225	SLE RA 2	0	8.06	30.09	-0.2179	0.0005	-0.0001
225	SLE RA 3	0	8.32	31.11	-0.2246	0.0007	-0.0001
225	SLE RA 4	0	8.32	31.05	-0.2249	0.0006	-0.0001
225	SLE RA 5	0	8.29	30.9	-0.2246	0.0005	-0.0001
225	SLE RA 6	0	8.55	31.92	-0.2313	0.0007	-0.0001
225	SLE RA 7	0	8.54	31.87	-0.2316	0.0006	-0.0001
225	SLE RA 8	0	8.52	31.81	-0.2309	0.0007	-0.0001
225	SLE RA 9	0	8.52	31.75	-0.2311	0.0006	-0.0001
225	SLE RA 10	0	8.9	33.3	-0.2397	0.0006	-0.0001
225	SLE RA 11	0	9.16	34.32	-0.2465	0.0008	-0.0001
225	SLE RA 12	0	9.15	34.27	-0.2467	0.0007	-0.0001
225	SLE RA 13	0	9.13	34.12	-0.2464	0.0006	-0.0001
225	SLE RA 14	0	9.38	35.14	-0.2532	0.0008	-0.0001
225	SLE RA 15	0	9.38	35.08	-0.2534	0.0007	-0.0001
225	SLE RA 16	0	9.36	35.02	-0.2528	0.0008	-0.0001
225	SLE RA 17	0	9.35	34.97	-0.253	0.0007	-0.0001
225	SLE RA 18	0	9.26	34.77	-0.2487	0.0008	-0.0001
225	SLE RA 19	0	9.26	34.72	-0.2489	0.0007	-0.0001
225	SLE RA 20	0	9.49	35.59	-0.2554	0.0008	-0.0001
225	SLE RA 21	0	9.49	35.53	-0.2556	0.0007	-0.0001
225	SLE FR 1	0	8.07	30.18	-0.2175	0.0007	-0.0001
225	SLE FR 2	0	8.07	30.16	-0.2176	0.0006	-0.0001
225	SLE FR 3	0	8.16	30.51	-0.2202	0.0007	-0.0001
225	SLE FR 4	0	8.43	31.54	-0.2269	0.0007	-0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
225	SLE FR 5	0	8.52	31.89	-0.2296	0.0007	-0.0001	
225	SLE FR 6	0	8.67	32.48	-0.2331	0.0007	-0.0001	
225	SLE QP 1	0	8.07	30.18	-0.2175	0.0007	-0.0001	
225	SLE QP 2	0	8.43	31.56	-0.2269	0.0007	-0.0001	
225	SLD 1	-0.27	8.68	32.61	-0.2349	0.0419	-0.0045	
225	SLD 2	-0.27	8.68	32.61	-0.2349	0.0419	-0.0045	
225	SLD 3	-0.32	5.83	24.67	-0.1297	0.0305	-0.0027	
225	SLD 4	-0.32	5.83	24.67	-0.1297	0.0305	-0.0027	
225	SLD 5	0	12.82	43.91	-0.3889	0.0303	-0.0042	
225	SLD 6	0	12.82	43.91	-0.3889	0.0303	-0.0042	
225	SLD 7	-0.17	3.33	17.45	-0.0381	-0.0076	0.0019	
225	SLD 8	-0.17	3.33	17.45	-0.0381	-0.0076	0.0019	
225	SLD 9	0.17	13.52	45.67	-0.4156	0.009	-0.0021	
225	SLD 10	0.17	13.52	45.67	-0.4156	0.009	-0.0021	
225	SLD 11	0	4.04	19.21	-0.0649	-0.0289	0.004	
225	SLD 12	0	4.04	19.21	-0.0649	-0.0289	0.004	
225	SLD 13	0.32	11.02	38.45	-0.3241	-0.0291	0.0025	
225	SLD 14	0.32	11.02	38.45	-0.3241	-0.0291	0.0025	
225	SLD 15	0.27	8.18	30.51	-0.2188	-0.0405	0.0043	
225	SLD 16	0.27	8.18	30.51	-0.2188	-0.0405	0.0043	
225	SLV 1	-0.69	8.98	33.88	-0.2445	0.1058	-0.0112	
225	SLV 2	-0.69	8.98	33.88	-0.2445	0.1058	-0.0112	
225	SLV 3	-0.82	2.26	15.12	0.0038	0.0768	-0.0066	
225	SLV 4	-0.82	2.26	15.12	0.0038	0.0768	-0.0066	
225	SLV 5	-0.01	18.79	60.7	-0.6087	0.0762	-0.0105	
225	SLV 6	-0.01	18.79	60.7	-0.6087	0.0762	-0.0105	
225	SLV 7	-0.44	-3.61	-1.81	0.2189	-0.0204	0.005	
225	SLV 8	-0.44	-3.61	-1.81	0.2189	-0.0204	0.005	
225	SLV 9	0.44	20.47	64.93	-0.6727	0.0218	-0.0052	
225	SLV 10	0.44	20.47	64.93	-0.6727	0.0218	-0.0052	
225	SLV 11	0.01	-1.93	2.42	0.155	-0.0748	0.0103	
225	SLV 12	0.01	-1.93	2.42	0.155	-0.0748	0.0103	
225	SLV 13	0.82	14.6	48	-0.4575	-0.0754	0.0064	
225	SLV 14	0.82	14.6	48	-0.4575	-0.0754	0.0064	
225	SLV 15	0.69	7.88	29.24	-0.2092	-0.1044	0.011	
225	SLV 16	0.69	7.88	29.24	-0.2092	-0.1044	0.011	
226	SLU 1	0	7.09	25.53	-0.2125	-0.001	0.0002	
226	SLU 2	0	7.05	25.27	-0.2122	-0.0006	0.0001	
226	SLU 3	0	7.38	26.58	-0.2213	-0.0011	0.0002	
226	SLU 4	0	7.36	26.43	-0.2211	-0.0009	0.0001	
226	SLU 5	0	7.3	26.15	-0.2198	-0.0007	0.0001	
226	SLU 6	0	7.63	27.46	-0.2289	-0.0012	0.0002	
226	SLU 7	0	7.61	27.3	-0.2287	-0.001	0.0001	
226	SLU 8	0	7.59	27.28	-0.2278	-0.0012	0.0002	
226	SLU 9	0	7.56	27.13	-0.2276	-0.0009	0.0001	
226	SLU 10	0	8.25	29.72	-0.247	-0.0009	0.0001	
226	SLU 11	0	8.58	31.04	-0.2562	-0.0013	0.0002	
226	SLU 12	0	8.56	30.88	-0.256	-0.0011	0.0002	
226	SLU 13	0	8.5	30.6	-0.2547	-0.0009	0.0001	
226	SLU 14	0	8.83	31.91	-0.2638	-0.0014	0.0002	
226	SLU 15	0	8.81	31.76	-0.2636	-0.0012	0.0002	
226	SLU 16	0	8.79	31.73	-0.2626	-0.0014	0.0002	
226	SLU 17	0	8.76	31.58	-0.2624	-0.0012	0.0002	
226	SLU 18	0	8.8	31.89	-0.2623	-0.0014	0.0002	
226	SLU 19	0	8.78	31.73	-0.2621	-0.0011	0.0002	
226	SLU 20	0	9.05	32.76	-0.2699	-0.0014	0.0002	
226	SLU 21	0	9.03	32.61	-0.2697	-0.0012	0.0002	
226	SLU 22	0	8.26	29.85	-0.2468	-0.0013	0.0002	
226	SLU 23	0	8.22	29.59	-0.2465	-0.0009	0.0001	
226	SLU 24	0	8.56	30.9	-0.2556	-0.0013	0.0002	
226	SLU 25	0	8.53	30.75	-0.2554	-0.0011	0.0002	
226	SLU 26	0	8.47	30.47	-0.2541	-0.0009	0.0001	
226	SLU 27	0	8.81	31.78	-0.2632	-0.0014	0.0002	
226	SLU 28	0	8.78	31.62	-0.263	-0.0012	0.0002	
226	SLU 29	0	8.76	31.6	-0.2621	-0.0014	0.0002	
226	SLU 30	0	8.74	31.44	-0.2619	-0.0012	0.0002	
226	SLU 31	0	9.42	34.04	-0.2813	-0.0011	0.0002	
226	SLU 32	0	9.76	35.35	-0.2905	-0.0016	0.0002	
226	SLU 33	0	9.73	35.2	-0.2903	-0.0014	0.0002	
226	SLU 34	0	9.67	34.92	-0.289	-0.0012	0.0002	
226	SLU 35	0	10.01	36.23	-0.2981	-0.0017	0.0003	
226	SLU 36	0	9.98	36.07	-0.2979	-0.0014	0.0002	
226	SLU 37	0	9.96	36.05	-0.2969	-0.0016	0.0003	
226	SLU 38	0	9.94	35.9	-0.2967	-0.0014	0.0002	
226	SLU 39	0	9.98	36.21	-0.2966	-0.0016	0.0002	
226	SLU 40	0	9.95	36.05	-0.2964	-0.0014	0.0002	
226	SLU 41	0	10.23	37.08	-0.3042	-0.0017	0.0003	
226	SLU 42	0	10.2	36.93	-0.304	-0.0014	0.0002	
226	SLU 43	0	8.82	31.71	-0.2645	-0.0012	0.0002	
226	SLU 44	0	8.77	31.45	-0.2642	-0.0009	0.0001	
226	SLU 45	0	9.11	32.76	-0.2733	-0.0013	0.0002	
226	SLU 46	0	9.08	32.61	-0.2731	-0.0011	0.0002	
226	SLU 47	0	9.02	32.32	-0.2718	-0.0009	0.0001	
226	SLU 48	0	9.36	33.64	-0.2809	-0.0014	0.0002	
226	SLU 49	0	9.33	33.48	-0.2807	-0.0012	0.0002	
226	SLU 50	0	9.31	33.46	-0.2798	-0.0014	0.0002	
226	SLU 51	0	9.29	33.3	-0.2796	-0.0012	0.0002	
226	SLU 52	0	9.97	35.9	-0.299	-0.0011	0.0002	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		Ind.	N.br.	x	y	z	x	y
226	SLU 53		0	10.31	37.21	-0.3082	-0.0016	0.0002
226	SLU 54		0	10.28	37.06	-0.308	-0.0013	0.0002
226	SLU 55		0	10.22	36.78	-0.3067	-0.0012	0.0002
226	SLU 56		0	10.56	38.09	-0.3158	-0.0016	0.0003
226	SLU 57		0	10.53	37.93	-0.3156	-0.0014	0.0002
226	SLU 58		0	10.52	37.91	-0.3146	-0.0016	0.0002
226	SLU 59		0	10.49	37.75	-0.3144	-0.0014	0.0002
226	SLU 60		0	10.53	38.07	-0.3143	-0.0016	0.0002
226	SLU 61		0	10.5	37.91	-0.3141	-0.0014	0.0002
226	SLU 62		0	10.78	38.94	-0.3219	-0.0017	0.0003
226	SLU 63		0	10.75	38.79	-0.3217	-0.0014	0.0002
226	SLU 64		0	9.99	36.03	-0.2988	-0.0015	0.0002
226	SLU 65		0	9.94	35.77	-0.2985	-0.0011	0.0002
226	SLU 66		0	10.28	37.08	-0.3076	-0.0016	0.0002
226	SLU 67		0	10.26	36.93	-0.3074	-0.0013	0.0002
226	SLU 68		0	10.19	36.64	-0.3061	-0.0012	0.0002
226	SLU 69		0	10.53	37.96	-0.3152	-0.0016	0.0003
226	SLU 70		0	10.51	37.8	-0.315	-0.0014	0.0002
226	SLU 71		0	10.49	37.78	-0.3141	-0.0016	0.0002
226	SLU 72		0	10.46	37.62	-0.3139	-0.0014	0.0002
226	SLU 73		0	11.14	40.22	-0.3333	-0.0013	0.0002
226	SLU 74		0	11.48	41.53	-0.3425	-0.0018	0.0003
226	SLU 75		0	11.46	41.38	-0.3423	-0.0016	0.0002
226	SLU 76		0	11.39	41.1	-0.341	-0.0014	0.0002
226	SLU 77		0	11.73	42.41	-0.3501	-0.0019	0.0003
226	SLU 78		0	11.71	42.25	-0.3499	-0.0017	0.0003
226	SLU 79		0	11.69	42.23	-0.3489	-0.0019	0.0003
226	SLU 80		0	11.66	42.07	-0.3487	-0.0016	0.0002
226	SLU 81		0	11.7	42.39	-0.3486	-0.0018	0.0003
226	SLU 82		0	11.68	42.23	-0.3484	-0.0016	0.0002
226	SLU 83		0	11.95	43.26	-0.3562	-0.0019	0.0003
226	SLU 84		0	11.93	43.11	-0.356	-0.0017	0.0003
226	SLE RA 1		0	7.42	26.76	-0.2223	-0.0011	0.0002
226	SLE RA 2		0	7.4	26.59	-0.2221	-0.0008	0.0001
226	SLE RA 3		0	7.62	27.47	-0.2282	-0.0011	0.0002
226	SLE RA 4		0	7.6	27.36	-0.228	-0.001	0.0001
226	SLE RA 5		0	7.56	27.17	-0.2272	-0.0009	0.0001
226	SLE RA 6		0	7.79	28.05	-0.2333	-0.0012	0.0002
226	SLE RA 7		0	7.77	27.95	-0.2331	-0.001	0.0002
226	SLE RA 8		0	7.76	27.93	-0.2325	-0.0012	0.0002
226	SLE RA 9		0	7.74	27.83	-0.2323	-0.001	0.0002
226	SLE RA 10		0	8.2	29.56	-0.2453	-0.001	0.0001
226	SLE RA 11		0	8.42	30.43	-0.2514	-0.0013	0.0002
226	SLE RA 12		0	8.4	30.33	-0.2513	-0.0011	0.0002
226	SLE RA 13		0	8.36	30.14	-0.2504	-0.001	0.0002
226	SLE RA 14		0	8.59	31.02	-0.2565	-0.0014	0.0002
226	SLE RA 15		0	8.57	30.91	-0.2564	-0.0012	0.0002
226	SLE RA 16		0	8.56	30.9	-0.2557	-0.0013	0.0002
226	SLE RA 17		0	8.54	30.8	-0.2556	-0.0012	0.0002
226	SLE RA 18		0	8.57	31	-0.2555	-0.0013	0.0002
226	SLE RA 19		0	8.55	30.9	-0.2554	-0.0012	0.0002
226	SLE RA 20		0	8.73	31.59	-0.2606	-0.0014	0.0002
226	SLE RA 21		0	8.72	31.48	-0.2605	-0.0012	0.0002
226	SLE FR 1		0	7.42	26.76	-0.2223	-0.0011	0.0002
226	SLE FR 2		0	7.42	26.73	-0.2223	-0.001	0.0002
226	SLE FR 3		0	7.49	27	-0.2243	-0.0011	0.0002
226	SLE FR 4		0	7.76	28	-0.2322	-0.0011	0.0002
226	SLE FR 5		0	7.83	28.27	-0.2343	-0.0012	0.0002
226	SLE FR 6		0	8	28.88	-0.2389	-0.0012	0.0002
226	SLE QP 1		0	7.42	26.76	-0.2223	-0.0011	0.0002
226	SLE QP 2		0	7.77	28.04	-0.2323	-0.0012	0.0002
226	SLD 1		-0.33	9.75	33.32	-0.311	0.0242	-0.0021
226	SLD 2		-0.33	9.75	33.32	-0.311	0.0242	-0.0021
226	SLD 3		-0.26	7.49	27.41	-0.2194	0.0389	-0.0044
226	SLD 4		-0.26	7.49	27.41	-0.2194	0.0389	-0.0044
226	SLD 5		-0.22	11.79	38.58	-0.3948	-0.0157	0.003
226	SLD 6		-0.22	11.79	38.58	-0.3948	-0.0157	0.003
226	SLD 7		0.04	4.26	18.88	-0.0895	0.0331	-0.0047
226	SLD 8		0.04	4.26	18.88	-0.0895	0.0331	-0.0047
226	SLD 9		-0.04	11.28	37.19	-0.3751	-0.0354	0.005
226	SLD 10		-0.04	11.28	37.19	-0.3751	-0.0354	0.005
226	SLD 11		0.22	3.75	17.49	-0.0697	0.0134	-0.0027
226	SLD 12		0.22	3.75	17.49	-0.0697	0.0134	-0.0027
226	SLD 13		0.26	8.05	28.66	-0.2451	-0.0412	0.0047
226	SLD 14		0.26	8.05	28.66	-0.2451	-0.0412	0.0047
226	SLD 15		0.33	5.79	22.75	-0.1535	-0.0265	0.0024
226	SLD 16		0.33	5.79	22.75	-0.1535	-0.0265	0.0024
226	SLV 1		-0.85	12.48	40.62	-0.4194	0.0629	-0.0053
226	SLV 2		-0.85	12.48	40.62	-0.4194	0.0629	-0.0053
226	SLV 3		-0.65	7.16	26.7	-0.2037	0.1002	-0.0112
226	SLV 4		-0.65	7.16	26.7	-0.2037	0.1002	-0.0112
226	SLV 5		-0.56	17.24	52.92	-0.6155	-0.0385	0.0075
226	SLV 6		-0.56	17.24	52.92	-0.6155	-0.0385	0.0075
226	SLV 7		0.11	-0.47	6.52	0.1034	0.0858	-0.0122
226	SLV 8		0.11	-0.47	6.52	0.1034	0.0858	-0.0122
226	SLV 9		-0.1	16.01	49.55	-0.5679	-0.0881	0.0125
226	SLV 10		-0.1	16.01	49.55	-0.5679	-0.0881	0.0125
226	SLV 11		0.56	-1.7	3.15	0.1509	0.0362	-0.0071



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
226	SLV 12	0.56	-1.7	3.15	0.1509	0.0362	-0.0071
226	SLV 13	0.66	8.37	29.37	-0.2608	-0.1025	0.0115
226	SLV 14	0.66	8.37	29.37	-0.2608	-0.1025	0.0115
226	SLV 15	0.85	3.06	15.45	-0.0452	-0.0652	0.0056
226	SLV 16	0.85	3.06	15.45	-0.0452	-0.0652	0.0056
227	SLU 1	0	5.79	19.74	-0.1498	-0.0002	0
227	SLU 2	0	5.8	19.79	-0.1501	-0.0002	0
227	SLU 3	0	5.44	18.48	-0.1393	-0.0002	0
227	SLU 4	0	5.45	18.51	-0.1395	-0.0001	0
227	SLU 5	0	5.27	17.9	-0.1347	0	0
227	SLU 6	0	4.91	16.58	-0.1239	-0.0001	0
227	SLU 7	0	4.92	16.61	-0.1241	0	0
227	SLU 8	0	4.73	15.95	-0.119	0	0
227	SLU 9	0	4.74	15.98	-0.1192	0	0
227	SLU 10	0	6.88	23.45	-0.1785	0.0001	0
227	SLU 11	0	6.52	22.13	-0.1677	0.0001	0
227	SLU 12	0	6.53	22.16	-0.1679	0.0002	0
227	SLU 13	0	6.35	21.55	-0.1631	0.0002	0
227	SLU 14	0	5.99	20.24	-0.1523	0.0002	0
227	SLU 15	0	6	20.27	-0.1525	0.0003	0
227	SLU 16	0	5.81	19.61	-0.1474	0.0003	0
227	SLU 17	0	5.82	19.64	-0.1476	0.0003	0
227	SLU 18	0	7.33	24.97	-0.1904	0.0002	0
227	SLU 19	0	7.34	25	-0.1906	0.0002	0
227	SLU 20	0	6.8	23.07	-0.175	0.0003	0
227	SLU 21	0	6.81	23.1	-0.1752	0.0003	0
227	SLU 22	0	6.53	22.23	-0.1687	-0.0001	0
227	SLU 23	0	6.55	22.28	-0.169	0	0
227	SLU 24	0	6.18	20.96	-0.1582	0	0
227	SLU 25	0	6.19	21	-0.1584	0.0001	0
227	SLU 26	0	6.02	20.38	-0.1536	0.0001	0
227	SLU 27	0	5.65	19.07	-0.1428	0.0001	0
227	SLU 28	0	5.66	19.1	-0.143	0.0002	0
227	SLU 29	0	5.48	18.44	-0.1379	0.0002	0
227	SLU 30	0	5.48	18.47	-0.1381	0.0002	0
227	SLU 31	0	7.63	25.94	-0.1974	0.0003	0
227	SLU 32	0	7.27	24.62	-0.1866	0.0003	0
227	SLU 33	0	7.27	24.65	-0.1868	0.0003	0
227	SLU 34	0	7.1	24.04	-0.182	0.0004	-0.0001
227	SLU 35	0	6.74	22.73	-0.1712	0.0004	-0.0001
227	SLU 36	0	6.74	22.76	-0.1714	0.0004	-0.0001
227	SLU 37	0	6.56	22.1	-0.1663	0.0004	-0.0001
227	SLU 38	0	6.56	22.13	-0.1665	0.0005	-0.0001
227	SLU 39	0	8.08	27.46	-0.2093	0.0003	0
227	SLU 40	0	8.09	27.49	-0.2095	0.0004	-0.0001
227	SLU 41	0	7.55	25.56	-0.1939	0.0004	-0.0001
227	SLU 42	0	7.56	25.59	-0.1941	0.0005	-0.0001
227	SLU 43	0	7.27	24.81	-0.1882	-0.0004	0.0001
227	SLU 44	0	7.28	24.86	-0.1886	-0.0003	0.0001
227	SLU 45	0	6.92	23.55	-0.1777	-0.0003	0.0001
227	SLU 46	0	6.93	23.58	-0.178	-0.0003	0
227	SLU 47	0	6.75	22.96	-0.1732	-0.0002	0
227	SLU 48	0	6.39	21.65	-0.1624	-0.0002	0
227	SLU 49	0	6.4	21.68	-0.1626	-0.0001	0
227	SLU 50	0	6.21	21.02	-0.1574	-0.0001	0
227	SLU 51	0	6.22	21.05	-0.1576	-0.0001	0
227	SLU 52	0	8.36	28.52	-0.217	0	0
227	SLU 53	0	8	27.2	-0.2062	0	0
227	SLU 54	0	8.01	27.23	-0.2064	0	0
227	SLU 55	0	7.83	26.62	-0.2016	0.0001	0
227	SLU 56	0	7.47	25.31	-0.1908	0.0001	0
227	SLU 57	0	7.48	25.34	-0.191	0.0001	0
227	SLU 58	0	7.29	24.68	-0.1858	0.0001	0
227	SLU 59	0	7.3	24.71	-0.1861	0.0002	0
227	SLU 60	0	8.81	30.04	-0.2288	0	0
227	SLU 61	0	8.82	30.07	-0.229	0.0001	0
227	SLU 62	0	8.28	28.14	-0.2134	0.0001	0
227	SLU 63	0	8.29	28.17	-0.2136	0.0002	0
227	SLU 64	0	8.01	27.3	-0.2071	-0.0002	0
227	SLU 65	0	8.03	27.35	-0.2075	-0.0001	0
227	SLU 66	0	7.66	26.03	-0.1967	-0.0001	0
227	SLU 67	0	7.67	26.06	-0.1969	-0.0001	0
227	SLU 68	0	7.5	25.45	-0.1921	0	0
227	SLU 69	0	7.14	24.14	-0.1813	0	0
227	SLU 70	0	7.14	24.17	-0.1815	0	0
227	SLU 71	0	6.96	23.51	-0.1763	0	0
227	SLU 72	0	6.96	23.54	-0.1765	0.0001	0
227	SLU 73	0	9.11	31.01	-0.2359	0.0002	0
227	SLU 74	0	8.75	29.69	-0.2251	0.0001	0
227	SLU 75	0	8.75	29.72	-0.2253	0.0002	0
227	SLU 76	0	8.58	29.11	-0.2205	0.0003	0
227	SLU 77	0	8.22	27.8	-0.2097	0.0003	0
227	SLU 78	0	8.22	27.83	-0.2099	0.0003	0
227	SLU 79	0	8.04	27.16	-0.2048	0.0003	0
227	SLU 80	0	8.04	27.19	-0.205	0.0004	0
227	SLU 81	0	9.56	32.53	-0.2477	0.0002	0
227	SLU 82	0	9.57	32.56	-0.2479	0.0003	0
227	SLU 83	0	9.03	30.63	-0.2323	0.0003	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
227	SLU 84		0		9.04	30.66	-0.2325	0.0004	0
227	SLE RA 1		0		6	20.45	-0.1552	-0.0002	0
227	SLE RA 2		0		6.01	20.49	-0.1554	-0.0001	0
227	SLE RA 3		0		5.77	19.61	-0.1482	-0.0001	0
227	SLE RA 4		0		5.77	19.63	-0.1483	-0.0001	0
227	SLE RA 5		0		5.66	19.22	-0.1451	-0.0001	0
227	SLE RA 6		0		5.42	18.34	-0.1379	-0.0001	0
227	SLE RA 7		0		5.42	18.37	-0.1381	0	0
227	SLE RA 8		0		5.3	17.92	-0.1347	0	0
227	SLE RA 9		0		5.3	17.94	-0.1348	0	0
227	SLE RA 10		0		6.73	22.93	-0.1743	0.0001	0
227	SLE RA 11		0		6.49	22.05	-0.1671	0	0
227	SLE RA 12		0		6.49	22.07	-0.1673	0.0001	0
227	SLE RA 13		0		6.38	21.66	-0.1641	0.0001	0
227	SLE RA 14		0		6.14	20.78	-0.1569	0.0001	0
227	SLE RA 15		0		6.14	20.8	-0.157	0.0001	0
227	SLE RA 16		0		6.02	20.36	-0.1536	0.0001	0
227	SLE RA 17		0		6.02	20.38	-0.1537	0.0002	0
227	SLE RA 18		0		7.03	23.94	-0.1822	0.0001	0
227	SLE RA 19		0		7.04	23.96	-0.1824	0.0001	0
227	SLE RA 20		0		6.68	22.67	-0.172	0.0002	0
227	SLE RA 21		0		6.68	22.69	-0.1721	0.0002	0
227	SLE FR 1		0		6	20.45	-0.1552	-0.0002	0
227	SLE FR 2		0		6	20.46	-0.1552	-0.0002	0
227	SLE FR 3		0		5.86	19.95	-0.1511	-0.0002	0
227	SLE FR 4		0		6.31	21.5	-0.1633	-0.0001	0
227	SLE FR 5		0		6.17	20.99	-0.1592	-0.0001	0
227	SLE FR 6		0		6.52	22.19	-0.1687	-0.0001	0
227	SLE QP 1		0		6	20.45	-0.1552	-0.0002	0
227	SLE QP 2		0		6.31	21.5	-0.1633	-0.0001	0
227	SLD 1		-0.06		8.94	30.11	-0.2474	-0.0196	0.0037
227	SLD 2		-0.06		8.94	30.11	-0.2474	-0.0196	0.0037
227	SLD 3		-0.1		5.98	20.69	-0.1499	-0.0359	0.0068
227	SLD 4		-0.1		5.98	20.69	-0.1499	-0.0359	0.0068
227	SLD 5		0.05		11.59	38.37	-0.3364	0.0189	-0.0035
227	SLD 6		0.05		11.59	38.37	-0.3364	0.0189	-0.0035
227	SLD 7		-0.1		1.72	6.97	-0.0114	-0.0357	0.0067
227	SLD 8		-0.1		1.72	6.97	-0.0114	-0.0357	0.0067
227	SLD 9		0.09		10.9	36.03	-0.3151	0.0355	-0.0066
227	SLD 10		0.09		10.9	36.03	-0.3151	0.0355	-0.0066
227	SLD 11		-0.05		1.03	4.63	0.0098	-0.0191	0.0036
227	SLD 12		-0.05		1.03	4.63	0.0098	-0.0191	0.0036
227	SLD 13		0.09		6.64	22.31	-0.1766	0.0357	-0.0067
227	SLD 14		0.09		6.64	22.31	-0.1766	0.0357	-0.0067
227	SLD 15		0.05		3.68	12.89	-0.0792	0.0194	-0.0036
227	SLD 16		0.05		3.68	12.89	-0.0792	0.0194	-0.0036
227	SLV 1		-0.13		12.55	41.94	-0.3624	-0.0463	0.0087
227	SLV 2		-0.13		12.55	41.94	-0.3624	-0.0463	0.0087
227	SLV 3		-0.23		5.5	19.46	-0.1309	-0.0876	0.0165
227	SLV 4		-0.23		5.5	19.46	-0.1309	-0.0876	0.0165
227	SLV 5		0.12		18.87	61.72	-0.5742	0.0488	-0.0091
227	SLV 6		0.12		18.87	61.72	-0.5742	0.0488	-0.0091
227	SLV 7		-0.24		-4.62	-13.2	0.1976	-0.0891	0.0167
227	SLV 8		-0.24		-4.62	-13.2	0.1976	-0.0891	0.0167
227	SLV 9		0.23		17.24	56.2	-0.5242	0.0889	-0.0167
227	SLV 10		0.23		17.24	56.2	-0.5242	0.0889	-0.0167
227	SLV 11		-0.13		-6.25	-18.72	0.2476	-0.049	0.0092
227	SLV 12		-0.13		-6.25	-18.72	0.2476	-0.049	0.0092
227	SLV 13		0.23		7.11	23.54	-0.1957	0.0874	-0.0164
227	SLV 14		0.23		7.11	23.54	-0.1957	0.0874	-0.0164
227	SLV 15		0.12		0.07	1.06	0.0358	0.046	-0.0087
227	SLV 16		0.12		0.07	1.06	0.0358	0.046	-0.0087
228	SLU 1		0		4.43	15.12	-0.0966	0.0005	-0.0001
228	SLU 2		0		4.45	15.22	-0.0973	0.0004	-0.0001
228	SLU 3		0		3.93	13.29	-0.081	0.0005	-0.0001
228	SLU 4		0		3.94	13.35	-0.0815	0.0005	-0.0001
228	SLU 5		0		3.76	12.72	-0.0768	0.0004	-0.0001
228	SLU 6		0		3.24	10.79	-0.0605	0.0005	-0.0001
228	SLU 7		0		3.25	10.85	-0.0609	0.0005	-0.0001
228	SLU 8		0		3.05	10.11	-0.0554	0.0005	-0.0001
228	SLU 9		0		3.06	10.17	-0.0559	0.0004	-0.0001
228	SLU 10		0		5.32	18.23	-0.1171	0.0005	-0.0001
228	SLU 11		0		4.8	16.3	-0.1007	0.0006	-0.0001
228	SLU 12		0		4.81	16.36	-0.1012	0.0005	-0.0001
228	SLU 13		0		4.63	15.73	-0.0965	0.0005	-0.0001
228	SLU 14		0		4.11	13.8	-0.0802	0.0006	-0.0001
228	SLU 15		0		4.12	13.86	-0.0807	0.0005	-0.0001
228	SLU 16		0		3.92	13.12	-0.0752	0.0005	-0.0001
228	SLU 17		0		3.94	13.18	-0.0756	0.0005	-0.0001
228	SLU 18		0		5.67	19.42	-0.1247	0.0006	-0.0001
228	SLU 19		0		5.69	19.48	-0.1252	0.0005	-0.0001
228	SLU 20		0		4.98	16.92	-0.1042	0.0006	-0.0001
228	SLU 21		0		5	16.98	-0.1046	0.0005	-0.0001
228	SLU 22		0		4.79	16.28	-0.1024	0.0006	-0.0001
228	SLU 23		0		4.82	16.38	-0.1031	0.0005	-0.0001
228	SLU 24		0		4.29	14.45	-0.0868	0.0006	-0.0001
228	SLU 25		0		4.31	14.51	-0.0873	0.0005	-0.0001
228	SLU 26		0		4.13	13.87	-0.0826	0.0005	-0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
228	SLU 27		0		3.6	11.95	-0.0663	0.0006	-0.0001
228	SLU 28		0		3.62	12.01	-0.0667	0.0005	-0.0001
228	SLU 29		0		3.41	11.27	-0.0612	0.0006	-0.0001
228	SLU 30		0		3.43	11.33	-0.0617	0.0005	-0.0001
228	SLU 31		0		5.69	19.39	-0.1229	0.0006	-0.0001
228	SLU 32		0		5.16	17.46	-0.1065	0.0006	-0.0001
228	SLU 33		0		5.18	17.52	-0.107	0.0006	-0.0001
228	SLU 34		0		5	16.88	-0.1023	0.0006	-0.0001
228	SLU 35		0		4.47	14.96	-0.086	0.0006	-0.0001
228	SLU 36		0		4.49	15.02	-0.0865	0.0006	-0.0001
228	SLU 37		0		4.28	14.28	-0.081	0.0006	-0.0001
228	SLU 38		0		4.3	14.34	-0.0814	0.0006	-0.0001
228	SLU 39		0		6.03	20.58	-0.1305	0.0007	-0.0001
228	SLU 40		0		6.05	20.64	-0.131	0.0006	-0.0001
228	SLU 41		0		5.35	18.07	-0.11	0.0007	-0.0001
228	SLU 42		0		5.36	18.13	-0.1104	0.0006	-0.0001
228	SLU 43		0		5.63	19.26	-0.1235	0.0006	-0.0001
228	SLU 44		0		5.65	19.36	-0.1243	0.0006	-0.0001
228	SLU 45		0		5.13	17.43	-0.108	0.0006	-0.0001
228	SLU 46		0		5.14	17.49	-0.1085	0.0006	-0.0001
228	SLU 47		0		4.97	16.86	-0.1038	0.0006	-0.0001
228	SLU 48		0		4.44	14.93	-0.0874	0.0006	-0.0001
228	SLU 49		0		4.46	14.99	-0.0879	0.0006	-0.0001
228	SLU 50		0		4.25	14.25	-0.0824	0.0006	-0.0001
228	SLU 51		0		4.27	14.31	-0.0829	0.0006	-0.0001
228	SLU 52		0		6.53	22.37	-0.144	0.0006	-0.0001
228	SLU 53		0		6	20.44	-0.1277	0.0007	-0.0002
228	SLU 54		0		6.02	20.5	-0.1282	0.0007	-0.0001
228	SLU 55		0		5.84	19.87	-0.1235	0.0006	-0.0001
228	SLU 56		0		5.31	17.94	-0.1072	0.0007	-0.0002
228	SLU 57		0		5.33	18	-0.1076	0.0006	-0.0001
228	SLU 58		0		5.12	17.26	-0.1021	0.0007	-0.0001
228	SLU 59		0		5.14	17.32	-0.1026	0.0006	-0.0001
228	SLU 60		0		6.87	23.56	-0.1517	0.0007	-0.0002
228	SLU 61		0		6.89	23.62	-0.1522	0.0007	-0.0002
228	SLU 62		0		6.18	21.06	-0.1312	0.0007	-0.0002
228	SLU 63		0		6.2	21.12	-0.1316	0.0007	-0.0001
228	SLU 64		0		5.99	20.42	-0.1293	0.0007	-0.0002
228	SLU 65		0		6.02	20.51	-0.1301	0.0006	-0.0001
228	SLU 66		0		5.49	18.59	-0.1138	0.0007	-0.0002
228	SLU 67		0		5.51	18.65	-0.1143	0.0007	-0.0001
228	SLU 68		0		5.33	18.01	-0.1096	0.0006	-0.0001
228	SLU 69		0		4.8	16.09	-0.0932	0.0007	-0.0002
228	SLU 70		0		4.82	16.15	-0.0937	0.0007	-0.0001
228	SLU 71		0		4.61	15.41	-0.0882	0.0007	-0.0002
228	SLU 72		0		4.63	15.47	-0.0887	0.0006	-0.0001
228	SLU 73		0		6.89	23.52	-0.1498	0.0007	-0.0002
228	SLU 74		0		6.36	21.6	-0.1335	0.0008	-0.0002
228	SLU 75		0		6.38	21.66	-0.134	0.0007	-0.0002
228	SLU 76		0		6.2	21.02	-0.1293	0.0007	-0.0002
228	SLU 77		0		5.68	19.1	-0.113	0.0008	-0.0002
228	SLU 78		0		5.69	19.16	-0.1134	0.0007	-0.0002
228	SLU 79		0		5.49	18.42	-0.1079	0.0007	-0.0002
228	SLU 80		0		5.5	18.48	-0.1084	0.0007	-0.0002
228	SLU 81		0		7.24	24.72	-0.1575	0.0008	-0.0002
228	SLU 82		0		7.25	24.77	-0.158	0.0007	-0.0002
228	SLU 83		0		6.55	22.21	-0.1369	0.0008	-0.0002
228	SLU 84		0		6.56	22.27	-0.1374	0.0007	-0.0002
228	SLE RA 1		0		4.53	15.45	-0.0982	0.0005	-0.0001
228	SLE RA 2		0		4.55	15.52	-0.0987	0.0005	-0.0001
228	SLE RA 3		0		4.2	14.23	-0.0879	0.0005	-0.0001
228	SLE RA 4		0		4.21	14.27	-0.0882	0.0005	-0.0001
228	SLE RA 5		0		4.09	13.85	-0.085	0.0005	-0.0001
228	SLE RA 6		0		3.74	12.56	-0.0742	0.0005	-0.0001
228	SLE RA 7		0		3.75	12.6	-0.0745	0.0005	-0.0001
228	SLE RA 8		0		3.61	12.11	-0.0708	0.0005	-0.0001
228	SLE RA 9		0		3.62	12.15	-0.0711	0.0005	-0.0001
228	SLE RA 10		0		5.13	17.52	-0.1119	0.0005	-0.0001
228	SLE RA 11		0		4.78	16.24	-0.101	0.0006	-0.0001
228	SLE RA 12		0		4.79	16.28	-0.1013	0.0005	-0.0001
228	SLE RA 13		0		4.67	15.85	-0.0982	0.0005	-0.0001
228	SLE RA 14		0		4.32	14.57	-0.0873	0.0006	-0.0001
228	SLE RA 15		0		4.33	14.61	-0.0876	0.0005	-0.0001
228	SLE RA 16		0		4.19	14.12	-0.0839	0.0006	-0.0001
228	SLE RA 17		0		4.2	14.16	-0.0843	0.0005	-0.0001
228	SLE RA 18		0		5.36	18.32	-0.117	0.0006	-0.0001
228	SLE RA 19		0		5.37	18.36	-0.1173	0.0006	-0.0001
228	SLE RA 20		0		4.9	16.65	-0.1033	0.0006	-0.0001
228	SLE RA 21		0		4.91	16.69	-0.1036	0.0005	-0.0001
228	SLE FR 1		0		4.53	15.45	-0.0982	0.0005	-0.0001
228	SLE FR 2		0		4.53	15.46	-0.0983	0.0005	-0.0001
228	SLE FR 3		0		4.35	14.78	-0.0927	0.0005	-0.0001
228	SLE FR 4		0		4.78	16.32	-0.104	0.0005	-0.0001
228	SLE FR 5		0		4.59	15.64	-0.0984	0.0005	-0.0001
228	SLE FR 6		0		4.94	16.88	-0.1076	0.0006	-0.0001
228	SLE QP 1		0		4.53	15.45	-0.0982	0.0005	-0.0001
228	SLE QP 2		0		4.78	16.31	-0.1038	0.0006	-0.0001
228	SLD 1	-0.09		5.29	17.93	-0.122	-0.035	0.0065	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
228	SLD 2	-0.09	5.29	17.93	-0.122	-0.035	0.0065	
228	SLD 3	-0.04	2.68	9.72	-0.0343	-0.0143	0.0026	
228	SLD 4	-0.04	2.68	9.72	-0.0343	-0.0143	0.0026	
228	SLD 5	-0.11	8.88	29.26	-0.2423	-0.0415	0.0077	
228	SLD 6	-0.11	8.88	29.26	-0.2423	-0.0415	0.0077	
228	SLD 7	0.08	0.2	1.87	0.0501	0.0275	-0.0051	
228	SLD 8	0.08	0.2	1.87	0.0501	0.0275	-0.0051	
228	SLD 9	-0.07	9.36	30.75	-0.2578	-0.0264	0.0049	
228	SLD 10	-0.07	9.36	30.75	-0.2578	-0.0264	0.0049	
228	SLD 11	0.12	0.67	3.36	0.0346	0.0426	-0.0079	
228	SLD 12	0.12	0.67	3.36	0.0346	0.0426	-0.0079	
228	SLD 13	0.04	6.88	22.9	-0.1734	0.0154	-0.0029	
228	SLD 14	0.04	6.88	22.9	-0.1734	0.0154	-0.0029	
228	SLD 15	0.1	4.27	14.69	-0.0857	0.0361	-0.0067	
228	SLD 16	0.1	4.27	14.69	-0.0857	0.0361	-0.0067	
228	SLV 1	-0.23	5.99	20.17	-0.147	-0.0871	0.0162	
228	SLV 2	-0.23	5.99	20.17	-0.147	-0.0871	0.0162	
228	SLV 3	-0.09	-0.2	0.6	0.0609	-0.0351	0.0065	
228	SLV 4	-0.09	-0.2	0.6	0.0609	-0.0351	0.0065	
228	SLV 5	-0.28	14.53	47.15	-0.4322	-0.1047	0.0194	
228	SLV 6	-0.28	14.53	47.15	-0.4322	-0.1047	0.0194	
228	SLV 7	0.19	-6.1	-18.09	0.261	0.0688	-0.0128	
228	SLV 8	0.19	-6.1	-18.09	0.261	0.0688	-0.0128	
228	SLV 9	-0.18	15.66	50.71	-0.4687	-0.0677	0.0125	
228	SLV 10	-0.18	15.66	50.71	-0.4687	-0.0677	0.0125	
228	SLV 11	0.29	-4.97	-14.53	0.2245	0.1058	-0.0197	
228	SLV 12	0.29	-4.97	-14.53	0.2245	0.1058	-0.0197	
228	SLV 13	0.1	9.76	32.02	-0.2686	0.0362	-0.0067	
228	SLV 14	0.1	9.76	32.02	-0.2686	0.0362	-0.0067	
228	SLV 15	0.24	3.57	12.45	-0.0607	0.0882	-0.0164	
228	SLV 16	0.24	3.57	12.45	-0.0607	0.0882	-0.0164	
229	SLU 1	-0.14	6.99	28.97	-0.1218	-0.1157	0.0185	
229	SLU 2	-0.14	7.35	29.95	-0.1394	-0.1062	0.017	
229	SLU 3	-0.15	7.22	29.88	-0.1269	-0.1194	0.019	
229	SLU 4	-0.15	7.44	30.47	-0.1374	-0.1136	0.0182	
229	SLU 5	-0.15	7.53	30.61	-0.1441	-0.1084	0.0173	
229	SLU 6	-0.15	7.39	30.54	-0.1315	-0.1216	0.0194	
229	SLU 7	-0.15	7.61	31.13	-0.1421	-0.1159	0.0185	
229	SLU 8	-0.15	7.34	30.3	-0.1311	-0.1201	0.0192	
229	SLU 9	-0.15	7.56	30.88	-0.1417	-0.1144	0.0183	
229	SLU 10	-0.16	8.04	32.9	-0.1493	-0.1207	0.0193	
229	SLU 11	-0.17	7.9	32.83	-0.1368	-0.1338	0.0213	
229	SLU 12	-0.17	8.12	33.42	-0.1474	-0.1281	0.0205	
229	SLU 13	-0.16	8.22	33.56	-0.154	-0.1229	0.0196	
229	SLU 14	-0.17	8.08	33.49	-0.1415	-0.136	0.0217	
229	SLU 15	-0.17	8.3	34.08	-0.152	-0.1303	0.0208	
229	SLU 16	-0.17	8.03	33.25	-0.1411	-0.1346	0.0215	
229	SLU 17	-0.17	8.25	33.83	-0.1516	-0.1289	0.0206	
229	SLU 18	-0.17	7.97	33.19	-0.136	-0.1364	0.0217	
229	SLU 19	-0.17	8.19	33.77	-0.1466	-0.1307	0.0209	
229	SLU 20	-0.17	8.15	33.85	-0.1407	-0.1386	0.0221	
229	SLU 21	-0.17	8.37	34.44	-0.1512	-0.1329	0.0212	
229	SLU 22	-0.16	7.71	32.04	-0.1332	-0.1304	0.0208	
229	SLU 23	-0.16	8.08	33.02	-0.1508	-0.1209	0.0193	
229	SLU 24	-0.17	7.94	32.95	-0.1383	-0.134	0.0214	
229	SLU 25	-0.17	8.16	33.53	-0.1488	-0.1283	0.0205	
229	SLU 26	-0.17	8.25	33.68	-0.1555	-0.1231	0.0197	
229	SLU 27	-0.17	8.11	33.61	-0.1429	-0.1363	0.0217	
229	SLU 28	-0.17	8.33	34.2	-0.1535	-0.1305	0.0209	
229	SLU 29	-0.17	8.06	33.36	-0.1425	-0.1348	0.0215	
229	SLU 30	-0.17	8.28	33.95	-0.1531	-0.1291	0.0206	
229	SLU 31	-0.18	8.77	35.97	-0.1607	-0.1353	0.0216	
229	SLU 32	-0.18	8.63	35.9	-0.1482	-0.1485	0.0237	
229	SLU 33	-0.18	8.85	36.48	-0.1588	-0.1428	0.0228	
229	SLU 34	-0.18	8.94	36.63	-0.1654	-0.1376	0.022	
229	SLU 35	-0.19	8.8	36.56	-0.1529	-0.1507	0.024	
229	SLU 36	-0.19	9.02	37.15	-0.1634	-0.145	0.0232	
229	SLU 37	-0.19	8.75	36.31	-0.1525	-0.1493	0.0238	
229	SLU 38	-0.19	8.97	36.9	-0.163	-0.1436	0.0229	
229	SLU 39	-0.19	8.69	36.25	-0.1474	-0.151	0.0241	
229	SLU 40	-0.19	8.91	36.84	-0.158	-0.1453	0.0232	
229	SLU 41	-0.19	8.87	36.92	-0.1521	-0.1533	0.0244	
229	SLU 42	-0.19	9.09	37.5	-0.1626	-0.1476	0.0236	
229	SLU 43	-0.18	8.84	36.61	-0.1544	-0.1454	0.0232	
229	SLU 44	-0.18	9.2	37.59	-0.172	-0.1359	0.0217	
229	SLU 45	-0.19	9.07	37.52	-0.1595	-0.149	0.0238	
229	SLU 46	-0.19	9.28	38.11	-0.17	-0.1433	0.0229	
229	SLU 47	-0.18	9.38	38.25	-0.1767	-0.1381	0.0221	
229	SLU 48	-0.19	9.24	38.18	-0.1641	-0.1512	0.0241	
229	SLU 49	-0.19	9.46	38.77	-0.1747	-0.1455	0.0233	
229	SLU 50	-0.19	9.19	37.94	-0.1637	-0.1498	0.0239	
229	SLU 51	-0.19	9.41	38.52	-0.1743	-0.1441	0.023	
229	SLU 52	-0.2	9.89	40.54	-0.182	-0.1503	0.024	
229	SLU 53	-0.2	9.75	40.47	-0.1694	-0.1635	0.0261	
229	SLU 54	-0.2	9.97	41.06	-0.18	-0.1578	0.0252	
229	SLU 55	-0.2	10.07	41.2	-0.1866	-0.1525	0.0244	
229	SLU 56	-0.21	9.93	41.13	-0.1741	-0.1657	0.0264	
229	SLU 57	-0.21	10.15	41.72	-0.1847	-0.16	0.0255	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
229	SLU 58	-0.2	9.88	40.89	-0.1737	-0.1643	0.0262
229	SLU 59	-0.2	10.09	41.47	-0.1843	-0.1586	0.0253
229	SLU 60	-0.21	9.82	40.83	-0.1686	-0.166	0.0265
229	SLU 61	-0.21	10.04	41.41	-0.1792	-0.1603	0.0256
229	SLU 62	-0.21	9.99	41.49	-0.1733	-0.1682	0.0268
229	SLU 63	-0.21	10.21	42.08	-0.1839	-0.1625	0.0259
229	SLU 64	-0.2	9.56	39.68	-0.1658	-0.1601	0.0255
229	SLU 65	-0.2	9.93	40.66	-0.1834	-0.1506	0.0241
229	SLU 66	-0.2	9.79	40.59	-0.1709	-0.1637	0.0261
229	SLU 67	-0.2	10.01	41.17	-0.1814	-0.158	0.0252
229	SLU 68	-0.2	10.1	41.32	-0.1881	-0.1528	0.0244
229	SLU 69	-0.21	9.96	41.25	-0.1756	-0.1659	0.0265
229	SLU 70	-0.21	10.18	41.84	-0.1861	-0.1602	0.0256
229	SLU 71	-0.21	9.91	41	-0.1752	-0.1645	0.0262
229	SLU 72	-0.21	10.13	41.59	-0.1857	-0.1588	0.0254
229	SLU 73	-0.22	10.61	43.61	-0.1934	-0.165	0.0264
229	SLU 74	-0.22	10.48	43.54	-0.1808	-0.1782	0.0284
229	SLU 75	-0.22	10.7	44.12	-0.1914	-0.1725	0.0275
229	SLU 76	-0.22	10.79	44.27	-0.198	-0.1672	0.0267
229	SLU 77	-0.22	10.65	44.2	-0.1855	-0.1804	0.0288
229	SLU 78	-0.22	10.87	44.79	-0.1961	-0.1747	0.0279
229	SLU 79	-0.22	10.6	43.95	-0.1851	-0.179	0.0285
229	SLU 80	-0.22	10.82	44.54	-0.1957	-0.1733	0.0277
229	SLU 81	-0.22	10.54	43.89	-0.18	-0.1807	0.0288
229	SLU 82	-0.22	10.76	44.48	-0.1906	-0.175	0.0279
229	SLU 83	-0.23	10.72	44.56	-0.1847	-0.1829	0.0292
229	SLU 84	-0.23	10.94	45.14	-0.1953	-0.1772	0.0283
229	SLE RA 1	-0.15	7.19	29.85	-0.125	-0.1199	0.0191
229	SLE RA 2	-0.15	7.44	30.5	-0.1368	-0.1136	0.0181
229	SLE RA 3	-0.15	7.35	30.45	-0.1284	-0.1223	0.0195
229	SLE RA 4	-0.15	7.49	30.84	-0.1355	-0.1185	0.0189
229	SLE RA 5	-0.15	7.56	30.94	-0.1399	-0.115	0.0184
229	SLE RA 6	-0.16	7.46	30.9	-0.1315	-0.1238	0.0198
229	SLE RA 7	-0.16	7.61	31.29	-0.1386	-0.12	0.0192
229	SLE RA 8	-0.15	7.43	30.73	-0.1313	-0.1229	0.0196
229	SLE RA 9	-0.15	7.58	31.12	-0.1383	-0.1191	0.019
229	SLE RA 10	-0.16	7.9	32.47	-0.1434	-0.1232	0.0197
229	SLE RA 11	-0.16	7.81	32.42	-0.1351	-0.132	0.021
229	SLE RA 12	-0.16	7.95	32.81	-0.1421	-0.1282	0.0205
229	SLE RA 13	-0.16	8.01	32.91	-0.1465	-0.1247	0.0199
229	SLE RA 14	-0.17	7.92	32.86	-0.1382	-0.1334	0.0213
229	SLE RA 15	-0.17	8.07	33.25	-0.1452	-0.1296	0.0207
229	SLE RA 16	-0.17	7.89	32.7	-0.1379	-0.1325	0.0211
229	SLE RA 17	-0.17	8.03	33.09	-0.1449	-0.1287	0.0205
229	SLE RA 18	-0.17	7.85	32.66	-0.1345	-0.1337	0.0213
229	SLE RA 19	-0.17	8	33.05	-0.1416	-0.1299	0.0207
229	SLE RA 20	-0.17	7.97	33.1	-0.1376	-0.1351	0.0215
229	SLE RA 21	-0.17	8.11	33.49	-0.1447	-0.1313	0.021
229	SLE FR 1	-0.15	7.19	29.85	-0.125	-0.1199	0.0191
229	SLE FR 2	-0.15	7.24	29.98	-0.1274	-0.1186	0.0189
229	SLE FR 3	-0.15	7.24	30.02	-0.1263	-0.1205	0.0192
229	SLE FR 4	-0.15	7.44	30.82	-0.1302	-0.1228	0.0196
229	SLE FR 5	-0.15	7.44	30.87	-0.1291	-0.1246	0.0199
229	SLE FR 6	-0.16	7.52	31.25	-0.1298	-0.1268	0.0202
229	SLE QP 1	-0.15	7.19	29.85	-0.125	-0.1199	0.0191
229	SLE QP 2	-0.15	7.39	30.69	-0.1279	-0.124	0.0198
229	SLD 1	-0.43	10.21	40.95	-0.1994	-0.1676	0.0265
229	SLD 2	-0.43	10.21	40.95	-0.1994	-0.1676	0.0265
229	SLD 3	-0.35	8.42	36	-0.1298	-0.208	0.033
229	SLD 4	-0.35	8.42	36	-0.1298	-0.208	0.033
229	SLD 5	-0.36	10.95	41.27	-0.2549	-0.0759	0.012
229	SLD 6	-0.36	10.95	41.27	-0.2549	-0.0759	0.012
229	SLD 7	-0.08	4.98	24.78	-0.0229	-0.2104	0.0335
229	SLD 8	-0.08	4.98	24.78	-0.0229	-0.2104	0.0335
229	SLD 9	-0.22	9.8	36.6	-0.2329	-0.0376	0.006
229	SLD 10	-0.22	9.8	36.6	-0.2329	-0.0376	0.006
229	SLD 11	0.06	3.83	20.11	-0.0009	-0.1722	0.0276
229	SLD 12	0.06	3.83	20.11	-0.0009	-0.1722	0.0276
229	SLD 13	0.04	6.36	25.38	-0.126	-0.0401	0.0066
229	SLD 14	0.04	6.36	25.38	-0.126	-0.0401	0.0066
229	SLD 15	0.12	4.57	20.43	-0.0564	-0.0804	0.013
229	SLD 16	0.12	4.57	20.43	-0.0564	-0.0804	0.013
229	SLV 1	-0.84	13.98	54.65	-0.2955	-0.2244	0.0354
229	SLV 2	-0.84	13.98	54.65	-0.2955	-0.2244	0.0354
229	SLV 3	-0.63	9.81	43.15	-0.133	-0.3252	0.0515
229	SLV 4	-0.63	9.81	43.15	-0.133	-0.3252	0.0515
229	SLV 5	-0.68	15.69	55.31	-0.4247	-0.0012	-0.0001
229	SLV 6	-0.68	15.69	55.31	-0.4247	-0.0012	-0.0001
229	SLV 7	0.02	1.8	16.99	0.1171	-0.3374	0.0539
229	SLV 8	0.02	1.8	16.99	0.1171	-0.3374	0.0539
229	SLV 9	-0.33	12.99	44.39	-0.3729	0.0893	-0.0143
229	SLV 10	-0.33	12.99	44.39	-0.3729	0.0893	-0.0143
229	SLV 11	0.37	-0.91	6.07	0.1689	-0.2469	0.0397
229	SLV 12	0.37	-0.91	6.07	0.1689	-0.2469	0.0397
229	SLV 13	0.32	4.97	18.23	-0.1228	0.0772	-0.012
229	SLV 14	0.32	4.97	18.23	-0.1228	0.0772	-0.012
229	SLV 15	0.54	0.8	6.73	0.0398	-0.0237	0.0042
229	SLV 16	0.54	0.8	6.73	0.0398	-0.0237	0.0042





Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
230	SLU 1			-0.01	-2.67	55.26	0.1082	-0.0044	0
230	SLU 2			-0.03	-2.22	54.97	0.0885	-0.0224	0
230	SLU 3			-0.01	-2.82	56.66	0.1142	-0.0047	0
230	SLU 4			-0.02	-2.55	56.48	0.1024	-0.0155	0
230	SLU 5			-0.03	-2.33	55.7	0.0927	-0.0226	0
230	SLU 6			-0.01	-2.93	57.38	0.1184	-0.0049	0
230	SLU 7			-0.02	-2.66	57.21	0.1066	-0.0157	0
230	SLU 8			-0.01	-2.89	56.72	0.1166	-0.0048	0
230	SLU 9			-0.02	-2.62	56.54	0.1048	-0.0156	0
230	SLU 10			-0.03	-2.84	61.73	0.1125	-0.0238	0
230	SLU 11			-0.01	-3.44	63.42	0.1383	-0.0061	0
230	SLU 12			-0.02	-3.17	63.25	0.1264	-0.0169	0
230	SLU 13			-0.03	-2.94	62.46	0.1168	-0.024	0
230	SLU 14			-0.01	-3.55	64.15	0.1425	-0.0063	0
230	SLU 15			-0.02	-3.28	63.97	0.1307	-0.0171	0
230	SLU 16			-0.01	-3.51	63.48	0.1407	-0.0062	0
230	SLU 17			-0.02	-3.23	63.31	0.1289	-0.017	0
230	SLU 18			-0.01	-3.55	64.92	0.1425	-0.0064	0
230	SLU 19			-0.02	-3.28	64.75	0.1307	-0.0172	0
230	SLU 20			-0.01	-3.66	65.65	0.1468	-0.0066	0
230	SLU 21			-0.02	-3.39	65.48	0.135	-0.0174	0
230	SLU 22			-0.01	-3.27	61.81	0.1315	-0.0056	0
230	SLU 23			-0.03	-2.81	61.52	0.1118	-0.0236	0
230	SLU 24			-0.01	-3.42	63.21	0.1375	-0.0059	0
230	SLU 25			-0.02	-3.15	63.03	0.1257	-0.0167	0
230	SLU 26			-0.03	-2.92	62.25	0.116	-0.0238	0
230	SLU 27			-0.01	-3.53	63.94	0.1417	-0.0061	0
230	SLU 28			-0.02	-3.26	63.76	0.1299	-0.0169	0
230	SLU 29			-0.01	-3.48	63.27	0.1399	-0.006	0
230	SLU 30			-0.02	-3.21	63.09	0.1281	-0.0168	0
230	SLU 31			-0.03	-3.43	68.29	0.1359	-0.025	0
230	SLU 32			-0.01	-4.04	69.97	0.1616	-0.0073	0
230	SLU 33			-0.02	-3.77	69.8	0.1498	-0.0181	0
230	SLU 34			-0.03	-3.54	69.01	0.1401	-0.0252	0
230	SLU 35			-0.01	-4.15	70.7	0.1658	-0.0075	0
230	SLU 36			-0.02	-3.88	70.53	0.154	-0.0183	0
230	SLU 37			-0.01	-4.1	70.03	0.164	-0.0074	0
230	SLU 38			-0.02	-3.83	69.86	0.1522	-0.0182	0
230	SLU 39			-0.01	-4.15	71.48	0.1658	-0.0076	0
230	SLU 40			-0.02	-3.88	71.3	0.154	-0.0184	0
230	SLU 41			-0.01	-4.26	72.21	0.1701	-0.0078	0
230	SLU 42			-0.02	-3.99	72.03	0.1583	-0.0186	0
230	SLU 43			-0.01	-3.27	69.59	0.1326	-0.0053	0
230	SLU 44			-0.03	-2.81	69.3	0.113	-0.0233	0
230	SLU 45			-0.01	-3.42	70.99	0.1387	-0.0056	0
230	SLU 46			-0.02	-3.15	70.81	0.1269	-0.0164	0
230	SLU 47			-0.03	-2.92	70.03	0.1172	-0.0235	0
230	SLU 48			-0.01	-3.53	71.72	0.1429	-0.0058	0
230	SLU 49			-0.02	-3.26	71.54	0.1311	-0.0166	0
230	SLU 50			-0.01	-3.49	71.05	0.1411	-0.0057	0
230	SLU 51			-0.02	-3.21	70.87	0.1293	-0.0165	0
230	SLU 52			-0.03	-3.43	76.06	0.137	-0.0247	0
230	SLU 53			-0.01	-4.04	77.75	0.1627	-0.007	0
230	SLU 54			-0.02	-3.77	77.58	0.1509	-0.0178	0
230	SLU 55			-0.03	-3.54	76.79	0.1412	-0.0249	0
230	SLU 56			-0.01	-4.15	78.48	0.1669	-0.0072	0
230	SLU 57			-0.02	-3.88	78.3	0.1551	-0.018	0
230	SLU 58			-0.01	-4.1	77.81	0.1651	-0.0071	0
230	SLU 59			-0.02	-3.83	77.64	0.1533	-0.0179	0
230	SLU 60			-0.01	-4.15	79.26	0.167	-0.0073	0
230	SLU 61			-0.02	-3.88	79.08	0.1552	-0.0181	0
230	SLU 62			-0.01	-4.26	79.98	0.1712	-0.0075	0
230	SLU 63			-0.02	-3.99	79.81	0.1594	-0.0183	0
230	SLU 64			-0.01	-3.86	76.15	0.1559	-0.0065	0
230	SLU 65			-0.03	-3.41	75.85	0.1363	-0.0245	0
230	SLU 66			-0.01	-4.02	77.54	0.162	-0.0068	0
230	SLU 67			-0.02	-3.74	77.37	0.1502	-0.0176	0
230	SLU 68			-0.03	-3.52	76.58	0.1405	-0.0247	0
230	SLU 69			-0.01	-4.13	78.27	0.1662	-0.007	0
230	SLU 70			-0.02	-3.85	78.09	0.1544	-0.0178	0
230	SLU 71			-0.01	-4.08	77.6	0.1644	-0.0069	0
230	SLU 72			-0.02	-3.81	77.43	0.1526	-0.0177	0
230	SLU 73			-0.03	-4.03	82.62	0.1603	-0.0259	0
230	SLU 74			-0.01	-4.63	84.3	0.186	-0.0082	0
230	SLU 75			-0.03	-4.36	84.13	0.1742	-0.019	0
230	SLU 76			-0.03	-4.14	83.35	0.1645	-0.0261	0
230	SLU 77			-0.01	-4.74	85.03	0.1902	-0.0084	0
230	SLU 78			-0.03	-4.47	84.86	0.1784	-0.0192	0
230	SLU 79			-0.01	-4.7	84.37	0.1884	-0.0083	0
230	SLU 80			-0.03	-4.43	84.19	0.1766	-0.0191	0
230	SLU 81			-0.01	-4.74	85.81	0.1903	-0.0085	0
230	SLU 82			-0.03	-4.47	85.63	0.1785	-0.0193	0
230	SLU 83			-0.01	-4.85	86.54	0.1945	-0.0087	0
230	SLU 84			-0.03	-4.58	86.36	0.1827	-0.0195	0
230	SLE RA 1			-0.01	-2.84	57.13	0.1148	-0.0047	0
230	SLE RA 2			-0.02	-2.54	56.94	0.1017	-0.0167	0
230	SLE RA 3			-0.01	-2.94	58.06	0.1188	-0.0049	0
230	SLE RA 4			-0.02	-2.76	57.95	0.111	-0.0121	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
230	SLE RA 5			-0.02	-2.61	57.42	0.1045	-0.0169	0
230	SLE RA 6			-0.01	-3.02	58.55	0.1217	-0.0051	0
230	SLE RA 7			-0.02	-2.83	58.43	0.1138	-0.0123	0
230	SLE RA 8			-0.01	-2.99	58.1	0.1205	-0.005	0
230	SLE RA 9			-0.02	-2.8	57.99	0.1126	-0.0122	0
230	SLE RA 10			-0.02	-2.95	61.45	0.1177	-0.0177	0
230	SLE RA 11			-0.01	-3.35	62.57	0.1349	-0.0059	0
230	SLE RA 12			-0.02	-3.17	62.46	0.127	-0.0131	0
230	SLE RA 13			-0.02	-3.02	61.93	0.1206	-0.0178	0
230	SLE RA 14			-0.01	-3.43	63.06	0.1377	-0.006	0
230	SLE RA 15			-0.02	-3.25	62.94	0.1298	-0.0132	0
230	SLE RA 16			-0.01	-3.4	62.61	0.1365	-0.0059	0
230	SLE RA 17			-0.02	-3.22	62.5	0.1286	-0.0131	0
230	SLE RA 18			-0.01	-3.43	63.58	0.1377	-0.0061	0
230	SLE RA 19			-0.02	-3.25	63.46	0.1299	-0.0133	0
230	SLE RA 20			-0.01	-3.5	64.06	0.1406	-0.0062	0
230	SLE RA 21			-0.02	-3.32	63.94	0.1327	-0.0134	0
230	SLE FR 1			-0.01	-2.84	57.13	0.1148	-0.0047	0
230	SLE FR 2			-0.01	-2.78	57.09	0.1122	-0.0071	0
230	SLE FR 3			-0.01	-2.87	57.33	0.116	-0.0048	0
230	SLE FR 4			-0.01	-2.96	59.03	0.1191	-0.0075	0
230	SLE FR 5			-0.01	-3.05	59.26	0.1228	-0.0052	0
230	SLE FR 6			-0.01	-3.13	60.35	0.1263	-0.0054	0
230	SLE QP 1			-0.01	-2.84	57.13	0.1148	-0.0047	0
230	SLE QP 2			-0.01	-3.02	59.07	0.1217	-0.0051	0
230	SLD 1			0.1	-0.06	42.44	0.0021	0.1382	-0.0001
230	SLD 2			0.1	-0.06	42.44	0.0021	0.1382	-0.0001
230	SLD 3			-0.01	-3.41	44.54	0.1412	0.0504	-0.0001
230	SLD 4			-0.01	-3.41	44.54	0.1412	0.0504	-0.0001
230	SLD 5			0.18	2.96	50.9	-0.1252	0.1711	0.0001
230	SLD 6			0.18	2.96	50.9	-0.1252	0.1711	0.0001
230	SLD 7			-0.17	-8.23	57.89	0.3386	-0.1217	-0.0001
230	SLD 8			-0.17	-8.23	57.89	0.3386	-0.1217	-0.0001
230	SLD 9			0.15	2.19	60.25	-0.0952	0.1115	0.0001
230	SLD 10			0.15	2.19	60.25	-0.0952	0.1115	0.0001
230	SLD 11			-0.2	-9	67.23	0.3686	-0.1813	0
230	SLD 12			-0.2	-9	67.23	0.3686	-0.1813	0
230	SLD 13			-0.01	-2.62	73.59	0.1022	-0.0606	0.0002
230	SLD 14			-0.01	-2.62	73.59	0.1022	-0.0606	0.0002
230	SLD 15			-0.12	-5.98	75.69	0.2414	-0.1484	0.0001
230	SLD 16			-0.12	-5.98	75.69	0.2414	-0.1484	0.0001
230	SLV 1			0.25	3.9	20.11	-0.1581	0.3487	-0.0002
230	SLV 2			0.25	3.9	20.11	-0.1581	0.3487	-0.0002
230	SLV 3			-0.01	-3.91	25.08	0.1658	0.1248	-0.0004
230	SLV 4			-0.01	-3.91	25.08	0.1658	0.1248	-0.0004
230	SLV 5			0.47	10.91	39.83	-0.4534	0.4405	0.0001
230	SLV 6			0.47	10.91	39.83	-0.4534	0.4405	0.0001
230	SLV 7			-0.41	-15.13	56.42	0.626	-0.3056	-0.0003
230	SLV 8			-0.41	-15.13	56.42	0.626	-0.3056	-0.0003
230	SLV 9			0.39	9.1	61.71	-0.3826	0.2954	0.0003
230	SLV 10			0.39	9.1	61.71	-0.3826	0.2954	0.0003
230	SLV 11			-0.49	-16.94	78.3	0.6968	-0.4507	-0.0001
230	SLV 12			-0.49	-16.94	78.3	0.6968	-0.4507	-0.0001
230	SLV 13			-0.01	-2.13	93.05	0.0776	-0.1351	0.0004
230	SLV 14			-0.01	-2.13	93.05	0.0776	-0.1351	0.0004
230	SLV 15			-0.27	-9.94	98.03	0.4015	-0.3589	0.0003
230	SLV 16			-0.27	-9.94	98.03	0.4015	-0.3589	0.0003
231	SLU 1			0	5.18	43.57	-0.2512	-0.0023	0
231	SLU 2			0	5.19	43.05	-0.252	-0.0015	0
231	SLU 3			0	5.4	45.43	-0.2604	-0.0024	0
231	SLU 4			0	5.4	45.11	-0.2609	-0.002	0
231	SLU 5			0	5.38	44.58	-0.2602	-0.0016	0
231	SLU 6			0	5.59	46.96	-0.2686	-0.0026	0
231	SLU 7			0	5.59	46.64	-0.269	-0.0021	0
231	SLU 8			0	5.56	46.63	-0.2676	-0.0025	0
231	SLU 9			0	5.57	46.32	-0.2681	-0.0021	0
231	SLU 10			0	5.99	50.69	-0.2911	-0.002	0
231	SLU 11			0	6.2	53.06	-0.2995	-0.0029	0
231	SLU 12			0	6.2	52.75	-0.2999	-0.0025	0
231	SLU 13			0	6.18	52.22	-0.2993	-0.0021	0
231	SLU 14			0	6.39	54.59	-0.3077	-0.0031	0
231	SLU 15			0	6.39	54.28	-0.3081	-0.0026	0
231	SLU 16			0	6.36	54.27	-0.3067	-0.003	0
231	SLU 17			0	6.37	53.96	-0.3072	-0.0026	0
231	SLU 18			0	6.32	54.48	-0.307	-0.003	0
231	SLU 19			0	6.33	54.17	-0.3075	-0.0025	0
231	SLU 20			0	6.51	56.01	-0.3152	-0.0031	0
231	SLU 21			0	6.52	55.7	-0.3157	-0.0026	0
231	SLU 22			0	5.97	51	-0.2891	-0.0028	0
231	SLU 23			0	5.98	50.48	-0.2899	-0.002	0
231	SLU 24			0	6.19	52.85	-0.2982	-0.0029	0
231	SLU 25			0	6.19	52.54	-0.2987	-0.0025	0
231	SLU 26			0	6.17	52.01	-0.2981	-0.0021	0
231	SLU 27			0	6.38	54.38	-0.3064	-0.0031	0
231	SLU 28			0	6.39	54.07	-0.3069	-0.0026	0
231	SLU 29			0	6.36	54.06	-0.3055	-0.003	0
231	SLU 30			0	6.36	53.74	-0.3059	-0.0025	0
231	SLU 31			0	6.78	58.12	-0.329	-0.0025	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
231	SLU 32	0	6.99	60.49	-0.3373	-0.0034	0.0001	
231	SLU 33	0	6.99	60.18	-0.3378	-0.0029	0	
231	SLU 34	0	6.97	59.65	-0.3372	-0.0026	0	
231	SLU 35	0	7.18	62.02	-0.3455	-0.0035	0.0001	
231	SLU 36	0	7.19	61.71	-0.346	-0.0031	0	
231	SLU 37	0	7.16	61.7	-0.3445	-0.0035	0.0001	
231	SLU 38	0	7.16	61.38	-0.345	-0.003	0	
231	SLU 39	0	7.11	61.91	-0.3449	-0.0035	0.0001	
231	SLU 40	0	7.12	61.6	-0.3454	-0.003	0	
231	SLU 41	0	7.31	63.44	-0.3531	-0.0036	0.0001	
231	SLU 42	0	7.31	63.13	-0.3536	-0.0031	0	
231	SLU 43	0	6.46	54.1	-0.3136	-0.0028	0	
231	SLU 44	0	6.47	53.57	-0.3144	-0.002	0	
231	SLU 45	0	6.68	55.95	-0.3227	-0.003	0	
231	SLU 46	0	6.68	55.64	-0.3232	-0.0025	0	
231	SLU 47	0	6.66	55.1	-0.3226	-0.0021	0	
231	SLU 48	0	6.87	57.48	-0.3309	-0.0031	0	
231	SLU 49	0	6.88	57.17	-0.3314	-0.0026	0	
231	SLU 50	0	6.85	57.16	-0.33	-0.0031	0	
231	SLU 51	0	6.85	56.84	-0.3304	-0.0026	0	
231	SLU 52	0	7.27	61.21	-0.3535	-0.0025	0	
231	SLU 53	0	7.48	63.59	-0.3618	-0.0035	0.0001	
231	SLU 54	0	7.48	63.28	-0.3623	-0.003	0	
231	SLU 55	0	7.46	62.74	-0.3617	-0.0026	0	
231	SLU 56	0	7.67	65.12	-0.37	-0.0036	0.0001	
231	SLU 57	0	7.68	64.81	-0.3705	-0.0031	0	
231	SLU 58	0	7.65	64.8	-0.369	-0.0035	0.0001	
231	SLU 59	0	7.65	64.48	-0.3695	-0.0031	0	
231	SLU 60	0	7.6	65.01	-0.3694	-0.0035	0.0001	
231	SLU 61	0	7.61	64.7	-0.3699	-0.003	0	
231	SLU 62	0	7.8	66.54	-0.3776	-0.0036	0.0001	
231	SLU 63	0	7.8	66.23	-0.3781	-0.0031	0	
231	SLU 64	0	7.25	61.52	-0.3515	-0.0033	0	
231	SLU 65	0	7.26	61	-0.3523	-0.0025	0	
231	SLU 66	0	7.47	63.38	-0.3606	-0.0034	0.0001	
231	SLU 67	0	7.48	63.06	-0.3611	-0.003	0	
231	SLU 68	0	7.45	62.53	-0.3605	-0.0026	0	
231	SLU 69	0	7.66	64.91	-0.3688	-0.0036	0.0001	
231	SLU 70	0	7.67	64.59	-0.3693	-0.0031	0	
231	SLU 71	0	7.64	64.58	-0.3678	-0.0035	0.0001	
231	SLU 72	0	7.64	64.27	-0.3683	-0.0031	0	
231	SLU 73	0	8.06	68.64	-0.3914	-0.003	0	
231	SLU 74	0	8.27	71.02	-0.3997	-0.0039	0.0001	
231	SLU 75	0	8.28	70.7	-0.4002	-0.0035	0.0001	
231	SLU 76	0	8.25	70.17	-0.3995	-0.0031	0	
231	SLU 77	0	8.46	72.55	-0.4079	-0.0041	0.0001	
231	SLU 78	0	8.47	72.23	-0.4084	-0.0036	0.0001	
231	SLU 79	0	8.44	72.22	-0.4069	-0.004	0.0001	
231	SLU 80	0	8.44	71.91	-0.4074	-0.0035	0.0001	
231	SLU 81	0	8.4	72.44	-0.4073	-0.004	0.0001	
231	SLU 82	0	8.4	72.12	-0.4078	-0.0035	0.0001	
231	SLU 83	0	8.59	73.97	-0.4155	-0.0041	0.0001	
231	SLU 84	0	8.59	73.65	-0.416	-0.0036	0.0001	
231	SLE RA 1	0	5.4	45.69	-0.262	-0.0024	0	
231	SLE RA 2	0	5.41	45.35	-0.2626	-0.0019	0	
231	SLE RA 3	0	5.55	46.93	-0.2681	-0.0025	0	
231	SLE RA 4	0	5.55	46.72	-0.2685	-0.0022	0	
231	SLE RA 5	0	5.54	46.37	-0.268	-0.002	0	
231	SLE RA 6	0	5.68	47.95	-0.2736	-0.0026	0	
231	SLE RA 7	0	5.68	47.74	-0.2739	-0.0023	0	
231	SLE RA 8	0	5.66	47.73	-0.2729	-0.0026	0	
231	SLE RA 9	0	5.67	47.52	-0.2733	-0.0023	0	
231	SLE RA 10	0	5.94	50.44	-0.2886	-0.0022	0	
231	SLE RA 11	0	6.08	52.02	-0.2942	-0.0029	0	
231	SLE RA 12	0	6.09	51.81	-0.2945	-0.0025	0	
231	SLE RA 13	0	6.07	51.46	-0.2941	-0.0023	0	
231	SLE RA 14	0	6.21	53.04	-0.2997	-0.0029	0	
231	SLE RA 15	0	6.22	52.83	-0.3	-0.0026	0	
231	SLE RA 16	0	6.2	52.83	-0.299	-0.0029	0	
231	SLE RA 17	0	6.2	52.62	-0.2993	-0.0026	0	
231	SLE RA 18	0	6.17	52.97	-0.2993	-0.0029	0	
231	SLE RA 19	0	6.17	52.76	-0.2996	-0.0026	0	
231	SLE RA 20	0	6.3	53.99	-0.3047	-0.003	0	
231	SLE RA 21	0	6.3	53.78	-0.305	-0.0026	0	
231	SLE FR 1	0	5.4	45.69	-0.262	-0.0024	0	
231	SLE FR 2	0	5.41	45.62	-0.2621	-0.0023	0	
231	SLE FR 3	0	5.46	46.1	-0.2642	-0.0025	0	
231	SLE FR 4	0	5.63	47.81	-0.2733	-0.0024	0	
231	SLE FR 5	0	5.68	48.28	-0.2754	-0.0026	0	
231	SLE FR 6	0	5.79	49.33	-0.2806	-0.0026	0	
231	SLE QP 1	0	5.4	45.69	-0.262	-0.0024	0	
231	SLE QP 2	0	5.63	47.88	-0.2732	-0.0026	0	
231	SLD 1	0.11	7.51	53.96	-0.3992	0.1219	-0.0006	
231	SLD 2	0.11	7.51	53.96	-0.3992	0.1219	-0.0006	
231	SLD 3	0.15	5.41	47.38	-0.2584	0.1577	-0.0011	
231	SLD 4	0.15	5.41	47.38	-0.2584	0.1577	-0.0011	
231	SLD 5	-0.03	9.37	59.68	-0.5245	-0.0194	0.0006	
231	SLD 6	-0.03	9.37	59.68	-0.5245	-0.0194	0.0006	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
231	SLD 7	0.1	2.39	37.75	-0.0553	0.0997	-0.0011	
231	SLD 8	0.1	2.39	37.75	-0.0553	0.0997	-0.0011	
231	SLD 9	-0.11	8.87	58	-0.4911	-0.1048	0.0011	
231	SLD 10	-0.11	8.87	58	-0.4911	-0.1048	0.0011	
231	SLD 11	0.02	1.9	36.07	-0.0219	0.0143	-0.0005	
231	SLD 12	0.02	1.9	36.07	-0.0219	0.0143	-0.0005	
231	SLD 13	-0.16	5.85	48.37	-0.288	-0.1628	0.0011	
231	SLD 14	-0.16	5.85	48.37	-0.288	-0.1628	0.0011	
231	SLD 15	-0.12	3.76	41.79	-0.1472	-0.127	0.0006	
231	SLD 16	-0.12	3.76	41.79	-0.1472	-0.127	0.0006	
231	SLV 1	0.29	10.08	62.4	-0.5725	0.316	-0.0014	
231	SLV 2	0.29	10.08	62.4	-0.5725	0.316	-0.0014	
231	SLV 3	0.39	5.16	46.9	-0.2414	0.4074	-0.0027	
231	SLV 4	0.39	5.16	46.9	-0.2414	0.4074	-0.0027	
231	SLV 5	-0.06	14.42	75.74	-0.8652	-0.0457	0.0015	
231	SLV 6	-0.06	14.42	75.74	-0.8652	-0.0457	0.0015	
231	SLV 7	0.27	-1.97	24.08	0.2385	0.2591	-0.0027	
231	SLV 8	0.27	-1.97	24.08	0.2385	0.2591	-0.0027	
231	SLV 9	-0.27	13.23	71.67	-0.7849	-0.2642	0.0028	
231	SLV 10	-0.27	13.23	71.67	-0.7849	-0.2642	0.0028	
231	SLV 11	0.06	-3.16	20.02	0.3188	0.0406	-0.0015	
231	SLV 12	0.06	-3.16	20.02	0.3188	0.0406	-0.0015	
231	SLV 13	-0.4	6.11	48.85	-0.305	-0.4125	0.0028	
231	SLV 14	-0.4	6.11	48.85	-0.305	-0.4125	0.0028	
231	SLV 15	-0.3	1.19	33.35	0.0261	-0.3211	0.0015	
231	SLV 16	-0.3	1.19	33.35	0.0261	-0.3211	0.0015	
232	SLU 1	0	5.16	48.37	-0.2398	0.0011	0	
232	SLU 2	0	5.21	48.03	-0.2425	0.0005	0	
232	SLU 3	0	5.41	50.6	-0.2519	0.0012	0	
232	SLU 4	0	5.44	50.39	-0.2535	0.0009	0	
232	SLU 5	0	5.45	49.89	-0.2547	0.0007	0	
232	SLU 6	0	5.65	52.47	-0.2641	0.0014	0	
232	SLU 7	0	5.68	52.26	-0.2657	0.001	0	
232	SLU 8	0	5.65	52.11	-0.2643	0.0013	0	
232	SLU 9	0	5.68	51.9	-0.2658	0.001	0	
232	SLU 10	0	5.94	56.26	-0.2756	0.0008	0	
232	SLU 11	0	6.14	58.83	-0.285	0.0015	0	
232	SLU 12	0	6.17	58.63	-0.2866	0.0011	0	
232	SLU 13	0	6.18	58.13	-0.2878	0.0009	0	
232	SLU 14	0	6.38	60.7	-0.2972	0.0016	0	
232	SLU 15	0	6.41	60.49	-0.2988	0.0013	0	
232	SLU 16	0	6.38	60.34	-0.2974	0.0016	0	
232	SLU 17	0	6.41	60.14	-0.299	0.0012	0	
232	SLU 18	0	6.2	60.14	-0.2872	0.0014	0	
232	SLU 19	0	6.23	59.93	-0.2887	0.0011	0	
232	SLU 20	0	6.45	62.01	-0.2994	0.0016	0	
232	SLU 21	0	6.48	61.8	-0.301	0.0012	0	
232	SLU 22	0	5.93	56.44	-0.2751	0.0013	0	
232	SLU 23	0	5.98	56.09	-0.2778	0.0008	0	
232	SLU 24	0	6.18	58.67	-0.2872	0.0015	0	
232	SLU 25	0	6.21	58.46	-0.2887	0.0012	0	
232	SLU 26	0	6.22	57.96	-0.29	0.0009	0	
232	SLU 27	0	6.42	60.53	-0.2994	0.0016	0	
232	SLU 28	0	6.45	60.33	-0.3009	0.0013	0	
232	SLU 29	0	6.42	60.18	-0.2995	0.0016	0	
232	SLU 30	0	6.44	59.97	-0.3011	0.0013	0	
232	SLU 31	0	6.71	64.33	-0.3109	0.001	0	
232	SLU 32	0	6.91	66.9	-0.3203	0.0017	0	
232	SLU 33	0	6.94	66.69	-0.3219	0.0014	0	
232	SLU 34	0	6.95	66.2	-0.3231	0.0012	0	
232	SLU 35	0	7.15	68.77	-0.3325	0.0019	0	
232	SLU 36	0	7.18	68.56	-0.3341	0.0015	0	
232	SLU 37	0	7.14	68.41	-0.3327	0.0018	0	
232	SLU 38	0	7.17	68.2	-0.3342	0.0015	0	
232	SLU 39	0	6.97	68.21	-0.3224	0.0017	0	
232	SLU 40	0	7	68	-0.324	0.0014	0	
232	SLU 41	0	7.21	70.07	-0.3347	0.0018	0	
232	SLU 42	0	7.24	69.87	-0.3362	0.0015	0	
232	SLU 43	0	6.45	60.12	-0.2997	0.0013	0	
232	SLU 44	0	6.5	59.77	-0.3023	0.0008	0	
232	SLU 45	0	6.7	62.35	-0.3117	0.0015	0	
232	SLU 46	0	6.73	62.14	-0.3133	0.0011	0	
232	SLU 47	0	6.74	61.64	-0.3145	0.0009	0	
232	SLU 48	0	6.94	64.21	-0.3239	0.0016	0	
232	SLU 49	0	6.97	64	-0.3255	0.0013	0	
232	SLU 50	0	6.94	63.86	-0.3241	0.0016	0	
232	SLU 51	0	6.96	63.65	-0.3257	0.0012	0	
232	SLU 52	0	7.23	68.01	-0.3355	0.001	0	
232	SLU 53	0	7.43	70.58	-0.3449	0.0017	0	
232	SLU 54	0	7.46	70.37	-0.3464	0.0014	0	
232	SLU 55	0	7.47	69.88	-0.3477	0.0011	0	
232	SLU 56	0	7.67	72.45	-0.3571	0.0018	0	
232	SLU 57	0	7.7	72.24	-0.3586	0.0015	0	
232	SLU 58	0	7.67	72.09	-0.3572	0.0018	0	
232	SLU 59	0	7.69	71.88	-0.3588	0.0015	0	
232	SLU 60	0	7.49	71.88	-0.347	0.0017	0	
232	SLU 61	0	7.52	71.68	-0.3486	0.0013	0	
232	SLU 62	0	7.73	73.75	-0.3592	0.0018	0	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
232	SLU 63	0	7.76	73.54	-0.3608	0.0015	0
232	SLU 64	0	7.22	68.19	-0.335	0.0016	0
232	SLU 65	0	7.26	67.84	-0.3376	0.001	0
232	SLU 66	0	7.46	70.41	-0.347	0.0017	0
232	SLU 67	0	7.49	70.2	-0.3486	0.0014	0
232	SLU 68	0	7.51	69.71	-0.3498	0.0012	0
232	SLU 69	0	7.71	72.28	-0.3592	0.0018	0
232	SLU 70	0	7.74	72.07	-0.3608	0.0015	0
232	SLU 71	0	7.7	71.92	-0.3594	0.0018	0
232	SLU 72	0	7.73	71.71	-0.361	0.0015	0
232	SLU 73	0	7.99	76.08	-0.3707	0.0013	0
232	SLU 74	0	8.19	78.65	-0.3801	0.002	0
232	SLU 75	0	8.22	78.44	-0.3817	0.0016	0
232	SLU 76	0	8.24	77.94	-0.3829	0.0014	0
232	SLU 77	0	8.44	80.52	-0.3923	0.0021	0
232	SLU 78	0	8.47	80.31	-0.3939	0.0018	0
232	SLU 79	0	8.43	80.16	-0.3925	0.0021	0
232	SLU 80	0	8.46	79.95	-0.3941	0.0017	0
232	SLU 81	0	8.26	79.95	-0.3823	0.0019	0
232	SLU 82	0	8.29	79.74	-0.3839	0.0016	0
232	SLU 83	0	8.5	81.82	-0.3945	0.0021	0
232	SLU 84	0	8.53	81.61	-0.3961	0.0017	0
232	SLE RA 1	0	5.38	50.68	-0.2499	0.0012	0
232	SLE RA 2	0	5.41	50.45	-0.2517	0.0008	0
232	SLE RA 3	0	5.55	52.16	-0.2579	0.0013	0
232	SLE RA 4	0	5.57	52.02	-0.259	0.001	0
232	SLE RA 5	0	5.58	51.69	-0.2598	0.0009	0
232	SLE RA 6	0	5.71	53.41	-0.2661	0.0013	0
232	SLE RA 7	0	5.73	53.27	-0.2671	0.0011	0
232	SLE RA 8	0	5.71	53.17	-0.2662	0.0013	0
232	SLE RA 9	0	5.73	53.03	-0.2673	0.0011	0
232	SLE RA 10	0	5.9	55.94	-0.2738	0.001	0
232	SLE RA 11	0	6.03	57.65	-0.28	0.0014	0
232	SLE RA 12	0	6.05	57.51	-0.2811	0.0012	0
232	SLE RA 13	0	6.06	57.18	-0.2819	0.001	0
232	SLE RA 14	0	6.2	58.9	-0.2882	0.0015	0
232	SLE RA 15	0	6.22	58.76	-0.2892	0.0013	0
232	SLE RA 16	0	6.19	58.66	-0.2883	0.0015	0
232	SLE RA 17	0	6.21	58.52	-0.2893	0.0013	0
232	SLE RA 18	0	6.08	58.52	-0.2815	0.0014	0
232	SLE RA 19	0	6.1	58.38	-0.2825	0.0012	0
232	SLE RA 20	0	6.24	59.77	-0.2896	0.0015	0
232	SLE RA 21	0	6.26	59.63	-0.2907	0.0013	0
232	SLE FR 1	0	5.38	50.68	-0.2499	0.0012	0
232	SLE FR 2	0	5.39	50.63	-0.2503	0.0011	0
232	SLE FR 3	0	5.45	51.18	-0.2532	0.0012	0
232	SLE FR 4	0	5.6	52.99	-0.2597	0.0012	0
232	SLE FR 5	0	5.66	53.53	-0.2626	0.0013	0
232	SLE FR 6	0	5.73	54.6	-0.2657	0.0013	0
232	SLE QP 1	0	5.38	50.68	-0.2499	0.0012	0
232	SLE QP 2	0	5.59	53.03	-0.2594	0.0012	0
232	SLD 1	0.16	5.56	59.81	-0.2558	0.1718	0.0005
232	SLD 2	0.16	5.56	59.81	-0.2558	0.1718	0.0005
232	SLD 3	0.14	2.22	51.8	-0.0737	0.1457	0.0004
232	SLD 4	0.14	2.22	51.8	-0.0737	0.1457	0.0004
232	SLD 5	0.09	10.65	67.21	-0.5345	0.092	0.0003
232	SLD 6	0.09	10.65	67.21	-0.5345	0.092	0.0003
232	SLD 7	0	-0.49	40.51	0.0725	0.005	0
232	SLD 8	0	-0.49	40.51	0.0725	0.005	0
232	SLD 9	0.01	11.67	65.55	-0.5913	-0.0025	0
232	SLD 10	0.01	11.67	65.55	-0.5913	-0.0025	0
232	SLD 11	-0.09	0.53	38.85	0.0157	-0.0895	-0.0003
232	SLD 12	-0.09	0.53	38.85	0.0157	-0.0895	-0.0003
232	SLD 13	-0.13	8.96	54.27	-0.4451	-0.1432	-0.0004
232	SLD 14	-0.13	8.96	54.27	-0.4451	-0.1432	-0.0004
232	SLD 15	-0.16	5.62	46.26	-0.263	-0.1693	-0.0005
232	SLD 16	-0.16	5.62	46.26	-0.263	-0.1693	-0.0005
232	SLV 1	0.42	5.49	69.26	-0.2497	0.4383	0.0013
232	SLV 2	0.42	5.49	69.26	-0.2497	0.4383	0.0013
232	SLV 3	0.34	-2.4	50.33	0.1805	0.3716	0.0011
232	SLV 4	0.34	-2.4	50.33	0.1805	0.3716	0.0011
232	SLV 5	0.24	17.52	86.61	-0.909	0.2337	0.0008
232	SLV 6	0.24	17.52	86.61	-0.909	0.2337	0.0008
232	SLV 7	-0.01	-8.76	23.51	0.525	0.011	0
232	SLV 8	-0.01	-8.76	23.51	0.525	0.011	0
232	SLV 9	0.01	19.94	82.55	-1.0438	-0.0086	0
232	SLV 10	0.01	19.94	82.55	-1.0438	-0.0086	0
232	SLV 11	-0.24	-6.34	19.45	0.3902	-0.2312	-0.0008
232	SLV 12	-0.24	-6.34	19.45	0.3902	-0.2312	-0.0008
232	SLV 13	-0.34	13.58	55.73	-0.6992	-0.3691	-0.0011
232	SLV 14	-0.34	13.58	55.73	-0.6992	-0.3691	-0.0011
232	SLV 15	-0.42	5.69	36.8	-0.269	-0.4359	-0.0013
232	SLV 16	-0.42	5.69	36.8	-0.269	-0.4359	-0.0013
233	SLU 1	0	4.82	32.42	-0.29	-0.0001	0
233	SLU 2	0	4.82	32.5	-0.2904	0	0
233	SLU 3	0	4.61	30.65	-0.276	0	0
233	SLU 4	0	4.61	30.7	-0.2763	0.0001	0
233	SLU 5	0	4.49	29.77	-0.268	0.0002	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
233	SLU 6	0	4.28	27.92	-0.2537	0.0003	0
233	SLU 7	0	4.28	27.97	-0.2539	0.0004	0
233	SLU 8	0	4.15	26.96	-0.2454	0.0004	0
233	SLU 9	0	4.15	27	-0.2456	0.0005	0
233	SLU 10	0	5.72	38.43	-0.345	0.0007	0
233	SLU 11	0	5.52	36.59	-0.3307	0.0007	0
233	SLU 12	0	5.52	36.63	-0.3309	0.0008	0
233	SLU 13	0	5.39	35.7	-0.3227	0.001	0
233	SLU 14	0	5.18	33.86	-0.3084	0.001	0
233	SLU 15	0	5.18	33.9	-0.3086	0.0011	0
233	SLU 16	0	5.05	32.89	-0.3	0.0011	0
233	SLU 17	0	5.05	32.94	-0.3002	0.0012	0
233	SLU 18	0	6.11	40.9	-0.3681	0.0009	0
233	SLU 19	0	6.11	40.94	-0.3683	0.001	0
233	SLU 20	0	5.77	38.16	-0.3458	0.0012	0
233	SLU 21	0	5.78	38.21	-0.346	0.0012	0
233	SLU 22	0	5.47	36.59	-0.3292	0.0004	0
233	SLU 23	0	5.48	36.67	-0.3295	0.0005	0
233	SLU 24	0	5.27	34.82	-0.3152	0.0005	0
233	SLU 25	0	5.27	34.87	-0.3154	0.0006	0
233	SLU 26	0	5.15	33.94	-0.3072	0.0007	0
233	SLU 27	0	4.94	32.09	-0.2929	0.0008	0
233	SLU 28	0	4.94	32.14	-0.2931	0.0009	0
233	SLU 29	0	4.81	31.13	-0.2846	0.0009	0
233	SLU 30	0	4.81	31.17	-0.2848	0.001	0
233	SLU 31	0	6.38	42.6	-0.3842	0.0012	0
233	SLU 32	0	6.17	40.76	-0.3699	0.0013	0
233	SLU 33	0	6.18	40.8	-0.3701	0.0013	0
233	SLU 34	0	6.05	39.87	-0.3618	0.0015	0
233	SLU 35	0	5.84	38.02	-0.3475	0.0015	0
233	SLU 36	0	5.84	38.07	-0.3477	0.0016	0
233	SLU 37	0	5.71	37.06	-0.3392	0.0016	0
233	SLU 38	0	5.71	37.11	-0.3394	0.0017	0
233	SLU 39	0	6.77	45.07	-0.4073	0.0014	0
233	SLU 40	0	6.77	45.11	-0.4075	0.0015	0
233	SLU 41	0	6.43	42.33	-0.3849	0.0017	0
233	SLU 42	0	6.43	42.38	-0.3851	0.0017	0
233	SLU 43	0	6.04	40.72	-0.3636	-0.0004	0
233	SLU 44	0	6.04	40.79	-0.3639	-0.0003	0
233	SLU 45	0	5.83	38.95	-0.3496	-0.0002	0
233	SLU 46	0	5.83	39	-0.3498	-0.0001	0
233	SLU 47	0	5.71	38.06	-0.3416	0	0
233	SLU 48	0	5.5	36.22	-0.3273	0.0001	0
233	SLU 49	0	5.5	36.27	-0.3275	0.0001	0
233	SLU 50	0	5.37	35.26	-0.319	0.0002	0
233	SLU 51	0	5.37	35.3	-0.3192	0.0002	0
233	SLU 52	0	6.94	46.73	-0.4186	0.0005	0
233	SLU 53	0	6.74	44.88	-0.4043	0.0005	0
233	SLU 54	0	6.74	44.93	-0.4045	0.0006	0
233	SLU 55	0	6.61	43.99	-0.3963	0.0007	0
233	SLU 56	0	6.4	42.15	-0.3819	0.0008	0
233	SLU 57	0	6.4	42.2	-0.3821	0.0009	0
233	SLU 58	0	6.27	41.19	-0.3736	0.0009	0
233	SLU 59	0	6.27	41.23	-0.3738	0.001	0
233	SLU 60	0	7.33	49.19	-0.4417	0.0007	0
233	SLU 61	0	7.33	49.24	-0.4419	0.0007	0
233	SLU 62	0	6.99	46.46	-0.4193	0.0009	0
233	SLU 63	0	7	46.51	-0.4195	0.001	0
233	SLU 64	0	6.69	44.89	-0.4028	0.0001	0
233	SLU 65	0	6.7	44.96	-0.4031	0.0003	0
233	SLU 66	0	6.49	43.12	-0.3888	0.0003	0
233	SLU 67	0	6.49	43.17	-0.389	0.0004	0
233	SLU 68	0	6.36	42.23	-0.3808	0.0005	0
233	SLU 69	0	6.16	40.39	-0.3665	0.0006	0
233	SLU 70	0	6.16	40.43	-0.3667	0.0006	0
233	SLU 71	0	6.03	39.43	-0.3581	0.0007	0
233	SLU 72	0	6.03	39.47	-0.3583	0.0008	0
233	SLU 73	0	7.6	50.9	-0.4578	0.001	0
233	SLU 74	0	7.39	49.05	-0.4434	0.001	0
233	SLU 75	0	7.4	49.1	-0.4436	0.0011	0
233	SLU 76	0	7.27	48.16	-0.4354	0.0013	0
233	SLU 77	0	7.06	46.32	-0.4211	0.0013	0
233	SLU 78	0	7.06	46.37	-0.4213	0.0014	0
233	SLU 79	0	6.93	45.36	-0.4128	0.0014	0
233	SLU 80	0	6.93	45.4	-0.413	0.0015	0
233	SLU 81	0	7.99	53.36	-0.4808	0.0012	0
233	SLU 82	0	7.99	53.41	-0.481	0.0013	0
233	SLU 83	0	7.65	50.63	-0.4585	0.0015	0
233	SLU 84	0	7.65	50.68	-0.4587	0.0015	0
233	SLE RA 1	0	5	33.61	-0.3012	0	0
233	SLE RA 2	0	5.01	33.66	-0.3014	0.0001	0
233	SLE RA 3	0	4.87	32.44	-0.2919	0.0001	0
233	SLE RA 4	0	4.87	32.47	-0.292	0.0001	0
233	SLE RA 5	0	4.78	31.84	-0.2866	0.0003	0
233	SLE RA 6	0	4.65	30.61	-0.277	0.0003	0
233	SLE RA 7	0	4.65	30.64	-0.2772	0.0003	0
233	SLE RA 8	0	4.56	29.97	-0.2715	0.0004	0
233	SLE RA 9	0	4.56	30	-0.2716	0.0004	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
233	SLE RA 10	0	5.61	37.62	-0.3379	0.0006	0
233	SLE RA 11	0	5.47	36.39	-0.3283	0.0006	0
233	SLE RA 12	0	5.47	36.42	-0.3285	0.0006	0
233	SLE RA 13	0	5.39	35.8	-0.323	0.0007	0
233	SLE RA 14	0	5.25	34.57	-0.3134	0.0008	0
233	SLE RA 15	0	5.25	34.6	-0.3136	0.0008	0
233	SLE RA 16	0	5.16	33.93	-0.3079	0.0008	0
233	SLE RA 17	0	5.16	33.96	-0.308	0.0009	0
233	SLE RA 18	0	5.87	39.26	-0.3533	0.0007	0
233	SLE RA 19	0	5.87	39.29	-0.3534	0.0007	0
233	SLE RA 20	0	5.64	37.44	-0.3384	0.0009	0
233	SLE RA 21	0	5.64	37.47	-0.3385	0.0009	0
233	SLE FR 1	0	5	33.61	-0.3012	0	0
233	SLE FR 2	0	5.01	33.62	-0.3013	0	0
233	SLE FR 3	0	4.92	32.89	-0.2953	0.0001	0
233	SLE FR 4	0	5.26	35.32	-0.3169	0.0002	0
233	SLE FR 5	0	5.17	34.58	-0.3109	0.0003	0
233	SLE FR 6	0	5.44	36.44	-0.3272	0.0003	0
233	SLE QP 1	0	5	33.61	-0.3012	0	0
233	SLE QP 2	0	5.26	35.31	-0.3168	0.0002	0
233	SLD 1	-0.04	7.49	46.85	-0.4602	-0.028	0.0004
233	SLD 2	-0.04	7.49	46.85	-0.4602	-0.028	0.0004
233	SLD 3	-0.08	4.84	34.62	-0.2912	-0.0525	0.0003
233	SLD 4	-0.08	4.84	34.62	-0.2912	-0.0525	0.0003
233	SLD 5	0.04	9.96	57.32	-0.6162	0.0289	0.0004
233	SLD 6	0.04	9.96	57.32	-0.6162	0.0289	0.0004
233	SLD 7	-0.08	1.11	16.55	-0.0528	-0.0527	-0.0002
233	SLD 8	-0.08	1.11	16.55	-0.0528	-0.0527	-0.0002
233	SLD 9	0.08	9.42	54.06	-0.5809	0.0531	0.0002
233	SLD 10	0.08	9.42	54.06	-0.5809	0.0531	0.0002
233	SLD 11	-0.04	0.57	13.3	-0.0175	-0.0285	-0.0004
233	SLD 12	-0.04	0.57	13.3	-0.0175	-0.0285	-0.0004
233	SLD 13	0.08	5.69	35.99	-0.3425	0.0529	-0.0003
233	SLD 14	0.08	5.69	35.99	-0.3425	0.0529	-0.0003
233	SLD 15	0.04	3.03	23.76	-0.1735	0.0284	-0.0004
233	SLD 16	0.04	3.03	23.76	-0.1735	0.0284	-0.0004
233	SLV 1	-0.1	10.53	62.75	-0.6561	-0.0673	0.0011
233	SLV 2	-0.1	10.53	62.75	-0.6561	-0.0673	0.0011
233	SLV 3	-0.2	4.25	33.5	-0.2555	-0.1293	0.0006
233	SLV 4	-0.2	4.25	33.5	-0.2555	-0.1293	0.0006
233	SLV 5	0.11	16.38	87.91	-1.0262	0.074	0.0009
233	SLV 6	0.11	16.38	87.91	-1.0262	0.074	0.0009
233	SLV 7	-0.2	-4.58	-9.6	0.3092	-0.1327	-0.0004
233	SLV 8	-0.2	-4.58	-9.6	0.3092	-0.1327	-0.0004
233	SLV 9	0.2	15.1	80.22	-0.9429	0.1331	0.0004
233	SLV 10	0.2	15.1	80.22	-0.9429	0.1331	0.0004
233	SLV 11	-0.11	-5.85	-17.29	0.3926	-0.0736	-0.0009
233	SLV 12	-0.11	-5.85	-17.29	0.3926	-0.0736	-0.0009
233	SLV 13	0.2	6.28	37.12	-0.3782	0.1297	-0.0006
233	SLV 14	0.2	6.28	37.12	-0.3782	0.1297	-0.0006
233	SLV 15	0.1	-0.01	7.87	0.0225	0.0677	-0.001
233	SLV 16	0.1	-0.01	7.87	0.0225	0.0677	-0.001
234	SLU 1	0	4.48	25.03	-0.3357	0.0001	0
234	SLU 2	0	4.48	25.17	-0.3363	0	0
234	SLU 3	0	4.24	22.41	-0.3212	0.0002	0
234	SLU 4	0	4.25	22.5	-0.3215	0.0001	0
234	SLU 5	0	4.11	21.53	-0.3119	0.0001	0
234	SLU 6	0	3.87	18.77	-0.2968	0.0002	0
234	SLU 7	0	3.87	18.86	-0.2971	0.0001	0
234	SLU 8	0	3.73	17.75	-0.2869	0.0002	0
234	SLU 9	0	3.74	17.84	-0.2873	0.0001	0
234	SLU 10	0	5.3	30.05	-0.3975	0	0
234	SLU 11	0	5.05	27.29	-0.3824	0.0001	0
234	SLU 12	0	5.06	27.38	-0.3827	0.0001	0
234	SLU 13	0	4.93	26.41	-0.3731	0	0
234	SLU 14	0	4.68	23.65	-0.358	0.0001	0
234	SLU 15	0	4.69	23.74	-0.3583	0.0001	0
234	SLU 16	0	4.54	22.63	-0.3481	0.0001	0
234	SLU 17	0	4.55	22.71	-0.3485	0.0001	0
234	SLU 18	0	5.64	31.99	-0.4231	0.0001	0
234	SLU 19	0	5.64	32.08	-0.4235	0	0
234	SLU 20	0	5.26	28.35	-0.3987	0.0001	0
234	SLU 21	0	5.27	28.44	-0.3991	0	0
234	SLU 22	0	4.98	27.08	-0.3757	0.0002	0
234	SLU 23	0	4.99	27.23	-0.3763	0.0001	0
234	SLU 24	0	4.75	24.47	-0.3612	0.0002	0
234	SLU 25	0	4.75	24.56	-0.3615	0.0001	0
234	SLU 26	0	4.62	23.59	-0.3519	0.0001	0
234	SLU 27	0	4.37	20.83	-0.3368	0.0002	0
234	SLU 28	0	4.38	20.92	-0.3372	0.0001	0
234	SLU 29	0	4.24	19.81	-0.327	0.0002	0
234	SLU 30	0	4.24	19.89	-0.3273	0.0001	0
234	SLU 31	0	5.8	32.11	-0.4375	0	0
234	SLU 32	0	5.56	29.35	-0.4224	0.0001	0
234	SLU 33	0	5.56	29.44	-0.4227	0.0001	0
234	SLU 34	0	5.43	28.47	-0.4131	0	0
234	SLU 35	0	5.19	25.71	-0.398	0.0002	0
234	SLU 36	0	5.19	25.8	-0.3984	0.0001	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
234	SLU 37	0	5.05	24.68	-0.3882	0.0001	0
234	SLU 38	0	5.06	24.77	-0.3885	0.0001	0
234	SLU 39	0	6.14	34.05	-0.4632	0.0001	0
234	SLU 40	0	6.15	34.14	-0.4635	0	0
234	SLU 41	0	5.77	30.41	-0.4388	0.0001	0
234	SLU 42	0	5.78	30.5	-0.4391	0.0001	0
234	SLU 43	0	5.64	31.83	-0.4227	0.0002	0
234	SLU 44	0	5.65	31.97	-0.4232	0.0001	0
234	SLU 45	0	5.41	29.21	-0.4081	0.0002	0
234	SLU 46	0	5.41	29.3	-0.4085	0.0001	0
234	SLU 47	0	5.28	28.34	-0.3988	0.0001	0
234	SLU 48	0	5.04	25.58	-0.3838	0.0002	0
234	SLU 49	0	5.04	25.66	-0.3841	0.0002	0
234	SLU 50	0	4.9	24.55	-0.3739	0.0002	0
234	SLU 51	0	4.91	24.64	-0.3742	0.0001	0
234	SLU 52	0	6.47	36.85	-0.4844	0	0
234	SLU 53	0	6.22	34.09	-0.4693	0.0002	0
234	SLU 54	0	6.23	34.18	-0.4697	0.0001	0
234	SLU 55	0	6.09	33.21	-0.46	0	0
234	SLU 56	0	5.85	30.45	-0.445	0.0002	0
234	SLU 57	0	5.86	30.54	-0.4453	0.0001	0
234	SLU 58	0	5.71	29.43	-0.4351	0.0002	0
234	SLU 59	0	5.72	29.52	-0.4354	0.0001	0
234	SLU 60	0	6.8	38.8	-0.5101	0.0001	0
234	SLU 61	0	6.81	38.88	-0.5104	0.0001	0
234	SLU 62	0	6.43	35.16	-0.4857	0.0001	0
234	SLU 63	0	6.44	35.24	-0.4861	0.0001	0
234	SLU 64	0	6.15	33.89	-0.4627	0.0002	0
234	SLU 65	0	6.16	34.03	-0.4633	0.0001	0
234	SLU 66	0	5.91	31.27	-0.4482	0.0002	0
234	SLU 67	0	5.92	31.36	-0.4485	0.0002	0
234	SLU 68	0	5.79	30.39	-0.4389	0.0001	0
234	SLU 69	0	5.54	27.63	-0.4238	0.0002	0
234	SLU 70	0	5.55	27.72	-0.4241	0.0002	0
234	SLU 71	0	5.41	26.61	-0.4139	0.0002	0
234	SLU 72	0	5.41	26.7	-0.4143	0.0002	0
234	SLU 73	0	6.97	38.91	-0.5245	0.0001	0
234	SLU 74	0	6.73	36.15	-0.5094	0.0002	0
234	SLU 75	0	6.73	36.24	-0.5097	0.0001	0
234	SLU 76	0	6.6	35.27	-0.5001	0.0001	0
234	SLU 77	0	6.36	32.51	-0.485	0.0002	0
234	SLU 78	0	6.36	32.6	-0.4853	0.0001	0
234	SLU 79	0	6.22	31.49	-0.4751	0.0002	0
234	SLU 80	0	6.23	31.57	-0.4755	0.0001	0
234	SLU 81	0	7.31	40.85	-0.5502	0.0001	0
234	SLU 82	0	7.32	40.94	-0.5505	0.0001	0
234	SLU 83	0	6.94	37.22	-0.5258	0.0002	0
234	SLU 84	0	6.94	37.3	-0.5261	0.0001	0
234	SLE RA 1	0	4.62	25.61	-0.3471	0.0001	0
234	SLE RA 2	0	4.63	25.71	-0.3475	0.0001	0
234	SLE RA 3	0	4.46	23.87	-0.3375	0.0002	0
234	SLE RA 4	0	4.47	23.93	-0.3377	0.0001	0
234	SLE RA 5	0	4.38	23.29	-0.3313	0.0001	0
234	SLE RA 6	0	4.22	21.45	-0.3212	0.0002	0
234	SLE RA 7	0	4.22	21.5	-0.3214	0.0001	0
234	SLE RA 8	0	4.12	20.76	-0.3146	0.0002	0
234	SLE RA 9	0	4.13	20.82	-0.3148	0.0001	0
234	SLE RA 10	0	5.17	28.96	-0.3883	0.0001	0
234	SLE RA 11	0	5	27.12	-0.3783	0.0001	0
234	SLE RA 12	0	5.01	27.18	-0.3785	0.0001	0
234	SLE RA 13	0	4.92	26.54	-0.3721	0.0001	0
234	SLE RA 14	0	4.76	24.7	-0.362	0.0001	0
234	SLE RA 15	0	4.76	24.76	-0.3622	0.0001	0
234	SLE RA 16	0	4.67	24.01	-0.3554	0.0001	0
234	SLE RA 17	0	4.67	24.07	-0.3556	0.0001	0
234	SLE RA 18	0	5.39	30.26	-0.4054	0.0001	0
234	SLE RA 19	0	5.4	30.32	-0.4057	0.0001	0
234	SLE RA 20	0	5.15	27.83	-0.3892	0.0001	0
234	SLE RA 21	0	5.15	27.89	-0.3894	0.0001	0
234	SLE FR 1	0	4.62	25.61	-0.3471	0.0001	0
234	SLE FR 2	0	4.62	25.63	-0.3472	0.0001	0
234	SLE FR 3	0	4.52	24.64	-0.3406	0.0001	0
234	SLE FR 4	0	4.85	27.03	-0.3647	0.0001	0
234	SLE FR 5	0	4.75	26.04	-0.3581	0.0001	0
234	SLE FR 6	0	5.01	27.94	-0.3763	0.0001	0
234	SLE QP 1	0	4.62	25.61	-0.3471	0.0001	0
234	SLE QP 2	0	4.85	27.01	-0.3646	0.0001	0
234	SLD 1	-0.07	5.24	28.77	-0.3941	-0.051	-0.0003
234	SLD 2	-0.07	5.24	28.77	-0.3941	-0.051	-0.0003
234	SLD 3	-0.03	2.96	18.14	-0.2444	-0.0209	-0.0004
234	SLD 4	-0.03	2.96	18.14	-0.2444	-0.0209	-0.0004
234	SLD 5	-0.08	8.43	43.65	-0.6005	-0.0608	0
234	SLD 6	-0.08	8.43	43.65	-0.6005	-0.0608	0
234	SLD 7	0.06	0.82	8.23	-0.1016	0.0395	-0.0002
234	SLD 8	0.06	0.82	8.23	-0.1016	0.0395	-0.0002
234	SLD 9	-0.05	8.88	45.79	-0.6277	-0.0392	0.0002
234	SLD 10	-0.05	8.88	45.79	-0.6277	-0.0392	0.0002
234	SLD 11	0.09	1.28	10.36	-0.1288	0.0611	-0.0001





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
234	SLD 12	0.09	1.28	10.36	-0.1288	0.0611	-0.0001
234	SLD 13	0.03	6.74	35.88	-0.4848	0.0212	0.0003
234	SLD 14	0.03	6.74	35.88	-0.4848	0.0212	0.0003
234	SLD 15	0.07	4.46	25.25	-0.3352	0.0512	0.0002
234	SLD 16	0.07	4.46	25.25	-0.3352	0.0512	0.0002
234	SLV 1	-0.18	5.78	31.23	-0.4339	-0.1266	-0.0006
234	SLV 2	-0.18	5.78	31.23	-0.4339	-0.1266	-0.0006
234	SLV 3	-0.07	0.39	5.86	-0.0807	-0.0509	-0.0008
234	SLV 4	-0.07	0.39	5.86	-0.0807	-0.0509	-0.0008
234	SLV 5	-0.22	13.29	66.76	-0.921	-0.1526	0.0001
234	SLV 6	-0.22	13.29	66.76	-0.921	-0.1526	0.0001
234	SLV 7	0.14	-4.65	-17.82	0.2561	0.0995	-0.0006
234	SLV 8	0.14	-4.65	-17.82	0.2561	0.0995	-0.0006
234	SLV 9	-0.14	14.35	71.84	-0.9854	-0.0993	0.0005
234	SLV 10	-0.14	14.35	71.84	-0.9854	-0.0993	0.0005
234	SLV 11	0.22	-3.59	-12.74	0.1917	0.1529	-0.0002
234	SLV 12	0.22	-3.59	-12.74	0.1917	0.1529	-0.0002
234	SLV 13	0.08	9.31	48.16	-0.6485	0.0512	0.0008
234	SLV 14	0.08	9.31	48.16	-0.6485	0.0512	0.0008
234	SLV 15	0.18	3.93	22.78	-0.2954	0.1269	0.0006
234	SLV 16	0.18	3.93	22.78	-0.2954	0.1269	0.0006
235	SLU 1	-0.35	4.93	50.85	-0.3126	-0.228	-0.0001
235	SLU 2	-0.32	5.27	51.51	-0.33	-0.207	0
235	SLU 3	-0.36	5.07	52.35	-0.3217	-0.2349	-0.0001
235	SLU 4	-0.34	5.28	52.75	-0.3321	-0.2223	-0.0001
235	SLU 5	-0.33	5.39	52.54	-0.3368	-0.2111	0
235	SLU 6	-0.36	5.19	53.39	-0.3285	-0.239	-0.0001
235	SLU 7	-0.35	5.4	53.78	-0.3389	-0.2264	-0.0001
235	SLU 8	-0.36	5.16	52.92	-0.3262	-0.2363	-0.0001
235	SLU 9	-0.34	5.37	53.31	-0.3367	-0.2237	-0.0001
235	SLU 10	-0.36	5.72	56.84	-0.3599	-0.2357	-0.0001
235	SLU 11	-0.4	5.52	57.68	-0.3515	-0.2637	-0.0001
235	SLU 12	-0.39	5.73	58.08	-0.362	-0.2511	-0.0001
235	SLU 13	-0.37	5.84	57.88	-0.3667	-0.2399	-0.0001
235	SLU 14	-0.41	5.64	58.72	-0.3583	-0.2678	-0.0001
235	SLU 15	-0.39	5.85	59.12	-0.3688	-0.2552	-0.0001
235	SLU 16	-0.4	5.61	58.25	-0.3561	-0.2651	-0.0001
235	SLU 17	-0.39	5.82	58.64	-0.3665	-0.2524	-0.0001
235	SLU 18	-0.41	5.57	58.47	-0.3552	-0.2691	-0.0001
235	SLU 19	-0.39	5.77	58.86	-0.3657	-0.2565	-0.0001
235	SLU 20	-0.41	5.68	59.5	-0.362	-0.2733	-0.0001
235	SLU 21	-0.4	5.89	59.9	-0.3725	-0.2606	-0.0001
235	SLU 22	-0.39	5.4	56.31	-0.3435	-0.2569	-0.0001
235	SLU 23	-0.36	5.74	56.97	-0.361	-0.2359	-0.0001
235	SLU 24	-0.4	5.54	57.82	-0.3526	-0.2639	-0.0001
235	SLU 25	-0.39	5.75	58.21	-0.3631	-0.2512	-0.0001
235	SLU 26	-0.37	5.86	58.01	-0.3678	-0.24	-0.0001
235	SLU 27	-0.41	5.66	58.85	-0.3594	-0.268	-0.0001
235	SLU 28	-0.39	5.87	59.25	-0.3699	-0.2554	-0.0001
235	SLU 29	-0.4	5.63	58.38	-0.3571	-0.2652	-0.0001
235	SLU 30	-0.39	5.84	58.78	-0.3676	-0.2526	-0.0001
235	SLU 31	-0.41	6.19	62.3	-0.3908	-0.2647	-0.0001
235	SLU 32	-0.44	5.99	63.15	-0.3825	-0.2927	-0.0001
235	SLU 33	-0.43	6.2	63.54	-0.3929	-0.28	-0.0001
235	SLU 34	-0.41	6.31	63.34	-0.3976	-0.2688	-0.0001
235	SLU 35	-0.45	6.11	64.18	-0.3893	-0.2968	-0.0001
235	SLU 36	-0.44	6.32	64.58	-0.3997	-0.2842	-0.0001
235	SLU 37	-0.45	6.08	63.71	-0.387	-0.294	-0.0001
235	SLU 38	-0.43	6.29	64.11	-0.3974	-0.2814	-0.0001
235	SLU 39	-0.45	6.04	63.93	-0.3862	-0.2981	-0.0001
235	SLU 40	-0.44	6.24	64.32	-0.3966	-0.2855	-0.0001
235	SLU 41	-0.46	6.15	64.96	-0.393	-0.3022	-0.0001
235	SLU 42	-0.44	6.36	65.36	-0.4034	-0.2896	-0.0001
235	SLU 43	-0.44	6.24	64.23	-0.3958	-0.2865	-0.0001
235	SLU 44	-0.41	6.59	64.89	-0.4132	-0.2654	-0.0001
235	SLU 45	-0.45	6.39	65.74	-0.4048	-0.2934	-0.0001
235	SLU 46	-0.43	6.6	66.13	-0.4153	-0.2808	-0.0001
235	SLU 47	-0.42	6.7	65.93	-0.42	-0.2696	-0.0001
235	SLU 48	-0.45	6.51	66.77	-0.4117	-0.2975	-0.0001
235	SLU 49	-0.44	6.72	67.17	-0.4221	-0.2849	-0.0001
235	SLU 50	-0.45	6.48	66.3	-0.4094	-0.2947	-0.0001
235	SLU 51	-0.43	6.69	66.7	-0.4198	-0.2821	-0.0001
235	SLU 52	-0.45	7.03	70.22	-0.443	-0.2942	-0.0001
235	SLU 53	-0.49	6.84	71.07	-0.4347	-0.3222	-0.0001
235	SLU 54	-0.47	7.05	71.46	-0.4452	-0.3095	-0.0001
235	SLU 55	-0.46	7.15	71.26	-0.4498	-0.2984	-0.0001
235	SLU 56	-0.5	6.96	72.1	-0.4415	-0.3263	-0.0001
235	SLU 57	-0.48	7.16	72.5	-0.452	-0.3137	-0.0001
235	SLU 58	-0.49	6.93	71.63	-0.4392	-0.3235	-0.0001
235	SLU 59	-0.48	7.13	72.03	-0.4497	-0.3109	-0.0001
235	SLU 60	-0.5	6.88	71.85	-0.4384	-0.3276	-0.0001
235	SLU 61	-0.48	7.09	72.24	-0.4489	-0.315	-0.0001
235	SLU 62	-0.5	7	72.88	-0.4452	-0.3317	-0.0001
235	SLU 63	-0.49	7.21	73.28	-0.4557	-0.3191	-0.0001
235	SLU 64	-0.48	6.71	69.69	-0.4267	-0.3154	-0.0001
235	SLU 65	-0.45	7.06	70.36	-0.4441	-0.2944	-0.0001
235	SLU 66	-0.49	6.86	71.2	-0.4358	-0.3223	-0.0001
235	SLU 67	-0.47	7.07	71.59	-0.4462	-0.3097	-0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
235	SLU 68			-0.46	7.17	71.39	-0.4509	-0.2985	-0.0001
235	SLU 69			-0.5	6.98	72.23	-0.4426	-0.3265	-0.0001
235	SLU 70			-0.48	7.19	72.63	-0.453	-0.3138	-0.0001
235	SLU 71			-0.49	6.95	71.76	-0.4403	-0.3237	-0.0001
235	SLU 72			-0.48	7.16	72.16	-0.4508	-0.3111	-0.0001
235	SLU 73			-0.5	7.5	75.69	-0.474	-0.3232	-0.0001
235	SLU 74			-0.53	7.31	76.53	-0.4656	-0.3511	-0.0001
235	SLU 75			-0.52	7.52	76.93	-0.4761	-0.3385	-0.0001
235	SLU 76			-0.5	7.62	76.72	-0.4808	-0.3273	-0.0001
235	SLU 77			-0.54	7.43	77.56	-0.4724	-0.3553	-0.0001
235	SLU 78			-0.52	7.63	77.96	-0.4829	-0.3426	-0.0001
235	SLU 79			-0.54	7.4	77.09	-0.4702	-0.3525	-0.0001
235	SLU 80			-0.52	7.6	77.49	-0.4806	-0.3399	-0.0001
235	SLU 81			-0.54	7.35	77.31	-0.4693	-0.3565	-0.0001
235	SLU 82			-0.53	7.56	77.71	-0.4798	-0.3439	-0.0001
235	SLU 83			-0.55	7.47	78.34	-0.4761	-0.3607	-0.0001
235	SLU 84			-0.53	7.68	78.74	-0.4866	-0.3481	-0.0001
235	SLE RA 1			-0.36	5.06	52.41	-0.3214	-0.2363	-0.0001
235	SLE RA 2			-0.34	5.29	52.85	-0.333	-0.2222	-0.0001
235	SLE RA 3			-0.37	5.16	53.41	-0.3275	-0.2409	-0.0001
235	SLE RA 4			-0.36	5.3	53.68	-0.3345	-0.2325	-0.0001
235	SLE RA 5			-0.35	5.37	53.54	-0.3376	-0.225	-0.0001
235	SLE RA 6			-0.37	5.24	54.1	-0.332	-0.2436	-0.0001
235	SLE RA 7			-0.36	5.38	54.37	-0.339	-0.2352	-0.0001
235	SLE RA 8			-0.37	5.22	53.79	-0.3305	-0.2418	-0.0001
235	SLE RA 9			-0.36	5.36	54.05	-0.3375	-0.2334	-0.0001
235	SLE RA 10			-0.37	5.59	56.41	-0.3529	-0.2414	-0.0001
235	SLE RA 11			-0.39	5.46	56.97	-0.3474	-0.2601	-0.0001
235	SLE RA 12			-0.38	5.6	57.23	-0.3544	-0.2517	-0.0001
235	SLE RA 13			-0.38	5.67	57.09	-0.3575	-0.2442	-0.0001
235	SLE RA 14			-0.4	5.54	57.66	-0.3519	-0.2628	-0.0001
235	SLE RA 15			-0.39	5.67	57.92	-0.3589	-0.2544	-0.0001
235	SLE RA 16			-0.4	5.52	57.34	-0.3504	-0.261	-0.0001
235	SLE RA 17			-0.39	5.65	57.61	-0.3574	-0.2526	-0.0001
235	SLE RA 18			-0.4	5.49	57.49	-0.3499	-0.2637	-0.0001
235	SLE RA 19			-0.39	5.62	57.75	-0.3568	-0.2553	-0.0001
235	SLE RA 20			-0.4	5.57	58.18	-0.3544	-0.2664	-0.0001
235	SLE RA 21			-0.39	5.7	58.44	-0.3614	-0.258	-0.0001
235	SLE FR 1			-0.36	5.06	52.41	-0.3214	-0.2363	-0.0001
235	SLE FR 2			-0.36	5.11	52.5	-0.3237	-0.2335	-0.0001
235	SLE FR 3			-0.36	5.09	52.69	-0.3232	-0.2374	-0.0001
235	SLE FR 4			-0.37	5.23	54.02	-0.3323	-0.2417	-0.0001
235	SLE FR 5			-0.37	5.22	54.21	-0.3318	-0.2456	-0.0001
235	SLE FR 6			-0.38	5.27	54.95	-0.3356	-0.25	-0.0001
235	SLE QP 1			-0.36	5.06	52.41	-0.3214	-0.2363	-0.0001
235	SLE QP 2			-0.37	5.19	53.93	-0.33	-0.2445	-0.0001
235	SLD 1			-0.52	7.75	70.11	-0.4796	-0.3545	0
235	SLD 2			-0.52	7.75	70.11	-0.4796	-0.3545	0
235	SLD 3			-0.62	5.59	65.07	-0.3595	-0.4389	0.0002
235	SLD 4			-0.62	5.59	65.07	-0.3595	-0.4389	0.0002
235	SLD 5			-0.26	9.22	66.44	-0.557	-0.1494	-0.0003
235	SLD 6			-0.26	9.22	66.44	-0.557	-0.1494	-0.0003
235	SLD 7			-0.6	2.04	49.62	-0.1566	-0.4309	0.0002
235	SLD 8			-0.6	2.04	49.62	-0.1566	-0.4309	0.0002
235	SLD 9			-0.14	8.33	58.25	-0.5033	-0.0581	-0.0004
235	SLD 10			-0.14	8.33	58.25	-0.5033	-0.0581	-0.0004
235	SLD 11			-0.49	1.16	41.42	-0.1029	-0.3396	0.0001
235	SLD 12			-0.49	1.16	41.42	-0.1029	-0.3396	0.0001
235	SLD 13			-0.12	4.78	42.8	-0.3004	-0.0501	-0.0003
235	SLD 14			-0.12	4.78	42.8	-0.3004	-0.0501	-0.0003
235	SLD 15			-0.23	2.63	37.75	-0.1803	-0.1345	-0.0002
235	SLD 16			-0.23	2.63	37.75	-0.1803	-0.1345	-0.0002
235	SLV 1			-0.71	11.2	91.76	-0.6809	-0.5013	0.0002
235	SLV 2			-0.71	11.2	91.76	-0.6809	-0.5013	0.0002
235	SLV 3			-0.96	6.19	80.02	-0.4016	-0.7111	0.0005
235	SLV 4			-0.96	6.19	80.02	-0.4016	-0.7111	0.0005
235	SLV 5			-0.08	14.6	83.08	-0.8587	-0.0032	-0.0006
235	SLV 6			-0.08	14.6	83.08	-0.8587	-0.0032	-0.0006
235	SLV 7			-0.94	-2.12	43.95	0.0721	-0.7028	0.0007
235	SLV 8			-0.94	-2.12	43.95	0.0721	-0.7028	0.0007
235	SLV 9			0.19	12.49	63.91	-0.732	0.2138	-0.0008
235	SLV 10			0.19	12.49	63.91	-0.732	0.2138	-0.0008
235	SLV 11			-0.66	-4.22	24.78	0.1988	-0.4858	0.0004
235	SLV 12			-0.66	-4.22	24.78	0.1988	-0.4858	0.0004
235	SLV 13			0.22	4.19	27.85	-0.2583	0.2222	-0.0007
235	SLV 14			0.22	4.19	27.85	-0.2583	0.2222	-0.0007
235	SLV 15			-0.04	-0.83	16.11	0.021	0.0123	-0.0004
235	SLV 16			-0.04	-0.83	16.11	0.021	0.0123	-0.0004
236	SLU 1			0	-2.85	54.17	0.1111	0.0039	0
236	SLU 2			-0.02	-2.36	53.46	0.0882	-0.015	0
236	SLU 3			0	-3	55.42	0.1163	0.004	0
236	SLU 4			-0.01	-2.71	55	0.1026	-0.0074	0
236	SLU 5			-0.02	-2.47	54.06	0.0915	-0.0149	0
236	SLU 6			0	-3.1	56.02	0.1196	0.004	0
236	SLU 7			-0.01	-2.81	55.6	0.1059	-0.0073	0
236	SLU 8			0	-3.06	55.36	0.1177	0.004	0
236	SLU 9			-0.01	-2.76	54.94	0.104	-0.0073	0
236	SLU 10			-0.02	-2.96	59.87	0.111	-0.0149	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
236	SLU 11	0	-3.59	61.83	0.1391	0.004	0
236	SLU 12	-0.01	-3.3	61.41	0.1254	-0.0073	0
236	SLU 13	-0.02	-3.06	60.47	0.1143	-0.0149	0
236	SLU 14	0	-3.7	62.43	0.1424	0.0041	0
236	SLU 15	-0.01	-3.4	62.01	0.1287	-0.0073	0
236	SLU 16	0	-3.65	61.77	0.1404	0.004	0
236	SLU 17	-0.01	-3.36	61.35	0.1267	-0.0073	0
236	SLU 18	0	-3.7	63.32	0.1436	0.004	0
236	SLU 19	-0.01	-3.41	62.9	0.1299	-0.0074	0
236	SLU 20	0	-3.8	63.92	0.1469	0.004	0
236	SLU 21	-0.01	-3.51	63.5	0.1332	-0.0073	0
236	SLU 22	0	-3.43	60.36	0.133	0.0041	0
236	SLU 23	-0.02	-2.94	59.66	0.1102	-0.0148	0
236	SLU 24	0	-3.58	61.62	0.1382	0.0042	0
236	SLU 25	-0.01	-3.29	61.2	0.1245	-0.0072	0
236	SLU 26	-0.02	-3.04	60.26	0.1135	-0.0147	0
236	SLU 27	0	-3.68	62.22	0.1416	0.0042	0
236	SLU 28	-0.01	-3.39	61.8	0.1278	-0.0071	0
236	SLU 29	0	-3.63	61.56	0.1396	0.0042	0
236	SLU 30	-0.01	-3.34	61.14	0.1259	-0.0071	0
236	SLU 31	-0.02	-3.53	66.07	0.1329	-0.0147	0
236	SLU 32	0	-4.17	68.03	0.161	0.0042	0
236	SLU 33	-0.01	-3.88	67.61	0.1473	-0.0071	0
236	SLU 34	-0.02	-3.64	66.67	0.1362	-0.0147	0
236	SLU 35	0	-4.27	68.63	0.1643	0.0043	0
236	SLU 36	-0.01	-3.98	68.21	0.1506	-0.0071	0
236	SLU 37	0	-4.23	67.97	0.1624	0.0042	0
236	SLU 38	-0.01	-3.93	67.55	0.1487	-0.0071	0
236	SLU 39	0	-4.28	69.52	0.1655	0.0042	0
236	SLU 40	-0.01	-3.98	69.1	0.1518	-0.0072	0
236	SLU 41	0	-4.38	70.12	0.1688	0.0042	0
236	SLU 42	-0.01	-4.09	69.7	0.1551	-0.0071	0
236	SLU 43	0	-3.51	68.29	0.1369	0.005	0
236	SLU 44	-0.02	-3.02	67.59	0.114	-0.0139	0
236	SLU 45	0	-3.66	69.55	0.1421	0.0051	0
236	SLU 46	-0.01	-3.37	69.13	0.1284	-0.0063	0
236	SLU 47	-0.02	-3.12	68.19	0.1173	-0.0138	0
236	SLU 48	0	-3.76	70.15	0.1454	0.0051	0
236	SLU 49	-0.01	-3.47	69.73	0.1317	-0.0062	0
236	SLU 50	0	-3.71	69.49	0.1435	0.0051	0
236	SLU 51	-0.01	-3.42	69.07	0.1297	-0.0062	0
236	SLU 52	-0.02	-3.61	74	0.1368	-0.0138	0
236	SLU 53	0	-4.25	75.96	0.1649	0.0051	0
236	SLU 54	-0.01	-3.96	75.54	0.1511	-0.0062	0
236	SLU 55	-0.02	-3.72	74.6	0.1401	-0.0138	0
236	SLU 56	0	-4.35	76.56	0.1682	0.0052	0
236	SLU 57	-0.01	-4.06	76.14	0.1544	-0.0062	0
236	SLU 58	0	-4.31	75.9	0.1662	0.0052	0
236	SLU 59	-0.01	-4.01	75.48	0.1525	-0.0062	0
236	SLU 60	0	-4.36	77.45	0.1694	0.0051	0
236	SLU 61	-0.01	-4.06	77.03	0.1557	-0.0062	0
236	SLU 62	0	-4.46	78.05	0.1727	0.0051	0
236	SLU 63	-0.01	-4.17	77.63	0.159	-0.0062	0
236	SLU 64	0	-4.09	74.49	0.1588	0.0052	0
236	SLU 65	-0.02	-3.6	73.79	0.1359	-0.0137	0
236	SLU 66	0	-4.24	75.74	0.164	0.0053	0
236	SLU 67	-0.01	-3.94	75.32	0.1503	-0.0061	0
236	SLU 68	-0.02	-3.7	74.39	0.1392	-0.0136	0
236	SLU 69	0	-4.34	76.34	0.1673	0.0053	0
236	SLU 70	-0.01	-4.05	75.92	0.1536	-0.006	0
236	SLU 71	0	-4.29	75.69	0.1654	0.0053	0
236	SLU 72	-0.01	-4	75.27	0.1517	-0.006	0
236	SLU 73	-0.02	-4.19	80.2	0.1587	-0.0136	0
236	SLU 74	0	-4.83	82.15	0.1868	0.0053	0
236	SLU 75	-0.01	-4.54	81.73	0.1731	-0.006	0
236	SLU 76	-0.02	-4.29	80.79	0.162	-0.0136	0
236	SLU 77	0	-4.93	82.75	0.1901	0.0054	0
236	SLU 78	-0.01	-4.64	82.33	0.1764	-0.006	0
236	SLU 79	0	-4.88	82.1	0.1882	0.0054	0
236	SLU 80	-0.01	-4.59	81.67	0.1745	-0.006	0
236	SLU 81	0	-4.93	83.65	0.1913	0.0053	0
236	SLU 82	-0.01	-4.64	83.22	0.1776	-0.006	0
236	SLU 83	0	-5.04	84.24	0.1946	0.0053	0
236	SLU 84	-0.01	-4.74	83.82	0.1809	-0.006	0
236	SLE RA 1	0	-3.02	55.94	0.1173	0.004	0
236	SLE RA 2	-0.01	-2.69	55.47	0.1021	-0.0086	0
236	SLE RA 3	0	-3.12	56.77	0.1208	0.004	0
236	SLE RA 4	-0.01	-2.92	56.49	0.1117	-0.0035	0
236	SLE RA 5	-0.01	-2.76	55.87	0.1043	-0.0086	0
236	SLE RA 6	0	-3.19	57.17	0.123	0.004	0
236	SLE RA 7	-0.01	-2.99	56.89	0.1139	-0.0035	0
236	SLE RA 8	0	-3.15	56.74	0.1217	0.004	0
236	SLE RA 9	-0.01	-2.96	56.45	0.1126	-0.0035	0
236	SLE RA 10	-0.01	-3.09	59.74	0.1173	-0.0086	0
236	SLE RA 11	0	-3.51	61.05	0.136	0.004	0
236	SLE RA 12	-0.01	-3.32	60.77	0.1269	-0.0035	0
236	SLE RA 13	-0.01	-3.16	60.14	0.1195	-0.0086	0
236	SLE RA 14	0	-3.58	61.45	0.1382	0.0041	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
236	SLE RA 15	-0.01	-3.39	61.17	0.1291	-0.0035	0
236	SLE RA 16	0	-3.55	61.01	0.1369	0.0041	0
236	SLE RA 17	-0.01	-3.35	60.73	0.1278	-0.0035	0
236	SLE RA 18	0	-3.58	62.04	0.139	0.004	0
236	SLE RA 19	-0.01	-3.39	61.76	0.1299	-0.0035	0
236	SLE RA 20	0	-3.65	62.44	0.1412	0.004	0
236	SLE RA 21	-0.01	-3.45	62.16	0.1321	-0.0035	0
236	SLE FR 1	0	-3.02	55.94	0.1173	0.004	0
236	SLE FR 2	0	-2.95	55.84	0.1143	0.0015	0
236	SLE FR 3	0	-3.04	56.1	0.1182	0.004	0
236	SLE FR 4	0	-3.12	57.67	0.1208	0.0015	0
236	SLE FR 5	0	-3.21	57.93	0.1247	0.004	0
236	SLE FR 6	0	-3.3	58.99	0.1282	0.004	0
236	SLE QP 1	0	-3.02	55.94	0.1173	0.004	0
236	SLE QP 2	0	-3.19	57.77	0.1238	0.004	0
236	SLD 1	0.18	-0.37	41.55	0.0089	0.2022	-0.0001
236	SLD 2	0.18	-0.37	41.55	0.0089	0.2022	-0.0001
236	SLD 3	0.08	-3.7	44.37	0.1476	0.1072	-0.0001
236	SLD 4	0.08	-3.7	44.37	0.1476	0.1072	-0.0001
236	SLD 5	0.2	2.7	48.63	-0.121	0.2074	0
236	SLD 6	0.2	2.7	48.63	-0.121	0.2074	0
236	SLD 7	-0.12	-8.39	58.02	0.3413	-0.109	-0.0001
236	SLD 8	-0.12	-8.39	58.02	0.3413	-0.109	-0.0001
236	SLD 9	0.12	2.01	57.51	-0.0936	0.117	0.0001
236	SLD 10	0.12	2.01	57.51	-0.0936	0.117	0.0001
236	SLD 11	-0.2	-9.08	66.91	0.3687	-0.1994	0
236	SLD 12	-0.2	-9.08	66.91	0.3687	-0.1994	0
236	SLD 13	-0.08	-2.67	71.17	0.1001	-0.0993	0.0001
236	SLD 14	-0.08	-2.67	71.17	0.1001	-0.0993	0.0001
236	SLD 15	-0.17	-6	73.99	0.2388	-0.1942	0.0001
236	SLD 16	-0.17	-6	73.99	0.2388	-0.1942	0.0001
236	SLV 1	0.43	3.39	19.75	-0.145	0.4915	-0.0002
236	SLV 2	0.43	3.39	19.75	-0.145	0.4915	-0.0002
236	SLV 3	0.18	-4.35	26.44	0.1779	0.2498	-0.0002
236	SLV 4	0.18	-4.35	26.44	0.1779	0.2498	-0.0002
236	SLV 5	0.5	10.53	36.22	-0.4466	0.5169	0.0001
236	SLV 6	0.5	10.53	36.22	-0.4466	0.5169	0.0001
236	SLV 7	-0.32	-15.28	58.51	0.6298	-0.2889	-0.0002
236	SLV 8	-0.32	-15.28	58.51	0.6298	-0.2889	-0.0002
236	SLV 9	0.32	8.9	57.03	-0.3821	0.2969	0.0002
236	SLV 10	0.32	8.9	57.03	-0.3821	0.2969	0.0002
236	SLV 11	-0.5	-16.9	79.31	0.6943	-0.5089	-0.0001
236	SLV 12	-0.5	-16.9	79.31	0.6943	-0.5089	-0.0001
236	SLV 13	-0.18	-2.03	89.1	0.0698	-0.2418	0.0002
236	SLV 14	-0.18	-2.03	89.1	0.0698	-0.2418	0.0002
236	SLV 15	-0.43	-9.77	95.78	0.3927	-0.4835	0.0002
236	SLV 16	-0.43	-9.77	95.78	0.3927	-0.4835	0.0002
237	SLU 1	0	3.37	42.68	-0.129	-0.0022	0
237	SLU 2	0	3.45	42.12	-0.1318	-0.0015	0
237	SLU 3	0	3.5	44.58	-0.1339	-0.0023	0
237	SLU 4	0	3.55	44.25	-0.1356	-0.0019	0
237	SLU 5	0	3.58	43.69	-0.1366	-0.0015	0
237	SLU 6	0	3.63	46.15	-0.1387	-0.0024	0
237	SLU 7	0	3.68	45.82	-0.1404	-0.002	0
237	SLU 8	0	3.63	45.82	-0.1386	-0.0023	0
237	SLU 9	0	3.67	45.48	-0.1403	-0.0019	0
237	SLU 10	0	3.87	49.57	-0.1484	-0.0019	0
237	SLU 11	0	3.93	52.03	-0.1505	-0.0027	0.0001
237	SLU 12	0	3.97	51.7	-0.1522	-0.0023	0
237	SLU 13	0	4	51.14	-0.1533	-0.002	0
237	SLU 14	0	4.06	53.6	-0.1553	-0.0028	0.0001
237	SLU 15	0	4.1	53.27	-0.1571	-0.0024	0
237	SLU 16	0	4.05	53.27	-0.1552	-0.0028	0.0001
237	SLU 17	0	4.1	52.93	-0.157	-0.0023	0
237	SLU 18	0	3.98	53.32	-0.1527	-0.0028	0.0001
237	SLU 19	0	4.02	52.99	-0.1544	-0.0023	0
237	SLU 20	0	4.11	54.89	-0.1575	-0.0029	0.0001
237	SLU 21	0	4.15	54.56	-0.1593	-0.0024	0
237	SLU 22	0	3.81	49.96	-0.146	-0.0026	0
237	SLU 23	0	3.88	49.41	-0.1488	-0.0019	0
237	SLU 24	0	3.94	51.86	-0.1509	-0.0027	0.0001
237	SLU 25	0	3.98	51.53	-0.1526	-0.0023	0
237	SLU 26	0	4.01	50.98	-0.1537	-0.002	0
237	SLU 27	0	4.07	53.43	-0.1557	-0.0028	0.0001
237	SLU 28	0	4.11	53.1	-0.1574	-0.0024	0
237	SLU 29	0	4.06	53.1	-0.1556	-0.0028	0.0001
237	SLU 30	0	4.11	52.77	-0.1573	-0.0023	0
237	SLU 31	0	4.31	56.86	-0.1654	-0.0023	0
237	SLU 32	0	4.36	59.31	-0.1675	-0.0031	0.0001
237	SLU 33	0	4.41	58.98	-0.1692	-0.0027	0.0001
237	SLU 34	0	4.43	58.43	-0.1703	-0.0024	0
237	SLU 35	0	4.49	60.88	-0.1723	-0.0032	0.0001
237	SLU 36	0	4.54	60.55	-0.1741	-0.0028	0.0001
237	SLU 37	0	4.49	60.55	-0.1722	-0.0032	0.0001
237	SLU 38	0	4.53	60.22	-0.174	-0.0028	0.0001
237	SLU 39	0	4.41	60.61	-0.1697	-0.0032	0.0001
237	SLU 40	0	4.46	60.27	-0.1714	-0.0028	0.0001
237	SLU 41	0	4.54	62.17	-0.1745	-0.0033	0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
237	SLU 42	0	4.59	61.84	-0.1763	-0.0028	0.0001		
237	SLU 43	0	4.24	52.98	-0.1618	-0.0027	0		
237	SLU 44	0	4.31	52.43	-0.1647	-0.002	0		
237	SLU 45	0	4.37	54.88	-0.1667	-0.0028	0.0001		
237	SLU 46	0	4.41	54.55	-0.1684	-0.0024	0		
237	SLU 47	0	4.44	54	-0.1695	-0.0021	0		
237	SLU 48	0	4.5	56.45	-0.1716	-0.0029	0.0001		
237	SLU 49	0	4.54	56.12	-0.1733	-0.0025	0		
237	SLU 50	0	4.49	56.12	-0.1715	-0.0029	0.0001		
237	SLU 51	0	4.54	55.79	-0.1732	-0.0024	0		
237	SLU 52	0	4.74	59.88	-0.1813	-0.0024	0		
237	SLU 53	0	4.79	62.34	-0.1834	-0.0032	0.0001		
237	SLU 54	0	4.84	62	-0.1851	-0.0028	0.0001		
237	SLU 55	0	4.86	61.45	-0.1861	-0.0025	0		
237	SLU 56	0	4.92	63.9	-0.1882	-0.0033	0.0001		
237	SLU 57	0	4.96	63.57	-0.1899	-0.0029	0.0001		
237	SLU 58	0	4.92	63.57	-0.1881	-0.0033	0.0001		
237	SLU 59	0	4.96	63.24	-0.1898	-0.0028	0.0001		
237	SLU 60	0	4.84	63.63	-0.1856	-0.0033	0.0001		
237	SLU 61	0	4.89	63.29	-0.1873	-0.0029	0.0001		
237	SLU 62	0	4.97	65.2	-0.1904	-0.0034	0.0001		
237	SLU 63	0	5.02	64.86	-0.1921	-0.0029	0.0001		
237	SLU 64	0	4.67	60.27	-0.1788	-0.0031	0.0001		
237	SLU 65	0	4.75	59.71	-0.1817	-0.0024	0		
237	SLU 66	0	4.8	62.17	-0.1837	-0.0032	0.0001		
237	SLU 67	0	4.85	61.84	-0.1855	-0.0028	0.0001		
237	SLU 68	0	4.87	61.28	-0.1865	-0.0025	0		
237	SLU 69	0	4.93	63.74	-0.1886	-0.0033	0.0001		
237	SLU 70	0	4.97	63.41	-0.1903	-0.0029	0.0001		
237	SLU 71	0	4.93	63.41	-0.1885	-0.0033	0.0001		
237	SLU 72	0	4.97	63.07	-0.1902	-0.0028	0.0001		
237	SLU 73	0	5.17	67.16	-0.1983	-0.0028	0.0001		
237	SLU 74	0	5.23	69.62	-0.2004	-0.0036	0.0001		
237	SLU 75	0	5.27	69.29	-0.2021	-0.0032	0.0001		
237	SLU 76	0	5.3	68.73	-0.2031	-0.0029	0.0001		
237	SLU 77	0	5.35	71.19	-0.2052	-0.0037	0.0001		
237	SLU 78	0	5.4	70.86	-0.2069	-0.0033	0.0001		
237	SLU 79	0	5.35	70.86	-0.2051	-0.0037	0.0001		
237	SLU 80	0	5.4	70.52	-0.2068	-0.0033	0.0001		
237	SLU 81	0	5.28	70.91	-0.2026	-0.0037	0.0001		
237	SLU 82	0	5.32	70.58	-0.2043	-0.0033	0.0001		
237	SLU 83	0	5.41	72.48	-0.2074	-0.0038	0.0001		
237	SLU 84	0	5.45	72.15	-0.2091	-0.0034	0.0001		
237	SLE RA 1	0	3.5	44.76	-0.1338	-0.0023	0		
237	SLE RA 2	0	3.55	44.39	-0.1357	-0.0018	0		
237	SLE RA 3	0	3.59	46.03	-0.1371	-0.0024	0		
237	SLE RA 4	0	3.61	45.8	-0.1382	-0.0021	0		
237	SLE RA 5	0	3.63	45.43	-0.1389	-0.0019	0		
237	SLE RA 6	0	3.67	47.07	-0.1403	-0.0024	0		
237	SLE RA 7	0	3.7	46.85	-0.1415	-0.0021	0		
237	SLE RA 8	0	3.67	46.85	-0.1403	-0.0024	0		
237	SLE RA 9	0	3.7	46.63	-0.1414	-0.0021	0		
237	SLE RA 10	0	3.83	49.35	-0.1468	-0.0021	0		
237	SLE RA 11	0	3.87	50.99	-0.1482	-0.0027	0		
237	SLE RA 12	0	3.9	50.77	-0.1493	-0.0024	0		
237	SLE RA 13	0	3.92	50.4	-0.15	-0.0022	0		
237	SLE RA 14	0	3.95	52.04	-0.1514	-0.0027	0.0001		
237	SLE RA 15	0	3.98	51.82	-0.1525	-0.0024	0		
237	SLE RA 16	0	3.95	51.82	-0.1513	-0.0027	0.0001		
237	SLE RA 17	0	3.98	51.6	-0.1525	-0.0024	0		
237	SLE RA 18	0	3.9	51.85	-0.1496	-0.0027	0		
237	SLE RA 19	0	3.93	51.63	-0.1508	-0.0024	0		
237	SLE RA 20	0	3.99	52.9	-0.1529	-0.0028	0.0001		
237	SLE RA 21	0	4.02	52.68	-0.154	-0.0025	0		
237	SLE FR 1	0	3.5	44.76	-0.1338	-0.0023	0		
237	SLE FR 2	0	3.51	44.68	-0.1342	-0.0022	0		
237	SLE FR 3	0	3.53	45.18	-0.1351	-0.0023	0		
237	SLE FR 4	0	3.63	46.81	-0.1389	-0.0023	0		
237	SLE FR 5	0	3.65	47.31	-0.1398	-0.0024	0		
237	SLE FR 6	0	3.7	48.31	-0.1417	-0.0025	0		
237	SLE QP 1	0	3.5	44.76	-0.1338	-0.0023	0		
237	SLE QP 2	0	3.62	46.89	-0.1386	-0.0024	0		
237	SLD 1	0.19	6.37	50.1	-0.2512	0.1834	-0.0033		
237	SLD 2	0.19	6.37	50.1	-0.2512	0.1834	-0.0033		
237	SLD 3	0.24	3.16	47.16	-0.1186	0.2299	-0.0042		
237	SLD 4	0.24	3.16	47.16	-0.1186	0.2299	-0.0042		
237	SLD 5	-0.02	9.31	52.32	-0.3735	-0.0172	0.0003		
237	SLD 6	-0.02	9.31	52.32	-0.3735	-0.0172	0.0003		
237	SLD 7	0.14	-1.38	42.51	0.0686	0.1378	-0.0025		
237	SLD 8	0.14	-1.38	42.51	0.0686	0.1378	-0.0025		
237	SLD 9	-0.15	8.62	51.27	-0.3457	-0.1426	0.0026		
237	SLD 10	-0.15	8.62	51.27	-0.3457	-0.1426	0.0026		
237	SLD 11	0.01	-2.07	41.46	0.0963	0.0123	-0.0002		
237	SLD 12	0.01	-2.07	41.46	0.0963	0.0123	-0.0002		
237	SLD 13	-0.25	4.08	46.61	-0.1585	-0.2347	0.0043		
237	SLD 14	-0.25	4.08	46.61	-0.1585	-0.2347	0.0043		
237	SLD 15	-0.2	0.87	43.67	-0.0259	-0.1882	0.0034		
237	SLD 16	-0.2	0.87	43.67	-0.0259	-0.1882	0.0034		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
237	SLV 1			0.5	10.14	54.58	-0.4057	0.4736	-0.0086
237	SLV 2			0.5	10.14	54.58	-0.4057	0.4736	-0.0086
237	SLV 3			0.62	2.6	47.65	-0.0937	0.5928	-0.0107
237	SLV 4			0.62	2.6	47.65	-0.0937	0.5928	-0.0107
237	SLV 5			-0.04	17.01	59.69	-0.692	-0.0403	0.0007
237	SLV 6			-0.04	17.01	59.69	-0.692	-0.0403	0.0007
237	SLV 7			0.37	-8.12	36.62	0.3482	0.3569	-0.0064
237	SLV 8			0.37	-8.12	36.62	0.3482	0.3569	-0.0064
237	SLV 9			-0.37	15.36	57.16	-0.6253	-0.3617	0.0065
237	SLV 10			-0.37	15.36	57.16	-0.6253	-0.3617	0.0065
237	SLV 11			0.03	-9.77	34.08	0.4149	0.0355	-0.0006
237	SLV 12			0.03	-9.77	34.08	0.4149	0.0355	-0.0006
237	SLV 13			-0.62	4.64	46.12	-0.1834	-0.5976	0.0108
237	SLV 14			-0.62	4.64	46.12	-0.1834	-0.5976	0.0108
237	SLV 15			-0.5	-2.9	39.2	0.1286	-0.4785	0.0087
237	SLV 16			-0.5	-2.9	39.2	0.1286	-0.4785	0.0087
238	SLU 1			0	3.35	46.52	-0.1615	0.0008	0
238	SLU 2			0	3.45	46.13	-0.1658	0.0002	0
238	SLU 3			0	3.54	48.53	-0.1711	0.0009	0
238	SLU 4			0	3.59	48.29	-0.1737	0.0006	0
238	SLU 5			0	3.66	47.72	-0.1765	0.0003	0
238	SLU 6			0	3.74	50.12	-0.1818	0.001	0
238	SLU 7			0	3.8	49.88	-0.1844	0.0007	0
238	SLU 8			0	3.77	49.71	-0.183	0.001	0
238	SLU 9			0	3.83	49.47	-0.1855	0.0007	0
238	SLU 10			0	3.81	54.09	-0.1847	0.0003	0
238	SLU 11			0	3.9	56.49	-0.19	0.001	0
238	SLU 12			0	3.96	56.26	-0.1926	0.0007	0
238	SLU 13			0	4.02	55.69	-0.1954	0.0005	0
238	SLU 14			0	4.11	58.09	-0.2008	0.0011	0
238	SLU 15			0	4.16	57.85	-0.2033	0.0008	0
238	SLU 16			0	4.13	57.68	-0.2019	0.0011	0
238	SLU 17			0	4.19	57.44	-0.2045	0.0008	0
238	SLU 18			0	3.87	57.91	-0.1885	0.0009	0
238	SLU 19			0	3.93	57.67	-0.1911	0.0006	0
238	SLU 20			0	4.08	59.5	-0.1993	0.001	0
238	SLU 21			0	4.14	59.26	-0.2018	0.0007	0
238	SLU 22			0	3.79	54.24	-0.184	0.0009	0
238	SLU 23			0	3.89	53.84	-0.1883	0.0004	0
238	SLU 24			0	3.97	56.24	-0.1936	0.001	0
238	SLU 25			0	4.03	56	-0.1961	0.0007	0
238	SLU 26			0	4.09	55.43	-0.199	0.0005	0
238	SLU 27			0	4.18	57.83	-0.2043	0.0012	0
238	SLU 28			0	4.24	57.6	-0.2069	0.0008	0
238	SLU 29			0	4.2	57.42	-0.2054	0.0012	0
238	SLU 30			0	4.26	57.19	-0.208	0.0008	0
238	SLU 31			0	4.25	61.81	-0.2072	0.0005	0
238	SLU 32			0	4.33	64.21	-0.2125	0.0012	0
238	SLU 33			0	4.39	63.97	-0.215	0.0008	0
238	SLU 34			0	4.46	63.4	-0.2179	0.0006	0
238	SLU 35			0	4.54	65.8	-0.2232	0.0013	0
238	SLU 36			0	4.6	65.56	-0.2258	0.001	0
238	SLU 37			0	4.56	65.39	-0.2244	0.0013	0
238	SLU 38			0	4.62	65.16	-0.2269	0.001	0
238	SLU 39			0	4.31	65.62	-0.211	0.0011	0
238	SLU 40			0	4.36	65.38	-0.2136	0.0008	0
238	SLU 41			0	4.51	67.21	-0.2217	0.0012	0
238	SLU 42			0	4.57	66.98	-0.2243	0.0009	0
238	SLU 43			0	4.21	57.83	-0.2023	0.0009	0
238	SLU 44			0	4.31	57.44	-0.2066	0.0004	0
238	SLU 45			0	4.39	59.84	-0.2119	0.0011	0
238	SLU 46			0	4.45	59.6	-0.2144	0.0007	0
238	SLU 47			0	4.51	59.03	-0.2173	0.0005	0
238	SLU 48			0	4.6	61.43	-0.2226	0.0012	0
238	SLU 49			0	4.66	61.19	-0.2252	0.0009	0
238	SLU 50			0	4.62	61.02	-0.2237	0.0012	0
238	SLU 51			0	4.68	60.78	-0.2263	0.0009	0
238	SLU 52			0	4.67	65.41	-0.2255	0.0005	0
238	SLU 53			0	4.75	67.81	-0.2308	0.0012	0
238	SLU 54			0	4.81	67.57	-0.2333	0.0008	0
238	SLU 55			0	4.88	67	-0.2362	0.0006	0
238	SLU 56			0	4.96	69.4	-0.2415	0.0013	0
238	SLU 57			0	5.02	69.16	-0.2441	0.001	0
238	SLU 58			0	4.99	68.99	-0.2427	0.0013	0
238	SLU 59			0	5.04	68.75	-0.2452	0.001	0
238	SLU 60			0	4.73	69.22	-0.2293	0.0011	0
238	SLU 61			0	4.79	68.98	-0.2319	0.0008	0
238	SLU 62			0	4.93	70.81	-0.24	0.0012	0
238	SLU 63			0	4.99	70.57	-0.2426	0.0009	0
238	SLU 64			0	4.64	65.55	-0.2247	0.0011	0
238	SLU 65			0	4.74	65.15	-0.229	0.0006	0
238	SLU 66			0	4.83	67.55	-0.2343	0.0012	0
238	SLU 67			0	4.89	67.31	-0.2369	0.0009	0
238	SLU 68			0	4.95	66.75	-0.2397	0.0007	0
238	SLU 69			0	5.03	69.15	-0.2451	0.0013	0
238	SLU 70			0	5.09	68.91	-0.2476	0.001	0
238	SLU 71			0	5.06	68.74	-0.2462	0.0013	0
238	SLU 72			0	5.12	68.5	-0.2488	0.001	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
238	SLU 73		0		5.11	73.12	-0.2479	0.0007	0
238	SLU 74		0		5.19	75.52	-0.2532	0.0013	0
238	SLU 75		0		5.25	75.28	-0.2558	0.001	0
238	SLU 76		0		5.31	74.71	-0.2587	0.0008	0
238	SLU 77		0		5.4	77.11	-0.264	0.0015	0
238	SLU 78		0		5.46	76.88	-0.2665	0.0011	0
238	SLU 79		0		5.42	76.7	-0.2651	0.0015	0
238	SLU 80		0		5.48	76.47	-0.2677	0.0011	0
238	SLU 81		0		5.16	76.93	-0.2518	0.0012	0
238	SLU 82		0		5.22	76.69	-0.2543	0.0009	0
238	SLU 83		0		5.37	78.53	-0.2625	0.0014	0
238	SLU 84		0		5.43	78.29	-0.2651	0.0011	0
238	SLE RA 1		0		3.48	48.73	-0.1679	0.0008	0
238	SLE RA 2		0		3.54	48.46	-0.1708	0.0004	0
238	SLE RA 3		0		3.6	50.06	-0.1743	0.0009	0
238	SLE RA 4		0		3.64	49.9	-0.176	0.0007	0
238	SLE RA 5		0		3.68	49.52	-0.1779	0.0005	0
238	SLE RA 6		0		3.74	51.12	-0.1815	0.001	0
238	SLE RA 7		0		3.78	50.97	-0.1832	0.0008	0
238	SLE RA 8		0		3.75	50.85	-0.1822	0.001	0
238	SLE RA 9		0		3.79	50.69	-0.184	0.0008	0
238	SLE RA 10		0		3.78	53.77	-0.1834	0.0005	0
238	SLE RA 11		0		3.84	55.37	-0.1869	0.001	0
238	SLE RA 12		0		3.88	55.22	-0.1886	0.0007	0
238	SLE RA 13		0		3.92	54.84	-0.1906	0.0006	0
238	SLE RA 14		0		3.98	56.44	-0.1941	0.001	0
238	SLE RA 15		0		4.02	56.28	-0.1958	0.0008	0
238	SLE RA 16		0		3.99	56.16	-0.1949	0.001	0
238	SLE RA 17		0		4.03	56.01	-0.1966	0.0008	0
238	SLE RA 18		0		3.82	56.32	-0.186	0.0009	0
238	SLE RA 19		0		3.86	56.16	-0.1877	0.0007	0
238	SLE RA 20		0		3.96	57.38	-0.1931	0.001	0
238	SLE RA 21		0		4	57.22	-0.1948	0.0008	0
238	SLE FR 1		0		3.48	48.73	-0.1679	0.0008	0
238	SLE FR 2		0		3.49	48.67	-0.1685	0.0007	0
238	SLE FR 3		0		3.53	49.15	-0.1708	0.0008	0
238	SLE FR 4		0		3.59	50.95	-0.1739	0.0008	0
238	SLE FR 5		0		3.64	51.43	-0.1762	0.0009	0
238	SLE FR 6		0		3.65	52.52	-0.177	0.0009	0
238	SLE QP 1		0		3.48	48.73	-0.1679	0.0008	0
238	SLE QP 2		0		3.58	51	-0.1733	0.0008	0
238	SLD 1	0.25		3.47	54.78		-0.174	0.2419	0
238	SLD 2	0.25		3.47	54.78		-0.174	0.2419	0
238	SLD 3	0.22		-0.79	51.69		0.0338	0.21	0.0001
238	SLD 4	0.22		-0.79	51.69		0.0338	0.21	0.0001
238	SLD 5	0.12		10	56.82		-0.4888	0.1215	0
238	SLD 6	0.12		10	56.82		-0.4888	0.1215	0
238	SLD 7	0.02		-4.19	46.52		0.2041	0.0152	0
238	SLD 8	0.02		-4.19	46.52		0.2041	0.0152	0
238	SLD 9	-0.02		11.35	55.48		-0.5508	-0.0135	0
238	SLD 10	-0.02		11.35	55.48		-0.5508	-0.0135	0
238	SLD 11	-0.12		-2.84	45.19		0.1421	-0.1199	0
238	SLD 12	-0.12		-2.84	45.19		0.1421	-0.1199	0
238	SLD 13	-0.22		7.95	50.32		-0.3805	-0.2083	-0.0001
238	SLD 14	-0.22		7.95	50.32		-0.3805	-0.2083	-0.0001
238	SLD 15	-0.25		3.7	47.23		-0.1727	-0.2402	0
238	SLD 16	-0.25		3.7	47.23		-0.1727	-0.2402	0
238	SLV 1	0.64		3.29	59.97		-0.1735	0.619	0.0001
238	SLV 2	0.64		3.29	59.97		-0.1735	0.619	0.0001
238	SLV 3	0.56		-6.76	52.66		0.317	0.5372	0.0002
238	SLV 4	0.56		-6.76	52.66		0.317	0.5372	0.0002
238	SLV 5	0.32		18.73	64.79		-0.9173	0.3103	0
238	SLV 6	0.32		18.73	64.79		-0.9173	0.3103	0
238	SLV 7	0.04		-14.76	40.41		0.7176	0.0377	0.0001
238	SLV 8	0.04		-14.76	40.41		0.7176	0.0377	0.0001
238	SLV 9	-0.04		21.92	61.6		-1.0643	-0.036	-0.0001
238	SLV 10	-0.04		21.92	61.6		-1.0643	-0.036	-0.0001
238	SLV 11	-0.32		-11.57	37.22		0.5706	-0.3087	0
238	SLV 12	-0.32		-11.57	37.22		0.5706	-0.3087	0
238	SLV 13	-0.56		13.92	49.35		-0.6637	-0.5355	-0.0002
238	SLV 14	-0.56		13.92	49.35		-0.6637	-0.5355	-0.0002
238	SLV 15	-0.64		3.88	42.03		-0.1732	-0.6173	-0.0001
238	SLV 16	-0.64		3.88	42.03		-0.1732	-0.6173	-0.0001
239	SLU 1		0		3.6	31.23	-0.14	0.0009	0
239	SLU 2		0		3.6	31.29	-0.1403	0.0009	0
239	SLU 3		0		3.42	30.05	-0.1288	0.0011	-0.0001
239	SLU 4		0		3.42	30.08	-0.129	0.0011	-0.0001
239	SLU 5		0		3.33	29.3	-0.1243	0.0012	-0.0001
239	SLU 6		0		3.14	28.06	-0.1129	0.0013	-0.0001
239	SLU 7		0		3.14	28.09	-0.113	0.0014	-0.0001
239	SLU 8		0		3.05	27.26	-0.1082	0.0014	-0.0001
239	SLU 9		0		3.05	27.29	-0.1083	0.0015	-0.0001
239	SLU 10	0.01		4.31	36.98		-0.168	0.0019	-0.0001
239	SLU 11	0.01		4.13	35.75		-0.1566	0.0021	-0.0001
239	SLU 12	0.01		4.13	35.78		-0.1567	0.0021	-0.0001
239	SLU 13	0.01		4.04	35		-0.1521	0.0022	-0.0001
239	SLU 14	0.01		3.85	33.76		-0.1407	0.0024	-0.0001
239	SLU 15	0.01		3.85	33.79		-0.1408	0.0024	-0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		Ind.	N.br.	x	y	z	x	y
239	SLU 16		0.01	3.76	32.96	-0.1359	0.0025	-0.0001
239	SLU 17		0.01	3.76	32.99	-0.1361	0.0025	-0.0001
239	SLU 18		0.01	4.62	39.37	-0.1797	0.0023	-0.0001
239	SLU 19		0.01	4.62	39.4	-0.1798	0.0024	-0.0001
239	SLU 20		0.01	4.34	37.39	-0.1638	0.0026	-0.0001
239	SLU 21		0.01	4.34	37.42	-0.1639	0.0026	-0.0001
239	SLU 22		0.01	4.1	35.46	-0.1577	0.0016	-0.0001
239	SLU 23		0.01	4.1	35.52	-0.1579	0.0017	-0.0001
239	SLU 24		0.01	3.92	34.28	-0.1465	0.0018	-0.0001
239	SLU 25		0.01	3.92	34.31	-0.1466	0.0018	-0.0001
239	SLU 26		0.01	3.82	33.53	-0.142	0.002	-0.0001
239	SLU 27		0.01	3.64	32.29	-0.1305	0.0021	-0.0001
239	SLU 28		0.01	3.64	32.32	-0.1307	0.0021	-0.0001
239	SLU 29		0.01	3.54	31.49	-0.1258	0.0022	-0.0001
239	SLU 30		0.01	3.55	31.52	-0.1259	0.0022	-0.0001
239	SLU 31		0.01	4.81	41.21	-0.1857	0.0027	-0.0001
239	SLU 32		0.01	4.63	39.97	-0.1743	0.0028	-0.0001
239	SLU 33		0.01	4.63	40.01	-0.1744	0.0029	-0.0001
239	SLU 34		0.01	4.53	39.23	-0.1697	0.003	-0.0001
239	SLU 35		0.01	4.35	37.99	-0.1583	0.0031	-0.0001
239	SLU 36		0.01	4.35	38.02	-0.1584	0.0031	-0.0001
239	SLU 37		0.01	4.25	37.19	-0.1536	0.0032	-0.0001
239	SLU 38		0.01	4.26	37.22	-0.1537	0.0032	-0.0001
239	SLU 39		0.01	5.12	43.6	-0.1974	0.0031	-0.0001
239	SLU 40		0.01	5.12	43.63	-0.1975	0.0031	-0.0001
239	SLU 41		0.01	4.84	41.61	-0.1814	0.0034	-0.0001
239	SLU 42		0.01	4.84	41.65	-0.1816	0.0034	-0.0001
239	SLU 43		0	4.51	39.15	-0.176	0.0009	-0.0001
239	SLU 44		0	4.51	39.21	-0.1762	0.0009	-0.0001
239	SLU 45		0	4.33	37.97	-0.1648	0.0011	-0.0001
239	SLU 46		0	4.33	38	-0.1649	0.0011	-0.0001
239	SLU 47		0.01	4.24	37.22	-0.1603	0.0012	-0.0001
239	SLU 48		0.01	4.05	35.98	-0.1489	0.0013	-0.0001
239	SLU 49		0.01	4.05	36.01	-0.149	0.0014	-0.0001
239	SLU 50		0.01	3.96	35.18	-0.1441	0.0014	-0.0001
239	SLU 51		0.01	3.96	35.21	-0.1443	0.0015	-0.0001
239	SLU 52		0.01	5.22	44.9	-0.204	0.002	-0.0001
239	SLU 53		0.01	5.04	43.67	-0.1926	0.0021	-0.0001
239	SLU 54		0.01	5.04	43.7	-0.1927	0.0021	-0.0001
239	SLU 55		0.01	4.95	42.92	-0.188	0.0022	-0.0001
239	SLU 56		0.01	4.76	41.68	-0.1766	0.0024	-0.0001
239	SLU 57		0.01	4.76	41.71	-0.1768	0.0024	-0.0001
239	SLU 58		0.01	4.67	40.88	-0.1719	0.0025	-0.0001
239	SLU 59		0.01	4.67	40.91	-0.172	0.0025	-0.0001
239	SLU 60		0.01	5.53	47.29	-0.2157	0.0023	-0.0001
239	SLU 61		0.01	5.53	47.32	-0.2158	0.0024	-0.0001
239	SLU 62		0.01	5.25	45.31	-0.1997	0.0026	-0.0001
239	SLU 63		0.01	5.25	45.34	-0.1999	0.0027	-0.0001
239	SLU 64		0.01	5.01	43.38	-0.1937	0.0016	-0.0001
239	SLU 65		0.01	5.01	43.44	-0.1939	0.0017	-0.0001
239	SLU 66		0.01	4.83	42.2	-0.1825	0.0018	-0.0001
239	SLU 67		0.01	4.83	42.23	-0.1826	0.0018	-0.0001
239	SLU 68		0.01	4.73	41.45	-0.1779	0.002	-0.0001
239	SLU 69		0.01	4.55	40.21	-0.1665	0.0021	-0.0001
239	SLU 70		0.01	4.55	40.24	-0.1666	0.0021	-0.0001
239	SLU 71		0.01	4.45	39.41	-0.1618	0.0022	-0.0001
239	SLU 72		0.01	4.46	39.44	-0.1619	0.0022	-0.0001
239	SLU 73		0.01	5.72	49.13	-0.2216	0.0027	-0.0001
239	SLU 74		0.01	5.54	47.89	-0.2102	0.0028	-0.0001
239	SLU 75		0.01	5.54	47.93	-0.2104	0.0029	-0.0001
239	SLU 76		0.01	5.44	47.15	-0.2057	0.003	-0.0001
239	SLU 77		0.01	5.26	45.91	-0.1943	0.0031	-0.0001
239	SLU 78		0.01	5.26	45.94	-0.1944	0.0031	-0.0001
239	SLU 79		0.01	5.16	45.11	-0.1895	0.0032	-0.0001
239	SLU 80		0.01	5.17	45.14	-0.1897	0.0032	-0.0001
239	SLU 81		0.01	6.03	51.52	-0.2333	0.0031	-0.0001
239	SLU 82		0.01	6.03	51.55	-0.2335	0.0031	-0.0001
239	SLU 83		0.01	5.75	49.53	-0.2174	0.0034	-0.0001
239	SLU 84		0.01	5.75	49.57	-0.2175	0.0034	-0.0001
239	SLE RA 1		0	3.75	32.44	-0.1451	0.0011	-0.0001
239	SLE RA 2		0	3.75	32.48	-0.1452	0.0011	-0.0001
239	SLE RA 3		0	3.63	31.65	-0.1376	0.0012	-0.0001
239	SLE RA 4		0	3.63	31.67	-0.1377	0.0012	-0.0001
239	SLE RA 5		0	3.56	31.15	-0.1346	0.0013	-0.0001
239	SLE RA 6		0	3.44	30.33	-0.127	0.0014	-0.0001
239	SLE RA 7		0	3.44	30.35	-0.1271	0.0014	-0.0001
239	SLE RA 8		0	3.37	29.79	-0.1238	0.0015	-0.0001
239	SLE RA 9		0	3.37	29.81	-0.1239	0.0015	-0.0001
239	SLE RA 10		0.01	4.22	36.27	-0.1637	0.0018	-0.0001
239	SLE RA 11		0.01	4.1	35.45	-0.1561	0.0019	-0.0001
239	SLE RA 12		0.01	4.1	35.47	-0.1562	0.0019	-0.0001
239	SLE RA 13		0.01	4.03	34.95	-0.1531	0.002	-0.0001
239	SLE RA 14		0.01	3.91	34.12	-0.1455	0.0021	-0.0001
239	SLE RA 15		0.01	3.91	34.15	-0.1456	0.0021	-0.0001
239	SLE RA 16		0.01	3.85	33.59	-0.1423	0.0022	-0.0001
239	SLE RA 17		0.01	3.85	33.61	-0.1424	0.0022	-0.0001
239	SLE RA 18		0.01	4.42	37.87	-0.1715	0.0021	-0.0001
239	SLE RA 19		0.01	4.42	37.89	-0.1716	0.0021	-0.0001





Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
239	SLE RA 20		0.01	4.24	36.54	-0.1609	0.0023	-0.0001	
239	SLE RA 21		0.01	4.24	36.56	-0.161	0.0023	-0.0001	
239	SLE FR 1		0	3.75	32.44	-0.1451	0.0011	-0.0001	
239	SLE FR 2		0	3.75	32.45	-0.1451	0.0011	-0.0001	
239	SLE FR 3		0	3.67	31.91	-0.1408	0.0012	-0.0001	
239	SLE FR 4		0.01	3.95	34.08	-0.153	0.0014	-0.0001	
239	SLE FR 5		0.01	3.87	33.54	-0.1488	0.0015	-0.0001	
239	SLE FR 6		0.01	4.08	35.15	-0.1583	0.0016	-0.0001	
239	SLE QP 1		0	3.75	32.44	-0.1451	0.0011	-0.0001	
239	SLE QP 2		0.01	3.95	34.07	-0.153	0.0014	-0.0001	
239	SLD 1		0.03	6.38	41.99	-0.2738	-0.0257	0.0002	
239	SLD 2		0.03	6.38	41.99	-0.2738	-0.0257	0.0002	
239	SLD 3		0.05	3.34	34.09	-0.1248	-0.0129	0.0004	
239	SLD 4		0.05	3.34	34.09	-0.1248	-0.0129	0.0004	
239	SLD 5		-0.02	9.29	48.42	-0.4153	-0.026	-0.0003	
239	SLD 6		-0.02	9.29	48.42	-0.4153	-0.026	-0.0003	
239	SLD 7		0.05	-0.84	22.1	0.0814	0.0164	0.0004	
239	SLD 8		0.05	-0.84	22.1	0.0814	0.0164	0.0004	
239	SLD 9		-0.04	8.74	46.03	-0.3875	-0.0136	-0.0005	
239	SLD 10		-0.04	8.74	46.03	-0.3875	-0.0136	-0.0005	
239	SLD 11		0.03	-1.39	19.72	0.1092	0.0288	0.0002	
239	SLD 12		0.03	-1.39	19.72	0.1092	0.0288	0.0002	
239	SLD 13		-0.04	4.56	34.05	-0.1812	0.0157	-0.0005	
239	SLD 14		-0.04	4.56	34.05	-0.1812	0.0157	-0.0005	
239	SLD 15		-0.02	1.52	26.15	-0.0322	0.0284	-0.0003	
239	SLD 16		-0.02	1.52	26.15	-0.0322	0.0284	-0.0003	
239	SLV 1		0.07	9.68	52.91	-0.438	-0.0659	0.0005	
239	SLV 2		0.07	9.68	52.91	-0.438	-0.0659	0.0005	
239	SLV 3		0.13	2.5	33.97	-0.0859	-0.0336	0.0011	
239	SLV 4		0.13	2.5	33.97	-0.0859	-0.0336	0.0011	
239	SLV 5		-0.05	16.55	68.45	-0.7727	-0.0679	-0.0007	
239	SLV 6		-0.05	16.55	68.45	-0.7727	-0.0679	-0.0007	
239	SLV 7		0.12	-7.37	5.31	0.4013	0.04	0.0011	
239	SLV 8		0.12	-7.37	5.31	0.4013	0.04	0.0011	
239	SLV 9		-0.11	15.26	62.83	-0.7073	-0.0372	-0.0012	
239	SLV 10		-0.11	15.26	62.83	-0.7073	-0.0372	-0.0012	
239	SLV 11		0.06	-8.65	-0.31	0.4666	0.0706	0.0006	
239	SLV 12		0.06	-8.65	-0.31	0.4666	0.0706	0.0006	
239	SLV 13		-0.12	5.39	34.17	-0.2202	0.0364	-0.0012	
239	SLV 14		-0.12	5.39	34.17	-0.2202	0.0364	-0.0012	
239	SLV 15		-0.06	-1.78	15.23	0.132	0.0687	-0.0007	
239	SLV 16		-0.06	-1.78	15.23	0.132	0.0687	-0.0007	
240	SLU 1		-0.01	2.94	24.56	-0.0596	-0.0022	0.0001	
240	SLU 2		-0.01	2.95	24.66	-0.0604	-0.0022	0.0001	
240	SLU 3		-0.01	2.71	22.73	-0.041	-0.0021	0.0001	
240	SLU 4		-0.01	2.71	22.79	-0.0415	-0.0021	0.0001	
240	SLU 5		-0.01	2.61	22	-0.0371	-0.0021	0.0001	
240	SLU 6		-0.01	2.37	20.06	-0.0176	-0.002	0.0001	
240	SLU 7		-0.01	2.37	20.13	-0.0181	-0.002	0.0001	
240	SLU 8		-0.01	2.27	19.23	-0.0129	-0.002	0.0001	
240	SLU 9		-0.01	2.27	19.29	-0.0134	-0.002	0.0001	
240	SLU 10		-0.01	3.48	29.27	-0.0734	-0.0027	0.0001	
240	SLU 11		-0.01	3.24	27.34	-0.054	-0.0026	0.0001	
240	SLU 12		-0.01	3.24	27.4	-0.0544	-0.0026	0.0001	
240	SLU 13		-0.01	3.14	26.61	-0.05	-0.0026	0.0001	
240	SLU 14		-0.01	2.9	24.67	-0.0306	-0.0025	0.0001	
240	SLU 15		-0.01	2.91	24.74	-0.0311	-0.0025	0.0001	
240	SLU 16		-0.01	2.8	23.84	-0.0259	-0.0024	0.0001	
240	SLU 17		-0.01	2.8	23.9	-0.0264	-0.0024	0.0001	
240	SLU 18		-0.01	3.7	31.14	-0.0781	-0.0028	0.0001	
240	SLU 19		-0.01	3.71	31.21	-0.0786	-0.0028	0.0001	
240	SLU 20		-0.01	3.36	28.48	-0.0548	-0.0027	0.0001	
240	SLU 21		-0.01	3.37	28.54	-0.0553	-0.0027	0.0001	
240	SLU 22		-0.01	3.24	26.89	-0.0593	-0.0025	0.0001	
240	SLU 23		-0.01	3.25	27	-0.0601	-0.0025	0.0001	
240	SLU 24		-0.01	3.01	25.07	-0.0407	-0.0024	0.0001	
240	SLU 25		-0.01	3.01	25.13	-0.0412	-0.0024	0.0001	
240	SLU 26		-0.01	2.91	24.33	-0.0368	-0.0024	0.0001	
240	SLU 27		-0.01	2.67	22.4	-0.0173	-0.0023	0.0001	
240	SLU 28		-0.01	2.67	22.46	-0.0178	-0.0023	0.0001	
240	SLU 29		-0.01	2.57	21.56	-0.0126	-0.0022	0.0001	
240	SLU 30		-0.01	2.57	21.62	-0.0131	-0.0023	0.0001	
240	SLU 31		-0.01	3.78	31.61	-0.0731	-0.003	0.0001	
240	SLU 32		-0.01	3.54	29.68	-0.0537	-0.0028	0.0001	
240	SLU 33		-0.01	3.54	29.74	-0.0542	-0.0029	0.0001	
240	SLU 34		-0.01	3.44	28.94	-0.0498	-0.0028	0.0001	
240	SLU 35		-0.01	3.2	27.01	-0.0303	-0.0027	0.0001	
240	SLU 36		-0.01	3.21	27.07	-0.0308	-0.0028	0.0001	
240	SLU 37		-0.01	3.1	26.17	-0.0256	-0.0027	0.0001	
240	SLU 38		-0.01	3.1	26.23	-0.0261	-0.0027	0.0001	
240	SLU 39		-0.01	4	33.48	-0.0779	-0.0031	0.0001	
240	SLU 40		-0.01	4.01	33.54	-0.0783	-0.0031	0.0001	
240	SLU 41		-0.01	3.66	30.81	-0.0545	-0.003	0.0001	
240	SLU 42		-0.01	3.67	30.88	-0.055	-0.003	0.0001	
240	SLU 43		-0.01	3.72	31.12	-0.0776	-0.0027	0.0001	
240	SLU 44		-0.01	3.73	31.23	-0.0784	-0.0028	0.0001	
240	SLU 45		-0.01	3.48	29.3	-0.0589	-0.0027	0.0001	
240	SLU 46		-0.01	3.49	29.36	-0.0594	-0.0027	0.0001	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
240	SLU 47	-0.01	3.39	28.56	-0.055	-0.0027	0.0001	
240	SLU 48	-0.01	3.15	26.63	-0.0356	-0.0026	0.0001	
240	SLU 49	-0.01	3.15	26.69	-0.0361	-0.0026	0.0001	
240	SLU 50	-0.01	3.05	25.79	-0.0309	-0.0025	0.0001	
240	SLU 51	-0.01	3.05	25.86	-0.0314	-0.0025	0.0001	
240	SLU 52	-0.01	4.26	35.84	-0.0914	-0.0032	0.0001	
240	SLU 53	-0.01	4.02	33.91	-0.0719	-0.0031	0.0001	
240	SLU 54	-0.01	4.02	33.97	-0.0724	-0.0031	0.0001	
240	SLU 55	-0.01	3.92	33.17	-0.068	-0.0031	0.0001	
240	SLU 56	-0.01	3.68	31.24	-0.0486	-0.003	0.0001	
240	SLU 57	-0.01	3.68	31.31	-0.0491	-0.003	0.0001	
240	SLU 58	-0.01	3.58	30.4	-0.0439	-0.003	0.0001	
240	SLU 59	-0.01	3.58	30.47	-0.0443	-0.003	0.0001	
240	SLU 60	-0.01	4.48	37.71	-0.0961	-0.0034	0.0001	
240	SLU 61	-0.01	4.48	37.77	-0.0966	-0.0034	0.0001	
240	SLU 62	-0.01	4.14	35.04	-0.0728	-0.0033	0.0001	
240	SLU 63	-0.01	4.15	35.11	-0.0733	-0.0033	0.0001	
240	SLU 64	-0.01	4.02	33.46	-0.0773	-0.003	0.0001	
240	SLU 65	-0.01	4.03	33.56	-0.0781	-0.003	0.0001	
240	SLU 66	-0.01	3.79	31.63	-0.0586	-0.0029	0.0001	
240	SLU 67	-0.01	3.79	31.7	-0.0591	-0.003	0.0001	
240	SLU 68	-0.01	3.69	30.9	-0.0547	-0.0029	0.0001	
240	SLU 69	-0.01	3.45	28.97	-0.0353	-0.0028	0.0001	
240	SLU 70	-0.01	3.45	29.03	-0.0358	-0.0029	0.0001	
240	SLU 71	-0.01	3.35	28.13	-0.0306	-0.0028	0.0001	
240	SLU 72	-0.01	3.35	28.19	-0.0311	-0.0028	0.0001	
240	SLU 73	-0.01	4.56	38.18	-0.0911	-0.0035	0.0001	
240	SLU 74	-0.01	4.32	36.24	-0.0716	-0.0034	0.0001	
240	SLU 75	-0.01	4.32	36.31	-0.0721	-0.0034	0.0001	
240	SLU 76	-0.01	4.22	35.51	-0.0677	-0.0034	0.0001	
240	SLU 77	-0.01	3.98	33.58	-0.0483	-0.0033	0.0001	
240	SLU 78	-0.01	3.99	33.64	-0.0488	-0.0033	0.0001	
240	SLU 79	-0.01	3.88	32.74	-0.0436	-0.0033	0.0001	
240	SLU 80	-0.01	3.88	32.8	-0.0441	-0.0033	0.0001	
240	SLU 81	-0.01	4.78	40.04	-0.0958	-0.0037	0.0001	
240	SLU 82	-0.01	4.78	40.11	-0.0963	-0.0037	0.0001	
240	SLU 83	-0.01	4.44	37.38	-0.0725	-0.0036	0.0001	
240	SLU 84	-0.01	4.45	37.44	-0.073	-0.0036	0.0001	
240	SLE RA 1	-0.01	3.03	25.22	-0.0595	-0.0022	0.0001	
240	SLE RA 2	-0.01	3.03	25.3	-0.06	-0.0023	0.0001	
240	SLE RA 3	-0.01	2.87	24.01	-0.0471	-0.0022	0.0001	
240	SLE RA 4	-0.01	2.87	24.05	-0.0474	-0.0022	0.0001	
240	SLE RA 5	-0.01	2.81	23.52	-0.0445	-0.0022	0.0001	
240	SLE RA 6	-0.01	2.65	22.23	-0.0315	-0.0021	0.0001	
240	SLE RA 7	-0.01	2.65	22.27	-0.0318	-0.0022	0.0001	
240	SLE RA 8	-0.01	2.58	21.67	-0.0284	-0.0021	0.0001	
240	SLE RA 9	-0.01	2.58	21.71	-0.0287	-0.0021	0.0001	
240	SLE RA 10	-0.01	3.39	28.37	-0.0687	-0.0026	0.0001	
240	SLE RA 11	-0.01	3.22	27.08	-0.0557	-0.0025	0.0001	
240	SLE RA 12	-0.01	3.23	27.12	-0.0561	-0.0025	0.0001	
240	SLE RA 13	-0.01	3.16	26.59	-0.0531	-0.0025	0.0001	
240	SLE RA 14	-0.01	3	25.3	-0.0402	-0.0024	0.0001	
240	SLE RA 15	-0.01	3	25.35	-0.0405	-0.0025	0.0001	
240	SLE RA 16	-0.01	2.93	24.74	-0.037	-0.0024	0.0001	
240	SLE RA 17	-0.01	2.94	24.79	-0.0374	-0.0024	0.0001	
240	SLE RA 18	-0.01	3.53	29.62	-0.0719	-0.0027	0.0001	
240	SLE RA 19	-0.01	3.54	29.66	-0.0722	-0.0027	0.0001	
240	SLE RA 20	-0.01	3.31	27.84	-0.0563	-0.0026	0.0001	
240	SLE RA 21	-0.01	3.31	27.88	-0.0566	-0.0026	0.0001	
240	SLE FR 1	-0.01	3.03	25.22	-0.0595	-0.0022	0.0001	
240	SLE FR 2	-0.01	3.03	25.24	-0.0596	-0.0023	0.0001	
240	SLE FR 3	-0.01	2.94	24.51	-0.0533	-0.0022	0.0001	
240	SLE FR 4	-0.01	3.18	26.56	-0.0633	-0.0024	0.0001	
240	SLE FR 5	-0.01	3.09	25.83	-0.057	-0.0024	0.0001	
240	SLE FR 6	-0.01	3.28	27.42	-0.0657	-0.0025	0.0001	
240	SLE QP 1	-0.01	3.03	25.22	-0.0595	-0.0022	0.0001	
240	SLE QP 2	-0.01	3.18	26.54	-0.0632	-0.0024	0.0001	
240	SLD 1	0.01	3.64	26.7	-0.0942	-0.027	0	
240	SLD 2	0.01	3.64	26.7	-0.0942	-0.027	0	
240	SLD 3	0.02	0.92	19.94	0.0514	-0.0126	-0.0002	
240	SLD 4	0.02	0.92	19.94	0.0514	-0.0126	-0.0002	
240	SLD 5	-0.02	7.44	36.84	-0.2934	-0.0316	0.0003	
240	SLD 6	-0.02	7.44	36.84	-0.2934	-0.0316	0.0003	
240	SLD 7	0.02	-1.62	14.31	0.1921	0.0164	-0.0002	
240	SLD 8	0.02	-1.62	14.31	0.1921	0.0164	-0.0002	
240	SLD 9	-0.04	7.98	38.77	-0.3185	-0.0212	0.0004	
240	SLD 10	-0.04	7.98	38.77	-0.3185	-0.0212	0.0004	
240	SLD 11	0	-1.08	16.24	0.167	0.0269	-0.0001	
240	SLD 12	0	-1.08	16.24	0.167	0.0269	-0.0001	
240	SLD 13	-0.04	5.43	33.14	-0.1779	0.0078	0.0004	
240	SLD 14	-0.04	5.43	33.14	-0.1779	0.0078	0.0004	
240	SLD 15	-0.03	2.71	26.38	-0.0322	0.0222	0.0002	
240	SLD 16	-0.03	2.71	26.38	-0.0322	0.0222	0.0002	
240	SLV 1	0.04	4.28	27.05	-0.1367	-0.0639	-0.0002	
240	SLV 2	0.04	4.28	27.05	-0.1367	-0.0639	-0.0002	
240	SLV 3	0.08	-2.12	10.86	0.2071	-0.0276	-0.0006	
240	SLV 4	0.08	-2.12	10.86	0.2071	-0.0276	-0.0006	
240	SLV 5	-0.04	13.22	51.25	-0.6066	-0.0759	0.0005	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
240	SLV 6	-0.04	13.22	51.25	-0.6066	-0.0759	0.0005	
240	SLV 7	0.07	-8.12	-2.72	0.5392	0.0451	-0.0006	
240	SLV 8	0.07	-8.12	-2.72	0.5392	0.0451	-0.0006	
240	SLV 9	-0.08	14.48	55.8	-0.6656	-0.0499	0.0008	
240	SLV 10	-0.08	14.48	55.8	-0.6656	-0.0499	0.0008	
240	SLV 11	0.02	-6.86	1.83	0.4801	0.0711	-0.0004	
240	SLV 12	0.02	-6.86	1.83	0.4801	0.0711	-0.0004	
240	SLV 13	-0.09	8.48	42.22	-0.3335	0.0228	0.0007	
240	SLV 14	-0.09	8.48	42.22	-0.3335	0.0228	0.0007	
240	SLV 15	-0.06	2.08	26.03	0.0102	0.0591	0.0004	
240	SLV 16	-0.06	2.08	26.03	0.0102	0.0591	0.0004	
241	SLU 1	-0.27	0.71	50.33	0.0473	-0.21	0.0011	
241	SLU 2	-0.25	1.31	49.94	0.0103	-0.1892	0.001	
241	SLU 3	-0.28	0.76	51.71	0.0458	-0.2161	0.0011	
241	SLU 4	-0.26	1.12	51.48	0.0237	-0.2036	0.0011	
241	SLU 5	-0.25	1.39	50.82	0.0066	-0.1927	0.001	
241	SLU 6	-0.28	0.84	52.59	0.0421	-0.2197	0.0011	
241	SLU 7	-0.27	1.2	52.36	0.02	-0.2072	0.0011	
241	SLU 8	-0.28	0.86	52.1	0.0399	-0.2171	0.0011	
241	SLU 9	-0.27	1.22	51.86	0.0177	-0.2047	0.0011	
241	SLU 10	-0.28	1.26	55.34	0.0227	-0.216	0.0011	
241	SLU 11	-0.31	0.71	57.11	0.0582	-0.2429	0.0012	
241	SLU 12	-0.3	1.07	56.87	0.0361	-0.2304	0.0012	
241	SLU 13	-0.29	1.33	56.22	0.019	-0.2196	0.0011	
241	SLU 14	-0.31	0.78	57.99	0.0545	-0.2465	0.0012	
241	SLU 15	-0.3	1.14	57.76	0.0324	-0.234	0.0012	
241	SLU 16	-0.31	0.81	57.49	0.0523	-0.2439	0.0012	
241	SLU 17	-0.3	1.17	57.26	0.0301	-0.2315	0.0012	
241	SLU 18	-0.32	0.63	58.04	0.065	-0.2483	0.0013	
241	SLU 19	-0.3	0.99	57.81	0.0428	-0.2358	0.0012	
241	SLU 20	-0.32	0.71	58.92	0.0613	-0.2518	0.0013	
241	SLU 21	-0.31	1.07	58.69	0.0391	-0.2394	0.0012	
241	SLU 22	-0.3	0.69	55.78	0.0574	-0.2366	0.0012	
241	SLU 23	-0.28	1.29	55.39	0.0204	-0.2158	0.0011	
241	SLU 24	-0.31	0.74	57.16	0.0559	-0.2427	0.0012	
241	SLU 25	-0.3	1.1	56.92	0.0338	-0.2302	0.0012	
241	SLU 26	-0.29	1.36	56.27	0.0167	-0.2194	0.0011	
241	SLU 27	-0.31	0.82	58.04	0.0522	-0.2463	0.0012	
241	SLU 28	-0.3	1.18	57.81	0.0301	-0.2338	0.0012	
241	SLU 29	-0.31	0.84	57.54	0.05	-0.2438	0.0012	
241	SLU 30	-0.3	1.2	57.31	0.0278	-0.2313	0.0012	
241	SLU 31	-0.32	1.23	60.79	0.0328	-0.2426	0.0013	
241	SLU 32	-0.34	0.68	62.56	0.0683	-0.2695	0.0014	
241	SLU 33	-0.33	1.04	62.32	0.0462	-0.257	0.0013	
241	SLU 34	-0.32	1.31	61.67	0.0291	-0.2462	0.0013	
241	SLU 35	-0.35	0.76	63.44	0.0646	-0.2731	0.0014	
241	SLU 36	-0.34	1.12	63.21	0.0425	-0.2606	0.0013	
241	SLU 37	-0.35	0.78	62.94	0.0624	-0.2706	0.0014	
241	SLU 38	-0.33	1.14	62.71	0.0402	-0.2581	0.0013	
241	SLU 39	-0.35	0.61	63.49	0.0751	-0.2749	0.0014	
241	SLU 40	-0.34	0.97	63.26	0.0529	-0.2624	0.0013	
241	SLU 41	-0.36	0.68	64.37	0.0714	-0.2785	0.0014	
241	SLU 42	-0.34	1.04	64.14	0.0492	-0.266	0.0014	
241	SLU 43	-0.34	0.94	63.56	0.058	-0.2638	0.0013	
241	SLU 44	-0.32	1.53	63.17	0.021	-0.243	0.0013	
241	SLU 45	-0.34	0.99	64.94	0.0565	-0.2699	0.0014	
241	SLU 46	-0.33	1.35	64.71	0.0344	-0.2574	0.0013	
241	SLU 47	-0.32	1.61	64.05	0.0173	-0.2466	0.0013	
241	SLU 48	-0.35	1.06	65.82	0.0528	-0.2735	0.0014	
241	SLU 49	-0.34	1.42	65.59	0.0307	-0.261	0.0013	
241	SLU 50	-0.35	1.09	65.33	0.0506	-0.271	0.0014	
241	SLU 51	-0.33	1.45	65.09	0.0284	-0.2585	0.0013	
241	SLU 52	-0.35	1.48	68.57	0.0335	-0.2698	0.0014	
241	SLU 53	-0.38	0.93	70.34	0.0689	-0.2967	0.0015	
241	SLU 54	-0.37	1.29	70.11	0.0468	-0.2842	0.0015	
241	SLU 55	-0.36	1.55	69.45	0.0298	-0.2734	0.0014	
241	SLU 56	-0.38	1.01	71.22	0.0652	-0.3003	0.0015	
241	SLU 57	-0.37	1.37	70.99	0.0431	-0.2878	0.0015	
241	SLU 58	-0.38	1.03	70.72	0.063	-0.2978	0.0015	
241	SLU 59	-0.37	1.39	70.49	0.0408	-0.2853	0.0015	
241	SLU 60	-0.39	0.85	71.27	0.0757	-0.3021	0.0015	
241	SLU 61	-0.37	1.21	71.04	0.0535	-0.2896	0.0015	
241	SLU 62	-0.39	0.93	72.16	0.072	-0.3057	0.0015	
241	SLU 63	-0.38	1.29	71.92	0.0499	-0.2932	0.0015	
241	SLU 64	-0.37	0.91	69.01	0.0681	-0.2905	0.0015	
241	SLU 65	-0.35	1.51	68.62	0.0311	-0.2697	0.0014	
241	SLU 66	-0.38	0.96	70.39	0.0666	-0.2966	0.0015	
241	SLU 67	-0.37	1.32	70.16	0.0445	-0.2841	0.0015	
241	SLU 68	-0.36	1.59	69.5	0.0274	-0.2733	0.0014	
241	SLU 69	-0.38	1.04	71.27	0.0629	-0.3002	0.0015	
241	SLU 70	-0.37	1.4	71.04	0.0408	-0.2877	0.0015	
241	SLU 71	-0.38	1.06	70.78	0.0607	-0.2976	0.0015	
241	SLU 72	-0.37	1.42	70.54	0.0385	-0.2852	0.0015	
241	SLU 73	-0.38	1.45	74.02	0.0436	-0.2965	0.0015	
241	SLU 74	-0.41	0.91	75.79	0.079	-0.3234	0.0016	
241	SLU 75	-0.4	1.27	75.55	0.0569	-0.3109	0.0016	
241	SLU 76	-0.39	1.53	74.9	0.0399	-0.3001	0.0016	
241	SLU 77	-0.42	0.98	76.67	0.0753	-0.327	0.0017	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
241	SLU 78	-0.41	1.34	76.44	0.0532	-0.3145	0.0016		
241	SLU 79	-0.41	1.01	76.17	0.0731	-0.3244	0.0016		
241	SLU 80	-0.4	1.37	75.94	0.0509	-0.312	0.0016		
241	SLU 81	-0.42	0.83	76.72	0.0858	-0.3288	0.0017		
241	SLU 82	-0.41	1.19	76.49	0.0636	-0.3163	0.0016		
241	SLU 83	-0.42	0.91	77.6	0.0821	-0.3323	0.0017		
241	SLU 84	-0.41	1.27	77.37	0.06	-0.3199	0.0016		
241	SLE RA 1	-0.28	0.71	51.89	0.0501	-0.2176	0.0011		
241	SLE RA 2	-0.26	1.11	51.63	0.0255	-0.2037	0.0011		
241	SLE RA 3	-0.28	0.74	52.81	0.0492	-0.2217	0.0011		
241	SLE RA 4	-0.27	0.98	52.65	0.0344	-0.2133	0.0011		
241	SLE RA 5	-0.27	1.16	52.22	0.0231	-0.2061	0.0011		
241	SLE RA 6	-0.29	0.79	53.4	0.0467	-0.224	0.0011		
241	SLE RA 7	-0.28	1.03	53.24	0.0319	-0.2157	0.0011		
241	SLE RA 8	-0.28	0.81	53.06	0.0452	-0.2224	0.0011		
241	SLE RA 9	-0.28	1.05	52.91	0.0304	-0.214	0.0011		
241	SLE RA 10	-0.29	1.07	55.23	0.0338	-0.2216	0.0011		
241	SLE RA 11	-0.31	0.7	56.41	0.0575	-0.2395	0.0012		
241	SLE RA 12	-0.3	0.94	56.25	0.0427	-0.2312	0.0012		
241	SLE RA 13	-0.29	1.12	55.81	0.0313	-0.224	0.0012		
241	SLE RA 14	-0.31	0.75	56.99	0.055	-0.2419	0.0012		
241	SLE RA 15	-0.3	0.99	56.84	0.0402	-0.2336	0.0012		
241	SLE RA 16	-0.31	0.77	56.66	0.0535	-0.2402	0.0012		
241	SLE RA 17	-0.3	1.01	56.51	0.0387	-0.2319	0.0012		
241	SLE RA 18	-0.31	0.65	57.03	0.062	-0.2431	0.0012		
241	SLE RA 19	-0.3	0.89	56.87	0.0472	-0.2348	0.0012		
241	SLE RA 20	-0.31	0.7	57.62	0.0595	-0.2455	0.0012		
241	SLE RA 21	-0.31	0.94	57.46	0.0447	-0.2372	0.0012		
241	SLE FR 1	-0.28	0.71	51.89	0.0501	-0.2176	0.0011		
241	SLE FR 2	-0.28	0.79	51.84	0.0452	-0.2148	0.0011		
241	SLE FR 3	-0.28	0.73	52.12	0.0492	-0.2185	0.0011		
241	SLE FR 4	-0.28	0.77	53.38	0.0488	-0.2225	0.0011		
241	SLE FR 5	-0.29	0.71	53.66	0.0527	-0.2262	0.0011		
241	SLE FR 6	-0.29	0.68	54.46	0.0561	-0.2303	0.0012		
241	SLE QP 1	-0.28	0.71	51.89	0.0501	-0.2176	0.0011		
241	SLE QP 2	-0.29	0.69	53.43	0.0537	-0.2252	0.0011		
241	SLD 1	-0.44	2.97	65.65	0.0212	-0.3609	0.0016		
241	SLD 2	-0.44	2.97	65.65	0.0212	-0.3609	0.0016		
241	SLD 3	-0.53	0.15	68.43	0.1636	-0.4463	0.0019		
241	SLD 4	-0.53	0.15	68.43	0.1636	-0.4463	0.0019		
241	SLD 5	-0.2	5.65	52.87	-0.1721	-0.1364	0.0009		
241	SLD 6	-0.2	5.65	52.87	-0.1721	-0.1364	0.0009		
241	SLD 7	-0.49	-3.75	62.16	0.3027	-0.4211	0.0018		
241	SLD 8	-0.49	-3.75	62.16	0.3027	-0.4211	0.0018		
241	SLD 9	-0.08	5.13	44.7	-0.1953	-0.0294	0.0005		
241	SLD 10	-0.08	5.13	44.7	-0.1953	-0.0294	0.0005		
241	SLD 11	-0.37	-4.27	53.99	0.2795	-0.3141	0.0014		
241	SLD 12	-0.37	-4.27	53.99	0.2795	-0.3141	0.0014		
241	SLD 13	-0.05	1.23	38.42	-0.0562	-0.0042	0.0004		
241	SLD 14	-0.05	1.23	38.42	-0.0562	-0.0042	0.0004		
241	SLD 15	-0.13	-1.59	41.21	0.0862	-0.0896	0.0007		
241	SLD 16	-0.13	-1.59	41.21	0.0862	-0.0896	0.0007		
241	SLV 1	-0.65	6.13	81.99	-0.0189	-0.5481	0.0022		
241	SLV 2	-0.65	6.13	81.99	-0.0189	-0.5481	0.0022		
241	SLV 3	-0.87	-0.46	88.56	0.3147	-0.7593	0.0029		
241	SLV 4	-0.87	-0.46	88.56	0.3147	-0.7593	0.0029		
241	SLV 5	-0.08	12.32	52.03	-0.4741	-0.0017	0.0004		
241	SLV 6	-0.08	12.32	52.03	-0.4741	-0.0017	0.0004		
241	SLV 7	-0.78	-9.65	73.94	0.6379	-0.7059	0.0027		
241	SLV 8	-0.78	-9.65	73.94	0.6379	-0.7059	0.0027		
241	SLV 9	0.21	11.03	32.92	-0.5306	0.2554	-0.0004		
241	SLV 10	0.21	11.03	32.92	-0.5306	0.2554	-0.0004		
241	SLV 11	-0.5	-10.94	54.83	0.5814	-0.4488	0.0018		
241	SLV 12	-0.5	-10.94	54.83	0.5814	-0.4488	0.0018		
241	SLV 13	0.29	1.84	18.29	-0.2073	0.3088	-0.0006		
241	SLV 14	0.29	1.84	18.29	-0.2073	0.3088	-0.0006		
241	SLV 15	0.08	-4.75	24.87	0.1263	0.0976	0		
241	SLV 16	0.08	-4.75	24.87	0.1263	0.0976	0		
242	SLU 1	0.01	-3.23	53.52	0.1313	0.011	0		
242	SLU 2	-0.01	-2.73	52.39	0.1095	-0.007	0		
242	SLU 3	0.01	-3.39	54.66	0.1375	0.0114	0		
242	SLU 4	0	-3.09	53.98	0.1245	0.0006	0		
242	SLU 5	-0.01	-2.84	52.88	0.1137	-0.0067	0		
242	SLU 6	0.01	-3.49	55.14	0.1417	0.0116	0		
242	SLU 7	0	-3.2	54.47	0.1287	0.0008	0		
242	SLU 8	0.01	-3.44	54.49	0.1397	0.0115	0		
242	SLU 9	0	-3.15	53.81	0.1266	0.0007	0		
242	SLU 10	0	-3.31	58.57	0.1326	-0.0058	0		
242	SLU 11	0.01	-3.97	60.84	0.1606	0.0126	0		
242	SLU 12	0	-3.67	60.16	0.1476	0.0018	0		
242	SLU 13	0	-3.42	59.06	0.1367	-0.0055	0		
242	SLU 14	0.01	-4.08	61.32	0.1648	0.0129	0		
242	SLU 15	0	-3.78	60.65	0.1517	0.0021	0		
242	SLU 16	0.01	-4.02	60.67	0.1628	0.0128	0		
242	SLU 17	0	-3.73	59.99	0.1497	0.002	0		
242	SLU 18	0.01	-4.06	62.35	0.1643	0.0128	0		
242	SLU 19	0	-3.76	61.67	0.1512	0.002	0		
242	SLU 20	0.01	-4.17	62.83	0.1685	0.013	0		



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
242	SLU 21	0	-3.87	62.16	0.1554	0.0022	0
242	SLU 22	0.01	-3.81	59.47	0.1544	0.0124	0
242	SLU 23	0	-3.31	58.34	0.1326	-0.0056	0
242	SLU 24	0.01	-3.97	60.61	0.1606	0.0127	0
242	SLU 25	0	-3.67	59.93	0.1476	0.0019	0
242	SLU 26	0	-3.42	58.83	0.1367	-0.0054	0
242	SLU 27	0.01	-4.07	61.09	0.1648	0.013	0
242	SLU 28	0	-3.78	60.42	0.1517	0.0022	0
242	SLU 29	0.01	-4.02	60.44	0.1628	0.0129	0
242	SLU 30	0	-3.73	59.76	0.1497	0.0021	0
242	SLU 31	0	-3.89	64.52	0.1556	-0.0044	0
242	SLU 32	0.01	-4.55	66.79	0.1837	0.014	0
242	SLU 33	0	-4.25	66.11	0.1706	0.0032	0
242	SLU 34	0	-4	65.01	0.1598	-0.0041	0
242	SLU 35	0.01	-4.66	67.27	0.1879	0.0142	0
242	SLU 36	0	-4.36	66.6	0.1748	0.0034	0
242	SLU 37	0.01	-4.61	66.62	0.1858	0.0141	0
242	SLU 38	0	-4.31	65.94	0.1728	0.0033	0
242	SLU 39	0.01	-4.64	68.3	0.1874	0.0141	0
242	SLU 40	0	-4.34	67.62	0.1743	0.0033	0
242	SLU 41	0.01	-4.75	68.78	0.1916	0.0144	0
242	SLU 42	0	-4.45	68.1	0.1785	0.0036	0
242	SLU 43	0.01	-4	67.53	0.1627	0.0138	0
242	SLU 44	0	-3.5	66.41	0.1409	-0.0042	0
242	SLU 45	0.01	-4.16	68.67	0.169	0.0142	0
242	SLU 46	0	-3.86	68	0.1559	0.0034	0
242	SLU 47	0	-3.61	66.89	0.1451	-0.0039	0
242	SLU 48	0.01	-4.26	69.16	0.1732	0.0144	0
242	SLU 49	0	-3.97	68.48	0.1601	0.0036	0
242	SLU 50	0.01	-4.21	68.5	0.1711	0.0144	0
242	SLU 51	0	-3.92	67.83	0.158	0.0036	0
242	SLU 52	0	-4.08	72.59	0.164	-0.0029	0
242	SLU 53	0.01	-4.74	74.85	0.1921	0.0154	0
242	SLU 54	0	-4.44	74.18	0.179	0.0046	0
242	SLU 55	0	-4.19	73.07	0.1682	-0.0027	0
242	SLU 56	0.01	-4.85	75.34	0.1963	0.0157	0
242	SLU 57	0	-4.55	74.66	0.1832	0.0049	0
242	SLU 58	0.01	-4.79	74.68	0.1942	0.0156	0
242	SLU 59	0	-4.5	74.01	0.1811	0.0048	0
242	SLU 60	0.01	-4.83	76.36	0.1957	0.0156	0
242	SLU 61	0	-4.53	75.69	0.1826	0.0048	0
242	SLU 62	0.01	-4.94	76.85	0.1999	0.0158	0
242	SLU 63	0	-4.64	76.17	0.1868	0.0051	0
242	SLU 64	0.01	-4.58	73.48	0.1858	0.0152	0
242	SLU 65	0	-4.08	72.36	0.164	-0.0028	0
242	SLU 66	0.01	-4.74	74.62	0.1921	0.0155	0
242	SLU 67	0	-4.44	73.95	0.179	0.0048	0
242	SLU 68	0	-4.19	72.84	0.1682	-0.0025	0
242	SLU 69	0.01	-4.84	75.11	0.1963	0.0158	0
242	SLU 70	0	-4.55	74.43	0.1832	0.005	0
242	SLU 71	0.01	-4.79	74.45	0.1942	0.0157	0
242	SLU 72	0	-4.5	73.78	0.1811	0.0049	0
242	SLU 73	0	-4.66	78.54	0.1871	-0.0016	0
242	SLU 74	0.01	-5.32	80.8	0.2152	0.0168	0
242	SLU 75	0.01	-5.02	80.13	0.2021	0.006	0
242	SLU 76	0	-4.77	79.02	0.1913	-0.0013	0
242	SLU 77	0.01	-5.43	81.29	0.2194	0.0171	0
242	SLU 78	0.01	-5.13	80.61	0.2063	0.0063	0
242	SLU 79	0.01	-5.37	80.63	0.2173	0.017	0
242	SLU 80	0.01	-5.08	79.96	0.2042	0.0062	0
242	SLU 81	0.01	-5.41	82.31	0.2188	0.0169	0
242	SLU 82	0.01	-5.11	81.64	0.2057	0.0062	0
242	SLU 83	0.01	-5.52	82.8	0.223	0.0172	0
242	SLU 84	0.01	-5.22	82.12	0.2099	0.0064	0
242	SLE RA 1	0.01	-3.39	55.22	0.1379	0.0114	0
242	SLE RA 2	0	-3.06	54.47	0.1233	-0.0006	0
242	SLE RA 3	0.01	-3.5	55.98	0.1421	0.0116	0
242	SLE RA 4	0	-3.3	55.53	0.1333	0.0044	0
242	SLE RA 5	0	-3.14	54.79	0.1261	-0.0004	0
242	SLE RA 6	0.01	-3.57	56.3	0.1449	0.0118	0
242	SLE RA 7	0	-3.37	55.85	0.1361	0.0046	0
242	SLE RA 8	0.01	-3.54	55.87	0.1435	0.0117	0
242	SLE RA 9	0	-3.34	55.41	0.1347	0.0045	0
242	SLE RA 10	0	-3.45	58.59	0.1387	0.0002	0
242	SLE RA 11	0.01	-3.89	60.1	0.1575	0.0124	0
242	SLE RA 12	0	-3.69	59.65	0.1487	0.0052	0
242	SLE RA 13	0	-3.52	58.91	0.1415	0.0004	0
242	SLE RA 14	0.01	-3.96	60.42	0.1602	0.0126	0
242	SLE RA 15	0	-3.76	59.97	0.1515	0.0054	0
242	SLE RA 16	0.01	-3.93	59.98	0.1589	0.0126	0
242	SLE RA 17	0	-3.73	59.53	0.1501	0.0054	0
242	SLE RA 18	0.01	-3.95	61.1	0.1599	0.0126	0
242	SLE RA 19	0	-3.75	60.65	0.1511	0.0054	0
242	SLE RA 20	0.01	-4.02	61.43	0.1627	0.0127	0
242	SLE RA 21	0	-3.82	60.98	0.1539	0.0055	0
242	SLE FR 1	0.01	-3.39	55.22	0.1379	0.0114	0
242	SLE FR 2	0.01	-3.33	55.07	0.135	0.009	0
242	SLE FR 3	0.01	-3.42	55.35	0.139	0.0115	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
242	SLE FR 4	0.01	-3.49	56.83	0.1416	0.0093	0
242	SLE FR 5	0.01	-3.59	57.11	0.1456	0.0118	0
242	SLE FR 6	0.01	-3.67	58.16	0.1489	0.012	0
242	SLE QP 1	0.01	-3.39	55.22	0.1379	0.0114	0
242	SLE QP 2	0.01	-3.56	56.98	0.1445	0.0117	0
242	SLD 1	0.24	-0.85	40.78	0.0331	0.249	0
242	SLD 2	0.24	-0.85	40.78	0.0331	0.249	0
242	SLD 3	0.15	-4.13	44.37	0.1696	0.153	-0.0001
242	SLD 4	0.15	-4.13	44.37	0.1696	0.153	-0.0001
242	SLD 5	0.22	2.23	46.68	-0.096	0.2286	0
242	SLD 6	0.22	2.23	46.68	-0.096	0.2286	0
242	SLD 7	-0.09	-8.71	58.64	0.359	-0.0915	-0.0001
242	SLD 8	-0.09	-8.71	58.64	0.359	-0.0915	-0.0001
242	SLD 9	0.11	1.59	55.32	-0.0701	0.115	0
242	SLD 10	0.11	1.59	55.32	-0.0701	0.115	0
242	SLD 11	-0.2	-9.35	67.29	0.3849	-0.2051	0
242	SLD 12	-0.2	-9.35	67.29	0.3849	-0.2051	0
242	SLD 13	-0.13	-2.99	69.6	0.1194	-0.1295	0
242	SLD 14	-0.13	-2.99	69.6	0.1194	-0.1295	0
242	SLD 15	-0.22	-6.27	73.18	0.2559	-0.2256	0
242	SLD 16	-0.22	-6.27	73.18	0.2559	-0.2256	0
242	SLV 1	0.57	2.77	19	-0.1161	0.5947	-0.0001
242	SLV 2	0.57	2.77	19	-0.1161	0.5947	-0.0001
242	SLV 3	0.34	-4.87	27.5	0.2017	0.3501	-0.0001
242	SLV 4	0.34	-4.87	27.5	0.2017	0.3501	-0.0001
242	SLV 5	0.52	9.92	32.69	-0.4157	0.5576	0.0001
242	SLV 6	0.52	9.92	32.69	-0.4157	0.5576	0.0001
242	SLV 7	-0.24	-15.54	61.04	0.6436	-0.2578	-0.0001
242	SLV 8	-0.24	-15.54	61.04	0.6436	-0.2578	-0.0001
242	SLV 9	0.26	8.42	52.93	-0.3547	0.2812	0.0001
242	SLV 10	0.26	8.42	52.93	-0.3547	0.2812	0.0001
242	SLV 11	-0.5	-17.04	81.28	0.7046	-0.5342	-0.0001
242	SLV 12	-0.5	-17.04	81.28	0.7046	-0.5342	-0.0001
242	SLV 13	-0.32	-2.25	86.46	0.0873	-0.3266	0.0001
242	SLV 14	-0.32	-2.25	86.46	0.0873	-0.3266	0.0001
242	SLV 15	-0.55	-9.89	94.97	0.4051	-0.5712	0.0001
242	SLV 16	-0.55	-9.89	94.97	0.4051	-0.5712	0.0001
243	SLU 1	0	1.99	43.56	-0.0555	-0.0017	0
243	SLU 2	0	2.09	43.02	-0.0588	-0.0011	0
243	SLU 3	0	2.06	45.58	-0.057	-0.0017	0
243	SLU 4	0	2.12	45.25	-0.059	-0.0014	0
243	SLU 5	0	2.17	44.7	-0.0607	-0.0011	0
243	SLU 6	0	2.13	47.25	-0.0588	-0.0018	0
243	SLU 7	0	2.19	46.93	-0.0608	-0.0014	0
243	SLU 8	0	2.14	46.91	-0.0592	-0.0017	0
243	SLU 9	0	2.2	46.59	-0.0612	-0.0014	0
243	SLU 10	0	2.25	50.51	-0.0628	-0.0014	0
243	SLU 11	0	2.21	53.07	-0.0609	-0.002	0
243	SLU 12	0	2.27	52.74	-0.0629	-0.0017	0
243	SLU 13	0	2.33	52.19	-0.0647	-0.0014	0
243	SLU 14	0	2.29	54.74	-0.0628	-0.0021	0
243	SLU 15	0	2.35	54.42	-0.0648	-0.0017	0
243	SLU 16	0	2.3	54.4	-0.0632	-0.002	0
243	SLU 17	0	2.36	54.08	-0.0652	-0.0017	0
243	SLU 18	0	2.21	54.26	-0.0612	-0.0021	0
243	SLU 19	0	2.27	53.94	-0.0632	-0.0017	0
243	SLU 20	0	2.29	55.94	-0.063	-0.0021	0
243	SLU 21	0	2.35	55.61	-0.0651	-0.0018	0
243	SLU 22	0	2.16	50.94	-0.0598	-0.0019	0
243	SLU 23	0	2.27	50.4	-0.0631	-0.0013	0
243	SLU 24	0	2.23	52.95	-0.0612	-0.002	0
243	SLU 25	0	2.29	52.63	-0.0633	-0.0017	0
243	SLU 26	0	2.34	52.07	-0.065	-0.0014	0
243	SLU 27	0	2.31	54.63	-0.0631	-0.002	0
243	SLU 28	0	2.37	54.3	-0.0651	-0.0017	0
243	SLU 29	0	2.32	54.29	-0.0635	-0.002	0
243	SLU 30	0	2.38	53.96	-0.0655	-0.0017	0
243	SLU 31	0	2.42	57.89	-0.0671	-0.0016	0
243	SLU 32	0	2.39	60.45	-0.0652	-0.0023	0
243	SLU 33	0	2.45	60.12	-0.0672	-0.002	0
243	SLU 34	0	2.5	59.56	-0.069	-0.0017	0
243	SLU 35	0	2.46	62.12	-0.0671	-0.0023	0
243	SLU 36	0	2.53	61.8	-0.0691	-0.002	0
243	SLU 37	0	2.47	61.78	-0.0675	-0.0023	0
243	SLU 38	0	2.54	61.45	-0.0695	-0.002	0
243	SLU 39	0	2.39	61.64	-0.0655	-0.0024	0
243	SLU 40	0	2.45	61.32	-0.0675	-0.002	0
243	SLU 41	0	2.46	63.32	-0.0673	-0.0024	0
243	SLU 42	0	2.53	62.99	-0.0693	-0.002	0
243	SLU 43	0	2.53	54.1	-0.0707	-0.002	0
243	SLU 44	0	2.63	53.56	-0.074	-0.0014	0
243	SLU 45	0	2.59	56.12	-0.0721	-0.0021	0
243	SLU 46	0	2.65	55.79	-0.0741	-0.0018	0
243	SLU 47	0	2.71	55.23	-0.0759	-0.0015	0
243	SLU 48	0	2.67	57.79	-0.074	-0.0021	0
243	SLU 49	0	2.73	57.47	-0.076	-0.0018	0
243	SLU 50	0	2.68	57.45	-0.0744	-0.0021	0
243	SLU 51	0	2.74	57.12	-0.0764	-0.0018	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
243	SLU 52	0	2.79	61.05	-0.078	-0.0017	0	
243	SLU 53	0	2.75	63.61	-0.0761	-0.0024	0	
243	SLU 54	0	2.81	63.28	-0.0781	-0.0021	0	
243	SLU 55	0	2.86	62.73	-0.0799	-0.0018	0	
243	SLU 56	0	2.83	65.28	-0.078	-0.0024	0	
243	SLU 57	0	2.89	64.96	-0.08	-0.0021	0	
243	SLU 58	0	2.84	64.94	-0.0784	-0.0024	0	
243	SLU 59	0	2.9	64.62	-0.0804	-0.0021	0	
243	SLU 60	0	2.75	64.8	-0.0764	-0.0025	0	
243	SLU 61	0	2.81	64.48	-0.0784	-0.0021	0	
243	SLU 62	0	2.83	66.48	-0.0782	-0.0025	0	
243	SLU 63	0	2.89	66.15	-0.0802	-0.0022	0	
243	SLU 64	0	2.7	61.48	-0.075	-0.0023	0	
243	SLU 65	0	2.8	60.94	-0.0783	-0.0017	0	
243	SLU 66	0	2.77	63.49	-0.0764	-0.0024	0	
243	SLU 67	0	2.83	63.17	-0.0784	-0.002	0	
243	SLU 68	0	2.88	62.61	-0.0802	-0.0018	0	
243	SLU 69	0	2.84	65.17	-0.0783	-0.0024	0	
243	SLU 70	0	2.91	64.84	-0.0803	-0.0021	0	
243	SLU 71	0	2.85	64.83	-0.0787	-0.0024	0	
243	SLU 72	0	2.92	64.5	-0.0807	-0.002	0	
243	SLU 73	0	2.96	68.43	-0.0823	-0.002	0	
243	SLU 74	0	2.92	70.99	-0.0804	-0.0027	0	
243	SLU 75	0	2.99	70.66	-0.0824	-0.0024	0	
243	SLU 76	0	3.04	70.1	-0.0842	-0.0021	0	
243	SLU 77	0	3	72.66	-0.0823	-0.0027	0	
243	SLU 78	0	3.06	72.33	-0.0843	-0.0024	0	
243	SLU 79	0	3.01	72.32	-0.0827	-0.0027	0	
243	SLU 80	0	3.07	71.99	-0.0847	-0.0023	0	
243	SLU 81	0	2.92	72.18	-0.0807	-0.0028	0	
243	SLU 82	0	2.99	71.86	-0.0827	-0.0024	0	
243	SLU 83	0	3	73.85	-0.0825	-0.0028	0	
243	SLU 84	0	3.06	73.53	-0.0845	-0.0024	0	
243	SLE RA 1	0	2.04	45.67	-0.0567	-0.0017	0	
243	SLE RA 2	0	2.11	45.31	-0.059	-0.0013	0	
243	SLE RA 3	0	2.08	47.01	-0.0577	-0.0018	0	
243	SLE RA 4	0	2.12	46.8	-0.059	-0.0015	0	
243	SLE RA 5	0	2.16	46.43	-0.0602	-0.0014	0	
243	SLE RA 6	0	2.13	48.13	-0.0589	-0.0018	0	
243	SLE RA 7	0	2.18	47.91	-0.0603	-0.0016	0	
243	SLE RA 8	0	2.14	47.9	-0.0592	-0.0018	0	
243	SLE RA 9	0	2.18	47.69	-0.0605	-0.0015	0	
243	SLE RA 10	0	2.21	50.3	-0.0616	-0.0015	0	
243	SLE RA 11	0	2.19	52.01	-0.0604	-0.002	0	
243	SLE RA 12	0	2.23	51.79	-0.0617	-0.0017	0	
243	SLE RA 13	0	2.26	51.42	-0.0628	-0.0016	0	
243	SLE RA 14	0	2.24	53.12	-0.0616	-0.002	0	
243	SLE RA 15	0	2.28	52.91	-0.0629	-0.0018	0	
243	SLE RA 16	0	2.25	52.9	-0.0619	-0.002	0	
243	SLE RA 17	0	2.29	52.68	-0.0632	-0.0017	0	
243	SLE RA 18	0	2.19	52.8	-0.0605	-0.002	0	
243	SLE RA 19	0	2.23	52.59	-0.0619	-0.0018	0	
243	SLE RA 20	0	2.24	53.92	-0.0618	-0.002	0	
243	SLE RA 21	0	2.28	53.7	-0.0631	-0.0018	0	
243	SLE FR 1	0	2.04	45.67	-0.0567	-0.0017	0	
243	SLE FR 2	0	2.05	45.6	-0.0572	-0.0017	0	
243	SLE FR 3	0	2.06	46.12	-0.0572	-0.0017	0	
243	SLE FR 4	0	2.1	47.74	-0.0583	-0.0017	0	
243	SLE FR 5	0	2.1	48.26	-0.0584	-0.0018	0	
243	SLE FR 6	0	2.11	49.24	-0.0586	-0.0019	0	
243	SLE QP 1	0	2.04	45.67	-0.0567	-0.0017	0	
243	SLE QP 2	0	2.08	47.81	-0.0579	-0.0018	0	
243	SLD 1	0.21	4.96	48.58	-0.1513	0.2114	-0.0023	
243	SLD 2	0.21	4.96	48.58	-0.1513	0.2114	-0.0023	
243	SLD 3	0.26	1.6	50.43	-0.0426	0.2643	-0.0029	
243	SLD 4	0.26	1.6	50.43	-0.0426	0.2643	-0.0029	
243	SLD 5	-0.02	8.03	45.25	-0.2508	-0.018	0.0002	
243	SLD 6	-0.02	8.03	45.25	-0.2508	-0.018	0.0002	
243	SLD 7	0.16	-3.14	51.39	0.1116	0.1582	-0.0017	
243	SLD 8	0.16	-3.14	51.39	0.1116	0.1582	-0.0017	
243	SLD 9	-0.16	7.31	44.23	-0.2273	-0.1618	0.0017	
243	SLD 10	-0.16	7.31	44.23	-0.2273	-0.1618	0.0017	
243	SLD 11	0.01	-3.86	50.37	0.1351	0.0144	-0.0001	
243	SLD 12	0.01	-3.86	50.37	0.1351	0.0144	-0.0001	
243	SLD 13	-0.27	2.56	45.19	-0.0731	-0.2679	0.0029	
243	SLD 14	-0.27	2.56	45.19	-0.0731	-0.2679	0.0029	
243	SLD 15	-0.21	-0.79	47.04	0.0356	-0.2151	0.0023	
243	SLD 16	-0.21	-0.79	47.04	0.0356	-0.2151	0.0023	
243	SLV 1	0.54	8.9	49.69	-0.2796	0.5446	-0.0059	
243	SLV 2	0.54	8.9	49.69	-0.2796	0.5446	-0.0059	
243	SLV 3	0.68	1.01	54.02	-0.0239	0.68	-0.0073	
243	SLV 4	0.68	1.01	54.02	-0.0239	0.68	-0.0073	
243	SLV 5	-0.04	16.08	41.8	-0.5123	-0.0434	0.0004	
243	SLV 6	-0.04	16.08	41.8	-0.5123	-0.0434	0.0004	
243	SLV 7	0.41	-10.19	56.25	0.3402	0.4082	-0.0044	
243	SLV 8	0.41	-10.19	56.25	0.3402	0.4082	-0.0044	
243	SLV 9	-0.41	14.36	39.37	-0.4559	-0.4118	0.0044	
243	SLV 10	-0.41	14.36	39.37	-0.4559	-0.4118	0.0044	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
243	SLV 11	0.04	-11.92	53.82		0.3965	0.0397	-0.0004	
243	SLV 12	0.04	-11.92	53.82		0.3965	0.0397	-0.0004	
243	SLV 13	-0.68	3.15	41.6		-0.0919	-0.6837	0.0074	
243	SLV 14	-0.68	3.15	41.6		-0.0919	-0.6837	0.0074	
243	SLV 15	-0.55	-4.73	45.93		0.1639	-0.5482	0.0059	
243	SLV 16	-0.55	-4.73	45.93		0.1639	-0.5482	0.0059	
244	SLU 1	0	1.25	46.6		-0.0417	0.0003	0	
244	SLU 2	0	1.38	46.2		-0.0474	-0.0002	0	
244	SLU 3	0	1.34	48.5		-0.0454	0.0004	0	
244	SLU 4	0	1.42	48.26		-0.0489	0.0001	0	
244	SLU 5	0	1.52	47.66		-0.0536	-0.0001	0	
244	SLU 6	0	1.48	49.96		-0.0516	0.0005	0	
244	SLU 7	0	1.56	49.72		-0.0551	0.0002	0	
244	SLU 8	0	1.53	49.51		-0.0541	0.0005	0	
244	SLU 9	0	1.61	49.27		-0.0575	0.0002	0	
244	SLU 10	0	1.34	54.14		-0.0435	-0.0002	0	
244	SLU 11	0	1.3	56.44		-0.0415	0.0004	0	
244	SLU 12	0	1.38	56.2		-0.0449	0.0001	0	
244	SLU 13	0	1.48	55.59		-0.0497	-0.0001	0	
244	SLU 14	0	1.44	57.9		-0.0477	0.0005	0	
244	SLU 15	0	1.52	57.66		-0.0512	0.0002	0	
244	SLU 16	0	1.49	57.45		-0.0501	0.0005	0	
244	SLU 17	0	1.57	57.21		-0.0536	0.0002	0	
244	SLU 18	0	1.19	57.94		-0.036	0.0003	0	
244	SLU 19	0	1.27	57.7		-0.0395	0	0	
244	SLU 20	0	1.33	59.4		-0.0422	0.0004	0	
244	SLU 21	0	1.41	59.16		-0.0457	0.0001	0	
244	SLU 22	0	1.3	54.24		-0.0421	0.0003	0	
244	SLU 23	0	1.43	53.84		-0.0478	-0.0002	0	
244	SLU 24	0	1.4	56.15		-0.0459	0.0004	0	
244	SLU 25	0	1.48	55.91		-0.0493	0.0001	0	
244	SLU 26	0	1.58	55.3		-0.054	0	0	
244	SLU 27	0	1.54	57.6		-0.0521	0.0006	0	
244	SLU 28	0	1.62	57.36		-0.0555	0.0003	0	
244	SLU 29	0	1.59	57.15		-0.0545	0.0006	0	
244	SLU 30	0	1.67	56.91		-0.058	0.0003	0	
244	SLU 31	0	1.39	61.78		-0.0439	-0.0002	0	
244	SLU 32	0	1.36	64.09		-0.0419	0.0004	0	
244	SLU 33	0	1.44	63.85		-0.0454	0.0001	0	
244	SLU 34	0	1.54	63.24		-0.0501	-0.0001	0	
244	SLU 35	0	1.5	65.54		-0.0481	0.0005	0	
244	SLU 36	0	1.58	65.3		-0.0516	0.0002	0	
244	SLU 37	0	1.55	65.09		-0.0506	0.0005	0	
244	SLU 38	0	1.63	64.85		-0.054	0.0003	0	
244	SLU 39	0	1.25	65.59		-0.0365	0.0003	0	
244	SLU 40	0	1.33	65.35		-0.0399	0	0	
244	SLU 41	0	1.39	67.04		-0.0427	0.0004	0	
244	SLU 42	0	1.47	66.8		-0.0461	0.0001	0	
244	SLU 43	0	1.6	57.96		-0.054	0.0004	0	
244	SLU 44	0	1.73	57.56		-0.0598	-0.0001	0	
244	SLU 45	0	1.69	59.86		-0.0578	0.0005	0	
244	SLU 46	0	1.77	59.62		-0.0613	0.0002	0	
244	SLU 47	0	1.87	59.01		-0.066	0	0	
244	SLU 48	0	1.84	61.32		-0.064	0.0006	0	
244	SLU 49	0	1.92	61.08		-0.0675	0.0003	0	
244	SLU 50	0	1.89	60.87		-0.0664	0.0006	0	
244	SLU 51	0	1.96	60.63		-0.0699	0.0003	0	
244	SLU 52	0	1.69	65.5		-0.0558	-0.0001	0	
244	SLU 53	0	1.65	67.8		-0.0539	0.0004	0	
244	SLU 54	0	1.73	67.56		-0.0573	0.0001	0	
244	SLU 55	0	1.83	66.95		-0.0621	0	0	
244	SLU 56	0	1.8	69.26		-0.0601	0.0006	0	
244	SLU 57	0	1.88	69.02		-0.0635	0.0003	0	
244	SLU 58	0	1.85	68.81		-0.0625	0.0006	0	
244	SLU 59	0	1.93	68.57		-0.066	0.0003	0	
244	SLU 60	0	1.54	69.3		-0.0484	0.0003	0	
244	SLU 61	0	1.62	69.06		-0.0519	0	0	
244	SLU 62	0	1.69	70.76		-0.0546	0.0004	0	
244	SLU 63	0	1.77	70.52		-0.0581	0.0002	0	
244	SLU 64	0	1.66	65.6		-0.0545	0.0004	0	
244	SLU 65	0	1.79	65.2		-0.0602	-0.0001	0	
244	SLU 66	0	1.75	67.51		-0.0582	0.0005	0	
244	SLU 67	0	1.83	67.27		-0.0617	0.0002	0	
244	SLU 68	0	1.93	66.66		-0.0664	0	0	
244	SLU 69	0	1.89	68.96		-0.0644	0.0006	0	
244	SLU 70	0	1.97	68.72		-0.0679	0.0003	0	
244	SLU 71	0	1.94	68.51		-0.0669	0.0006	0	
244	SLU 72	0	2.02	68.27		-0.0703	0.0003	0	
244	SLU 73	0	1.75	73.14		-0.0563	-0.0001	0	
244	SLU 74	0	1.71	75.45		-0.0543	0.0005	0	
244	SLU 75	0	1.79	75.21		-0.0577	0.0002	0	
244	SLU 76	0	1.89	74.6		-0.0625	0	0	
244	SLU 77	0	1.86	76.9		-0.0605	0.0006	0	
244	SLU 78	0	1.93	76.66		-0.0639	0.0003	0	
244	SLU 79	0	1.91	76.45		-0.0629	0.0006	0	
244	SLU 80	0	1.98	76.21		-0.0664	0.0003	0	
244	SLU 81	0	1.6	76.94		-0.0488	0.0004	0	
244	SLU 82	0	1.68	76.71		-0.0523	0.0001	0	





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
244	SLU 83		0	1.74	78.4	-0.055	0.0005	0
244	SLU 84		0	1.82	78.16	-0.0585	0.0002	0
244	SLE RA 1		0	1.26	48.78	-0.0418	0.0003	0
244	SLE RA 2		0	1.35	48.52	-0.0456	0	0
244	SLE RA 3		0	1.32	50.05	-0.0443	0.0004	0
244	SLE RA 4		0	1.38	49.89	-0.0466	0.0002	0
244	SLE RA 5		0	1.44	49.49	-0.0498	0.0001	0
244	SLE RA 6		0	1.42	51.02	-0.0484	0.0004	0
244	SLE RA 7		0	1.47	50.86	-0.0507	0.0003	0
244	SLE RA 8		0	1.45	50.72	-0.0501	0.0005	0
244	SLE RA 9		0	1.51	50.56	-0.0524	0.0003	0
244	SLE RA 10		0	1.32	53.81	-0.043	0	0
244	SLE RA 11		0	1.3	55.35	-0.0417	0.0004	0
244	SLE RA 12		0	1.35	55.19	-0.044	0.0002	0
244	SLE RA 13		0	1.42	54.78	-0.0471	0	0
244	SLE RA 14		0	1.39	56.32	-0.0458	0.0004	0
244	SLE RA 15		0	1.45	56.16	-0.0481	0.0002	0
244	SLE RA 16		0	1.43	56.02	-0.0474	0.0004	0
244	SLE RA 17		0	1.48	55.86	-0.0497	0.0002	0
244	SLE RA 18		0	1.22	56.34	-0.038	0.0003	0
244	SLE RA 19		0	1.28	56.19	-0.0403	0.0001	0
244	SLE RA 20		0	1.32	57.31	-0.0422	0.0004	0
244	SLE RA 21		0	1.37	57.16	-0.0445	0.0002	0
244	SLE FR 1		0	1.26	48.78	-0.0418	0.0003	0
244	SLE FR 2		0	1.28	48.73	-0.0426	0.0002	0
244	SLE FR 3		0	1.3	49.17	-0.0434	0.0003	0
244	SLE FR 4		0	1.27	51	-0.0414	0.0002	0
244	SLE FR 5		0	1.29	51.44	-0.0423	0.0003	0
244	SLE FR 6		0	1.24	52.56	-0.0399	0.0003	0
244	SLE QP 1		0	1.26	48.78	-0.0418	0.0003	0
244	SLE QP 2		0	1.25	51.05	-0.0407	0.0003	0
244	SLD 1	0.27	0.95	53.12	-0.0262	0.2684	-0.0001	
244	SLD 2	0.27	0.95	53.12	-0.0262	0.2684	-0.0001	
244	SLD 3	0.24	-3.61	54.47	0.1804	0.2335	-0.0001	
244	SLD 4	0.24	-3.61	54.47	0.1804	0.2335	-0.0001	
244	SLD 5	0.13	8.08	49.62	-0.3496	0.1337	-0.0001	
244	SLD 6	0.13	8.08	49.62	-0.3496	0.1337	-0.0001	
244	SLD 7	0.02	-7.12	54.13	0.339	0.0173	0	
244	SLD 8	0.02	-7.12	54.13	0.339	0.0173	0	
244	SLD 9	-0.02	9.63	47.98	-0.4203	-0.0167	0	
244	SLD 10	-0.02	9.63	47.98	-0.4203	-0.0167	0	
244	SLD 11	-0.13	-5.58	52.48	0.2683	-0.1331	0.0001	
244	SLD 12	-0.13	-5.58	52.48	0.2683	-0.1331	0.0001	
244	SLD 13	-0.24	6.11	47.63	-0.2617	-0.2329	0.0001	
244	SLD 14	-0.24	6.11	47.63	-0.2617	-0.2329	0.0001	
244	SLD 15	-0.27	1.55	48.99	-0.0552	-0.2678	0.0001	
244	SLD 16	-0.27	1.55	48.99	-0.0552	-0.2678	0.0001	
244	SLV 1	0.69	0.53	55.87	-0.0059	0.6878	-0.0003	
244	SLV 2	0.69	0.53	55.87	-0.0059	0.6878	-0.0003	
244	SLV 3	0.6	-10.23	59.1	0.482	0.5982	-0.0003	
244	SLV 4	0.6	-10.23	59.1	0.482	0.5982	-0.0003	
244	SLV 5	0.34	17.36	47.6	-0.7702	0.3423	-0.0001	
244	SLV 6	0.34	17.36	47.6	-0.7702	0.3423	-0.0001	
244	SLV 7	0.05	-18.52	58.37	0.8561	0.0439	0	
244	SLV 8	0.05	-18.52	58.37	0.8561	0.0439	0	
244	SLV 9	-0.04	21.03	43.74	-0.9374	-0.0433	0	
244	SLV 10	-0.04	21.03	43.74	-0.9374	-0.0433	0	
244	SLV 11	-0.34	-14.86	54.5	0.6889	-0.3418	0.0001	
244	SLV 12	-0.34	-14.86	54.5	0.6889	-0.3418	0.0001	
244	SLV 13	-0.6	12.74	43	-0.5633	-0.5976	0.0003	
244	SLV 14	-0.6	12.74	43	-0.5633	-0.5976	0.0003	
244	SLV 15	-0.69	1.97	46.23	-0.0754	-0.6872	0.0003	
244	SLV 16	-0.69	1.97	46.23	-0.0754	-0.6872	0.0003	
245	SLU 1	2.14	2.92	44.39	-0.1265	0.0087	0.0002	
245	SLU 2	2.14	2.92	44.44	-0.1265	0.0086	0.0002	
245	SLU 3	2.09	2.76	43.29	-0.1188	0.0101	0.0002	
245	SLU 4	2.1	2.76	43.32	-0.1188	0.0101	0.0002	
245	SLU 5	2.05	2.66	42.32	-0.1147	0.011	0.0002	
245	SLU 6	2.01	2.5	41.17	-0.1071	0.0125	0.0002	
245	SLU 7	2.01	2.49	41.2	-0.1071	0.0125	0.0002	
245	SLU 8	1.97	2.4	40.15	-0.103	0.0134	0.0002	
245	SLU 9	1.97	2.4	40.18	-0.103	0.0133	0.0002	
245	SLU 10	2.57	3.44	52.28	-0.1493	0.0175	0.0003	
245	SLU 11	2.52	3.27	51.13	-0.1416	0.019	0.0002	
245	SLU 12	2.52	3.27	51.16	-0.1416	0.019	0.0002	
245	SLU 13	2.48	3.18	50.16	-0.1375	0.0199	0.0002	
245	SLU 14	2.43	3.01	49.02	-0.1299	0.0214	0.0002	
245	SLU 15	2.44	3.01	49.04	-0.1299	0.0213	0.0002	
245	SLU 16	2.39	2.92	48	-0.1258	0.0222	0.0002	
245	SLU 17	2.39	2.91	48.03	-0.1258	0.0222	0.0002	
245	SLU 18	2.75	3.66	55.6	-0.159	0.0214	0.0003	
245	SLU 19	2.75	3.66	55.63	-0.159	0.0213	0.0003	
245	SLU 20	2.66	3.4	53.48	-0.1473	0.0237	0.0002	
245	SLU 21	2.66	3.4	53.51	-0.1473	0.0237	0.0002	
245	SLU 22	2.47	3.28	50.49	-0.142	0.0153	0.0002	
245	SLU 23	2.47	3.28	50.54	-0.142	0.0153	0.0002	
245	SLU 24	2.42	3.11	49.39	-0.1344	0.0168	0.0002	
245	SLU 25	2.42	3.11	49.42	-0.1344	0.0168	0.0002	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
245	SLU 26	2.38	3.01	48.42		-0.1303	0.0176	0.0002	
245	SLU 27	2.34	2.85	47.27		-0.1226	0.0191	0.0002	
245	SLU 28	2.34	2.85	47.3		-0.1226	0.0191	0.0002	
245	SLU 29	2.3	2.75	46.25		-0.1185	0.02	0.0002	
245	SLU 30	2.3	2.75	46.28		-0.1185	0.02	0.0002	
245	SLU 31	2.89	3.79	58.39		-0.1648	0.0242	0.0003	
245	SLU 32	2.85	3.62	57.24		-0.1572	0.0257	0.0003	
245	SLU 33	2.85	3.62	57.27		-0.1572	0.0257	0.0003	
245	SLU 34	2.81	3.53	56.27		-0.1531	0.0265	0.0003	
245	SLU 35	2.76	3.36	55.12		-0.1454	0.028	0.0002	
245	SLU 36	2.76	3.36	55.15		-0.1454	0.028	0.0002	
245	SLU 37	2.72	3.27	54.1		-0.1413	0.0289	0.0002	
245	SLU 38	2.72	3.27	54.13		-0.1413	0.0289	0.0002	
245	SLU 39	3.07	4.01	61.7		-0.1746	0.028	0.0003	
245	SLU 40	3.08	4.01	61.73		-0.1746	0.028	0.0003	
245	SLU 41	2.99	3.75	59.58		-0.1628	0.0304	0.0003	
245	SLU 42	2.99	3.75	59.61		-0.1629	0.0303	0.0003	
245	SLU 43	2.67	3.68	55.61		-0.1591	0.009	0.0003	
245	SLU 44	2.67	3.68	55.66		-0.1591	0.009	0.0003	
245	SLU 45	2.62	3.51	54.51		-0.1514	0.0105	0.0003	
245	SLU 46	2.62	3.51	54.54		-0.1514	0.0104	0.0003	
245	SLU 47	2.58	3.42	53.54		-0.1473	0.0113	0.0003	
245	SLU 48	2.54	3.25	52.39		-0.1397	0.0128	0.0002	
245	SLU 49	2.54	3.25	52.42		-0.1397	0.0128	0.0002	
245	SLU 50	2.49	3.16	51.37		-0.1356	0.0137	0.0002	
245	SLU 51	2.5	3.16	51.4		-0.1356	0.0137	0.0002	
245	SLU 52	3.09	4.19	63.51		-0.1819	0.0178	0.0003	
245	SLU 53	3.05	4.03	62.36		-0.1742	0.0193	0.0003	
245	SLU 54	3.05	4.02	62.39		-0.1742	0.0193	0.0003	
245	SLU 55	3.01	3.93	61.39		-0.1701	0.0202	0.0003	
245	SLU 56	2.96	3.76	60.24		-0.1625	0.0217	0.0003	
245	SLU 57	2.96	3.76	60.27		-0.1625	0.0217	0.0003	
245	SLU 58	2.92	3.67	59.22		-0.1584	0.0226	0.0003	
245	SLU 59	2.92	3.67	59.25		-0.1584	0.0225	0.0003	
245	SLU 60	3.27	4.41	66.82		-0.1916	0.0217	0.0003	
245	SLU 61	3.28	4.41	66.85		-0.1916	0.0217	0.0003	
245	SLU 62	3.19	4.15	64.7		-0.1799	0.024	0.0003	
245	SLU 63	3.19	4.15	64.73		-0.1799	0.024	0.0003	
245	SLU 64	2.99	4.03	61.71		-0.1746	0.0156	0.0003	
245	SLU 65	3	4.03	61.76		-0.1746	0.0156	0.0003	
245	SLU 66	2.95	3.86	60.61		-0.167	0.0171	0.0003	
245	SLU 67	2.95	3.86	60.64		-0.167	0.0171	0.0003	
245	SLU 68	2.91	3.77	59.65		-0.1629	0.018	0.0003	
245	SLU 69	2.87	3.6	58.5		-0.1552	0.0195	0.0002	
245	SLU 70	2.87	3.6	58.53		-0.1552	0.0194	0.0002	
245	SLU 71	2.82	3.51	57.48		-0.1511	0.0203	0.0002	
245	SLU 72	2.83	3.51	57.51		-0.1511	0.0203	0.0002	
245	SLU 73	3.42	4.54	69.61		-0.1974	0.0245	0.0003	
245	SLU 74	3.38	4.38	68.46		-0.1898	0.026	0.0003	
245	SLU 75	3.38	4.38	68.49		-0.1898	0.026	0.0003	
245	SLU 76	3.34	4.28	67.49		-0.1857	0.0268	0.0003	
245	SLU 77	3.29	4.12	66.34		-0.178	0.0283	0.0003	
245	SLU 78	3.29	4.12	66.37		-0.178	0.0283	0.0003	
245	SLU 79	3.25	4.02	65.32		-0.1739	0.0292	0.0003	
245	SLU 80	3.25	4.02	65.35		-0.1739	0.0292	0.0003	
245	SLU 81	3.6	4.77	72.92		-0.2072	0.0283	0.0004	
245	SLU 82	3.6	4.76	72.95		-0.2072	0.0283	0.0004	
245	SLU 83	3.52	4.5	70.8		-0.1954	0.0307	0.0003	
245	SLU 84	3.52	4.5	70.83		-0.1955	0.0307	0.0003	
245	SLE RA 1	2.23	3.03	46.13		-0.1309	0.0106	0.0002	
245	SLE RA 2	2.23	3.02	46.16		-0.1309	0.0105	0.0002	
245	SLE RA 3	2.2	2.91	45.4		-0.1258	0.0115	0.0002	
245	SLE RA 4	2.2	2.91	45.42		-0.1258	0.0115	0.0002	
245	SLE RA 5	2.18	2.85	44.75		-0.1231	0.0121	0.0002	
245	SLE RA 6	2.15	2.74	43.99		-0.118	0.0131	0.0002	
245	SLE RA 7	2.15	2.74	44.01		-0.118	0.0131	0.0002	
245	SLE RA 8	2.12	2.68	43.31		-0.1152	0.0137	0.0002	
245	SLE RA 9	2.12	2.68	43.33		-0.1152	0.0137	0.0002	
245	SLE RA 10	2.52	3.37	51.39		-0.1461	0.0165	0.0003	
245	SLE RA 11	2.49	3.25	50.63		-0.141	0.0175	0.0002	
245	SLE RA 12	2.49	3.25	50.65		-0.141	0.0175	0.0002	
245	SLE RA 13	2.46	3.19	49.98		-0.1383	0.018	0.0002	
245	SLE RA 14	2.43	3.08	49.22		-0.1332	0.019	0.0002	
245	SLE RA 15	2.43	3.08	49.24		-0.1332	0.019	0.0002	
245	SLE RA 16	2.4	3.02	48.54		-0.1304	0.0196	0.0002	
245	SLE RA 17	2.4	3.02	48.56		-0.1304	0.0196	0.0002	
245	SLE RA 18	2.64	3.51	53.6		-0.1526	0.019	0.0003	
245	SLE RA 19	2.64	3.51	53.62		-0.1526	0.019	0.0003	
245	SLE RA 20	2.58	3.34	52.19		-0.1448	0.0206	0.0002	
245	SLE RA 21	2.58	3.34	52.21		-0.1448	0.0206	0.0002	
245	SLE FR 1	2.23	3.03	46.13		-0.1309	0.0106	0.0002	
245	SLE FR 2	2.23	3.03	46.14		-0.1309	0.0106	0.0002	
245	SLE FR 3	2.21	2.96	45.57		-0.1278	0.0112	0.0002	
245	SLE FR 4	2.35	3.17	48.38		-0.1374	0.0131	0.0002	
245	SLE FR 5	2.33	3.1	47.81		-0.1343	0.0137	0.0002	
245	SLE FR 6	2.43	3.27	49.87		-0.1418	0.0148	0.0002	
245	SLE QP 1	2.23	3.03	46.13		-0.1309	0.0106	0.0002	
245	SLE QP 2	2.35	3.17	48.37		-0.1374	0.0131	0.0002	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
245	SLD 1	2.7	5.94	56.29	-0.2533	-0.0242	0.0006	
245	SLD 2	2.7	5.94	56.29	-0.2533	-0.0242	0.0006	
245	SLD 3	2.42	2.56	48.77	-0.1125	-0.0151	0.0002	
245	SLD 4	2.42	2.56	48.77	-0.1125	-0.0151	0.0002	
245	SLD 5	2.87	9.13	62.15	-0.3857	-0.0118	0.0009	
245	SLD 6	2.87	9.13	62.15	-0.3857	-0.0118	0.0009	
245	SLD 7	1.95	-2.14	37.09	0.0836	0.0184	-0.0003	
245	SLD 8	1.95	-2.14	37.09	0.0836	0.0184	-0.0003	
245	SLD 9	2.75	8.48	59.66	-0.3584	0.0078	0.0008	
245	SLD 10	2.75	8.48	59.66	-0.3584	0.0078	0.0008	
245	SLD 11	1.83	-2.79	34.6	0.1109	0.038	-0.0004	
245	SLD 12	1.83	-2.79	34.6	0.1109	0.038	-0.0004	
245	SLD 13	2.28	3.78	47.98	-0.1623	0.0413	0.0003	
245	SLD 14	2.28	3.78	47.98	-0.1623	0.0413	0.0003	
245	SLD 15	2.01	0.4	40.46	-0.0216	0.0504	-0.0001	
245	SLD 16	2.01	0.4	40.46	-0.0216	0.0504	-0.0001	
245	SLV 1	3.17	9.7	67.22	-0.4104	-0.0742	0.0011	
245	SLV 2	3.17	9.7	67.22	-0.4104	-0.0742	0.0011	
245	SLV 3	2.5	1.73	49.12	-0.0782	-0.0526	0.0002	
245	SLV 4	2.5	1.73	49.12	-0.0782	-0.0526	0.0002	
245	SLV 5	3.61	17.22	81.48	-0.7231	-0.0458	0.0018	
245	SLV 6	3.61	17.22	81.48	-0.7231	-0.0458	0.0018	
245	SLV 7	1.39	-9.35	21.15	0.3841	0.0261	-0.0011	
245	SLV 8	1.39	-9.35	21.15	0.3841	0.0261	-0.0011	
245	SLV 9	3.32	15.69	75.6	-0.659	0.0001	0.0016	
245	SLV 10	3.32	15.69	75.6	-0.659	0.0001	0.0016	
245	SLV 11	1.1	-10.88	15.27	0.4483	0.072	-0.0013	
245	SLV 12	1.1	-10.88	15.27	0.4483	0.072	-0.0013	
245	SLV 13	2.2	4.61	47.62	-0.1966	0.0789	0.0003	
245	SLV 14	2.2	4.61	47.62	-0.1966	0.0789	0.0003	
245	SLV 15	1.54	-3.36	29.52	0.1355	0.1004	-0.0006	
245	SLV 16	1.54	-3.36	29.52	0.1355	0.1004	-0.0006	
246	SLU 1	-2.27	0	12.56	-0.0011	-0.0138	-0.0002	
246	SLU 2	-2.28	0	12.57	-0.0011	-0.0139	-0.0002	
246	SLU 3	-2.17	0	12.1	-0.001	-0.0118	-0.0001	
246	SLU 4	-2.18	0	12.11	-0.001	-0.0118	-0.0001	
246	SLU 5	-2.1	0	11.73	-0.001	-0.0103	-0.0001	
246	SLU 6	-1.99	0	11.26	-0.0008	-0.0082	-0.0001	
246	SLU 7	-1.99	0	11.27	-0.0009	-0.0082	-0.0001	
246	SLU 8	-1.91	0	10.87	-0.0008	-0.0066	-0.0001	
246	SLU 9	-1.91	0	10.88	-0.0008	-0.0067	-0.0001	
246	SLU 10	-2.48	0	14.13	-0.0013	-0.0083	-0.0002	
246	SLU 11	-2.38	0	13.66	-0.0012	-0.0062	-0.0002	
246	SLU 12	-2.38	0	13.67	-0.0012	-0.0063	-0.0002	
246	SLU 13	-2.3	0	13.29	-0.0012	-0.0047	-0.0002	
246	SLU 14	-2.19	0	12.82	-0.0011	-0.0026	-0.0002	
246	SLU 15	-2.19	0	12.83	-0.0011	-0.0027	-0.0002	
246	SLU 16	-2.11	0	12.43	-0.001	-0.0011	-0.0001	
246	SLU 17	-2.11	0	12.44	-0.001	-0.0011	-0.0001	
246	SLU 18	-2.56	0	14.78	-0.0014	-0.0059	-0.0002	
246	SLU 19	-2.57	0	14.79	-0.0014	-0.0059	-0.0002	
246	SLU 20	-2.38	0	13.94	-0.0013	-0.0023	-0.0002	
246	SLU 21	-2.38	0	13.95	-0.0013	-0.0023	-0.0002	
246	SLU 22	-2.44	0	13.79	-0.0012	-0.0099	-0.0002	
246	SLU 23	-2.44	0	13.81	-0.0012	-0.01	-0.0002	
246	SLU 24	-2.34	0	13.34	-0.0011	-0.0078	-0.0002	
246	SLU 25	-2.34	0	13.35	-0.0011	-0.0079	-0.0002	
246	SLU 26	-2.26	0	12.97	-0.0011	-0.0064	-0.0002	
246	SLU 27	-2.16	0	12.49	-0.001	-0.0042	-0.0001	
246	SLU 28	-2.16	0	12.51	-0.001	-0.0043	-0.0001	
246	SLU 29	-2.07	0	12.11	-0.0009	-0.0027	-0.0001	
246	SLU 30	-2.08	0	12.12	-0.0009	-0.0027	-0.0001	
246	SLU 31	-2.65	0	15.37	-0.0015	-0.0044	-0.0002	
246	SLU 32	-2.54	0	14.89	-0.0013	-0.0023	-0.0002	
246	SLU 33	-2.54	0	14.91	-0.0013	-0.0023	-0.0002	
246	SLU 34	-2.46	0	14.53	-0.0013	-0.0008	-0.0002	
246	SLU 35	-2.36	0	14.05	-0.0012	0.0013	-0.0002	
246	SLU 36	-2.36	0	14.06	-0.0012	0.0013	-0.0002	
246	SLU 37	-2.28	0	13.67	-0.0012	0.0029	-0.0002	
246	SLU 38	-2.28	0	13.68	-0.0012	0.0028	-0.0002	
246	SLU 39	-2.73	0	16.02	-0.0015	-0.0019	-0.0002	
246	SLU 40	-2.73	0	16.03	-0.0015	-0.002	-0.0002	
246	SLU 41	-2.55	0	15.18	-0.0014	0.0017	-0.0002	
246	SLU 42	-2.55	0	15.19	-0.0014	0.0016	-0.0002	
246	SLU 43	-2.9	0	15.9	-0.0014	-0.0193	-0.0002	
246	SLU 44	-2.9	0	15.92	-0.0014	-0.0194	-0.0002	
246	SLU 45	-2.8	0	15.44	-0.0013	-0.0173	-0.0002	
246	SLU 46	-2.8	0	15.45	-0.0013	-0.0173	-0.0002	
246	SLU 47	-2.72	0	15.07	-0.0012	-0.0158	-0.0002	
246	SLU 48	-2.62	0	14.6	-0.0011	-0.0137	-0.0002	
246	SLU 49	-2.62	0	14.61	-0.0011	-0.0137	-0.0002	
246	SLU 50	-2.53	0	14.21	-0.0011	-0.0121	-0.0002	
246	SLU 51	-2.54	0	14.22	-0.0011	-0.0122	-0.0002	
246	SLU 52	-3.11	0	17.48	-0.0016	-0.0138	-0.0002	
246	SLU 53	-3	0	17	-0.0015	-0.0117	-0.0002	
246	SLU 54	-3	0	17.01	-0.0015	-0.0118	-0.0002	
246	SLU 55	-2.92	0	16.63	-0.0015	-0.0102	-0.0002	
246	SLU 56	-2.82	0	16.16	-0.0013	-0.0081	-0.0002	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
246	SLU 57	-2.82	0	16.17	-0.0014	-0.0082	-0.0002
246	SLU 58	-2.73	0	15.77	-0.0013	-0.0066	-0.0002
246	SLU 59	-2.74	0	15.78	-0.0013	-0.0066	-0.0002
246	SLU 60	-3.19	0	18.12	-0.0017	-0.0114	-0.0002
246	SLU 61	-3.19	0	18.14	-0.0017	-0.0114	-0.0002
246	SLU 62	-3	0	17.28	-0.0015	-0.0078	-0.0002
246	SLU 63	-3.01	0	17.29	-0.0016	-0.0078	-0.0002
246	SLU 64	-3.07	0	17.13	-0.0015	-0.0154	-0.0002
246	SLU 65	-3.07	0	17.15	-0.0015	-0.0155	-0.0002
246	SLU 66	-2.97	0	16.68	-0.0014	-0.0133	-0.0002
246	SLU 67	-2.97	0	16.69	-0.0014	-0.0134	-0.0002
246	SLU 68	-2.89	0	16.31	-0.0014	-0.0119	-0.0002
246	SLU 69	-2.78	0	15.84	-0.0013	-0.0097	-0.0002
246	SLU 70	-2.78	0	15.85	-0.0013	-0.0098	-0.0002
246	SLU 71	-2.7	0	15.45	-0.0012	-0.0082	-0.0002
246	SLU 72	-2.7	0	15.46	-0.0012	-0.0082	-0.0002
246	SLU 73	-3.27	0	18.71	-0.0017	-0.0099	-0.0003
246	SLU 74	-3.17	0	18.24	-0.0016	-0.0078	-0.0002
246	SLU 75	-3.17	0	18.25	-0.0016	-0.0078	-0.0002
246	SLU 76	-3.09	0	17.87	-0.0016	-0.0063	-0.0002
246	SLU 77	-2.98	0	17.39	-0.0015	-0.0042	-0.0002
246	SLU 78	-2.99	0	17.41	-0.0015	-0.0042	-0.0002
246	SLU 79	-2.9	0	17.01	-0.0014	-0.0026	-0.0002
246	SLU 80	-2.9	0	17.02	-0.0014	-0.0027	-0.0002
246	SLU 81	-3.35	0	19.36	-0.0018	-0.0074	-0.0003
246	SLU 82	-3.36	0	19.37	-0.0018	-0.0075	-0.0003
246	SLU 83	-3.17	0	18.52	-0.0017	-0.0038	-0.0002
246	SLU 84	-3.17	0	18.53	-0.0017	-0.0039	-0.0002
246	SLE RA 1	-2.32	0	12.91	-0.0011	-0.0127	-0.0002
246	SLE RA 2	-2.32	0	12.92	-0.0011	-0.0128	-0.0002
246	SLE RA 3	-2.25	0	12.6	-0.0011	-0.0113	-0.0002
246	SLE RA 4	-2.26	0	12.61	-0.0011	-0.0114	-0.0002
246	SLE RA 5	-2.2	0	12.36	-0.001	-0.0104	-0.0001
246	SLE RA 6	-2.13	0	12.04	-0.001	-0.0089	-0.0001
246	SLE RA 7	-2.13	0	12.05	-0.001	-0.009	-0.0001
246	SLE RA 8	-2.08	0	11.79	-0.0009	-0.0079	-0.0001
246	SLE RA 9	-2.08	0	11.79	-0.0009	-0.0079	-0.0001
246	SLE RA 10	-2.46	0	13.96	-0.0013	-0.009	-0.0002
246	SLE RA 11	-2.39	0	13.64	-0.0012	-0.0076	-0.0002
246	SLE RA 12	-2.39	0	13.65	-0.0012	-0.0077	-0.0002
246	SLE RA 13	-2.34	0	13.4	-0.0012	-0.0066	-0.0002
246	SLE RA 14	-2.27	0	13.08	-0.0011	-0.0052	-0.0002
246	SLE RA 15	-2.27	0	13.09	-0.0011	-0.0053	-0.0002
246	SLE RA 16	-2.21	0	12.82	-0.0011	-0.0042	-0.0002
246	SLE RA 17	-2.21	0	12.83	-0.0011	-0.0042	-0.0002
246	SLE RA 18	-2.51	0	14.39	-0.0013	-0.0074	-0.0002
246	SLE RA 19	-2.52	0	14.4	-0.0013	-0.0074	-0.0002
246	SLE RA 20	-2.39	0	13.83	-0.0012	-0.005	-0.0002
246	SLE RA 21	-2.39	0	13.84	-0.0012	-0.005	-0.0002
246	SLE FR 1	-2.32	0	12.91	-0.0011	-0.0127	-0.0002
246	SLE FR 2	-2.32	0	12.91	-0.0011	-0.0127	-0.0002
246	SLE FR 3	-2.27	0	12.68	-0.0011	-0.0117	-0.0002
246	SLE FR 4	-2.38	0	13.36	-0.0012	-0.0111	-0.0002
246	SLE FR 5	-2.33	0	13.13	-0.0012	-0.0101	-0.0002
246	SLE FR 6	-2.42	0	13.65	-0.0012	-0.01	-0.0002
246	SLE QP 1	-2.32	0	12.91	-0.0011	-0.0127	-0.0002
246	SLE QP 2	-2.38	0	13.35	-0.0012	-0.0111	-0.0002
246	SLD 1	-3.58	-0.04	18.05	0.0039	-0.0501	0.001
246	SLD 2	-3.58	-0.04	18.05	0.0039	-0.0501	0.001
246	SLD 3	-2.95	-0.08	15.22	0.0087	-0.0379	0.0021
246	SLD 4	-2.95	-0.08	15.22	0.0087	-0.0379	0.0021
246	SLD 5	-3.7	0.05	19.06	-0.0069	-0.0414	-0.0014
246	SLD 6	-3.7	0.05	19.06	-0.0069	-0.0414	-0.0014
246	SLD 7	-1.59	-0.08	9.61	0.0091	-0.0006	0.0021
246	SLD 8	-1.59	-0.08	9.61	0.0091	-0.0006	0.0021
246	SLD 9	-3.16	0.09	17.09	-0.0114	-0.0216	-0.0025
246	SLD 10	-3.16	0.09	17.09	-0.0114	-0.0216	-0.0025
246	SLD 11	-1.06	-0.04	7.64	0.0046	0.0192	0.0011
246	SLD 12	-1.06	-0.04	7.64	0.0046	0.0192	0.0011
246	SLD 13	-1.81	0.08	11.49	-0.0111	0.0157	-0.0024
246	SLD 14	-1.81	0.08	11.49	-0.0111	0.0157	-0.0024
246	SLD 15	-1.18	0.05	8.65	-0.0063	0.0279	-0.0014
246	SLD 16	-1.18	0.05	8.65	-0.0063	0.0279	-0.0014
246	SLV 1	-5.21	-0.1	24.44	0.0113	-0.1026	0.0028
246	SLV 2	-5.21	-0.1	24.44	0.0113	-0.1026	0.0028
246	SLV 3	-3.7	-0.2	17.62	0.0235	-0.0732	0.0055
246	SLV 4	-3.7	-0.2	17.62	0.0235	-0.0732	0.0055
246	SLV 5	-5.53	0.12	27.02	-0.0159	-0.0831	-0.0034
246	SLV 6	-5.53	0.12	27.02	-0.0159	-0.0831	-0.0034
246	SLV 7	-0.48	-0.21	4.3	0.0247	0.0148	0.0057
246	SLV 8	-0.48	-0.21	4.3	0.0247	0.0148	0.0057
246	SLV 9	-4.28	0.21	22.41	-0.0271	-0.037	-0.006
246	SLV 10	-4.28	0.21	22.41	-0.0271	-0.037	-0.006
246	SLV 11	0.77	-0.11	-0.31	0.0135	0.0608	0.0031
246	SLV 12	0.77	-0.11	-0.31	0.0135	0.0608	0.0031
246	SLV 13	-1.06	0.21	9.09	-0.0259	0.051	-0.0059
246	SLV 14	-1.06	0.21	9.09	-0.0259	0.051	-0.0059
246	SLV 15	0.45	0.11	2.27	-0.0137	0.0803	-0.0031



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
246	SLV 16	0.45	0.11	2.27	-0.0137	0.0803	-0.0031	
247	SLU 1	4.02	0.01	14.26	0.0057	0.1265	-0.0007	
247	SLU 2	4.02	0.01	14.28	0.0058	0.1267	-0.0008	
247	SLU 3	4.06	0.01	14.4	0.0059	0.1282	-0.0008	
247	SLU 4	4.07	0.01	14.41	0.0059	0.1283	-0.0008	
247	SLU 5	4.01	0.01	14.25	0.0058	0.1266	-0.0008	
247	SLU 6	4.05	0.01	14.36	0.006	0.128	-0.0008	
247	SLU 7	4.06	0.01	14.37	0.006	0.1281	-0.0008	
247	SLU 8	4	0.01	14.19	0.0058	0.1261	-0.0008	
247	SLU 9	4	0.01	14.2	0.0058	0.1263	-0.0008	
247	SLU 10	4.87	0.01	17.42	0.0068	0.1527	-0.0009	
247	SLU 11	4.91	0.01	17.53	0.007	0.1542	-0.0009	
247	SLU 12	4.92	0.01	17.55	0.007	0.1543	-0.0009	
247	SLU 13	4.87	0.01	17.38	0.0069	0.1526	-0.0009	
247	SLU 14	4.9	0.01	17.49	0.007	0.154	-0.0009	
247	SLU 15	4.91	0.01	17.51	0.007	0.1541	-0.0009	
247	SLU 16	4.85	0.01	17.32	0.0069	0.1521	-0.0009	
247	SLU 17	4.85	0.01	17.34	0.0069	0.1523	-0.0009	
247	SLU 18	5.23	0.01	18.74	0.0072	0.1636	-0.0009	
247	SLU 19	5.24	0.01	18.75	0.0072	0.1638	-0.0009	
247	SLU 20	5.22	0.01	18.7	0.0073	0.1634	-0.0009	
247	SLU 21	5.23	0.01	18.72	0.0073	0.1636	-0.001	
247	SLU 22	4.69	0.01	16.73	0.0067	0.1475	-0.0009	
247	SLU 23	4.7	0.01	16.75	0.0067	0.1478	-0.0009	
247	SLU 24	4.74	0.01	16.86	0.0068	0.1492	-0.0009	
247	SLU 25	4.75	0.01	16.88	0.0069	0.1493	-0.0009	
247	SLU 26	4.69	0.01	16.71	0.0067	0.1476	-0.0009	
247	SLU 27	4.73	0.01	16.83	0.0069	0.149	-0.0009	
247	SLU 28	4.74	0.01	16.84	0.0069	0.1492	-0.0009	
247	SLU 29	4.68	0.01	16.65	0.0067	0.1471	-0.0009	
247	SLU 30	4.68	0.01	16.67	0.0068	0.1473	-0.0009	
247	SLU 31	5.55	0.01	19.89	0.0077	0.1738	-0.001	
247	SLU 32	5.59	0.01	20	0.0079	0.1752	-0.001	
247	SLU 33	5.6	0.01	20.01	0.0079	0.1753	-0.001	
247	SLU 34	5.54	0.01	19.85	0.0078	0.1736	-0.001	
247	SLU 35	5.58	0.01	19.96	0.0079	0.175	-0.001	
247	SLU 36	5.59	0.01	19.98	0.0079	0.1752	-0.001	
247	SLU 37	5.53	0.01	19.79	0.0078	0.1731	-0.001	
247	SLU 38	5.53	0.01	19.8	0.0078	0.1733	-0.001	
247	SLU 39	5.91	0.01	21.21	0.0081	0.1846	-0.0011	
247	SLU 40	5.92	0.01	21.22	0.0082	0.1848	-0.0011	
247	SLU 41	5.9	0.01	21.17	0.0082	0.1845	-0.0011	
247	SLU 42	5.91	0.01	21.18	0.0082	0.1846	-0.0011	
247	SLU 43	4.99	0.01	17.69	0.0072	0.1572	-0.0009	
247	SLU 44	4.99	0.01	17.71	0.0072	0.1575	-0.0009	
247	SLU 45	5.03	0.01	17.83	0.0073	0.1589	-0.001	
247	SLU 46	5.04	0.01	17.84	0.0074	0.1591	-0.001	
247	SLU 47	4.99	0.01	17.68	0.0072	0.1573	-0.0009	
247	SLU 48	5.02	0.01	17.79	0.0074	0.1587	-0.001	
247	SLU 49	5.03	0.01	17.81	0.0074	0.1589	-0.001	
247	SLU 50	4.97	0.01	17.62	0.0072	0.1568	-0.0009	
247	SLU 51	4.97	0.01	17.63	0.0073	0.157	-0.0009	
247	SLU 52	5.85	0.01	20.85	0.0082	0.1835	-0.0011	
247	SLU 53	5.88	0.01	20.96	0.0084	0.1849	-0.0011	
247	SLU 54	5.89	0.01	20.98	0.0084	0.1851	-0.0011	
247	SLU 55	5.84	0.01	20.81	0.0083	0.1833	-0.0011	
247	SLU 56	5.88	0.01	20.93	0.0084	0.1847	-0.0011	
247	SLU 57	5.88	0.01	20.94	0.0084	0.1849	-0.0011	
247	SLU 58	5.82	0.01	20.75	0.0083	0.1829	-0.0011	
247	SLU 59	5.83	0.01	20.77	0.0083	0.183	-0.0011	
247	SLU 60	6.2	0.01	22.17	0.0086	0.1944	-0.0011	
247	SLU 61	6.21	0.01	22.18	0.0087	0.1945	-0.0011	
247	SLU 62	6.2	0.01	22.13	0.0087	0.1942	-0.0011	
247	SLU 63	6.2	0.01	22.15	0.0087	0.1943	-0.0011	
247	SLU 64	5.67	0.01	20.16	0.0081	0.1782	-0.0011	
247	SLU 65	5.67	0.01	20.18	0.0081	0.1785	-0.0011	
247	SLU 66	5.71	0.01	20.3	0.0082	0.1799	-0.0011	
247	SLU 67	5.72	0.01	20.31	0.0083	0.1801	-0.0011	
247	SLU 68	5.66	0.01	20.15	0.0081	0.1783	-0.0011	
247	SLU 69	5.7	0.01	20.26	0.0083	0.1797	-0.0011	
247	SLU 70	5.71	0.01	20.27	0.0083	0.1799	-0.0011	
247	SLU 71	5.65	0.01	20.09	0.0081	0.1779	-0.0011	
247	SLU 72	5.65	0.01	20.1	0.0082	0.178	-0.0011	
247	SLU 73	6.53	0.01	23.32	0.0091	0.2045	-0.0012	
247	SLU 74	6.56	0.01	23.43	0.0093	0.2059	-0.0012	
247	SLU 75	6.57	0.01	23.44	0.0093	0.2061	-0.0012	
247	SLU 76	6.52	0.01	23.28	0.0092	0.2043	-0.0012	
247	SLU 77	6.56	0.01	23.39	0.0093	0.2057	-0.0012	
247	SLU 78	6.56	0.01	23.41	0.0093	0.2059	-0.0012	
247	SLU 79	6.5	0.01	23.22	0.0092	0.2039	-0.0012	
247	SLU 80	6.51	0.01	23.24	0.0092	0.204	-0.0012	
247	SLU 81	6.88	0.01	24.64	0.0095	0.2154	-0.0012	
247	SLU 82	6.89	0.01	24.65	0.0096	0.2155	-0.0012	
247	SLU 83	6.87	0.01	24.6	0.0096	0.2152	-0.0012	
247	SLU 84	6.88	0.01	24.62	0.0096	0.2154	-0.0013	
247	SLE RA 1	4.21	0.01	14.96	0.006	0.1325	-0.0008	
247	SLE RA 2	4.21	0.01	14.98	0.006	0.1327	-0.0008	
247	SLE RA 3	4.24	0.01	15.06	0.0061	0.1336	-0.0008	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
247	SLE RA 4	4.24	0.01	15.06	0.0061	0.1337	-0.0008
247	SLE RA 5	4.21	0.01	14.96	0.0061	0.1325	-0.0008
247	SLE RA 6	4.23	0.01	15.03	0.0061	0.1335	-0.0008
247	SLE RA 7	4.24	0.01	15.04	0.0062	0.1336	-0.0008
247	SLE RA 8	4.2	0.01	14.92	0.0061	0.1322	-0.0008
247	SLE RA 9	4.2	0.01	14.93	0.0061	0.1323	-0.0008
247	SLE RA 10	4.78	0.01	17.07	0.0067	0.15	-0.0009
247	SLE RA 11	4.81	0.01	17.15	0.0068	0.1509	-0.0009
247	SLE RA 12	4.81	0.01	17.16	0.0068	0.1511	-0.0009
247	SLE RA 13	4.78	0.01	17.05	0.0067	0.1499	-0.0009
247	SLE RA 14	4.8	0.01	17.12	0.0068	0.1508	-0.0009
247	SLE RA 15	4.81	0.01	17.13	0.0069	0.1509	-0.0009
247	SLE RA 16	4.77	0.01	17.01	0.0067	0.1496	-0.0009
247	SLE RA 17	4.77	0.01	17.02	0.0068	0.1497	-0.0009
247	SLE RA 18	5.02	0.01	17.95	0.007	0.1572	-0.0009
247	SLE RA 19	5.02	0.01	17.96	0.007	0.1574	-0.0009
247	SLE RA 20	5.01	0.01	17.93	0.007	0.1571	-0.0009
247	SLE RA 21	5.02	0.01	17.94	0.007	0.1572	-0.0009
247	SLE FR 1	4.21	0.01	14.96	0.006	0.1325	-0.0008
247	SLE FR 2	4.21	0.01	14.97	0.006	0.1325	-0.0008
247	SLE FR 3	4.21	0.01	14.95	0.006	0.1324	-0.0008
247	SLE FR 4	4.45	0.01	15.86	0.0063	0.1399	-0.0008
247	SLE FR 5	4.45	0.01	15.85	0.0063	0.1399	-0.0008
247	SLE FR 6	4.61	0.01	16.46	0.0065	0.1449	-0.0008
247	SLE QP 1	4.21	0.01	14.96	0.006	0.1325	-0.0008
247	SLE QP 2	4.45	0.01	15.86	0.0063	0.1399	-0.0008
247	SLD 1	6.85	0.11	22.64	-0.0385	0.2299	0.0067
247	SLD 2	6.85	0.11	22.64	-0.0385	0.2299	0.0067
247	SLD 3	7.52	0.04	24.67	-0.0145	0.2536	0.0025
247	SLD 4	7.52	0.04	24.67	-0.0145	0.2536	0.0025
247	SLD 5	4.16	0.14	14.82	-0.0435	0.1311	0.0079
247	SLD 6	4.16	0.14	14.82	-0.0435	0.1311	0.0079
247	SLD 7	6.39	-0.08	21.58	0.0364	0.2099	-0.0063
247	SLD 8	6.39	-0.08	21.58	0.0364	0.2099	-0.0063
247	SLD 9	2.52	0.1	10.14	-0.0238	0.07	0.0046
247	SLD 10	2.52	0.1	10.14	-0.0238	0.07	0.0046
247	SLD 11	4.75	-0.12	16.9	0.0561	0.1488	-0.0095
247	SLD 12	4.75	-0.12	16.9	0.0561	0.1488	-0.0095
247	SLD 13	1.39	-0.02	7.05	0.0271	0.0263	-0.0041
247	SLD 14	1.39	-0.02	7.05	0.0271	0.0263	-0.0041
247	SLD 15	2.06	-0.09	9.08	0.0511	0.0499	-0.0084
247	SLD 16	2.06	-0.09	9.08	0.0511	0.0499	-0.0084
247	SLV 1	10.04	0.27	31.69	-0.1084	0.3501	0.0185
247	SLV 2	10.04	0.27	31.69	-0.1084	0.3501	0.0185
247	SLV 3	11.62	0.09	36.45	-0.0474	0.4057	0.0077
247	SLV 4	11.62	0.09	36.45	-0.0474	0.4057	0.0077
247	SLV 5	3.74	0.35	13.38	-0.1207	0.1187	0.0213
247	SLV 6	3.74	0.35	13.38	-0.1207	0.1187	0.0213
247	SLV 7	8.99	-0.23	29.27	0.0828	0.3039	-0.0146
247	SLV 8	8.99	-0.23	29.27	0.0828	0.3039	-0.0146
247	SLV 9	-0.08	0.25	2.45	-0.0702	-0.0241	0.013
247	SLV 10	-0.08	0.25	2.45	-0.0702	-0.0241	0.013
247	SLV 11	5.16	-0.33	18.34	0.1333	0.1612	-0.023
247	SLV 12	5.16	-0.33	18.34	0.1333	0.1612	-0.023
247	SLV 13	-2.71	-0.07	-4.73	0.06	-0.1258	-0.0093
247	SLV 14	-2.71	-0.07	-4.73	0.06	-0.1258	-0.0093
247	SLV 15	-1.14	-0.25	0.03	0.121	-0.0703	-0.0201
247	SLV 16	-1.14	-0.25	0.03	0.121	-0.0703	-0.0201
248	SLU 1	2.85	-0.02	23.62	0.0162	0.1502	-0.0002
248	SLU 2	2.85	-0.02	23.65	0.0163	0.1505	-0.0002
248	SLU 3	2.89	-0.02	23.77	0.0167	0.1535	-0.0002
248	SLU 4	2.89	-0.02	23.8	0.0167	0.1537	-0.0002
248	SLU 5	2.85	-0.02	23.52	0.0164	0.1517	-0.0002
248	SLU 6	2.88	-0.02	23.64	0.0167	0.1547	-0.0002
248	SLU 7	2.88	-0.02	23.66	0.0168	0.1549	-0.0002
248	SLU 8	2.83	-0.02	23.35	0.0163	0.1526	-0.0002
248	SLU 9	2.84	-0.02	23.37	0.0164	0.1528	-0.0002
248	SLU 10	3.38	-0.03	28.8	0.0192	0.1804	-0.0002
248	SLU 11	3.41	-0.03	28.92	0.0196	0.1834	-0.0002
248	SLU 12	3.42	-0.03	28.95	0.0196	0.1836	-0.0002
248	SLU 13	3.37	-0.03	28.67	0.0193	0.1816	-0.0002
248	SLU 14	3.41	-0.03	28.79	0.0196	0.1846	-0.0002
248	SLU 15	3.41	-0.03	28.81	0.0197	0.1848	-0.0002
248	SLU 16	3.36	-0.03	28.5	0.0193	0.1825	-0.0002
248	SLU 17	3.36	-0.03	28.52	0.0193	0.1827	-0.0002
248	SLU 18	3.6	-0.03	30.97	0.0204	0.1929	-0.0003
248	SLU 19	3.61	-0.03	31	0.0204	0.1931	-0.0003
248	SLU 20	3.59	-0.03	30.84	0.0204	0.1941	-0.0003
248	SLU 21	3.6	-0.03	30.86	0.0205	0.1943	-0.0003
248	SLU 22	3.28	-0.03	27.62	0.0188	0.1752	-0.0002
248	SLU 23	3.28	-0.03	27.66	0.0189	0.1755	-0.0002
248	SLU 24	3.32	-0.03	27.78	0.0192	0.1785	-0.0002
248	SLU 25	3.32	-0.03	27.8	0.0193	0.1787	-0.0002
248	SLU 26	3.28	-0.03	27.53	0.0189	0.1767	-0.0002
248	SLU 27	3.31	-0.03	27.65	0.0193	0.1797	-0.0002
248	SLU 28	3.31	-0.03	27.67	0.0194	0.1799	-0.0002
248	SLU 29	3.26	-0.03	27.35	0.0189	0.1776	-0.0002
248	SLU 30	3.27	-0.03	27.38	0.019	0.1778	-0.0002



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
248	SLU 31	3.81	-0.03	32.81	0.0218	0.2054	-0.0003		
248	SLU 32	3.84	-0.03	32.93	0.0221	0.2084	-0.0003		
248	SLU 33	3.85	-0.03	32.95	0.0222	0.2086	-0.0003		
248	SLU 34	3.8	-0.03	32.67	0.0219	0.2066	-0.0003		
248	SLU 35	3.84	-0.03	32.79	0.0222	0.2096	-0.0003		
248	SLU 36	3.84	-0.03	32.82	0.0223	0.2098	-0.0003		
248	SLU 37	3.79	-0.03	32.5	0.0218	0.2075	-0.0003		
248	SLU 38	3.79	-0.03	32.53	0.0219	0.2077	-0.0003		
248	SLU 39	4.03	-0.03	34.98	0.0229	0.2179	-0.0003		
248	SLU 40	4.04	-0.03	35	0.023	0.2181	-0.0003		
248	SLU 41	4.02	-0.03	34.84	0.023	0.2191	-0.0003		
248	SLU 42	4.03	-0.03	34.87	0.0231	0.2193	-0.0003		
248	SLU 43	3.55	-0.03	29.33	0.0202	0.1867	-0.0002		
248	SLU 44	3.56	-0.03	29.37	0.0203	0.187	-0.0003		
248	SLU 45	3.59	-0.03	29.49	0.0206	0.19	-0.0003		
248	SLU 46	3.6	-0.03	29.51	0.0207	0.1902	-0.0003		
248	SLU 47	3.55	-0.03	29.23	0.0204	0.1882	-0.0003		
248	SLU 48	3.58	-0.03	29.35	0.0207	0.1912	-0.0003		
248	SLU 49	3.59	-0.03	29.38	0.0208	0.1914	-0.0003		
248	SLU 50	3.54	-0.03	29.06	0.0203	0.1891	-0.0003		
248	SLU 51	3.54	-0.03	29.08	0.0204	0.1893	-0.0003		
248	SLU 52	4.09	-0.03	34.52	0.0232	0.2169	-0.0003		
248	SLU 53	4.12	-0.03	34.63	0.0236	0.2199	-0.0003		
248	SLU 54	4.12	-0.03	34.66	0.0236	0.2201	-0.0003		
248	SLU 55	4.08	-0.03	34.38	0.0233	0.2181	-0.0003		
248	SLU 56	4.11	-0.03	34.5	0.0236	0.2211	-0.0003		
248	SLU 57	4.12	-0.03	34.52	0.0237	0.2213	-0.0003		
248	SLU 58	4.07	-0.03	34.21	0.0232	0.219	-0.0003		
248	SLU 59	4.07	-0.03	34.23	0.0233	0.2192	-0.0003		
248	SLU 60	4.31	-0.03	36.68	0.0244	0.2294	-0.0003		
248	SLU 61	4.31	-0.03	36.71	0.0244	0.2296	-0.0003		
248	SLU 62	4.3	-0.03	36.55	0.0244	0.2306	-0.0003		
248	SLU 63	4.3	-0.03	36.57	0.0245	0.2308	-0.0003		
248	SLU 64	3.98	-0.03	33.33	0.0227	0.2117	-0.0003		
248	SLU 65	3.99	-0.03	33.37	0.0229	0.212	-0.0003		
248	SLU 66	4.02	-0.03	33.49	0.0232	0.215	-0.0003		
248	SLU 67	4.03	-0.03	33.51	0.0233	0.2152	-0.0003		
248	SLU 68	3.98	-0.03	33.24	0.0229	0.2132	-0.0003		
248	SLU 69	4.02	-0.03	33.36	0.0233	0.2162	-0.0003		
248	SLU 70	4.02	-0.03	33.38	0.0233	0.2164	-0.0003		
248	SLU 71	3.97	-0.03	33.07	0.0229	0.2141	-0.0003		
248	SLU 72	3.97	-0.03	33.09	0.0229	0.2143	-0.0003		
248	SLU 73	4.52	-0.04	38.52	0.0258	0.2419	-0.0003		
248	SLU 74	4.55	-0.04	38.64	0.0261	0.2449	-0.0003		
248	SLU 75	4.56	-0.04	38.66	0.0262	0.2451	-0.0003		
248	SLU 76	4.51	-0.04	38.39	0.0259	0.2431	-0.0003		
248	SLU 77	4.54	-0.04	38.51	0.0262	0.2461	-0.0003		
248	SLU 78	4.55	-0.04	38.53	0.0263	0.2463	-0.0003		
248	SLU 79	4.5	-0.04	38.22	0.0258	0.244	-0.0003		
248	SLU 80	4.5	-0.04	38.24	0.0259	0.2442	-0.0003		
248	SLU 81	4.74	-0.04	40.69	0.0269	0.2544	-0.0003		
248	SLU 82	4.74	-0.04	40.71	0.027	0.2546	-0.0003		
248	SLU 83	4.73	-0.04	40.56	0.027	0.2556	-0.0003		
248	SLU 84	4.73	-0.04	40.58	0.0271	0.2558	-0.0003		
248	SLE RA 1	2.97	-0.02	24.76	0.0169	0.1574	-0.0002		
248	SLE RA 2	2.97	-0.02	24.79	0.017	0.1576	-0.0002		
248	SLE RA 3	3	-0.02	24.87	0.0172	0.1595	-0.0002		
248	SLE RA 4	3	-0.02	24.88	0.0173	0.1597	-0.0002		
248	SLE RA 5	2.97	-0.02	24.7	0.0171	0.1584	-0.0002		
248	SLE RA 6	2.99	-0.02	24.78	0.0173	0.1603	-0.0002		
248	SLE RA 7	2.99	-0.02	24.79	0.0173	0.1605	-0.0002		
248	SLE RA 8	2.96	-0.02	24.58	0.017	0.159	-0.0002		
248	SLE RA 9	2.96	-0.02	24.6	0.0171	0.1591	-0.0002		
248	SLE RA 10	3.33	-0.03	28.22	0.019	0.1775	-0.0002		
248	SLE RA 11	3.35	-0.03	28.3	0.0192	0.1795	-0.0002		
248	SLE RA 12	3.35	-0.03	28.31	0.0192	0.1796	-0.0002		
248	SLE RA 13	3.32	-0.03	28.13	0.019	0.1783	-0.0002		
248	SLE RA 14	3.34	-0.03	28.21	0.0192	0.1803	-0.0002		
248	SLE RA 15	3.35	-0.03	28.22	0.0193	0.1804	-0.0002		
248	SLE RA 16	3.31	-0.03	28.02	0.019	0.1789	-0.0002		
248	SLE RA 17	3.31	-0.03	28.03	0.019	0.179	-0.0002		
248	SLE RA 18	3.47	-0.03	29.66	0.0197	0.1858	-0.0002		
248	SLE RA 19	3.48	-0.03	29.68	0.0198	0.186	-0.0002		
248	SLE RA 20	3.47	-0.03	29.58	0.0198	0.1866	-0.0002		
248	SLE RA 21	3.47	-0.03	29.59	0.0198	0.1868	-0.0002		
248	SLE FR 1	2.97	-0.02	24.76	0.0169	0.1574	-0.0002		
248	SLE FR 2	2.97	-0.02	24.77	0.0169	0.1574	-0.0002		
248	SLE FR 3	2.97	-0.02	24.73	0.0169	0.1577	-0.0002		
248	SLE FR 4	3.12	-0.03	26.24	0.0178	0.1659	-0.0002		
248	SLE FR 5	3.12	-0.03	26.2	0.0178	0.1662	-0.0002		
248	SLE FR 6	3.22	-0.03	27.21	0.0183	0.1716	-0.0002		
248	SLE QP 1	2.97	-0.02	24.76	0.0169	0.1574	-0.0002		
248	SLE QP 2	3.12	-0.03	26.23	0.0178	0.1659	-0.0002		
248	SLD 1	5.38	0.07	34.44	-0.0523	0.327	0.0014		
248	SLD 2	5.38	0.07	34.44	-0.0523	0.327	0.0014		
248	SLD 3	5.97	0.03	37.36	-0.0204	0.3646	0.0008		
248	SLD 4	5.97	0.03	37.36	-0.0204	0.3646	0.0008		
248	SLD 5	2.9	0.05	24.27	-0.0516	0.1572	0.0011		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
248	SLD 6	2.9	0.05	24.27	-0.0516	0.1572	0.0011		
248	SLD 7	4.87	-0.06	34	0.0546	0.2825	-0.0008		
248	SLD 8	4.87	-0.06	34	0.0546	0.2825	-0.0008		
248	SLD 9	1.37	0.01	18.47	-0.0191	0.0492	0.0004		
248	SLD 10	1.37	0.01	18.47	-0.0191	0.0492	0.0004		
248	SLD 11	3.34	-0.1	28.2	0.0871	0.1746	-0.0016		
248	SLD 12	3.34	-0.1	28.2	0.0871	0.1746	-0.0016		
248	SLD 13	0.27	-0.08	15.1	0.0559	-0.0328	-0.0012		
248	SLD 14	0.27	-0.08	15.1	0.0559	-0.0328	-0.0012		
248	SLD 15	0.86	-0.12	18.02	0.0878	0.0048	-0.0018		
248	SLD 16	0.86	-0.12	18.02	0.0878	0.0048	-0.0018		
248	SLV 1	8.4	0.21	45.4	-0.161	0.542	0.0038		
248	SLV 2	8.4	0.21	45.4	-0.161	0.542	0.0038		
248	SLV 3	9.79	0.12	52.27	-0.0806	0.6303	0.0023		
248	SLV 4	9.79	0.12	52.27	-0.0806	0.6303	0.0023		
248	SLV 5	2.59	0.17	21.56	-0.1579	0.1448	0.0032		
248	SLV 6	2.59	0.17	21.56	-0.1579	0.1448	0.0032		
248	SLV 7	7.23	-0.11	44.47	0.1103	0.4391	-0.0017		
248	SLV 8	7.23	-0.11	44.47	0.1103	0.4391	-0.0017		
248	SLV 9	-0.99	0.06	8	-0.0747	-0.1073	0.0013		
248	SLV 10	-0.99	0.06	8	-0.0747	-0.1073	0.0013		
248	SLV 11	3.65	-0.22	30.91	0.1934	0.187	-0.0037		
248	SLV 12	3.65	-0.22	30.91	0.1934	0.187	-0.0037		
248	SLV 13	-3.55	-0.17	0.2	0.1161	-0.2985	-0.0028		
248	SLV 14	-3.55	-0.17	0.2	0.1161	-0.2985	-0.0028		
248	SLV 15	-2.15	-0.26	7.07	0.1965	-0.2102	-0.0042		
248	SLV 16	-2.15	-0.26	7.07	0.1965	-0.2102	-0.0042		
249	SLU 1	1.89	-0.03	22.25	0.0203	0.071	-0.0006		
249	SLU 2	1.9	-0.03	22.29	0.0205	0.0712	-0.0006		
249	SLU 3	1.94	-0.03	22.32	0.0208	0.073	-0.0006		
249	SLU 4	1.94	-0.03	22.35	0.0209	0.0731	-0.0006		
249	SLU 5	1.91	-0.03	22.06	0.0205	0.0719	-0.0006		
249	SLU 6	1.95	-0.03	22.09	0.0209	0.0737	-0.0006		
249	SLU 7	1.96	-0.03	22.12	0.021	0.0738	-0.0006		
249	SLU 8	1.92	-0.03	21.8	0.0204	0.0724	-0.0006		
249	SLU 9	1.92	-0.03	21.82	0.0205	0.0725	-0.0006		
249	SLU 10	2.2	-0.03	27	0.0241	0.0831	-0.0007		
249	SLU 11	2.24	-0.04	27.03	0.0245	0.0849	-0.0007		
249	SLU 12	2.24	-0.04	27.05	0.0246	0.085	-0.0007		
249	SLU 13	2.21	-0.03	26.77	0.0242	0.0838	-0.0007		
249	SLU 14	2.25	-0.03	26.8	0.0246	0.0856	-0.0007		
249	SLU 15	2.26	-0.04	26.82	0.0246	0.0857	-0.0007		
249	SLU 16	2.22	-0.03	26.5	0.0241	0.0843	-0.0007		
249	SLU 17	2.22	-0.03	26.52	0.0242	0.0844	-0.0007		
249	SLU 18	2.32	-0.04	28.98	0.0256	0.088	-0.0008		
249	SLU 19	2.32	-0.04	29	0.0256	0.0881	-0.0008		
249	SLU 20	2.33	-0.04	28.75	0.0256	0.0887	-0.0008		
249	SLU 21	2.34	-0.04	28.77	0.0257	0.0888	-0.0008		
249	SLU 22	2.16	-0.03	25.87	0.0235	0.0816	-0.0007		
249	SLU 23	2.16	-0.03	25.9	0.0237	0.0818	-0.0007		
249	SLU 24	2.21	-0.03	25.93	0.024	0.0836	-0.0007		
249	SLU 25	2.21	-0.03	25.96	0.0241	0.0837	-0.0007		
249	SLU 26	2.18	-0.03	25.67	0.0237	0.0825	-0.0007		
249	SLU 27	2.22	-0.03	25.71	0.0241	0.0843	-0.0007		
249	SLU 28	2.22	-0.03	25.73	0.0242	0.0844	-0.0007		
249	SLU 29	2.19	-0.03	25.41	0.0236	0.083	-0.0007		
249	SLU 30	2.19	-0.03	25.43	0.0237	0.0831	-0.0007		
249	SLU 31	2.46	-0.04	30.61	0.0273	0.0937	-0.0008		
249	SLU 32	2.51	-0.04	30.64	0.0277	0.0955	-0.0008		
249	SLU 33	2.51	-0.04	30.66	0.0278	0.0956	-0.0008		
249	SLU 34	2.48	-0.04	30.38	0.0274	0.0944	-0.0008		
249	SLU 35	2.52	-0.04	30.41	0.0277	0.0962	-0.0008		
249	SLU 36	2.52	-0.04	30.43	0.0278	0.0963	-0.0008		
249	SLU 37	2.49	-0.04	30.11	0.0273	0.0949	-0.0008		
249	SLU 38	2.49	-0.04	30.13	0.0273	0.095	-0.0008		
249	SLU 39	2.59	-0.04	32.59	0.0287	0.0986	-0.0009		
249	SLU 40	2.59	-0.04	32.61	0.0288	0.0987	-0.0009		
249	SLU 41	2.6	-0.04	32.36	0.0288	0.0993	-0.0009		
249	SLU 42	2.6	-0.04	32.38	0.0289	0.0994	-0.0009		
249	SLU 43	2.37	-0.04	27.69	0.0253	0.0887	-0.0008		
249	SLU 44	2.37	-0.04	27.73	0.0255	0.0888	-0.0008		
249	SLU 45	2.42	-0.04	27.76	0.0258	0.0906	-0.0008		
249	SLU 46	2.42	-0.04	27.79	0.0259	0.0907	-0.0008		
249	SLU 47	2.39	-0.04	27.5	0.0255	0.0895	-0.0008		
249	SLU 48	2.43	-0.04	27.53	0.0259	0.0913	-0.0008		
249	SLU 49	2.43	-0.04	27.56	0.026	0.0914	-0.0008		
249	SLU 50	2.4	-0.04	27.23	0.0254	0.0901	-0.0008		
249	SLU 51	2.4	-0.04	27.26	0.0255	0.0902	-0.0008		
249	SLU 52	2.67	-0.04	32.44	0.0291	0.1007	-0.0009		
249	SLU 53	2.72	-0.04	32.47	0.0295	0.1025	-0.0009		
249	SLU 54	2.72	-0.04	32.49	0.0296	0.1026	-0.0009		
249	SLU 55	2.69	-0.04	32.21	0.0292	0.1014	-0.0009		
249	SLU 56	2.73	-0.04	32.24	0.0296	0.1032	-0.0009		
249	SLU 57	2.73	-0.04	32.26	0.0296	0.1033	-0.0009		
249	SLU 58	2.7	-0.04	31.94	0.0291	0.102	-0.0009		
249	SLU 59	2.7	-0.04	31.96	0.0292	0.1021	-0.0009		
249	SLU 60	2.8	-0.04	34.42	0.0306	0.1057	-0.0009		
249	SLU 61	2.8	-0.04	34.44	0.0306	0.1058	-0.0009		





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
249	SLU 62	2.81	-0.04	34.19	0.0306	0.1064	-0.0009
249	SLU 63	2.81	-0.04	34.21	0.0307	0.1065	-0.0009
249	SLU 64	2.63	-0.04	31.3	0.0285	0.0993	-0.0008
249	SLU 65	2.64	-0.04	31.34	0.0287	0.0995	-0.0009
249	SLU 66	2.68	-0.04	31.37	0.029	0.1012	-0.0009
249	SLU 67	2.69	-0.04	31.4	0.0291	0.1013	-0.0009
249	SLU 68	2.65	-0.04	31.11	0.0287	0.1002	-0.0009
249	SLU 69	2.7	-0.04	31.14	0.0291	0.1019	-0.0009
249	SLU 70	2.7	-0.04	31.17	0.0292	0.1021	-0.0009
249	SLU 71	2.66	-0.04	30.84	0.0286	0.1007	-0.0008
249	SLU 72	2.67	-0.04	30.87	0.0287	0.1008	-0.0008
249	SLU 73	2.94	-0.05	36.05	0.0323	0.1114	-0.001
249	SLU 74	2.98	-0.05	36.08	0.0327	0.1131	-0.001
249	SLU 75	2.99	-0.05	36.1	0.0328	0.1132	-0.001
249	SLU 76	2.95	-0.05	35.82	0.0324	0.1121	-0.001
249	SLU 77	3	-0.05	35.85	0.0327	0.1138	-0.001
249	SLU 78	3	-0.05	35.87	0.0328	0.114	-0.001
249	SLU 79	2.96	-0.05	35.55	0.0323	0.1126	-0.001
249	SLU 80	2.97	-0.05	35.57	0.0323	0.1127	-0.001
249	SLU 81	3.06	-0.05	38.03	0.0337	0.1163	-0.001
249	SLU 82	3.07	-0.05	38.05	0.0338	0.1164	-0.001
249	SLU 83	3.08	-0.05	37.8	0.0338	0.117	-0.001
249	SLU 84	3.08	-0.05	37.82	0.0339	0.1171	-0.001
249	SLE RA 1	1.97	-0.03	23.29	0.0212	0.074	-0.0006
249	SLE RA 2	1.97	-0.03	23.31	0.0213	0.0742	-0.0006
249	SLE RA 3	2	-0.03	23.33	0.0216	0.0753	-0.0006
249	SLE RA 4	2	-0.03	23.35	0.0216	0.0754	-0.0006
249	SLE RA 5	1.98	-0.03	23.16	0.0214	0.0746	-0.0006
249	SLE RA 6	2.01	-0.03	23.18	0.0216	0.0758	-0.0006
249	SLE RA 7	2.01	-0.03	23.19	0.0217	0.0759	-0.0006
249	SLE RA 8	1.99	-0.03	22.98	0.0213	0.075	-0.0006
249	SLE RA 9	1.99	-0.03	23	0.0213	0.075	-0.0006
249	SLE RA 10	2.17	-0.03	26.45	0.0238	0.0821	-0.0007
249	SLE RA 11	2.2	-0.03	26.47	0.024	0.0833	-0.0007
249	SLE RA 12	2.2	-0.03	26.48	0.0241	0.0833	-0.0007
249	SLE RA 13	2.18	-0.03	26.3	0.0238	0.0826	-0.0007
249	SLE RA 14	2.21	-0.03	26.32	0.0241	0.0837	-0.0007
249	SLE RA 15	2.21	-0.03	26.33	0.0241	0.0838	-0.0007
249	SLE RA 16	2.19	-0.03	26.12	0.0237	0.0829	-0.0007
249	SLE RA 17	2.19	-0.03	26.13	0.0238	0.083	-0.0007
249	SLE RA 18	2.25	-0.04	27.77	0.0247	0.0854	-0.0007
249	SLE RA 19	2.26	-0.04	27.78	0.0248	0.0854	-0.0007
249	SLE RA 20	2.26	-0.04	27.61	0.0247	0.0858	-0.0007
249	SLE RA 21	2.26	-0.04	27.63	0.0248	0.0859	-0.0007
249	SLE FR 1	1.97	-0.03	23.29	0.0212	0.074	-0.0006
249	SLE FR 2	1.97	-0.03	23.29	0.0212	0.0741	-0.0006
249	SLE FR 3	1.97	-0.03	23.23	0.0212	0.0742	-0.0006
249	SLE FR 4	2.05	-0.03	24.64	0.0223	0.0775	-0.0007
249	SLE FR 5	2.06	-0.03	24.57	0.0223	0.0776	-0.0007
249	SLE FR 6	2.11	-0.03	25.53	0.023	0.0797	-0.0007
249	SLE QP 1	1.97	-0.03	23.29	0.0212	0.074	-0.0006
249	SLE QP 2	2.05	-0.03	24.63	0.0223	0.0774	-0.0007
249	SLD 1	5.14	-0.04	29.25	0.0468	0.1981	-0.0011
249	SLD 2	5.14	-0.04	29.25	0.0468	0.1981	-0.0011
249	SLD 3	5.73	-0.1	31.68	0.0661	0.2207	-0.0021
249	SLD 4	5.73	-0.1	31.68	0.0661	0.2207	-0.0021
249	SLD 5	2.09	0.06	22.34	0.0004	0.0793	0.0007
249	SLD 6	2.09	0.06	22.34	0.0004	0.0793	0.0007
249	SLD 7	4.05	-0.15	30.42	0.0647	0.1547	-0.0026
249	SLD 8	4.05	-0.15	30.42	0.0647	0.1547	-0.0026
249	SLD 9	0.06	0.08	18.84	-0.0201	0.0002	0.0013
249	SLD 10	0.06	0.08	18.84	-0.0201	0.0002	0.0013
249	SLD 11	2.02	-0.12	26.92	0.0441	0.0755	-0.0021
249	SLD 12	2.02	-0.12	26.92	0.0441	0.0755	-0.0021
249	SLD 13	-1.63	0.04	17.58	-0.0216	-0.0658	0.0008
249	SLD 14	-1.63	0.04	17.58	-0.0216	-0.0658	0.0008
249	SLD 15	-1.04	-0.02	20.01	-0.0023	-0.0432	-0.0002
249	SLD 16	-1.04	-0.02	20.01	-0.0023	-0.0432	-0.0002
249	SLV 1	9.27	-0.05	35.43	0.086	0.359	-0.0018
249	SLV 2	9.27	-0.05	35.43	0.086	0.359	-0.0018
249	SLV 3	10.65	-0.21	41.15	0.1326	0.4121	-0.0043
249	SLV 4	10.65	-0.21	41.15	0.1326	0.4121	-0.0043
249	SLV 5	2.12	0.19	19.19	-0.0294	0.0814	0.0028
249	SLV 6	2.12	0.19	19.19	-0.0294	0.0814	0.0028
249	SLV 7	6.73	-0.32	38.27	0.1262	0.2584	-0.0055
249	SLV 8	6.73	-0.32	38.27	0.1262	0.2584	-0.0055
249	SLV 9	-2.63	0.25	10.99	-0.0817	-0.1035	0.0042
249	SLV 10	-2.63	0.25	10.99	-0.0817	-0.1035	0.0042
249	SLV 11	1.99	-0.26	30.07	0.074	0.0735	-0.0041
249	SLV 12	1.99	-0.26	30.07	0.074	0.0735	-0.0041
249	SLV 13	-6.55	0.14	8.11	-0.0881	-0.2573	0.0029
249	SLV 14	-6.55	0.14	8.11	-0.0881	-0.2573	0.0029
249	SLV 15	-5.16	-0.01	13.83	-0.0414	-0.2042	0.0005
249	SLV 16	-5.16	-0.01	13.83	-0.0414	-0.2042	0.0005
250	SLU 1	0.65	-0.03	22.04	0.0222	0.0209	-0.0003
250	SLU 2	0.66	-0.03	22.08	0.0224	0.021	-0.0003
250	SLU 3	0.69	-0.03	22.05	0.0228	0.0222	-0.0003
250	SLU 4	0.69	-0.03	22.08	0.0229	0.0223	-0.0003



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
250	SLU 5	0.68	-0.03	21.77	0.0224	0.022	-0.0003	
250	SLU 6	0.72	-0.03	21.74	0.0228	0.0233	-0.0003	
250	SLU 7	0.72	-0.03	21.77	0.0229	0.0233	-0.0003	
250	SLU 8	0.71	-0.03	21.42	0.0223	0.023	-0.0003	
250	SLU 9	0.71	-0.03	21.44	0.0224	0.023	-0.0003	
250	SLU 10	0.72	-0.04	26.56	0.0264	0.0235	-0.0004	
250	SLU 11	0.75	-0.04	26.54	0.0268	0.0248	-0.0004	
250	SLU 12	0.75	-0.04	26.56	0.0269	0.0248	-0.0004	
250	SLU 13	0.74	-0.04	26.25	0.0264	0.0245	-0.0004	
250	SLU 14	0.78	-0.04	26.22	0.0268	0.0258	-0.0004	
250	SLU 15	0.78	-0.04	26.25	0.0269	0.0258	-0.0004	
250	SLU 16	0.77	-0.04	25.9	0.0263	0.0255	-0.0004	
250	SLU 17	0.77	-0.04	25.93	0.0264	0.0256	-0.0004	
250	SLU 18	0.74	-0.04	28.44	0.028	0.0245	-0.0004	
250	SLU 19	0.74	-0.04	28.47	0.0281	0.0245	-0.0004	
250	SLU 20	0.77	-0.04	28.13	0.028	0.0255	-0.0004	
250	SLU 21	0.77	-0.04	28.16	0.0281	0.0256	-0.0004	
250	SLU 22	0.73	-0.04	25.45	0.0257	0.0238	-0.0004	
250	SLU 23	0.73	-0.04	25.49	0.0259	0.0239	-0.0004	
250	SLU 24	0.77	-0.04	25.46	0.0263	0.0252	-0.0004	
250	SLU 25	0.77	-0.04	25.49	0.0264	0.0252	-0.0004	
250	SLU 26	0.76	-0.04	25.18	0.0259	0.0249	-0.0004	
250	SLU 27	0.79	-0.04	25.15	0.0263	0.0262	-0.0004	
250	SLU 28	0.79	-0.04	25.17	0.0264	0.0263	-0.0004	
250	SLU 29	0.78	-0.04	24.83	0.0257	0.0259	-0.0004	
250	SLU 30	0.78	-0.04	24.85	0.0258	0.026	-0.0004	
250	SLU 31	0.79	-0.04	29.97	0.0299	0.0264	-0.0004	
250	SLU 32	0.83	-0.04	29.95	0.0303	0.0277	-0.0005	
250	SLU 33	0.83	-0.04	29.97	0.0304	0.0277	-0.0005	
250	SLU 34	0.82	-0.04	29.66	0.0299	0.0274	-0.0004	
250	SLU 35	0.85	-0.04	29.63	0.0303	0.0287	-0.0005	
250	SLU 36	0.85	-0.04	29.66	0.0304	0.0288	-0.0005	
250	SLU 37	0.84	-0.04	29.31	0.0298	0.0284	-0.0004	
250	SLU 38	0.84	-0.04	29.33	0.0298	0.0285	-0.0004	
250	SLU 39	0.81	-0.04	31.85	0.0314	0.0274	-0.0005	
250	SLU 40	0.82	-0.04	31.88	0.0315	0.0274	-0.0005	
250	SLU 41	0.84	-0.04	31.54	0.0314	0.0285	-0.0005	
250	SLU 42	0.84	-0.04	31.57	0.0315	0.0285	-0.0005	
250	SLU 43	0.82	-0.04	27.48	0.0277	0.0262	-0.0004	
250	SLU 44	0.83	-0.04	27.52	0.0279	0.0262	-0.0004	
250	SLU 45	0.86	-0.04	27.49	0.0283	0.0275	-0.0004	
250	SLU 46	0.86	-0.04	27.52	0.0284	0.0276	-0.0004	
250	SLU 47	0.85	-0.04	27.21	0.0279	0.0273	-0.0004	
250	SLU 48	0.89	-0.04	27.18	0.0283	0.0286	-0.0004	
250	SLU 49	0.89	-0.04	27.21	0.0284	0.0286	-0.0004	
250	SLU 50	0.88	-0.04	26.86	0.0277	0.0283	-0.0004	
250	SLU 51	0.88	-0.04	26.88	0.0278	0.0283	-0.0004	
250	SLU 52	0.89	-0.04	32.01	0.0319	0.0287	-0.0005	
250	SLU 53	0.92	-0.04	31.98	0.0323	0.03	-0.0005	
250	SLU 54	0.92	-0.04	32	0.0324	0.0301	-0.0005	
250	SLU 55	0.91	-0.04	31.69	0.0319	0.0298	-0.0005	
250	SLU 56	0.95	-0.04	31.67	0.0323	0.0311	-0.0005	
250	SLU 57	0.95	-0.04	31.69	0.0324	0.0311	-0.0005	
250	SLU 58	0.94	-0.04	31.34	0.0318	0.0308	-0.0005	
250	SLU 59	0.94	-0.04	31.37	0.0319	0.0308	-0.0005	
250	SLU 60	0.91	-0.05	33.89	0.0334	0.0298	-0.0005	
250	SLU 61	0.91	-0.05	33.91	0.0335	0.0298	-0.0005	
250	SLU 62	0.94	-0.05	33.58	0.0335	0.0308	-0.0005	
250	SLU 63	0.94	-0.05	33.6	0.0336	0.0308	-0.0005	
250	SLU 64	0.9	-0.04	30.89	0.0312	0.0291	-0.0005	
250	SLU 65	0.9	-0.04	30.93	0.0313	0.0291	-0.0005	
250	SLU 66	0.94	-0.04	30.9	0.0317	0.0304	-0.0005	
250	SLU 67	0.94	-0.04	30.93	0.0318	0.0305	-0.0005	
250	SLU 68	0.93	-0.04	30.62	0.0314	0.0302	-0.0005	
250	SLU 69	0.96	-0.04	30.59	0.0318	0.0315	-0.0005	
250	SLU 70	0.97	-0.04	30.62	0.0319	0.0315	-0.0005	
250	SLU 71	0.95	-0.04	30.27	0.0312	0.0312	-0.0005	
250	SLU 72	0.95	-0.04	30.29	0.0313	0.0312	-0.0005	
250	SLU 73	0.96	-0.05	35.41	0.0354	0.0317	-0.0005	
250	SLU 74	1	-0.05	35.39	0.0357	0.0329	-0.0005	
250	SLU 75	1	-0.05	35.41	0.0358	0.033	-0.0005	
250	SLU 76	0.99	-0.05	35.1	0.0354	0.0327	-0.0005	
250	SLU 77	1.02	-0.05	35.08	0.0358	0.034	-0.0005	
250	SLU 78	1.03	-0.05	35.1	0.0359	0.034	-0.0005	
250	SLU 79	1.01	-0.05	34.75	0.0352	0.0337	-0.0005	
250	SLU 80	1.01	-0.05	34.78	0.0353	0.0337	-0.0005	
250	SLU 81	0.99	-0.05	37.3	0.0369	0.0327	-0.0006	
250	SLU 82	0.99	-0.05	37.32	0.037	0.0327	-0.0006	
250	SLU 83	1.01	-0.05	36.98	0.0369	0.0337	-0.0006	
250	SLU 84	1.01	-0.05	37.01	0.037	0.0338	-0.0006	
250	SLE RA 1	0.68	-0.03	23.01	0.0232	0.0217	-0.0004	
250	SLE RA 2	0.68	-0.03	23.04	0.0233	0.0218	-0.0004	
250	SLE RA 3	0.7	-0.03	23.02	0.0236	0.0226	-0.0004	
250	SLE RA 4	0.7	-0.03	23.04	0.0237	0.0227	-0.0004	
250	SLE RA 5	0.69	-0.03	22.83	0.0233	0.0225	-0.0004	
250	SLE RA 6	0.72	-0.03	22.81	0.0236	0.0233	-0.0004	
250	SLE RA 7	0.72	-0.03	22.83	0.0237	0.0234	-0.0004	
250	SLE RA 8	0.71	-0.03	22.6	0.0232	0.0231	-0.0003	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
250	SLE RA 9	0.71	-0.03	22.61	0.0233	0.0232	-0.0003
250	SLE RA 10	0.72	-0.04	26.03	0.026	0.0234	-0.0004
250	SLE RA 11	0.74	-0.04	26.01	0.0263	0.0243	-0.0004
250	SLE RA 12	0.74	-0.04	26.03	0.0263	0.0243	-0.0004
250	SLE RA 13	0.73	-0.04	25.82	0.026	0.0241	-0.0004
250	SLE RA 14	0.76	-0.04	25.8	0.0263	0.025	-0.0004
250	SLE RA 15	0.76	-0.04	25.82	0.0263	0.025	-0.0004
250	SLE RA 16	0.75	-0.04	25.59	0.0259	0.0248	-0.0004
250	SLE RA 17	0.75	-0.04	25.6	0.026	0.0248	-0.0004
250	SLE RA 18	0.73	-0.04	27.28	0.027	0.0241	-0.0004
250	SLE RA 19	0.73	-0.04	27.3	0.0271	0.0241	-0.0004
250	SLE RA 20	0.75	-0.04	27.08	0.0271	0.0248	-0.0004
250	SLE RA 21	0.75	-0.04	27.09	0.0271	0.0249	-0.0004
250	SLE FR 1	0.68	-0.03	23.01	0.0232	0.0217	-0.0004
250	SLE FR 2	0.68	-0.03	23.02	0.0232	0.0217	-0.0004
250	SLE FR 3	0.68	-0.03	22.93	0.0232	0.022	-0.0003
250	SLE FR 4	0.69	-0.03	24.3	0.0244	0.0225	-0.0004
250	SLE FR 5	0.7	-0.03	24.21	0.0244	0.0227	-0.0004
250	SLE FR 6	0.7	-0.03	25.15	0.0251	0.0229	-0.0004
250	SLE QP 1	0.68	-0.03	23.01	0.0232	0.0217	-0.0004
250	SLE QP 2	0.69	-0.03	24.29	0.0244	0.0225	-0.0004
250	SLD 1	3.94	-0.1	27.36	0.0289	0.1241	-0.0003
250	SLD 2	3.94	-0.1	27.36	0.0289	0.1241	-0.0003
250	SLD 3	4.35	-0.02	29.63	0.0505	0.1378	-0.0009
250	SLD 4	4.35	-0.02	29.63	0.0505	0.1378	-0.0009
250	SLD 5	1.04	-0.17	21.76	-0.007	0.0322	0.0007
250	SLD 6	1.04	-0.17	21.76	-0.007	0.0322	0.0007
250	SLD 7	2.41	0.09	29.34	0.065	0.0778	-0.0016
250	SLD 8	2.41	0.09	29.34	0.065	0.0778	-0.0016
250	SLD 9	-1.03	-0.16	19.24	-0.0163	-0.0329	0.0008
250	SLD 10	-1.03	-0.16	19.24	-0.0163	-0.0329	0.0008
250	SLD 11	0.34	0.1	26.82	0.0558	0.0127	-0.0014
250	SLD 12	0.34	0.1	26.82	0.0558	0.0127	-0.0014
250	SLD 13	-2.97	-0.05	18.95	-0.0018	-0.0929	0.0002
250	SLD 14	-2.97	-0.05	18.95	-0.0018	-0.0929	0.0002
250	SLD 15	-2.55	0.03	21.23	0.0198	-0.0792	-0.0005
250	SLD 16	-2.55	0.03	21.23	0.0198	-0.0792	-0.0005
250	SLV 1	8.27	-0.19	31.45	0.0353	0.2597	-0.0001
250	SLV 2	8.27	-0.19	31.45	0.0353	0.2597	-0.0001
250	SLV 3	9.24	0.01	36.83	0.0877	0.2918	-0.0018
250	SLV 4	9.24	0.01	36.83	0.0877	0.2918	-0.0018
250	SLV 5	1.5	-0.38	18.28	-0.0518	0.045	0.0023
250	SLV 6	1.5	-0.38	18.28	-0.0518	0.045	0.0023
250	SLV 7	4.72	0.28	36.21	0.1228	0.1519	-0.0034
250	SLV 8	4.72	0.28	36.21	0.1228	0.1519	-0.0034
250	SLV 9	-3.34	-0.35	12.37	-0.0741	-0.107	0.0027
250	SLV 10	-3.34	-0.35	12.37	-0.0741	-0.107	0.0027
250	SLV 11	-0.12	0.31	30.31	0.1005	-0.0001	-0.003
250	SLV 12	-0.12	0.31	30.31	0.1005	-0.0001	-0.003
250	SLV 13	-7.85	-0.08	11.76	-0.0389	-0.2469	0.0011
250	SLV 14	-7.85	-0.08	11.76	-0.0389	-0.2469	0.0011
250	SLV 15	-6.89	0.12	17.14	0.0134	-0.2148	-0.0007
250	SLV 16	-6.89	0.12	17.14	0.0134	-0.2148	-0.0007
251	SLU 1	-0.28	-0.03	21.44	0.0213	-0.0063	0
251	SLU 2	-0.29	-0.03	21.48	0.0215	-0.0064	0
251	SLU 3	-0.27	-0.03	21.39	0.0219	-0.0057	0
251	SLU 4	-0.27	-0.03	21.41	0.022	-0.0058	0
251	SLU 5	-0.26	-0.03	21.09	0.0215	-0.0055	0
251	SLU 6	-0.24	-0.03	21	0.0219	-0.0048	0
251	SLU 7	-0.24	-0.03	21.03	0.022	-0.0048	0
251	SLU 8	-0.23	-0.03	20.67	0.0214	-0.0045	0
251	SLU 9	-0.23	-0.03	20.69	0.0215	-0.0045	0
251	SLU 10	-0.38	-0.04	25.71	0.0253	-0.0084	0
251	SLU 11	-0.36	-0.04	25.62	0.0257	-0.0077	0
251	SLU 12	-0.36	-0.04	25.65	0.0258	-0.0077	0
251	SLU 13	-0.35	-0.04	25.33	0.0254	-0.0074	0
251	SLU 14	-0.34	-0.04	25.24	0.0258	-0.0068	0
251	SLU 15	-0.34	-0.04	25.26	0.0258	-0.0068	0
251	SLU 16	-0.33	-0.04	24.9	0.0252	-0.0065	0
251	SLU 17	-0.33	-0.04	24.93	0.0253	-0.0065	0
251	SLU 18	-0.42	-0.04	27.48	0.0268	-0.0092	0
251	SLU 19	-0.42	-0.04	27.51	0.0269	-0.0092	0
251	SLU 20	-0.39	-0.04	27.1	0.0269	-0.0083	0
251	SLU 21	-0.4	-0.04	27.12	0.0269	-0.0083	0
251	SLU 22	-0.34	-0.04	24.62	0.0247	-0.0074	0
251	SLU 23	-0.35	-0.04	24.66	0.0248	-0.0074	0
251	SLU 24	-0.33	-0.04	24.57	0.0252	-0.0068	0
251	SLU 25	-0.33	-0.04	24.59	0.0253	-0.0068	0
251	SLU 26	-0.32	-0.04	24.27	0.0248	-0.0065	0
251	SLU 27	-0.3	-0.04	24.18	0.0252	-0.0059	0
251	SLU 28	-0.3	-0.04	24.21	0.0253	-0.0059	0
251	SLU 29	-0.29	-0.04	23.85	0.0247	-0.0055	0
251	SLU 30	-0.29	-0.04	23.87	0.0248	-0.0056	0
251	SLU 31	-0.44	-0.04	28.89	0.0287	-0.0094	0
251	SLU 32	-0.42	-0.04	28.8	0.0291	-0.0088	0
251	SLU 33	-0.42	-0.04	28.83	0.0291	-0.0088	0
251	SLU 34	-0.41	-0.04	28.51	0.0287	-0.0085	0
251	SLU 35	-0.4	-0.04	28.42	0.0291	-0.0078	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
251	SLU 36	-0.4	-0.04	28.44	0.0292	-0.0079	0
251	SLU 37	-0.39	-0.04	28.08	0.0286	-0.0075	0
251	SLU 38	-0.39	-0.04	28.11	0.0287	-0.0075	0
251	SLU 39	-0.48	-0.04	30.66	0.0302	-0.0102	0
251	SLU 40	-0.48	-0.04	30.69	0.0303	-0.0102	0
251	SLU 41	-0.45	-0.04	30.28	0.0302	-0.0093	0
251	SLU 42	-0.45	-0.04	30.3	0.0303	-0.0093	0
251	SLU 43	-0.35	-0.04	26.78	0.0266	-0.0079	0
251	SLU 44	-0.35	-0.04	26.82	0.0268	-0.0079	0
251	SLU 45	-0.33	-0.04	26.73	0.0271	-0.0073	0
251	SLU 46	-0.33	-0.04	26.76	0.0272	-0.0073	0
251	SLU 47	-0.32	-0.04	26.44	0.0268	-0.007	0
251	SLU 48	-0.31	-0.04	26.35	0.0272	-0.0064	0
251	SLU 49	-0.31	-0.04	26.37	0.0273	-0.0064	0
251	SLU 50	-0.3	-0.04	26.01	0.0267	-0.006	0
251	SLU 51	-0.3	-0.04	26.03	0.0267	-0.0061	0
251	SLU 52	-0.45	-0.04	31.05	0.0306	-0.0099	0
251	SLU 53	-0.43	-0.04	30.96	0.031	-0.0093	0
251	SLU 54	-0.43	-0.04	30.99	0.0311	-0.0093	0
251	SLU 55	-0.42	-0.04	30.67	0.0306	-0.009	0
251	SLU 56	-0.4	-0.04	30.58	0.031	-0.0083	0
251	SLU 57	-0.4	-0.04	30.6	0.0311	-0.0084	0
251	SLU 58	-0.39	-0.04	30.24	0.0305	-0.008	0
251	SLU 59	-0.39	-0.04	30.27	0.0306	-0.008	0
251	SLU 60	-0.49	-0.05	32.82	0.0321	-0.0107	0
251	SLU 61	-0.49	-0.05	32.85	0.0322	-0.0107	0
251	SLU 62	-0.46	-0.05	32.44	0.0321	-0.0098	0
251	SLU 63	-0.46	-0.05	32.47	0.0322	-0.0098	0
251	SLU 64	-0.41	-0.04	29.96	0.0299	-0.0089	0
251	SLU 65	-0.41	-0.04	30	0.0301	-0.009	0
251	SLU 66	-0.39	-0.04	29.91	0.0305	-0.0083	0
251	SLU 67	-0.39	-0.04	29.93	0.0306	-0.0083	0
251	SLU 68	-0.38	-0.04	29.61	0.0301	-0.008	0
251	SLU 69	-0.37	-0.04	29.52	0.0305	-0.0074	0
251	SLU 70	-0.37	-0.04	29.55	0.0306	-0.0074	0
251	SLU 71	-0.36	-0.04	29.19	0.03	-0.0071	0
251	SLU 72	-0.36	-0.04	29.21	0.0301	-0.0071	0
251	SLU 73	-0.51	-0.05	34.23	0.0339	-0.011	0
251	SLU 74	-0.49	-0.05	34.14	0.0343	-0.0103	0
251	SLU 75	-0.49	-0.05	34.17	0.0344	-0.0103	0
251	SLU 76	-0.48	-0.05	33.85	0.034	-0.01	0
251	SLU 77	-0.46	-0.05	33.76	0.0343	-0.0094	0
251	SLU 78	-0.46	-0.05	33.78	0.0344	-0.0094	0
251	SLU 79	-0.45	-0.05	33.42	0.0338	-0.0091	0
251	SLU 80	-0.45	-0.05	33.45	0.0339	-0.0091	0
251	SLU 81	-0.55	-0.05	36	0.0354	-0.0118	0
251	SLU 82	-0.55	-0.05	36.03	0.0355	-0.0118	0
251	SLU 83	-0.52	-0.05	35.62	0.0355	-0.0108	0
251	SLU 84	-0.52	-0.05	35.64	0.0355	-0.0109	0
251	SLE RA 1	-0.3	-0.03	22.35	0.0223	-0.0066	0
251	SLE RA 2	-0.3	-0.03	22.37	0.0224	-0.0067	0
251	SLE RA 3	-0.29	-0.03	22.31	0.0227	-0.0062	0
251	SLE RA 4	-0.29	-0.03	22.33	0.0227	-0.0062	0
251	SLE RA 5	-0.28	-0.03	22.12	0.0224	-0.0061	0
251	SLE RA 6	-0.27	-0.03	22.06	0.0227	-0.0056	0
251	SLE RA 7	-0.27	-0.03	22.07	0.0227	-0.0056	0
251	SLE RA 8	-0.27	-0.03	21.83	0.0223	-0.0054	0
251	SLE RA 9	-0.27	-0.03	21.85	0.0224	-0.0054	0
251	SLE RA 10	-0.37	-0.04	25.19	0.025	-0.008	0
251	SLE RA 11	-0.35	-0.04	25.13	0.0252	-0.0076	0
251	SLE RA 12	-0.35	-0.04	25.15	0.0253	-0.0076	0
251	SLE RA 13	-0.35	-0.04	24.94	0.025	-0.0074	0
251	SLE RA 14	-0.34	-0.04	24.88	0.0252	-0.0069	0
251	SLE RA 15	-0.34	-0.04	24.9	0.0253	-0.007	0
251	SLE RA 16	-0.33	-0.04	24.65	0.0249	-0.0067	0
251	SLE RA 17	-0.33	-0.04	24.67	0.025	-0.0067	0
251	SLE RA 18	-0.39	-0.04	26.38	0.026	-0.0085	0
251	SLE RA 19	-0.39	-0.04	26.39	0.026	-0.0085	0
251	SLE RA 20	-0.37	-0.04	26.12	0.026	-0.0079	0
251	SLE RA 21	-0.38	-0.04	26.14	0.026	-0.0079	0
251	SLE FR 1	-0.3	-0.03	22.35	0.0223	-0.0066	0
251	SLE FR 2	-0.3	-0.03	22.35	0.0223	-0.0066	0
251	SLE FR 3	-0.29	-0.03	22.24	0.0223	-0.0064	0
251	SLE FR 4	-0.33	-0.03	23.56	0.0234	-0.0072	0
251	SLE FR 5	-0.32	-0.03	23.45	0.0234	-0.007	0
251	SLE FR 6	-0.35	-0.03	24.36	0.0241	-0.0076	0
251	SLE QP 1	-0.3	-0.03	22.35	0.0223	-0.0066	0
251	SLE QP 2	-0.33	-0.03	23.55	0.0234	-0.0072	0
251	SLD 1	3.12	-0.1	25.65	0.0324	0.0884	0.0001
251	SLD 2	3.12	-0.1	25.65	0.0324	0.0884	0.0001
251	SLD 3	3.44	-0.03	27.65	0.0521	0.0972	0
251	SLD 4	3.44	-0.03	27.65	0.0521	0.0972	0
251	SLD 5	0.22	-0.16	21.15	-0.0038	0.0081	0.0002
251	SLD 6	0.22	-0.16	21.15	-0.0038	0.0081	0.0002
251	SLD 7	1.29	0.07	27.82	0.0619	0.0375	-0.0001
251	SLD 8	1.29	0.07	27.82	0.0619	0.0375	-0.0001
251	SLD 9	-1.94	-0.14	19.29	-0.0151	-0.0519	0.0002
251	SLD 10	-1.94	-0.14	19.29	-0.0151	-0.0519	0.0002



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
251	SLD 11	-0.88	0.09	25.96	0.0506	-0.0225	-0.0002
251	SLD 12	-0.88	0.09	25.96	0.0506	-0.0225	-0.0002
251	SLD 13	-4.1	-0.03	19.46	-0.0053	-0.1117	0
251	SLD 14	-4.1	-0.03	19.46	-0.0053	-0.1117	0
251	SLD 15	-3.78	0.04	21.46	0.0144	-0.1028	-0.0001
251	SLD 16	-3.78	0.04	21.46	0.0144	-0.1028	-0.0001
251	SLV 1	7.72	-0.21	28.44	0.0462	0.2159	0.0003
251	SLV 2	7.72	-0.21	28.44	0.0462	0.2159	0.0003
251	SLV 3	8.47	-0.03	33.19	0.0936	0.2366	0.0001
251	SLV 4	8.47	-0.03	33.19	0.0936	0.2366	0.0001
251	SLV 5	0.95	-0.35	17.81	-0.0417	0.0283	0.0005
251	SLV 6	0.95	-0.35	17.81	-0.0417	0.0283	0.0005
251	SLV 7	3.45	0.23	33.66	0.1164	0.0974	-0.0004
251	SLV 8	3.45	0.23	33.66	0.1164	0.0974	-0.0004
251	SLV 9	-4.1	-0.29	13.45	-0.0696	-0.1118	0.0004
251	SLV 10	-4.1	-0.29	13.45	-0.0696	-0.1118	0.0004
251	SLV 11	-1.61	0.28	29.3	0.0885	-0.0427	-0.0005
251	SLV 12	-1.61	0.28	29.3	0.0885	-0.0427	-0.0005
251	SLV 13	-9.13	-0.03	13.92	-0.0468	-0.251	0
251	SLV 14	-9.13	-0.03	13.92	-0.0468	-0.251	0
251	SLV 15	-8.38	0.14	18.67	0.0006	-0.2303	-0.0003
251	SLV 16	-8.38	0.14	18.67	0.0006	-0.2303	-0.0003
252	SLU 1	-0.8	-0.02	20.75	0.0177	-0.0163	0.0002
252	SLU 2	-0.8	-0.02	20.79	0.0178	-0.0164	0.0002
252	SLU 3	-0.81	-0.02	20.62	0.0182	-0.0165	0.0002
252	SLU 4	-0.81	-0.02	20.64	0.0182	-0.0166	0.0002
252	SLU 5	-0.8	-0.02	20.31	0.0178	-0.0162	0.0002
252	SLU 6	-0.81	-0.02	20.14	0.0182	-0.0164	0.0002
252	SLU 7	-0.81	-0.02	20.16	0.0183	-0.0164	0.0002
252	SLU 8	-0.8	-0.02	19.79	0.0178	-0.0161	0.0002
252	SLU 9	-0.8	-0.02	19.82	0.0179	-0.0161	0.0002
252	SLU 10	-0.98	-0.03	24.8	0.021	-0.0202	0.0002
252	SLU 11	-0.99	-0.03	24.62	0.0213	-0.0204	0.0002
252	SLU 12	-0.99	-0.03	24.65	0.0214	-0.0204	0.0002
252	SLU 13	-0.98	-0.03	24.32	0.021	-0.0201	0.0002
252	SLU 14	-0.99	-0.03	24.14	0.0214	-0.0203	0.0002
252	SLU 15	-0.99	-0.03	24.17	0.0214	-0.0203	0.0002
252	SLU 16	-0.98	-0.03	23.8	0.021	-0.0199	0.0002
252	SLU 17	-0.98	-0.03	23.82	0.021	-0.02	0.0002
252	SLU 18	-1.05	-0.03	26.47	0.0222	-0.0218	0.0002
252	SLU 19	-1.05	-0.03	26.5	0.0223	-0.0219	0.0002
252	SLU 20	-1.05	-0.03	25.99	0.0223	-0.0217	0.0002
252	SLU 21	-1.05	-0.03	26.02	0.0223	-0.0217	0.0002
252	SLU 22	-0.94	-0.03	23.7	0.0204	-0.0193	0.0002
252	SLU 23	-0.94	-0.03	23.74	0.0206	-0.0194	0.0002
252	SLU 24	-0.96	-0.03	23.56	0.0209	-0.0196	0.0002
252	SLU 25	-0.96	-0.03	23.59	0.021	-0.0196	0.0002
252	SLU 26	-0.95	-0.03	23.26	0.0206	-0.0193	0.0002
252	SLU 27	-0.96	-0.03	23.09	0.021	-0.0194	0.0002
252	SLU 28	-0.96	-0.03	23.11	0.021	-0.0195	0.0002
252	SLU 29	-0.94	-0.03	22.74	0.0206	-0.0191	0.0002
252	SLU 30	-0.94	-0.03	22.77	0.0206	-0.0191	0.0002
252	SLU 31	-1.12	-0.03	27.74	0.0237	-0.0233	0.0002
252	SLU 32	-1.14	-0.03	27.57	0.0241	-0.0234	0.0003
252	SLU 33	-1.14	-0.03	27.59	0.0242	-0.0235	0.0003
252	SLU 34	-1.12	-0.03	27.27	0.0238	-0.0231	0.0002
252	SLU 35	-1.14	-0.03	27.09	0.0241	-0.0233	0.0003
252	SLU 36	-1.14	-0.03	27.11	0.0242	-0.0233	0.0003
252	SLU 37	-1.12	-0.03	26.74	0.0237	-0.023	0.0002
252	SLU 38	-1.12	-0.03	26.77	0.0238	-0.023	0.0002
252	SLU 39	-1.2	-0.03	29.42	0.025	-0.0249	0.0003
252	SLU 40	-1.2	-0.03	29.44	0.025	-0.0249	0.0003
252	SLU 41	-1.2	-0.03	28.94	0.025	-0.0247	0.0003
252	SLU 42	-1.2	-0.03	28.96	0.0251	-0.0248	0.0003
252	SLU 43	-0.98	-0.03	25.97	0.022	-0.0202	0.0002
252	SLU 44	-0.99	-0.03	26.01	0.0221	-0.0202	0.0002
252	SLU 45	-1	-0.03	25.83	0.0225	-0.0204	0.0002
252	SLU 46	-1	-0.03	25.86	0.0226	-0.0204	0.0002
252	SLU 47	-0.99	-0.03	25.53	0.0222	-0.0201	0.0002
252	SLU 48	-1	-0.03	25.35	0.0226	-0.0203	0.0002
252	SLU 49	-1	-0.03	25.38	0.0226	-0.0203	0.0002
252	SLU 50	-0.99	-0.03	25.01	0.0222	-0.0199	0.0002
252	SLU 51	-0.99	-0.03	25.03	0.0222	-0.02	0.0002
252	SLU 52	-1.17	-0.03	30.01	0.0253	-0.0241	0.0003
252	SLU 53	-1.18	-0.03	29.84	0.0257	-0.0242	0.0003
252	SLU 54	-1.18	-0.03	29.86	0.0257	-0.0243	0.0003
252	SLU 55	-1.17	-0.03	29.53	0.0254	-0.024	0.0003
252	SLU 56	-1.18	-0.03	29.36	0.0257	-0.0241	0.0003
252	SLU 57	-1.18	-0.03	29.38	0.0258	-0.0242	0.0003
252	SLU 58	-1.16	-0.03	29.01	0.0253	-0.0238	0.0003
252	SLU 59	-1.17	-0.03	29.04	0.0254	-0.0238	0.0003
252	SLU 60	-1.24	-0.03	31.68	0.0266	-0.0257	0.0003
252	SLU 61	-1.24	-0.03	31.71	0.0266	-0.0257	0.0003
252	SLU 62	-1.24	-0.03	31.21	0.0266	-0.0256	0.0003
252	SLU 63	-1.24	-0.03	31.23	0.0267	-0.0256	0.0003
252	SLU 64	-1.13	-0.03	28.91	0.0248	-0.0232	0.0003
252	SLU 65	-1.13	-0.03	28.96	0.0249	-0.0232	0.0003
252	SLU 66	-1.15	-0.03	28.78	0.0253	-0.0234	0.0003



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
252	SLU 67	-1.15	-0.03	28.8	0.0253	-0.0234	0.0003	
252	SLU 68	-1.13	-0.03	28.48	0.025	-0.0231	0.0003	
252	SLU 69	-1.15	-0.03	28.3	0.0253	-0.0233	0.0003	
252	SLU 70	-1.15	-0.03	28.33	0.0254	-0.0233	0.0003	
252	SLU 71	-1.13	-0.03	27.96	0.0249	-0.023	0.0003	
252	SLU 72	-1.13	-0.03	27.98	0.025	-0.023	0.0003	
252	SLU 73	-1.31	-0.04	32.96	0.0281	-0.0271	0.0003	
252	SLU 74	-1.33	-0.04	32.78	0.0284	-0.0273	0.0003	
252	SLU 75	-1.33	-0.04	32.81	0.0285	-0.0273	0.0003	
252	SLU 76	-1.31	-0.04	32.48	0.0281	-0.027	0.0003	
252	SLU 77	-1.33	-0.04	32.3	0.0285	-0.0272	0.0003	
252	SLU 78	-1.33	-0.04	32.33	0.0286	-0.0272	0.0003	
252	SLU 79	-1.31	-0.04	31.96	0.0281	-0.0268	0.0003	
252	SLU 80	-1.31	-0.04	31.98	0.0282	-0.0269	0.0003	
252	SLU 81	-1.39	-0.04	34.63	0.0293	-0.0287	0.0003	
252	SLU 82	-1.39	-0.04	34.66	0.0294	-0.0287	0.0003	
252	SLU 83	-1.39	-0.04	34.15	0.0294	-0.0286	0.0003	
252	SLU 84	-1.39	-0.04	34.18	0.0295	-0.0286	0.0003	
252	SLE RA 1	-0.84	-0.02	21.59	0.0185	-0.0172	0.0002	
252	SLE RA 2	-0.84	-0.02	21.62	0.0185	-0.0172	0.0002	
252	SLE RA 3	-0.85	-0.02	21.5	0.0188	-0.0173	0.0002	
252	SLE RA 4	-0.85	-0.02	21.52	0.0188	-0.0173	0.0002	
252	SLE RA 5	-0.84	-0.02	21.3	0.0186	-0.0171	0.0002	
252	SLE RA 6	-0.85	-0.02	21.18	0.0188	-0.0172	0.0002	
252	SLE RA 7	-0.85	-0.02	21.2	0.0189	-0.0173	0.0002	
252	SLE RA 8	-0.84	-0.02	20.95	0.0185	-0.017	0.0002	
252	SLE RA 9	-0.84	-0.02	20.97	0.0186	-0.017	0.0002	
252	SLE RA 10	-0.96	-0.03	24.29	0.0207	-0.0198	0.0002	
252	SLE RA 11	-0.97	-0.03	24.17	0.0209	-0.0199	0.0002	
252	SLE RA 12	-0.97	-0.03	24.19	0.0209	-0.0199	0.0002	
252	SLE RA 13	-0.96	-0.03	23.97	0.0207	-0.0197	0.0002	
252	SLE RA 14	-0.97	-0.03	23.85	0.0209	-0.0198	0.0002	
252	SLE RA 15	-0.97	-0.03	23.87	0.021	-0.0198	0.0002	
252	SLE RA 16	-0.96	-0.03	23.62	0.0207	-0.0196	0.0002	
252	SLE RA 17	-0.96	-0.03	23.64	0.0207	-0.0196	0.0002	
252	SLE RA 18	-1.01	-0.03	25.41	0.0215	-0.0209	0.0002	
252	SLE RA 19	-1.01	-0.03	25.42	0.0215	-0.0209	0.0002	
252	SLE RA 20	-1.01	-0.03	25.09	0.0215	-0.0208	0.0002	
252	SLE RA 21	-1.01	-0.03	25.1	0.0216	-0.0208	0.0002	
252	SLE FR 1	-0.84	-0.02	21.59	0.0185	-0.0172	0.0002	
252	SLE FR 2	-0.84	-0.02	21.6	0.0185	-0.0172	0.0002	
252	SLE FR 3	-0.84	-0.02	21.47	0.0185	-0.0171	0.0002	
252	SLE FR 4	-0.89	-0.02	22.74	0.0194	-0.0183	0.0002	
252	SLE FR 5	-0.89	-0.02	22.61	0.0194	-0.0182	0.0002	
252	SLE FR 6	-0.92	-0.03	23.5	0.02	-0.019	0.0002	
252	SLE QP 1	-0.84	-0.02	21.59	0.0185	-0.0172	0.0002	
252	SLE QP 2	-0.89	-0.02	22.74	0.0194	-0.0183	0.0002	
252	SLD 1	2.98	-0.06	25.8	0.0436	0.0906	0.0007	
252	SLD 2	2.98	-0.06	25.8	0.0436	0.0906	0.0007	
252	SLD 3	2.55	-0.09	24.22	0.0615	0.0799	0.0004	
252	SLD 4	2.55	-0.09	24.22	0.0615	0.0799	0.0004	
252	SLD 5	0.93	0.02	26.05	-0.0004	0.0306	0.0009	
252	SLD 6	0.93	0.02	26.05	-0.0004	0.0306	0.0009	
252	SLD 7	-0.52	-0.1	20.79	0.0591	-0.005	-0.0003	
252	SLD 8	-0.52	-0.1	20.79	0.0591	-0.005	-0.0003	
252	SLD 9	-1.26	0.05	24.69	-0.0203	-0.0315	0.0007	
252	SLD 10	-1.26	0.05	24.69	-0.0203	-0.0315	0.0007	
252	SLD 11	-2.71	-0.07	19.42	0.0392	-0.0672	-0.0005	
252	SLD 12	-2.71	-0.07	19.42	0.0392	-0.0672	-0.0005	
252	SLD 13	-4.33	0.04	21.25	-0.0227	-0.1165	0	
252	SLD 14	-4.33	0.04	21.25	-0.0227	-0.1165	0	
252	SLD 15	-4.76	0.01	19.67	-0.0048	-0.1272	-0.0003	
252	SLD 16	-4.76	0.01	19.67	-0.0048	-0.1272	-0.0003	
252	SLV 1	8.15	-0.11	29.99	0.0825	0.236	0.0015	
252	SLV 2	8.15	-0.11	29.99	0.0825	0.236	0.0015	
252	SLV 3	7.13	-0.2	26.2	0.1249	0.2108	0.0006	
252	SLV 4	7.13	-0.2	26.2	0.1249	0.2108	0.0006	
252	SLV 5	3.37	0.08	30.66	-0.026	0.0961	0.0018	
252	SLV 6	3.37	0.08	30.66	-0.026	0.0961	0.0018	
252	SLV 7	-0.03	-0.21	18.03	0.1154	0.0123	-0.0009	
252	SLV 8	-0.03	-0.21	18.03	0.1154	0.0123	-0.0009	
252	SLV 9	-1.74	0.16	27.44	-0.0766	-0.0489	0.0013	
252	SLV 10	-1.74	0.16	27.44	-0.0766	-0.0489	0.0013	
252	SLV 11	-5.15	-0.13	14.82	0.0648	-0.1327	-0.0014	
252	SLV 12	-5.15	-0.13	14.82	0.0648	-0.1327	-0.0014	
252	SLV 13	-8.91	0.15	19.27	-0.0861	-0.2474	-0.0002	
252	SLV 14	-8.91	0.15	19.27	-0.0861	-0.2474	-0.0002	
252	SLV 15	-9.93	0.06	15.49	-0.0437	-0.2726	-0.0011	
252	SLV 16	-9.93	0.06	15.49	-0.0437	-0.2726	-0.0011	
253	SLU 1	-1.07	-0.01	20.15	0.0128	-0.0352	0.0002	
253	SLU 2	-1.07	-0.01	20.2	0.0128	-0.0353	0.0002	
253	SLU 3	-1.12	-0.01	19.9	0.0132	-0.0364	0.0002	
253	SLU 4	-1.12	-0.01	19.92	0.0132	-0.0364	0.0002	
253	SLU 5	-1.11	-0.01	19.58	0.0129	-0.0358	0.0002	
253	SLU 6	-1.16	-0.01	19.28	0.0133	-0.0369	0.0002	
253	SLU 7	-1.16	-0.01	19.31	0.0133	-0.0369	0.0002	
253	SLU 8	-1.15	-0.01	18.92	0.013	-0.0362	0.0002	
253	SLU 9	-1.15	-0.01	18.95	0.013	-0.0363	0.0002	



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
253	SLU 10	-1.29	-0.02	24.02	0.0151	-0.0423	0.0002
253	SLU 11	-1.34	-0.02	23.72	0.0154	-0.0433	0.0002
253	SLU 12	-1.35	-0.02	23.74	0.0155	-0.0434	0.0002
253	SLU 13	-1.33	-0.02	23.4	0.0152	-0.0427	0.0002
253	SLU 14	-1.39	-0.02	23.1	0.0155	-0.0438	0.0002
253	SLU 15	-1.39	-0.02	23.13	0.0156	-0.0439	0.0002
253	SLU 16	-1.37	-0.02	22.74	0.0153	-0.0431	0.0002
253	SLU 17	-1.37	-0.02	22.77	0.0153	-0.0432	0.0002
253	SLU 18	-1.38	-0.02	25.61	0.016	-0.0451	0.0002
253	SLU 19	-1.39	-0.02	25.64	0.0161	-0.0452	0.0002
253	SLU 20	-1.43	-0.02	25	0.0161	-0.0456	0.0002
253	SLU 21	-1.43	-0.02	25.02	0.0162	-0.0457	0.0002
253	SLU 22	-1.27	-0.02	22.88	0.0148	-0.0412	0.0002
253	SLU 23	-1.27	-0.02	22.92	0.0148	-0.0414	0.0002
253	SLU 24	-1.33	-0.02	22.62	0.0152	-0.0424	0.0002
253	SLU 25	-1.33	-0.02	22.65	0.0152	-0.0425	0.0002
253	SLU 26	-1.31	-0.02	22.31	0.0149	-0.0418	0.0002
253	SLU 27	-1.37	-0.02	22.01	0.0153	-0.0429	0.0002
253	SLU 28	-1.37	-0.02	22.03	0.0153	-0.043	0.0002
253	SLU 29	-1.35	-0.02	21.65	0.015	-0.0422	0.0002
253	SLU 30	-1.35	-0.02	21.67	0.015	-0.0423	0.0002
253	SLU 31	-1.5	-0.02	26.74	0.0171	-0.0483	0.0002
253	SLU 32	-1.55	-0.02	26.45	0.0175	-0.0493	0.0002
253	SLU 33	-1.55	-0.02	26.47	0.0175	-0.0494	0.0002
253	SLU 34	-1.54	-0.02	26.13	0.0172	-0.0488	0.0002
253	SLU 35	-1.59	-0.02	25.83	0.0176	-0.0498	0.0002
253	SLU 36	-1.59	-0.02	25.86	0.0176	-0.0499	0.0002
253	SLU 37	-1.57	-0.02	25.47	0.0173	-0.0491	0.0002
253	SLU 38	-1.58	-0.02	25.5	0.0173	-0.0492	0.0002
253	SLU 39	-1.59	-0.02	28.34	0.018	-0.0511	0.0003
253	SLU 40	-1.59	-0.02	28.37	0.0181	-0.0512	0.0003
253	SLU 41	-1.63	-0.02	27.72	0.0181	-0.0516	0.0003
253	SLU 42	-1.63	-0.02	27.75	0.0182	-0.0517	0.0003
253	SLU 43	-1.32	-0.02	25.26	0.0159	-0.0437	0.0002
253	SLU 44	-1.32	-0.02	25.31	0.016	-0.0438	0.0002
253	SLU 45	-1.37	-0.02	25.01	0.0163	-0.0449	0.0002
253	SLU 46	-1.37	-0.02	25.03	0.0163	-0.0449	0.0002
253	SLU 47	-1.36	-0.02	24.69	0.0161	-0.0443	0.0002
253	SLU 48	-1.41	-0.02	24.39	0.0164	-0.0454	0.0002
253	SLU 49	-1.41	-0.02	24.42	0.0164	-0.0454	0.0002
253	SLU 50	-1.4	-0.02	24.03	0.0161	-0.0447	0.0002
253	SLU 51	-1.4	-0.02	24.06	0.0162	-0.0448	0.0002
253	SLU 52	-1.54	-0.02	29.13	0.0182	-0.0508	0.0003
253	SLU 53	-1.59	-0.02	28.83	0.0186	-0.0518	0.0003
253	SLU 54	-1.6	-0.02	28.86	0.0186	-0.0519	0.0003
253	SLU 55	-1.58	-0.02	28.51	0.0183	-0.0512	0.0003
253	SLU 56	-1.64	-0.02	28.21	0.0187	-0.0523	0.0003
253	SLU 57	-1.64	-0.02	28.24	0.0187	-0.0524	0.0003
253	SLU 58	-1.62	-0.02	27.86	0.0184	-0.0516	0.0003
253	SLU 59	-1.62	-0.02	27.88	0.0184	-0.0517	0.0003
253	SLU 60	-1.63	-0.02	30.72	0.0192	-0.0536	0.0003
253	SLU 61	-1.64	-0.02	30.75	0.0192	-0.0537	0.0003
253	SLU 62	-1.68	-0.02	30.11	0.0193	-0.0541	0.0003
253	SLU 63	-1.68	-0.02	30.13	0.0193	-0.0542	0.0003
253	SLU 64	-1.52	-0.02	27.99	0.0179	-0.0497	0.0003
253	SLU 65	-1.52	-0.02	28.03	0.018	-0.0499	0.0003
253	SLU 66	-1.58	-0.02	27.73	0.0183	-0.0509	0.0003
253	SLU 67	-1.58	-0.02	27.76	0.0184	-0.051	0.0003
253	SLU 68	-1.56	-0.02	27.42	0.0181	-0.0503	0.0003
253	SLU 69	-1.62	-0.02	27.12	0.0184	-0.0514	0.0003
253	SLU 70	-1.62	-0.02	27.14	0.0185	-0.0515	0.0003
253	SLU 71	-1.6	-0.02	26.76	0.0181	-0.0507	0.0003
253	SLU 72	-1.6	-0.02	26.79	0.0182	-0.0508	0.0003
253	SLU 73	-1.75	-0.02	31.86	0.0203	-0.0568	0.0003
253	SLU 74	-1.8	-0.02	31.56	0.0206	-0.0578	0.0003
253	SLU 75	-1.8	-0.02	31.58	0.0206	-0.0579	0.0003
253	SLU 76	-1.79	-0.02	31.24	0.0204	-0.0573	0.0003
253	SLU 77	-1.84	-0.02	30.94	0.0207	-0.0583	0.0003
253	SLU 78	-1.84	-0.02	30.97	0.0207	-0.0584	0.0003
253	SLU 79	-1.82	-0.02	30.58	0.0204	-0.0576	0.0003
253	SLU 80	-1.83	-0.02	30.61	0.0204	-0.0577	0.0003
253	SLU 81	-1.84	-0.02	33.45	0.0212	-0.0596	0.0003
253	SLU 82	-1.84	-0.02	33.48	0.0212	-0.0597	0.0003
253	SLU 83	-1.88	-0.02	32.84	0.0213	-0.0601	0.0003
253	SLU 84	-1.88	-0.02	32.86	0.0213	-0.0602	0.0003
253	SLE RA 1	-1.13	-0.02	20.93	0.0133	-0.0369	0.0002
253	SLE RA 2	-1.13	-0.02	20.96	0.0134	-0.037	0.0002
253	SLE RA 3	-1.16	-0.02	20.76	0.0136	-0.0377	0.0002
253	SLE RA 4	-1.16	-0.02	20.78	0.0136	-0.0378	0.0002
253	SLE RA 5	-1.15	-0.02	20.55	0.0135	-0.0373	0.0002
253	SLE RA 6	-1.19	-0.02	20.35	0.0137	-0.038	0.0002
253	SLE RA 7	-1.19	-0.02	20.37	0.0137	-0.0381	0.0002
253	SLE RA 8	-1.18	-0.02	20.11	0.0135	-0.0376	0.0002
253	SLE RA 9	-1.18	-0.02	20.13	0.0135	-0.0376	0.0002
253	SLE RA 10	-1.28	-0.02	23.51	0.0149	-0.0416	0.0002
253	SLE RA 11	-1.31	-0.02	23.31	0.0151	-0.0423	0.0002
253	SLE RA 12	-1.31	-0.02	23.33	0.0151	-0.0424	0.0002
253	SLE RA 13	-1.3	-0.02	23.1	0.015	-0.042	0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
253	SLE RA 14	-1.34	-0.02	22.9	0.0152	-0.0427	0.0002
253	SLE RA 15	-1.34	-0.02	22.92	0.0152	-0.0427	0.0002
253	SLE RA 16	-1.33	-0.02	22.66	0.015	-0.0422	0.0002
253	SLE RA 17	-1.33	-0.02	22.68	0.015	-0.0422	0.0002
253	SLE RA 18	-1.34	-0.02	24.57	0.0155	-0.0435	0.0002
253	SLE RA 19	-1.34	-0.02	24.59	0.0155	-0.0436	0.0002
253	SLE RA 20	-1.36	-0.02	24.16	0.0156	-0.0439	0.0002
253	SLE RA 21	-1.37	-0.02	24.18	0.0156	-0.0439	0.0002
253	SLE FR 1	-1.13	-0.02	20.93	0.0133	-0.0369	0.0002
253	SLE FR 2	-1.13	-0.02	20.94	0.0134	-0.037	0.0002
253	SLE FR 3	-1.14	-0.02	20.77	0.0134	-0.0371	0.0002
253	SLE FR 4	-1.19	-0.02	22.03	0.014	-0.0389	0.0002
253	SLE FR 5	-1.2	-0.02	21.86	0.014	-0.0391	0.0002
253	SLE FR 6	-1.23	-0.02	22.75	0.0144	-0.0402	0.0002
253	SLE QP 1	-1.13	-0.02	20.93	0.0133	-0.0369	0.0002
253	SLE QP 2	-1.19	-0.02	22.02	0.014	-0.0389	0.0002
253	SLD 1	2.82	-0.06	24.18	0.0421	0.0801	0.0007
253	SLD 2	2.82	-0.06	24.18	0.0421	0.0801	0.0007
253	SLD 3	2.18	-0.09	23.07	0.0674	0.0621	0.001
253	SLD 4	2.18	-0.09	23.07	0.0674	0.0621	0.001
253	SLD 5	0.99	0.02	24.34	-0.016	0.0241	-0.0001
253	SLD 6	0.99	0.02	24.34	-0.016	0.0241	-0.0001
253	SLD 7	-1.16	-0.08	20.67	0.0684	-0.0359	0.0009
253	SLD 8	-1.16	-0.08	20.67	0.0684	-0.0359	0.0009
253	SLD 9	-1.22	0.05	23.38	-0.0404	-0.0419	-0.0005
253	SLD 10	-1.22	0.05	23.38	-0.0404	-0.0419	-0.0005
253	SLD 11	-3.37	-0.05	19.71	0.044	-0.1019	0.0005
253	SLD 12	-3.37	-0.05	19.71	0.044	-0.1019	0.0005
253	SLD 13	-4.55	0.06	20.97	-0.0394	-0.1399	-0.0006
253	SLD 14	-4.55	0.06	20.97	-0.0394	-0.1399	-0.0006
253	SLD 15	-5.2	0.03	19.87	-0.0141	-0.1579	-0.0003
253	SLD 16	-5.2	0.03	19.87	-0.0141	-0.1579	-0.0003
253	SLV 1	8.17	-0.13	27.16	0.087	0.2388	0.0014
253	SLV 2	8.17	-0.13	27.16	0.087	0.2388	0.0014
253	SLV 3	6.66	-0.2	24.43	0.149	0.1965	0.0022
253	SLV 4	6.66	-0.2	24.43	0.149	0.1965	0.0022
253	SLV 5	3.92	0.06	27.71	-0.0581	0.1085	-0.0005
253	SLV 6	3.92	0.06	27.71	-0.0581	0.1085	-0.0005
253	SLV 7	-1.14	-0.18	18.61	0.1485	-0.0324	0.0019
253	SLV 8	-1.14	-0.18	18.61	0.1485	-0.0324	0.0019
253	SLV 9	-1.24	0.15	25.44	-0.1205	-0.0454	-0.0015
253	SLV 10	-1.24	0.15	25.44	-0.1205	-0.0454	-0.0015
253	SLV 11	-6.3	-0.09	16.34	0.0861	-0.1864	0.0009
253	SLV 12	-6.3	-0.09	16.34	0.0861	-0.1864	0.0009
253	SLV 13	-9.03	0.17	19.61	-0.121	-0.2744	-0.0018
253	SLV 14	-9.03	0.17	19.61	-0.121	-0.2744	-0.0018
253	SLV 15	-10.55	0.1	16.88	-0.0591	-0.3166	-0.001
253	SLV 16	-10.55	0.1	16.88	-0.0591	-0.3166	-0.001
254	SLU 1	-0.83	-0.01	20.26	0.0076	-0.0201	0.0001
254	SLU 2	-0.83	-0.01	20.3	0.0076	-0.0201	0.0001
254	SLU 3	-0.92	-0.01	19.83	0.0079	-0.0222	0.0001
254	SLU 4	-0.92	-0.01	19.86	0.008	-0.0222	0.0001
254	SLU 5	-0.93	-0.01	19.48	0.0078	-0.0224	0.0001
254	SLU 6	-1.01	-0.01	19.01	0.0081	-0.0245	0.0001
254	SLU 7	-1.01	-0.01	19.03	0.0081	-0.0246	0.0001
254	SLU 8	-1.02	-0.01	18.61	0.008	-0.0247	0.0001
254	SLU 9	-1.02	-0.01	18.63	0.008	-0.0247	0.0001
254	SLU 10	-1.02	-0.01	24.08	0.009	-0.025	0.0001
254	SLU 11	-1.11	-0.01	23.61	0.0093	-0.0272	0.0001
254	SLU 12	-1.11	-0.01	23.64	0.0093	-0.0272	0.0001
254	SLU 13	-1.12	-0.01	23.26	0.0091	-0.0274	0.0001
254	SLU 14	-1.2	-0.01	22.79	0.0094	-0.0295	0.0001
254	SLU 15	-1.2	-0.01	22.81	0.0095	-0.0295	0.0001
254	SLU 16	-1.21	-0.01	22.38	0.0093	-0.0297	0.0001
254	SLU 17	-1.21	-0.01	22.41	0.0093	-0.0297	0.0001
254	SLU 18	-1.11	-0.01	25.66	0.0095	-0.0272	0.0002
254	SLU 19	-1.11	-0.01	25.68	0.0095	-0.0272	0.0002
254	SLU 20	-1.2	-0.01	24.83	0.0097	-0.0295	0.0002
254	SLU 21	-1.2	-0.01	24.86	0.0097	-0.0295	0.0002
254	SLU 22	-1.03	-0.01	22.84	0.0089	-0.0251	0.0001
254	SLU 23	-1.03	-0.01	22.89	0.0089	-0.0251	0.0001
254	SLU 24	-1.12	-0.01	22.42	0.0092	-0.0272	0.0001
254	SLU 25	-1.12	-0.01	22.44	0.0092	-0.0272	0.0001
254	SLU 26	-1.12	-0.01	22.06	0.009	-0.0274	0.0001
254	SLU 27	-1.21	-0.01	21.59	0.0093	-0.0296	0.0001
254	SLU 28	-1.21	-0.01	21.62	0.0094	-0.0296	0.0001
254	SLU 29	-1.21	-0.01	21.19	0.0092	-0.0297	0.0001
254	SLU 30	-1.22	-0.01	21.22	0.0092	-0.0297	0.0001
254	SLU 31	-1.22	-0.01	26.67	0.0102	-0.0301	0.0002
254	SLU 32	-1.31	-0.01	26.19	0.0105	-0.0322	0.0002
254	SLU 33	-1.31	-0.01	26.22	0.0105	-0.0322	0.0002
254	SLU 34	-1.31	-0.01	25.84	0.0104	-0.0324	0.0002
254	SLU 35	-1.4	-0.01	25.37	0.0107	-0.0345	0.0002
254	SLU 36	-1.4	-0.01	25.4	0.0107	-0.0345	0.0002
254	SLU 37	-1.41	-0.01	24.97	0.0105	-0.0347	0.0002
254	SLU 38	-1.41	-0.01	25	0.0105	-0.0347	0.0002
254	SLU 39	-1.3	-0.01	28.24	0.0108	-0.0322	0.0002
254	SLU 40	-1.3	-0.01	28.27	0.0108	-0.0322	0.0002





Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
254	SLU 41	-1.39	-0.01	27.41		0.0109	-0.0345	0.0002	
254	SLU 42	-1.4	-0.01	27.44		0.0109	-0.0345	0.0002	
254	SLU 43	-1.02	-0.01	25.45		0.0095	-0.0244	0.0002	
254	SLU 44	-1.02	-0.01	25.49		0.0095	-0.0244	0.0002	
254	SLU 45	-1.1	-0.01	25.02		0.0098	-0.0265	0.0002	
254	SLU 46	-1.1	-0.01	25.05		0.0098	-0.0265	0.0002	
254	SLU 47	-1.11	-0.01	24.67		0.0097	-0.0267	0.0002	
254	SLU 48	-1.19	-0.01	24.2		0.01	-0.0289	0.0002	
254	SLU 49	-1.2	-0.01	24.22		0.01	-0.0289	0.0002	
254	SLU 50	-1.2	-0.01	23.8		0.0098	-0.029	0.0002	
254	SLU 51	-1.2	-0.01	23.82		0.0098	-0.029	0.0002	
254	SLU 52	-1.21	-0.01	29.27		0.0108	-0.0294	0.0002	
254	SLU 53	-1.29	-0.01	28.8		0.0111	-0.0315	0.0002	
254	SLU 54	-1.29	-0.01	28.83		0.0112	-0.0315	0.0002	
254	SLU 55	-1.3	-0.01	28.45		0.011	-0.0317	0.0002	
254	SLU 56	-1.38	-0.01	27.98		0.0113	-0.0338	0.0002	
254	SLU 57	-1.39	-0.01	28		0.0113	-0.0338	0.0002	
254	SLU 58	-1.39	-0.01	27.58		0.0112	-0.034	0.0002	
254	SLU 59	-1.39	-0.01	27.6		0.0112	-0.034	0.0002	
254	SLU 60	-1.29	-0.01	30.85		0.0114	-0.0315	0.0002	
254	SLU 61	-1.29	-0.01	30.87		0.0114	-0.0315	0.0002	
254	SLU 62	-1.38	-0.01	30.02		0.0116	-0.0338	0.0002	
254	SLU 63	-1.38	-0.01	30.05		0.0116	-0.0338	0.0002	
254	SLU 64	-1.21	-0.01	28.03		0.0107	-0.0294	0.0002	
254	SLU 65	-1.21	-0.01	28.08		0.0107	-0.0294	0.0002	
254	SLU 66	-1.3	-0.01	27.61		0.011	-0.0315	0.0002	
254	SLU 67	-1.3	-0.01	27.63		0.0111	-0.0315	0.0002	
254	SLU 68	-1.31	-0.01	27.25		0.0109	-0.0317	0.0002	
254	SLU 69	-1.39	-0.01	26.78		0.0112	-0.0339	0.0002	
254	SLU 70	-1.39	-0.01	26.81		0.0112	-0.0339	0.0002	
254	SLU 71	-1.4	-0.01	26.38		0.0111	-0.034	0.0002	
254	SLU 72	-1.4	-0.01	26.41		0.0111	-0.034	0.0002	
254	SLU 73	-1.4	-0.01	31.86		0.0121	-0.0344	0.0002	
254	SLU 74	-1.49	-0.01	31.39		0.0124	-0.0365	0.0002	
254	SLU 75	-1.49	-0.01	31.41		0.0124	-0.0365	0.0002	
254	SLU 76	-1.5	-0.01	31.03		0.0122	-0.0367	0.0002	
254	SLU 77	-1.58	-0.01	30.56		0.0125	-0.0388	0.0002	
254	SLU 78	-1.58	-0.01	30.59		0.0126	-0.0388	0.0002	
254	SLU 79	-1.59	-0.01	30.16		0.0124	-0.039	0.0002	
254	SLU 80	-1.59	-0.01	30.19		0.0124	-0.039	0.0002	
254	SLU 81	-1.49	-0.01	33.43		0.0126	-0.0365	0.0002	
254	SLU 82	-1.49	-0.01	33.46		0.0126	-0.0365	0.0002	
254	SLU 83	-1.58	-0.01	32.61		0.0128	-0.0388	0.0002	
254	SLU 84	-1.58	-0.01	32.63		0.0128	-0.0388	0.0002	
254	SLE RA 1	-0.89	-0.01	21		0.008	-0.0215	0.0001	
254	SLE RA 2	-0.89	-0.01	21.03		0.008	-0.0215	0.0001	
254	SLE RA 3	-0.95	-0.01	20.71		0.0082	-0.0229	0.0001	
254	SLE RA 4	-0.95	-0.01	20.73		0.0082	-0.0229	0.0001	
254	SLE RA 5	-0.95	-0.01	20.48		0.0081	-0.0231	0.0001	
254	SLE RA 6	-1.01	-0.01	20.16		0.0083	-0.0245	0.0001	
254	SLE RA 7	-1.01	-0.01	20.18		0.0083	-0.0245	0.0001	
254	SLE RA 8	-1.01	-0.01	19.89		0.0082	-0.0246	0.0001	
254	SLE RA 9	-1.01	-0.01	19.91		0.0082	-0.0246	0.0001	
254	SLE RA 10	-1.02	-0.01	23.55		0.0089	-0.0248	0.0001	
254	SLE RA 11	-1.08	-0.01	23.23		0.0091	-0.0262	0.0001	
254	SLE RA 12	-1.08	-0.01	23.25		0.0091	-0.0262	0.0001	
254	SLE RA 13	-1.08	-0.01	22.99		0.009	-0.0264	0.0001	
254	SLE RA 14	-1.14	-0.01	22.68		0.0092	-0.0278	0.0001	
254	SLE RA 15	-1.14	-0.01	22.7		0.0092	-0.0278	0.0001	
254	SLE RA 16	-1.14	-0.01	22.41		0.0091	-0.0279	0.0001	
254	SLE RA 17	-1.14	-0.01	22.43		0.0091	-0.0279	0.0001	
254	SLE RA 18	-1.07	-0.01	24.59		0.0093	-0.0262	0.0001	
254	SLE RA 19	-1.07	-0.01	24.61		0.0093	-0.0262	0.0001	
254	SLE RA 20	-1.13	-0.01	24.04		0.0094	-0.0278	0.0001	
254	SLE RA 21	-1.13	-0.01	24.06		0.0094	-0.0278	0.0001	
254	SLE FR 1	-0.89	-0.01	21		0.008	-0.0215	0.0001	
254	SLE FR 2	-0.89	-0.01	21		0.008	-0.0215	0.0001	
254	SLE FR 3	-0.91	-0.01	20.77		0.008	-0.0221	0.0001	
254	SLE FR 4	-0.94	-0.01	22.08		0.0084	-0.0229	0.0001	
254	SLE FR 5	-0.97	-0.01	21.85		0.0084	-0.0235	0.0001	
254	SLE FR 6	-0.98	-0.01	22.79		0.0086	-0.0239	0.0001	
254	SLE QP 1	-0.89	-0.01	21		0.008	-0.0215	0.0001	
254	SLE QP 2	-0.94	-0.01	22.07		0.0084	-0.0229	0.0001	
254	SLD 1	3.13	-0.04	23.81		0.0326	0.107	0.0007	
254	SLD 2	3.13	-0.04	23.81		0.0326	0.107	0.0007	
254	SLD 3	2.4	-0.08	22.72		0.0623	0.0876	0.0013	
254	SLD 4	2.4	-0.08	22.72		0.0623	0.0876	0.0013	
254	SLD 5	1.4	0.04	24.26		-0.0293	0.0454	-0.0005	
254	SLD 6	1.4	0.04	24.26		-0.0293	0.0454	-0.0005	
254	SLD 7	-1.06	-0.09	20.6		0.0695	-0.0191	0.0013	
254	SLD 8	-1.06	-0.09	20.6		0.0695	-0.0191	0.0013	
254	SLD 9	-0.82	0.08	23.55		-0.0528	-0.0267	-0.0011	
254	SLD 10	-0.82	0.08	23.55		-0.0528	-0.0267	-0.0011	
254	SLD 11	-3.29	-0.06	19.89		0.0461	-0.0913	0.0008	
254	SLD 12	-3.29	-0.06	19.89		0.0461	-0.0913	0.0008	
254	SLD 13	-4.28	0.07	21.43		-0.0455	-0.1335	-0.001	
254	SLD 14	-4.28	0.07	21.43		-0.0455	-0.1335	-0.001	
254	SLD 15	-5.02	0.03	20.33		-0.0159	-0.1528	-0.0005	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
254	SLD 16	-5.02	0.03	20.33	-0.0159	-0.1528	-0.0005
254	SLV 1	8.58	-0.1	26.29	0.0713	0.2804	0.0017
254	SLV 2	8.58	-0.1	26.29	0.0713	0.2804	0.0017
254	SLV 3	6.84	-0.2	23.5	0.1449	0.2348	0.003
254	SLV 4	6.84	-0.2	23.5	0.1449	0.2348	0.003
254	SLV 5	4.55	0.11	27.56	-0.0844	0.1372	-0.0015
254	SLV 6	4.55	0.11	27.56	-0.0844	0.1372	-0.0015
254	SLV 7	-1.25	-0.21	18.28	0.161	-0.0148	0.0031
254	SLV 8	-1.25	-0.21	18.28	0.161	-0.0148	0.0031
254	SLV 9	-0.64	0.2	25.87	-0.1443	-0.0311	-0.0028
254	SLV 10	-0.64	0.2	25.87	-0.1443	-0.0311	-0.0028
254	SLV 11	-6.44	-0.13	16.59	0.1011	-0.1831	0.0017
254	SLV 12	-6.44	-0.13	16.59	0.1011	-0.1831	0.0017
254	SLV 13	-8.73	0.18	20.65	-0.1282	-0.2806	-0.0028
254	SLV 14	-8.73	0.18	20.65	-0.1282	-0.2806	-0.0028
254	SLV 15	-10.47	0.09	17.86	-0.0546	-0.3263	-0.0014
254	SLV 16	-10.47	0.09	17.86	-0.0546	-0.3263	-0.0014
255	SLU 1	-1.15	0	21.06	0.0032	-0.0531	0
255	SLU 2	-1.15	0	21.11	0.0032	-0.0532	0
255	SLU 3	-1.25	0	20.42	0.0035	-0.0563	0
255	SLU 4	-1.25	0	20.45	0.0035	-0.0564	0
255	SLU 5	-1.26	0	20	0.0035	-0.0562	0
255	SLU 6	-1.36	0	19.3	0.0038	-0.0593	0
255	SLU 7	-1.36	0	19.33	0.0037	-0.0594	0
255	SLU 8	-1.36	0	18.83	0.0037	-0.0591	0
255	SLU 9	-1.36	0	18.86	0.0037	-0.0591	0
255	SLU 10	-1.4	0	24.99	0.0038	-0.0643	0
255	SLU 11	-1.5	0	24.29	0.0041	-0.0675	0
255	SLU 12	-1.5	0	24.32	0.004	-0.0675	0
255	SLU 13	-1.51	0	23.87	0.004	-0.0673	0
255	SLU 14	-1.61	0	23.17	0.0043	-0.0704	0
255	SLU 15	-1.61	0	23.2	0.0043	-0.0705	0
255	SLU 16	-1.62	0	22.7	0.0043	-0.0702	0
255	SLU 17	-1.62	0	22.73	0.0042	-0.0702	0
255	SLU 18	-1.51	0	26.59	0.004	-0.069	0
255	SLU 19	-1.51	0	26.63	0.004	-0.0691	0
255	SLU 20	-1.62	0	25.48	0.0042	-0.072	0
255	SLU 21	-1.62	0	25.51	0.0042	-0.0721	0
255	SLU 22	-1.4	0	23.58	0.0038	-0.0635	0
255	SLU 23	-1.4	0	23.63	0.0038	-0.0636	0
255	SLU 24	-1.5	0	22.93	0.0041	-0.0667	0
255	SLU 25	-1.5	0	22.96	0.0041	-0.0668	0
255	SLU 26	-1.51	0	22.51	0.004	-0.0666	0
255	SLU 27	-1.61	0	21.81	0.0043	-0.0697	0
255	SLU 28	-1.61	0	21.84	0.0043	-0.0698	0
255	SLU 29	-1.61	0	21.34	0.0043	-0.0695	0
255	SLU 30	-1.62	0	21.37	0.0043	-0.0695	0
255	SLU 31	-1.65	0	27.5	0.0043	-0.0747	0
255	SLU 32	-1.75	0	26.8	0.0046	-0.0779	0
255	SLU 33	-1.75	0	26.83	0.0046	-0.0779	0
255	SLU 34	-1.76	0	26.38	0.0046	-0.0777	0
255	SLU 35	-1.86	0	25.68	0.0049	-0.0808	0
255	SLU 36	-1.86	0	25.71	0.0049	-0.0809	0
255	SLU 37	-1.87	0	25.21	0.0048	-0.0806	0
255	SLU 38	-1.87	0	25.24	0.0048	-0.0806	0
255	SLU 39	-1.76	0	29.11	0.0046	-0.0794	0
255	SLU 40	-1.76	0	29.14	0.0046	-0.0795	0
255	SLU 41	-1.87	0	27.99	0.0048	-0.0824	0
255	SLU 42	-1.87	0	28.02	0.0048	-0.0824	0
255	SLU 43	-1.4	0	26.52	0.004	-0.0655	0
255	SLU 44	-1.4	0	26.57	0.004	-0.0656	0
255	SLU 45	-1.51	0	25.87	0.0043	-0.0687	0
255	SLU 46	-1.51	0	25.91	0.0043	-0.0688	0
255	SLU 47	-1.51	0	25.45	0.0042	-0.0685	0
255	SLU 48	-1.61	0	24.76	0.0045	-0.0717	0
255	SLU 49	-1.61	0	24.79	0.0045	-0.0717	0
255	SLU 50	-1.62	0	24.28	0.0045	-0.0714	0
255	SLU 51	-1.62	0	24.32	0.0045	-0.0715	0
255	SLU 52	-1.66	0	30.44	0.0045	-0.0767	0
255	SLU 53	-1.76	0	29.75	0.0048	-0.0798	0
255	SLU 54	-1.76	0	29.78	0.0048	-0.0799	0
255	SLU 55	-1.77	0	29.33	0.0048	-0.0797	0
255	SLU 56	-1.87	0	28.63	0.0051	-0.0828	0
255	SLU 57	-1.87	0	28.66	0.0051	-0.0829	0
255	SLU 58	-1.87	0	28.16	0.005	-0.0826	0
255	SLU 59	-1.87	0	28.19	0.005	-0.0826	0
255	SLU 60	-1.77	0	32.05	0.0048	-0.0814	0
255	SLU 61	-1.77	0	32.08	0.0048	-0.0815	0
255	SLU 62	-1.87	0	30.93	0.005	-0.0844	0
255	SLU 63	-1.87	0	30.96	0.005	-0.0844	0
255	SLU 64	-1.66	0	29.03	0.0046	-0.0759	0
255	SLU 65	-1.66	0	29.08	0.0046	-0.076	0
255	SLU 66	-1.76	0	28.39	0.0049	-0.0791	0
255	SLU 67	-1.76	0	28.42	0.0049	-0.0792	0
255	SLU 68	-1.77	0	27.97	0.0048	-0.0789	0
255	SLU 69	-1.87	0	27.27	0.0051	-0.0821	0
255	SLU 70	-1.87	0	27.3	0.0051	-0.0821	0
255	SLU 71	-1.87	0	26.8	0.0051	-0.0818	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
255	SLU 72			-1.87	0	26.83	0.0051	-0.0819	0
255	SLU 73			-1.91	0	32.96	0.0051	-0.0871	0
255	SLU 74			-2.01	0	32.26	0.0054	-0.0902	0
255	SLU 75			-2.01	0	32.29	0.0054	-0.0903	0
255	SLU 76			-2.02	0	31.84	0.0054	-0.0901	0
255	SLU 77			-2.12	0	31.14	0.0056	-0.0932	0
255	SLU 78			-2.12	0	31.17	0.0056	-0.0933	0
255	SLU 79			-2.12	0	30.67	0.0056	-0.093	0
255	SLU 80			-2.13	0	30.7	0.0056	-0.093	0
255	SLU 81			-2.02	0	34.56	0.0054	-0.0918	0
255	SLU 82			-2.02	0	34.59	0.0053	-0.0919	0
255	SLU 83			-2.13	0	33.45	0.0056	-0.0948	0
255	SLU 84			-2.13	0	33.48	0.0056	-0.0948	0
255	SLE RA 1			-1.22	0	21.78	0.0034	-0.0561	0
255	SLE RA 2			-1.22	0	21.82	0.0034	-0.0562	0
255	SLE RA 3			-1.29	0	21.35	0.0036	-0.0582	0
255	SLE RA 4			-1.29	0	21.37	0.0036	-0.0583	0
255	SLE RA 5			-1.29	0	21.07	0.0036	-0.0581	0
255	SLE RA 6			-1.36	0	20.6	0.0038	-0.0602	0
255	SLE RA 7			-1.36	0	20.63	0.0037	-0.0603	0
255	SLE RA 8			-1.36	0	20.29	0.0037	-0.06	0
255	SLE RA 9			-1.36	0	20.31	0.0037	-0.0601	0
255	SLE RA 10			-1.39	0	24.4	0.0038	-0.0636	0
255	SLE RA 11			-1.46	0	23.93	0.0039	-0.0657	0
255	SLE RA 12			-1.46	0	23.95	0.0039	-0.0657	0
255	SLE RA 13			-1.46	0	23.65	0.0039	-0.0656	0
255	SLE RA 14			-1.53	0	23.19	0.0041	-0.0676	0
255	SLE RA 15			-1.53	0	23.21	0.0041	-0.0677	0
255	SLE RA 16			-1.53	0	22.87	0.0041	-0.0675	0
255	SLE RA 17			-1.53	0	22.89	0.0041	-0.0675	0
255	SLE RA 18			-1.46	0	25.47	0.0039	-0.0667	0
255	SLE RA 19			-1.46	0	25.49	0.0039	-0.0667	0
255	SLE RA 20			-1.53	0	24.72	0.0041	-0.0687	0
255	SLE RA 21			-1.53	0	24.74	0.0041	-0.0687	0
255	SLE FR 1			-1.22	0	21.78	0.0034	-0.0561	0
255	SLE FR 2			-1.22	0	21.79	0.0034	-0.0561	0
255	SLE FR 3			-1.25	0	21.48	0.0035	-0.0569	0
255	SLE FR 4			-1.29	0	22.89	0.0036	-0.0593	0
255	SLE FR 5			-1.32	0	22.59	0.0036	-0.0601	0
255	SLE FR 6			-1.34	0	23.62	0.0037	-0.0614	0
255	SLE QP 1			-1.22	0	21.78	0.0034	-0.0561	0
255	SLE QP 2			-1.29	0	22.89	0.0036	-0.0593	0
255	SLD 1		2.83	0.06	22.48	0.021	-0.1864	-0.0012	
255	SLD 2		2.83	0.06	22.48	0.021	-0.1864	-0.0012	
255	SLD 3		2	0.03	20.65	0.0449	-0.2172	-0.0006	
255	SLD 4		2	0.03	20.65	0.0449	-0.2172	-0.0006	
255	SLD 5		1.21	0.06	25.55	-0.0275	-0.0508	-0.0012	
255	SLD 6		1.21	0.06	25.55	-0.0275	-0.0508	-0.0012	
255	SLD 7		-1.56	-0.04	19.44	0.0522	-0.1533	0.0007	
255	SLD 8		-1.56	-0.04	19.44	0.0522	-0.1533	0.0007	
255	SLD 9		-1.02	0.04	26.34	-0.0451	0.0348	-0.0006	
255	SLD 10		-1.02	0.04	26.34	-0.0451	0.0348	-0.0006	
255	SLD 11		-3.79	-0.06	20.23	0.0346	-0.0678	0.0012	
255	SLD 12		-3.79	-0.06	20.23	0.0346	-0.0678	0.0012	
255	SLD 13		-4.59	-0.03	25.12	-0.0378	0.0987	0.0007	
255	SLD 14		-4.59	-0.03	25.12	-0.0378	0.0987	0.0007	
255	SLD 15		-5.42	-0.06	23.29	-0.0139	0.0679	0.0012	
255	SLD 16		-5.42	-0.06	23.29	-0.0139	0.0679	0.0012	
255	SLV 1		8.34	0.16	22.03	0.0484	-0.3556	-0.003	
255	SLV 2		8.34	0.16	22.03	0.0484	-0.3556	-0.003	
255	SLV 3		6.39	0.08	17.52	0.1081	-0.4279	-0.0016	
255	SLV 4		6.39	0.08	17.52	0.1081	-0.4279	-0.0016	
255	SLV 5		4.56	0.16	29.47	-0.0736	-0.0386	-0.003	
255	SLV 6		4.56	0.16	29.47	-0.0736	-0.0386	-0.003	
255	SLV 7		-1.95	-0.09	14.44	0.1255	-0.2794	0.0016	
255	SLV 8		-1.95	-0.09	14.44	0.1255	-0.2794	0.0016	
255	SLV 9		-0.63	0.09	31.34	-0.1184	0.1609	-0.0016	
255	SLV 10		-0.63	0.09	31.34	-0.1184	0.1609	-0.0016	
255	SLV 11		-7.14	-0.16	16.31	0.0807	-0.08	0.003	
255	SLV 12		-7.14	-0.16	16.31	0.0807	-0.08	0.003	
255	SLV 13		-8.97	-0.08	28.26	-0.101	0.3093	0.0017	
255	SLV 14		-8.97	-0.08	28.26	-0.101	0.3093	0.0017	
255	SLV 15		-10.92	-0.16	23.75	-0.0413	0.2371	0.003	
255	SLV 16		-10.92	-0.16	23.75	-0.0413	0.2371	0.003	
256	SLU 1		-1.84	0.01	22.99	-0.0005	-0.0906	-0.0004	
256	SLU 2		-1.84	0.01	23.05	-0.0005	-0.0907	-0.0004	
256	SLU 3		-1.9	0.01	22.09	-0.0002	-0.0913	-0.0004	
256	SLU 4		-1.9	0.01	22.13	-0.0002	-0.0913	-0.0004	
256	SLU 5		-1.9	0.01	21.58	-0.0002	-0.0906	-0.0004	
256	SLU 6		-1.96	0.01	20.62	0.0001	-0.0911	-0.0004	
256	SLU 7		-1.96	0.01	20.66	0.0001	-0.0912	-0.0004	
256	SLU 8		-1.96	0.01	20.04	0.0002	-0.0903	-0.0004	
256	SLU 9		-1.96	0.01	20.08	0.0002	-0.0904	-0.0004	
256	SLU 10		-2.24	0.01	27.22	-0.0007	-0.1101	-0.0005	
256	SLU 11		-2.3	0.01	26.27	-0.0003	-0.1106	-0.0005	
256	SLU 12		-2.3	0.01	26.3	-0.0004	-0.1107	-0.0005	
256	SLU 13		-2.3	0.01	25.75	-0.0003	-0.1099	-0.0005	
256	SLU 14		-2.36	0.01	24.79	0	-0.1105	-0.0005	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
256	SLU 15	-2.36	0.01	24.83	0	-0.1106	-0.0005
256	SLU 16	-2.35	0.01	24.21	0.0001	-0.1097	-0.0005
256	SLU 17	-2.35	0.01	24.25	0.0001	-0.1098	-0.0005
256	SLU 18	-2.4	0.01	28.95	-0.0007	-0.1182	-0.0005
256	SLU 19	-2.41	0.01	28.98	-0.0007	-0.1183	-0.0005
256	SLU 20	-2.46	0.01	27.47	-0.0003	-0.1181	-0.0005
256	SLU 21	-2.46	0.01	27.51	-0.0003	-0.1182	-0.0005
256	SLU 22	-2.17	0.01	25.57	-0.0005	-0.1053	-0.0005
256	SLU 23	-2.17	0.01	25.63	-0.0005	-0.1054	-0.0005
256	SLU 24	-2.23	0.01	24.68	-0.0002	-0.106	-0.0005
256	SLU 25	-2.24	0.01	24.72	-0.0002	-0.106	-0.0005
256	SLU 26	-2.23	0.01	24.16	-0.0001	-0.1053	-0.0005
256	SLU 27	-2.29	0.01	23.21	0.0002	-0.1058	-0.0005
256	SLU 28	-2.3	0.01	23.24	0.0002	-0.1059	-0.0005
256	SLU 29	-2.29	0.01	22.63	0.0003	-0.105	-0.0005
256	SLU 30	-2.29	0.01	22.66	0.0003	-0.1051	-0.0005
256	SLU 31	-2.57	0.01	29.81	-0.0006	-0.1248	-0.0005
256	SLU 32	-2.63	0.01	28.85	-0.0003	-0.1253	-0.0005
256	SLU 33	-2.63	0.01	28.89	-0.0003	-0.1254	-0.0005
256	SLU 34	-2.63	0.01	28.33	-0.0002	-0.1246	-0.0005
256	SLU 35	-2.69	0.01	27.38	0.0001	-0.1252	-0.0005
256	SLU 36	-2.69	0.01	27.41	0.0001	-0.1253	-0.0005
256	SLU 37	-2.69	0.01	26.8	0.0001	-0.1244	-0.0005
256	SLU 38	-2.69	0.01	26.83	0.0001	-0.1245	-0.0005
256	SLU 39	-2.74	0.01	31.53	-0.0006	-0.133	-0.0006
256	SLU 40	-2.74	0.01	31.57	-0.0007	-0.133	-0.0006
256	SLU 41	-2.8	0.01	30.06	-0.0003	-0.1328	-0.0006
256	SLU 42	-2.8	0.01	30.1	-0.0003	-0.1329	-0.0006
256	SLU 43	-2.28	0.01	29	-0.0007	-0.1127	-0.0005
256	SLU 44	-2.28	0.01	29.06	-0.0007	-0.1128	-0.0005
256	SLU 45	-2.34	0.01	28.1	-0.0004	-0.1134	-0.0005
256	SLU 46	-2.34	0.01	28.14	-0.0004	-0.1135	-0.0005
256	SLU 47	-2.34	0.01	27.59	-0.0003	-0.1127	-0.0005
256	SLU 48	-2.4	0.01	26.63	0	-0.1133	-0.0005
256	SLU 49	-2.4	0.01	26.67	0	-0.1133	-0.0005
256	SLU 50	-2.4	0.01	26.05	0	-0.1124	-0.0005
256	SLU 51	-2.4	0.01	26.09	0	-0.1125	-0.0005
256	SLU 52	-2.68	0.01	33.23	-0.0008	-0.1322	-0.0006
256	SLU 53	-2.74	0.01	32.28	-0.0005	-0.1328	-0.0006
256	SLU 54	-2.74	0.01	32.31	-0.0005	-0.1328	-0.0006
256	SLU 55	-2.73	0.01	31.76	-0.0005	-0.1321	-0.0006
256	SLU 56	-2.8	0.01	30.8	-0.0002	-0.1326	-0.0006
256	SLU 57	-2.8	0.01	30.84	-0.0002	-0.1327	-0.0006
256	SLU 58	-2.79	0.01	30.22	-0.0001	-0.1318	-0.0006
256	SLU 59	-2.79	0.01	30.26	-0.0001	-0.1319	-0.0006
256	SLU 60	-2.84	0.01	34.96	-0.0009	-0.1404	-0.0006
256	SLU 61	-2.84	0.01	35	-0.0009	-0.1404	-0.0006
256	SLU 62	-2.9	0.01	33.48	-0.0005	-0.1402	-0.0006
256	SLU 63	-2.9	0.01	33.52	-0.0005	-0.1403	-0.0006
256	SLU 64	-2.61	0.01	31.58	-0.0006	-0.1274	-0.0006
256	SLU 65	-2.61	0.01	31.65	-0.0007	-0.1275	-0.0006
256	SLU 66	-2.67	0.01	30.69	-0.0003	-0.1281	-0.0006
256	SLU 67	-2.67	0.01	30.73	-0.0003	-0.1282	-0.0006
256	SLU 68	-2.67	0.01	30.17	-0.0003	-0.1274	-0.0006
256	SLU 69	-2.73	0.01	29.22	0	-0.128	-0.0006
256	SLU 70	-2.73	0.01	29.25	0	-0.128	-0.0006
256	SLU 71	-2.73	0.01	28.64	0.0001	-0.1271	-0.0006
256	SLU 72	-2.73	0.01	28.67	0.0001	-0.1272	-0.0006
256	SLU 73	-3.01	0.01	35.82	-0.0008	-0.1469	-0.0006
256	SLU 74	-3.07	0.01	34.86	-0.0005	-0.1475	-0.0006
256	SLU 75	-3.07	0.01	34.9	-0.0005	-0.1475	-0.0006
256	SLU 76	-3.07	0.01	34.34	-0.0004	-0.1468	-0.0006
256	SLU 77	-3.13	0.01	33.39	-0.0001	-0.1473	-0.0006
256	SLU 78	-3.13	0.01	33.42	-0.0001	-0.1474	-0.0006
256	SLU 79	-3.12	0.01	32.81	0	-0.1465	-0.0006
256	SLU 80	-3.12	0.01	32.84	0	-0.1466	-0.0006
256	SLU 81	-3.17	0.01	37.54	-0.0008	-0.1551	-0.0007
256	SLU 82	-3.18	0.01	37.58	-0.0008	-0.1552	-0.0007
256	SLU 83	-3.23	0.01	36.07	-0.0004	-0.155	-0.0007
256	SLU 84	-3.23	0.01	36.11	-0.0005	-0.155	-0.0007
256	SLE RA 1	-1.93	0.01	23.73	-0.0005	-0.0948	-0.0004
256	SLE RA 2	-1.94	0.01	23.77	-0.0005	-0.0949	-0.0004
256	SLE RA 3	-1.98	0.01	23.13	-0.0003	-0.0952	-0.0004
256	SLE RA 4	-1.98	0.01	23.16	-0.0003	-0.0953	-0.0004
256	SLE RA 5	-1.98	0.01	22.79	-0.0003	-0.0948	-0.0004
256	SLE RA 6	-2.02	0.01	22.15	-0.0001	-0.0951	-0.0004
256	SLE RA 7	-2.02	0.01	22.17	-0.0001	-0.0952	-0.0004
256	SLE RA 8	-2.01	0.01	21.76	0	-0.0946	-0.0004
256	SLE RA 9	-2.01	0.01	21.79	0	-0.0946	-0.0004
256	SLE RA 10	-2.2	0.01	26.55	-0.0006	-0.1078	-0.0005
256	SLE RA 11	-2.24	0.01	25.91	-0.0004	-0.1081	-0.0005
256	SLE RA 12	-2.24	0.01	25.94	-0.0004	-0.1082	-0.0005
256	SLE RA 13	-2.24	0.01	25.57	-0.0004	-0.1077	-0.0005
256	SLE RA 14	-2.28	0.01	24.93	-0.0001	-0.1081	-0.0005
256	SLE RA 15	-2.28	0.01	24.95	-0.0002	-0.1081	-0.0005
256	SLE RA 16	-2.28	0.01	24.54	-0.0001	-0.1075	-0.0005
256	SLE RA 17	-2.28	0.01	24.57	-0.0001	-0.1076	-0.0005
256	SLE RA 18	-2.31	0.01	27.7	-0.0006	-0.1132	-0.0005



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
256	SLE RA 19	-2.31	0.01	27.72	-0.0006	-0.1133	-0.0005
256	SLE RA 20	-2.35	0.01	26.72	-0.0004	-0.1131	-0.0005
256	SLE RA 21	-2.35	0.01	26.74	-0.0004	-0.1132	-0.0005
256	SLE FR 1	-1.93	0.01	23.73	-0.0005	-0.0948	-0.0004
256	SLE FR 2	-1.93	0.01	23.74	-0.0005	-0.0948	-0.0004
256	SLE FR 3	-1.95	0.01	23.33	-0.0004	-0.0947	-0.0004
256	SLE FR 4	-2.05	0.01	24.93	-0.0005	-0.1003	-0.0004
256	SLE FR 5	-2.06	0.01	24.53	-0.0004	-0.1003	-0.0004
256	SLE FR 6	-2.12	0.01	25.71	-0.0006	-0.104	-0.0004
256	SLE QP 1	-1.93	0.01	23.73	-0.0005	-0.0948	-0.0004
256	SLE QP 2	-2.05	0.01	24.92	-0.0005	-0.1003	-0.0004
256	SLD 1	1.69	0.05	23.97	-0.024	0.0895	-0.0012
256	SLD 2	1.69	0.05	23.97	-0.024	0.0895	-0.0012
256	SLD 3	1.02	0.03	21.11	-0.0105	0.0685	-0.0018
256	SLD 4	1.02	0.03	21.11	-0.0105	0.0685	-0.0018
256	SLD 5	0.09	0.04	28.97	-0.028	-0.0114	0.0003
256	SLD 6	0.09	0.04	28.97	-0.028	-0.0114	0.0003
256	SLD 7	-2.15	-0.01	19.44	0.0169	-0.0816	-0.0018
256	SLD 8	-2.15	-0.01	19.44	0.0169	-0.0816	-0.0018
256	SLD 9	-1.95	0.02	30.4	-0.018	-0.119	0.0009
256	SLD 10	-1.95	0.02	30.4	-0.018	-0.119	0.0009
256	SLD 11	-4.19	-0.03	20.87	0.027	-0.1892	-0.0011
256	SLD 12	-4.19	-0.03	20.87	0.027	-0.1892	-0.0011
256	SLD 13	-5.11	-0.02	28.73	0.0094	-0.2691	0.0009
256	SLD 14	-5.11	-0.02	28.73	0.0094	-0.2691	0.0009
256	SLD 15	-5.79	-0.03	25.87	0.0229	-0.2901	0.0003
256	SLD 16	-5.79	-0.03	25.87	0.0229	-0.2901	0.0003
256	SLV 1	6.68	0.11	22.81	-0.0596	0.343	-0.0023
256	SLV 2	6.68	0.11	22.81	-0.0596	0.343	-0.0023
256	SLV 3	5.1	0.07	15.88	-0.0258	0.2933	-0.0038
256	SLV 4	5.1	0.07	15.88	-0.0258	0.2933	-0.0038
256	SLV 5	2.97	0.1	34.8	-0.0695	0.108	0.0013
256	SLV 6	2.97	0.1	34.8	-0.0695	0.108	0.0013
256	SLV 7	-2.3	-0.03	11.69	0.0431	-0.0576	-0.0038
256	SLV 8	-2.3	-0.03	11.69	0.0431	-0.0576	-0.0038
256	SLV 9	-1.79	0.05	38.15	-0.0442	-0.1431	0.0029
256	SLV 10	-1.79	0.05	38.15	-0.0442	-0.1431	0.0029
256	SLV 11	-7.07	-0.08	15.04	0.0684	-0.3086	-0.0022
256	SLV 12	-7.07	-0.08	15.04	0.0684	-0.3086	-0.0022
256	SLV 13	-9.19	-0.06	33.96	0.0248	-0.4939	0.003
256	SLV 14	-9.19	-0.06	33.96	0.0248	-0.4939	0.003
256	SLV 15	-10.77	-0.1	27.03	0.0585	-0.5436	0.0014
256	SLV 16	-10.77	-0.1	27.03	0.0585	-0.5436	0.0014
257	SLU 1	-3.31	4.16	40.84	-0.2541	-0.0955	-0.0004
257	SLU 2	-3.32	4.16	40.96	-0.254	-0.0957	-0.0004
257	SLU 3	-3.24	4.02	39.03	-0.2497	-0.0944	-0.0003
257	SLU 4	-3.24	4.02	39.1	-0.2496	-0.0945	-0.0003
257	SLU 5	-3.17	3.9	38.03	-0.2432	-0.0929	-0.0003
257	SLU 6	-3.09	3.76	36.11	-0.2389	-0.0915	-0.0003
257	SLU 7	-3.09	3.76	36.17	-0.2389	-0.0917	-0.0003
257	SLU 8	-3.02	3.64	34.99	-0.2326	-0.0898	-0.0003
257	SLU 9	-3.02	3.64	35.06	-0.2326	-0.09	-0.0003
257	SLU 10	-3.96	4.87	48.36	-0.2976	-0.1144	-0.0004
257	SLU 11	-3.87	4.73	46.43	-0.2933	-0.1131	-0.0004
257	SLU 12	-3.88	4.73	46.5	-0.2933	-0.1132	-0.0004
257	SLU 13	-3.81	4.61	45.43	-0.2869	-0.1116	-0.0004
257	SLU 14	-3.72	4.47	43.51	-0.2826	-0.1102	-0.0004
257	SLU 15	-3.73	4.47	43.57	-0.2825	-0.1103	-0.0004
257	SLU 16	-3.65	4.35	42.39	-0.2763	-0.1085	-0.0004
257	SLU 17	-3.66	4.35	42.46	-0.2762	-0.1086	-0.0004
257	SLU 18	-4.22	5.18	51.42	-0.3165	-0.1222	-0.0004
257	SLU 19	-4.22	5.18	51.48	-0.3164	-0.1223	-0.0004
257	SLU 20	-4.07	4.92	48.49	-0.3057	-0.1194	-0.0004
257	SLU 21	-4.08	4.92	48.56	-0.3057	-0.1195	-0.0004
257	SLU 22	-3.74	4.68	45.31	-0.288	-0.1088	-0.0004
257	SLU 23	-3.75	4.68	45.42	-0.2879	-0.109	-0.0004
257	SLU 24	-3.66	4.53	43.5	-0.2835	-0.1076	-0.0004
257	SLU 25	-3.67	4.54	43.56	-0.2835	-0.1078	-0.0004
257	SLU 26	-3.6	4.42	42.49	-0.2771	-0.1061	-0.0004
257	SLU 27	-3.52	4.27	40.57	-0.2728	-0.1048	-0.0004
257	SLU 28	-3.52	4.27	40.64	-0.2728	-0.1049	-0.0004
257	SLU 29	-3.45	4.16	39.45	-0.2665	-0.1031	-0.0003
257	SLU 30	-3.45	4.16	39.52	-0.2664	-0.1032	-0.0003
257	SLU 31	-4.38	5.39	52.82	-0.3315	-0.1277	-0.0005
257	SLU 32	-4.3	5.24	50.9	-0.3272	-0.1263	-0.0004
257	SLU 33	-4.3	5.24	50.96	-0.3271	-0.1265	-0.0004
257	SLU 34	-4.24	5.13	49.89	-0.3208	-0.1248	-0.0004
257	SLU 35	-4.15	4.98	47.97	-0.3165	-0.1235	-0.0004
257	SLU 36	-4.15	4.98	48.04	-0.3164	-0.1236	-0.0004
257	SLU 37	-4.08	4.87	46.85	-0.3102	-0.1217	-0.0004
257	SLU 38	-4.08	4.87	46.92	-0.3101	-0.1219	-0.0004
257	SLU 39	-4.65	5.69	55.88	-0.3503	-0.1355	-0.0005
257	SLU 40	-4.65	5.69	55.95	-0.3503	-0.1356	-0.0005
257	SLU 41	-4.5	5.43	52.95	-0.3396	-0.1326	-0.0005
257	SLU 42	-4.5	5.43	53.02	-0.3395	-0.1327	-0.0005
257	SLU 43	-4.16	5.23	51.57	-0.3187	-0.1196	-0.0005
257	SLU 44	-4.17	5.24	51.68	-0.3186	-0.1199	-0.0005
257	SLU 45	-4.08	5.09	49.76	-0.3143	-0.1185	-0.0004



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	Ind. N.br.	x	y	z	x	y	z
257	SLU 46	-4.09	5.09	49.83	-0.3142	-0.1186	-0.0004
257	SLU 47	-4.02	4.97	48.75	-0.3079	-0.117	-0.0004
257	SLU 48	-3.94	4.83	46.83	-0.3035	-0.1157	-0.0004
257	SLU 49	-3.94	4.83	46.9	-0.3035	-0.1158	-0.0004
257	SLU 50	-3.87	4.71	45.71	-0.2972	-0.1139	-0.0004
257	SLU 51	-3.87	4.71	45.78	-0.2972	-0.1141	-0.0004
257	SLU 52	-4.8	5.94	59.08	-0.3622	-0.1385	-0.0005
257	SLU 53	-4.72	5.8	57.16	-0.3579	-0.1372	-0.0005
257	SLU 54	-4.72	5.8	57.23	-0.3579	-0.1373	-0.0005
257	SLU 55	-4.66	5.68	56.15	-0.3515	-0.1357	-0.0005
257	SLU 56	-4.57	5.54	54.23	-0.3472	-0.1343	-0.0005
257	SLU 57	-4.58	5.54	54.3	-0.3471	-0.1345	-0.0005
257	SLU 58	-4.5	5.42	53.11	-0.3409	-0.1326	-0.0005
257	SLU 59	-4.51	5.42	53.18	-0.3408	-0.1327	-0.0005
257	SLU 60	-5.07	6.25	62.14	-0.3811	-0.1463	-0.0005
257	SLU 61	-5.07	6.25	62.21	-0.381	-0.1465	-0.0005
257	SLU 62	-4.92	5.99	59.21	-0.3703	-0.1435	-0.0005
257	SLU 63	-4.92	5.99	59.28	-0.3703	-0.1436	-0.0005
257	SLU 64	-4.59	5.75	56.03	-0.3526	-0.1329	-0.0005
257	SLU 65	-4.6	5.75	56.14	-0.3525	-0.1331	-0.0005
257	SLU 66	-4.51	5.61	54.22	-0.3481	-0.1318	-0.0005
257	SLU 67	-4.52	5.61	54.29	-0.3481	-0.1319	-0.0005
257	SLU 68	-4.45	5.49	53.22	-0.3417	-0.1303	-0.0005
257	SLU 69	-4.36	5.34	51.29	-0.3374	-0.1289	-0.0004
257	SLU 70	-4.37	5.35	51.36	-0.3374	-0.129	-0.0004
257	SLU 71	-4.29	5.23	50.17	-0.3311	-0.1272	-0.0004
257	SLU 72	-4.3	5.23	50.24	-0.331	-0.1273	-0.0004
257	SLU 73	-5.23	6.46	63.54	-0.3961	-0.1518	-0.0006
257	SLU 74	-5.14	6.32	61.62	-0.3918	-0.1504	-0.0005
257	SLU 75	-5.15	6.32	61.69	-0.3918	-0.1506	-0.0005
257	SLU 76	-5.08	6.2	60.61	-0.3854	-0.1489	-0.0005
257	SLU 77	-5	6.05	58.69	-0.3811	-0.1476	-0.0005
257	SLU 78	-5	6.05	58.76	-0.381	-0.1477	-0.0005
257	SLU 79	-4.93	5.94	57.57	-0.3748	-0.1459	-0.0005
257	SLU 80	-4.93	5.94	57.64	-0.3747	-0.146	-0.0005
257	SLU 81	-5.49	6.77	66.6	-0.4149	-0.1596	-0.0006
257	SLU 82	-5.5	6.77	66.67	-0.4149	-0.1597	-0.0006
257	SLU 83	-5.35	6.5	63.67	-0.4042	-0.1567	-0.0006
257	SLU 84	-5.35	6.5	63.74	-0.4041	-0.1569	-0.0006
257	SLE RA 1	-3.44	4.31	42.12	-0.2638	-0.0993	-0.0004
257	SLE RA 2	-3.44	4.31	42.19	-0.2637	-0.0995	-0.0004
257	SLE RA 3	-3.38	4.21	40.91	-0.2608	-0.0986	-0.0004
257	SLE RA 4	-3.39	4.21	40.96	-0.2608	-0.0986	-0.0004
257	SLE RA 5	-3.34	4.14	40.24	-0.2565	-0.0976	-0.0004
257	SLE RA 6	-3.29	4.04	38.96	-0.2537	-0.0967	-0.0003
257	SLE RA 7	-3.29	4.04	39.01	-0.2536	-0.0967	-0.0003
257	SLE RA 8	-3.24	3.96	38.22	-0.2494	-0.0955	-0.0003
257	SLE RA 9	-3.24	3.96	38.26	-0.2494	-0.0956	-0.0003
257	SLE RA 10	-3.86	4.78	47.13	-0.2928	-0.1119	-0.0004
257	SLE RA 11	-3.81	4.69	45.85	-0.2899	-0.111	-0.0004
257	SLE RA 12	-3.81	4.69	45.89	-0.2899	-0.1111	-0.0004
257	SLE RA 13	-3.77	4.61	45.18	-0.2856	-0.11	-0.0004
257	SLE RA 14	-3.71	4.51	43.89	-0.2828	-0.1091	-0.0004
257	SLE RA 15	-3.71	4.51	43.94	-0.2827	-0.1092	-0.0004
257	SLE RA 16	-3.66	4.44	43.15	-0.2786	-0.108	-0.0004
257	SLE RA 17	-3.66	4.44	43.19	-0.2785	-0.108	-0.0004
257	SLE RA 18	-4.04	4.99	49.17	-0.3053	-0.1171	-0.0004
257	SLE RA 19	-4.04	4.99	49.21	-0.3053	-0.1172	-0.0004
257	SLE RA 20	-3.94	4.81	47.22	-0.2982	-0.1152	-0.0004
257	SLE RA 21	-3.94	4.81	47.26	-0.2981	-0.1153	-0.0004
257	SLE FR 1	-3.44	4.31	42.12	-0.2638	-0.0993	-0.0004
257	SLE FR 2	-3.44	4.31	42.13	-0.2637	-0.0993	-0.0004
257	SLE FR 3	-3.4	4.24	41.34	-0.2609	-0.0986	-0.0004
257	SLE FR 4	-3.62	4.51	44.25	-0.2762	-0.1047	-0.0004
257	SLE FR 5	-3.58	4.44	43.45	-0.2734	-0.1039	-0.0004
257	SLE FR 6	-3.74	4.65	45.64	-0.2845	-0.1082	-0.0004
257	SLE QP 1	-3.44	4.31	42.12	-0.2638	-0.0993	-0.0004
257	SLE QP 2	-3.62	4.51	44.23	-0.2762	-0.1046	-0.0004
257	SLD 1	-1.61	5.39	41.24	-0.3121	-0.0182	-0.0004
257	SLD 2	-1.61	5.39	41.24	-0.3121	-0.0182	-0.0004
257	SLD 3	-1.36	2.2	34.91	-0.1705	-0.0072	0
257	SLD 4	-1.36	2.2	34.91	-0.1705	-0.0072	0
257	SLD 5	-3.39	9.62	52.93	-0.5017	-0.0955	-0.0009
257	SLD 6	-3.39	9.62	52.93	-0.5017	-0.0955	-0.0009
257	SLD 7	-2.56	-1.02	31.84	-0.0298	-0.0586	0.0002
257	SLD 8	-2.56	-1.02	31.84	-0.0298	-0.0586	0.0002
257	SLD 9	-4.67	10.05	56.63	-0.5227	-0.1507	-0.001
257	SLD 10	-4.67	10.05	56.63	-0.5227	-0.1507	-0.001
257	SLD 11	-3.84	-0.59	35.54	-0.0507	-0.1138	0.0001
257	SLD 12	-3.84	-0.59	35.54	-0.0507	-0.1138	0.0001
257	SLD 13	-5.87	6.83	53.56	-0.3819	-0.2021	-0.0007
257	SLD 14	-5.87	6.83	53.56	-0.3819	-0.2021	-0.0007
257	SLD 15	-5.62	3.64	47.23	-0.2403	-0.1911	-0.0004
257	SLD 16	-5.62	3.64	47.23	-0.2403	-0.1911	-0.0004
257	SLV 1	1.04	6.55	37.46	-0.3594	0.0966	-0.0004
257	SLV 2	1.04	6.55	37.46	-0.3594	0.0966	-0.0004
257	SLV 3	1.65	-0.95	22.22	-0.0268	0.1229	0.0004
257	SLV 4	1.65	-0.95	22.22	-0.0268	0.1229	0.0004



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
257	SLV 5	-3.15	16.5	65.33	-0.8056	-0.0841	-0.0016	
257	SLV 6	-3.15	16.5	65.33	-0.8056	-0.0841	-0.0016	
257	SLV 7	-1.11	-8.5	14.5	0.303	0.0035	0.0011	
257	SLV 8	-1.11	-8.5	14.5	0.303	0.0035	0.0011	
257	SLV 9	-6.13	17.52	73.96	-0.8555	-0.2128	-0.0019	
257	SLV 10	-6.13	17.52	73.96	-0.8555	-0.2128	-0.0019	
257	SLV 11	-4.09	-7.47	23.14	0.2532	-0.1252	0.0009	
257	SLV 12	-4.09	-7.47	23.14	0.2532	-0.1252	0.0009	
257	SLV 13	-8.89	9.97	66.25	-0.5256	-0.3322	-0.0012	
257	SLV 14	-8.89	9.97	66.25	-0.5256	-0.3322	-0.0012	
257	SLV 15	-8.28	2.47	51	-0.1931	-0.3059	-0.0004	
257	SLV 16	-8.28	2.47	51	-0.1931	-0.3059	-0.0004	
258	SLU 1	-0.25	0.02	50.65	-0.0857	-0.193	0.0011	
258	SLU 2	-0.24	0.6	49.56	-0.1075	-0.1738	0.0011	
258	SLU 3	-0.26	0.04	51.96	-0.0885	-0.1984	0.0012	
258	SLU 4	-0.25	0.39	51.3	-0.1016	-0.1869	0.0011	
258	SLU 5	-0.24	0.65	50.35	-0.1105	-0.1769	0.0011	
258	SLU 6	-0.27	0.09	52.74	-0.0915	-0.2015	0.0012	
258	SLU 7	-0.25	0.44	52.09	-0.1045	-0.19	0.0011	
258	SLU 8	-0.26	0.12	52.23	-0.0917	-0.1993	0.0012	
258	SLU 9	-0.25	0.47	51.57	-0.1048	-0.1877	0.0011	
258	SLU 10	-0.27	0.48	55.05	-0.1126	-0.1985	0.0012	
258	SLU 11	-0.29	-0.08	57.45	-0.0935	-0.2232	0.0013	
258	SLU 12	-0.28	0.27	56.79	-0.1066	-0.2117	0.0013	
258	SLU 13	-0.27	0.53	55.83	-0.1155	-0.2017	0.0012	
258	SLU 14	-0.3	-0.03	58.23	-0.0965	-0.2263	0.0013	
258	SLU 15	-0.29	0.32	57.58	-0.1096	-0.2148	0.0013	
258	SLU 16	-0.3	0	57.72	-0.0967	-0.224	0.0013	
258	SLU 17	-0.28	0.35	57.06	-0.1098	-0.2125	0.0013	
258	SLU 18	-0.3	-0.15	58.49	-0.0929	-0.2284	0.0014	
258	SLU 19	-0.29	0.2	57.84	-0.106	-0.2169	0.0013	
258	SLU 20	-0.3	-0.1	59.28	-0.0959	-0.2315	0.0014	
258	SLU 21	-0.29	0.25	58.62	-0.1089	-0.22	0.0013	
258	SLU 22	-0.29	-0.08	56.14	-0.0914	-0.2174	0.0013	
258	SLU 23	-0.27	0.5	55.04	-0.1132	-0.1982	0.0012	
258	SLU 24	-0.29	-0.06	57.44	-0.0942	-0.2229	0.0013	
258	SLU 25	-0.28	0.29	56.78	-0.1073	-0.2113	0.0013	
258	SLU 26	-0.27	0.56	55.83	-0.1162	-0.2013	0.0012	
258	SLU 27	-0.3	-0.01	58.23	-0.0972	-0.226	0.0013	
258	SLU 28	-0.29	0.34	57.57	-0.1103	-0.2144	0.0013	
258	SLU 29	-0.29	0.02	57.71	-0.0974	-0.2237	0.0013	
258	SLU 30	-0.28	0.37	57.05	-0.1105	-0.2121	0.0013	
258	SLU 31	-0.3	0.38	60.53	-0.1183	-0.223	0.0014	
258	SLU 32	-0.33	-0.18	62.93	-0.0992	-0.2476	0.0015	
258	SLU 33	-0.32	0.17	62.27	-0.1123	-0.2361	0.0014	
258	SLU 34	-0.3	0.44	61.32	-0.1212	-0.2261	0.0014	
258	SLU 35	-0.33	-0.13	63.72	-0.1022	-0.2508	0.0015	
258	SLU 36	-0.32	0.22	63.06	-0.1153	-0.2392	0.0014	
258	SLU 37	-0.33	-0.1	63.2	-0.1024	-0.2485	0.0015	
258	SLU 38	-0.32	0.25	62.54	-0.1155	-0.2369	0.0014	
258	SLU 39	-0.33	-0.25	63.98	-0.0986	-0.2528	0.0015	
258	SLU 40	-0.32	0.1	63.32	-0.1117	-0.2413	0.0014	
258	SLU 41	-0.34	-0.2	64.76	-0.1016	-0.256	0.0015	
258	SLU 42	-0.33	0.15	64.11	-0.1147	-0.2444	0.0015	
258	SLU 43	-0.32	0.06	63.97	-0.1095	-0.2425	0.0014	
258	SLU 44	-0.3	0.64	62.87	-0.1313	-0.2233	0.0014	
258	SLU 45	-0.33	0.08	65.27	-0.1123	-0.2479	0.0015	
258	SLU 46	-0.32	0.43	64.62	-0.1253	-0.2364	0.0014	
258	SLU 47	-0.31	0.69	63.66	-0.1343	-0.2264	0.0014	
258	SLU 48	-0.33	0.13	66.06	-0.1152	-0.2511	0.0015	
258	SLU 49	-0.32	0.48	65.4	-0.1283	-0.2395	0.0014	
258	SLU 50	-0.33	0.16	65.55	-0.1154	-0.2488	0.0015	
258	SLU 51	-0.32	0.51	64.89	-0.1285	-0.2372	0.0014	
258	SLU 52	-0.33	0.52	68.36	-0.1363	-0.2481	0.0015	
258	SLU 53	-0.36	-0.04	70.76	-0.1173	-0.2727	0.0016	
258	SLU 54	-0.35	0.31	70.1	-0.1304	-0.2612	0.0016	
258	SLU 55	-0.34	0.57	69.15	-0.1393	-0.2512	0.0015	
258	SLU 56	-0.36	0.01	71.55	-0.1202	-0.2758	0.0016	
258	SLU 57	-0.35	0.36	70.89	-0.1333	-0.2643	0.0016	
258	SLU 58	-0.36	0.04	71.03	-0.1205	-0.2735	0.0016	
258	SLU 59	-0.35	0.39	70.38	-0.1335	-0.262	0.0016	
258	SLU 60	-0.37	-0.11	71.81	-0.1167	-0.2779	0.0016	
258	SLU 61	-0.36	0.24	71.15	-0.1297	-0.2664	0.0016	
258	SLU 62	-0.37	-0.06	72.6	-0.1196	-0.281	0.0017	
258	SLU 63	-0.36	0.29	71.94	-0.1327	-0.2695	0.0016	
258	SLU 64	-0.35	-0.04	69.45	-0.1152	-0.267	0.0016	
258	SLU 65	-0.33	0.54	68.36	-0.137	-0.2477	0.0015	
258	SLU 66	-0.36	-0.02	70.76	-0.118	-0.2724	0.0016	
258	SLU 67	-0.35	0.33	70.1	-0.131	-0.2608	0.0016	
258	SLU 68	-0.34	0.59	69.14	-0.14	-0.2508	0.0015	
258	SLU 69	-0.36	0.03	71.54	-0.1209	-0.2755	0.0016	
258	SLU 70	-0.35	0.38	70.89	-0.134	-0.264	0.0016	
258	SLU 71	-0.36	0.06	71.03	-0.1212	-0.2732	0.0016	
258	SLU 72	-0.35	0.41	70.37	-0.1342	-0.2617	0.0016	
258	SLU 73	-0.37	0.42	73.84	-0.142	-0.2725	0.0016	
258	SLU 74	-0.39	-0.14	76.24	-0.123	-0.2972	0.0018	
258	SLU 75	-0.38	0.21	75.59	-0.1361	-0.2856	0.0017	
258	SLU 76	-0.37	0.47	74.63	-0.145	-0.2756	0.0017	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
258	SLU 77			-0.4	-0.09	77.03	-0.1259	-0.3003	0.0018
258	SLU 78			-0.38	0.26	76.37	-0.139	-0.2887	0.0017
258	SLU 79			-0.39	-0.06	76.52	-0.1262	-0.298	0.0018
258	SLU 80			-0.38	0.29	75.86	-0.1392	-0.2864	0.0017
258	SLU 81			-0.4	-0.21	77.29	-0.1224	-0.3024	0.0018
258	SLU 82			-0.39	0.14	76.64	-0.1355	-0.2908	0.0017
258	SLU 83			-0.4	-0.16	78.08	-0.1253	-0.3055	0.0018
258	SLU 84			-0.39	0.19	77.42	-0.1384	-0.2939	0.0018
258	SLE RA 1			-0.26	-0.01	52.22	-0.0874	-0.2	0.0012
258	SLE RA 2			-0.25	0.38	51.49	-0.1019	-0.1872	0.0011
258	SLE RA 3			-0.27	0	53.09	-0.0892	-0.2036	0.0012
258	SLE RA 4			-0.26	0.24	52.65	-0.0979	-0.1959	0.0012
258	SLE RA 5			-0.25	0.41	52.01	-0.1039	-0.1892	0.0011
258	SLE RA 6			-0.27	0.04	53.61	-0.0912	-0.2057	0.0012
258	SLE RA 7			-0.26	0.27	53.18	-0.0999	-0.198	0.0012
258	SLE RA 8			-0.27	0.06	53.27	-0.0913	-0.2042	0.0012
258	SLE RA 9			-0.26	0.29	52.83	-0.1001	-0.1965	0.0012
258	SLE RA 10			-0.27	0.3	55.15	-0.1052	-0.2037	0.0012
258	SLE RA 11			-0.29	-0.08	56.75	-0.0925	-0.2201	0.0013
258	SLE RA 12			-0.28	0.16	56.31	-0.1013	-0.2124	0.0013
258	SLE RA 13			-0.28	0.33	55.67	-0.1072	-0.2058	0.0012
258	SLE RA 14			-0.29	-0.04	57.27	-0.0945	-0.2222	0.0013
258	SLE RA 15			-0.29	0.19	56.83	-0.1032	-0.2145	0.0013
258	SLE RA 16			-0.29	-0.02	56.93	-0.0947	-0.2207	0.0013
258	SLE RA 17			-0.28	0.21	56.49	-0.1034	-0.213	0.0013
258	SLE RA 18			-0.29	-0.12	57.45	-0.0921	-0.2236	0.0013
258	SLE RA 19			-0.29	0.11	57.01	-0.1009	-0.2159	0.0013
258	SLE RA 20			-0.3	-0.09	57.97	-0.0941	-0.2257	0.0013
258	SLE RA 21			-0.29	0.14	57.53	-0.1028	-0.218	0.0013
258	SLE FR 1			-0.26	-0.01	52.22	-0.0874	-0.2	0.0012
258	SLE FR 2			-0.26	0.07	52.07	-0.0903	-0.1974	0.0012
258	SLE FR 3			-0.26	0	52.43	-0.0882	-0.2008	0.0012
258	SLE FR 4			-0.27	0.03	53.64	-0.0917	-0.2045	0.0012
258	SLE FR 5			-0.27	-0.03	54	-0.0896	-0.2079	0.0012
258	SLE FR 6			-0.28	-0.07	54.83	-0.0898	-0.2118	0.0013
258	SLE QP 1			-0.26	-0.01	52.22	-0.0874	-0.2	0.0012
258	SLE QP 2			-0.27	-0.04	53.79	-0.0888	-0.2071	0.0012
258	SLD 1			-0.43	2.47	66.11	-0.2058	-0.3498	0.0018
258	SLD 2			-0.43	2.47	66.11	-0.2058	-0.3498	0.0018
258	SLD 3			-0.51	-0.61	69.09	-0.0692	-0.435	0.0022
258	SLD 4			-0.51	-0.61	69.09	-0.0692	-0.435	0.0022
258	SLD 5			-0.19	5.39	52.95	-0.3311	-0.1207	0.0009
258	SLD 6			-0.19	5.39	52.95	-0.3311	-0.1207	0.0009
258	SLD 7			-0.48	-4.89	62.91	0.1242	-0.4046	0.002
258	SLD 8			-0.48	-4.89	62.91	0.1242	-0.4046	0.002
258	SLD 9			-0.07	4.8	44.67	-0.3019	-0.0095	0.0004
258	SLD 10			-0.07	4.8	44.67	-0.3019	-0.0095	0.0004
258	SLD 11			-0.36	-5.48	54.62	0.1534	-0.2934	0.0016
258	SLD 12			-0.36	-5.48	54.62	0.1534	-0.2934	0.0016
258	SLD 13			-0.03	0.52	38.48	-0.1084	0.0208	0.0003
258	SLD 14			-0.03	0.52	38.48	-0.1084	0.0208	0.0003
258	SLD 15			-0.12	-2.56	41.47	0.0282	-0.0643	0.0006
258	SLD 16			-0.12	-2.56	41.47	0.0282	-0.0643	0.0006
258	SLV 1			-0.64	5.96	82.56	-0.367	-0.5493	0.0026
258	SLV 2			-0.64	5.96	82.56	-0.367	-0.5493	0.0026
258	SLV 3			-0.85	-1.24	89.66	-0.0489	-0.7597	0.0035
258	SLV 4			-0.85	-1.24	89.66	-0.0489	-0.7597	0.0035
258	SLV 5			-0.06	12.68	51.65	-0.6547	0.0094	0.0003
258	SLV 6			-0.06	12.68	51.65	-0.6547	0.0094	0.0003
258	SLV 7			-0.77	-11.32	75.32	0.4056	-0.692	0.0032
258	SLV 8			-0.77	-11.32	75.32	0.4056	-0.692	0.0032
258	SLV 9			0.22	11.24	32.25	-0.5832	0.2779	-0.0008
258	SLV 10			0.22	11.24	32.25	-0.5832	0.2779	-0.0008
258	SLV 11			-0.48	-12.77	55.93	0.4771	-0.4235	0.0021
258	SLV 12			-0.48	-12.77	55.93	0.4771	-0.4235	0.0021
258	SLV 13			0.3	1.15	17.91	-0.1287	0.3456	-0.001
258	SLV 14			0.3	1.15	17.91	-0.1287	0.3456	-0.001
258	SLV 15			0.09	-6.05	25.01	0.1894	0.1352	-0.0002
258	SLV 16			0.09	-6.05	25.01	0.1894	0.1352	-0.0002
259	SLU 1			0.02	-3.72	53.11	0.1528	0.0163	0
259	SLU 2			0	-3.18	51.54	0.1278	0.0005	0
259	SLU 3			0.02	-3.88	54.14	0.1586	0.0169	0
259	SLU 4			0.01	-3.56	53.2	0.1436	0.0074	0
259	SLU 5			0.01	-3.28	51.92	0.1311	0.001	0
259	SLU 6			0.02	-3.98	54.52	0.162	0.0174	0
259	SLU 7			0.01	-3.66	53.58	0.1469	0.0079	0
259	SLU 8			0.02	-3.92	53.87	0.1595	0.0172	0
259	SLU 9			0.01	-3.6	52.93	0.1445	0.0077	0
259	SLU 10			0.01	-3.77	57.58	0.1515	0.0026	0
259	SLU 11			0.02	-4.47	60.18	0.1824	0.0191	0
259	SLU 12			0.01	-4.14	59.24	0.1674	0.0096	0
259	SLU 13			0.01	-3.87	57.96	0.1549	0.0031	0
259	SLU 14			0.02	-4.57	60.56	0.1857	0.0195	0
259	SLU 15			0.01	-4.24	59.62	0.1707	0.01	0
259	SLU 16			0.02	-4.51	59.9	0.1833	0.0194	0
259	SLU 17			0.01	-4.18	58.96	0.1682	0.0099	0
259	SLU 18			0.02	-4.56	61.73	0.1868	0.0194	0
259	SLU 19			0.01	-4.24	60.79	0.1718	0.0099	0





Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
259	SLU 20		0.02		-4.66	62.11	0.1901	0.0198	0
259	SLU 21		0.01		-4.33	61.17	0.1751	0.0103	0
259	SLU 22		0.02		-4.31	58.89	0.1765	0.0186	0
259	SLU 23		0.01		-3.77	57.32	0.1514	0.0028	0
259	SLU 24		0.02		-4.47	59.92	0.1823	0.0192	0
259	SLU 25		0.01		-4.15	58.98	0.1673	0.0097	0
259	SLU 26		0.01		-3.87	57.7	0.1548	0.0032	0
259	SLU 27		0.02		-4.57	60.3	0.1856	0.0196	0
259	SLU 28		0.01		-4.25	59.36	0.1706	0.0102	0
259	SLU 29		0.02		-4.51	59.64	0.1832	0.0195	0
259	SLU 30		0.01		-4.19	58.7	0.1681	0.01	0
259	SLU 31		0.01		-4.36	63.35	0.1752	0.0049	0
259	SLU 32		0.02		-5.06	65.95	0.2061	0.0213	0
259	SLU 33		0.01		-4.73	65.01	0.191	0.0118	0
259	SLU 34		0.01		-4.46	63.73	0.1785	0.0054	0
259	SLU 35		0.02		-5.16	66.33	0.2094	0.0218	0
259	SLU 36		0.02		-4.83	65.39	0.1944	0.0123	0
259	SLU 37		0.02		-5.1	65.68	0.2069	0.0216	0
259	SLU 38		0.02		-4.77	64.74	0.1919	0.0121	0
259	SLU 39		0.02		-5.15	67.5	0.2105	0.0216	0
259	SLU 40		0.02		-4.83	66.56	0.1954	0.0121	0
259	SLU 41		0.02		-5.25	67.88	0.2138	0.0221	0
259	SLU 42		0.02		-4.92	66.94	0.1988	0.0126	0
259	SLU 43		0.02		-4.64	67.06	0.1906	0.0204	0
259	SLU 44		0.01		-4.1	65.5	0.1655	0.0046	0
259	SLU 45		0.02		-4.8	68.1	0.1964	0.021	0
259	SLU 46		0.01		-4.47	67.16	0.1813	0.0115	0
259	SLU 47		0.01		-4.2	65.88	0.1688	0.0051	0
259	SLU 48		0.02		-4.9	68.48	0.1997	0.0215	0
259	SLU 49		0.01		-4.57	67.54	0.1847	0.012	0
259	SLU 50		0.02		-4.84	67.82	0.1972	0.0213	0
259	SLU 51		0.01		-4.51	66.88	0.1822	0.0118	0
259	SLU 52		0.01		-4.68	71.53	0.1893	0.0067	0
259	SLU 53		0.02		-5.38	74.13	0.2201	0.0232	0
259	SLU 54		0.02		-5.06	73.19	0.2051	0.0137	0
259	SLU 55		0.01		-4.78	71.91	0.1926	0.0072	0
259	SLU 56		0.02		-5.48	74.51	0.2235	0.0236	0
259	SLU 57		0.02		-5.16	73.57	0.2084	0.0141	0
259	SLU 58		0.02		-5.42	73.85	0.221	0.0235	0
259	SLU 59		0.02		-5.1	72.91	0.206	0.014	0
259	SLU 60		0.02		-5.47	75.68	0.2245	0.0235	0
259	SLU 61		0.02		-5.15	74.74	0.2095	0.014	0
259	SLU 62		0.02		-5.57	76.06	0.2279	0.0239	0
259	SLU 63		0.02		-5.25	75.12	0.2128	0.0144	0
259	SLU 64		0.02		-5.23	72.84	0.2142	0.0227	0
259	SLU 65		0.01		-4.69	71.27	0.1892	0.0069	0
259	SLU 66		0.02		-5.39	73.87	0.22	0.0233	0
259	SLU 67		0.02		-5.06	72.93	0.205	0.0138	0
259	SLU 68		0.01		-4.79	71.65	0.1925	0.0073	0
259	SLU 69		0.02		-5.49	74.25	0.2234	0.0238	0
259	SLU 70		0.02		-5.16	73.31	0.2083	0.0143	0
259	SLU 71		0.02		-5.43	73.6	0.2209	0.0236	0
259	SLU 72		0.02		-5.1	72.66	0.2059	0.0141	0
259	SLU 73		0.01		-5.27	77.3	0.2129	0.009	0
259	SLU 74		0.03		-5.97	79.91	0.2438	0.0254	0
259	SLU 75		0.02		-5.65	78.97	0.2288	0.016	0
259	SLU 76		0.01		-5.37	77.68	0.2163	0.0095	0
259	SLU 77		0.03		-6.07	80.28	0.2471	0.0259	0
259	SLU 78		0.02		-5.75	79.34	0.2321	0.0164	0
259	SLU 79		0.03		-6.01	79.63	0.2447	0.0257	0
259	SLU 80		0.02		-5.69	78.69	0.2296	0.0163	0
259	SLU 81		0.03		-6.06	81.46	0.2482	0.0257	0
259	SLU 82		0.02		-5.74	80.52	0.2332	0.0163	0
259	SLU 83		0.03		-6.16	81.84	0.2515	0.0262	0
259	SLU 84		0.02		-5.84	80.9	0.2365	0.0167	0
259	SLE RA 1		0.02		-3.89	54.76	0.1596	0.0169	0
259	SLE RA 2		0.01		-3.53	53.72	0.1429	0.0064	0
259	SLE RA 3		0.02		-4	55.45	0.1635	0.0174	0
259	SLE RA 4		0.01		-3.78	54.82	0.1534	0.011	0
259	SLE RA 5		0.01		-3.6	53.97	0.1451	0.0067	0
259	SLE RA 6		0.02		-4.06	55.7	0.1657	0.0177	0
259	SLE RA 7		0.01		-3.85	55.08	0.1557	0.0113	0
259	SLE RA 8		0.02		-4.03	55.27	0.164	0.0176	0
259	SLE RA 9		0.01		-3.81	54.64	0.154	0.0112	0
259	SLE RA 10		0.01		-3.92	57.74	0.1587	0.0078	0
259	SLE RA 11		0.02		-4.39	59.47	0.1793	0.0188	0
259	SLE RA 12		0.01		-4.17	58.85	0.1693	0.0125	0
259	SLE RA 13		0.01		-3.99	57.99	0.161	0.0081	0
259	SLE RA 14		0.02		-4.45	59.72	0.1815	0.0191	0
259	SLE RA 15		0.01		-4.24	59.1	0.1715	0.0128	0
259	SLE RA 16		0.02		-4.42	59.29	0.1799	0.019	0
259	SLE RA 17		0.01		-4.2	58.66	0.1699	0.0127	0
259	SLE RA 18		0.02		-4.45	60.51	0.1822	0.019	0
259	SLE RA 19		0.01		-4.23	59.88	0.1722	0.0127	0
259	SLE RA 20		0.02		-4.52	60.76	0.1845	0.0193	0
259	SLE RA 21		0.02		-4.3	60.13	0.1744	0.013	0
259	SLE FR 1		0.02		-3.89	54.76	0.1596	0.0169	0
259	SLE FR 2		0.02		-3.82	54.55	0.1562	0.0148	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
259	SLE FR 3	0.02	-3.92	54.86		0.1605	0.0171		0
259	SLE FR 4	0.02	-3.99	56.28		0.163	0.0155		0
259	SLE FR 5	0.02	-4.09	56.59		0.1673	0.0177		0
259	SLE FR 6	0.02	-4.17	57.63		0.1709	0.018		0
259	SLE QP 1	0.02	-3.89	54.76		0.1596	0.0169		0
259	SLE QP 2	0.02	-4.06	56.48		0.1664	0.0176		0
259	SLD 1	0.18	-1.39	40.02		0.0541	0.177		0
259	SLD 2	0.18	-1.39	40.02		0.0541	0.177		0
259	SLD 3	0.27	-4.62	44.43		0.1895	0.2698		0
259	SLD 4	0.27	-4.62	44.43		0.1895	0.2698		0
259	SLD 5	-0.06	1.64	44.86		-0.0726	-0.0754		0
259	SLD 6	-0.06	1.64	44.86		-0.0726	-0.0754		0
259	SLD 7	0.22	-9.13	59.55		0.3786	0.234		0
259	SLD 8	0.22	-9.13	59.55		0.3786	0.234		0
259	SLD 9	-0.18	1.01	53.42		-0.0458	-0.1989		0
259	SLD 10	-0.18	1.01	53.42		-0.0458	-0.1989		0
259	SLD 11	0.1	-9.76	68.11		0.4054	0.1105		0
259	SLD 12	0.1	-9.76	68.11		0.4054	0.1105		0
259	SLD 13	-0.23	-3.5	68.54		0.1433	-0.2347		0
259	SLD 14	-0.23	-3.5	68.54		0.1433	-0.2347		0
259	SLD 15	-0.15	-6.73	72.95		0.2786	-0.1419		0
259	SLD 16	-0.15	-6.73	72.95		0.2786	-0.1419		0
259	SLV 1	0.41	2.19	17.88		-0.0963	0.4005		0
259	SLV 2	0.41	2.19	17.88		-0.0963	0.4005		0
259	SLV 3	0.63	-5.33	28.31		0.219	0.6371	-0.0001	
259	SLV 4	0.63	-5.33	28.31		0.219	0.6371	-0.0001	
259	SLV 5	-0.19	9.22	29.08		-0.3908	-0.2264	0.0001	
259	SLV 6	-0.19	9.22	29.08		-0.3908	-0.2264	0.0001	
259	SLV 7	0.52	-15.85	63.85		0.6605	0.5622	-0.0001	
259	SLV 8	0.52	-15.85	63.85		0.6605	0.5622	-0.0001	
259	SLV 9	-0.49	7.73	49.11		-0.3278	-0.5271	0.0001	
259	SLV 10	-0.49	7.73	49.11		-0.3278	-0.5271	0.0001	
259	SLV 11	0.22	-17.34	83.89		0.7235	0.2615	-0.0001	
259	SLV 12	0.22	-17.34	83.89		0.7235	0.2615	-0.0001	
259	SLV 13	-0.59	-2.79	84.66		0.1137	-0.602		0
259	SLV 14	-0.59	-2.79	84.66		0.1137	-0.602		0
259	SLV 15	-0.38	-10.31	95.09		0.4291	-0.3654		0
259	SLV 16	-0.38	-10.31	95.09		0.4291	-0.3654		0
260	SLU 1	0	1.64	44.66		-0.048	-0.0007		0
260	SLU 2	0	1.75	44.15		-0.0513	-0.0003		0
260	SLU 3	0	1.69	46.8		-0.0494	-0.0007		0
260	SLU 4	0	1.76	46.49		-0.0514	-0.0005		0
260	SLU 5	0	1.82	45.93		-0.0531	-0.0002		0
260	SLU 6	0	1.76	48.58		-0.0512	-0.0007		0
260	SLU 7	0	1.83	48.27		-0.0532	-0.0004		0
260	SLU 8	0	1.77	48.24		-0.0516	-0.0007		0
260	SLU 9	0	1.84	47.93		-0.0536	-0.0004		0
260	SLU 10	0	1.83	51.7		-0.0539	-0.0004		0
260	SLU 11	0	1.77	54.35		-0.052	-0.0009		0
260	SLU 12	0	1.84	54.04		-0.054	-0.0006		0
260	SLU 13	0	1.9	53.49		-0.0557	-0.0004		0
260	SLU 14	0	1.84	56.14		-0.0538	-0.0009		0
260	SLU 15	0	1.91	55.83		-0.0557	-0.0006		0
260	SLU 16	0	1.86	55.79		-0.0542	-0.0008		0
260	SLU 17	0	1.92	55.48		-0.0562	-0.0005		0
260	SLU 18	0	1.76	55.45		-0.0517	-0.0009		0
260	SLU 19	0	1.82	55.14		-0.0537	-0.0007		0
260	SLU 20	0	1.82	57.24		-0.0535	-0.0009		0
260	SLU 21	0	1.89	56.93		-0.0555	-0.0006		0
260	SLU 22	0	1.75	52.16		-0.0513	-0.0009		0
260	SLU 23	0	1.86	51.64		-0.0546	-0.0004		0
260	SLU 24	0	1.8	54.29		-0.0526	-0.0009		0
260	SLU 25	0	1.87	53.98		-0.0546	-0.0006		0
260	SLU 26	0	1.93	53.43		-0.0564	-0.0004		0
260	SLU 27	0	1.87	56.08		-0.0544	-0.0008		0
260	SLU 28	0	1.93	55.77		-0.0564	-0.0005		0
260	SLU 29	0	1.88	55.73		-0.0548	-0.0008		0
260	SLU 30	0	1.95	55.42		-0.0568	-0.0005		0
260	SLU 31	0	1.94	59.19		-0.0572	-0.0005		0
260	SLU 32	0	1.88	61.84		-0.0552	-0.001		0
260	SLU 33	0	1.95	61.53		-0.0572	-0.0007		0
260	SLU 34	0	2.01	60.98		-0.059	-0.0005		0
260	SLU 35	0	1.95	63.63		-0.057	-0.001		0
260	SLU 36	0	2.02	63.32		-0.059	-0.0007		0
260	SLU 37	0	1.96	63.28		-0.0574	-0.0009		0
260	SLU 38	0	2.03	62.97		-0.0594	-0.0007		0
260	SLU 39	0	1.86	62.94		-0.055	-0.0011		0
260	SLU 40	0	1.93	62.63		-0.057	-0.0008		0
260	SLU 41	0	1.93	64.73		-0.0568	-0.001		0
260	SLU 42	0	2	64.42		-0.0587	-0.0007		0
260	SLU 43	0	2.09	55.49		-0.0613	-0.0009		0
260	SLU 44	0	2.2	54.98		-0.0646	-0.0005		0
260	SLU 45	0	2.15	57.63		-0.0627	-0.0009		0
260	SLU 46	0	2.21	57.32		-0.0647	-0.0006		0
260	SLU 47	0	2.27	56.76		-0.0664	-0.0004		0
260	SLU 48	0	2.21	59.41		-0.0645	-0.0009		0
260	SLU 49	0	2.28	59.1		-0.0665	-0.0006		0
260	SLU 50	0	2.23	59.07		-0.0649	-0.0009		0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
260	SLU 51	0	2.29	58.76	-0.0669	-0.0006	0	
260	SLU 52	0	2.29	62.53	-0.0672	-0.0006	0	
260	SLU 53	0	2.23	65.18	-0.0653	-0.0011	0	
260	SLU 54	0	2.3	64.87	-0.0673	-0.0008	0	
260	SLU 55	0	2.35	64.31	-0.069	-0.0006	0	
260	SLU 56	0	2.3	66.97	-0.067	-0.001	0	
260	SLU 57	0	2.36	66.66	-0.069	-0.0007	0	
260	SLU 58	0	2.31	66.62	-0.0675	-0.001	0	
260	SLU 59	0	2.38	66.31	-0.0695	-0.0007	0	
260	SLU 60	0	2.21	66.28	-0.065	-0.0011	0	
260	SLU 61	0	2.28	65.97	-0.067	-0.0008	0	
260	SLU 62	0	2.28	68.07	-0.0668	-0.0011	0	
260	SLU 63	0	2.35	67.76	-0.0688	-0.0008	0	
260	SLU 64	0	2.2	62.98	-0.0646	-0.001	0	
260	SLU 65	0	2.31	62.47	-0.0679	-0.0006	0	
260	SLU 66	0	2.25	65.12	-0.0659	-0.001	0	
260	SLU 67	0	2.32	64.81	-0.0679	-0.0008	0	
260	SLU 68	0	2.38	64.26	-0.0697	-0.0005	0	
260	SLU 69	0	2.32	66.91	-0.0677	-0.001	0	
260	SLU 70	0	2.39	66.6	-0.0697	-0.0007	0	
260	SLU 71	0	2.34	66.56	-0.0681	-0.001	0	
260	SLU 72	0	2.4	66.25	-0.0701	-0.0007	0	
260	SLU 73	0	2.39	70.02	-0.0705	-0.0007	0	
260	SLU 74	0	2.34	72.67	-0.0685	-0.0012	0	
260	SLU 75	0	2.4	72.36	-0.0705	-0.0009	0	
260	SLU 76	0	2.46	71.81	-0.0722	-0.0007	0	
260	SLU 77	0	2.4	74.46	-0.0703	-0.0012	0	
260	SLU 78	0	2.47	74.15	-0.0723	-0.0009	0	
260	SLU 79	0	2.42	74.11	-0.0707	-0.0011	0	
260	SLU 80	0	2.48	73.8	-0.0727	-0.0008	0	
260	SLU 81	0	2.32	73.77	-0.0683	-0.0012	0	
260	SLU 82	0	2.39	73.46	-0.0703	-0.001	0	
260	SLU 83	0	2.39	75.56	-0.07	-0.0012	0	
260	SLU 84	0	2.45	75.25	-0.072	-0.0009	0	
260	SLE RA 1	0	1.67	46.8	-0.049	-0.0008	0	
260	SLE RA 2	0	1.74	46.46	-0.0512	-0.0005	0	
260	SLE RA 3	0	1.71	48.23	-0.0499	-0.0008	0	
260	SLE RA 4	0	1.75	48.02	-0.0512	-0.0006	0	
260	SLE RA 5	0	1.79	47.65	-0.0524	-0.0004	0	
260	SLE RA 6	0	1.75	49.42	-0.0511	-0.0008	0	
260	SLE RA 7	0	1.79	49.21	-0.0524	-0.0006	0	
260	SLE RA 8	0	1.76	49.19	-0.0513	-0.0007	0	
260	SLE RA 9	0	1.8	48.98	-0.0527	-0.0005	0	
260	SLE RA 10	0	1.8	51.49	-0.0529	-0.0006	0	
260	SLE RA 11	0	1.76	53.26	-0.0516	-0.0009	0	
260	SLE RA 12	0	1.8	53.05	-0.0529	-0.0007	0	
260	SLE RA 13	0	1.84	52.69	-0.0541	-0.0005	0	
260	SLE RA 14	0	1.8	54.45	-0.0528	-0.0009	0	
260	SLE RA 15	0	1.85	54.25	-0.0541	-0.0007	0	
260	SLE RA 16	0	1.81	54.22	-0.0531	-0.0008	0	
260	SLE RA 17	0	1.86	54.01	-0.0544	-0.0006	0	
260	SLE RA 18	0	1.75	54	-0.0514	-0.0009	0	
260	SLE RA 19	0	1.79	53.79	-0.0527	-0.0007	0	
260	SLE RA 20	0	1.79	55.19	-0.0526	-0.0009	0	
260	SLE RA 21	0	1.84	54.98	-0.0539	-0.0007	0	
260	SLE FR 1	0	1.67	46.8	-0.049	-0.0008	0	
260	SLE FR 2	0	1.68	46.73	-0.0494	-0.0007	0	
260	SLE FR 3	0	1.69	47.28	-0.0494	-0.0008	0	
260	SLE FR 4	0	1.71	48.89	-0.0501	-0.0008	0	
260	SLE FR 5	0	1.71	49.44	-0.0502	-0.0008	0	
260	SLE FR 6	0	1.71	50.4	-0.0502	-0.0008	0	
260	SLE QP 1	0	1.67	46.8	-0.049	-0.0008	0	
260	SLE QP 2	0	1.69	48.96	-0.0497	-0.0008	0	
260	SLD 1	0.25	4.78	49.96	-0.15	0.2116	-0.0011	
260	SLD 2	0.25	4.78	49.96	-0.15	0.2116	-0.0011	
260	SLD 3	0.2	1.15	51.92	-0.031	0.265	-0.0013	
260	SLD 4	0.2	1.15	51.92	-0.031	0.265	-0.0013	
260	SLD 5	0.15	8.13	46.29	-0.2603	-0.0182	0.0001	
260	SLD 6	0.15	8.13	46.29	-0.2603	-0.0182	0.0001	
260	SLD 7	-0.02	-3.98	52.82	0.1364	0.16	-0.0008	
260	SLD 8	-0.02	-3.98	52.82	0.1364	0.16	-0.0008	
260	SLD 9	0.02	7.37	45.1	-0.2358	-0.1617	0.0008	
260	SLD 10	0.02	7.37	45.1	-0.2358	-0.1617	0.0008	
260	SLD 11	-0.16	-4.75	51.63	0.1609	0.0166	-0.0001	
260	SLD 12	-0.16	-4.75	51.63	0.1609	0.0166	-0.0001	
260	SLD 13	-0.2	2.24	46	-0.0684	-0.2667	0.0013	
260	SLD 14	-0.2	2.24	46	-0.0684	-0.2667	0.0013	
260	SLD 15	-0.25	-1.4	47.96	0.0506	-0.2132	0.0011	
260	SLD 16	-0.25	-1.4	47.96	0.0506	-0.2132	0.0011	
260	SLV 1	0.65	9.02	51.32	-0.2877	0.5433	-0.0027	
260	SLV 2	0.65	9.02	51.32	-0.2877	0.5433	-0.0027	
260	SLV 3	0.52	0.47	55.96	-0.0076	0.6802	-0.0034	
260	SLV 4	0.52	0.47	55.96	-0.0076	0.6802	-0.0034	
260	SLV 5	0.4	16.86	42.64	-0.546	-0.0452	0.0002	
260	SLV 6	0.4	16.86	42.64	-0.546	-0.0452	0.0002	
260	SLV 7	-0.05	-11.65	58.09	0.3878	0.4111	-0.0021	
260	SLV 8	-0.05	-11.65	58.09	0.3878	0.4111	-0.0021	
260	SLV 9	0.05	15.03	39.83	-0.4872	-0.4128	0.0021	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
260	SLV 10	0.05	15.03	39.83	-0.4872	-0.4128	0.0021
260	SLV 11	-0.4	-13.48	55.29	0.4466	0.0436	-0.0002
260	SLV 12	-0.4	-13.48	55.29	0.4466	0.0436	-0.0002
260	SLV 13	-0.52	2.91	41.96	-0.0918	-0.6818	0.0034
260	SLV 14	-0.52	2.91	41.96	-0.0918	-0.6818	0.0034
260	SLV 15	-0.65	-5.64	46.6	0.1883	-0.5449	0.0027
260	SLV 16	-0.65	-5.64	46.6	0.1883	-0.5449	0.0027
261	SLU 1	0	-0.03	46.77	-0.0042	-0.0004	0
261	SLU 2	0	0.11	46.38	-0.0101	-0.0008	0
261	SLU 3	0	0.02	48.59	-0.0074	-0.0003	0
261	SLU 4	0	0.11	48.35	-0.0109	-0.0006	0
261	SLU 5	0	0.23	47.72	-0.0161	-0.0007	0
261	SLU 6	0	0.14	49.93	-0.0134	-0.0003	0
261	SLU 7	0	0.22	49.69	-0.0169	-0.0005	0
261	SLU 8	0	0.2	49.45	-0.0162	-0.0002	0
261	SLU 9	0	0.29	49.21	-0.0198	-0.0005	0
261	SLU 10	0	-0.14	54.28	-0.0008	-0.001	0
261	SLU 11	0	-0.23	56.49	0.0019	-0.0005	0
261	SLU 12	0	-0.14	56.26	-0.0016	-0.0008	0
261	SLU 13	0	-0.03	55.62	-0.0068	-0.0009	0
261	SLU 14	0	-0.11	57.83	-0.0041	-0.0004	0
261	SLU 15	0	-0.03	57.6	-0.0076	-0.0007	0
261	SLU 16	0	-0.05	57.35	-0.0069	-0.0004	0
261	SLU 17	0	0.03	57.12	-0.0105	-0.0007	0
261	SLU 18	0	-0.39	58.06	0.0091	-0.0007	0
261	SLU 19	0	-0.3	57.83	0.0055	-0.0009	0
261	SLU 20	0	-0.27	59.4	0.0031	-0.0006	0
261	SLU 21	0	-0.19	59.17	-0.0005	-0.0008	0
261	SLU 22	0	-0.17	54.35	0.0002	-0.0005	0
261	SLU 23	0	-0.03	53.96	-0.0057	-0.0009	0
261	SLU 24	0	-0.12	56.17	-0.003	-0.0004	0
261	SLU 25	0	-0.03	55.94	-0.0065	-0.0007	0
261	SLU 26	0	0.08	55.3	-0.0118	-0.0008	0
261	SLU 27	0	0	57.51	-0.009	-0.0003	0
261	SLU 28	0	0.08	57.28	-0.0125	-0.0006	0
261	SLU 29	0	0.06	57.03	-0.0118	-0.0003	0
261	SLU 30	0	0.14	56.8	-0.0154	-0.0006	0
261	SLU 31	0	-0.28	61.87	0.0036	-0.0011	0
261	SLU 32	0	-0.37	64.08	0.0063	-0.0006	0
261	SLU 33	0	-0.29	63.85	0.0028	-0.0009	0
261	SLU 34	0	-0.17	63.21	-0.0024	-0.001	0
261	SLU 35	0	-0.26	65.42	0.0003	-0.0005	0
261	SLU 36	0	-0.17	65.18	-0.0032	-0.0008	0
261	SLU 37	0	-0.19	64.94	-0.0025	-0.0005	0
261	SLU 38	0	-0.11	64.7	-0.0061	-0.0007	0
261	SLU 39	0	-0.53	65.65	0.0135	-0.0008	0
261	SLU 40	0	-0.45	65.41	0.0099	-0.001	0
261	SLU 41	0	-0.42	66.99	0.0075	-0.0007	0
261	SLU 42	0	-0.33	66.75	0.0039	-0.0009	0
261	SLU 43	0	0.01	58.2	-0.007	-0.0005	0
261	SLU 44	0	0.15	57.81	-0.0129	-0.0009	0
261	SLU 45	0	0.06	60.02	-0.0102	-0.0004	0
261	SLU 46	0	0.15	59.78	-0.0137	-0.0007	0
261	SLU 47	0	0.27	59.15	-0.0189	-0.0008	0
261	SLU 48	0	0.18	61.36	-0.0162	-0.0003	0
261	SLU 49	0	0.26	61.12	-0.0197	-0.0006	0
261	SLU 50	0	0.24	60.88	-0.019	-0.0003	0
261	SLU 51	0	0.33	60.64	-0.0226	-0.0006	0
261	SLU 52	0	-0.1	65.71	-0.0036	-0.0011	0
261	SLU 53	0	-0.19	67.92	-0.0009	-0.0006	0
261	SLU 54	0	-0.1	67.69	-0.0044	-0.0009	0
261	SLU 55	0	0.01	67.05	-0.0096	-0.001	0
261	SLU 56	0	-0.07	69.26	-0.0069	-0.0005	0
261	SLU 57	0	0.01	69.03	-0.0104	-0.0008	0
261	SLU 58	0	-0.01	68.78	-0.0097	-0.0005	0
261	SLU 59	0	0.07	68.55	-0.0133	-0.0007	0
261	SLU 60	0	-0.35	69.49	0.0063	-0.0008	0
261	SLU 61	0	-0.26	69.26	0.0027	-0.001	0
261	SLU 62	0	-0.23	70.83	0.0003	-0.0007	0
261	SLU 63	0	-0.15	70.6	-0.0033	-0.0009	0
261	SLU 64	0	-0.13	65.78	-0.0026	-0.0006	0
261	SLU 65	0	0.01	65.39	-0.0085	-0.001	0
261	SLU 66	0	-0.08	67.6	-0.0058	-0.0005	0
261	SLU 67	0	0.01	67.37	-0.0093	-0.0008	0
261	SLU 68	0	0.13	66.73	-0.0145	-0.0009	0
261	SLU 69	0	0.04	68.94	-0.0118	-0.0004	0
261	SLU 70	0	0.12	68.71	-0.0153	-0.0007	0
261	SLU 71	0	0.1	68.46	-0.0146	-0.0004	0
261	SLU 72	0	0.18	68.23	-0.0182	-0.0007	0
261	SLU 73	0	-0.24	73.3	0.0008	-0.0012	0
261	SLU 74	0	-0.33	75.51	0.0035	-0.0007	0
261	SLU 75	0	-0.25	75.27	0	-0.001	0
261	SLU 76	0	-0.13	74.64	-0.0052	-0.0011	0
261	SLU 77	0	-0.22	76.85	-0.0025	-0.0006	0
261	SLU 78	0	-0.13	76.61	-0.006	-0.0009	0
261	SLU 79	0	-0.15	76.37	-0.0053	-0.0006	0
261	SLU 80	0	-0.07	76.13	-0.0089	-0.0008	0
261	SLU 81	0	-0.49	77.08	0.0107	-0.0009	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
261	SLU 82	0	-0.41	76.84	0.0071	-0.0011	0		
261	SLU 83	0	-0.37	78.42	0.0047	-0.0008	0		
261	SLU 84	0	-0.29	78.18	0.0011	-0.001	0		
261	SLE RA 1	0	-0.07	48.93	-0.003	-0.0004	0		
261	SLE RA 2	0	0.02	48.67	-0.0069	-0.0007	0		
261	SLE RA 3	0	-0.03	50.15	-0.0051	-0.0004	0		
261	SLE RA 4	0	0.02	49.99	-0.0074	-0.0006	0		
261	SLE RA 5	0	0.1	49.57	-0.0109	-0.0007	0		
261	SLE RA 6	0	0.04	51.04	-0.0091	-0.0003	0		
261	SLE RA 7	0	0.1	50.88	-0.0114	-0.0005	0		
261	SLE RA 8	0	0.08	50.72	-0.011	-0.0003	0		
261	SLE RA 9	0	0.14	50.56	-0.0133	-0.0005	0		
261	SLE RA 10	0	-0.14	53.95	-0.0007	-0.0008	0		
261	SLE RA 11	0	-0.2	55.42	0.0011	-0.0005	0		
261	SLE RA 12	0	-0.15	55.26	-0.0012	-0.0007	0		
261	SLE RA 13	0	-0.07	54.84	-0.0047	-0.0008	0		
261	SLE RA 14	0	-0.13	56.31	-0.0029	-0.0005	0		
261	SLE RA 15	0	-0.07	56.16	-0.0052	-0.0006	0		
261	SLE RA 16	0	-0.08	55.99	-0.0048	-0.0004	0		
261	SLE RA 17	0	-0.03	55.84	-0.0071	-0.0006	0		
261	SLE RA 18	0	-0.31	56.46	0.0059	-0.0006	0		
261	SLE RA 19	0	-0.25	56.31	0.0035	-0.0008	0		
261	SLE RA 20	0	-0.23	57.36	0.0019	-0.0005	0		
261	SLE RA 21	0	-0.18	57.2	-0.0005	-0.0007	0		
261	SLE FR 1	0	-0.07	48.93	-0.003	-0.0004	0		
261	SLE FR 2	0	-0.05	48.88	-0.0038	-0.0005	0		
261	SLE FR 3	0	-0.04	49.29	-0.0046	-0.0004	0		
261	SLE FR 4	0	-0.12	51.14	-0.0011	-0.0006	0		
261	SLE FR 5	0	-0.11	51.55	-0.0019	-0.0005	0		
261	SLE FR 6	0	-0.19	52.7	0.0015	-0.0005	0		
261	SLE QP 1	0	-0.07	48.93	-0.003	-0.0004	0		
261	SLE QP 2	0	-0.14	51.19	-0.0003	-0.0005	0		
261	SLD 1	0.27	-0.42	53.18	0.0068	0.2641	-0.0001		
261	SLD 2	0.27	-0.42	53.18	0.0068	0.2641	-0.0001		
261	SLD 3	0.23	-5.1	55.82	0.2247	0.2292	-0.0001		
261	SLD 4	0.23	-5.1	55.82	0.2247	0.2292	-0.0001		
261	SLD 5	0.13	6.87	47.79	-0.3286	0.1318	-0.0001		
261	SLD 6	0.13	6.87	47.79	-0.3286	0.1318	-0.0001		
261	SLD 7	0.02	-8.72	56.58	0.3976	0.0155	0		
261	SLD 8	0.02	-8.72	56.58	0.3976	0.0155	0		
261	SLD 9	-0.02	8.44	45.81	-0.3982	-0.0165	0		
261	SLD 10	-0.02	8.44	45.81	-0.3982	-0.0165	0		
261	SLD 11	-0.13	-7.15	54.59	0.3279	-0.1328	0.0001		
261	SLD 12	-0.13	-7.15	54.59	0.3279	-0.1328	0.0001		
261	SLD 13	-0.23	4.82	46.57	-0.2253	-0.2302	0.0001		
261	SLD 14	-0.23	4.82	46.57	-0.2253	-0.2302	0.0001		
261	SLD 15	-0.27	0.14	49.21	-0.0074	-0.2651	0.0001		
261	SLD 16	-0.27	0.14	49.21	-0.0074	-0.2651	0.0001		
261	SLV 1	0.68	-0.82	55.81	0.0174	0.6778	-0.0003		
261	SLV 2	0.68	-0.82	55.81	0.0174	0.6778	-0.0003		
261	SLV 3	0.59	-11.86	62.06	0.5315	0.5884	-0.0002		
261	SLV 4	0.59	-11.86	62.06	0.5315	0.5884	-0.0002		
261	SLV 5	0.34	16.4	43.1	-0.7748	0.3387	-0.0001		
261	SLV 6	0.34	16.4	43.1	-0.7748	0.3387	-0.0001		
261	SLV 7	0.04	-20.4	63.93	0.9391	0.0405	0		
261	SLV 8	0.04	-20.4	63.93	0.9391	0.0405	0		
261	SLV 9	-0.04	20.12	38.45	-0.9397	-0.0415	0		
261	SLV 10	-0.04	20.12	38.45	-0.9397	-0.0415	0		
261	SLV 11	-0.34	-16.68	59.29	0.7742	-0.3397	0.0001		
261	SLV 12	-0.34	-16.68	59.29	0.7742	-0.3397	0.0001		
261	SLV 13	-0.59	11.58	40.33	-0.5322	-0.5894	0.0002		
261	SLV 14	-0.59	11.58	40.33	-0.5322	-0.5894	0.0002		
261	SLV 15	-0.68	0.54	46.58	-0.018	-0.6788	0.0003		
261	SLV 16	-0.68	0.54	46.58	-0.018	-0.6788	0.0003		
262	SLU 1	0.01	1.8	33.06	-0.0443	0.001	0		
262	SLU 2	0.01	1.8	33.08	-0.0444	0.0009	0		
262	SLU 3	0.01	1.61	32.62	-0.0347	0.0011	0		
262	SLU 4	0.01	1.61	32.63	-0.0347	0.0011	0		
262	SLU 5	0.01	1.52	31.96	-0.0317	0.0012	0		
262	SLU 6	0.01	1.33	31.49	-0.0221	0.0014	0		
262	SLU 7	0.01	1.33	31.51	-0.0221	0.0013	0		
262	SLU 8	0.01	1.25	30.82	-0.019	0.0014	0		
262	SLU 9	0.01	1.25	30.83	-0.0191	0.0014	0		
262	SLU 10	0.01	2.05	38.84	-0.051	0.0019	0		
262	SLU 11	0.01	1.86	38.38	-0.0413	0.0021	0		
262	SLU 12	0.01	1.85	38.39	-0.0414	0.0021	0		
262	SLU 13	0.01	1.77	37.72	-0.0384	0.0021	0		
262	SLU 14	0.01	1.58	37.25	-0.0287	0.0023	0		
262	SLU 15	0.01	1.58	37.26	-0.0287	0.0023	0		
262	SLU 16	0.01	1.5	36.57	-0.0257	0.0024	0		
262	SLU 17	0.01	1.5	36.58	-0.0257	0.0024	0		
262	SLU 18	0.01	2.15	41.29	-0.0537	0.0023	0		
262	SLU 19	0.01	2.15	41.3	-0.0538	0.0023	0		
262	SLU 20	0.01	1.88	40.16	-0.0411	0.0026	0		
262	SLU 21	0.01	1.88	40.18	-0.0412	0.0025	0		
262	SLU 22	0.01	1.93	37.72	-0.0454	0.0017	0		
262	SLU 23	0.01	1.93	37.74	-0.0455	0.0017	0		
262	SLU 24	0.01	1.74	37.27	-0.0358	0.0018	0		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
262	SLU 25	0.01	1.73	37.28	-0.0359	0.0018	0		
262	SLU 26	0.01	1.65	36.61	-0.0329	0.0019	0		
262	SLU 27	0.01	1.46	36.15	-0.0232	0.0021	0		
262	SLU 28	0.01	1.46	36.16	-0.0232	0.002	0		
262	SLU 29	0.01	1.38	35.47	-0.0202	0.0022	0		
262	SLU 30	0.01	1.38	35.48	-0.0202	0.0021	0		
262	SLU 31	0.01	2.17	43.49	-0.0521	0.0026	0		
262	SLU 32	0.01	1.98	43.03	-0.0424	0.0028	0		
262	SLU 33	0.01	1.98	43.04	-0.0425	0.0028	0		
262	SLU 34	0.01	1.9	42.37	-0.0395	0.0028	0		
262	SLU 35	0.01	1.71	41.9	-0.0298	0.003	0		
262	SLU 36	0.01	1.71	41.92	-0.0299	0.003	0		
262	SLU 37	0.01	1.63	41.23	-0.0268	0.0031	0		
262	SLU 38	0.01	1.63	41.24	-0.0269	0.0031	0		
262	SLU 39	0.01	2.28	45.94	-0.0549	0.0031	0		
262	SLU 40	0.01	2.28	45.95	-0.0549	0.003	0		
262	SLU 41	0.01	2.01	44.82	-0.0423	0.0033	0		
262	SLU 42	0.01	2.01	44.83	-0.0423	0.0033	0		
262	SLU 43	0.01	2.3	41.39	-0.0572	0.001	0		
262	SLU 44	0.01	2.3	41.41	-0.0573	0.001	0		
262	SLU 45	0.01	2.1	40.94	-0.0476	0.0012	0		
262	SLU 46	0.01	2.1	40.95	-0.0476	0.0011	0		
262	SLU 47	0.01	2.02	40.28	-0.0446	0.0012	0		
262	SLU 48	0.01	1.83	39.82	-0.035	0.0014	0		
262	SLU 49	0.01	1.83	39.83	-0.035	0.0014	0		
262	SLU 50	0.01	1.75	39.14	-0.0319	0.0015	0		
262	SLU 51	0.01	1.75	39.15	-0.032	0.0015	0		
262	SLU 52	0.01	2.54	47.16	-0.0639	0.0019	0		
262	SLU 53	0.01	2.35	46.7	-0.0542	0.0021	0		
262	SLU 54	0.01	2.35	46.71	-0.0542	0.0021	0		
262	SLU 55	0.01	2.27	46.04	-0.0513	0.0022	0		
262	SLU 56	0.01	2.08	45.58	-0.0416	0.0024	0		
262	SLU 57	0.01	2.08	45.59	-0.0416	0.0023	0		
262	SLU 58	0.01	1.99	44.9	-0.0386	0.0024	0		
262	SLU 59	0.01	1.99	44.91	-0.0386	0.0024	0		
262	SLU 60	0.01	2.65	49.61	-0.0666	0.0024	0.0001		
262	SLU 61	0.01	2.65	49.62	-0.0667	0.0024	0.0001		
262	SLU 62	0.01	2.38	48.49	-0.054	0.0026	0.0001		
262	SLU 63	0.01	2.37	48.5	-0.0541	0.0026	0.0001		
262	SLU 64	0.01	2.42	46.04	-0.0583	0.0017	0		
262	SLU 65	0.01	2.42	46.06	-0.0584	0.0017	0		
262	SLU 66	0.01	2.23	45.6	-0.0487	0.0019	0		
262	SLU 67	0.01	2.23	45.61	-0.0488	0.0019	0		
262	SLU 68	0.01	2.15	44.94	-0.0458	0.0019	0		
262	SLU 69	0.01	1.96	44.47	-0.0361	0.0021	0		
262	SLU 70	0.01	1.96	44.48	-0.0361	0.0021	0		
262	SLU 71	0.01	1.87	43.79	-0.0331	0.0022	0		
262	SLU 72	0.01	1.87	43.8	-0.0331	0.0022	0		
262	SLU 73	0.01	2.67	51.82	-0.065	0.0027	0.0001		
262	SLU 74	0.01	2.48	51.35	-0.0553	0.0028	0.0001		
262	SLU 75	0.01	2.48	51.36	-0.0554	0.0028	0.0001		
262	SLU 76	0.01	2.4	50.69	-0.0524	0.0029	0.0001		
262	SLU 77	0.01	2.2	50.23	-0.0427	0.0031	0.0001		
262	SLU 78	0.01	2.2	50.24	-0.0428	0.003	0.0001		
262	SLU 79	0.01	2.12	49.55	-0.0397	0.0032	0.0001		
262	SLU 80	0.01	2.12	49.56	-0.0398	0.0031	0.0001		
262	SLU 81	0.01	2.78	54.27	-0.0678	0.0031	0.0001		
262	SLU 82	0.01	2.78	54.28	-0.0678	0.0031	0.0001		
262	SLU 83	0.01	2.5	53.14	-0.0552	0.0033	0.0001		
262	SLU 84	0.01	2.5	53.15	-0.0552	0.0033	0.0001		
262	SLE RA 1	0.01	1.84	34.39	-0.0446	0.0012	0		
262	SLE RA 2	0.01	1.84	34.41	-0.0447	0.0012	0		
262	SLE RA 3	0.01	1.71	34.1	-0.0382	0.0013	0		
262	SLE RA 4	0.01	1.71	34.1	-0.0382	0.0013	0		
262	SLE RA 5	0.01	1.65	33.66	-0.0362	0.0013	0		
262	SLE RA 6	0.01	1.52	33.35	-0.0298	0.0014	0		
262	SLE RA 7	0.01	1.52	33.35	-0.0298	0.0014	0		
262	SLE RA 8	0.01	1.47	32.89	-0.0278	0.0015	0		
262	SLE RA 9	0.01	1.47	32.9	-0.0278	0.0015	0		
262	SLE RA 10	0.01	2	38.24	-0.0491	0.0018	0		
262	SLE RA 11	0.01	1.87	37.93	-0.0426	0.0019	0		
262	SLE RA 12	0.01	1.87	37.94	-0.0427	0.0019	0		
262	SLE RA 13	0.01	1.82	37.49	-0.0407	0.0019	0		
262	SLE RA 14	0.01	1.69	37.19	-0.0342	0.0021	0		
262	SLE RA 15	0.01	1.69	37.19	-0.0342	0.0021	0		
262	SLE RA 16	0.01	1.64	36.73	-0.0322	0.0021	0		
262	SLE RA 17	0.01	1.63	36.74	-0.0322	0.0021	0		
262	SLE RA 18	0.01	2.07	39.88	-0.0509	0.0021	0		
262	SLE RA 19	0.01	2.07	39.88	-0.0509	0.0021	0		
262	SLE RA 20	0.01	1.89	39.13	-0.0425	0.0022	0		
262	SLE RA 21	0.01	1.89	39.13	-0.0425	0.0022	0		
262	SLE FR 1	0.01	1.84	34.39	-0.0446	0.0012	0		
262	SLE FR 2	0.01	1.84	34.4	-0.0446	0.0012	0		
262	SLE FR 3	0.01	1.76	34.09	-0.0412	0.0012	0		
262	SLE FR 4	0.01	1.91	36.04	-0.0465	0.0015	0		
262	SLE FR 5	0.01	1.83	35.74	-0.0431	0.0015	0		
262	SLE FR 6	0.01	1.95	37.13	-0.0478	0.0016	0		
262	SLE QP 1	0.01	1.84	34.39	-0.0446	0.0012	0		



Nodo Ind.	Cont. N.br.	Reazione a traslazione				Reazione a rotazione		
		x	y	z	x	y	z	
262	SLE QP 2	0.01	1.91	36.04	-0.0465	0.0015	0	
262	SLD 1	0.03	5.03	40.39	-0.1704	-0.0229	0.0001	
262	SLD 2	0.03	5.03	40.39	-0.1704	-0.0229	0.0001	
262	SLD 3	0.06	1.39	36.67	-0.0226	-0.0118	0.0001	
262	SLD 4	0.06	1.39	36.67	-0.0226	-0.0118	0.0001	
262	SLD 5	-0.03	8.37	42.99	-0.3078	-0.0226	0.0001	
262	SLD 6	-0.03	8.37	42.99	-0.3078	-0.0226	0.0001	
262	SLD 7	0.07	-3.77	30.58	0.1849	0.0142	0	
262	SLD 8	0.07	-3.77	30.58	0.1849	0.0142	0	
262	SLD 9	-0.06	7.58	41.5	-0.2779	-0.0113	0.0001	
262	SLD 10	-0.06	7.58	41.5	-0.2779	-0.0113	0.0001	
262	SLD 11	0.04	-4.55	29.08	0.2149	0.0255	0	
262	SLD 12	0.04	-4.55	29.08	0.2149	0.0255	0	
262	SLD 13	-0.05	2.42	35.41	-0.0704	0.0147	0	
262	SLD 14	-0.05	2.42	35.41	-0.0704	0.0147	0	
262	SLD 15	-0.02	-1.22	31.68	0.0774	0.0258	0	
262	SLD 16	-0.02	-1.22	31.68	0.0774	0.0258	0	
262	SLV 1	0.07	9.26	46.42	-0.3381	-0.0595	0.0002	
262	SLV 2	0.07	9.26	46.42	-0.3381	-0.0595	0.0002	
262	SLV 3	0.14	0.68	37.42	0.0105	-0.0313	0.0001	
262	SLV 4	0.14	0.68	37.42	0.0105	-0.0313	0.0001	
262	SLV 5	-0.09	17.13	52.8	-0.6628	-0.0596	0.0002	
262	SLV 6	-0.09	17.13	52.8	-0.6628	-0.0596	0.0002	
262	SLV 7	0.16	-11.48	22.8	0.4994	0.0343	0	
262	SLV 8	0.16	-11.48	22.8	0.4994	0.0343	0	
262	SLV 9	-0.15	15.29	49.27	-0.5924	-0.0314	0.0001	
262	SLV 10	-0.15	15.29	49.27	-0.5924	-0.0314	0.0001	
262	SLV 11	0.1	-13.31	19.28	0.5698	0.0625	-0.0001	
262	SLV 12	0.1	-13.31	19.28	0.5698	0.0625	-0.0001	
262	SLV 13	-0.13	3.14	34.66	-0.1035	0.0342	-0.0001	
262	SLV 14	-0.13	3.14	34.66	-0.1035	0.0342	-0.0001	
262	SLV 15	-0.06	-5.44	25.66	0.2451	0.0624	-0.0001	
262	SLV 16	-0.06	-5.44	25.66	0.2451	0.0624	-0.0001	
263	SLU 1	-0.01	1.75	30.27	0.0634	-0.0038	-0.0001	
263	SLU 2	-0.01	1.76	30.32	0.0625	-0.0038	-0.0001	
263	SLU 3	-0.01	1.48	29.46	0.0838	-0.0037	-0.0001	
263	SLU 4	-0.01	1.48	29.49	0.0833	-0.0037	-0.0001	
263	SLU 5	-0.01	1.39	28.78	0.0857	-0.0036	-0.0001	
263	SLU 6	-0.01	1.11	27.92	0.107	-0.0036	-0.0001	
263	SLU 7	-0.01	1.11	27.95	0.1065	-0.0036	-0.0001	
263	SLU 8	-0.01	1.01	27.19	0.1097	-0.0035	-0.0001	
263	SLU 9	-0.01	1.02	27.22	0.1092	-0.0035	-0.0001	
263	SLU 10	-0.02	2.07	35.58	0.0713	-0.0045	-0.0001	
263	SLU 11	-0.02	1.78	34.73	0.0926	-0.0045	-0.0001	
263	SLU 12	-0.02	1.79	34.76	0.0921	-0.0044	-0.0001	
263	SLU 13	-0.02	1.7	34.05	0.0945	-0.0044	-0.0001	
263	SLU 14	-0.02	1.41	33.19	0.1158	-0.0043	-0.0001	
263	SLU 15	-0.02	1.42	33.22	0.1153	-0.0043	-0.0001	
263	SLU 16	-0.02	1.32	32.46	0.1185	-0.0042	-0.0001	
263	SLU 17	-0.02	1.32	32.49	0.118	-0.0042	-0.0001	
263	SLU 18	-0.02	2.19	37.79	0.0759	-0.0048	-0.0001	
263	SLU 19	-0.02	2.2	37.82	0.0754	-0.0048	-0.0001	
263	SLU 20	-0.02	1.82	36.25	0.0991	-0.0047	-0.0001	
263	SLU 21	-0.02	1.83	36.28	0.0986	-0.0047	-0.0001	
263	SLU 22	-0.02	1.88	33.78	0.0813	-0.0043	-0.0001	
263	SLU 23	-0.02	1.88	33.82	0.0804	-0.0043	-0.0001	
263	SLU 24	-0.02	1.6	32.97	0.1017	-0.0042	-0.0001	
263	SLU 25	-0.02	1.6	33	0.1012	-0.0042	-0.0001	
263	SLU 26	-0.02	1.51	32.29	0.1036	-0.0041	-0.0001	
263	SLU 27	-0.02	1.23	31.43	0.1249	-0.0041	-0.0001	
263	SLU 28	-0.02	1.23	31.46	0.1244	-0.0041	-0.0001	
263	SLU 29	-0.01	1.14	30.7	0.1276	-0.004	-0.0001	
263	SLU 30	-0.01	1.14	30.73	0.1271	-0.004	-0.0001	
263	SLU 31	-0.02	2.19	39.09	0.0892	-0.005	-0.0001	
263	SLU 32	-0.02	1.91	38.24	0.1105	-0.005	-0.0001	
263	SLU 33	-0.02	1.91	38.27	0.11	-0.005	-0.0001	
263	SLU 34	-0.02	1.82	37.55	0.1124	-0.0049	-0.0001	
263	SLU 35	-0.02	1.54	36.7	0.1337	-0.0048	-0.0001	
263	SLU 36	-0.02	1.54	36.73	0.1332	-0.0048	-0.0001	
263	SLU 37	-0.02	1.44	35.97	0.1364	-0.0047	-0.0001	
263	SLU 38	-0.02	1.45	36	0.1359	-0.0047	-0.0001	
263	SLU 39	-0.02	2.32	41.3	0.0938	-0.0053	-0.0001	
263	SLU 40	-0.02	2.32	41.33	0.0933	-0.0053	-0.0001	
263	SLU 41	-0.02	1.95	39.76	0.117	-0.0052	-0.0001	
263	SLU 42	-0.02	1.95	39.79	0.1165	-0.0052	-0.0001	
263	SLU 43	-0.02	2.24	38.14	0.0762	-0.0048	-0.0001	
263	SLU 44	-0.02	2.24	38.19	0.0754	-0.0048	-0.0001	
263	SLU 45	-0.02	1.96	37.34	0.0967	-0.0047	-0.0001	
263	SLU 46	-0.02	1.96	37.37	0.0962	-0.0047	-0.0001	
263	SLU 47	-0.02	1.87	36.66	0.0986	-0.0046	-0.0001	
263	SLU 48	-0.02	1.59	35.8	0.1199	-0.0045	-0.0001	
263	SLU 49	-0.02	1.59	35.83	0.1194	-0.0045	-0.0001	
263	SLU 50	-0.02	1.5	35.07	0.1226	-0.0045	-0.0001	
263	SLU 51	-0.02	1.5	35.1	0.1221	-0.0045	-0.0001	
263	SLU 52	-0.02	2.55	43.46	0.0842	-0.0055	-0.0001	
263	SLU 53	-0.02	2.27	42.6	0.1055	-0.0054	-0.0001	
263	SLU 54	-0.02	2.27	42.63	0.105	-0.0054	-0.0001	
263	SLU 55	-0.02	2.18	41.92	0.1073	-0.0053	-0.0001	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
263	SLU 56	-0.02	1.9	41.07	0.1287	-0.0053	-0.0001		
263	SLU 57	-0.02	1.9	41.1	0.1282	-0.0053	-0.0001		
263	SLU 58	-0.02	1.8	40.34	0.1313	-0.0052	-0.0001		
263	SLU 59	-0.02	1.81	40.37	0.1308	-0.0052	-0.0001		
263	SLU 60	-0.02	2.68	45.67	0.0888	-0.0058	-0.0001		
263	SLU 61	-0.02	2.68	45.7	0.0883	-0.0058	-0.0001		
263	SLU 62	-0.02	2.31	44.13	0.112	-0.0056	-0.0001		
263	SLU 63	-0.02	2.31	44.16	0.1114	-0.0056	-0.0001		
263	SLU 64	-0.02	2.36	41.65	0.0941	-0.0053	-0.0001		
263	SLU 65	-0.02	2.37	41.7	0.0933	-0.0053	-0.0001		
263	SLU 66	-0.02	2.08	40.85	0.1146	-0.0052	-0.0001		
263	SLU 67	-0.02	2.09	40.87	0.1141	-0.0052	-0.0001		
263	SLU 68	-0.02	2	40.16	0.1165	-0.0051	-0.0001		
263	SLU 69	-0.02	1.71	39.31	0.1378	-0.0051	-0.0001		
263	SLU 70	-0.02	1.72	39.34	0.1373	-0.005	-0.0001		
263	SLU 71	-0.02	1.62	38.58	0.1405	-0.005	-0.0001		
263	SLU 72	-0.02	1.62	38.61	0.14	-0.005	-0.0001		
263	SLU 73	-0.02	2.67	46.97	0.1021	-0.006	-0.0001		
263	SLU 74	-0.02	2.39	46.11	0.1234	-0.0059	-0.0001		
263	SLU 75	-0.02	2.39	46.14	0.1229	-0.0059	-0.0001		
263	SLU 76	-0.02	2.3	45.43	0.1252	-0.0058	-0.0001		
263	SLU 77	-0.02	2.02	44.58	0.1466	-0.0058	-0.0001		
263	SLU 78	-0.02	2.02	44.6	0.146	-0.0058	-0.0001		
263	SLU 79	-0.02	1.93	43.85	0.1492	-0.0057	-0.0001		
263	SLU 80	-0.02	1.93	43.87	0.1487	-0.0057	-0.0001		
263	SLU 81	-0.02	2.8	49.18	0.1067	-0.0063	-0.0001		
263	SLU 82	-0.02	2.8	49.21	0.1062	-0.0063	-0.0001		
263	SLU 83	-0.02	2.43	47.64	0.1298	-0.0062	-0.0001		
263	SLU 84	-0.02	2.43	47.67	0.1293	-0.0061	-0.0001		
263	SLE RA 1	-0.01	1.79	31.27	0.0685	-0.0039	-0.0001		
263	SLE RA 2	-0.01	1.79	31.3	0.0679	-0.0039	-0.0001		
263	SLE RA 3	-0.01	1.6	30.73	0.0821	-0.0039	-0.0001		
263	SLE RA 4	-0.01	1.61	30.75	0.0818	-0.0039	-0.0001		
263	SLE RA 5	-0.01	1.55	30.28	0.0834	-0.0038	-0.0001		
263	SLE RA 6	-0.01	1.36	29.71	0.0976	-0.0038	-0.0001		
263	SLE RA 7	-0.01	1.36	29.73	0.0972	-0.0038	-0.0001		
263	SLE RA 8	-0.01	1.3	29.22	0.0994	-0.0037	-0.0001		
263	SLE RA 9	-0.01	1.3	29.24	0.099	-0.0037	-0.0001		
263	SLE RA 10	-0.02	2	34.81	0.0738	-0.0044	-0.0001		
263	SLE RA 11	-0.02	1.81	34.24	0.088	-0.0044	-0.0001		
263	SLE RA 12	-0.02	1.81	34.26	0.0877	-0.0044	-0.0001		
263	SLE RA 13	-0.02	1.75	33.79	0.0892	-0.0043	-0.0001		
263	SLE RA 14	-0.02	1.56	33.22	0.1034	-0.0043	-0.0001		
263	SLE RA 15	-0.02	1.56	33.24	0.1031	-0.0043	-0.0001		
263	SLE RA 16	-0.02	1.5	32.73	0.1052	-0.0042	-0.0001		
263	SLE RA 17	-0.02	1.5	32.75	0.1049	-0.0042	-0.0001		
263	SLE RA 18	-0.02	2.08	36.29	0.0768	-0.0046	-0.0001		
263	SLE RA 19	-0.02	2.08	36.31	0.0765	-0.0046	-0.0001		
263	SLE RA 20	-0.02	1.83	35.26	0.0923	-0.0045	-0.0001		
263	SLE RA 21	-0.02	1.84	35.28	0.092	-0.0045	-0.0001		
263	SLE FR 1	-0.01	1.79	31.27	0.0685	-0.0039	-0.0001		
263	SLE FR 2	-0.01	1.79	31.28	0.0684	-0.0039	-0.0001		
263	SLE FR 3	-0.01	1.69	30.86	0.0747	-0.0039	-0.0001		
263	SLE FR 4	-0.02	1.88	32.78	0.0709	-0.0042	-0.0001		
263	SLE FR 5	-0.02	1.78	32.36	0.0772	-0.0041	-0.0001		
263	SLE FR 6	-0.02	1.94	33.78	0.0727	-0.0043	-0.0001		
263	SLE QP 1	-0.01	1.79	31.27	0.0685	-0.0039	-0.0001		
263	SLE QP 2	-0.02	1.88	32.77	0.071	-0.0042	-0.0001		
263	SLD 1	0.04	2.87	31.85	0.0209	-0.0162	0		
263	SLD 2	0.04	2.87	31.85	0.0209	-0.0162	0		
263	SLD 3	0	-0.85	28.68	0.1858	-0.0288	0		
263	SLD 4	0	-0.85	28.68	0.1858	-0.0288	0		
263	SLD 5	0.06	7.81	37.31	-0.1941	0.0114	-0.0001		
263	SLD 6	0.06	7.81	37.31	-0.1941	0.0114	-0.0001		
263	SLD 7	-0.07	-4.57	26.73	0.3555	-0.0308	0		
263	SLD 8	-0.07	-4.57	26.73	0.3555	-0.0308	0		
263	SLD 9	0.04	8.33	38.81	-0.2135	0.0224	-0.0001		
263	SLD 10	0.04	8.33	38.81	-0.2135	0.0224	-0.0001		
263	SLD 11	-0.09	-4.05	28.24	0.3361	-0.0197	0		
263	SLD 12	-0.09	-4.05	28.24	0.3361	-0.0197	0		
263	SLD 13	-0.03	4.6	36.87	-0.0438	0.0205	-0.0001		
263	SLD 14	-0.03	4.6	36.87	-0.0438	0.0205	-0.0001		
263	SLD 15	-0.07	0.88	33.69	0.1211	0.0079	-0.0001		
263	SLD 16	-0.07	0.88	33.69	0.1211	0.0079	-0.0001		
263	SLV 1	0.12	4.18	30.72	-0.0459	-0.0344	0		
263	SLV 2	0.12	4.18	30.72	-0.0459	-0.0344	0		
263	SLV 3	0.03	-4.56	23.07	0.343	-0.0664	0.0001		
263	SLV 4	0.03	-4.56	23.07	0.343	-0.0664	0.0001		
263	SLV 5	0.17	15.82	43.77	-0.5539	0.0354	-0.0002		
263	SLV 6	0.17	15.82	43.77	-0.5539	0.0354	-0.0002		
263	SLV 7	-0.14	-13.3	18.25	0.7424	-0.0714	0.0001		
263	SLV 8	-0.14	-13.3	18.25	0.7424	-0.0714	0.0001		
263	SLV 9	0.11	17.06	47.3	-0.6004	0.0631	-0.0002		
263	SLV 10	0.11	17.06	47.3	-0.6004	0.0631	-0.0002		
263	SLV 11	-0.2	-12.06	21.78	0.6959	-0.0437	0.0001		
263	SLV 12	-0.2	-12.06	21.78	0.6959	-0.0437	0.0001		
263	SLV 13	-0.06	8.31	42.48	-0.201	0.0581	-0.0002		
263	SLV 14	-0.06	8.31	42.48	-0.201	0.0581	-0.0002		





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
263	SLV 15			-0.15	-0.43	34.83	0.1879	0.0261	-0.0001
263	SLV 16			-0.15	-0.43	34.83	0.1879	0.0261	-0.0001
264	SLU 1			-0.24	-3.23	50.41	0.238	-0.1739	0.0011
264	SLU 2			-0.23	-2.41	48.74	0.1919	-0.157	0.001
264	SLU 3			-0.25	-3.27	51.63	0.2413	-0.1786	0.0011
264	SLU 4			-0.24	-2.78	50.63	0.2136	-0.1685	0.001
264	SLU 5			-0.23	-2.38	49.44	0.1906	-0.1597	0.001
264	SLU 6			-0.25	-3.25	52.33	0.2401	-0.1813	0.0011
264	SLU 7			-0.24	-2.75	51.33	0.2124	-0.1712	0.0011
264	SLU 8			-0.25	-3.17	51.81	0.2356	-0.1793	0.0011
264	SLU 9			-0.24	-2.68	50.81	0.2079	-0.1692	0.0011
264	SLU 10			-0.26	-2.9	54.24	0.2254	-0.1794	0.0011
264	SLU 11			-0.28	-3.76	57.13	0.2748	-0.201	0.0012
264	SLU 12			-0.27	-3.27	56.13	0.2471	-0.1909	0.0012
264	SLU 13			-0.26	-2.87	54.94	0.2242	-0.1821	0.0011
264	SLU 14			-0.28	-3.73	57.83	0.2736	-0.2037	0.0012
264	SLU 15			-0.27	-3.24	56.83	0.2459	-0.1936	0.0012
264	SLU 16			-0.28	-3.66	57.31	0.2691	-0.2016	0.0012
264	SLU 17			-0.27	-3.17	56.3	0.2414	-0.1915	0.0012
264	SLU 18			-0.29	-3.93	58.26	0.2859	-0.2058	0.0012
264	SLU 19			-0.28	-3.43	57.26	0.2582	-0.1957	0.0012
264	SLU 20			-0.29	-3.9	58.96	0.2847	-0.2085	0.0013
264	SLU 21			-0.28	-3.41	57.96	0.257	-0.1984	0.0012
264	SLU 22			-0.27	-3.68	55.85	0.2692	-0.1958	0.0012
264	SLU 23			-0.26	-2.86	54.18	0.223	-0.179	0.0011
264	SLU 24			-0.28	-3.73	57.07	0.2724	-0.2006	0.0012
264	SLU 25			-0.27	-3.24	56.07	0.2447	-0.1905	0.0012
264	SLU 26			-0.26	-2.84	54.88	0.2218	-0.1817	0.0011
264	SLU 27			-0.28	-3.7	57.77	0.2712	-0.2033	0.0012
264	SLU 28			-0.27	-3.21	56.77	0.2435	-0.1932	0.0012
264	SLU 29			-0.28	-3.63	57.25	0.2667	-0.2012	0.0012
264	SLU 30			-0.27	-3.13	56.25	0.239	-0.1911	0.0012
264	SLU 31			-0.29	-3.35	59.68	0.2565	-0.2013	0.0013
264	SLU 32			-0.31	-4.21	62.57	0.306	-0.223	0.0014
264	SLU 33			-0.3	-3.72	61.57	0.2783	-0.2128	0.0013
264	SLU 34			-0.29	-3.32	60.38	0.2553	-0.204	0.0013
264	SLU 35			-0.31	-4.18	63.27	0.3047	-0.2257	0.0014
264	SLU 36			-0.3	-3.69	62.27	0.277	-0.2155	0.0013
264	SLU 37			-0.31	-4.11	62.75	0.3002	-0.2236	0.0014
264	SLU 38			-0.3	-3.62	61.75	0.2725	-0.2135	0.0013
264	SLU 39			-0.32	-4.38	63.7	0.3171	-0.2278	0.0014
264	SLU 40			-0.31	-3.89	62.7	0.2894	-0.2177	0.0013
264	SLU 41			-0.32	-4.35	64.4	0.3158	-0.2305	0.0014
264	SLU 42			-0.31	-3.86	63.4	0.2881	-0.2204	0.0014
264	SLU 43			-0.3	-4.05	63.67	0.2988	-0.2185	0.0013
264	SLU 44			-0.29	-3.23	62	0.2526	-0.2016	0.0013
264	SLU 45			-0.31	-4.09	64.89	0.302	-0.2232	0.0014
264	SLU 46			-0.3	-3.6	63.89	0.2743	-0.2131	0.0013
264	SLU 47			-0.29	-3.2	62.7	0.2514	-0.2043	0.0013
264	SLU 48			-0.32	-4.06	65.59	0.3008	-0.226	0.0014
264	SLU 49			-0.31	-3.57	64.59	0.2731	-0.2158	0.0013
264	SLU 50			-0.31	-3.99	65.07	0.2963	-0.2239	0.0014
264	SLU 51			-0.3	-3.5	64.07	0.2686	-0.2138	0.0013
264	SLU 52			-0.32	-3.71	67.5	0.2861	-0.224	0.0014
264	SLU 53			-0.34	-4.57	70.39	0.3356	-0.2456	0.0015
264	SLU 54			-0.33	-4.08	69.39	0.3079	-0.2355	0.0015
264	SLU 55			-0.32	-3.68	68.2	0.2849	-0.2267	0.0014
264	SLU 56			-0.35	-4.55	71.09	0.3343	-0.2483	0.0015
264	SLU 57			-0.34	-4.05	70.08	0.3066	-0.2382	0.0015
264	SLU 58			-0.34	-4.47	70.56	0.3298	-0.2463	0.0015
264	SLU 59			-0.33	-3.98	69.56	0.3021	-0.2362	0.0015
264	SLU 60			-0.35	-4.74	71.52	0.3466	-0.2505	0.0015
264	SLU 61			-0.34	-4.25	70.52	0.319	-0.2403	0.0015
264	SLU 62			-0.35	-4.71	72.22	0.3454	-0.2532	0.0015
264	SLU 63			-0.34	-4.22	71.22	0.3177	-0.243	0.0015
264	SLU 64			-0.34	-4.5	69.11	0.3299	-0.2404	0.0015
264	SLU 65			-0.32	-3.68	67.44	0.2837	-0.2236	0.0014
264	SLU 66			-0.34	-4.54	70.33	0.3332	-0.2452	0.0015
264	SLU 67			-0.33	-4.05	69.33	0.3055	-0.2351	0.0015
264	SLU 68			-0.32	-3.65	68.14	0.2825	-0.2263	0.0014
264	SLU 69			-0.35	-4.51	71.03	0.3319	-0.2479	0.0015
264	SLU 70			-0.34	-4.02	70.03	0.3042	-0.2378	0.0015
264	SLU 71			-0.34	-4.44	70.51	0.3274	-0.2459	0.0015
264	SLU 72			-0.33	-3.95	69.51	0.2997	-0.2357	0.0015
264	SLU 73			-0.35	-4.17	72.94	0.3173	-0.246	0.0015
264	SLU 74			-0.37	-5.03	75.83	0.3667	-0.2676	0.0016
264	SLU 75			-0.36	-4.54	74.83	0.339	-0.2575	0.0016
264	SLU 76			-0.35	-4.14	73.64	0.316	-0.2487	0.0015
264	SLU 77			-0.38	-5	76.53	0.3655	-0.2703	0.0016
264	SLU 78			-0.37	-4.51	75.53	0.3378	-0.2602	0.0016
264	SLU 79			-0.37	-4.93	76	0.361	-0.2682	0.0016
264	SLU 80			-0.36	-4.43	75	0.3333	-0.2581	0.0016
264	SLU 81			-0.38	-5.19	76.96	0.3778	-0.2724	0.0017
264	SLU 82			-0.37	-4.7	75.96	0.3501	-0.2623	0.0016
264	SLU 83			-0.38	-5.16	77.66	0.3766	-0.2751	0.0017
264	SLU 84			-0.37	-4.67	76.66	0.3489	-0.265	0.0016
264	SLE RA 1			-0.25	-3.36	51.97	0.2469	-0.1801	0.0011
264	SLE RA 2			-0.24	-2.81	50.85	0.2162	-0.1689	0.0011



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
264	SLE RA 3	-0.26	-3.39	52.78	0.2491	-0.1833	0.0011
264	SLE RA 4	-0.25	-3.06	52.11	0.2306	-0.1766	0.0011
264	SLE RA 5	-0.24	-2.8	51.32	0.2153	-0.1707	0.0011
264	SLE RA 6	-0.26	-3.37	53.25	0.2483	-0.1851	0.0011
264	SLE RA 7	-0.25	-3.04	52.58	0.2298	-0.1784	0.0011
264	SLE RA 8	-0.26	-3.32	52.9	0.2453	-0.1837	0.0011
264	SLE RA 9	-0.25	-2.99	52.23	0.2268	-0.177	0.0011
264	SLE RA 10	-0.26	-3.14	54.52	0.2385	-0.1838	0.0011
264	SLE RA 11	-0.28	-3.71	56.44	0.2715	-0.1982	0.0012
264	SLE RA 12	-0.27	-3.39	55.78	0.253	-0.1915	0.0012
264	SLE RA 13	-0.26	-3.12	54.98	0.2377	-0.1856	0.0012
264	SLE RA 14	-0.28	-3.69	56.91	0.2706	-0.2	0.0012
264	SLE RA 15	-0.27	-3.37	56.24	0.2522	-0.1933	0.0012
264	SLE RA 16	-0.28	-3.65	56.56	0.2676	-0.1987	0.0012
264	SLE RA 17	-0.27	-3.32	55.89	0.2492	-0.1919	0.0012
264	SLE RA 18	-0.28	-3.82	57.2	0.2789	-0.2014	0.0012
264	SLE RA 19	-0.27	-3.5	56.53	0.2604	-0.1947	0.0012
264	SLE RA 20	-0.28	-3.8	57.67	0.278	-0.2033	0.0012
264	SLE RA 21	-0.28	-3.48	57	0.2596	-0.1965	0.0012
264	SLE FR 1	-0.25	-3.36	51.97	0.2469	-0.1801	0.0011
264	SLE FR 2	-0.25	-3.25	51.74	0.2408	-0.1779	0.0011
264	SLE FR 3	-0.25	-3.35	52.15	0.2466	-0.1809	0.0011
264	SLE FR 4	-0.26	-3.39	53.31	0.2503	-0.1843	0.0011
264	SLE FR 5	-0.26	-3.49	53.72	0.2562	-0.1872	0.0011
264	SLE FR 6	-0.27	-3.59	54.58	0.2629	-0.1908	0.0012
264	SLE QP 1	-0.25	-3.36	51.97	0.2469	-0.1801	0.0011
264	SLE QP 2	-0.26	-3.5	53.54	0.2565	-0.1865	0.0011
264	SLD 1	-0.39	-3.09	65.5	0.2508	-0.3184	0.0016
264	SLD 2	-0.39	-3.09	65.5	0.2508	-0.3184	0.0016
264	SLD 3	-0.48	-6.52	69.3	0.4128	-0.4035	0.002
264	SLD 4	-0.48	-6.52	69.3	0.4128	-0.4035	0.002
264	SLD 5	-0.16	1.82	51.36	0.0092	-0.097	0.0007
264	SLD 6	-0.16	1.82	51.36	0.0092	-0.097	0.0007
264	SLD 7	-0.47	-9.6	64.03	0.549	-0.3807	0.002
264	SLD 8	-0.47	-9.6	64.03	0.549	-0.3807	0.002
264	SLD 9	-0.05	2.61	43.04	-0.036	0.0076	0.0003
264	SLD 10	-0.05	2.61	43.04	-0.036	0.0076	0.0003
264	SLD 11	-0.36	-8.82	55.71	0.5038	-0.276	0.0016
264	SLD 12	-0.36	-8.82	55.71	0.5038	-0.276	0.0016
264	SLD 13	-0.04	-0.48	37.77	0.1002	0.0304	0.0003
264	SLD 14	-0.04	-0.48	37.77	0.1002	0.0304	0.0003
264	SLD 15	-0.13	-3.91	41.57	0.2622	-0.0546	0.0006
264	SLD 16	-0.13	-3.91	41.57	0.2622	-0.0546	0.0006
264	SLV 1	-0.57	-2.62	81.5	0.2446	-0.5037	0.0023
264	SLV 2	-0.57	-2.62	81.5	0.2446	-0.5037	0.0023
264	SLV 3	-0.8	-10.65	90.51	0.6248	-0.714	0.0033
264	SLV 4	-0.8	-10.65	90.51	0.6248	-0.714	0.0033
264	SLV 5	-0.01	8.94	48.25	-0.3237	0.0373	0
264	SLV 6	-0.01	8.94	48.25	-0.3237	0.0373	0
264	SLV 7	-0.76	-17.82	78.3	0.9436	-0.6637	0.0032
264	SLV 8	-0.76	-17.82	78.3	0.9436	-0.6637	0.0032
264	SLV 9	0.24	10.82	28.77	-0.4306	0.2907	-0.001
264	SLV 10	0.24	10.82	28.77	-0.4306	0.2907	-0.001
264	SLV 11	-0.51	-15.94	58.82	0.8367	-0.4104	0.0022
264	SLV 12	-0.51	-15.94	58.82	0.8367	-0.4104	0.0022
264	SLV 13	0.28	3.65	16.56	-0.1118	0.3409	-0.001
264	SLV 14	0.28	3.65	16.56	-0.1118	0.3409	-0.001
264	SLV 15	0.05	-4.37	25.57	0.2684	0.1306	0
264	SLV 16	0.05	-4.37	25.57	0.2684	0.1306	0
265	SLU 1	0.02	-4.39	52.93	0.1779	0.0187	0
265	SLU 2	0.01	-3.82	50.91	0.1528	0.006	0
265	SLU 3	0.02	-4.56	53.87	0.1846	0.0195	0
265	SLU 4	0.02	-4.22	52.66	0.1695	0.0119	0
265	SLU 5	0.01	-3.92	51.19	0.1567	0.0066	0
265	SLU 6	0.02	-4.66	54.15	0.1885	0.0201	0
265	SLU 7	0.02	-4.32	52.94	0.1735	0.0125	0
265	SLU 8	0.02	-4.6	53.49	0.1859	0.0199	0
265	SLU 9	0.02	-4.25	52.27	0.1708	0.0123	0
265	SLU 10	0.02	-4.43	56.87	0.1771	0.0087	0
265	SLU 11	0.02	-5.17	59.83	0.2089	0.0221	0
265	SLU 12	0.02	-4.82	58.62	0.1938	0.0145	0
265	SLU 13	0.02	-4.53	57.15	0.181	0.0093	0
265	SLU 14	0.03	-5.27	60.11	0.2128	0.0227	0
265	SLU 15	0.02	-4.92	58.9	0.1978	0.0151	0
265	SLU 16	0.03	-5.2	59.45	0.2102	0.0225	0
265	SLU 17	0.02	-4.86	58.24	0.1951	0.0149	0
265	SLU 18	0.03	-5.26	61.45	0.2126	0.0225	0
265	SLU 19	0.02	-4.91	60.24	0.1975	0.0149	0
265	SLU 20	0.03	-5.36	61.73	0.2166	0.0231	0
265	SLU 21	0.02	-5.02	60.52	0.2015	0.0155	0
265	SLU 22	0.02	-5.01	58.6	0.2028	0.0215	0
265	SLU 23	0.02	-4.44	56.57	0.1777	0.0088	0
265	SLU 24	0.02	-5.18	59.54	0.2095	0.0222	0
265	SLU 25	0.02	-4.84	58.32	0.1944	0.0146	0
265	SLU 26	0.02	-4.54	56.85	0.1817	0.0094	0
265	SLU 27	0.03	-5.28	59.82	0.2134	0.0228	0
265	SLU 28	0.02	-4.94	58.6	0.1984	0.0152	0
265	SLU 29	0.03	-5.22	59.16	0.2108	0.0227	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
265	SLU 30		0.02		-4.87	57.94	0.1957	0.015	0
265	SLU 31		0.02		-5.05	62.54	0.202	0.0114	0
265	SLU 32		0.03		-5.79	65.5	0.2338	0.0249	0
265	SLU 33		0.02		-5.44	64.29	0.2187	0.0173	0
265	SLU 34		0.02		-5.15	62.82	0.2059	0.012	0
265	SLU 35		0.03		-5.89	65.78	0.2377	0.0255	0
265	SLU 36		0.02		-5.55	64.57	0.2227	0.0179	0
265	SLU 37		0.03		-5.82	65.12	0.2351	0.0253	0
265	SLU 38		0.02		-5.48	63.91	0.22	0.0177	0
265	SLU 39		0.03		-5.88	67.12	0.2375	0.0252	0
265	SLU 40		0.02		-5.53	65.9	0.2224	0.0176	0
265	SLU 41		0.03		-5.98	67.4	0.2415	0.0258	0
265	SLU 42		0.02		-5.64	66.18	0.2264	0.0182	0
265	SLU 43		0.03		-5.5	66.86	0.2227	0.0234	0
265	SLU 44		0.02		-4.93	64.84	0.1976	0.0107	0
265	SLU 45		0.03		-5.67	67.8	0.2294	0.0242	0
265	SLU 46		0.02		-5.32	66.59	0.2143	0.0165	0
265	SLU 47		0.02		-5.03	65.12	0.2016	0.0113	0
265	SLU 48		0.03		-5.77	68.08	0.2334	0.0248	0
265	SLU 49		0.02		-5.43	66.87	0.2183	0.0171	0
265	SLU 50		0.03		-5.7	67.42	0.2307	0.0246	0
265	SLU 51		0.02		-5.36	66.21	0.2156	0.017	0
265	SLU 52		0.02		-5.53	70.81	0.2219	0.0133	0
265	SLU 53		0.03		-6.27	73.77	0.2537	0.0268	0
265	SLU 54		0.03		-5.93	72.56	0.2386	0.0192	0
265	SLU 55		0.02		-5.63	71.09	0.2259	0.0139	0
265	SLU 56		0.03		-6.37	74.05	0.2577	0.0274	0
265	SLU 57		0.03		-6.03	72.84	0.2426	0.0198	0
265	SLU 58		0.03		-6.31	73.39	0.255	0.0272	0
265	SLU 59		0.03		-5.96	72.18	0.2399	0.0196	0
265	SLU 60		0.03		-6.36	75.38	0.2574	0.0272	0
265	SLU 61		0.03		-6.02	74.17	0.2424	0.0195	0
265	SLU 62		0.03		-6.46	75.66	0.2614	0.0278	0
265	SLU 63		0.03		-6.12	74.45	0.2463	0.0201	0
265	SLU 64		0.03		-6.12	72.53	0.2476	0.0262	0
265	SLU 65		0.02		-5.55	70.51	0.2225	0.0135	0
265	SLU 66		0.03		-6.29	73.47	0.2543	0.0269	0
265	SLU 67		0.03		-5.94	72.26	0.2392	0.0193	0
265	SLU 68		0.02		-5.65	70.79	0.2265	0.014	0
265	SLU 69		0.03		-6.39	73.75	0.2583	0.0275	0
265	SLU 70		0.03		-6.05	72.54	0.2432	0.0199	0
265	SLU 71		0.03		-6.32	73.09	0.2556	0.0273	0
265	SLU 72		0.03		-5.98	71.88	0.2405	0.0197	0
265	SLU 73		0.02		-6.15	76.47	0.2468	0.0161	0
265	SLU 74		0.03		-6.89	79.44	0.2786	0.0296	0
265	SLU 75		0.03		-6.55	78.22	0.2635	0.0219	0
265	SLU 76		0.03		-6.25	76.75	0.2508	0.0167	0
265	SLU 77		0.03		-6.99	79.72	0.2826	0.0301	0
265	SLU 78		0.03		-6.65	78.5	0.2675	0.0225	0
265	SLU 79		0.03		-6.93	79.06	0.2799	0.03	0
265	SLU 80		0.03		-6.58	77.84	0.2648	0.0224	0
265	SLU 81		0.03		-6.98	81.05	0.2823	0.0299	0
265	SLU 82		0.03		-6.64	79.84	0.2673	0.0223	0
265	SLU 83		0.03		-7.08	81.33	0.2863	0.0305	0
265	SLU 84		0.03		-6.74	80.12	0.2712	0.0229	0
265	SLE RA 1		0.02		-4.57	54.55	0.185	0.0195	0
265	SLE RA 2		0.02		-4.19	53.2	0.1683	0.011	0
265	SLE RA 3		0.02		-4.68	55.17	0.1895	0.02	0
265	SLE RA 4		0.02		-4.45	54.37	0.1794	0.0149	0
265	SLE RA 5		0.02		-4.26	53.39	0.1709	0.0114	0
265	SLE RA 6		0.02		-4.75	55.36	0.1921	0.0204	0
265	SLE RA 7		0.02		-4.52	54.55	0.1821	0.0153	0
265	SLE RA 8		0.02		-4.71	54.92	0.1903	0.0203	0
265	SLE RA 9		0.02		-4.48	54.11	0.1803	0.0152	0
265	SLE RA 10		0.02		-4.59	57.18	0.1845	0.0128	0
265	SLE RA 11		0.02		-5.09	59.15	0.2057	0.0218	0
265	SLE RA 12		0.02		-4.86	58.34	0.1956	0.0167	0
265	SLE RA 13		0.02		-4.66	57.36	0.1871	0.0132	0
265	SLE RA 14		0.02		-5.15	59.34	0.2083	0.0222	0
265	SLE RA 15		0.02		-4.92	58.53	0.1983	0.0171	0
265	SLE RA 16		0.02		-5.11	58.9	0.2065	0.0221	0
265	SLE RA 17		0.02		-4.88	58.09	0.1965	0.017	0
265	SLE RA 18		0.02		-5.15	60.23	0.2082	0.022	0
265	SLE RA 19		0.02		-4.92	59.42	0.1981	0.0169	0
265	SLE RA 20		0.02		-5.21	60.41	0.2108	0.0224	0
265	SLE RA 21		0.02		-4.99	59.61	0.2008	0.0173	0
265	SLE FR 1		0.02		-4.57	54.55	0.185	0.0195	0
265	SLE FR 2		0.02		-4.49	54.28	0.1817	0.0178	0
265	SLE FR 3		0.02		-4.6	54.62	0.1861	0.0197	0
265	SLE FR 4		0.02		-4.67	55.98	0.1886	0.0186	0
265	SLE FR 5		0.02		-4.77	56.33	0.193	0.0204	0
265	SLE FR 6		0.02		-4.86	57.39	0.1966	0.0208	0
265	SLE QP 1		0.02		-4.57	54.55	0.185	0.0195	0
265	SLE QP 2		0.02		-4.74	56.25	0.192	0.0203	0
265	SLD 1		0.18		-2.06	39.26	0.0806	0.1739	0
265	SLD 2		0.18		-2.06	39.26	0.0806	0.1739	0
265	SLD 3		0.26		-5.23	44.53	0.2134	0.2608	0
265	SLD 4		0.26		-5.23	44.53	0.2134	0.2608	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
265	SLD 5	-0.05	0.87	43.15		-0.0428	-0.0653	0.0001	
265	SLD 6	-0.05	0.87	43.15		-0.0428	-0.0653	0.0001	
265	SLD 7	0.22	-9.7	60.74		0.3998	0.2241	-0.0001	
265	SLD 8	0.22	-9.7	60.74		0.3998	0.2241	-0.0001	
265	SLD 9	-0.17	0.21	51.76		-0.0158	-0.1836	0	
265	SLD 10	-0.17	0.21	51.76		-0.0158	-0.1836	0	
265	SLD 11	0.1	-10.35	69.35		0.4267	0.1059	-0.0001	
265	SLD 12	0.1	-10.35	69.35		0.4267	0.1059	-0.0001	
265	SLD 13	-0.21	-4.25	67.97		0.1705	-0.2202	0	
265	SLD 14	-0.21	-4.25	67.97		0.1705	-0.2202	0	
265	SLD 15	-0.13	-7.42	73.25		0.3033	-0.1334	-0.0001	
265	SLD 16	-0.13	-7.42	73.25		0.3033	-0.1334	-0.0001	
265	SLV 1	0.39	1.53	16.39		-0.0687	0.3898	0.0001	
265	SLV 2	0.39	1.53	16.39		-0.0687	0.3898	0.0001	
265	SLV 3	0.6	-5.86	28.86		0.2408	0.6112	0	
265	SLV 4	0.6	-5.86	28.86		0.2408	0.6112	0	
265	SLV 5	-0.18	8.34	25.37		-0.3558	-0.2048	0.0002	
265	SLV 6	-0.18	8.34	25.37		-0.3558	-0.2048	0.0002	
265	SLV 7	0.51	-16.28	66.96		0.6761	0.5334	-0.0001	
265	SLV 8	0.51	-16.28	66.96		0.6761	0.5334	-0.0001	
265	SLV 9	-0.46	6.8	45.54		-0.2922	-0.4929	0.0001	
265	SLV 10	-0.46	6.8	45.54		-0.2922	-0.4929	0.0001	
265	SLV 11	0.22	-17.83	87.14		0.7397	0.2453	-0.0002	
265	SLV 12	0.22	-17.83	87.14		0.7397	0.2453	-0.0002	
265	SLV 13	-0.55	-3.63	83.64		0.1431	-0.5707	-0.0001	
265	SLV 14	-0.55	-3.63	83.64		0.1431	-0.5707	-0.0001	
265	SLV 15	-0.35	-11.02	96.12		0.4527	-0.3492	-0.0001	
265	SLV 16	-0.35	-11.02	96.12		0.4527	-0.3492	-0.0001	
266	SLU 1	0	1.51	46.55		-0.0409	0.0006	0	
266	SLU 2	0	1.63	46.06		-0.0443	0.0009	0	
266	SLU 3	0	1.56	48.85		-0.0419	0.0007	0	
266	SLU 4	0	1.63	48.55		-0.044	0.0009	0	
266	SLU 5	0	1.69	48		-0.0457	0.001	0	
266	SLU 6	0	1.63	50.79		-0.0433	0.0008	0	
266	SLU 7	0	1.69	50.49		-0.0454	0.001	0	
266	SLU 8	0	1.64	50.43		-0.0437	0.0008	0	
266	SLU 9	0	1.71	50.13		-0.0458	0.001	0	
266	SLU 10	0	1.68	53.8		-0.0457	0.001	0	
266	SLU 11	0	1.62	56.59		-0.0433	0.0008	0	
266	SLU 12	0	1.69	56.29		-0.0453	0.001	0	
266	SLU 13	0	1.75	55.74		-0.0471	0.0011	0	
266	SLU 14	0	1.68	58.53		-0.0447	0.0009	0	
266	SLU 15	0	1.75	58.23		-0.0468	0.0011	0	
266	SLU 16	0	1.7	58.17		-0.0451	0.0009	0	
266	SLU 17	0	1.76	57.87		-0.0472	0.0011	0	
266	SLU 18	0	1.59	57.61		-0.0428	0.0007	0	
266	SLU 19	0	1.66	57.31		-0.0449	0.0009	0	
266	SLU 20	0	1.66	59.55		-0.0442	0.0008	0	
266	SLU 21	0	1.73	59.25		-0.0463	0.001	0	
266	SLU 22	0	1.59	54.29		-0.0426	0.0007	0	
266	SLU 23	0	1.71	53.8		-0.0461	0.0011	0	
266	SLU 24	0	1.65	56.59		-0.0437	0.0008	0	
266	SLU 25	0	1.71	56.29		-0.0458	0.001	0	
266	SLU 26	0	1.77	55.74		-0.0475	0.0012	0	
266	SLU 27	0	1.71	58.53		-0.0451	0.0009	0	
266	SLU 28	0	1.78	58.23		-0.0472	0.0011	0	
266	SLU 29	0	1.72	58.17		-0.0455	0.0009	0	
266	SLU 30	0	1.79	57.87		-0.0476	0.0011	0	
266	SLU 31	0	1.76	61.54		-0.0474	0.0011	0	
266	SLU 32	0	1.7	64.33		-0.045	0.0009	0	
266	SLU 33	0	1.77	64.03		-0.0471	0.0011	0	
266	SLU 34	0	1.83	63.48		-0.0489	0.0012	0	
266	SLU 35	0	1.77	66.27		-0.0465	0.001	0	
266	SLU 36	0	1.83	65.97		-0.0486	0.0012	0	
266	SLU 37	0	1.78	65.91		-0.0469	0.001	0	
266	SLU 38	0	1.85	65.61		-0.0489	0.0012	0	
266	SLU 39	0	1.68	65.35		-0.0446	0.0008	0	
266	SLU 40	0	1.74	65.05		-0.0466	0.001	0	
266	SLU 41	0	1.74	67.29		-0.046	0.0009	0	
266	SLU 42	0	1.81	66.99		-0.0481	0.0011	0	
266	SLU 43	0	1.94	57.86		-0.0525	0.0007	0	
266	SLU 44	0	2.05	57.37		-0.056	0.0011	0	
266	SLU 45	0	1.99	60.16		-0.0536	0.0008	0	
266	SLU 46	0	2.06	59.86		-0.0556	0.001	0	
266	SLU 47	0	2.12	59.31		-0.0574	0.0012	0	
266	SLU 48	0	2.05	62.1		-0.055	0.0009	0	
266	SLU 49	0	2.12	61.8		-0.0571	0.0011	0	
266	SLU 50	0	2.07	61.74		-0.0554	0.0009	0	
266	SLU 51	0	2.13	61.44		-0.0575	0.0012	0	
266	SLU 52	0	2.11	65.11		-0.0573	0.0012	0	
266	SLU 53	0	2.05	67.9		-0.0549	0.0009	0	
266	SLU 54	0	2.11	67.6		-0.057	0.0011	0	
266	SLU 55	0	2.17	67.05		-0.0588	0.0013	0	
266	SLU 56	0	2.11	69.84		-0.0563	0.001	0	
266	SLU 57	0	2.18	69.54		-0.0584	0.0012	0	
266	SLU 58	0	2.12	69.48		-0.0567	0.001	0	
266	SLU 59	0	2.19	69.18		-0.0588	0.0012	0	
266	SLU 60	0	2.02	68.92		-0.0544	0.0008	0	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
266	SLU 61		0	2.09	68.62	-0.0565	0.0011	0	
266	SLU 62		0	2.08	70.86	-0.0559	0.001	0	
266	SLU 63		0	2.15	70.56	-0.058	0.0012	0	
266	SLU 64		0	2.02	65.6	-0.0543	0.0008	0	
266	SLU 65		0	2.13	65.11	-0.0577	0.0012	0	
266	SLU 66		0	2.07	67.9	-0.0553	0.0009	0	
266	SLU 67		0	2.14	67.61	-0.0574	0.0011	0	
266	SLU 68		0	2.2	67.05	-0.0592	0.0013	0	
266	SLU 69		0	2.13	69.84	-0.0568	0.001	0	
266	SLU 70		0	2.2	69.54	-0.0588	0.0012	0	
266	SLU 71		0	2.15	69.48	-0.0572	0.0011	0	
266	SLU 72		0	2.21	69.18	-0.0592	0.0013	0	
266	SLU 73		0	2.19	72.85	-0.0591	0.0013	0	
266	SLU 74		0	2.13	75.64	-0.0567	0.001	0	
266	SLU 75		0	2.2	75.35	-0.0588	0.0012	0	
266	SLU 76		0	2.25	74.79	-0.0605	0.0014	0	
266	SLU 77		0	2.19	77.58	-0.0581	0.0011	0	
266	SLU 78		0	2.26	77.28	-0.0602	0.0013	0	
266	SLU 79		0	2.2	77.22	-0.0585	0.0011	0	
266	SLU 80		0	2.27	76.92	-0.0606	0.0013	0	
266	SLU 81		0	2.1	76.66	-0.0562	0.001	0	
266	SLU 82		0	2.17	76.37	-0.0583	0.0012	0	
266	SLU 83		0	2.17	78.6	-0.0577	0.0011	0	
266	SLU 84		0	2.23	78.3	-0.0597	0.0013	0	
266	SLE RA 1		0	1.54	48.76	-0.0414	0.0006	0	
266	SLE RA 2		0	1.61	48.43	-0.0437	0.0009	0	
266	SLE RA 3		0	1.57	50.29	-0.0421	0.0007	0	
266	SLE RA 4		0	1.62	50.1	-0.0434	0.0008	0	
266	SLE RA 5		0	1.65	49.73	-0.0446	0.0009	0	
266	SLE RA 6		0	1.61	51.59	-0.043	0.0008	0	
266	SLE RA 7		0	1.66	51.39	-0.0444	0.0009	0	
266	SLE RA 8		0	1.62	51.35	-0.0433	0.0008	0	
266	SLE RA 9		0	1.67	51.15	-0.0447	0.0009	0	
266	SLE RA 10		0	1.65	53.59	-0.0446	0.0009	0	
266	SLE RA 11		0	1.61	55.45	-0.043	0.0007	0	
266	SLE RA 12		0	1.65	55.26	-0.0443	0.0009	0	
266	SLE RA 13		0	1.69	54.89	-0.0455	0.001	0	
266	SLE RA 14		0	1.65	56.75	-0.0439	0.0008	0	
266	SLE RA 15		0	1.7	56.55	-0.0453	0.0009	0	
266	SLE RA 16		0	1.66	56.51	-0.0442	0.0008	0	
266	SLE RA 17		0	1.7	56.31	-0.0456	0.001	0	
266	SLE RA 18		0	1.59	56.13	-0.0427	0.0007	0	
266	SLE RA 19		0	1.64	55.94	-0.044	0.0008	0	
266	SLE RA 20		0	1.63	57.43	-0.0436	0.0008	0	
266	SLE RA 21		0	1.68	57.23	-0.045	0.0009	0	
266	SLE FR 1		0	1.54	48.76	-0.0414	0.0006	0	
266	SLE FR 2		0	1.55	48.7	-0.0418	0.0007	0	
266	SLE FR 3		0	1.55	49.28	-0.0417	0.0007	0	
266	SLE FR 4		0	1.57	50.91	-0.0422	0.0007	0	
266	SLE FR 5		0	1.57	51.49	-0.0421	0.0007	0	
266	SLE FR 6		0	1.56	52.45	-0.042	0.0007	0	
266	SLE QP 1		0	1.54	48.76	-0.0414	0.0006	0	
266	SLE QP 2		0	1.55	50.97	-0.0418	0.0006	0	
266	SLD 1	0.22	4.68	52.11	-0.1372	0.1919	-0.0006		
266	SLD 2	0.22	4.68	52.11	-0.1372	0.1919	-0.0006		
266	SLD 3	0.17	1.03	54.72	-0.026	0.2412	-0.0004		
266	SLD 4	0.17	1.03	54.72	-0.026	0.2412	-0.0004		
266	SLD 5	0.14	8.03	47.36	-0.239	-0.0167	-0.0004		
266	SLD 6	0.14	8.03	47.36	-0.239	-0.0167	-0.0004		
266	SLD 7	-0.02	-4.14	56.05	0.1316	0.1476	0		
266	SLD 8	-0.02	-4.14	56.05	0.1316	0.1476	0		
266	SLD 9	0.02	7.25	45.9	-0.2151	-0.1463	-0.0001		
266	SLD 10	0.02	7.25	45.9	-0.2151	-0.1463	-0.0001		
266	SLD 11	-0.13	-4.92	54.59	0.1555	0.018	0.0003		
266	SLD 12	-0.13	-4.92	54.59	0.1555	0.018	0.0003		
266	SLD 13	-0.17	2.08	47.23	-0.0575	-0.24	0.0004		
266	SLD 14	-0.17	2.08	47.23	-0.0575	-0.24	0.0004		
266	SLD 15	-0.21	-1.58	49.84	0.0537	-0.1907	0.0006		
266	SLD 16	-0.21	-1.58	49.84	0.0537	-0.1907	0.0006		
266	SLV 1	0.55	8.97	53.63	-0.2681	0.4905	-0.0014		
266	SLV 2	0.55	8.97	53.63	-0.2681	0.4905	-0.0014		
266	SLV 3	0.43	0.38	59.81	-0.0067	0.6166	-0.0011		
266	SLV 4	0.43	0.38	59.81	-0.0067	0.6166	-0.0011		
266	SLV 5	0.34	16.8	42.39	-0.5061	-0.0436	-0.0009		
266	SLV 6	0.34	16.8	42.39	-0.5061	-0.0436	-0.0009		
266	SLV 7	-0.05	-11.82	63	0.3652	0.3767	0.0001		
266	SLV 8	-0.05	-11.82	63	0.3652	0.3767	0.0001		
266	SLV 9	0.05	14.93	38.95	-0.4487	-0.3754	-0.0001		
266	SLV 10	0.05	14.93	38.95	-0.4487	-0.3754	-0.0001		
266	SLV 11	-0.34	-13.7	59.55	0.4226	0.0449	0.0009		
266	SLV 12	-0.34	-13.7	59.55	0.4226	0.0449	0.0009		
266	SLV 13	-0.43	2.72	42.14	-0.0768	-0.6153	0.0011		
266	SLV 14	-0.43	2.72	42.14	-0.0768	-0.6153	0.0011		
266	SLV 15	-0.55	-5.87	48.32	0.1846	-0.4892	0.0014		
266	SLV 16	-0.55	-5.87	48.32	0.1846	-0.4892	0.0014		
267	SLU 1		0	-2.07	47.19	0.0932	-0.0015	0	
267	SLU 2		0	-1.93	46.8	0.0867	-0.0018	0	
267	SLU 3		0	-2.1	48.94	0.0944	-0.0015	0	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
267	SLU 4		0	-2.02	48.71	0.0905	-0.0017	0	
267	SLU 5		0	-1.88	48.03	0.0842	-0.0018	0	
267	SLU 6		0	-2.06	50.18	0.0919	-0.0014	0	
267	SLU 7		0	-1.97	49.94	0.088	-0.0016	0	
267	SLU 8		0	-1.98	49.66	0.0882	-0.0014	0	
267	SLU 9		0	-1.89	49.42	0.0843	-0.0016	0	
267	SLU 10		0	-2.51	54.74	0.1131	-0.0022	0	
267	SLU 11		0	-2.69	56.88	0.1208	-0.0019	0	
267	SLU 12		0	-2.6	56.65	0.1169	-0.0021	0	
267	SLU 13		0	-2.47	55.97	0.1106	-0.0022	0	
267	SLU 14		0	-2.64	58.12	0.1183	-0.0018	0	
267	SLU 15		0	-2.56	57.88	0.1144	-0.002	0	
267	SLU 16		0	-2.56	57.6	0.1146	-0.0018	0	
267	SLU 17		0	-2.48	57.36	0.1107	-0.002	0	
267	SLU 18		0	-2.91	58.53	0.1309	-0.0021	0	
267	SLU 19		0	-2.82	58.29	0.127	-0.0023	0	
267	SLU 20		0	-2.86	59.76	0.1284	-0.002	0	
267	SLU 21		0	-2.77	59.53	0.1245	-0.0022	0	
267	SLU 22		0	-2.54	54.78	0.1143	-0.0018	0	
267	SLU 23		0	-2.4	54.38	0.1078	-0.0021	0	
267	SLU 24		0	-2.57	56.53	0.1155	-0.0018	0	
267	SLU 25		0	-2.49	56.3	0.1116	-0.002	0	
267	SLU 26		0	-2.35	55.62	0.1053	-0.0021	0	
267	SLU 27		0	-2.52	57.76	0.113	-0.0017	0	
267	SLU 28		0	-2.44	57.53	0.1091	-0.0019	0	
267	SLU 29		0	-2.45	57.24	0.1093	-0.0017	0	
267	SLU 30		0	-2.36	57.01	0.1054	-0.0019	0	
267	SLU 31		0	-2.98	62.32	0.1342	-0.0025	0	
267	SLU 32		0	-3.16	64.47	0.1419	-0.0022	0	
267	SLU 33		0	-3.07	64.24	0.138	-0.0024	0	
267	SLU 34		0	-2.93	63.56	0.1317	-0.0025	0	
267	SLU 35		0	-3.11	65.7	0.1394	-0.0021	0	
267	SLU 36		0	-3.02	65.47	0.1355	-0.0023	0	
267	SLU 37		0	-3.03	65.18	0.1357	-0.0021	0	
267	SLU 38		0	-2.94	64.95	0.1318	-0.0023	0	
267	SLU 39		0	-3.38	66.12	0.152	-0.0024	0	
267	SLU 40		0	-3.29	65.88	0.1481	-0.0026	0	
267	SLU 41		0	-3.33	67.35	0.1495	-0.0023	0	
267	SLU 42		0	-3.24	67.12	0.1456	-0.0025	0	
267	SLU 43		0	-2.53	58.74	0.1139	-0.0019	0	
267	SLU 44		0	-2.39	58.35	0.1074	-0.0022	0	
267	SLU 45		0	-2.56	60.49	0.1151	-0.0018	0	
267	SLU 46		0	-2.48	60.26	0.1112	-0.002	0	
267	SLU 47		0	-2.34	59.58	0.1049	-0.0021	0	
267	SLU 48		0	-2.52	61.73	0.1127	-0.0018	0	
267	SLU 49		0	-2.43	61.49	0.1088	-0.002	0	
267	SLU 50		0	-2.44	61.21	0.1089	-0.0017	0	
267	SLU 51		0	-2.35	60.97	0.105	-0.0019	0	
267	SLU 52		0	-2.97	66.29	0.1338	-0.0026	0	
267	SLU 53		0	-3.15	68.43	0.1415	-0.0022	0	
267	SLU 54		0	-3.06	68.2	0.1376	-0.0024	0	
267	SLU 55		0	-2.93	67.52	0.1313	-0.0025	0	
267	SLU 56		0	-3.1	69.67	0.139	-0.0022	0	
267	SLU 57		0	-3.02	69.43	0.1352	-0.0024	0	
267	SLU 58		0	-3.02	69.15	0.1353	-0.0021	0	
267	SLU 59		0	-2.94	68.91	0.1314	-0.0023	0	
267	SLU 60		0	-3.37	70.08	0.1516	-0.0024	0	
267	SLU 61		0	-3.28	69.85	0.1477	-0.0026	0	
267	SLU 62		0	-3.32	71.32	0.1491	-0.0024	0	
267	SLU 63		0	-3.24	71.08	0.1452	-0.0026	0	
267	SLU 64		0	-3	66.33	0.135	-0.0022	0	
267	SLU 65		0	-2.86	65.94	0.1285	-0.0025	0	
267	SLU 66		0	-3.03	68.08	0.1362	-0.0021	0	
267	SLU 67		0	-2.95	67.85	0.1323	-0.0023	0	
267	SLU 68		0	-2.81	67.17	0.126	-0.0024	0	
267	SLU 69		0	-2.99	69.32	0.1338	-0.0021	0	
267	SLU 70		0	-2.9	69.08	0.1299	-0.0023	0	
267	SLU 71		0	-2.91	68.8	0.13	-0.002	0	
267	SLU 72		0	-2.82	68.56	0.1261	-0.0022	0	
267	SLU 73		0	-3.44	73.88	0.1549	-0.0029	0	
267	SLU 74		0	-3.62	76.02	0.1626	-0.0025	0	
267	SLU 75		0	-3.53	75.79	0.1587	-0.0027	0	
267	SLU 76		0	-3.4	75.11	0.1524	-0.0028	0	
267	SLU 77		0	-3.57	77.26	0.1601	-0.0025	0	
267	SLU 78		0	-3.49	77.02	0.1563	-0.0027	0	
267	SLU 79		0	-3.49	76.74	0.1564	-0.0024	0	
267	SLU 80		0	-3.41	76.5	0.1525	-0.0026	0	
267	SLU 81		0	-3.84	77.67	0.1727	-0.0027	0	
267	SLU 82		0	-3.75	77.44	0.1688	-0.0029	0	
267	SLU 83		0	-3.79	78.91	0.1702	-0.0027	0	
267	SLU 84		0	-3.7	78.67	0.1663	-0.0029	0	
267	SLE RA 1		0	-2.21	49.36	0.0992	-0.0016	0	
267	SLE RA 2		0	-2.11	49.09	0.0949	-0.0018	0	
267	SLE RA 3		0	-2.23	50.52	0.1	-0.0016	0	
267	SLE RA 4		0	-2.17	50.37	0.0974	-0.0017	0	
267	SLE RA 5		0	-2.08	49.92	0.0932	-0.0018	0	
267	SLE RA 6		0	-2.2	51.35	0.0984	-0.0015	0	
267	SLE RA 7		0	-2.14	51.19	0.0958	-0.0017	0	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
267	SLE RA 8	0	-2.14	51	0.0959	-0.0015	0		
267	SLE RA 9	0	-2.08	50.84	0.0933	-0.0016	0		
267	SLE RA 10	0	-2.5	54.39	0.1125	-0.0021	0		
267	SLE RA 11	0	-2.62	55.82	0.1176	-0.0018	0		
267	SLE RA 12	0	-2.56	55.66	0.115	-0.002	0		
267	SLE RA 13	0	-2.47	55.21	0.1108	-0.002	0		
267	SLE RA 14	0	-2.59	56.64	0.116	-0.0018	0		
267	SLE RA 15	0	-2.53	56.48	0.1134	-0.0019	0		
267	SLE RA 16	0	-2.53	56.29	0.1135	-0.0018	0		
267	SLE RA 17	0	-2.48	56.14	0.1109	-0.0019	0		
267	SLE RA 18	0	-2.76	56.92	0.1243	-0.002	0		
267	SLE RA 19	0	-2.71	56.76	0.1217	-0.0021	0		
267	SLE RA 20	0	-2.73	57.74	0.1227	-0.0019	0		
267	SLE RA 21	0	-2.67	57.58	0.1201	-0.0021	0		
267	SLE FR 1	0	-2.21	49.36	0.0992	-0.0016	0		
267	SLE FR 2	0	-2.19	49.3	0.0983	-0.0016	0		
267	SLE FR 3	0	-2.19	49.68	0.0985	-0.0016	0		
267	SLE FR 4	0	-2.35	51.57	0.1059	-0.0018	0		
267	SLE FR 5	0	-2.36	51.95	0.1061	-0.0017	0		
267	SLE FR 6	0	-2.49	53.14	0.1118	-0.0018	0		
267	SLE QP 1	0	-2.21	49.36	0.0992	-0.0016	0		
267	SLE QP 2	0	-2.37	51.62	0.1067	-0.0017	0		
267	SLD 1	0.24	-2.73	53.17	0.1226	0.2291	-0.0002		
267	SLD 2	0.24	-2.73	53.17	0.1226	0.2291	-0.0002		
267	SLD 3	0.2	-7.09	58.26	0.3281	0.1978	-0.0002		
267	SLD 4	0.2	-7.09	58.26	0.3281	0.1978	-0.0002		
267	SLD 5	0.12	4.14	44.36	-0.2003	0.115	-0.0001		
267	SLD 6	0.12	4.14	44.36	-0.2003	0.115	-0.0001		
267	SLD 7	0.01	-10.41	61.34	0.4849	0.0107	0		
267	SLD 8	0.01	-10.41	61.34	0.4849	0.0107	0		
267	SLD 9	-0.01	5.66	41.91	-0.2715	-0.0141	0		
267	SLD 10	-0.01	5.66	41.91	-0.2715	-0.0141	0		
267	SLD 11	-0.12	-8.89	58.88	0.4138	-0.1185	0.0001		
267	SLD 12	-0.12	-8.89	58.88	0.4138	-0.1185	0.0001		
267	SLD 13	-0.21	2.34	44.99	-0.1147	-0.2012	0.0002		
267	SLD 14	-0.21	2.34	44.99	-0.1147	-0.2012	0.0002		
267	SLD 15	-0.24	-2.02	50.08	0.0909	-0.2325	0.0002		
267	SLD 16	-0.24	-2.02	50.08	0.0909	-0.2325	0.0002		
267	SLV 1	0.61	-3.21	55.19	0.1442	0.5901	-0.0006		
267	SLV 2	0.61	-3.21	55.19	0.1442	0.5901	-0.0006		
267	SLV 3	0.53	-13.51	67.24	0.6299	0.5099	-0.0005		
267	SLV 4	0.53	-13.51	67.24	0.6299	0.5099	-0.0005		
267	SLV 5	0.31	13.01	34.42	-0.6186	0.2974	-0.0003		
267	SLV 6	0.31	13.01	34.42	-0.6186	0.2974	-0.0003		
267	SLV 7	0.03	-21.35	74.59	1.0002	0.0302	0		
267	SLV 8	0.03	-21.35	74.59	1.0002	0.0302	0		
267	SLV 9	-0.03	16.6	28.66	-0.7868	-0.0336	0		
267	SLV 10	-0.03	16.6	28.66	-0.7868	-0.0336	0		
267	SLV 11	-0.31	-17.76	68.83	0.8321	-0.3008	0.0003		
267	SLV 12	-0.31	-17.76	68.83	0.8321	-0.3008	0.0003		
267	SLV 13	-0.53	8.77	36	-0.4164	-0.5134	0.0005		
267	SLV 14	-0.53	8.77	36	-0.4164	-0.5134	0.0005		
267	SLV 15	-0.61	-1.54	48.06	0.0693	-0.5935	0.0006		
267	SLV 16	-0.61	-1.54	48.06	0.0693	-0.5935	0.0006		
268	SLU 1	0	1.56	34.36	-0.0799	-0.0003	0		
268	SLU 2	0	1.55	34.37	-0.0798	-0.0003	0		
268	SLU 3	0	1.39	34.2	-0.0728	-0.0002	0		
268	SLU 4	0	1.38	34.2	-0.0727	-0.0002	0		
268	SLU 5	0	1.31	33.54	-0.0694	-0.0001	0		
268	SLU 6	0	1.15	33.38	-0.0624	0	0		
268	SLU 7	0	1.14	33.38	-0.0624	0	0		
268	SLU 8	0	1.07	32.72	-0.0592	0.0001	0		
268	SLU 9	0	1.07	32.72	-0.0591	0.0001	0		
268	SLU 10	0	1.8	40.1	-0.0936	0.0002	0		
268	SLU 11	0	1.63	39.93	-0.0866	0.0004	0		
268	SLU 12	0	1.63	39.94	-0.0865	0.0003	0		
268	SLU 13	0	1.56	39.28	-0.0833	0.0004	0		
268	SLU 14	0	1.39	39.11	-0.0762	0.0006	0		
268	SLU 15	0	1.39	39.11	-0.0762	0.0005	0		
268	SLU 16	0	1.32	38.45	-0.073	0.0006	0		
268	SLU 17	0	1.32	38.46	-0.0729	0.0006	0		
268	SLU 18	0	1.91	42.55	-0.0996	0.0005	0		
268	SLU 19	0	1.9	42.56	-0.0996	0.0004	0		
268	SLU 20	0	1.67	41.73	-0.0893	0.0007	0		
268	SLU 21	0	1.66	41.73	-0.0892	0.0006	0		
268	SLU 22	0	1.68	39.17	-0.088	0.0001	0		
268	SLU 23	0	1.68	39.17	-0.0879	0.0001	0		
268	SLU 24	0	1.51	39.01	-0.0809	0.0002	0		
268	SLU 25	0	1.51	39.01	-0.0809	0.0002	0		
268	SLU 26	0	1.44	38.35	-0.0776	0.0003	0		
268	SLU 27	0	1.27	38.19	-0.0705	0.0004	0		
268	SLU 28	0	1.27	38.19	-0.0705	0.0004	0		
268	SLU 29	0	1.2	37.53	-0.0673	0.0005	0		
268	SLU 30	0	1.2	37.53	-0.0672	0.0005	0		
268	SLU 31	0	1.92	44.91	-0.1018	0.0006	0		
268	SLU 32	0	1.76	44.74	-0.0947	0.0007	0		
268	SLU 33	0	1.75	44.74	-0.0947	0.0007	0		
268	SLU 34	0	1.68	44.09	-0.0914	0.0008	0		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
268	SLU 35		0	1.52	43.92	-0.0843	0.0009	0
268	SLU 36		0	1.51	43.92	-0.0843	0.0009	0
268	SLU 37		0	1.44	43.26	-0.0811	0.001	0
268	SLU 38		0	1.44	43.26	-0.081	0.001	0
268	SLU 39		0	2.03	47.36	-0.1078	0.0009	0
268	SLU 40		0	2.03	47.36	-0.1077	0.0008	0
268	SLU 41		0	1.79	46.54	-0.0974	0.0011	0
268	SLU 42		0	1.79	46.54	-0.0973	0.001	0
268	SLU 43		0	1.98	43.02	-0.1011	-0.0005	0
268	SLU 44		0	1.98	43.03	-0.101	-0.0006	0
268	SLU 45		0	1.81	42.86	-0.094	-0.0004	0
268	SLU 46		0	1.81	42.86	-0.0939	-0.0004	0
268	SLU 47		0	1.74	42.2	-0.0906	-0.0004	0
268	SLU 48		0	1.57	42.04	-0.0836	-0.0002	0
268	SLU 49		0	1.57	42.04	-0.0836	-0.0002	0
268	SLU 50		0	1.5	41.38	-0.0804	-0.0001	0
268	SLU 51		0	1.5	41.38	-0.0803	-0.0001	0
268	SLU 52		0	2.22	48.76	-0.1148	0	0
268	SLU 53		0	2.05	48.59	-0.1078	0.0001	0
268	SLU 54		0	2.05	48.6	-0.1077	0.0001	0
268	SLU 55		0	1.98	47.94	-0.1044	0.0002	0
268	SLU 56		0	1.81	47.77	-0.0974	0.0003	0
268	SLU 57		0	1.81	47.77	-0.0974	0.0003	0
268	SLU 58		0	1.74	47.11	-0.0942	0.0004	0
268	SLU 59		0	1.74	47.12	-0.0941	0.0004	0
268	SLU 60		0	2.33	51.21	-0.1208	0.0002	0
268	SLU 61		0	2.33	51.22	-0.1208	0.0002	0
268	SLU 62		0	2.09	50.39	-0.1105	0.0004	0
268	SLU 63		0	2.09	50.39	-0.1104	0.0004	0
268	SLU 64		0	2.1	47.83	-0.1092	-0.0001	0
268	SLU 65		0	2.1	47.83	-0.1091	-0.0002	0
268	SLU 66		0	1.93	47.67	-0.1021	0	0
268	SLU 67		0	1.93	47.67	-0.1021	0	0
268	SLU 68		0	1.86	47.01	-0.0988	0	0
268	SLU 69		0	1.69	46.85	-0.0917	0.0002	0
268	SLU 70		0	1.69	46.85	-0.0917	0.0002	0
268	SLU 71		0	1.62	46.19	-0.0885	0.0003	0
268	SLU 72		0	1.62	46.19	-0.0884	0.0002	0
268	SLU 73		0	2.35	53.57	-0.1229	0.0004	0
268	SLU 74		0	2.18	53.4	-0.1159	0.0005	0
268	SLU 75		0	2.18	53.4	-0.1159	0.0005	0
268	SLU 76		0	2.11	52.75	-0.1126	0.0006	0
268	SLU 77		0	1.94	52.58	-0.1055	0.0007	0
268	SLU 78		0	1.94	52.58	-0.1055	0.0007	0
268	SLU 79		0	1.87	51.92	-0.1023	0.0008	0
268	SLU 80		0	1.87	51.92	-0.1022	0.0008	0
268	SLU 81		0	2.45	56.02	-0.129	0.0006	0
268	SLU 82		0	2.45	56.02	-0.1289	0.0006	0
268	SLU 83		0	2.21	55.2	-0.1186	0.0008	0
268	SLU 84		0	2.21	55.2	-0.1185	0.0008	0
268	SLE RA 1		0	1.59	35.74	-0.0822	-0.0002	0
268	SLE RA 2		0	1.59	35.74	-0.0822	-0.0002	0
268	SLE RA 3		0	1.48	35.63	-0.0775	-0.0001	0
268	SLE RA 4		0	1.48	35.63	-0.0775	-0.0001	0
268	SLE RA 5		0	1.43	35.19	-0.0753	-0.0001	0
268	SLE RA 6		0	1.32	35.08	-0.0706	0	0
268	SLE RA 7		0	1.32	35.08	-0.0705	0	0
268	SLE RA 8		0	1.27	34.64	-0.0684	0.0001	0
268	SLE RA 9		0	1.27	34.64	-0.0684	0.0001	0
268	SLE RA 10		0	1.75	39.56	-0.0914	0.0001	0
268	SLE RA 11		0	1.64	39.45	-0.0867	0.0002	0
268	SLE RA 12		0	1.64	39.45	-0.0867	0.0002	0
268	SLE RA 13		0	1.59	39.01	-0.0845	0.0003	0
268	SLE RA 14		0	1.48	38.9	-0.0798	0.0004	0
268	SLE RA 15		0	1.48	38.9	-0.0797	0.0004	0
268	SLE RA 16		0	1.43	38.46	-0.0776	0.0004	0
268	SLE RA 17		0	1.43	38.46	-0.0776	0.0004	0
268	SLE RA 18		0	1.82	41.2	-0.0954	0.0003	0
268	SLE RA 19		0	1.82	41.2	-0.0954	0.0003	0
268	SLE RA 20		0	1.66	40.65	-0.0885	0.0005	0
268	SLE RA 21		0	1.66	40.65	-0.0884	0.0004	0
268	SLE FR 1		0	1.59	35.74	-0.0822	-0.0002	0
268	SLE FR 2		0	1.59	35.74	-0.0822	-0.0002	0
268	SLE FR 3		0	1.53	35.52	-0.0795	-0.0001	0
268	SLE FR 4		0	1.66	37.37	-0.0862	0	0
268	SLE FR 5		0	1.6	37.15	-0.0834	0	0
268	SLE FR 6		0	1.71	38.47	-0.0888	0.0001	0
268	SLE QP 1		0	1.59	35.74	-0.0822	-0.0002	0
268	SLE QP 2		0	1.66	37.37	-0.0862	0	0
268	SLD 1		-0.06	4.82	40.49	-0.2147	-0.0409	0
268	SLD 2		-0.06	4.82	40.49	-0.2147	-0.0409	0
268	SLD 3		-0.03	1.05	38.03	-0.0609	-0.0234	0.0001
268	SLD 4		-0.03	1.05	38.03	-0.0609	-0.0234	0.0001
268	SLD 5		-0.07	8.32	42.05	-0.3581	-0.0389	0
268	SLD 6		-0.07	8.32	42.05	-0.3581	-0.0389	0
268	SLD 7		0.04	-4.23	33.83	0.1547	0.0195	0.0001
268	SLD 8		0.04	-4.23	33.83	0.1547	0.0195	0.0001
268	SLD 9		-0.04	7.55	40.92	-0.3271	-0.0196	-0.0001





Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
268	SLD 10	-0.04	7.55	40.92		-0.3271	-0.0196	-0.0001	
268	SLD 11	0.07	-5	32.7		0.1857	0.0388	0	
268	SLD 12	0.07	-5	32.7		0.1857	0.0388	0	
268	SLD 13	0.03	2.27	36.72		-0.1115	0.0234	-0.0001	
268	SLD 14	0.03	2.27	36.72		-0.1115	0.0234	-0.0001	
268	SLD 15	0.06	-1.5	34.26		0.0423	0.0409	-0.0001	
268	SLD 16	0.06	-1.5	34.26		0.0423	0.0409	-0.0001	
268	SLV 1	-0.16	9.09	44.83		-0.3887	-0.1037	0.0001	
268	SLV 2	-0.16	9.09	44.83		-0.3887	-0.1037	0.0001	
268	SLV 3	-0.07	0.22	38.84		-0.0262	-0.059	0.0002	
268	SLV 4	-0.07	0.22	38.84		-0.0262	-0.059	0.0002	
268	SLV 5	-0.18	17.34	48.69		-0.7267	-0.0989	-0.0001	
268	SLV 6	-0.18	17.34	48.69		-0.7267	-0.0989	-0.0001	
268	SLV 7	0.11	-12.22	28.73		0.4816	0.0501	0.0002	
268	SLV 8	0.11	-12.22	28.73		0.4816	0.0501	0.0002	
268	SLV 9	-0.11	15.54	46.02		-0.654	-0.0502	-0.0002	
268	SLV 10	-0.11	15.54	46.02		-0.654	-0.0502	-0.0002	
268	SLV 11	0.18	-14.02	26.06		0.5544	0.0989	0.0001	
268	SLV 12	0.18	-14.02	26.06		0.5544	0.0989	0.0001	
268	SLV 13	0.07	3.1	35.91		-0.1462	0.0589	-0.0002	
268	SLV 14	0.07	3.1	35.91		-0.1462	0.0589	-0.0002	
268	SLV 15	0.16	-5.76	29.92		0.2163	0.1036	-0.0001	
268	SLV 16	0.16	-5.76	29.92		0.2163	0.1036	-0.0001	
269	SLU 1	0	4.02	33.43		-0.3067	-0.0016	0	
269	SLU 2	0	4.02	33.45		-0.3062	-0.0016	0	
269	SLU 3	0	3.89	33.11		-0.3069	-0.0016	0	
269	SLU 4	0	3.88	33.12		-0.3066	-0.0016	0	
269	SLU 5	0	3.77	32.43		-0.2997	-0.0015	0	
269	SLU 6	0	3.64	32.09		-0.3004	-0.0015	0	
269	SLU 7	0	3.63	32.1		-0.3001	-0.0015	0	
269	SLU 8	0	3.52	31.39		-0.2938	-0.0015	0	
269	SLU 9	0	3.52	31.4		-0.2934	-0.0014	0	
269	SLU 10	0	4.71	39.1		-0.3582	-0.0019	0	
269	SLU 11	0	4.57	38.75		-0.359	-0.0019	0	
269	SLU 12	0	4.57	38.77		-0.3587	-0.0019	0	
269	SLU 13	0	4.46	38.08		-0.3518	-0.0018	0	
269	SLU 14	0	4.32	37.73		-0.3525	-0.0018	0	
269	SLU 15	0	4.32	37.74		-0.3522	-0.0018	0	
269	SLU 16	0	4.21	37.03		-0.3458	-0.0018	0	
269	SLU 17	0	4.21	37.05		-0.3455	-0.0017	0	
269	SLU 18	0	5	41.49		-0.3811	-0.0021	0	
269	SLU 19	0	5	41.51		-0.3808	-0.002	0	
269	SLU 20	0	4.75	40.47		-0.3746	-0.002	0	
269	SLU 21	0	4.75	40.49		-0.3743	-0.002	0	
269	SLU 22	0	4.55	37.57		-0.351	-0.0018	0	
269	SLU 23	0	4.54	37.59		-0.3505	-0.0018	0	
269	SLU 24	0	4.41	37.24		-0.3512	-0.0018	0	
269	SLU 25	0	4.41	37.26		-0.3509	-0.0018	0	
269	SLU 26	0	4.29	36.57		-0.344	-0.0017	0	
269	SLU 27	0	4.16	36.22		-0.3448	-0.0017	0	
269	SLU 28	0	4.16	36.24		-0.3445	-0.0017	0	
269	SLU 29	0	4.05	35.53		-0.3381	-0.0017	0	
269	SLU 30	0	4.04	35.54		-0.3378	-0.0017	0	
269	SLU 31	0	5.23	43.23		-0.4026	-0.0021	0	
269	SLU 32	0	5.1	42.89		-0.4033	-0.0021	0	
269	SLU 33	0	5.1	42.9		-0.403	-0.0021	0	
269	SLU 34	0	4.98	42.21		-0.3961	-0.002	0	
269	SLU 35	0	4.85	41.87		-0.3968	-0.002	0	
269	SLU 36	0	4.85	41.88		-0.3965	-0.002	0	
269	SLU 37	0	4.73	41.17		-0.3902	-0.002	0	
269	SLU 38	0	4.73	41.18		-0.3899	-0.002	0	
269	SLU 39	0	5.53	45.63		-0.4254	-0.0023	0	
269	SLU 40	0	5.53	45.64		-0.4251	-0.0023	0	
269	SLU 41	0	5.28	44.61		-0.4189	-0.0022	0	
269	SLU 42	0	5.28	44.62		-0.4186	-0.0022	0	
269	SLU 43	0	5.05	42.05		-0.3835	-0.0021	0	
269	SLU 44	0	5.04	42.07		-0.383	-0.002	0	
269	SLU 45	0	4.91	41.72		-0.3837	-0.002	0	
269	SLU 46	0	4.91	41.74		-0.3834	-0.002	0	
269	SLU 47	0	4.79	41.05		-0.3765	-0.0019	0	
269	SLU 48	0	4.66	40.7		-0.3772	-0.0019	0	
269	SLU 49	0	4.66	40.72		-0.3769	-0.0019	0	
269	SLU 50	0	4.55	40.01		-0.3706	-0.0019	0	
269	SLU 51	0	4.55	40.02		-0.3702	-0.0019	0	
269	SLU 52	0	5.73	47.71		-0.435	-0.0023	0	
269	SLU 53	0	5.6	47.37		-0.4358	-0.0023	0	
269	SLU 54	0	5.6	47.38		-0.4355	-0.0023	0	
269	SLU 55	0	5.48	46.69		-0.4286	-0.0022	0	
269	SLU 56	0	5.35	46.35		-0.4293	-0.0022	0	
269	SLU 57	0	5.35	46.36		-0.429	-0.0022	0	
269	SLU 58	0	5.23	45.65		-0.4226	-0.0022	0	
269	SLU 59	0	5.23	45.66		-0.4223	-0.0022	0	
269	SLU 60	0	6.03	50.11		-0.4579	-0.0025	0	
269	SLU 61	0	6.03	50.12		-0.4576	-0.0025	0	
269	SLU 62	0	5.78	49.09		-0.4514	-0.0024	0	
269	SLU 63	0	5.78	49.1		-0.4511	-0.0024	0	
269	SLU 64	0	5.57	46.18		-0.4278	-0.0023	0	
269	SLU 65	0	5.57	46.2		-0.4273	-0.0022	0	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
269	SLU 66	0	5.44	45.86		-0.428	-0.0022	0	
269	SLU 67	0	5.44	45.87		-0.4277	-0.0022	0	
269	SLU 68	0	5.32	45.18		-0.4208	-0.0022	0	
269	SLU 69	0	5.19	44.84		-0.4216	-0.0021	0	
269	SLU 70	0	5.19	44.85		-0.4213	-0.0021	0	
269	SLU 71	0	5.07	44.14		-0.4149	-0.0021	0	
269	SLU 72	0	5.07	44.15		-0.4146	-0.0021	0	
269	SLU 73	0	6.26	51.84		-0.4794	-0.0025	0	
269	SLU 74	0	6.12	51.5		-0.4801	-0.0025	0	
269	SLU 75	0	6.12	51.51		-0.4798	-0.0025	0	
269	SLU 76	0	6.01	50.82		-0.4729	-0.0025	0	
269	SLU 77	0	5.87	50.48		-0.4736	-0.0024	0	
269	SLU 78	0	5.87	50.49		-0.4733	-0.0024	0	
269	SLU 79	0	5.76	49.78		-0.467	-0.0024	0	
269	SLU 80	0	5.76	49.79		-0.4667	-0.0024	0	
269	SLU 81	0	6.55	54.24		-0.5022	-0.0027	0	
269	SLU 82	0	6.55	54.25		-0.5019	-0.0027	0	
269	SLU 83	0	6.3	53.22		-0.4958	-0.0026	0	
269	SLU 84	0	6.3	53.23		-0.4954	-0.0026	0	
269	SLE RA 1	0	4.17	34.62		-0.3193	-0.0017	0	
269	SLE RA 2	0	4.17	34.63		-0.319	-0.0017	0	
269	SLE RA 3	0	4.08	34.4		-0.3195	-0.0017	0	
269	SLE RA 4	0	4.08	34.41		-0.3193	-0.0017	0	
269	SLE RA 5	0	4	33.95		-0.3147	-0.0016	0	
269	SLE RA 6	0	3.91	33.72		-0.3152	-0.0016	0	
269	SLE RA 7	0	3.91	33.73		-0.315	-0.0016	0	
269	SLE RA 8	0	3.84	33.25		-0.3107	-0.0016	0	
269	SLE RA 9	0	3.84	33.26		-0.3105	-0.0016	0	
269	SLE RA 10	0	4.63	38.39		-0.3537	-0.0019	0	
269	SLE RA 11	0	4.54	38.16		-0.3542	-0.0019	0	
269	SLE RA 12	0	4.54	38.17		-0.354	-0.0019	0	
269	SLE RA 13	0	4.46	37.71		-0.3494	-0.0018	0	
269	SLE RA 14	0	4.37	37.48		-0.3499	-0.0018	0	
269	SLE RA 15	0	4.37	37.49		-0.3497	-0.0018	0	
269	SLE RA 16	0	4.3	37.02		-0.3454	-0.0018	0	
269	SLE RA 17	0	4.29	37.02		-0.3452	-0.0018	0	
269	SLE RA 18	0	4.83	39.99		-0.3689	-0.002	0	
269	SLE RA 19	0	4.82	40		-0.3687	-0.002	0	
269	SLE RA 20	0	4.66	39.31		-0.3646	-0.0019	0	
269	SLE RA 21	0	4.66	39.32		-0.3644	-0.0019	0	
269	SLE FR 1	0	4.17	34.62		-0.3193	-0.0017	0	
269	SLE FR 2	0	4.17	34.62		-0.3193	-0.0017	0	
269	SLE FR 3	0	4.1	34.34		-0.3176	-0.0017	0	
269	SLE FR 4	0	4.37	36.23		-0.3342	-0.0018	0	
269	SLE FR 5	0	4.3	35.95		-0.3325	-0.0018	0	
269	SLE FR 6	0	4.5	37.3		-0.3441	-0.0018	0	
269	SLE QP 1	0	4.17	34.62		-0.3193	-0.0017	0	
269	SLE QP 2	0	4.37	36.23		-0.3342	-0.0018	0	
269	SLD 1	-0.02	5.38	35.44		-0.3714	-0.0276	0.0001	
269	SLD 2	-0.02	5.38	35.44		-0.3714	-0.0276	0.0001	
269	SLD 3	-0.07	1.55	33.55		-0.2117	-0.0463	0.0001	
269	SLD 4	-0.07	1.55	33.55		-0.2117	-0.0463	0.0001	
269	SLD 5	0.05	10.46	38.87		-0.5877	0.0189	0.0001	
269	SLD 6	0.05	10.46	38.87		-0.5877	0.0189	0.0001	
269	SLD 7	-0.09	-2.27	32.55		-0.0552	-0.0436	0	
269	SLD 8	-0.09	-2.27	32.55		-0.0552	-0.0436	0	
269	SLD 9	0.08	11.01	39.91		-0.6133	0.04	0.0001	
269	SLD 10	0.08	11.01	39.91		-0.6133	0.04	0.0001	
269	SLD 11	-0.06	-1.73	33.59		-0.0808	-0.0225	-0.0001	
269	SLD 12	-0.06	-1.73	33.59		-0.0808	-0.0225	-0.0001	
269	SLD 13	0.06	7.18	38.91		-0.4568	0.0427	-0.0001	
269	SLD 14	0.06	7.18	38.91		-0.4568	0.0427	-0.0001	
269	SLD 15	0.02	3.36	37.01		-0.297	0.024	-0.0001	
269	SLD 16	0.02	3.36	37.01		-0.297	0.024	-0.0001	
269	SLV 1	-0.05	6.7	34.45		-0.42	-0.0673	0.0003	
269	SLV 2	-0.05	6.7	34.45		-0.42	-0.0673	0.0003	
269	SLV 3	-0.16	-2.27	29.84		-0.0455	-0.1151	0.0002	
269	SLV 4	-0.16	-2.27	29.84		-0.0455	-0.1151	0.0002	
269	SLV 5	0.14	18.68	42.68		-0.9281	0.051	0.0003	
269	SLV 6	0.14	18.68	42.68		-0.9281	0.051	0.0003	
269	SLV 7	-0.21	-11.23	27.33		0.3205	-0.1082	-0.0001	
269	SLV 8	-0.21	-11.23	27.33		0.3205	-0.1082	-0.0001	
269	SLV 9	0.2	19.97	45.13		-0.9889	0.1047	0.0001	
269	SLV 10	0.2	19.97	45.13		-0.9889	0.1047	0.0001	
269	SLV 11	-0.15	-9.94	29.78		0.2596	-0.0546	-0.0003	
269	SLV 12	-0.15	-9.94	29.78		0.2596	-0.0546	-0.0003	
269	SLV 13	0.15	11.01	42.61		-0.623	0.1115	-0.0002	
269	SLV 14	0.15	11.01	42.61		-0.623	0.1115	-0.0002	
269	SLV 15	0.05	2.03	38.01		-0.2484	0.0637	-0.0003	
269	SLV 16	0.05	2.03	38.01		-0.2484	0.0637	-0.0003	
270	SLU 1	-0.21	-2.22	50.53		-0.0244	-0.1443	0.0008	
270	SLU 2	-0.19	-1.5	48.31		-0.0485	-0.1309	0.0007	
270	SLU 3	-0.21	-2.24	51.69		-0.026	-0.1482	0.0008	
270	SLU 4	-0.2	-1.81	50.36		-0.0404	-0.1401	0.0008	
270	SLU 5	-0.2	-1.47	48.94		-0.0508	-0.1331	0.0007	
270	SLU 6	-0.22	-2.21	52.32		-0.0283	-0.1504	0.0008	
270	SLU 7	-0.21	-1.78	50.99		-0.0427	-0.1423	0.0008	
270	SLU 8	-0.21	-2.16	51.78		-0.0291	-0.1487	0.0008	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
270	SLU 9	-0.21	-1.73	50.45	-0.0435	-0.1406	0.0008		
270	SLU 10	-0.22	-1.81	53.88	-0.0501	-0.1495	0.0008		
270	SLU 11	-0.24	-2.55	57.26	-0.0276	-0.1668	0.0009		
270	SLU 12	-0.23	-2.12	55.93	-0.042	-0.1588	0.0009		
270	SLU 13	-0.22	-1.77	54.51	-0.0524	-0.1517	0.0008		
270	SLU 14	-0.24	-2.52	57.88	-0.0299	-0.169	0.0009		
270	SLU 15	-0.23	-2.09	56.55	-0.0443	-0.1609	0.0009		
270	SLU 16	-0.24	-2.47	57.35	-0.0307	-0.1673	0.0009		
270	SLU 17	-0.23	-2.03	56.02	-0.0452	-0.1593	0.0009		
270	SLU 18	-0.24	-2.66	58.49	-0.0267	-0.1709	0.0009		
270	SLU 19	-0.24	-2.23	57.15	-0.0412	-0.1629	0.0009		
270	SLU 20	-0.25	-2.63	59.11	-0.0291	-0.1731	0.0009		
270	SLU 21	-0.24	-2.19	57.78	-0.0435	-0.165	0.0009		
270	SLU 22	-0.23	-2.51	55.99	-0.0262	-0.1625	0.0009		
270	SLU 23	-0.22	-1.79	53.78	-0.0503	-0.1491	0.0008		
270	SLU 24	-0.24	-2.54	57.15	-0.0278	-0.1664	0.0009		
270	SLU 25	-0.23	-2.1	55.82	-0.0422	-0.1583	0.0009		
270	SLU 26	-0.22	-1.76	54.4	-0.0526	-0.1513	0.0008		
270	SLU 27	-0.24	-2.5	57.78	-0.0301	-0.1686	0.0009		
270	SLU 28	-0.23	-2.07	56.45	-0.0445	-0.1605	0.0009		
270	SLU 29	-0.24	-2.45	57.25	-0.0309	-0.1669	0.0009		
270	SLU 30	-0.23	-2.02	55.92	-0.0453	-0.1588	0.0009		
270	SLU 31	-0.25	-2.1	59.34	-0.0519	-0.1677	0.0009		
270	SLU 32	-0.26	-2.84	62.72	-0.0294	-0.185	0.001		
270	SLU 33	-0.26	-2.41	61.39	-0.0438	-0.177	0.001		
270	SLU 34	-0.25	-2.07	59.97	-0.0542	-0.1699	0.0009		
270	SLU 35	-0.27	-2.81	63.35	-0.0317	-0.1872	0.001		
270	SLU 36	-0.26	-2.38	62.02	-0.0462	-0.1791	0.001		
270	SLU 37	-0.26	-2.76	62.81	-0.0325	-0.1855	0.001		
270	SLU 38	-0.26	-2.32	61.48	-0.047	-0.1775	0.001		
270	SLU 39	-0.27	-2.95	63.95	-0.0286	-0.1891	0.001		
270	SLU 40	-0.26	-2.52	62.62	-0.043	-0.1811	0.001		
270	SLU 41	-0.27	-2.92	64.57	-0.0309	-0.1913	0.001		
270	SLU 42	-0.27	-2.49	63.24	-0.0453	-0.1832	0.001		
270	SLU 43	-0.26	-2.79	63.82	-0.0311	-0.1814	0.001		
270	SLU 44	-0.25	-2.06	61.6	-0.0552	-0.168	0.0009		
270	SLU 45	-0.27	-2.81	64.98	-0.0327	-0.1853	0.001		
270	SLU 46	-0.26	-2.38	63.65	-0.0471	-0.1772	0.001		
270	SLU 47	-0.25	-2.03	62.23	-0.0575	-0.1701	0.0009		
270	SLU 48	-0.27	-2.78	65.6	-0.035	-0.1875	0.001		
270	SLU 49	-0.26	-2.35	64.27	-0.0494	-0.1794	0.001		
270	SLU 50	-0.27	-2.72	65.07	-0.0358	-0.1858	0.001		
270	SLU 51	-0.26	-2.29	63.74	-0.0502	-0.1777	0.001		
270	SLU 52	-0.27	-2.37	67.17	-0.0568	-0.1866	0.001		
270	SLU 53	-0.29	-3.12	70.54	-0.0343	-0.2039	0.0011		
270	SLU 54	-0.28	-2.69	69.21	-0.0487	-0.1958	0.0011		
270	SLU 55	-0.28	-2.34	67.8	-0.0591	-0.1888	0.001		
270	SLU 56	-0.29	-3.09	71.17	-0.0366	-0.2061	0.0011		
270	SLU 57	-0.29	-2.65	69.84	-0.051	-0.198	0.0011		
270	SLU 58	-0.29	-3.03	70.64	-0.0374	-0.2044	0.0011		
270	SLU 59	-0.28	-2.6	69.31	-0.0519	-0.1963	0.0011		
270	SLU 60	-0.3	-3.22	71.77	-0.0334	-0.208	0.0011		
270	SLU 61	-0.29	-2.79	70.44	-0.0479	-0.1999	0.0011		
270	SLU 62	-0.3	-3.19	72.4	-0.0358	-0.2102	0.0011		
270	SLU 63	-0.29	-2.76	71.07	-0.0502	-0.2021	0.0011		
270	SLU 64	-0.29	-3.08	69.28	-0.0329	-0.1996	0.0011		
270	SLU 65	-0.27	-2.36	67.06	-0.057	-0.1862	0.001		
270	SLU 66	-0.29	-3.1	70.44	-0.0345	-0.2035	0.0011		
270	SLU 67	-0.28	-2.67	69.11	-0.0489	-0.1954	0.0011		
270	SLU 68	-0.28	-2.32	67.69	-0.0593	-0.1883	0.001		
270	SLU 69	-0.29	-3.07	71.06	-0.0368	-0.2057	0.0011		
270	SLU 70	-0.29	-2.64	69.73	-0.0512	-0.1976	0.0011		
270	SLU 71	-0.29	-3.01	70.53	-0.0376	-0.204	0.0011		
270	SLU 72	-0.28	-2.58	69.2	-0.052	-0.1959	0.0011		
270	SLU 73	-0.3	-2.66	72.63	-0.0586	-0.2048	0.0011		
270	SLU 74	-0.32	-3.41	76.01	-0.0361	-0.2221	0.0012		
270	SLU 75	-0.31	-2.98	74.68	-0.0505	-0.214	0.0012		
270	SLU 76	-0.3	-2.63	73.26	-0.0609	-0.207	0.0011		
270	SLU 77	-0.32	-3.38	76.63	-0.0384	-0.2243	0.0012		
270	SLU 78	-0.31	-2.95	75.3	-0.0529	-0.2162	0.0012		
270	SLU 79	-0.32	-3.32	76.1	-0.0392	-0.2226	0.0012		
270	SLU 80	-0.31	-2.89	74.77	-0.0537	-0.2145	0.0012		
270	SLU 81	-0.32	-3.51	77.23	-0.0353	-0.2262	0.0012		
270	SLU 82	-0.32	-3.08	75.9	-0.0497	-0.2181	0.0012		
270	SLU 83	-0.33	-3.48	77.86	-0.0376	-0.2284	0.0012		
270	SLU 84	-0.32	-3.05	76.53	-0.052	-0.2203	0.0012		
270	SLE RA 1	-0.21	-2.3	52.09	-0.0249	-0.1495	0.0008		
270	SLE RA 2	-0.21	-1.82	50.61	-0.041	-0.1406	0.0008		
270	SLE RA 3	-0.22	-2.32	52.86	-0.026	-0.1521	0.0008		
270	SLE RA 4	-0.21	-2.03	51.98	-0.0356	-0.1467	0.0008		
270	SLE RA 5	-0.21	-1.8	51.03	-0.0425	-0.142	0.0008		
270	SLE RA 6	-0.22	-2.3	53.28	-0.0275	-0.1536	0.0008		
270	SLE RA 7	-0.21	-2.01	52.39	-0.0371	-0.1482	0.0008		
270	SLE RA 8	-0.22	-2.26	52.93	-0.0281	-0.1525	0.0008		
270	SLE RA 9	-0.21	-1.97	52.04	-0.0377	-0.1471	0.0008		
270	SLE RA 10	-0.22	-2.03	54.33	-0.042	-0.153	0.0008		
270	SLE RA 11	-0.24	-2.52	56.58	-0.027	-0.1645	0.0009		
270	SLE RA 12	-0.23	-2.24	55.69	-0.0367	-0.1592	0.0009		



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
270	SLE RA 13	-0.23	-2.01	54.74	-0.0436	-0.1544	0.0009
270	SLE RA 14	-0.24	-2.5	56.99	-0.0286	-0.166	0.0009
270	SLE RA 15	-0.23	-2.22	56.11	-0.0382	-0.1606	0.0009
270	SLE RA 16	-0.24	-2.47	56.64	-0.0291	-0.1649	0.0009
270	SLE RA 17	-0.23	-2.18	55.75	-0.0388	-0.1595	0.0009
270	SLE RA 18	-0.24	-2.59	57.39	-0.0265	-0.1673	0.0009
270	SLE RA 19	-0.23	-2.31	56.51	-0.0361	-0.1619	0.0009
270	SLE RA 20	-0.24	-2.57	57.81	-0.028	-0.1687	0.0009
270	SLE RA 21	-0.24	-2.29	56.93	-0.0377	-0.1633	0.0009
270	SLE FR 1	-0.21	-2.3	52.09	-0.0249	-0.1495	0.0008
270	SLE FR 2	-0.21	-2.21	51.8	-0.0281	-0.1477	0.0008
270	SLE FR 3	-0.21	-2.29	52.26	-0.0256	-0.1501	0.0008
270	SLE FR 4	-0.22	-2.29	53.39	-0.0286	-0.1531	0.0008
270	SLE FR 5	-0.22	-2.38	53.85	-0.026	-0.1554	0.0008
270	SLE FR 6	-0.23	-2.45	54.74	-0.0257	-0.1584	0.0009
270	SLE QP 1	-0.21	-2.3	52.09	-0.0249	-0.1495	0.0008
270	SLE QP 2	-0.22	-2.39	53.68	-0.0254	-0.1549	0.0008
270	SLD 1	-0.31	0.52	65.39	-0.1483	0.0346	0.0011
270	SLD 2	-0.31	0.52	65.39	-0.1483	0.0346	0.0011
270	SLD 3	-0.41	-2.84	70.19	-0.006	-0.0498	0.0015
270	SLD 4	-0.41	-2.84	70.19	-0.006	-0.0498	0.0015
270	SLD 5	-0.09	3.59	49.92	-0.278	0.0301	0.0003
270	SLD 6	-0.09	3.59	49.92	-0.278	0.0301	0.0003
270	SLD 7	-0.43	-7.64	65.91	0.1962	-0.2515	0.0017
270	SLD 8	-0.43	-7.64	65.91	0.1962	-0.2515	0.0017
270	SLD 9	-0.01	2.86	41.45	-0.247	-0.0583	0
270	SLD 10	-0.01	2.86	41.45	-0.247	-0.0583	0
270	SLD 11	-0.35	-8.37	57.45	0.2272	-0.3398	0.0014
270	SLD 12	-0.35	-8.37	57.45	0.2272	-0.3398	0.0014
270	SLD 13	-0.03	-1.94	37.18	-0.0448	-0.2599	0.0002
270	SLD 14	-0.03	-1.94	37.18	-0.0448	-0.2599	0.0002
270	SLD 15	-0.13	-5.3	41.98	0.0975	-0.3444	0.0006
270	SLD 16	-0.13	-5.3	41.98	0.0975	-0.3444	0.0006
270	SLV 1	-0.43	4.55	81.05	-0.3188	0.3067	0.0015
270	SLV 2	-0.43	4.55	81.05	-0.3188	0.3067	0.0015
270	SLV 3	-0.68	-3.33	92.4	0.0127	0.0978	0.0025
270	SLV 4	-0.68	-3.33	92.4	0.0127	0.0978	0.0025
270	SLV 5	0.1	11.63	44.68	-0.6161	0.3005	-0.0005
270	SLV 6	0.1	11.63	44.68	-0.6161	0.3005	-0.0005
270	SLV 7	-0.74	-14.61	82.51	0.4887	-0.396	0.0028
270	SLV 8	-0.74	-14.61	82.51	0.4887	-0.396	0.0028
270	SLV 9	0.3	9.83	24.85	-0.5395	0.0862	-0.0012
270	SLV 10	0.3	9.83	24.85	-0.5395	0.0862	-0.0012
270	SLV 11	-0.54	-16.41	62.69	0.5653	-0.6102	0.0022
270	SLV 12	-0.54	-16.41	62.69	0.5653	-0.6102	0.0022
270	SLV 13	0.24	-1.45	14.96	-0.0635	-0.4075	-0.0008
270	SLV 14	0.24	-1.45	14.96	-0.0635	-0.4075	-0.0008
270	SLV 15	-0.02	-9.33	26.31	0.268	-0.6164	0.0002
270	SLV 16	-0.02	-9.33	26.31	0.268	-0.6164	0.0002
271	SLU 1	0.02	-5.4	52.83	0.2271	0.0169	0
271	SLU 2	0.02	-4.76	50.33	0.1976	0.0078	0
271	SLU 3	0.02	-5.57	53.68	0.2337	0.0176	0
271	SLU 4	0.02	-5.19	52.18	0.216	0.0122	0
271	SLU 5	0.02	-4.85	50.51	0.2008	0.0085	0
271	SLU 6	0.02	-5.67	53.86	0.2369	0.0183	0
271	SLU 7	0.02	-5.28	52.37	0.2192	0.0128	0
271	SLU 8	0.02	-5.59	53.2	0.2335	0.0181	0
271	SLU 9	0.02	-5.2	51.7	0.2158	0.0127	0
271	SLU 10	0.02	-5.43	56.28	0.2261	0.0103	0
271	SLU 11	0.02	-6.25	59.63	0.2623	0.0202	0
271	SLU 12	0.02	-5.86	58.13	0.2445	0.0147	0
271	SLU 13	0.02	-5.52	56.47	0.2293	0.011	0
271	SLU 14	0.02	-6.34	59.82	0.2654	0.0208	0
271	SLU 15	0.02	-5.95	58.32	0.2477	0.0154	0
271	SLU 16	0.02	-6.26	59.15	0.262	0.0206	0
271	SLU 17	0.02	-5.87	57.65	0.2443	0.0152	0
271	SLU 18	0.02	-6.36	61.33	0.2679	0.0205	0
271	SLU 19	0.02	-5.98	59.83	0.2502	0.015	0
271	SLU 20	0.02	-6.45	61.52	0.271	0.0211	0
271	SLU 21	0.02	-6.07	60.02	0.2533	0.0157	0
271	SLU 22	0.02	-6.09	58.43	0.2558	0.0195	0
271	SLU 23	0.02	-5.45	55.93	0.2263	0.0105	0
271	SLU 24	0.02	-6.26	59.28	0.2625	0.0203	0
271	SLU 25	0.02	-5.88	57.79	0.2448	0.0149	0
271	SLU 26	0.02	-5.54	56.12	0.2295	0.0111	0
271	SLU 27	0.02	-6.36	59.47	0.2656	0.0209	0
271	SLU 28	0.02	-5.97	57.97	0.2479	0.0155	0
271	SLU 29	0.02	-6.28	58.8	0.2622	0.0208	0
271	SLU 30	0.02	-5.89	57.3	0.2445	0.0153	0
271	SLU 31	0.02	-6.12	61.89	0.2549	0.013	0
271	SLU 32	0.03	-6.93	65.24	0.291	0.0228	0
271	SLU 33	0.02	-6.55	63.74	0.2733	0.0174	0
271	SLU 34	0.02	-6.21	62.07	0.258	0.0136	0
271	SLU 35	0.03	-7.03	65.42	0.2942	0.0234	0
271	SLU 36	0.02	-6.64	63.92	0.2765	0.018	0
271	SLU 37	0.03	-6.95	64.75	0.2907	0.0233	0
271	SLU 38	0.02	-6.56	63.26	0.273	0.0179	0
271	SLU 39	0.03	-7.05	66.94	0.2966	0.0231	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione				Reazione a rotazione			
		x	y	z		x	y	z	
271	SLU 40	0.02	-6.66	65.44		0.2789	0.0177	0	
271	SLU 41	0.03	-7.14	67.12		0.2998	0.0237	0	
271	SLU 42	0.02	-6.76	65.62		0.2821	0.0183	0	
271	SLU 43	0.02	-6.79	66.75		0.2854	0.021	0	
271	SLU 44	0.02	-6.14	64.25		0.2559	0.012	0	
271	SLU 45	0.02	-6.96	67.6		0.292	0.0218	0	
271	SLU 46	0.02	-6.57	66.11		0.2743	0.0164	0	
271	SLU 47	0.02	-6.24	64.44		0.2591	0.0126	0	
271	SLU 48	0.02	-7.05	67.79		0.2952	0.0224	0	
271	SLU 49	0.02	-6.67	66.29		0.2775	0.017	0	
271	SLU 50	0.02	-6.97	67.12		0.2918	0.0223	0	
271	SLU 51	0.02	-6.59	65.62		0.274	0.0169	0	
271	SLU 52	0.02	-6.81	70.21		0.2844	0.0145	0	
271	SLU 53	0.03	-7.63	73.56		0.3205	0.0243	0	
271	SLU 54	0.03	-7.24	72.06		0.3028	0.0189	0	
271	SLU 55	0.02	-6.91	70.39		0.2876	0.0151	0	
271	SLU 56	0.03	-7.72	73.74		0.3237	0.0249	0	
271	SLU 57	0.03	-7.34	72.24		0.306	0.0195	0	
271	SLU 58	0.03	-7.64	73.07		0.3203	0.0248	0	
271	SLU 59	0.03	-7.26	71.58		0.3026	0.0194	0	
271	SLU 60	0.03	-7.75	75.26		0.3261	0.0246	0	
271	SLU 61	0.03	-7.36	73.76		0.3084	0.0192	0	
271	SLU 62	0.03	-7.84	75.44		0.3293	0.0252	0	
271	SLU 63	0.03	-7.45	73.94		0.3116	0.0198	0	
271	SLU 64	0.03	-7.47	72.36		0.3141	0.0236	0	
271	SLU 65	0.02	-6.83	69.86		0.2846	0.0146	0	
271	SLU 66	0.03	-7.65	73.21		0.3207	0.0244	0	
271	SLU 67	0.03	-7.26	71.71		0.303	0.019	0	
271	SLU 68	0.02	-6.92	70.05		0.2878	0.0152	0	
271	SLU 69	0.03	-7.74	73.39		0.3239	0.0251	0	
271	SLU 70	0.03	-7.35	71.9		0.3062	0.0196	0	
271	SLU 71	0.03	-7.66	72.73		0.3205	0.0249	0	
271	SLU 72	0.03	-7.27	71.23		0.3028	0.0195	0	
271	SLU 73	0.03	-7.5	75.81		0.3131	0.0171	0	
271	SLU 74	0.03	-8.32	79.16		0.3493	0.0269	0	
271	SLU 75	0.03	-7.93	77.67		0.3316	0.0215	0	
271	SLU 76	0.03	-7.6	76		0.3163	0.0178	0	
271	SLU 77	0.03	-8.41	79.35		0.3524	0.0276	0	
271	SLU 78	0.03	-8.03	77.85		0.3347	0.0222	0	
271	SLU 79	0.03	-8.33	78.68		0.349	0.0274	0	
271	SLU 80	0.03	-7.95	77.18		0.3313	0.022	0	
271	SLU 81	0.03	-8.43	80.86		0.3549	0.0272	0	
271	SLU 82	0.03	-8.05	79.36		0.3372	0.0218	0	
271	SLU 83	0.03	-8.53	81.05		0.3581	0.0279	0	
271	SLU 84	0.03	-8.14	79.55		0.3404	0.0225	0	
271	SLE RA 1	0.02	-5.6	54.43		0.2353	0.0176	0	
271	SLE RA 2	0.02	-5.17	52.76		0.2156	0.0116	0	
271	SLE RA 3	0.02	-5.71	55		0.2397	0.0181	0	
271	SLE RA 4	0.02	-5.46	54		0.2279	0.0145	0	
271	SLE RA 5	0.02	-5.23	52.89		0.2178	0.012	0	
271	SLE RA 6	0.02	-5.78	55.12		0.2418	0.0186	0	
271	SLE RA 7	0.02	-5.52	54.12		0.23	0.0149	0	
271	SLE RA 8	0.02	-5.72	54.67		0.2396	0.0185	0	
271	SLE RA 9	0.02	-5.46	53.68		0.2278	0.0148	0	
271	SLE RA 10	0.02	-5.62	56.73		0.2347	0.0133	0	
271	SLE RA 11	0.02	-6.16	58.96		0.2587	0.0198	0	
271	SLE RA 12	0.02	-5.9	57.97		0.2469	0.0162	0	
271	SLE RA 13	0.02	-5.68	56.85		0.2368	0.0137	0	
271	SLE RA 14	0.02	-6.22	59.09		0.2609	0.0202	0	
271	SLE RA 15	0.02	-5.97	58.09		0.2491	0.0166	0	
271	SLE RA 16	0.02	-6.17	58.64		0.2586	0.0201	0	
271	SLE RA 17	0.02	-5.91	57.64		0.2468	0.0165	0	
271	SLE RA 18	0.02	-6.24	60.1		0.2625	0.02	0	
271	SLE RA 19	0.02	-5.98	59.1		0.2507	0.0164	0	
271	SLE RA 20	0.02	-6.3	60.22		0.2646	0.0204	0	
271	SLE RA 21	0.02	-6.04	59.22		0.2528	0.0168	0	
271	SLE FR 1	0.02	-5.6	54.43		0.2353	0.0176	0	
271	SLE FR 2	0.02	-5.51	54.09		0.2314	0.0164	0	
271	SLE FR 3	0.02	-5.62	54.48		0.2362	0.0178	0	
271	SLE FR 4	0.02	-5.7	55.79		0.2395	0.0171	0	
271	SLE FR 5	0.02	-5.81	56.18		0.2443	0.0185	0	
271	SLE FR 6	0.02	-5.92	57.26		0.2489	0.0188	0	
271	SLE QP 1	0.02	-5.6	54.43		0.2353	0.0176	0	
271	SLE QP 2	0.02	-5.79	56.13		0.2435	0.0183	0	
271	SLD 1	0.13	-3	38.36		0.1241	0.1438	0.0001	
271	SLD 2	0.13	-3	38.36		0.1241	0.1438	0.0001	
271	SLD 3	0.22	-6.11	44.58		0.2561	0.2237	0	
271	SLD 4	0.22	-6.11	44.58		0.2561	0.2237	0	
271	SLD 5	-0.08	-0.24	41.38		0.0075	-0.0652	0.0001	
271	SLD 6	-0.08	-0.24	41.38		0.0075	-0.0652	0.0001	
271	SLD 7	0.21	-10.6	62.08		0.4475	0.2011	-0.0001	
271	SLD 8	0.21	-10.6	62.08		0.4475	0.2011	-0.0001	
271	SLD 9	-0.17	-0.98	50.17		0.0395	-0.1644	0	
271	SLD 10	-0.17	-0.98	50.17		0.0395	-0.1644	0	
271	SLD 11	0.12	-11.34	70.88		0.4795	0.1018	-0.0001	
271	SLD 12	0.12	-11.34	70.88		0.4795	0.1018	-0.0001	
271	SLD 13	-0.17	-5.47	67.68		0.2308	-0.187	-0.0001	
271	SLD 14	-0.17	-5.47	67.68		0.2308	-0.187	-0.0001	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
271	SLD 15	-0.09	-8.58	73.89	0.3628	-0.1071	-0.0001
271	SLD 16	-0.09	-8.58	73.89	0.3628	-0.1071	-0.0001
271	SLV 1	0.27	0.75	14.45	-0.0362	0.32	0.0002
271	SLV 2	0.27	0.75	14.45	-0.0362	0.32	0.0002
271	SLV 3	0.5	-6.51	29.13	0.2721	0.5234	0.0001
271	SLV 4	0.5	-6.51	29.13	0.2721	0.5234	0.0001
271	SLV 5	-0.24	7.18	21.37	-0.3079	-0.1996	0.0002
271	SLV 6	-0.24	7.18	21.37	-0.3079	-0.1996	0.0002
271	SLV 7	0.5	-17.01	70.29	0.7196	0.4783	-0.0001
271	SLV 8	0.5	-17.01	70.29	0.7196	0.4783	-0.0001
271	SLV 9	-0.46	5.43	41.97	-0.2326	-0.4416	0.0001
271	SLV 10	-0.46	5.43	41.97	-0.2326	-0.4416	0.0001
271	SLV 11	0.28	-18.76	90.89	0.7949	0.2362	-0.0002
271	SLV 12	0.28	-18.76	90.89	0.7949	0.2362	-0.0002
271	SLV 13	-0.46	-5.07	83.13	0.2149	-0.4867	-0.0001
271	SLV 14	-0.46	-5.07	83.13	0.2149	-0.4867	-0.0001
271	SLV 15	-0.23	-12.33	97.8	0.5231	-0.2834	-0.0002
271	SLV 16	-0.23	-12.33	97.8	0.5231	-0.2834	-0.0002
272	SLU 1	0	1.29	49.02	-0.0225	0.0023	0
272	SLU 2	0	1.39	48.55	-0.0256	0.0025	0
272	SLU 3	0	1.33	51.52	-0.0227	0.0025	0
272	SLU 4	0	1.39	51.23	-0.0246	0.0026	0
272	SLU 5	0	1.45	50.67	-0.0263	0.0027	0
272	SLU 6	0	1.38	53.64	-0.0234	0.0027	0
272	SLU 7	0	1.45	53.35	-0.0253	0.0028	0
272	SLU 8	0	1.4	53.26	-0.0239	0.0027	0
272	SLU 9	0	1.46	52.98	-0.0258	0.0028	0
272	SLU 10	0	1.42	56.57	-0.0239	0.0029	0
272	SLU 11	0.01	1.35	59.54	-0.021	0.0029	0
272	SLU 12	0.01	1.42	59.26	-0.0229	0.003	0
272	SLU 13	0.01	1.47	58.69	-0.0246	0.0031	0
272	SLU 14	0.01	1.41	61.66	-0.0217	0.0031	0
272	SLU 15	0.01	1.47	61.38	-0.0236	0.0032	0
272	SLU 16	0.01	1.42	61.28	-0.0222	0.0031	0
272	SLU 17	0.01	1.48	61	-0.024	0.0032	0
272	SLU 18	0.01	1.32	60.49	-0.0201	0.0028	0
272	SLU 19	0.01	1.38	60.2	-0.0219	0.0029	0
272	SLU 20	0.01	1.37	62.61	-0.0208	0.003	0
272	SLU 21	0.01	1.44	62.32	-0.0226	0.0031	0
272	SLU 22	0	1.34	57.11	-0.0215	0.0027	0
272	SLU 23	0	1.44	56.64	-0.0246	0.0029	0
272	SLU 24	0.01	1.38	59.61	-0.0217	0.0029	0
272	SLU 25	0.01	1.44	59.32	-0.0235	0.003	0
272	SLU 26	0.01	1.5	58.76	-0.0253	0.0031	0
272	SLU 27	0.01	1.43	61.73	-0.0224	0.0031	0
272	SLU 28	0.01	1.5	61.44	-0.0242	0.0032	0
272	SLU 29	0.01	1.44	61.35	-0.0229	0.0031	0
272	SLU 30	0.01	1.51	61.07	-0.0247	0.0032	0
272	SLU 31	0.01	1.46	64.66	-0.0229	0.0033	0
272	SLU 32	0.01	1.4	67.63	-0.02	0.0033	0
272	SLU 33	0.01	1.47	67.35	-0.0218	0.0034	0
272	SLU 34	0.01	1.52	66.78	-0.0235	0.0035	0
272	SLU 35	0.01	1.46	69.75	-0.0207	0.0035	0
272	SLU 36	0.01	1.52	69.47	-0.0225	0.0036	0
272	SLU 37	0.01	1.47	69.38	-0.0211	0.0035	0
272	SLU 38	0.01	1.53	69.09	-0.023	0.0036	0
272	SLU 39	0.01	1.37	68.58	-0.019	0.0032	0
272	SLU 40	0.01	1.43	68.29	-0.0209	0.0033	0
272	SLU 41	0.01	1.42	70.7	-0.0197	0.0034	0
272	SLU 42	0.01	1.49	70.41	-0.0216	0.0035	0
272	SLU 43	0.01	1.66	60.96	-0.0297	0.0029	0
272	SLU 44	0.01	1.76	60.48	-0.0328	0.0031	0
272	SLU 45	0.01	1.7	63.45	-0.0299	0.0031	0
272	SLU 46	0.01	1.76	63.17	-0.0317	0.0032	0
272	SLU 47	0.01	1.82	62.6	-0.0334	0.0033	0
272	SLU 48	0.01	1.75	65.57	-0.0306	0.0033	0
272	SLU 49	0.01	1.82	65.29	-0.0324	0.0034	0
272	SLU 50	0.01	1.77	65.19	-0.031	0.0033	0
272	SLU 51	0.01	1.83	64.91	-0.0329	0.0034	0
272	SLU 52	0.01	1.79	68.51	-0.031	0.0034	0
272	SLU 53	0.01	1.72	71.48	-0.0281	0.0034	0
272	SLU 54	0.01	1.79	71.19	-0.03	0.0036	0
272	SLU 55	0.01	1.84	70.62	-0.0317	0.0036	0
272	SLU 56	0.01	1.78	73.59	-0.0288	0.0036	0
272	SLU 57	0.01	1.84	73.31	-0.0307	0.0037	0
272	SLU 58	0.01	1.79	73.22	-0.0293	0.0036	0
272	SLU 59	0.01	1.85	72.93	-0.0312	0.0038	0
272	SLU 60	0.01	1.69	72.42	-0.0272	0.0034	0
272	SLU 61	0.01	1.75	72.13	-0.0291	0.0035	0
272	SLU 62	0.01	1.74	74.54	-0.0279	0.0036	0
272	SLU 63	0.01	1.81	74.25	-0.0297	0.0037	0
272	SLU 64	0.01	1.71	69.05	-0.0286	0.0033	0
272	SLU 65	0.01	1.81	68.57	-0.0317	0.0035	0
272	SLU 66	0.01	1.75	71.54	-0.0288	0.0035	0
272	SLU 67	0.01	1.81	71.26	-0.0307	0.0036	0
272	SLU 68	0.01	1.87	70.69	-0.0324	0.0037	0
272	SLU 69	0.01	1.8	73.66	-0.0295	0.0037	0
272	SLU 70	0.01	1.87	73.38	-0.0314	0.0038	0



Nodo Ind.	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
272	SLU 71	0.01	1.81	73.28	-0.03	0.0037	0
272	SLU 72	0.01	1.88	73	-0.0318	0.0038	0
272	SLU 73	0.01	1.83	76.6	-0.03	0.0038	0
272	SLU 74	0.01	1.77	79.57	-0.0271	0.0038	0
272	SLU 75	0.01	1.83	79.28	-0.0289	0.0039	0
272	SLU 76	0.01	1.89	78.71	-0.0307	0.004	0
272	SLU 77	0.01	1.83	81.68	-0.0278	0.004	0
272	SLU 78	0.01	1.89	81.4	-0.0296	0.0041	0
272	SLU 79	0.01	1.84	81.31	-0.0283	0.004	0
272	SLU 80	0.01	1.9	81.02	-0.0301	0.0041	0
272	SLU 81	0.01	1.74	80.51	-0.0262	0.0038	0
272	SLU 82	0.01	1.8	80.23	-0.028	0.0039	0
272	SLU 83	0.01	1.79	82.63	-0.0268	0.004	0
272	SLU 84	0.01	1.86	82.34	-0.0287	0.0041	0
272	SLE RA 1	0	1.3	51.34	-0.0222	0.0024	0
272	SLE RA 2	0	1.37	51.02	-0.0243	0.0026	0
272	SLE RA 3	0	1.33	53	-0.0224	0.0026	0
272	SLE RA 4	0	1.37	52.81	-0.0236	0.0026	0
272	SLE RA 5	0	1.41	52.43	-0.0248	0.0027	0
272	SLE RA 6	0	1.37	54.41	-0.0228	0.0027	0
272	SLE RA 7	0	1.41	54.22	-0.0241	0.0028	0
272	SLE RA 8	0	1.37	54.16	-0.0232	0.0027	0
272	SLE RA 9	0	1.42	53.97	-0.0244	0.0028	0
272	SLE RA 10	0	1.39	56.37	-0.0232	0.0028	0
272	SLE RA 11	0.01	1.35	58.35	-0.0212	0.0028	0
272	SLE RA 12	0.01	1.39	58.16	-0.0225	0.0029	0
272	SLE RA 13	0.01	1.42	57.78	-0.0236	0.0029	0
272	SLE RA 14	0.01	1.38	59.76	-0.0217	0.0029	0
272	SLE RA 15	0.01	1.42	59.57	-0.0229	0.003	0
272	SLE RA 16	0.01	1.39	59.51	-0.022	0.0029	0
272	SLE RA 17	0.01	1.43	59.32	-0.0232	0.003	0
272	SLE RA 18	0.01	1.32	58.98	-0.0206	0.0028	0
272	SLE RA 19	0.01	1.37	58.79	-0.0218	0.0029	0
272	SLE RA 20	0.01	1.36	60.39	-0.0211	0.0029	0
272	SLE RA 21	0.01	1.4	60.2	-0.0223	0.003	0
272	SLE FR 1	0	1.3	51.34	-0.0222	0.0024	0
272	SLE FR 2	0	1.32	51.27	-0.0227	0.0025	0
272	SLE FR 3	0	1.32	51.9	-0.0224	0.0025	0
272	SLE FR 4	0	1.32	53.56	-0.0222	0.0026	0
272	SLE FR 5	0	1.32	54.19	-0.0219	0.0026	0
272	SLE FR 6	0	1.31	55.16	-0.0214	0.0026	0
272	SLE QP 1	0	1.3	51.34	-0.0222	0.0024	0
272	SLE QP 2	0	1.31	53.63	-0.0218	0.0025	0
272	SLD 1	0.17	4.46	54.91	-0.1182	0.2003	0
272	SLD 2	0.17	4.46	54.91	-0.1182	0.2003	0
272	SLD 3	0.13	0.76	58.3	-0.0033	0.1589	0
272	SLD 4	0.13	0.76	58.3	-0.0033	0.1589	0
272	SLD 5	0.11	7.87	48.86	-0.225	0.1246	0
272	SLD 6	0.11	7.87	48.86	-0.225	0.1246	0
272	SLD 7	-0.01	-4.47	60.18	0.158	-0.0133	0
272	SLD 8	-0.01	-4.47	60.18	0.158	-0.0133	0
272	SLD 9	0.02	7.09	47.08	-0.2016	0.0183	0
272	SLD 10	0.02	7.09	47.08	-0.2016	0.0183	0
272	SLD 11	-0.1	-5.25	58.39	0.1814	-0.1195	0
272	SLD 12	-0.1	-5.25	58.39	0.1814	-0.1195	0
272	SLD 13	-0.12	1.86	48.95	-0.0402	-0.1539	-0.0001
272	SLD 14	-0.12	1.86	48.95	-0.0402	-0.1539	-0.0001
272	SLD 15	-0.16	-1.84	52.35	0.0747	-0.1952	-0.0001
272	SLD 16	-0.16	-1.84	52.35	0.0747	-0.1952	-0.0001
272	SLV 1	0.42	8.78	56.59	-0.2507	0.5079	0.0001
272	SLV 2	0.42	8.78	56.59	-0.2507	0.5079	0.0001
272	SLV 3	0.33	0.08	64.65	0.0198	0.4024	0.0001
272	SLV 4	0.33	0.08	64.65	0.0198	0.4024	0.0001
272	SLV 5	0.27	16.76	42.3	-0.5007	0.3142	0.0001
272	SLV 6	0.27	16.76	42.3	-0.5007	0.3142	0.0001
272	SLV 7	-0.04	-12.27	69.15	0.401	-0.0375	0
272	SLV 8	-0.04	-12.27	69.15	0.401	-0.0375	0
272	SLV 9	0.05	14.89	38.1	-0.4445	0.0426	0
272	SLV 10	0.05	14.89	38.1	-0.4445	0.0426	0
272	SLV 11	-0.26	-14.14	64.96	0.4572	-0.3091	-0.0001
272	SLV 12	-0.26	-14.14	64.96	0.4572	-0.3091	-0.0001
272	SLV 13	-0.32	2.54	42.61	-0.0633	-0.3973	-0.0001
272	SLV 14	-0.32	2.54	42.61	-0.0633	-0.3973	-0.0001
272	SLV 15	-0.41	-6.17	50.66	0.2072	-0.5028	-0.0001
272	SLV 16	-0.41	-6.17	50.66	0.2072	-0.5028	-0.0001
273	SLU 1	0	-4.62	48.84	0.2343	-0.0032	0
273	SLU 2	0	-4.49	48.38	0.2277	-0.0033	0
273	SLU 3	0	-4.75	50.55	0.2403	-0.0032	0
273	SLU 4	-0.01	-4.67	50.28	0.2364	-0.0033	0
273	SLU 5	0	-4.53	49.49	0.2287	-0.0033	0
273	SLU 6	-0.01	-4.79	51.66	0.2412	-0.0032	0
273	SLU 7	-0.01	-4.71	51.38	0.2373	-0.0033	0
273	SLU 8	0	-4.69	51.06	0.2362	-0.0031	0
273	SLU 9	0	-4.62	50.78	0.2323	-0.0032	0
273	SLU 10	-0.01	-5.44	56.67	0.2755	-0.004	0
273	SLU 11	-0.01	-5.7	58.85	0.2881	-0.0039	0
273	SLU 12	-0.01	-5.63	58.57	0.2842	-0.004	0
273	SLU 13	-0.01	-5.48	57.78	0.2765	-0.004	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
273	SLU 14	-0.01	-5.74	59.95	0.2891	-0.0039	0
273	SLU 15	-0.01	-5.66	59.67	0.2851	-0.004	0
273	SLU 16	-0.01	-5.65	59.35	0.284	-0.0038	0
273	SLU 17	-0.01	-5.57	59.07	0.2801	-0.0039	0
273	SLU 18	-0.01	-5.98	60.69	0.3026	-0.0041	0
273	SLU 19	-0.01	-5.9	60.41	0.2986	-0.0042	0
273	SLU 20	-0.01	-6.02	61.8	0.3035	-0.0041	0
273	SLU 21	-0.01	-5.94	61.52	0.2996	-0.0042	0
273	SLU 22	-0.01	-5.46	56.7	0.2762	-0.0037	0
273	SLU 23	-0.01	-5.33	56.24	0.2697	-0.0039	0
273	SLU 24	-0.01	-5.59	58.41	0.2822	-0.0038	0
273	SLU 25	-0.01	-5.51	58.13	0.2783	-0.0039	0
273	SLU 26	-0.01	-5.37	57.35	0.2707	-0.0039	0
273	SLU 27	-0.01	-5.63	59.52	0.2832	-0.0038	0
273	SLU 28	-0.01	-5.55	59.24	0.2793	-0.0039	0
273	SLU 29	-0.01	-5.53	58.91	0.2782	-0.0037	0
273	SLU 30	-0.01	-5.46	58.64	0.2743	-0.0038	0
273	SLU 31	-0.01	-6.28	64.53	0.3175	-0.0046	0
273	SLU 32	-0.01	-6.54	66.7	0.3301	-0.0045	0
273	SLU 33	-0.01	-6.47	66.43	0.3261	-0.0046	0
273	SLU 34	-0.01	-6.32	65.64	0.3185	-0.0046	0
273	SLU 35	-0.01	-6.58	67.81	0.331	-0.0044	0
273	SLU 36	-0.01	-6.5	67.53	0.3271	-0.0046	0
273	SLU 37	-0.01	-6.49	67.21	0.326	-0.0044	0
273	SLU 38	-0.01	-6.41	66.93	0.3221	-0.0045	0
273	SLU 39	-0.01	-6.82	68.55	0.3445	-0.0047	0
273	SLU 40	-0.01	-6.74	68.27	0.3406	-0.0048	0
273	SLU 41	-0.01	-6.86	69.65	0.3455	-0.0047	0
273	SLU 42	-0.01	-6.78	69.38	0.3416	-0.0048	0
273	SLU 43	-0.01	-5.72	60.8	0.2901	-0.0039	0
273	SLU 44	-0.01	-5.59	60.34	0.2836	-0.0041	0
273	SLU 45	-0.01	-5.85	62.51	0.2962	-0.004	0
273	SLU 46	-0.01	-5.77	62.23	0.2923	-0.0041	0
273	SLU 47	-0.01	-5.62	61.45	0.2846	-0.0041	0
273	SLU 48	-0.01	-5.89	63.62	0.2971	-0.0039	0
273	SLU 49	-0.01	-5.81	63.34	0.2932	-0.0041	0
273	SLU 50	-0.01	-5.79	63.02	0.2921	-0.0039	0
273	SLU 51	-0.01	-5.71	62.74	0.2882	-0.004	0
273	SLU 52	-0.01	-6.54	68.63	0.3314	-0.0048	0
273	SLU 53	-0.01	-6.8	70.8	0.344	-0.0046	0
273	SLU 54	-0.01	-6.72	70.53	0.3401	-0.0047	0
273	SLU 55	-0.01	-6.58	69.74	0.3324	-0.0047	0
273	SLU 56	-0.01	-6.84	71.91	0.3449	-0.0046	0
273	SLU 57	-0.01	-6.76	71.63	0.341	-0.0047	0
273	SLU 58	-0.01	-6.74	71.31	0.3399	-0.0046	0
273	SLU 59	-0.01	-6.67	71.03	0.336	-0.0047	0
273	SLU 60	-0.01	-7.08	72.65	0.3584	-0.0049	0
273	SLU 61	-0.01	-7	72.37	0.3545	-0.005	0
273	SLU 62	-0.01	-7.12	73.76	0.3594	-0.0049	0
273	SLU 63	-0.01	-7.04	73.48	0.3555	-0.005	0
273	SLU 64	-0.01	-6.56	68.66	0.3321	-0.0045	0
273	SLU 65	-0.01	-6.43	68.2	0.3256	-0.0047	0
273	SLU 66	-0.01	-6.69	70.37	0.3381	-0.0045	0
273	SLU 67	-0.01	-6.61	70.09	0.3342	-0.0046	0
273	SLU 68	-0.01	-6.46	69.3	0.3266	-0.0047	0
273	SLU 69	-0.01	-6.73	71.48	0.3391	-0.0045	0
273	SLU 70	-0.01	-6.65	71.2	0.3352	-0.0046	0
273	SLU 71	-0.01	-6.63	70.87	0.3341	-0.0045	0
273	SLU 72	-0.01	-6.55	70.6	0.3301	-0.0046	0
273	SLU 73	-0.01	-7.38	76.49	0.3734	-0.0053	0
273	SLU 74	-0.01	-7.64	78.66	0.3859	-0.0052	0
273	SLU 75	-0.01	-7.56	78.38	0.382	-0.0053	0
273	SLU 76	-0.01	-7.42	77.6	0.3744	-0.0053	0
273	SLU 77	-0.01	-7.68	79.77	0.3869	-0.0052	0
273	SLU 78	-0.01	-7.6	79.49	0.383	-0.0053	0
273	SLU 79	-0.01	-7.58	79.17	0.3819	-0.0051	0
273	SLU 80	-0.01	-7.51	78.89	0.378	-0.0052	0
273	SLU 81	-0.01	-7.92	80.51	0.4004	-0.0054	0
273	SLU 82	-0.01	-7.84	80.23	0.3965	-0.0056	0
273	SLU 83	-0.01	-7.96	81.61	0.4014	-0.0054	0
273	SLU 84	-0.01	-7.88	81.34	0.3975	-0.0055	0
273	SLE RA 1	-0.01	-4.86	51.09	0.2462	-0.0033	0
273	SLE RA 2	-0.01	-4.77	50.78	0.2419	-0.0034	0
273	SLE RA 3	-0.01	-4.95	52.23	0.2503	-0.0034	0
273	SLE RA 4	-0.01	-4.9	52.04	0.2477	-0.0034	0
273	SLE RA 5	-0.01	-4.8	51.52	0.2426	-0.0034	0
273	SLE RA 6	-0.01	-4.97	52.97	0.2509	-0.0033	0
273	SLE RA 7	-0.01	-4.92	52.78	0.2483	-0.0034	0
273	SLE RA 8	-0.01	-4.91	52.56	0.2475	-0.0033	0
273	SLE RA 9	-0.01	-4.86	52.38	0.2449	-0.0034	0
273	SLE RA 10	-0.01	-5.41	56.31	0.2738	-0.0039	0
273	SLE RA 11	-0.01	-5.58	57.76	0.2821	-0.0038	0
273	SLE RA 12	-0.01	-5.53	57.57	0.2795	-0.0039	0
273	SLE RA 13	-0.01	-5.43	57.05	0.2744	-0.0039	0
273	SLE RA 14	-0.01	-5.61	58.49	0.2828	-0.0038	0
273	SLE RA 15	-0.01	-5.56	58.31	0.2802	-0.0039	0
273	SLE RA 16	-0.01	-5.54	58.09	0.2794	-0.0038	0
273	SLE RA 17	-0.01	-5.49	57.91	0.2768	-0.0038	0





Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
273	SLE RA 18			-0.01	-5.77	58.99	0.2918	-0.004	0
273	SLE RA 19			-0.01	-5.72	58.8	0.2892	-0.004	0
273	SLE RA 20			-0.01	-5.79	59.72	0.2924	-0.004	0
273	SLE RA 21			-0.01	-5.74	59.54	0.2898	-0.004	0
273	SLE FR 1			-0.01	-4.86	51.09	0.2462	-0.0033	0
273	SLE FR 2			-0.01	-4.84	51.03	0.2454	-0.0033	0
273	SLE FR 3			-0.01	-4.87	51.38	0.2465	-0.0033	0
273	SLE FR 4			-0.01	-5.12	53.4	0.259	-0.0035	0
273	SLE FR 5			-0.01	-5.14	53.75	0.2602	-0.0035	0
273	SLE FR 6			-0.01	-5.31	55.04	0.269	-0.0036	0
273	SLE QP 1			-0.01	-4.86	51.09	0.2462	-0.0033	0
273	SLE QP 2			-0.01	-5.13	53.46	0.2599	-0.0035	0
273	SLD 1			0.14	-5.41	54.52	0.2693	0.1512	-0.0005
273	SLD 2			0.14	-5.41	54.52	0.2693	0.1512	-0.0005
273	SLD 3			0.11	-9.08	64.56	0.4738	0.1287	-0.0004
273	SLD 4			0.11	-9.08	64.56	0.4738	0.1287	-0.0004
273	SLD 5			0.07	0.35	38.55	-0.0476	0.0771	-0.0002
273	SLD 6			0.07	0.35	38.55	-0.0476	0.0771	-0.0002
273	SLD 7			-0.01	-11.88	72.01	0.6344	0.002	0
273	SLD 8			-0.01	-11.88	72.01	0.6344	0.002	0
273	SLD 9			-0.01	1.61	34.9	-0.1146	-0.009	0
273	SLD 10			-0.01	1.61	34.9	-0.1146	-0.009	0
273	SLD 11			-0.08	-10.61	68.36	0.5674	-0.0841	0.0003
273	SLD 12			-0.08	-10.61	68.36	0.5674	-0.0841	0.0003
273	SLD 13			-0.12	-1.19	42.36	0.046	-0.1357	0.0004
273	SLD 14			-0.12	-1.19	42.36	0.046	-0.1357	0.0004
273	SLD 15			-0.15	-4.86	52.4	0.2506	-0.1583	0.0005
273	SLD 16			-0.15	-4.86	52.4	0.2506	-0.1583	0.0005
273	SLV 1			0.36	-5.78	55.9	0.2821	0.3927	-0.0012
273	SLV 2			0.36	-5.78	55.9	0.2821	0.3927	-0.0012
273	SLV 3			0.3	-14.44	79.63	0.7653	0.3352	-0.001
273	SLV 4			0.3	-14.44	79.63	0.7653	0.3352	-0.001
273	SLV 5			0.19	7.81	18.19	-0.4662	0.2026	-0.0007
273	SLV 6			0.19	7.81	18.19	-0.4662	0.2026	-0.0007
273	SLV 7			-0.01	-21.06	97.31	1.1443	0.0108	0
273	SLV 8			-0.01	-21.06	97.31	1.1443	0.0108	0
273	SLV 9			-0.01	10.8	9.6	-0.6245	-0.0179	0
273	SLV 10			-0.01	10.8	9.6	-0.6245	-0.0179	0
273	SLV 11			-0.2	-18.07	88.73	0.986	-0.2097	0.0007
273	SLV 12			-0.2	-18.07	88.73	0.986	-0.2097	0.0007
273	SLV 13			-0.31	4.18	27.28	-0.2454	-0.3422	0.0011
273	SLV 14			-0.31	4.18	27.28	-0.2454	-0.3422	0.0011
273	SLV 15			-0.37	-4.48	51.02	0.2377	-0.3997	0.0013
273	SLV 16			-0.37	-4.48	51.02	0.2377	-0.3997	0.0013
274	SLU 1			0	0.04	35.54	0.0304	-0.001	0
274	SLU 2			0	0.04	35.53	0.0303	-0.001	0
274	SLU 3			0	-0.16	35.66	0.0409	-0.0009	0
274	SLU 4			0	-0.16	35.65	0.0408	-0.0009	0
274	SLU 5			0	-0.21	35.02	0.0423	-0.0009	0
274	SLU 6			0	-0.41	35.15	0.0529	-0.0008	0
274	SLU 7			0	-0.41	35.14	0.0528	-0.0008	0
274	SLU 8			0	-0.45	34.52	0.0544	-0.0007	0
274	SLU 9			0	-0.45	34.51	0.0544	-0.0007	0
274	SLU 10			0	0.05	41.32	0.0346	-0.0008	0
274	SLU 11			0	-0.15	41.44	0.0451	-0.0007	0
274	SLU 12			0	-0.15	41.44	0.0451	-0.0007	0
274	SLU 13			0	-0.19	40.81	0.0466	-0.0007	0
274	SLU 14			0	-0.39	40.93	0.0571	-0.0006	0
274	SLU 15			0	-0.39	40.93	0.0571	-0.0006	0
274	SLU 16			0	-0.44	40.31	0.0587	-0.0005	0
274	SLU 17			0	-0.44	40.3	0.0586	-0.0005	0
274	SLU 18			0	0.06	43.8	0.0365	-0.0007	0
274	SLU 19			0	0.06	43.8	0.0364	-0.0007	0
274	SLU 20			0	-0.18	43.3	0.0485	-0.0005	0
274	SLU 21			0	-0.18	43.29	0.0484	-0.0005	0
274	SLU 22			0	-0.06	40.54	0.0396	-0.0008	0
274	SLU 23			0	-0.06	40.53	0.0396	-0.0009	0
274	SLU 24			0	-0.26	40.66	0.0501	-0.0008	0
274	SLU 25			0	-0.26	40.66	0.0501	-0.0008	0
274	SLU 26			0	-0.3	40.02	0.0516	-0.0007	0
274	SLU 27			0	-0.5	40.15	0.0621	-0.0006	0
274	SLU 28			0	-0.5	40.15	0.0621	-0.0007	0
274	SLU 29			0	-0.55	39.52	0.0636	-0.0006	0
274	SLU 30			0	-0.55	39.52	0.0636	-0.0006	0
274	SLU 31			0	-0.04	46.32	0.0438	-0.0006	0
274	SLU 32			0	-0.24	46.45	0.0543	-0.0005	0
274	SLU 33			0	-0.24	46.44	0.0543	-0.0006	0
274	SLU 34			0	-0.29	45.81	0.0558	-0.0005	0
274	SLU 35			0	-0.49	45.94	0.0663	-0.0004	0
274	SLU 36			0	-0.49	45.93	0.0663	-0.0004	0
274	SLU 37			0	-0.53	45.31	0.0679	-0.0003	0
274	SLU 38			0	-0.53	45.3	0.0678	-0.0004	0
274	SLU 39			0	-0.03	48.81	0.0457	-0.0005	0
274	SLU 40			0	-0.03	48.8	0.0457	-0.0005	0
274	SLU 41			0	-0.28	48.3	0.0577	-0.0004	0
274	SLU 42			0	-0.28	48.29	0.0577	-0.0004	0
274	SLU 43			0	0.08	44.49	0.0364	-0.0013	0
274	SLU 44			0	0.08	44.48	0.0363	-0.0014	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
274	SLU 45		0		-0.12	44.61	0.0468	-0.0013	0
274	SLU 46		0		-0.12	44.6	0.0468	-0.0013	0
274	SLU 47		0		-0.16	43.97	0.0483	-0.0012	0
274	SLU 48		0		-0.36	44.1	0.0588	-0.0011	0
274	SLU 49		0		-0.36	44.09	0.0588	-0.0011	0
274	SLU 50		0		-0.41	43.47	0.0604	-0.001	0
274	SLU 51		0		-0.41	43.46	0.0603	-0.0011	0
274	SLU 52		0		0.1	50.26	0.0406	-0.0011	0
274	SLU 53		0		-0.1	50.39	0.0511	-0.001	0
274	SLU 54		0		-0.1	50.38	0.051	-0.0011	0
274	SLU 55		0		-0.15	49.75	0.0526	-0.001	0
274	SLU 56		0		-0.35	49.88	0.0631	-0.0009	0
274	SLU 57		0		-0.35	49.87	0.063	-0.0009	0
274	SLU 58		0		-0.39	49.25	0.0646	-0.0008	0
274	SLU 59		0		-0.39	49.25	0.0646	-0.0008	0
274	SLU 60		0		0.11	52.75	0.0425	-0.001	0
274	SLU 61		0		0.11	52.75	0.0424	-0.001	0
274	SLU 62		0		-0.14	52.24	0.0545	-0.0009	0
274	SLU 63		0		-0.14	52.24	0.0544	-0.0009	0
274	SLU 64		0		-0.01	49.49	0.0456	-0.0012	0
274	SLU 65		0		-0.01	49.48	0.0455	-0.0012	0
274	SLU 66		0		-0.21	49.61	0.0561	-0.0011	0
274	SLU 67		0		-0.21	49.6	0.056	-0.0011	0
274	SLU 68		0		-0.26	48.97	0.0575	-0.0011	0
274	SLU 69		0		-0.46	49.1	0.0681	-0.001	0
274	SLU 70		0		-0.46	49.09	0.068	-0.001	0
274	SLU 71		0		-0.5	48.47	0.0696	-0.0009	0
274	SLU 72		0		-0.5	48.46	0.0696	-0.0009	0
274	SLU 73		0		0	55.27	0.0498	-0.001	0
274	SLU 74		0		-0.2	55.39	0.0603	-0.0009	0
274	SLU 75		0		-0.2	55.39	0.0603	-0.0009	0
274	SLU 76		0		-0.24	54.76	0.0618	-0.0009	0
274	SLU 77		0		-0.44	54.88	0.0723	-0.0008	0
274	SLU 78		0		-0.44	54.88	0.0723	-0.0008	0
274	SLU 79		0		-0.49	54.26	0.0739	-0.0007	0
274	SLU 80		0		-0.49	54.25	0.0738	-0.0007	0
274	SLU 81		0		0.01	57.75	0.0517	-0.0009	0
274	SLU 82		0		0.01	57.75	0.0516	-0.0009	0
274	SLU 83		0		-0.23	57.25	0.0637	-0.0007	0
274	SLU 84		0		-0.23	57.24	0.0636	-0.0007	0
274	SLE RA 1		0		0.01	36.97	0.0331	-0.0009	0
274	SLE RA 2		0		0.01	36.96	0.033	-0.001	0
274	SLE RA 3		0		-0.12	37.05	0.04	-0.0009	0
274	SLE RA 4		0		-0.12	37.04	0.04	-0.0009	0
274	SLE RA 5		0		-0.15	36.62	0.041	-0.0009	0
274	SLE RA 6		0		-0.29	36.71	0.048	-0.0008	0
274	SLE RA 7		0		-0.29	36.7	0.048	-0.0008	0
274	SLE RA 8		0		-0.32	36.29	0.0491	-0.0008	0
274	SLE RA 9		0		-0.32	36.29	0.049	-0.0008	0
274	SLE RA 10		0		0.02	40.82	0.0358	-0.0008	0
274	SLE RA 11		0		-0.11	40.91	0.0429	-0.0007	0
274	SLE RA 12		0		-0.11	40.9	0.0428	-0.0008	0
274	SLE RA 13		0		-0.14	40.48	0.0438	-0.0007	0
274	SLE RA 14		0		-0.28	40.57	0.0509	-0.0007	0
274	SLE RA 15		0		-0.28	40.56	0.0508	-0.0007	0
274	SLE RA 16		0		-0.3	40.15	0.0519	-0.0006	0
274	SLE RA 17		0		-0.31	40.14	0.0519	-0.0006	0
274	SLE RA 18		0		0.03	42.48	0.0371	-0.0007	0
274	SLE RA 19		0		0.03	42.48	0.0371	-0.0007	0
274	SLE RA 20		0		-0.14	42.14	0.0451	-0.0006	0
274	SLE RA 21		0		-0.14	42.14	0.0451	-0.0006	0
274	SLE FR 1		0		0.01	36.97	0.0331	-0.0009	0
274	SLE FR 2		0		0.01	36.97	0.033	-0.0009	0
274	SLE FR 3		0		-0.05	36.83	0.0363	-0.0009	0
274	SLE FR 4		0		0.02	38.62	0.0343	-0.0009	0
274	SLE FR 5		0		-0.05	38.49	0.0375	-0.0008	0
274	SLE FR 6		0		0.02	39.72	0.0351	-0.0008	0
274	SLE QP 1		0		0.01	36.97	0.0331	-0.0009	0
274	SLE QP 2		0		0.02	38.62	0.0343	-0.0009	0
274	SLD 1		-0.07		0.71	40.67	0.0046	-0.0527	-0.0001
274	SLD 2		-0.07		0.71	40.67	0.0046	-0.0527	-0.0001
274	SLD 3		-0.04		-3.14	39.38	0.1635	-0.032	0
274	SLD 4		-0.04		-3.14	39.38	0.1635	-0.032	0
274	SLD 5		-0.07		6.08	41.19	-0.2156	-0.0478	-0.0001
274	SLD 6		-0.07		6.08	41.19	-0.2156	-0.0478	-0.0001
274	SLD 7		0.03		-6.78	36.9	0.314	0.0212	0
274	SLD 8		0.03		-6.78	36.9	0.314	0.0212	0
274	SLD 9		-0.04		6.81	40.34	-0.2455	-0.0229	0
274	SLD 10		-0.04		6.81	40.34	-0.2455	-0.0229	0
274	SLD 11		0.07		-6.04	36.06	0.2842	0.0461	0.0001
274	SLD 12		0.07		-6.04	36.06	0.2842	0.0461	0.0001
274	SLD 13		0.04		3.18	37.86	-0.095	0.0303	0
274	SLD 14		0.04		3.18	37.86	-0.095	0.0303	0
274	SLD 15		0.07		-0.68	36.58	0.0639	0.051	0.0001
274	SLD 16		0.07		-0.68	36.58	0.0639	0.051	0.0001
274	SLV 1		-0.17		1.67	43.53	-0.0362	-0.1328	-0.0002
274	SLV 2		-0.17		1.67	43.53	-0.0362	-0.1328	-0.0002
274	SLV 3		-0.09		-7.42	40.36	0.3385	-0.0802	-0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
274	SLV 4	-0.09	-7.42	40.36	0.3385	-0.0802	-0.0001		
274	SLV 5	-0.17	14.29	44.9	-0.5551	-0.1203	-0.0002		
274	SLV 6	-0.17	14.29	44.9	-0.5551	-0.1203	-0.0002		
274	SLV 7	0.09	-15.99	34.34	0.6937	0.0552	0.0001		
274	SLV 8	0.09	-15.99	34.34	0.6937	0.0552	0.0001		
274	SLV 9	-0.09	16.03	42.91	-0.6252	-0.0569	-0.0001		
274	SLV 10	-0.09	16.03	42.91	-0.6252	-0.0569	-0.0001		
274	SLV 11	0.17	-14.26	32.34	0.6236	0.1186	0.0002		
274	SLV 12	0.17	-14.26	32.34	0.6236	0.1186	0.0002		
274	SLV 13	0.09	7.45	36.88	-0.2699	0.0784	0.0001		
274	SLV 14	0.09	7.45	36.88	-0.2699	0.0784	0.0001		
274	SLV 15	0.17	-1.64	33.71	0.1047	0.1311	0.0002		
274	SLV 16	0.17	-1.64	33.71	0.1047	0.1311	0.0002		
275	SLU 1	0	-0.68	35.69	0.2247	-0.0004	0		
275	SLU 2	0	-0.67	35.68	0.2236	-0.0004	0		
275	SLU 3	0	-1.02	35.78	0.2509	-0.0003	0		
275	SLU 4	0	-1.02	35.78	0.2502	-0.0003	0		
275	SLU 5	0	-1.06	35.12	0.2501	-0.0003	0		
275	SLU 6	0	-1.42	35.21	0.2774	-0.0002	0		
275	SLU 7	0	-1.41	35.21	0.2767	-0.0002	0		
275	SLU 8	0	-1.47	34.56	0.2777	-0.0002	0		
275	SLU 9	0	-1.46	34.56	0.277	-0.0002	0		
275	SLU 10	0	-0.75	41.57	0.2584	-0.0004	0		
275	SLU 11	0	-1.1	41.67	0.2858	-0.0004	0		
275	SLU 12	0	-1.09	41.67	0.2851	-0.0004	0		
275	SLU 13	0	-1.14	41.01	0.2849	-0.0003	0		
275	SLU 14	0	-1.5	41.11	0.3122	-0.0003	0		
275	SLU 15	0	-1.49	41.1	0.3116	-0.0003	0		
275	SLU 16	0	-1.55	40.45	0.3125	-0.0003	0		
275	SLU 17	0	-1.54	40.45	0.3118	-0.0003	0		
275	SLU 18	0	-0.79	44.1	0.2745	-0.0005	0		
275	SLU 19	0	-0.78	44.1	0.2738	-0.0004	0		
275	SLU 20	0	-1.18	43.54	0.301	-0.0004	0		
275	SLU 21	0	-1.18	43.54	0.3003	-0.0004	0		
275	SLU 22	0	-0.89	40.3	0.2666	-0.0004	0		
275	SLU 23	0	-0.88	40.29	0.2655	-0.0004	0		
275	SLU 24	0	-1.23	40.39	0.2928	-0.0003	0		
275	SLU 25	0	-1.23	40.39	0.2921	-0.0003	0		
275	SLU 26	0	-1.28	39.73	0.2919	-0.0003	0		
275	SLU 27	0	-1.63	39.83	0.3193	-0.0003	0		
275	SLU 28	0	-1.63	39.82	0.3186	-0.0002	0		
275	SLU 29	0	-1.68	39.17	0.3195	-0.0002	0		
275	SLU 30	0	-1.68	39.17	0.3189	-0.0002	0		
275	SLU 31	0	-0.96	46.18	0.3003	-0.0004	0		
275	SLU 32	0	-1.31	46.28	0.3276	-0.0004	0		
275	SLU 33	0	-1.31	46.28	0.327	-0.0004	0		
275	SLU 34	0	-1.36	45.62	0.3268	-0.0003	0		
275	SLU 35	0	-1.71	45.72	0.3541	-0.0003	0		
275	SLU 36	0	-1.7	45.72	0.3534	-0.0003	0		
275	SLU 37	0	-1.76	45.06	0.3544	-0.0003	0		
275	SLU 38	0	-1.76	45.06	0.3537	-0.0003	0		
275	SLU 39	0	-1	48.71	0.3164	-0.0005	0		
275	SLU 40	0	-1	48.71	0.3157	-0.0005	0		
275	SLU 41	0	-1.4	48.15	0.3429	-0.0004	0		
275	SLU 42	0	-1.39	48.15	0.3422	-0.0004	0		
275	SLU 43	0	-0.81	44.81	0.2778	-0.0005	0		
275	SLU 44	0	-0.8	44.81	0.2766	-0.0005	0		
275	SLU 45	0	-1.15	44.9	0.304	-0.0004	0		
275	SLU 46	0	-1.15	44.9	0.3033	-0.0004	0		
275	SLU 47	0	-1.19	44.24	0.3031	-0.0004	0		
275	SLU 48	0	-1.55	44.34	0.3304	-0.0004	0		
275	SLU 49	0	-1.54	44.34	0.3297	-0.0003	0		
275	SLU 50	0	-1.6	43.68	0.3307	-0.0003	0		
275	SLU 51	0	-1.59	43.68	0.33	-0.0003	0		
275	SLU 52	0	-0.88	50.7	0.3115	-0.0005	0		
275	SLU 53	0	-1.23	50.79	0.3388	-0.0005	0		
275	SLU 54	0	-1.22	50.79	0.3381	-0.0005	0		
275	SLU 55	0	-1.27	50.13	0.338	-0.0004	0		
275	SLU 56	0	-1.62	50.23	0.3653	-0.0004	0		
275	SLU 57	0	-1.62	50.23	0.3646	-0.0004	0		
275	SLU 58	0	-1.68	49.57	0.3656	-0.0004	0		
275	SLU 59	0	-1.67	49.57	0.3649	-0.0004	0		
275	SLU 60	0	-0.92	53.23	0.3276	-0.0006	0		
275	SLU 61	0	-0.91	53.22	0.3269	-0.0005	0		
275	SLU 62	0	-1.31	52.66	0.354	-0.0005	0		
275	SLU 63	0	-1.31	52.66	0.3534	-0.0005	0		
275	SLU 64	0	-1.02	49.42	0.3196	-0.0005	0		
275	SLU 65	0	-1.01	49.42	0.3185	-0.0005	0		
275	SLU 66	0	-1.36	49.52	0.3458	-0.0005	0		
275	SLU 67	0	-1.36	49.51	0.3452	-0.0004	0		
275	SLU 68	0	-1.41	48.85	0.345	-0.0004	0		
275	SLU 69	0	-1.76	48.95	0.3723	-0.0004	0		
275	SLU 70	0	-1.76	48.95	0.3716	-0.0004	0		
275	SLU 71	0	-1.81	48.29	0.3726	-0.0003	0		
275	SLU 72	0	-1.81	48.29	0.3719	-0.0003	0		
275	SLU 73	0	-1.09	55.31	0.3534	-0.0005	0		
275	SLU 74	0	-1.44	55.41	0.3807	-0.0005	0		
275	SLU 75	0	-1.44	55.4	0.38	-0.0005	0		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
275	SLU 76	0	-1.49	54.75	0.3799	-0.0004	0
275	SLU 77	0	-1.84	54.84	0.4072	-0.0004	0
275	SLU 78	0	-1.83	54.84	0.4065	-0.0004	0
275	SLU 79	0	-1.89	54.19	0.4075	-0.0004	0
275	SLU 80	0	-1.89	54.18	0.4068	-0.0004	0
275	SLU 81	0	-1.13	57.84	0.3694	-0.0006	0
275	SLU 82	0	-1.13	57.84	0.3688	-0.0006	0
275	SLU 83	0	-1.53	57.28	0.3959	-0.0005	0
275	SLU 84	0	-1.52	57.27	0.3952	-0.0005	0
275	SLE RA 1	0	-0.74	37	0.2367	-0.0004	0
275	SLE RA 2	0	-0.73	37	0.2359	-0.0004	0
275	SLE RA 3	0	-0.97	37.07	0.2541	-0.0003	0
275	SLE RA 4	0	-0.96	37.06	0.2537	-0.0003	0
275	SLE RA 5	0	-1	36.62	0.2536	-0.0003	0
275	SLE RA 6	0	-1.23	36.69	0.2718	-0.0003	0
275	SLE RA 7	0	-1.23	36.69	0.2713	-0.0003	0
275	SLE RA 8	0	-1.27	36.25	0.272	-0.0003	0
275	SLE RA 9	0	-1.26	36.25	0.2715	-0.0003	0
275	SLE RA 10	0	-0.78	40.93	0.2592	-0.0004	0
275	SLE RA 11	0	-1.02	40.99	0.2774	-0.0004	0
275	SLE RA 12	0	-1.02	40.99	0.2769	-0.0004	0
275	SLE RA 13	0	-1.05	40.55	0.2768	-0.0003	0
275	SLE RA 14	0	-1.28	40.62	0.295	-0.0003	0
275	SLE RA 15	0	-1.28	40.62	0.2946	-0.0003	0
275	SLE RA 16	0	-1.32	40.18	0.2952	-0.0003	0
275	SLE RA 17	0	-1.32	40.18	0.2948	-0.0003	0
275	SLE RA 18	0	-0.81	42.61	0.2699	-0.0004	0
275	SLE RA 19	0	-0.81	42.61	0.2694	-0.0004	0
275	SLE RA 20	0	-1.08	42.24	0.2875	-0.0004	0
275	SLE RA 21	0	-1.07	42.24	0.2871	-0.0004	0
275	SLE FR 1	0	-0.74	37	0.2367	-0.0004	0
275	SLE FR 2	0	-0.74	37	0.2365	-0.0004	0
275	SLE FR 3	0	-0.84	36.85	0.2437	-0.0004	0
275	SLE FR 4	0	-0.76	38.69	0.2465	-0.0004	0
275	SLE FR 5	0	-0.87	38.54	0.2537	-0.0004	0
275	SLE FR 6	0	-0.78	39.81	0.2533	-0.0004	0
275	SLE QP 1	0	-0.74	37	0.2367	-0.0004	0
275	SLE QP 2	0	-0.76	38.69	0.2466	-0.0004	0
275	SLD 1	-0.04	0.49	37.46	0.193	-0.0397	0.0001
275	SLD 2	-0.04	0.49	37.46	0.193	-0.0397	0.0001
275	SLD 3	-0.07	-3.56	36.6	0.3735	-0.06	0
275	SLD 4	-0.07	-3.56	36.6	0.3735	-0.06	0
275	SLD 5	0.04	5.75	39.62	-0.0432	0.0186	0.0001
275	SLD 6	0.04	5.75	39.62	-0.0432	0.0186	0.0001
275	SLD 7	-0.07	-7.74	36.76	0.5585	-0.049	-0.0001
275	SLD 8	-0.07	-7.74	36.76	0.5585	-0.049	-0.0001
275	SLD 9	0.07	6.22	40.62	-0.0652	0.0482	0.0001
275	SLD 10	0.07	6.22	40.62	-0.0652	0.0482	0.0001
275	SLD 11	-0.04	-7.27	37.75	0.5365	-0.0194	-0.0001
275	SLD 12	-0.04	-7.27	37.75	0.5365	-0.0194	-0.0001
275	SLD 13	0.07	2.04	40.77	0.1198	0.0592	0
275	SLD 14	0.07	2.04	40.77	0.1198	0.0592	0
275	SLD 15	0.04	-2.01	39.91	0.3002	0.0389	-0.0001
275	SLD 16	0.04	-2.01	39.91	0.3002	0.0389	-0.0001
275	SLV 1	-0.1	2.15	35.85	0.1207	-0.1005	0.0002
275	SLV 2	-0.1	2.15	35.85	0.1207	-0.1005	0.0002
275	SLV 3	-0.18	-7.38	33.72	0.5469	-0.1524	0.0001
275	SLV 4	-0.18	-7.38	33.72	0.5469	-0.1524	0.0001
275	SLV 5	0.09	14.56	41.07	-0.4375	0.0483	0.0002
275	SLV 6	0.09	14.56	41.07	-0.4375	0.0483	0.0002
275	SLV 7	-0.18	-17.2	33.96	0.9831	-0.1247	-0.0001
275	SLV 8	-0.18	-17.2	33.96	0.9831	-0.1247	-0.0001
275	SLV 9	0.18	15.68	43.41	-0.4898	0.1239	0.0001
275	SLV 10	0.18	15.68	43.41	-0.4898	0.1239	0.0001
275	SLV 11	-0.09	-16.09	36.3	0.9308	-0.0491	-0.0002
275	SLV 12	-0.09	-16.09	36.3	0.9308	-0.0491	-0.0002
275	SLV 13	0.18	5.86	43.65	-0.0536	0.1516	-0.0001
275	SLV 14	0.18	5.86	43.65	-0.0536	0.1516	-0.0001
275	SLV 15	0.1	-3.67	41.52	0.3726	0.0997	-0.0002
275	SLV 16	0.1	-3.67	41.52	0.3726	0.0997	-0.0002
276	SLU 1	-0.13	-6.33	50.39	0.4097	-0.1005	0.0003
276	SLU 2	-0.12	-5.3	47.66	0.3522	-0.0915	0.0003
276	SLU 3	-0.13	-6.43	51.48	0.4166	-0.1032	0.0004
276	SLU 4	-0.13	-5.81	49.84	0.3821	-0.0977	0.0003
276	SLU 5	-0.13	-5.29	48.21	0.3526	-0.093	0.0003
276	SLU 6	-0.14	-6.43	52.04	0.417	-0.1047	0.0004
276	SLU 7	-0.13	-5.81	50.4	0.3825	-0.0992	0.0003
276	SLU 8	-0.14	-6.32	51.5	0.4105	-0.1035	0.0004
276	SLU 9	-0.13	-5.7	49.86	0.376	-0.0981	0.0003
276	SLU 10	-0.14	-6.07	53.29	0.4035	-0.1045	0.0004
276	SLU 11	-0.15	-7.2	57.12	0.4679	-0.1162	0.0004
276	SLU 12	-0.15	-6.58	55.48	0.4334	-0.1107	0.0004
276	SLU 13	-0.14	-6.06	53.85	0.4039	-0.106	0.0004
276	SLU 14	-0.15	-7.2	57.67	0.4683	-0.1177	0.0004
276	SLU 15	-0.15	-6.58	56.03	0.4338	-0.1122	0.0004
276	SLU 16	-0.15	-7.09	57.13	0.4618	-0.1165	0.0004
276	SLU 17	-0.15	-6.47	55.5	0.4273	-0.1111	0.0004
276	SLU 18	-0.16	-7.43	58.44	0.483	-0.1191	0.0004



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
276	SLU 19	-0.15	-6.81	56.8	0.4485	-0.1137	0.0004
276	SLU 20	-0.16	-7.42	58.99	0.4834	-0.1206	0.0004
276	SLU 21	-0.15	-6.8	57.35	0.4489	-0.1152	0.0004
276	SLU 22	-0.15	-7.06	55.87	0.4584	-0.1132	0.0004
276	SLU 23	-0.14	-6.03	53.13	0.4009	-0.1041	0.0004
276	SLU 24	-0.15	-7.17	56.96	0.4653	-0.1159	0.0004
276	SLU 25	-0.15	-6.55	55.32	0.4308	-0.1104	0.0004
276	SLU 26	-0.14	-6.03	53.69	0.4013	-0.1056	0.0004
276	SLU 27	-0.15	-7.16	57.51	0.4657	-0.1174	0.0004
276	SLU 28	-0.15	-6.55	55.87	0.4312	-0.1119	0.0004
276	SLU 29	-0.15	-7.06	56.98	0.4592	-0.1162	0.0004
276	SLU 30	-0.15	-6.44	55.34	0.4247	-0.1108	0.0004
276	SLU 31	-0.16	-6.8	58.77	0.4522	-0.1171	0.0004
276	SLU 32	-0.17	-7.94	62.59	0.5166	-0.1289	0.0004
276	SLU 33	-0.16	-7.32	60.95	0.4821	-0.1234	0.0004
276	SLU 34	-0.16	-6.8	59.32	0.4526	-0.1186	0.0004
276	SLU 35	-0.17	-7.93	63.15	0.517	-0.1304	0.0004
276	SLU 36	-0.17	-7.32	61.51	0.4826	-0.1249	0.0004
276	SLU 37	-0.17	-7.83	62.61	0.5105	-0.1292	0.0004
276	SLU 38	-0.16	-7.21	60.97	0.476	-0.1238	0.0004
276	SLU 39	-0.17	-8.16	63.91	0.5317	-0.1318	0.0004
276	SLU 40	-0.17	-7.55	62.27	0.4972	-0.1263	0.0004
276	SLU 41	-0.17	-8.16	64.47	0.5321	-0.1333	0.0005
276	SLU 42	-0.17	-7.54	62.83	0.4976	-0.1278	0.0004
276	SLU 43	-0.16	-7.97	63.63	0.5159	-0.1264	0.0004
276	SLU 44	-0.16	-6.94	60.9	0.4584	-0.1173	0.0004
276	SLU 45	-0.17	-8.07	64.72	0.5228	-0.129	0.0004
276	SLU 46	-0.16	-7.46	63.08	0.4883	-0.1236	0.0004
276	SLU 47	-0.16	-6.94	61.45	0.4588	-0.1188	0.0004
276	SLU 48	-0.17	-8.07	65.28	0.5232	-0.1305	0.0004
276	SLU 49	-0.17	-7.45	63.64	0.4887	-0.1251	0.0004
276	SLU 50	-0.17	-7.96	64.74	0.5167	-0.1294	0.0004
276	SLU 51	-0.17	-7.34	63.1	0.4822	-0.1239	0.0004
276	SLU 52	-0.18	-7.71	66.53	0.5097	-0.1303	0.0005
276	SLU 53	-0.19	-8.85	70.36	0.5741	-0.142	0.0005
276	SLU 54	-0.18	-8.23	68.72	0.5396	-0.1366	0.0005
276	SLU 55	-0.18	-7.71	67.09	0.5101	-0.1318	0.0005
276	SLU 56	-0.19	-8.84	70.91	0.5745	-0.1435	0.0005
276	SLU 57	-0.18	-8.22	69.27	0.54	-0.1381	0.0005
276	SLU 58	-0.19	-8.73	70.37	0.568	-0.1424	0.0005
276	SLU 59	-0.18	-8.12	68.74	0.5335	-0.1369	0.0005
276	SLU 60	-0.19	-9.07	71.68	0.5892	-0.1449	0.0005
276	SLU 61	-0.19	-8.45	70.04	0.5547	-0.1395	0.0005
276	SLU 62	-0.19	-9.07	72.23	0.5896	-0.1464	0.0005
276	SLU 63	-0.19	-8.45	70.59	0.5551	-0.141	0.0005
276	SLU 64	-0.18	-8.71	69.11	0.5646	-0.139	0.0005
276	SLU 65	-0.18	-7.68	66.37	0.5071	-0.13	0.0005
276	SLU 66	-0.19	-8.81	70.2	0.5715	-0.1417	0.0005
276	SLU 67	-0.18	-8.19	68.56	0.537	-0.1362	0.0005
276	SLU 68	-0.18	-7.67	66.93	0.5075	-0.1315	0.0005
276	SLU 69	-0.19	-8.81	70.75	0.572	-0.1432	0.0005
276	SLU 70	-0.18	-8.19	69.11	0.5375	-0.1377	0.0005
276	SLU 71	-0.19	-8.7	70.22	0.5654	-0.142	0.0005
276	SLU 72	-0.18	-8.08	68.58	0.5309	-0.1366	0.0005
276	SLU 73	-0.19	-8.45	72.01	0.5584	-0.143	0.0005
276	SLU 74	-0.2	-9.58	75.83	0.6228	-0.1547	0.0005
276	SLU 75	-0.2	-8.97	74.19	0.5883	-0.1492	0.0005
276	SLU 76	-0.19	-8.45	72.56	0.5588	-0.1445	0.0005
276	SLU 77	-0.2	-9.58	76.39	0.6233	-0.1562	0.0005
276	SLU 78	-0.2	-8.96	74.75	0.5888	-0.1507	0.0005
276	SLU 79	-0.2	-9.47	75.85	0.6167	-0.155	0.0005
276	SLU 80	-0.2	-8.85	74.21	0.5822	-0.1496	0.0005
276	SLU 81	-0.21	-9.81	77.15	0.6379	-0.1576	0.0005
276	SLU 82	-0.2	-9.19	75.51	0.6034	-0.1522	0.0005
276	SLU 83	-0.21	-9.81	77.71	0.6383	-0.1591	0.0005
276	SLU 84	-0.2	-9.19	76.07	0.6038	-0.1537	0.0005
276	SLE RA 1	-0.14	-6.54	51.95	0.4236	-0.1042	0.0004
276	SLE RA 2	-0.13	-5.85	50.13	0.3853	-0.0981	0.0003
276	SLE RA 3	-0.14	-6.61	52.68	0.4282	-0.1059	0.0004
276	SLE RA 4	-0.14	-6.19	51.59	0.4052	-0.1023	0.0004
276	SLE RA 5	-0.13	-5.85	50.5	0.3855	-0.0991	0.0003
276	SLE RA 6	-0.14	-6.6	53.05	0.4285	-0.1069	0.0004
276	SLE RA 7	-0.14	-6.19	51.96	0.4055	-0.1033	0.0004
276	SLE RA 8	-0.14	-6.53	52.7	0.4241	-0.1062	0.0004
276	SLE RA 9	-0.14	-6.12	51.6	0.4012	-0.1025	0.0004
276	SLE RA 10	-0.14	-6.36	53.89	0.4195	-0.1068	0.0004
276	SLE RA 11	-0.15	-7.12	56.44	0.4624	-0.1146	0.0004
276	SLE RA 12	-0.15	-6.71	55.35	0.4394	-0.111	0.0004
276	SLE RA 13	-0.14	-6.36	54.26	0.4197	-0.1078	0.0004
276	SLE RA 14	-0.15	-7.12	56.81	0.4627	-0.1156	0.0004
276	SLE RA 15	-0.15	-6.71	55.72	0.4397	-0.112	0.0004
276	SLE RA 16	-0.15	-7.05	56.45	0.4584	-0.1148	0.0004
276	SLE RA 17	-0.15	-6.63	55.36	0.4354	-0.1112	0.0004
276	SLE RA 18	-0.15	-7.27	57.32	0.4725	-0.1165	0.0004
276	SLE RA 19	-0.15	-6.86	56.23	0.4495	-0.1129	0.0004
276	SLE RA 20	-0.15	-7.27	57.69	0.4727	-0.1175	0.0004
276	SLE RA 21	-0.15	-6.86	56.6	0.4497	-0.1139	0.0004
276	SLE FR 1	-0.14	-6.54	51.95	0.4236	-0.1042	0.0004



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
276	SLE FR 2			-0.14	-6.4	51.59	0.4159	-0.1029	0.0004
276	SLE FR 3			-0.14	-6.54	52.1	0.4237	-0.1046	0.0004
276	SLE FR 4			-0.14	-6.62	53.2	0.4306	-0.1067	0.0004
276	SLE FR 5			-0.14	-6.76	53.71	0.4384	-0.1083	0.0004
276	SLE FR 6			-0.14	-6.9	54.64	0.448	-0.1103	0.0004
276	SLE QP 1			-0.14	-6.54	51.95	0.4236	-0.1042	0.0004
276	SLE QP 2			-0.14	-6.76	53.56	0.4383	-0.1079	0.0004
276	SLD 1			-0.17	-6.84	65.05	0.465	0.0414	0.0004
276	SLD 2			-0.17	-6.84	65.05	0.465	0.0414	0.0004
276	SLD 3			-0.28	-10.45	70.91	0.6389	-0.0398	0.0008
276	SLD 4			-0.28	-10.45	70.91	0.6389	-0.0398	0.0008
276	SLD 5			0.03	-1.3	48.13	0.1826	0.0599	-0.0002
276	SLD 6			0.03	-1.3	48.13	0.1826	0.0599	-0.0002
276	SLD 7			-0.36	-13.35	67.64	0.7621	-0.2105	0.0011
276	SLD 8			-0.36	-13.35	67.64	0.7621	-0.2105	0.0011
276	SLD 9			0.08	-0.16	39.48	0.1144	-0.0053	-0.0004
276	SLD 10			0.08	-0.16	39.48	0.1144	-0.0053	-0.0004
276	SLD 11			-0.31	-12.22	58.99	0.6939	-0.2757	0.001
276	SLD 12			-0.31	-12.22	58.99	0.6939	-0.2757	0.001
276	SLD 13			0	-3.06	36.22	0.2377	-0.176	0
276	SLD 14			0	-3.06	36.22	0.2377	-0.176	0
276	SLD 15			-0.11	-6.68	42.08	0.4115	-0.2571	0.0004
276	SLD 16			-0.11	-6.68	42.08	0.4115	-0.2571	0.0004
276	SLV 1			-0.2	-6.99	80.44	0.5009	0.2564	0.0004
276	SLV 2			-0.2	-6.99	80.44	0.5009	0.2564	0.0004
276	SLV 3			-0.49	-15.48	94.25	0.9101	0.0558	0.0013
276	SLV 4			-0.49	-15.48	94.25	0.9101	0.0558	0.0013
276	SLV 5			0.28	6.04	40.67	-0.1636	0.3056	-0.0011
276	SLV 6			0.28	6.04	40.67	-0.1636	0.3056	-0.0011
276	SLV 7			-0.68	-22.24	86.73	1.2005	-0.363	0.0021
276	SLV 8			-0.68	-22.24	86.73	1.2005	-0.363	0.0021
276	SLV 9			0.4	8.73	20.4	-0.324	0.1472	-0.0014
276	SLV 10			0.4	8.73	20.4	-0.324	0.1472	-0.0014
276	SLV 11			-0.56	-19.56	66.46	1.0401	-0.5214	0.0018
276	SLV 12			-0.56	-19.56	66.46	1.0401	-0.5214	0.0018
276	SLV 13			0.2	1.96	12.87	-0.0336	-0.2716	-0.0006
276	SLV 14			0.2	1.96	12.87	-0.0336	-0.2716	-0.0006
276	SLV 15			-0.08	-6.52	26.69	0.3756	-0.4722	0.0004
276	SLV 16			-0.08	-6.52	26.69	0.3756	-0.4722	0.0004
277	SLU 1			0.01	1.3	52.48	-0.0429	0.0041	0
277	SLU 2			0.01	1.4	52	-0.0459	0.0042	0
277	SLU 3			0.01	1.34	55.23	-0.0444	0.0044	0
277	SLU 4			0.01	1.4	54.94	-0.0462	0.0045	0
277	SLU 5			0.01	1.45	54.35	-0.0475	0.0045	0
277	SLU 6			0.01	1.4	57.58	-0.0459	0.0047	0
277	SLU 7			0.01	1.46	57.29	-0.0477	0.0047	0
277	SLU 8			0.01	1.41	57.17	-0.0461	0.0047	0
277	SLU 9			0.01	1.46	56.89	-0.0479	0.0047	0
277	SLU 10			0.01	1.43	60.48	-0.0482	0.0048	0
277	SLU 11			0.01	1.38	63.7	-0.0466	0.005	0
277	SLU 12			0.01	1.44	63.42	-0.0484	0.0051	0
277	SLU 13			0.01	1.49	62.83	-0.0497	0.0051	0
277	SLU 14			0.01	1.43	66.05	-0.0482	0.0053	0
277	SLU 15			0.01	1.49	65.77	-0.05	0.0054	0
277	SLU 16			0.01	1.44	65.65	-0.0483	0.0053	0
277	SLU 17			0.01	1.5	65.37	-0.0501	0.0053	0
277	SLU 18			0.01	1.35	64.58	-0.0461	0.005	0
277	SLU 19			0.01	1.41	64.3	-0.0479	0.005	0
277	SLU 20			0.01	1.4	66.93	-0.0477	0.0053	0
277	SLU 21			0.01	1.46	66.65	-0.0495	0.0053	0
277	SLU 22			0.01	1.36	61.09	-0.0455	0.0048	0
277	SLU 23			0.01	1.45	60.62	-0.0485	0.0049	0
277	SLU 24			0.01	1.4	63.84	-0.047	0.0051	0
277	SLU 25			0.01	1.46	63.56	-0.0488	0.0051	0
277	SLU 26			0.01	1.51	62.97	-0.0501	0.0052	0
277	SLU 27			0.01	1.46	66.19	-0.0485	0.0054	0
277	SLU 28			0.01	1.52	65.91	-0.0503	0.0054	0
277	SLU 29			0.01	1.46	65.79	-0.0487	0.0054	0
277	SLU 30			0.01	1.52	65.5	-0.0505	0.0054	0
277	SLU 31			0.01	1.49	69.09	-0.0508	0.0055	0
277	SLU 32			0.01	1.44	72.32	-0.0492	0.0057	0
277	SLU 33			0.01	1.5	72.03	-0.051	0.0058	0
277	SLU 34			0.01	1.54	71.44	-0.0523	0.0058	0
277	SLU 35			0.01	1.49	74.66	-0.0507	0.006	0
277	SLU 36			0.01	1.55	74.38	-0.0525	0.006	0
277	SLU 37			0.01	1.5	74.26	-0.0509	0.006	0
277	SLU 38			0.01	1.56	73.98	-0.0527	0.006	0
277	SLU 39			0.01	1.41	73.2	-0.0487	0.0057	0
277	SLU 40			0.01	1.47	72.91	-0.0505	0.0057	0
277	SLU 41			0.01	1.46	75.54	-0.0503	0.006	0
277	SLU 42			0.01	1.52	75.26	-0.0521	0.006	0
277	SLU 43			0.01	1.67	65.27	-0.0549	0.0051	0
277	SLU 44			0.01	1.77	64.79	-0.0579	0.0052	0
277	SLU 45			0.01	1.71	68.02	-0.0564	0.0054	0
277	SLU 46			0.01	1.77	67.73	-0.0582	0.0055	0
277	SLU 47			0.01	1.82	67.14	-0.0595	0.0055	0
277	SLU 48			0.01	1.77	70.37	-0.0579	0.0057	0
277	SLU 49			0.01	1.83	70.08	-0.0597	0.0057	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
		Ind.	N.br.	x	y	z	x	y
277	SLU 50		0.01	1.77	69.96	-0.0581	0.0057	0
277	SLU 51		0.01	1.83	69.68	-0.0599	0.0057	0
277	SLU 52		0.01	1.8	73.27	-0.0602	0.0058	0
277	SLU 53		0.01	1.75	76.49	-0.0586	0.006	0
277	SLU 54		0.01	1.81	76.21	-0.0604	0.0061	0
277	SLU 55		0.01	1.85	75.62	-0.0617	0.0061	0
277	SLU 56		0.01	1.8	78.84	-0.0601	0.0063	0
277	SLU 57		0.01	1.86	78.56	-0.0619	0.0064	0
277	SLU 58		0.01	1.81	78.44	-0.0603	0.0063	0
277	SLU 59		0.01	1.87	78.16	-0.0621	0.0063	0
277	SLU 60		0.01	1.72	77.37	-0.0581	0.006	0
277	SLU 61		0.01	1.78	77.09	-0.0599	0.006	0
277	SLU 62		0.01	1.77	79.72	-0.0597	0.0063	0
277	SLU 63		0.01	1.83	79.44	-0.0615	0.0063	0
277	SLU 64		0.01	1.72	73.88	-0.0575	0.0058	0
277	SLU 65		0.01	1.82	73.41	-0.0605	0.0059	0
277	SLU 66		0.01	1.77	76.63	-0.0589	0.0061	0
277	SLU 67		0.01	1.83	76.35	-0.0607	0.0061	0
277	SLU 68		0.01	1.88	75.76	-0.0621	0.0062	0
277	SLU 69		0.01	1.83	78.98	-0.0605	0.0064	0
277	SLU 70		0.01	1.88	78.7	-0.0623	0.0064	0
277	SLU 71		0.01	1.83	78.58	-0.0607	0.0064	0
277	SLU 72		0.01	1.89	78.29	-0.0625	0.0064	0
277	SLU 73		0.01	1.86	81.88	-0.0628	0.0065	0
277	SLU 74		0.01	1.81	85.11	-0.0612	0.0067	0
277	SLU 75		0.01	1.87	84.82	-0.063	0.0068	0
277	SLU 76		0.01	1.91	84.23	-0.0643	0.0068	0
277	SLU 77		0.01	1.86	87.45	-0.0627	0.007	0
277	SLU 78		0.01	1.92	87.17	-0.0645	0.007	0
277	SLU 79		0.01	1.87	87.05	-0.0629	0.007	0
277	SLU 80		0.01	1.93	86.77	-0.0647	0.007	0
277	SLU 81		0.01	1.78	85.99	-0.0607	0.0067	0
277	SLU 82		0.01	1.84	85.7	-0.0625	0.0067	0
277	SLU 83		0.01	1.83	88.33	-0.0623	0.007	0
277	SLU 84		0.01	1.89	88.05	-0.0641	0.007	0
277	SLE RA 1		0.01	1.31	54.94	-0.0437	0.0043	0
277	SLE RA 2		0.01	1.38	54.62	-0.0457	0.0044	0
277	SLE RA 3		0.01	1.35	56.77	-0.0446	0.0045	0
277	SLE RA 4		0.01	1.38	56.58	-0.0458	0.0045	0
277	SLE RA 5		0.01	1.42	56.19	-0.0467	0.0046	0
277	SLE RA 6		0.01	1.38	58.34	-0.0457	0.0047	0
277	SLE RA 7		0.01	1.42	58.15	-0.0469	0.0047	0
277	SLE RA 8		0.01	1.39	58.07	-0.0458	0.0047	0
277	SLE RA 9		0.01	1.43	57.88	-0.047	0.0047	0
277	SLE RA 10		0.01	1.4	60.27	-0.0472	0.0048	0
277	SLE RA 11		0.01	1.37	62.42	-0.0461	0.0049	0
277	SLE RA 12		0.01	1.41	62.23	-0.0473	0.005	0
277	SLE RA 13		0.01	1.44	61.84	-0.0482	0.005	0
277	SLE RA 14		0.01	1.41	63.99	-0.0472	0.0051	0
277	SLE RA 15		0.01	1.44	63.8	-0.0484	0.0051	0
277	SLE RA 16		0.01	1.41	63.72	-0.0473	0.0051	0
277	SLE RA 17		0.01	1.45	63.53	-0.0485	0.0051	0
277	SLE RA 18		0.01	1.35	63.01	-0.0458	0.0049	0
277	SLE RA 19		0.01	1.39	62.82	-0.047	0.0049	0
277	SLE RA 20		0.01	1.38	64.57	-0.0469	0.0051	0
277	SLE RA 21		0.01	1.42	64.39	-0.0481	0.0051	0
277	SLE FR 1		0.01	1.31	54.94	-0.0437	0.0043	0
277	SLE FR 2		0.01	1.33	54.87	-0.0441	0.0043	0
277	SLE FR 3		0.01	1.33	55.56	-0.0441	0.0044	0
277	SLE FR 4		0.01	1.34	57.3	-0.0447	0.0045	0
277	SLE FR 5		0.01	1.34	57.99	-0.0447	0.0046	0
277	SLE FR 6		0.01	1.33	58.97	-0.0447	0.0046	0
277	SLE QP 1		0.01	1.31	54.94	-0.0437	0.0043	0
277	SLE QP 2		0.01	1.32	57.36	-0.0443	0.0045	0
277	SLD 1		0.11	4.39	58.84	-0.1396	0.1194	0.0002
277	SLD 2		0.11	4.39	58.84	-0.1396	0.1194	0.0002
277	SLD 3		0.09	0.85	63.14	-0.0311	0.1503	0.0001
277	SLD 4		0.09	0.85	63.14	-0.0311	0.1503	0.0001
277	SLD 5		0.08	7.62	51.28	-0.2375	-0.0078	0.0001
277	SLD 6		0.08	7.62	51.28	-0.2375	-0.0078	0.0001
277	SLD 7		-0.01	-4.19	65.62	0.1243	0.095	0
277	SLD 8		-0.01	-4.19	65.62	0.1243	0.095	0
277	SLD 9		0.02	6.84	49.1	-0.2129	-0.0861	0
277	SLD 10		0.02	6.84	49.1	-0.2129	-0.0861	0
277	SLD 11		-0.06	-4.97	63.44	0.1489	0.0168	-0.0001
277	SLD 12		-0.06	-4.97	63.44	0.1489	0.0168	-0.0001
277	SLD 13		-0.07	1.8	51.58	-0.0575	-0.1413	-0.0001
277	SLD 14		-0.07	1.8	51.58	-0.0575	-0.1413	-0.0001
277	SLD 15		-0.09	-1.75	55.88	0.051	-0.1105	-0.0002
277	SLD 16		-0.09	-1.75	55.88	0.051	-0.1105	-0.0002
277	SLV 1		0.26	8.61	60.78	-0.2703	0.2969	0.0004
277	SLV 2		0.26	8.61	60.78	-0.2703	0.2969	0.0004
277	SLV 3		0.2	0.27	70.99	-0.0151	0.3754	0.0003
277	SLV 4		0.2	0.27	70.99	-0.0151	0.3754	0.0003
277	SLV 5		0.18	16.15	42.89	-0.4991	-0.0269	0.0003
277	SLV 6		0.18	16.15	42.89	-0.4991	-0.0269	0.0003
277	SLV 7		-0.03	-11.63	76.94	0.3514	0.2349	-0.0001
277	SLV 8		-0.03	-11.63	76.94	0.3514	0.2349	-0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
277	SLV 9	0.04	14.28	37.78	-0.4401	-0.2259	0.0001	
277	SLV 10	0.04	14.28	37.78	-0.4401	-0.2259	0.0001	
277	SLV 11	-0.16	-13.5	71.83	0.4105	0.0359	-0.0003	
277	SLV 12	-0.16	-13.5	71.83	0.4105	0.0359	-0.0003	
277	SLV 13	-0.19	2.38	43.72	-0.0736	-0.3665	-0.0003	
277	SLV 14	-0.19	2.38	43.72	-0.0736	-0.3665	-0.0003	
277	SLV 15	-0.25	-5.96	53.94	0.1816	-0.2879	-0.0004	
277	SLV 16	-0.25	-5.96	53.94	0.1816	-0.2879	-0.0004	
278	SLU 1	0	-6.56	52.92	0.2627	0.0096	0	
278	SLU 2	0.01	-5.85	49.92	0.2317	0.0044	0	
278	SLU 3	0.01	-6.75	53.7	0.27	0.0103	0	
278	SLU 4	0.01	-6.32	51.89	0.2515	0.0071	0	
278	SLU 5	0.01	-5.94	50.02	0.2353	0.0049	0	
278	SLU 6	0.01	-6.84	53.79	0.2736	0.0108	0	
278	SLU 7	0.01	-6.41	51.99	0.255	0.0076	0	
278	SLU 8	0.01	-6.74	53.11	0.2698	0.0108	0	
278	SLU 9	0.01	-6.32	51.31	0.2512	0.0076	0	
278	SLU 10	0.01	-6.61	55.93	0.2622	0.006	0	
278	SLU 11	0.01	-7.51	59.71	0.3005	0.0119	0	
278	SLU 12	0.01	-7.08	57.91	0.2819	0.0087	0	
278	SLU 13	0.01	-6.7	56.03	0.2657	0.0066	0	
278	SLU 14	0.01	-7.6	59.8	0.304	0.0124	0	
278	SLU 15	0.01	-7.17	58	0.2854	0.0093	0	
278	SLU 16	0.01	-7.5	59.12	0.3002	0.0124	0	
278	SLU 17	0.01	-7.08	57.32	0.2816	0.0092	0	
278	SLU 18	0.01	-7.64	61.51	0.3062	0.012	0	
278	SLU 19	0.01	-7.22	59.71	0.2876	0.0088	0	
278	SLU 20	0.01	-7.74	61.61	0.3097	0.0125	0	
278	SLU 21	0.01	-7.31	59.81	0.2911	0.0094	0	
278	SLU 22	0.01	-7.34	58.53	0.2938	0.0114	0	
278	SLU 23	0.01	-6.63	55.52	0.2628	0.0061	0	
278	SLU 24	0.01	-7.52	59.3	0.3011	0.012	0	
278	SLU 25	0.01	-7.1	57.5	0.2825	0.0088	0	
278	SLU 26	0.01	-6.72	55.62	0.2663	0.0067	0	
278	SLU 27	0.01	-7.61	59.4	0.3047	0.0126	0	
278	SLU 28	0.01	-7.19	57.59	0.2861	0.0094	0	
278	SLU 29	0.01	-7.52	58.72	0.3008	0.0125	0	
278	SLU 30	0.01	-7.09	56.92	0.2823	0.0093	0	
278	SLU 31	0.01	-7.39	61.54	0.2932	0.0077	0	
278	SLU 32	0.01	-8.28	65.31	0.3316	0.0136	0	
278	SLU 33	0.01	-7.86	63.51	0.313	0.0105	0	
278	SLU 34	0.01	-7.48	61.63	0.2968	0.0083	0	
278	SLU 35	0.01	-8.37	65.41	0.3351	0.0142	0	
278	SLU 36	0.01	-7.95	63.61	0.3165	0.011	0	
278	SLU 37	0.01	-8.28	64.73	0.3313	0.0141	0	
278	SLU 38	0.01	-7.85	62.93	0.3127	0.011	0	
278	SLU 39	0.01	-8.42	67.11	0.3373	0.0137	0	
278	SLU 40	0.01	-7.99	65.31	0.3187	0.0105	0	
278	SLU 41	0.01	-8.51	67.21	0.3408	0.0143	0	
278	SLU 42	0.01	-8.09	65.41	0.3222	0.0111	0	
278	SLU 43	0.01	-8.26	66.88	0.3309	0.0119	0	
278	SLU 44	0.01	-7.55	63.87	0.2999	0.0067	0	
278	SLU 45	0.01	-8.45	67.65	0.3382	0.0125	0	
278	SLU 46	0.01	-8.02	65.85	0.3196	0.0094	0	
278	SLU 47	0.01	-7.64	63.97	0.3034	0.0072	0	
278	SLU 48	0.01	-8.54	67.75	0.3417	0.0131	0	
278	SLU 49	0.01	-8.11	65.95	0.3232	0.0099	0	
278	SLU 50	0.01	-8.45	67.07	0.3379	0.0131	0	
278	SLU 51	0.01	-8.02	65.27	0.3193	0.0099	0	
278	SLU 52	0.01	-8.31	69.89	0.3303	0.0083	0	
278	SLU 53	0.01	-9.21	73.66	0.3686	0.0142	0	
278	SLU 54	0.01	-8.78	71.86	0.3501	0.011	0	
278	SLU 55	0.01	-8.4	69.98	0.3339	0.0088	0	
278	SLU 56	0.01	-9.3	73.76	0.3722	0.0147	0	
278	SLU 57	0.01	-8.87	71.96	0.3536	0.0116	0	
278	SLU 58	0.01	-9.2	73.08	0.3684	0.0147	0	
278	SLU 59	0.01	-8.78	71.28	0.3498	0.0115	0	
278	SLU 60	0.01	-9.35	75.47	0.3743	0.0143	0	
278	SLU 61	0.01	-8.92	73.66	0.3558	0.0111	0	
278	SLU 62	0.01	-9.44	75.56	0.3779	0.0148	0	
278	SLU 63	0.01	-9.01	73.76	0.3593	0.0116	0	
278	SLU 64	0.01	-9.04	72.48	0.3619	0.0137	0	
278	SLU 65	0.01	-8.33	69.48	0.331	0.0084	0	
278	SLU 66	0.01	-9.23	73.25	0.3693	0.0143	0	
278	SLU 67	0.01	-8.8	71.45	0.3507	0.0111	0	
278	SLU 68	0.01	-8.42	69.57	0.3345	0.009	0	
278	SLU 69	0.01	-9.32	73.35	0.3728	0.0149	0	
278	SLU 70	0.01	-8.89	71.55	0.3542	0.0117	0	
278	SLU 71	0.01	-9.22	72.67	0.369	0.0148	0	
278	SLU 72	0.01	-8.8	70.87	0.3504	0.0116	0	
278	SLU 73	0.01	-9.09	75.49	0.3614	0.01	0	
278	SLU 74	0.01	-9.98	79.27	0.3997	0.0159	0	
278	SLU 75	0.01	-9.56	77.47	0.3811	0.0128	0	
278	SLU 76	0.01	-9.18	75.59	0.3649	0.0106	0	
278	SLU 77	0.01	-10.08	79.36	0.4033	0.0165	0	
278	SLU 78	0.01	-9.65	77.56	0.3847	0.0133	0	
278	SLU 79	0.01	-9.98	78.68	0.3994	0.0164	0	
278	SLU 80	0.01	-9.55	76.88	0.3809	0.0133	0	





Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
278	SLU 81		0.01	-10.12	81.07	0.4054	0.016	0	
278	SLU 82		0.01	-9.7	79.27	0.3868	0.0128	0	
278	SLU 83		0.01	-10.21	81.16	0.4089	0.0166	0	
278	SLU 84		0.01	-9.79	79.36	0.3904	0.0134	0	
278	SLE RA 1		0.01	-6.78	54.52	0.2716	0.0101	0	
278	SLE RA 2		0.01	-6.31	52.52	0.2509	0.0066	0	
278	SLE RA 3		0.01	-6.91	55.04	0.2765	0.0105	0	
278	SLE RA 4		0.01	-6.62	53.84	0.2641	0.0084	0	
278	SLE RA 5		0.01	-6.37	52.58	0.2533	0.007	0	
278	SLE RA 6		0.01	-6.97	55.1	0.2788	0.0109	0	
278	SLE RA 7		0.01	-6.68	53.9	0.2664	0.0088	0	
278	SLE RA 8		0.01	-6.9	54.65	0.2763	0.0109	0	
278	SLE RA 9		0.01	-6.62	53.45	0.2639	0.0088	0	
278	SLE RA 10		0.01	-6.81	56.53	0.2712	0.0077	0	
278	SLE RA 11		0.01	-7.41	59.05	0.2968	0.0116	0	
278	SLE RA 12		0.01	-7.13	57.85	0.2844	0.0095	0	
278	SLE RA 13		0.01	-6.88	56.59	0.2736	0.0081	0	
278	SLE RA 14		0.01	-7.47	59.11	0.2991	0.012	0	
278	SLE RA 15		0.01	-7.19	57.91	0.2867	0.0099	0	
278	SLE RA 16		0.01	-7.41	58.66	0.2966	0.012	0	
278	SLE RA 17		0.01	-7.13	57.46	0.2842	0.0099	0	
278	SLE RA 18		0.01	-7.5	60.25	0.3006	0.0117	0	
278	SLE RA 19		0.01	-7.22	59.05	0.2882	0.0096	0	
278	SLE RA 20		0.01	-7.57	60.31	0.3029	0.0121	0	
278	SLE RA 21		0.01	-7.28	59.11	0.2905	0.0099	0	
278	SLE FR 1		0.01	-6.78	54.52	0.2716	0.0101	0	
278	SLE FR 2		0.01	-6.69	54.12	0.2675	0.0094	0	
278	SLE FR 3		0.01	-6.81	54.55	0.2725	0.0103	0	
278	SLE FR 4		0.01	-6.9	55.84	0.2761	0.0099	0	
278	SLE FR 5		0.01	-7.02	56.27	0.2812	0.0108	0	
278	SLE FR 6		0.01	-7.14	57.39	0.2861	0.0109	0	
278	SLE QP 1		0.01	-6.78	54.52	0.2716	0.0101	0	
278	SLE QP 2		0.01	-7	56.24	0.2803	0.0106	0	
278	SLD 1		0.04	-4.07	37.38	0.1587	0.0932	0.0001	
278	SLD 2		0.04	-4.07	37.38	0.1587	0.0932	0.0001	
278	SLD 3		0.15	-7.1	44.66	0.287	0.1648	0.0001	
278	SLD 4		0.15	-7.1	44.66	0.287	0.1648	0.0001	
278	SLD 5		-0.15	-1.53	39.54	0.0491	-0.0733	-0.0001	
278	SLD 6		-0.15	-1.53	39.54	0.0491	-0.0733	-0.0001	
278	SLD 7		0.21	-11.62	63.81	0.477	0.1655	0.0001	
278	SLD 8		0.21	-11.62	63.81	0.477	0.1655	0.0001	
278	SLD 9		-0.2	-2.38	48.67	0.0836	-0.1443	-0.0001	
278	SLD 10		-0.2	-2.38	48.67	0.0836	-0.1443	-0.0001	
278	SLD 11		0.16	-12.47	72.94	0.5114	0.0945	0.0001	
278	SLD 12		0.16	-12.47	72.94	0.5114	0.0945	0.0001	
278	SLD 13		-0.14	-6.9	67.82	0.2735	-0.1436	-0.0001	
278	SLD 14		-0.14	-6.9	67.82	0.2735	-0.1436	-0.0001	
278	SLD 15		-0.03	-9.93	75.1	0.4019	-0.072	-0.0001	
278	SLD 16		-0.03	-9.93	75.1	0.4019	-0.072	-0.0001	
278	SLV 1		0.09	-0.14	12	-0.005	0.209	0.0002	
278	SLV 2		0.09	-0.14	12	-0.005	0.209	0.0002	
278	SLV 3		0.35	-7.22	29.17	0.2954	0.3905	0.0003	
278	SLV 4		0.35	-7.22	29.17	0.2954	0.3905	0.0003	
278	SLV 5		-0.38	5.8	16.92	-0.2608	-0.2053	-0.0002	
278	SLV 6		-0.38	5.8	16.92	-0.2608	-0.2053	-0.0002	
278	SLV 7		0.52	-17.81	74.17	0.7403	0.4	0.0003	
278	SLV 8		0.52	-17.81	74.17	0.7403	0.4	0.0003	
278	SLV 9		-0.5	3.81	38.31	-0.1797	-0.3788	-0.0003	
278	SLV 10		-0.5	3.81	38.31	-0.1797	-0.3788	-0.0003	
278	SLV 11		0.39	-19.8	95.56	0.8213	0.2265	0.0002	
278	SLV 12		0.39	-19.8	95.56	0.8213	0.2265	0.0002	
278	SLV 13		-0.34	-6.78	83.31	0.2652	-0.3693	-0.0003	
278	SLV 14		-0.34	-6.78	83.31	0.2652	-0.3693	-0.0003	
278	SLV 15		-0.07	-13.86	100.48	0.5655	-0.1877	-0.0001	
278	SLV 16		-0.07	-13.86	100.48	0.5655	-0.1877	-0.0001	
279	SLU 1		0	-0.51	36.61	-0.0008	-0.0014	0	
279	SLU 2		0	-0.51	36.59	-0.0007	-0.0015	0	
279	SLU 3		0	-0.7	37.01	0.0076	-0.0014	0	
279	SLU 4		0	-0.71	36.99	0.0077	-0.0014	0	
279	SLU 5		0	-0.74	36.39	0.0095	-0.0014	0	
279	SLU 6		0	-0.93	36.81	0.0178	-0.0013	0	
279	SLU 7		0	-0.94	36.79	0.0178	-0.0013	0	
279	SLU 8		0	-0.97	36.21	0.0196	-0.0013	0	
279	SLU 9		0	-0.97	36.2	0.0197	-0.0013	0	
279	SLU 10		0	-0.56	42.44	-0.0028	-0.0015	0	
279	SLU 11		0	-0.76	42.86	0.0055	-0.0014	0	
279	SLU 12		0	-0.76	42.85	0.0055	-0.0014	0	
279	SLU 13		0	-0.79	42.24	0.0074	-0.0014	0	
279	SLU 14		0	-0.99	42.66	0.0157	-0.0014	0	
279	SLU 15		0	-0.99	42.65	0.0157	-0.0014	0	
279	SLU 16		0	-1.02	42.07	0.0175	-0.0013	0	
279	SLU 17		0	-1.02	42.05	0.0175	-0.0013	0	
279	SLU 18		0	-0.58	44.97	-0.0038	-0.0015	0	
279	SLU 19		0	-0.58	44.96	-0.0037	-0.0015	0	
279	SLU 20		0	-0.81	44.77	0.0064	-0.0014	0	
279	SLU 21		0	-0.81	44.76	0.0065	-0.0014	0	
279	SLU 22		0	-0.67	41.82	0.0023	-0.0015	0	
279	SLU 23		0	-0.67	41.79	0.0024	-0.0015	0	



Nodo Ind.	Cont. N.br.	Reazione a traslazione				Reazione a rotazione			
		x	y	z		x	y	z	
279	SLU 24	0	-0.86	42.21	0.0107	-0.0015	0		
279	SLU 25	0	-0.87	42.2	0.0107	-0.0015	0		
279	SLU 26	0	-0.9	41.59	0.0126	-0.0014	0		
279	SLU 27	0	-1.09	42.01	0.0209	-0.0014	0		
279	SLU 28	0	-1.1	42	0.0209	-0.0014	0		
279	SLU 29	0	-1.13	41.42	0.0227	-0.0013	0		
279	SLU 30	0	-1.13	41.4	0.0227	-0.0014	0		
279	SLU 31	0	-0.72	47.64	0.0003	-0.0015	0		
279	SLU 32	0	-0.92	48.06	0.0086	-0.0015	0		
279	SLU 33	0	-0.92	48.05	0.0086	-0.0015	0		
279	SLU 34	0	-0.95	47.44	0.0105	-0.0015	0		
279	SLU 35	0	-1.15	47.86	0.0188	-0.0014	0		
279	SLU 36	0	-1.15	47.85	0.0188	-0.0014	0		
279	SLU 37	0	-1.18	47.27	0.0206	-0.0014	0		
279	SLU 38	0	-1.18	47.25	0.0206	-0.0014	0		
279	SLU 39	0	-0.74	50.18	-0.0007	-0.0015	0		
279	SLU 40	0	-0.74	50.16	-0.0007	-0.0015	0		
279	SLU 41	0	-0.97	49.98	0.0095	-0.0014	0		
279	SLU 42	0	-0.97	49.96	0.0095	-0.0015	0		
279	SLU 43	0	-0.6	45.81	-0.0021	-0.0018	0		
279	SLU 44	0	-0.61	45.79	-0.002	-0.0019	0		
279	SLU 45	0	-0.8	46.21	0.0063	-0.0018	0		
279	SLU 46	0	-0.8	46.19	0.0064	-0.0018	0		
279	SLU 47	0	-0.84	45.59	0.0082	-0.0018	0		
279	SLU 48	0	-1.03	46.01	0.0165	-0.0017	0		
279	SLU 49	0	-1.03	45.99	0.0166	-0.0018	0		
279	SLU 50	0	-1.06	45.41	0.0183	-0.0017	0		
279	SLU 51	0	-1.06	45.4	0.0184	-0.0017	0		
279	SLU 52	0	-0.66	51.64	-0.0041	-0.0019	0		
279	SLU 53	0	-0.85	52.06	0.0042	-0.0018	0		
279	SLU 54	0	-0.85	52.05	0.0043	-0.0019	0		
279	SLU 55	0	-0.89	51.44	0.0061	-0.0018	0		
279	SLU 56	0	-1.08	51.86	0.0144	-0.0018	0		
279	SLU 57	0	-1.08	51.85	0.0144	-0.0018	0		
279	SLU 58	0	-1.11	51.27	0.0162	-0.0017	0		
279	SLU 59	0	-1.12	51.25	0.0163	-0.0017	0		
279	SLU 60	0	-0.68	54.18	-0.0051	-0.0019	0		
279	SLU 61	0	-0.68	54.16	-0.005	-0.0019	0		
279	SLU 62	0	-0.91	53.98	0.0051	-0.0018	0		
279	SLU 63	0	-0.91	53.96	0.0052	-0.0018	0		
279	SLU 64	0	-0.76	51.02	0.001	-0.0019	0		
279	SLU 65	0	-0.77	50.99	0.0011	-0.0019	0		
279	SLU 66	0	-0.96	51.41	0.0094	-0.0019	0		
279	SLU 67	0	-0.96	51.4	0.0094	-0.0019	0		
279	SLU 68	0	-1	50.79	0.0113	-0.0018	0		
279	SLU 69	0	-1.19	51.21	0.0196	-0.0018	0		
279	SLU 70	0	-1.19	51.2	0.0196	-0.0018	0		
279	SLU 71	0	-1.22	50.62	0.0214	-0.0017	0		
279	SLU 72	0	-1.22	50.6	0.0215	-0.0018	0		
279	SLU 73	0	-0.82	56.84	-0.001	-0.0019	0		
279	SLU 74	0	-1.01	57.26	0.0073	-0.0019	0		
279	SLU 75	0	-1.01	57.25	0.0073	-0.0019	0		
279	SLU 76	0	-1.05	56.64	0.0092	-0.0019	0		
279	SLU 77	0	-1.24	57.06	0.0175	-0.0018	0		
279	SLU 78	0	-1.24	57.05	0.0175	-0.0018	0		
279	SLU 79	0	-1.27	56.47	0.0193	-0.0018	0		
279	SLU 80	0	-1.28	56.45	0.0193	-0.0018	0		
279	SLU 81	0	-0.84	59.38	-0.002	-0.0019	0		
279	SLU 82	0	-0.84	59.36	-0.0019	-0.0019	0		
279	SLU 83	0	-1.07	59.18	0.0082	-0.0018	0		
279	SLU 84	0	-1.07	59.16	0.0082	-0.0019	0		
279	SLE RA 1	0	-0.55	38.1	0.0001	-0.0014	0		
279	SLE RA 2	0	-0.55	38.08	0.0002	-0.0015	0		
279	SLE RA 3	0	-0.68	38.36	0.0057	-0.0014	0		
279	SLE RA 4	0	-0.69	38.35	0.0057	-0.0014	0		
279	SLE RA 5	0	-0.71	37.95	0.007	-0.0014	0		
279	SLE RA 6	0	-0.84	38.23	0.0125	-0.0014	0		
279	SLE RA 7	0	-0.84	38.22	0.0125	-0.0014	0		
279	SLE RA 8	0	-0.86	37.83	0.0137	-0.0013	0		
279	SLE RA 9	0	-0.86	37.82	0.0137	-0.0014	0		
279	SLE RA 10	0	-0.59	41.99	-0.0012	-0.0015	0		
279	SLE RA 11	0	-0.72	42.27	0.0043	-0.0014	0		
279	SLE RA 12	0	-0.72	42.26	0.0043	-0.0015	0		
279	SLE RA 13	0	-0.74	41.85	0.0056	-0.0014	0		
279	SLE RA 14	0	-0.87	42.13	0.0111	-0.0014	0		
279	SLE RA 15	0	-0.87	42.12	0.0111	-0.0014	0		
279	SLE RA 16	0	-0.89	41.74	0.0123	-0.0014	0		
279	SLE RA 17	0	-0.89	41.73	0.0123	-0.0014	0		
279	SLE RA 18	0	-0.6	43.67	-0.0019	-0.0015	0		
279	SLE RA 19	0	-0.6	43.66	-0.0019	-0.0015	0		
279	SLE RA 20	0	-0.75	43.54	0.0049	-0.0014	0		
279	SLE RA 21	0	-0.76	43.53	0.0049	-0.0014	0		
279	SLE FR 1	0	-0.55	38.1	0.0001	-0.0014	0		
279	SLE FR 2	0	-0.55	38.1	0.0001	-0.0014	0		
279	SLE FR 3	0	-0.61	38.05	0.0028	-0.0014	0		
279	SLE FR 4	0	-0.57	39.77	-0.0005	-0.0015	0		
279	SLE FR 5	0	-0.63	39.72	0.0022	-0.0014	0		
279	SLE FR 6	0	-0.58	40.89	-0.0009	-0.0015	0		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
279	SLE QP 1	0	-0.55	38.1	0.0001	-0.0014	0
279	SLE QP 2	0	-0.57	39.77	-0.0005	-0.0014	0
279	SLD 1	-0.07	0.16	41.05	-0.0307	-0.0557	0
279	SLD 2	-0.07	0.16	41.05	-0.0307	-0.0557	0
279	SLD 3	-0.04	-3.73	40.53	0.1327	-0.0342	0
279	SLD 4	-0.04	-3.73	40.53	0.1327	-0.0342	0
279	SLD 5	-0.06	5.55	40.94	-0.2573	-0.0502	0
279	SLD 6	-0.06	5.55	40.94	-0.2573	-0.0502	0
279	SLD 7	0.03	-7.42	39.21	0.2872	0.0212	0
279	SLD 8	0.03	-7.42	39.21	0.2872	0.0212	0
279	SLD 9	-0.03	6.28	40.33	-0.2882	-0.0241	0
279	SLD 10	-0.03	6.28	40.33	-0.2882	-0.0241	0
279	SLD 11	0.06	-6.69	38.6	0.2563	0.0473	0
279	SLD 12	0.06	-6.69	38.6	0.2563	0.0473	0
279	SLD 13	0.04	2.59	39.02	-0.1337	0.0313	0
279	SLD 14	0.04	2.59	39.02	-0.1337	0.0313	0
279	SLD 15	0.06	-1.3	38.5	0.0297	0.0528	0
279	SLD 16	0.06	-1.3	38.5	0.0297	0.0528	0
279	SLV 1	-0.17	1.16	42.82	-0.0719	-0.1392	-0.0001
279	SLV 2	-0.17	1.16	42.82	-0.0719	-0.1392	-0.0001
279	SLV 3	-0.1	-8	41.54	0.313	-0.0852	0
279	SLV 4	-0.1	-8	41.54	0.313	-0.0852	0
279	SLV 5	-0.16	13.85	42.64	-0.6056	-0.1248	-0.0001
279	SLV 6	-0.16	13.85	42.64	-0.6056	-0.1248	-0.0001
279	SLV 7	0.07	-16.7	38.35	0.6772	0.0554	0.0001
279	SLV 8	0.07	-16.7	38.35	0.6772	0.0554	0.0001
279	SLV 9	-0.08	15.56	41.2	-0.6782	-0.0583	-0.0001
279	SLV 10	-0.08	15.56	41.2	-0.6782	-0.0583	-0.0001
279	SLV 11	0.15	-14.99	36.9	0.6046	0.1219	0.0001
279	SLV 12	0.15	-14.99	36.9	0.6046	0.1219	0.0001
279	SLV 13	0.1	6.87	38.01	-0.3139	0.0823	0.0001
279	SLV 14	0.1	6.87	38.01	-0.3139	0.0823	0.0001
279	SLV 15	0.17	-2.3	36.72	0.0709	0.1363	0.0001
279	SLV 16	0.17	-2.3	36.72	0.0709	0.1363	0.0001
280	SLU 1	-0.01	-7.25	28.65	0.1722	-0.0023	-0.0004
280	SLU 2	-0.01	-7.14	28.32	0.1685	-0.0023	-0.0004
280	SLU 3	-0.01	-7.49	29.6	0.1774	-0.0023	-0.0004
280	SLU 4	-0.01	-7.42	29.4	0.1752	-0.0023	-0.0004
280	SLU 5	-0.01	-7.26	28.87	0.1706	-0.0023	-0.0004
280	SLU 6	-0.01	-7.61	30.15	0.1795	-0.0023	-0.0004
280	SLU 7	-0.01	-7.54	29.95	0.1773	-0.0023	-0.0004
280	SLU 8	-0.01	-7.5	29.76	0.1764	-0.0023	-0.0004
280	SLU 9	-0.01	-7.43	29.55	0.1742	-0.0023	-0.0004
280	SLU 10	-0.01	-8.46	33.3	0.2018	-0.0027	-0.0005
280	SLU 11	-0.01	-8.81	34.59	0.2108	-0.0028	-0.0005
280	SLU 12	-0.01	-8.74	34.39	0.2086	-0.0028	-0.0005
280	SLU 13	-0.01	-8.58	33.85	0.2039	-0.0027	-0.0005
280	SLU 14	-0.01	-8.93	35.14	0.2129	-0.0028	-0.0005
280	SLU 15	-0.01	-8.86	34.94	0.2107	-0.0028	-0.0005
280	SLU 16	-0.01	-8.82	34.74	0.2097	-0.0028	-0.0005
280	SLU 17	-0.01	-8.75	34.54	0.2075	-0.0028	-0.0005
280	SLU 18	-0.01	-9.14	35.78	0.2199	-0.0029	-0.0005
280	SLU 19	-0.01	-9.08	35.57	0.2176	-0.0029	-0.0005
280	SLU 20	-0.01	-9.26	36.33	0.222	-0.0029	-0.0005
280	SLU 21	-0.01	-9.2	36.12	0.2197	-0.0029	-0.0005
280	SLU 22	-0.01	-8.47	33.32	0.2023	-0.0027	-0.0005
280	SLU 23	-0.01	-8.36	32.98	0.1986	-0.0027	-0.0005
280	SLU 24	-0.01	-8.71	34.27	0.2076	-0.0027	-0.0005
280	SLU 25	-0.01	-8.64	34.07	0.2053	-0.0027	-0.0005
280	SLU 26	-0.01	-8.48	33.54	0.2007	-0.0027	-0.0005
280	SLU 27	-0.01	-8.83	34.82	0.2097	-0.0027	-0.0005
280	SLU 28	-0.01	-8.76	34.62	0.2074	-0.0027	-0.0005
280	SLU 29	-0.01	-8.72	34.42	0.2065	-0.0027	-0.0005
280	SLU 30	-0.01	-8.65	34.22	0.2043	-0.0027	-0.0005
280	SLU 31	-0.01	-9.68	37.97	0.232	-0.0031	-0.0005
280	SLU 32	-0.01	-10.03	39.25	0.2409	-0.0032	-0.0005
280	SLU 33	-0.01	-9.96	39.05	0.2387	-0.0032	-0.0005
280	SLU 34	-0.01	-9.8	38.52	0.2341	-0.0031	-0.0005
280	SLU 35	-0.01	-10.15	39.81	0.243	-0.0032	-0.0005
280	SLU 36	-0.01	-10.08	39.6	0.2408	-0.0032	-0.0005
280	SLU 37	-0.01	-10.04	39.41	0.2399	-0.0032	-0.0005
280	SLU 38	-0.01	-9.97	39.21	0.2377	-0.0032	-0.0005
280	SLU 39	-0.01	-10.36	40.44	0.25	-0.0033	-0.0006
280	SLU 40	-0.01	-10.3	40.24	0.2478	-0.0033	-0.0006
280	SLU 41	-0.01	-10.49	40.99	0.2521	-0.0033	-0.0006
280	SLU 42	-0.01	-10.42	40.79	0.2499	-0.0033	-0.0006
280	SLU 43	-0.01	-9.01	35.65	0.2135	-0.0028	-0.0005
280	SLU 44	-0.01	-8.9	35.31	0.2098	-0.0028	-0.0005
280	SLU 45	-0.01	-9.24	36.6	0.2187	-0.0029	-0.0005
280	SLU 46	-0.01	-9.18	36.4	0.2165	-0.0029	-0.0005
280	SLU 47	-0.01	-9.02	35.87	0.2119	-0.0028	-0.0005
280	SLU 48	-0.01	-9.37	37.15	0.2208	-0.0029	-0.0005
280	SLU 49	-0.01	-9.3	36.95	0.2186	-0.0029	-0.0005
280	SLU 50	-0.01	-9.25	36.75	0.2177	-0.0028	-0.0005
280	SLU 51	-0.01	-9.18	36.55	0.2155	-0.0029	-0.0005
280	SLU 52	-0.01	-10.22	40.3	0.2432	-0.0033	-0.0006
280	SLU 53	-0.01	-10.57	41.58	0.2521	-0.0033	-0.0006
280	SLU 54	-0.01	-10.5	41.38	0.2499	-0.0033	-0.0006



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
280	SLU 55	-0.01	-10.34	40.85	0.2453	-0.0033	-0.0006		
280	SLU 56	-0.01	-10.69	42.14	0.2542	-0.0033	-0.0006		
280	SLU 57	-0.01	-10.62	41.93	0.252	-0.0033	-0.0006		
280	SLU 58	-0.01	-10.58	41.74	0.2511	-0.0033	-0.0006		
280	SLU 59	-0.01	-10.51	41.54	0.2488	-0.0033	-0.0006		
280	SLU 60	-0.01	-10.9	42.77	0.2612	-0.0034	-0.0006		
280	SLU 61	-0.01	-10.83	42.57	0.259	-0.0034	-0.0006		
280	SLU 62	-0.01	-11.02	43.32	0.2633	-0.0035	-0.0006		
280	SLU 63	-0.01	-10.95	43.12	0.261	-0.0035	-0.0006		
280	SLU 64	-0.01	-10.23	40.32	0.2437	-0.0032	-0.0005		
280	SLU 65	-0.01	-10.12	39.98	0.2399	-0.0032	-0.0005		
280	SLU 66	-0.01	-10.46	41.27	0.2489	-0.0033	-0.0006		
280	SLU 67	-0.01	-10.4	41.06	0.2467	-0.0033	-0.0006		
280	SLU 68	-0.01	-10.24	40.53	0.242	-0.0032	-0.0006		
280	SLU 69	-0.01	-10.59	41.82	0.251	-0.0033	-0.0006		
280	SLU 70	-0.01	-10.52	41.62	0.2488	-0.0033	-0.0006		
280	SLU 71	-0.01	-10.47	41.42	0.2478	-0.0032	-0.0006		
280	SLU 72	-0.01	-10.4	41.22	0.2456	-0.0033	-0.0006		
280	SLU 73	-0.01	-11.44	44.97	0.2733	-0.0037	-0.0006		
280	SLU 74	-0.01	-11.79	46.25	0.2822	-0.0037	-0.0006		
280	SLU 75	-0.01	-11.72	46.05	0.28	-0.0037	-0.0006		
280	SLU 76	-0.01	-11.56	45.52	0.2754	-0.0037	-0.0006		
280	SLU 77	-0.01	-11.91	46.8	0.2843	-0.0037	-0.0006		
280	SLU 78	-0.01	-11.84	46.6	0.2821	-0.0037	-0.0006		
280	SLU 79	-0.01	-11.8	46.4	0.2812	-0.0037	-0.0006		
280	SLU 80	-0.01	-11.73	46.2	0.279	-0.0037	-0.0006		
280	SLU 81	-0.01	-12.12	47.44	0.2913	-0.0038	-0.0007		
280	SLU 82	-0.01	-12.05	47.24	0.2891	-0.0038	-0.0007		
280	SLU 83	-0.01	-12.24	47.99	0.2934	-0.0039	-0.0007		
280	SLU 84	-0.01	-12.17	47.79	0.2912	-0.0039	-0.0007		
280	SLE RA 1	-0.01	-7.6	29.99	0.1808	-0.0024	-0.0004		
280	SLE RA 2	-0.01	-7.53	29.76	0.1783	-0.0024	-0.0004		
280	SLE RA 3	-0.01	-7.76	30.62	0.1843	-0.0024	-0.0004		
280	SLE RA 4	-0.01	-7.71	30.49	0.1828	-0.0024	-0.0004		
280	SLE RA 5	-0.01	-7.61	30.13	0.1797	-0.0024	-0.0004		
280	SLE RA 6	-0.01	-7.84	30.99	0.1857	-0.0024	-0.0004		
280	SLE RA 7	-0.01	-7.79	30.85	0.1842	-0.0024	-0.0004		
280	SLE RA 8	-0.01	-7.76	30.72	0.1836	-0.0024	-0.0004		
280	SLE RA 9	-0.01	-7.72	30.59	0.1821	-0.0024	-0.0004		
280	SLE RA 10	-0.01	-8.41	33.09	0.2006	-0.0027	-0.0005		
280	SLE RA 11	-0.01	-8.64	33.94	0.2065	-0.0027	-0.0005		
280	SLE RA 12	-0.01	-8.59	33.81	0.205	-0.0027	-0.0005		
280	SLE RA 13	-0.01	-8.49	33.45	0.202	-0.0027	-0.0005		
280	SLE RA 14	-0.01	-8.72	34.31	0.2079	-0.0027	-0.0005		
280	SLE RA 15	-0.01	-8.67	34.18	0.2064	-0.0027	-0.0005		
280	SLE RA 16	-0.01	-8.65	34.05	0.2058	-0.0027	-0.0005		
280	SLE RA 17	-0.01	-8.6	33.91	0.2044	-0.0027	-0.0005		
280	SLE RA 18	-0.01	-8.86	34.74	0.2126	-0.0028	-0.0005		
280	SLE RA 19	-0.01	-8.82	34.6	0.2111	-0.0028	-0.0005		
280	SLE RA 20	-0.01	-8.94	35.1	0.214	-0.0028	-0.0005		
280	SLE RA 21	-0.01	-8.9	34.97	0.2125	-0.0028	-0.0005		
280	SLE FR 1	-0.01	-7.6	29.99	0.1808	-0.0024	-0.0004		
280	SLE FR 2	-0.01	-7.59	29.94	0.1803	-0.0024	-0.0004		
280	SLE FR 3	-0.01	-7.63	30.14	0.1814	-0.0024	-0.0004		
280	SLE FR 4	-0.01	-7.96	31.37	0.1898	-0.0025	-0.0004		
280	SLE FR 5	-0.01	-8.01	31.56	0.1909	-0.0025	-0.0004		
280	SLE FR 6	-0.01	-8.23	32.36	0.1967	-0.0026	-0.0004		
280	SLE QP 1	-0.01	-7.6	29.99	0.1808	-0.0024	-0.0004		
280	SLE QP 2	-0.01	-7.98	31.41	0.1903	-0.0025	-0.0004		
280	SLD 1	-0.34	-8.18	31.93	0.1976	0.0307	0.0031		
280	SLD 2	-0.34	-8.18	31.93	0.1976	0.0307	0.0031		
280	SLD 3	-0.29	-11.31	41.05	0.3055	0.024	0.0022		
280	SLD 4	-0.29	-11.31	41.05	0.3055	0.024	0.0022		
280	SLD 5	-0.17	-3.29	17.73	0.0289	0.0176	0.0021		
280	SLD 6	-0.17	-3.29	17.73	0.0289	0.0176	0.0021		
280	SLD 7	-0.02	-13.73	48.14	0.3885	-0.0047	-0.0011		
280	SLD 8	-0.02	-13.73	48.14	0.3885	-0.0047	-0.0011		
280	SLD 9	0.01	-2.23	14.69	-0.0078	-0.0003	0.0002		
280	SLD 10	0.01	-2.23	14.69	-0.0078	-0.0003	0.0002		
280	SLD 11	0.16	-12.67	45.09	0.3518	-0.0226	-0.0029		
280	SLD 12	0.16	-12.67	45.09	0.3518	-0.0226	-0.0029		
280	SLD 13	0.28	-4.64	21.78	0.0752	-0.029	-0.0031		
280	SLD 14	0.28	-4.64	21.78	0.0752	-0.029	-0.0031		
280	SLD 15	0.32	-7.78	30.9	0.1831	-0.0357	-0.004		
280	SLD 16	0.32	-7.78	30.9	0.1831	-0.0357	-0.004		
280	SLV 1	-0.85	-8.45	32.59	0.2074	0.0813	0.0083		
280	SLV 2	-0.85	-8.45	32.59	0.2074	0.0813	0.0083		
280	SLV 3	-0.73	-15.85	54.16	0.4624	0.0644	0.006		
280	SLV 4	-0.73	-15.85	54.16	0.4624	0.0644	0.006		
280	SLV 5	-0.43	3.11	-0.94	-0.1912	0.0482	0.0058		
280	SLV 6	-0.43	3.11	-0.94	-0.1912	0.0482	0.0058		
280	SLV 7	-0.05	-21.57	70.94	0.6586	-0.008	-0.0021		
280	SLV 8	-0.05	-21.57	70.94	0.6586	-0.008	-0.0021		
280	SLV 9	0.04	5.61	-8.12	-0.278	0.003	0.0012		
280	SLV 10	0.04	5.61	-8.12	-0.278	0.003	0.0012		
280	SLV 11	0.42	-19.06	63.76	0.5719	-0.0533	-0.0066		
280	SLV 12	0.42	-19.06	63.76	0.5719	-0.0533	-0.0066		
280	SLV 13	0.72	-0.11	8.67	-0.0817	-0.0694	-0.0068		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
280	SLV 14	0.72	-0.11	8.67	-0.0817	-0.0694	-0.0068
280	SLV 15	0.83	-7.51	30.23	0.1733	-0.0863	-0.0092
280	SLV 16	0.83	-7.51	30.23	0.1733	-0.0863	-0.0092
281	SLU 1	0	1.89	38.21	-0.2882	0.0005	0
281	SLU 2	0	1.89	38.18	-0.2874	0.0005	0
281	SLU 3	0	1.73	38.74	-0.291	0.0005	0
281	SLU 4	0	1.73	38.72	-0.2905	0.0005	0
281	SLU 5	0	1.65	38.09	-0.2844	0.0006	0
281	SLU 6	0	1.49	38.66	-0.2879	0.0006	0
281	SLU 7	0	1.49	38.64	-0.2875	0.0006	0
281	SLU 8	0	1.42	38.04	-0.2822	0.0006	0
281	SLU 9	0	1.41	38.02	-0.2817	0.0006	0
281	SLU 10	0	2.23	44.38	-0.3365	0.0006	0
281	SLU 11	0	2.07	44.94	-0.34	0.0006	0
281	SLU 12	0	2.07	44.92	-0.3395	0.0007	0
281	SLU 13	0	1.99	44.29	-0.3334	0.0007	0
281	SLU 14	0	1.83	44.85	-0.3369	0.0007	0
281	SLU 15	0	1.83	44.83	-0.3365	0.0007	0
281	SLU 16	0	1.76	44.23	-0.3312	0.0007	0
281	SLU 17	0	1.76	44.21	-0.3307	0.0008	0
281	SLU 18	0	2.38	47.06	-0.3582	0.0006	0
281	SLU 19	0	2.38	47.04	-0.3578	0.0006	0
281	SLU 20	0	2.14	46.97	-0.3552	0.0007	0
281	SLU 21	0	2.14	46.96	-0.3547	0.0007	0
281	SLU 22	0	2.14	43.36	-0.3323	0.0006	0
281	SLU 23	0	2.13	43.33	-0.3315	0.0006	0
281	SLU 24	0	1.97	43.89	-0.3351	0.0007	0
281	SLU 25	0	1.97	43.87	-0.3346	0.0007	0
281	SLU 26	0	1.89	43.24	-0.3285	0.0007	0
281	SLU 27	0	1.73	43.8	-0.332	0.0007	0
281	SLU 28	0	1.73	43.79	-0.3316	0.0008	0
281	SLU 29	0	1.66	43.19	-0.3262	0.0008	0
281	SLU 30	0	1.66	43.17	-0.3258	0.0008	0
281	SLU 31	0	2.47	49.52	-0.3805	0.0007	0
281	SLU 32	0	2.31	50.08	-0.3841	0.0008	0
281	SLU 33	0	2.31	50.07	-0.3836	0.0008	0
281	SLU 34	0	2.24	49.44	-0.3775	0.0008	0
281	SLU 35	0	2.07	50	-0.381	0.0009	0
281	SLU 36	0	2.07	49.98	-0.3806	0.0009	0
281	SLU 37	0	2	49.38	-0.3752	0.0009	0
281	SLU 38	0	2	49.36	-0.3748	0.0009	0
281	SLU 39	0	2.62	52.21	-0.4023	0.0007	0
281	SLU 40	0	2.62	52.19	-0.4018	0.0008	0
281	SLU 41	0	2.39	52.12	-0.3993	0.0008	0
281	SLU 42	0	2.38	52.1	-0.3988	0.0008	0
281	SLU 43	0	2.38	47.91	-0.3596	0.0005	0
281	SLU 44	0	2.37	47.88	-0.3588	0.0006	0
281	SLU 45	0	2.21	48.44	-0.3623	0.0006	0
281	SLU 46	0	2.21	48.42	-0.3619	0.0006	0
281	SLU 47	0	2.13	47.79	-0.3558	0.0007	0
281	SLU 48	0	1.97	48.35	-0.3593	0.0007	0
281	SLU 49	0	1.97	48.34	-0.3588	0.0007	0
281	SLU 50	0	1.9	47.74	-0.3535	0.0007	0
281	SLU 51	0	1.9	47.72	-0.353	0.0007	0
281	SLU 52	0	2.71	54.07	-0.4078	0.0007	0
281	SLU 53	0	2.55	54.63	-0.4113	0.0007	0
281	SLU 54	0	2.55	54.62	-0.4109	0.0007	0
281	SLU 55	0	2.48	53.99	-0.4048	0.0008	0
281	SLU 56	0	2.32	54.55	-0.4083	0.0008	0
281	SLU 57	0	2.31	54.53	-0.4078	0.0008	0
281	SLU 58	0	2.24	53.93	-0.4025	0.0008	0
281	SLU 59	0	2.24	53.91	-0.402	0.0008	0
281	SLU 60	0	2.86	56.76	-0.4296	0.0007	0
281	SLU 61	0	2.86	56.74	-0.4291	0.0007	0
281	SLU 62	0	2.63	56.67	-0.4266	0.0008	0
281	SLU 63	0	2.62	56.65	-0.4261	0.0008	0
281	SLU 64	0	2.62	53.06	-0.4037	0.0007	0
281	SLU 65	0	2.62	53.03	-0.4029	0.0007	0
281	SLU 66	0	2.46	53.59	-0.4064	0.0007	0
281	SLU 67	0	2.45	53.57	-0.4059	0.0008	0
281	SLU 68	0	2.38	52.94	-0.3998	0.0008	0
281	SLU 69	0	2.22	53.5	-0.4034	0.0008	0
281	SLU 70	0	2.22	53.48	-0.4029	0.0009	0
281	SLU 71	0	2.14	52.89	-0.3976	0.0008	0
281	SLU 72	0	2.14	52.87	-0.3971	0.0009	0
281	SLU 73	0	2.96	59.22	-0.4519	0.0008	0
281	SLU 74	0	2.8	59.78	-0.4554	0.0009	0
281	SLU 75	0	2.79	59.76	-0.455	0.0009	0
281	SLU 76	0	2.72	59.14	-0.4488	0.0009	0
281	SLU 77	0	2.56	59.7	-0.4524	0.001	0
281	SLU 78	0	2.56	59.68	-0.4519	0.001	0
281	SLU 79	0	2.48	59.08	-0.4466	0.001	0
281	SLU 80	0	2.48	59.06	-0.4461	0.001	0
281	SLU 81	0	3.11	61.91	-0.4737	0.0008	0
281	SLU 82	0	3.11	61.89	-0.4732	0.0008	0
281	SLU 83	0	2.87	61.82	-0.4706	0.0009	0
281	SLU 84	0	2.87	61.8	-0.4702	0.0009	0
281	SLE RA 1	0	1.96	39.68	-0.3008	0.0005	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
281	SLE RA 2	0	1.96	39.66	-0.3003	0.0005	0
281	SLE RA 3	0	1.85	40.04	-0.3027	0.0005	0
281	SLE RA 4	0	1.85	40.02	-0.3023	0.0005	0
281	SLE RA 5	0	1.8	39.6	-0.2983	0.0006	0
281	SLE RA 6	0	1.69	39.98	-0.3006	0.0006	0
281	SLE RA 7	0	1.69	39.97	-0.3003	0.0006	0
281	SLE RA 8	0	1.64	39.57	-0.2968	0.0006	0
281	SLE RA 9	0	1.64	39.56	-0.2965	0.0006	0
281	SLE RA 10	0	2.19	43.79	-0.333	0.0006	0
281	SLE RA 11	0	2.08	44.17	-0.3353	0.0006	0
281	SLE RA 12	0	2.08	44.15	-0.335	0.0006	0
281	SLE RA 13	0	2.03	43.73	-0.3309	0.0006	0
281	SLE RA 14	0	1.92	44.11	-0.3333	0.0007	0
281	SLE RA 15	0	1.92	44.1	-0.333	0.0007	0
281	SLE RA 16	0	1.87	43.7	-0.3294	0.0007	0
281	SLE RA 17	0	1.87	43.68	-0.3291	0.0007	0
281	SLE RA 18	0	2.29	45.58	-0.3475	0.0006	0
281	SLE RA 19	0	2.29	45.57	-0.3472	0.0006	0
281	SLE RA 20	0	2.13	45.52	-0.3455	0.0007	0
281	SLE RA 21	0	2.13	45.51	-0.3452	0.0007	0
281	SLE FR 1	0	1.96	39.68	-0.3008	0.0005	0
281	SLE FR 2	0	1.96	39.68	-0.3007	0.0005	0
281	SLE FR 3	0	1.9	39.66	-0.3	0.0005	0
281	SLE FR 4	0	2.06	41.45	-0.3147	0.0005	0
281	SLE FR 5	0	2	41.43	-0.314	0.0005	0
281	SLE FR 6	0	2.12	42.63	-0.3242	0.0005	0
281	SLE QP 1	0	1.96	39.68	-0.3008	0.0005	0
281	SLE QP 2	0	2.06	41.45	-0.3148	0.0005	0
281	SLD 1	-0.05	3.26	39.29	-0.3574	-0.0429	0
281	SLD 2	-0.05	3.26	39.29	-0.3574	-0.0429	0
281	SLD 3	-0.07	-0.73	39.94	-0.1927	-0.0633	0
281	SLD 4	-0.07	-0.73	39.94	-0.1927	-0.0633	0
281	SLD 5	0.02	8.48	39.82	-0.5774	0.0184	0
281	SLD 6	0.02	8.48	39.82	-0.5774	0.0184	0
281	SLD 7	-0.06	-4.83	41.98	-0.0284	-0.0495	0
281	SLD 8	-0.06	-4.83	41.98	-0.0284	-0.0495	0
281	SLD 9	0.06	8.95	40.93	-0.6013	0.0506	0
281	SLD 10	0.06	8.95	40.93	-0.6013	0.0506	0
281	SLD 11	-0.02	-4.36	43.09	-0.0523	-0.0173	0
281	SLD 12	-0.02	-4.36	43.09	-0.0523	-0.0173	0
281	SLD 13	0.08	4.85	42.97	-0.437	0.0643	0
281	SLD 14	0.08	4.85	42.97	-0.437	0.0643	0
281	SLD 15	0.05	0.85	43.62	-0.2723	0.044	0
281	SLD 16	0.05	0.85	43.62	-0.2723	0.044	0
281	SLV 1	-0.13	4.86	36.36	-0.4132	-0.1102	0
281	SLV 2	-0.13	4.86	36.36	-0.4132	-0.1102	0
281	SLV 3	-0.19	-4.52	37.91	-0.0272	-0.162	-0.0001
281	SLV 4	-0.19	-4.52	37.91	-0.0272	-0.162	-0.0001
281	SLV 5	0.06	17.13	37.57	-0.9297	0.0459	0.0001
281	SLV 6	0.06	17.13	37.57	-0.9297	0.0459	0.0001
281	SLV 7	-0.16	-14.14	42.74	0.3569	-0.1268	-0.0001
281	SLV 8	-0.16	-14.14	42.74	0.3569	-0.1268	-0.0001
281	SLV 9	0.16	18.26	40.17	-0.9865	0.1278	0.0001
281	SLV 10	0.16	18.26	40.17	-0.9865	0.1278	0.0001
281	SLV 11	-0.06	-13.01	45.33	0.3001	-0.0448	-0.0001
281	SLV 12	-0.06	-13.01	45.33	0.3001	-0.0448	-0.0001
281	SLV 13	0.2	8.64	45	-0.6024	0.163	0.0001
281	SLV 14	0.2	8.64	45	-0.6024	0.163	0.0001
281	SLV 15	0.13	-0.74	46.55	-0.2164	0.1112	0
281	SLV 16	0.13	-0.74	46.55	-0.2164	0.1112	0
282	SLU 1	-0.01	-5.15	50.54	0.0553	-0.0463	-0.0001
282	SLU 2	-0.02	-4.24	47.25	0.0264	-0.042	-0.0001
282	SLU 3	-0.01	-5.23	51.57	0.055	-0.0475	-0.0001
282	SLU 4	-0.02	-4.68	49.6	0.0376	-0.0449	-0.0001
282	SLU 5	-0.02	-4.23	47.74	0.0245	-0.0427	-0.0001
282	SLU 6	-0.01	-5.22	52.06	0.0531	-0.0482	-0.0001
282	SLU 7	-0.02	-4.67	50.09	0.0357	-0.0456	-0.0001
282	SLU 8	-0.01	-5.13	51.52	0.0515	-0.0477	-0.0001
282	SLU 9	-0.02	-4.58	49.55	0.0342	-0.0451	-0.0001
282	SLU 10	-0.02	-4.79	53.04	0.0297	-0.048	-0.0001
282	SLU 11	-0.02	-5.79	57.36	0.0583	-0.0535	-0.0001
282	SLU 12	-0.02	-5.24	55.39	0.0409	-0.0509	-0.0001
282	SLU 13	-0.02	-4.78	53.53	0.0278	-0.0487	-0.0001
282	SLU 14	-0.02	-5.78	57.85	0.0564	-0.0542	-0.0001
282	SLU 15	-0.02	-5.23	55.88	0.0391	-0.0516	-0.0001
282	SLU 16	-0.02	-5.69	57.3	0.0548	-0.0537	-0.0001
282	SLU 17	-0.02	-5.14	55.33	0.0375	-0.0511	-0.0001
282	SLU 18	-0.02	-5.94	58.8	0.06	-0.0549	-0.0001
282	SLU 19	-0.02	-5.4	56.83	0.0427	-0.0523	-0.0001
282	SLU 20	-0.02	-5.94	59.29	0.0581	-0.0556	-0.0001
282	SLU 21	-0.02	-5.39	57.32	0.0408	-0.053	-0.0001
282	SLU 22	-0.02	-5.69	56.1	0.0586	-0.0521	-0.0001
282	SLU 23	-0.02	-4.78	52.82	0.0298	-0.0478	-0.0001
282	SLU 24	-0.02	-5.77	57.14	0.0583	-0.0533	-0.0001
282	SLU 25	-0.02	-5.22	55.17	0.041	-0.0507	-0.0001
282	SLU 26	-0.02	-4.77	53.31	0.0279	-0.0485	-0.0001
282	SLU 27	-0.02	-5.76	57.63	0.0564	-0.054	-0.0001
282	SLU 28	-0.02	-5.21	55.66	0.0391	-0.0514	-0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
282	SLU 29			-0.02	-5.67	57.09	0.0549	-0.0535	-0.0001
282	SLU 30			-0.02	-5.12	55.12	0.0375	-0.0509	-0.0001
282	SLU 31			-0.02	-5.33	58.6	0.0331	-0.0538	-0.0001
282	SLU 32			-0.02	-6.32	62.93	0.0616	-0.0593	-0.0001
282	SLU 33			-0.02	-5.77	60.96	0.0443	-0.0568	-0.0001
282	SLU 34			-0.02	-5.32	59.1	0.0312	-0.0545	-0.0001
282	SLU 35			-0.02	-6.31	63.42	0.0597	-0.06	-0.0001
282	SLU 36			-0.02	-5.76	61.45	0.0424	-0.0574	-0.0001
282	SLU 37			-0.02	-6.23	62.87	0.0582	-0.0595	-0.0001
282	SLU 38			-0.02	-5.68	60.9	0.0408	-0.0569	-0.0001
282	SLU 39			-0.02	-6.48	64.37	0.0634	-0.0607	-0.0001
282	SLU 40			-0.02	-5.93	62.4	0.046	-0.0581	-0.0001
282	SLU 41			-0.02	-6.47	64.86	0.0615	-0.0614	-0.0001
282	SLU 42			-0.02	-5.92	62.89	0.0442	-0.0588	-0.0001
282	SLU 43			-0.02	-6.52	63.79	0.0707	-0.0582	-0.0001
282	SLU 44			-0.02	-5.6	60.5	0.0418	-0.0539	-0.0001
282	SLU 45			-0.02	-6.59	64.82	0.0704	-0.0594	-0.0001
282	SLU 46			-0.02	-6.04	62.85	0.0531	-0.0568	-0.0001
282	SLU 47			-0.02	-5.59	60.99	0.0399	-0.0546	-0.0001
282	SLU 48			-0.02	-6.58	65.32	0.0685	-0.0601	-0.0001
282	SLU 49			-0.02	-6.03	63.35	0.0512	-0.0575	-0.0001
282	SLU 50			-0.02	-6.5	64.77	0.0669	-0.0596	-0.0001
282	SLU 51			-0.02	-5.95	62.8	0.0496	-0.057	-0.0001
282	SLU 52			-0.02	-6.15	66.29	0.0451	-0.0599	-0.0001
282	SLU 53			-0.02	-7.15	70.61	0.0737	-0.0654	-0.0001
282	SLU 54			-0.02	-6.6	68.64	0.0564	-0.0628	-0.0001
282	SLU 55			-0.02	-6.14	66.78	0.0433	-0.0606	-0.0001
282	SLU 56			-0.02	-7.14	71.1	0.0718	-0.0661	-0.0001
282	SLU 57			-0.02	-6.59	69.13	0.0545	-0.0635	-0.0001
282	SLU 58			-0.02	-7.05	70.56	0.0702	-0.0656	-0.0001
282	SLU 59			-0.02	-6.5	68.59	0.0529	-0.063	-0.0001
282	SLU 60			-0.02	-7.31	72.05	0.0754	-0.0668	-0.0001
282	SLU 61			-0.02	-6.76	70.08	0.0581	-0.0642	-0.0001
282	SLU 62			-0.02	-7.3	72.54	0.0736	-0.0675	-0.0001
282	SLU 63			-0.02	-6.75	70.57	0.0562	-0.0649	-0.0001
282	SLU 64			-0.02	-7.05	69.35	0.0741	-0.064	-0.0001
282	SLU 65			-0.02	-6.14	66.07	0.0452	-0.0597	-0.0001
282	SLU 66			-0.02	-7.13	70.39	0.0737	-0.0652	-0.0001
282	SLU 67			-0.02	-6.58	68.42	0.0564	-0.0626	-0.0001
282	SLU 68			-0.02	-6.13	66.56	0.0433	-0.0604	-0.0001
282	SLU 69			-0.02	-7.12	70.88	0.0719	-0.0659	-0.0001
282	SLU 70			-0.02	-6.57	68.91	0.0545	-0.0633	-0.0001
282	SLU 71			-0.02	-7.03	70.34	0.0703	-0.0654	-0.0001
282	SLU 72			-0.02	-6.48	68.37	0.053	-0.0628	-0.0001
282	SLU 73			-0.02	-6.69	71.86	0.0485	-0.0657	-0.0001
282	SLU 74			-0.02	-7.69	76.18	0.0771	-0.0712	-0.0001
282	SLU 75			-0.02	-7.14	74.21	0.0597	-0.0686	-0.0001
282	SLU 76			-0.02	-6.68	72.35	0.0466	-0.0664	-0.0001
282	SLU 77			-0.02	-7.68	76.67	0.0752	-0.0719	-0.0001
282	SLU 78			-0.02	-7.13	74.7	0.0578	-0.0693	-0.0001
282	SLU 79			-0.02	-7.59	76.12	0.0736	-0.0714	-0.0001
282	SLU 80			-0.02	-7.04	74.15	0.0563	-0.0688	-0.0001
282	SLU 81			-0.02	-7.84	77.62	0.0788	-0.0726	-0.0001
282	SLU 82			-0.02	-7.29	75.65	0.0615	-0.07	-0.0001
282	SLU 83			-0.02	-7.83	78.11	0.0769	-0.0733	-0.0001
282	SLU 84			-0.02	-7.28	76.14	0.0596	-0.0707	-0.0001
282	SLE RA 1			-0.01	-5.31	52.13	0.0562	-0.048	-0.0001
282	SLE RA 2			-0.02	-4.7	49.94	0.037	-0.0451	-0.0001
282	SLE RA 3			-0.01	-5.36	52.82	0.056	-0.0488	-0.0001
282	SLE RA 4			-0.02	-4.99	51.5	0.0445	-0.047	-0.0001
282	SLE RA 5			-0.02	-4.69	50.26	0.0357	-0.0456	-0.0001
282	SLE RA 6			-0.02	-5.35	53.15	0.0548	-0.0492	-0.0001
282	SLE RA 7			-0.02	-4.99	51.83	0.0432	-0.0475	-0.0001
282	SLE RA 8			-0.02	-5.29	52.78	0.0537	-0.0489	-0.0001
282	SLE RA 9			-0.02	-4.93	51.47	0.0422	-0.0472	-0.0001
282	SLE RA 10			-0.02	-5.07	53.79	0.0392	-0.0491	-0.0001
282	SLE RA 11			-0.02	-5.73	56.67	0.0582	-0.0528	-0.0001
282	SLE RA 12			-0.02	-5.36	55.36	0.0467	-0.051	-0.0001
282	SLE RA 13			-0.02	-5.06	54.12	0.0379	-0.0496	-0.0001
282	SLE RA 14			-0.02	-5.72	57	0.057	-0.0532	-0.0001
282	SLE RA 15			-0.02	-5.36	55.69	0.0454	-0.0515	-0.0001
282	SLE RA 16			-0.02	-5.66	56.64	0.0559	-0.0529	-0.0001
282	SLE RA 17			-0.02	-5.3	55.33	0.0444	-0.0512	-0.0001
282	SLE RA 18			-0.02	-5.83	57.64	0.0594	-0.0537	-0.0001
282	SLE RA 19			-0.02	-5.47	56.32	0.0478	-0.052	-0.0001
282	SLE RA 20			-0.02	-5.83	57.96	0.0581	-0.0541	-0.0001
282	SLE RA 21			-0.02	-5.46	56.65	0.0466	-0.0524	-0.0001
282	SLE FR 1			-0.01	-5.31	52.13	0.0562	-0.048	-0.0001
282	SLE FR 2			-0.01	-5.19	51.69	0.0524	-0.0474	-0.0001
282	SLE FR 3			-0.01	-5.3	52.26	0.0557	-0.0481	-0.0001
282	SLE FR 4			-0.02	-5.34	53.34	0.0533	-0.0491	-0.0001
282	SLE FR 5			-0.02	-5.46	53.91	0.0567	-0.0499	-0.0001
282	SLE FR 6			-0.02	-5.57	54.88	0.0578	-0.0508	-0.0001
282	SLE QP 1			-0.01	-5.31	52.13	0.0562	-0.048	-0.0001
282	SLE QP 2			-0.02	-5.47	53.78	0.0572	-0.0497	-0.0001
282	SLD 1			0.01	-2.15	65.32	-0.0678	0.0522	0.0001
282	SLD 2			0.01	-2.15	65.32	-0.0678	0.0522	0.0001
282	SLD 3			-0.11	-5.52	72.44	0.0708	-0.0175	-0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
282	SLD 4	-0.11	-5.52	72.44	0.0708	-0.0175	-0.0002
282	SLD 5	0.18	0.64	46.44	-0.1904	0.0866	0.0004
282	SLD 6	0.18	0.64	46.44	-0.1904	0.0866	0.0004
282	SLD 7	-0.23	-10.59	70.18	0.2714	-0.1457	-0.0006
282	SLD 8	-0.23	-10.59	70.18	0.2714	-0.1457	-0.0006
282	SLD 9	0.2	-0.34	37.38	-0.157	0.0464	0.0004
282	SLD 10	0.2	-0.34	37.38	-0.157	0.0464	0.0004
282	SLD 11	-0.21	-11.57	61.12	0.3048	-0.186	-0.0006
282	SLD 12	-0.21	-11.57	61.12	0.3048	-0.186	-0.0006
282	SLD 13	0.08	-5.42	35.12	0.0436	-0.0819	0
282	SLD 14	0.08	-5.42	35.12	0.0436	-0.0819	0
282	SLD 15	-0.04	-8.79	42.24	0.1822	-0.1516	-0.0003
282	SLD 16	-0.04	-8.79	42.24	0.1822	-0.1516	-0.0003
282	SLV 1	0.05	2.39	80.78	-0.2414	0.1998	0.0004
282	SLV 2	0.05	2.39	80.78	-0.2414	0.1998	0.0004
282	SLV 3	-0.25	-5.49	97.58	0.0813	0.0277	-0.0003
282	SLV 4	-0.25	-5.49	97.58	0.0813	0.0277	-0.0003
282	SLV 5	0.47	8.85	36.41	-0.5219	0.2862	0.0012
282	SLV 6	0.47	8.85	36.41	-0.5219	0.2862	0.0012
282	SLV 7	-0.55	-17.43	92.38	0.5539	-0.2874	-0.0013
282	SLV 8	-0.55	-17.43	92.38	0.5539	-0.2874	-0.0013
282	SLV 9	0.52	6.5	15.17	-0.4395	0.1881	0.0011
282	SLV 10	0.52	6.5	15.17	-0.4395	0.1881	0.0011
282	SLV 11	-0.5	-19.78	71.14	0.6362	-0.3855	-0.0014
282	SLV 12	-0.5	-19.78	71.14	0.6362	-0.3855	-0.0014
282	SLV 13	0.22	-5.44	9.98	0.0331	-0.1271	0.0001
282	SLV 14	0.22	-5.44	9.98	0.0331	-0.1271	0.0001
282	SLV 15	-0.08	-13.32	26.77	0.3558	-0.2992	-0.0006
282	SLV 16	-0.08	-13.32	26.77	0.3558	-0.2992	-0.0006
283	SLU 1	0	-2.68	37.38	0.1325	-0.0015	0
283	SLU 2	0	-2.68	37.35	0.1323	-0.0015	0
283	SLU 3	0	-2.94	38.05	0.1451	-0.0015	0
283	SLU 4	0	-2.93	38.02	0.145	-0.0015	0
283	SLU 5	0	-2.93	37.45	0.1448	-0.0015	0
283	SLU 6	0	-3.19	38.16	0.1576	-0.0014	0
283	SLU 7	0	-3.19	38.13	0.1575	-0.0014	0
283	SLU 8	0	-3.19	37.6	0.1575	-0.0014	0
283	SLU 9	0	-3.19	37.58	0.1574	-0.0014	0
283	SLU 10	0	-3.08	43.23	0.1523	-0.0017	0
283	SLU 11	0	-3.34	43.93	0.1651	-0.0016	0
283	SLU 12	0	-3.34	43.91	0.165	-0.0016	0
283	SLU 13	0	-3.34	43.34	0.1648	-0.0016	0
283	SLU 14	0	-3.6	44.04	0.1776	-0.0016	0
283	SLU 15	0	-3.59	44.02	0.1775	-0.0016	0
283	SLU 16	0	-3.59	43.48	0.1775	-0.0016	0
283	SLU 17	0	-3.59	43.46	0.1774	-0.0016	0
283	SLU 18	0	-3.25	45.79	0.1611	-0.0017	0
283	SLU 19	0	-3.25	45.77	0.161	-0.0017	0
283	SLU 20	0	-3.51	45.9	0.1736	-0.0017	0
283	SLU 21	0	-3.51	45.88	0.1735	-0.0017	0
283	SLU 22	0	-3.17	42.75	0.1567	-0.0016	0
283	SLU 23	0	-3.17	42.71	0.1565	-0.0017	0
283	SLU 24	0	-3.43	43.41	0.1694	-0.0016	0
283	SLU 25	0	-3.43	43.39	0.1693	-0.0016	0
283	SLU 26	0	-3.43	42.82	0.169	-0.0016	0
283	SLU 27	0	-3.69	43.52	0.1818	-0.0016	0
283	SLU 28	0	-3.69	43.5	0.1817	-0.0016	0
283	SLU 29	0	-3.69	42.96	0.1817	-0.0016	0
283	SLU 30	0	-3.69	42.94	0.1816	-0.0016	0
283	SLU 31	0	-3.57	48.59	0.1766	-0.0018	0
283	SLU 32	0	-3.83	49.29	0.1894	-0.0018	0
283	SLU 33	0	-3.83	49.27	0.1893	-0.0018	0
283	SLU 34	0	-3.83	48.7	0.1891	-0.0018	0
283	SLU 35	0	-4.09	49.4	0.2019	-0.0018	0
283	SLU 36	0	-4.09	49.38	0.2018	-0.0018	0
283	SLU 37	0	-4.09	48.85	0.2017	-0.0017	0
283	SLU 38	0	-4.09	48.82	0.2016	-0.0017	0
283	SLU 39	0	-3.75	51.15	0.1853	-0.0019	0
283	SLU 40	0	-3.74	51.13	0.1852	-0.0019	0
283	SLU 41	0	-4	51.26	0.1978	-0.0018	0
283	SLU 42	0	-4	51.24	0.1977	-0.0018	0
283	SLU 43	0	-3.31	46.76	0.1639	-0.0019	0
283	SLU 44	0	-3.31	46.72	0.1637	-0.0019	0
283	SLU 45	0	-3.57	47.42	0.1765	-0.0019	0
283	SLU 46	0	-3.57	47.4	0.1764	-0.0019	0
283	SLU 47	0	-3.57	46.83	0.1762	-0.0018	0
283	SLU 48	0	-3.83	47.53	0.189	-0.0018	0
283	SLU 49	0	-3.83	47.51	0.1889	-0.0018	0
283	SLU 50	0	-3.83	46.98	0.1889	-0.0018	0
283	SLU 51	0	-3.82	46.95	0.1888	-0.0018	0
283	SLU 52	0	-3.71	52.61	0.1838	-0.002	0
283	SLU 53	0	-3.97	53.31	0.1966	-0.002	0
283	SLU 54	0	-3.97	53.29	0.1965	-0.002	0
283	SLU 55	0	-3.97	52.71	0.1962	-0.002	0
283	SLU 56	0	-4.23	53.42	0.209	-0.002	0
283	SLU 57	0	-4.23	53.39	0.2089	-0.002	0
283	SLU 58	0	-4.23	52.86	0.2089	-0.002	0
283	SLU 59	0	-4.23	52.84	0.2088	-0.002	0





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
283	SLU 60	0	-3.88	55.17	0.1925	-0.0021	0
283	SLU 61	0	-3.88	55.14	0.1924	-0.0021	0
283	SLU 62	0	-4.14	55.27	0.205	-0.0021	0
283	SLU 63	0	-4.14	55.25	0.2049	-0.0021	0
283	SLU 64	0	-3.8	52.12	0.1881	-0.002	0
283	SLU 65	0	-3.8	52.09	0.188	-0.002	0
283	SLU 66	0	-4.06	52.79	0.2008	-0.002	0
283	SLU 67	0	-4.06	52.76	0.2007	-0.002	0
283	SLU 68	0	-4.06	52.19	0.2005	-0.002	0
283	SLU 69	0	-4.32	52.9	0.2133	-0.002	0
283	SLU 70	0	-4.32	52.87	0.2132	-0.002	0
283	SLU 71	0	-4.32	52.34	0.2131	-0.0019	0
283	SLU 72	0	-4.32	52.32	0.213	-0.002	0
283	SLU 73	0	-4.21	57.97	0.208	-0.0022	0
283	SLU 74	0	-4.47	58.67	0.2208	-0.0022	0
283	SLU 75	0	-4.46	58.65	0.2207	-0.0022	0
283	SLU 76	0	-4.46	58.08	0.2205	-0.0022	0
283	SLU 77	0	-4.72	58.78	0.2333	-0.0021	0
283	SLU 78	0	-4.72	58.76	0.2332	-0.0022	0
283	SLU 79	0	-4.72	58.22	0.2332	-0.0021	0
283	SLU 80	0	-4.72	58.2	0.2331	-0.0021	0
283	SLU 81	0	-4.38	60.53	0.2168	-0.0023	0
283	SLU 82	0	-4.38	60.51	0.2167	-0.0023	0
283	SLU 83	0	-4.64	60.64	0.2292	-0.0022	0
283	SLU 84	0	-4.64	60.61	0.2291	-0.0022	0
283	SLE RA 1	0	-2.82	38.92	0.1394	-0.0015	0
283	SLE RA 2	0	-2.82	38.89	0.1393	-0.0015	0
283	SLE RA 3	0	-2.99	39.36	0.1478	-0.0015	0
283	SLE RA 4	0	-2.99	39.34	0.1478	-0.0015	0
283	SLE RA 5	0	-2.99	38.96	0.1476	-0.0015	0
283	SLE RA 6	0	-3.16	39.43	0.1561	-0.0015	0
283	SLE RA 7	0	-3.16	39.42	0.1561	-0.0015	0
283	SLE RA 8	0	-3.16	39.06	0.1561	-0.0015	0
283	SLE RA 9	0	-3.16	39.05	0.156	-0.0015	0
283	SLE RA 10	0	-3.08	42.81	0.1526	-0.0016	0
283	SLE RA 11	0	-3.26	43.28	0.1612	-0.0016	0
283	SLE RA 12	0	-3.26	43.27	0.1611	-0.0016	0
283	SLE RA 13	0	-3.26	42.89	0.161	-0.0016	0
283	SLE RA 14	0	-3.43	43.35	0.1695	-0.0016	0
283	SLE RA 15	0	-3.43	43.34	0.1694	-0.0016	0
283	SLE RA 16	0	-3.43	42.98	0.1694	-0.0016	0
283	SLE RA 17	0	-3.43	42.97	0.1693	-0.0016	0
283	SLE RA 18	0	-3.2	44.52	0.1585	-0.0017	0
283	SLE RA 19	0	-3.2	44.51	0.1584	-0.0017	0
283	SLE RA 20	0	-3.37	44.59	0.1668	-0.0017	0
283	SLE RA 21	0	-3.37	44.58	0.1667	-0.0017	0
283	SLE FR 1	0	-2.82	38.92	0.1394	-0.0015	0
283	SLE FR 2	0	-2.82	38.91	0.1394	-0.0015	0
283	SLE FR 3	0	-2.89	38.95	0.1427	-0.0015	0
283	SLE FR 4	0	-2.93	40.59	0.1451	-0.0016	0
283	SLE FR 5	0	-3	40.63	0.1485	-0.0016	0
283	SLE FR 6	0	-3.01	41.72	0.1489	-0.0016	0
283	SLE QP 1	0	-2.82	38.92	0.1394	-0.0015	0
283	SLE QP 2	0	-2.93	40.6	0.1451	-0.0016	0
283	SLD 1	-0.03	-2.15	40.7	0.1119	-0.0473	-0.0001
283	SLD 2	-0.03	-2.15	40.7	0.1119	-0.0473	-0.0001
283	SLD 3	-0.05	-6.05	42.04	0.2749	-0.0276	-0.0001
283	SLD 4	-0.05	-6.05	42.04	0.2749	-0.0276	-0.0001
283	SLD 5	0.03	3.23	38.59	-0.112	-0.0452	-0.0001
283	SLD 6	0.03	3.23	38.59	-0.112	-0.0452	-0.0001
283	SLD 7	-0.05	-9.79	43.07	0.4312	0.0205	0
283	SLD 8	-0.05	-9.79	43.07	0.4312	0.0205	0
283	SLD 9	0.05	3.93	38.13	-0.1409	-0.0236	0
283	SLD 10	0.05	3.93	38.13	-0.1409	-0.0236	0
283	SLD 11	-0.03	-9.09	42.6	0.4022	0.042	0.0001
283	SLD 12	-0.03	-9.09	42.6	0.4022	0.042	0.0001
283	SLD 13	0.04	0.19	39.16	0.0154	0.0245	0.0001
283	SLD 14	0.04	0.19	39.16	0.0154	0.0245	0.0001
283	SLD 15	0.02	-3.72	40.5	0.1783	0.0442	0.0001
283	SLD 16	0.02	-3.72	40.5	0.1783	0.0442	0.0001
283	SLV 1	-0.06	-1.07	40.85	0.0663	-0.1174	-0.0002
283	SLV 2	-0.06	-1.07	40.85	0.0663	-0.1174	-0.0002
283	SLV 3	-0.12	-10.28	44	0.4507	-0.0683	-0.0001
283	SLV 4	-0.12	-10.28	44	0.4507	-0.0683	-0.0001
283	SLV 5	0.07	11.59	35.89	-0.4615	-0.1108	-0.0001
283	SLV 6	0.07	11.59	35.89	-0.4615	-0.1108	-0.0001
283	SLV 7	-0.13	-19.1	46.4	0.8198	0.0529	0.0001
283	SLV 8	-0.13	-19.1	46.4	0.8198	0.0529	0.0001
283	SLV 9	0.12	13.24	34.79	-0.5295	-0.0561	-0.0001
283	SLV 10	0.12	13.24	34.79	-0.5295	-0.0561	-0.0001
283	SLV 11	-0.08	-17.46	45.31	0.7517	0.1077	0.0002
283	SLV 12	-0.08	-17.46	45.31	0.7517	0.1077	0.0002
283	SLV 13	0.12	4.41	37.19	-0.1604	0.0651	0.0001
283	SLV 14	0.12	4.41	37.19	-0.1604	0.0651	0.0001
283	SLV 15	0.06	-4.79	40.35	0.2239	0.1142	0.0002
283	SLV 16	0.06	-4.79	40.35	0.2239	0.1142	0.0002
284	SLU 1	0.01	0.04	56.26	0.0363	0.0054	0
284	SLU 2	0.01	0.13	55.78	0.0333	0.0053	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z	
284	SLU 3	0.01	0.02	59.3	0.0394	0.0057	0	
284	SLU 4	0.01	0.07	59.01	0.0376	0.0057	0	
284	SLU 5	0.01	0.12	58.38	0.0356	0.0057	0	
284	SLU 6	0.01	0.01	61.9	0.0416	0.0061	0	
284	SLU 7	0.01	0.07	61.61	0.0398	0.006	0	
284	SLU 8	0.01	0.03	61.46	0.0408	0.006	0	
284	SLU 9	0.01	0.08	61.18	0.039	0.006	0	
284	SLU 10	0.01	-0.04	64.77	0.0445	0.0061	0	
284	SLU 11	0.01	-0.15	68.28	0.0505	0.0065	0	
284	SLU 12	0.01	-0.09	67.99	0.0487	0.0065	0	
284	SLU 13	0.01	-0.04	67.37	0.0467	0.0065	0	
284	SLU 14	0.01	-0.16	70.88	0.0527	0.0068	0	
284	SLU 15	0.01	-0.1	70.59	0.051	0.0068	0	
284	SLU 16	0.01	-0.14	70.45	0.0519	0.0068	0	
284	SLU 17	0.01	-0.08	70.16	0.0501	0.0068	0	
284	SLU 18	0.01	-0.2	69.09	0.0523	0.0065	0	
284	SLU 19	0.01	-0.14	68.81	0.0505	0.0065	0	
284	SLU 20	0.01	-0.21	71.69	0.0545	0.0068	0	
284	SLU 21	0.01	-0.15	71.41	0.0527	0.0068	0	
284	SLU 22	0.01	-0.11	65.46	0.0471	0.0063	0	
284	SLU 23	0.01	-0.02	64.98	0.0441	0.0062	0	
284	SLU 24	0.01	-0.13	68.49	0.0501	0.0066	0	
284	SLU 25	0.01	-0.07	68.21	0.0483	0.0066	0	
284	SLU 26	0.01	-0.02	67.58	0.0463	0.0065	0	
284	SLU 27	0.01	-0.13	71.09	0.0523	0.0069	0	
284	SLU 28	0.01	-0.08	70.81	0.0506	0.0069	0	
284	SLU 29	0.01	-0.12	70.66	0.0515	0.0069	0	
284	SLU 30	0.01	-0.06	70.37	0.0497	0.0069	0	
284	SLU 31	0.01	-0.18	73.96	0.0553	0.007	0	
284	SLU 32	0.02	-0.3	77.48	0.0613	0.0074	0	
284	SLU 33	0.02	-0.24	77.19	0.0595	0.0074	0	
284	SLU 34	0.02	-0.19	76.56	0.0575	0.0073	0	
284	SLU 35	0.02	-0.3	80.08	0.0635	0.0077	0	
284	SLU 36	0.02	-0.24	79.79	0.0617	0.0077	0	
284	SLU 37	0.02	-0.29	79.64	0.0627	0.0077	0	
284	SLU 38	0.02	-0.23	79.36	0.0609	0.0077	0	
284	SLU 39	0.02	-0.35	78.29	0.0631	0.0074	0	
284	SLU 40	0.02	-0.29	78	0.0613	0.0074	0	
284	SLU 41	0.02	-0.35	80.89	0.0653	0.0077	0	
284	SLU 42	0.02	-0.3	80.6	0.0635	0.0077	0	
284	SLU 43	0.01	0.1	69.99	0.0435	0.0067	0	
284	SLU 44	0.01	0.19	69.51	0.0405	0.0066	0	
284	SLU 45	0.01	0.08	73.02	0.0466	0.007	0	
284	SLU 46	0.01	0.13	72.74	0.0448	0.007	0	
284	SLU 47	0.01	0.19	72.11	0.0428	0.007	0	
284	SLU 48	0.02	0.07	75.62	0.0488	0.0074	0	
284	SLU 49	0.02	0.13	75.34	0.047	0.0073	0	
284	SLU 50	0.02	0.09	75.19	0.048	0.0073	0	
284	SLU 51	0.01	0.14	74.9	0.0462	0.0073	0	
284	SLU 52	0.02	0.02	78.49	0.0517	0.0074	0	
284	SLU 53	0.02	-0.09	82	0.0577	0.0078	0	
284	SLU 54	0.02	-0.03	81.72	0.0559	0.0078	0	
284	SLU 55	0.02	0.02	81.09	0.0539	0.0078	0	
284	SLU 56	0.02	-0.09	84.6	0.06	0.0082	0	
284	SLU 57	0.02	-0.04	84.32	0.0582	0.0081	0	
284	SLU 58	0.02	-0.08	84.17	0.0591	0.0081	0	
284	SLU 59	0.02	-0.02	83.88	0.0574	0.0081	0	
284	SLU 60	0.02	-0.14	82.82	0.0595	0.0078	0	
284	SLU 61	0.02	-0.08	82.53	0.0577	0.0078	0	
284	SLU 62	0.02	-0.15	85.42	0.0617	0.0082	0	
284	SLU 63	0.02	-0.09	85.13	0.0599	0.0081	0	
284	SLU 64	0.02	-0.05	79.19	0.0543	0.0076	0	
284	SLU 65	0.02	0.05	78.71	0.0513	0.0075	0	
284	SLU 66	0.02	-0.07	82.22	0.0573	0.0079	0	
284	SLU 67	0.02	-0.01	81.93	0.0555	0.0079	0	
284	SLU 68	0.02	0.04	81.31	0.0535	0.0078	0	
284	SLU 69	0.02	-0.07	84.82	0.0595	0.0082	0	
284	SLU 70	0.02	-0.02	84.53	0.0578	0.0082	0	
284	SLU 71	0.02	-0.06	84.39	0.0587	0.0082	0	
284	SLU 72	0.02	0	84.1	0.0569	0.0082	0	
284	SLU 73	0.02	-0.12	87.69	0.0625	0.0083	0	
284	SLU 74	0.02	-0.23	91.2	0.0685	0.0087	0	
284	SLU 75	0.02	-0.18	90.91	0.0667	0.0087	0	
284	SLU 76	0.02	-0.13	90.29	0.0647	0.0086	0	
284	SLU 77	0.02	-0.24	93.8	0.0707	0.009	0	
284	SLU 78	0.02	-0.18	93.51	0.0689	0.009	0	
284	SLU 79	0.02	-0.23	93.37	0.0699	0.009	0	
284	SLU 80	0.02	-0.17	93.08	0.0681	0.009	0	
284	SLU 81	0.02	-0.29	92.02	0.0703	0.0087	0	
284	SLU 82	0.02	-0.23	91.73	0.0685	0.0087	0	
284	SLU 83	0.02	-0.29	94.62	0.0725	0.009	0	
284	SLU 84	0.02	-0.23	94.33	0.0707	0.009	0	
284	SLE RA 1	0.01	-0.01	58.89	0.0394	0.0056	0	
284	SLE RA 2	0.01	0.06	58.57	0.0374	0.0056	0	
284	SLE RA 3	0.01	-0.02	60.91	0.0414	0.0059	0	
284	SLE RA 4	0.01	0.02	60.72	0.0402	0.0058	0	
284	SLE RA 5	0.01	0.05	60.31	0.0389	0.0058	0	
284	SLE RA 6	0.01	-0.02	62.65	0.0429	0.0061	0	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
284	SLE RA 7		0.01	0.02	62.46	0.0417	0.0061	0	
284	SLE RA 8		0.01	-0.01	62.36	0.0424	0.0061	0	
284	SLE RA 9		0.01	0.03	62.17	0.0412	0.006	0	
284	SLE RA 10		0.01	-0.05	64.56	0.0449	0.0061	0	
284	SLE RA 11		0.01	-0.13	66.9	0.0489	0.0064	0	
284	SLE RA 12		0.01	-0.09	66.71	0.0477	0.0064	0	
284	SLE RA 13		0.01	-0.06	66.29	0.0463	0.0063	0	
284	SLE RA 14		0.01	-0.13	68.63	0.0504	0.0066	0	
284	SLE RA 15		0.01	-0.1	68.44	0.0492	0.0066	0	
284	SLE RA 16		0.01	-0.12	68.35	0.0498	0.0066	0	
284	SLE RA 17		0.01	-0.09	68.15	0.0486	0.0066	0	
284	SLE RA 18		0.01	-0.16	67.45	0.0501	0.0064	0	
284	SLE RA 19		0.01	-0.13	67.25	0.0489	0.0064	0	
284	SLE RA 20		0.01	-0.17	69.18	0.0515	0.0066	0	
284	SLE RA 21		0.01	-0.13	68.99	0.0503	0.0066	0	
284	SLE FR 1		0.01	-0.01	58.89	0.0394	0.0056	0	
284	SLE FR 2		0.01	0.01	58.83	0.039	0.0056	0	
284	SLE FR 3		0.01	-0.01	59.59	0.04	0.0057	0	
284	SLE FR 4		0.01	-0.04	61.39	0.0422	0.0058	0	
284	SLE FR 5		0.01	-0.05	62.15	0.0432	0.0059	0	
284	SLE FR 6		0.01	-0.08	63.17	0.0447	0.006	0	
284	SLE QP 1		0.01	-0.01	58.89	0.0394	0.0056	0	
284	SLE QP 2		0.01	-0.05	61.46	0.0426	0.0059	0	
284	SLD 1		0.07	2.83	63.05	-0.0487	0.0823	0.0002	
284	SLD 2		0.07	2.83	63.05	-0.0487	0.0823	0.0002	
284	SLD 3		0.08	-0.59	68.42	0.0618	0.1021	0.0003	
284	SLD 4		0.08	-0.59	68.42	0.0618	0.1021	0.0003	
284	SLD 5		0.01	5.99	53.8	-0.1523	-0.0013	0	
284	SLD 6		0.01	5.99	53.8	-0.1523	-0.0013	0	
284	SLD 7		0.06	-5.39	71.69	0.2159	0.0648	0.0002	
284	SLD 8		0.06	-5.39	71.69	0.2159	0.0648	0.0002	
284	SLD 9		-0.03	5.29	51.23	-0.1307	-0.0531	-0.0001	
284	SLD 10		-0.03	5.29	51.23	-0.1307	-0.0531	-0.0001	
284	SLD 11		0.02	-6.1	69.12	0.2375	0.013	0.0001	
284	SLD 12		0.02	-6.1	69.12	0.2375	0.013	0.0001	
284	SLD 13		-0.06	0.48	54.5	0.0234	-0.0904	-0.0002	
284	SLD 14		-0.06	0.48	54.5	0.0234	-0.0904	-0.0002	
284	SLD 15		-0.04	-2.93	59.86	0.1339	-0.0706	-0.0002	
284	SLD 16		-0.04	-2.93	59.86	0.1339	-0.0706	-0.0002	
284	SLV 1		0.14	6.78	65.13	-0.1741	0.1973	0.0005	
284	SLV 2		0.14	6.78	65.13	-0.1741	0.1973	0.0005	
284	SLV 3		0.18	-1.25	77.88	0.0861	0.2475	0.0006	
284	SLV 4		0.18	-1.25	77.88	0.0861	0.2475	0.0006	
284	SLV 5		0	14.18	43.23	-0.4171	-0.0128	0	
284	SLV 6		0	14.18	43.23	-0.4171	-0.0128	0	
284	SLV 7		0.12	-12.6	85.71	0.4503	0.1545	0.0004	
284	SLV 8		0.12	-12.6	85.71	0.4503	0.1545	0.0004	
284	SLV 9		-0.09	12.49	37.21	-0.3651	-0.1428	-0.0004	
284	SLV 10		-0.09	12.49	37.21	-0.3651	-0.1428	-0.0004	
284	SLV 11		0.03	-14.29	79.68	0.5023	0.0245	0.0001	
284	SLV 12		0.03	-14.29	79.68	0.5023	0.0245	0.0001	
284	SLV 13		-0.15	1.15	45.04	-0.0009	-0.2358	-0.0006	
284	SLV 14		-0.15	1.15	45.04	-0.0009	-0.2358	-0.0006	
284	SLV 15		-0.12	-6.89	57.78	0.2593	-0.1856	-0.0004	
284	SLV 16		-0.12	-6.89	57.78	0.2593	-0.1856	-0.0004	
285	SLU 1		-0.03	-8.39	53.13	0.3631	-0.0022	0.0001	
285	SLU 2		-0.02	-7.55	49.58	0.3247	-0.0042	0.0001	
285	SLU 3		-0.03	-8.59	53.83	0.3711	-0.002	0.0001	
285	SLU 4		-0.03	-8.08	51.7	0.348	-0.0032	0.0001	
285	SLU 5		-0.02	-7.63	49.59	0.3274	-0.0039	0.0001	
285	SLU 6		-0.03	-8.67	53.84	0.3738	-0.0016	0.0001	
285	SLU 7		-0.03	-8.16	51.71	0.3507	-0.0028	0.0001	
285	SLU 8		-0.03	-8.55	53.14	0.3686	-0.0015	0.0001	
285	SLU 9		-0.03	-8.04	51.02	0.3455	-0.0027	0.0001	
285	SLU 10		-0.03	-8.49	55.72	0.3665	-0.0043	0.0001	
285	SLU 11		-0.03	-9.53	59.97	0.4129	-0.002	0.0001	
285	SLU 12		-0.03	-9.02	57.84	0.3898	-0.0032	0.0001	
285	SLU 13		-0.03	-8.56	55.73	0.3692	-0.0039	0.0001	
285	SLU 14		-0.03	-9.6	59.97	0.4156	-0.0017	0.0001	
285	SLU 15		-0.03	-9.1	57.85	0.3925	-0.0029	0.0001	
285	SLU 16		-0.03	-9.49	59.28	0.4104	-0.0016	0.0001	
285	SLU 17		-0.03	-8.98	57.15	0.3873	-0.0028	0.0001	
285	SLU 18		-0.03	-9.73	61.89	0.4228	-0.0024	0.0001	
285	SLU 19		-0.03	-9.22	59.77	0.3998	-0.0035	0.0001	
285	SLU 20		-0.03	-9.81	61.9	0.4256	-0.002	0.0001	
285	SLU 21		-0.03	-9.3	59.78	0.4025	-0.0032	0.0001	
285	SLU 22		-0.03	-9.33	58.78	0.4043	-0.0021	0.0001	
285	SLU 23		-0.03	-8.49	55.24	0.3659	-0.0041	0.0001	
285	SLU 24		-0.03	-9.53	59.48	0.4123	-0.0019	0.0001	
285	SLU 25		-0.03	-9.02	57.36	0.3892	-0.003	0.0001	
285	SLU 26		-0.03	-8.57	55.25	0.3686	-0.0037	0.0001	
285	SLU 27		-0.03	-9.61	59.49	0.415	-0.0015	0.0001	
285	SLU 28		-0.03	-9.1	57.37	0.392	-0.0027	0.0001	
285	SLU 29		-0.03	-9.49	58.8	0.4098	-0.0014	0.0001	
285	SLU 30		-0.03	-8.98	56.67	0.3867	-0.0026	0.0001	
285	SLU 31		-0.03	-9.43	61.38	0.4077	-0.0042	0.0001	
285	SLU 32		-0.03	-10.47	65.62	0.4541	-0.0019	0.0001	
285	SLU 33		-0.03	-9.96	63.5	0.431	-0.0031	0.0001	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
285	SLU 34	-0.03	-9.51	61.38		0.4104	-0.0038	0.0001	
285	SLU 35	-0.03	-10.55	65.63		0.4568	-0.0016	0.0001	
285	SLU 36	-0.03	-10.04	63.5		0.4337	-0.0027	0.0001	
285	SLU 37	-0.03	-10.43	64.94		0.4516	-0.0015	0.0001	
285	SLU 38	-0.03	-9.92	62.81		0.4285	-0.0026	0.0001	
285	SLU 39	-0.03	-10.67	67.55		0.4641	-0.0022	0.0001	
285	SLU 40	-0.03	-10.16	65.42		0.441	-0.0034	0.0001	
285	SLU 41	-0.03	-10.75	67.56		0.4668	-0.0019	0.0001	
285	SLU 42	-0.03	-10.24	65.43		0.4437	-0.0031	0.0001	
285	SLU 43	-0.04	-10.58	67.12		0.4579	-0.003	0.0001	
285	SLU 44	-0.03	-9.74	63.58		0.4195	-0.0049	0.0001	
285	SLU 45	-0.04	-10.78	67.83		0.4659	-0.0027	0.0001	
285	SLU 46	-0.03	-10.28	65.7		0.4428	-0.0039	0.0001	
285	SLU 47	-0.03	-9.82	63.59		0.4222	-0.0046	0.0001	
285	SLU 48	-0.04	-10.86	67.83		0.4686	-0.0023	0.0001	
285	SLU 49	-0.03	-10.36	65.71		0.4456	-0.0035	0.0001	
285	SLU 50	-0.04	-10.74	67.14		0.4634	-0.0022	0.0001	
285	SLU 51	-0.03	-10.24	65.01		0.4403	-0.0034	0.0001	
285	SLU 52	-0.03	-10.68	69.72		0.4613	-0.005	0.0001	
285	SLU 53	-0.04	-11.72	73.96		0.5077	-0.0028	0.0001	
285	SLU 54	-0.04	-11.21	71.84		0.4846	-0.0039	0.0001	
285	SLU 55	-0.03	-10.76	69.73		0.464	-0.0046	0.0001	
285	SLU 56	-0.04	-11.8	73.97		0.5104	-0.0024	0.0001	
285	SLU 57	-0.04	-11.29	71.85		0.4873	-0.0036	0.0001	
285	SLU 58	-0.04	-11.68	73.28		0.5052	-0.0023	0.0001	
285	SLU 59	-0.04	-11.17	71.15		0.4821	-0.0035	0.0001	
285	SLU 60	-0.04	-11.92	75.89		0.5177	-0.0031	0.0001	
285	SLU 61	-0.04	-11.42	73.77		0.4946	-0.0043	0.0001	
285	SLU 62	-0.04	-12	75.9		0.5204	-0.0027	0.0001	
285	SLU 63	-0.04	-11.5	73.77		0.4973	-0.0039	0.0001	
285	SLU 64	-0.04	-11.52	72.78		0.4992	-0.0028	0.0001	
285	SLU 65	-0.03	-10.68	69.24		0.4607	-0.0048	0.0001	
285	SLU 66	-0.04	-11.72	73.48		0.5071	-0.0026	0.0001	
285	SLU 67	-0.04	-11.22	71.36		0.484	-0.0038	0.0001	
285	SLU 68	-0.03	-10.76	69.24		0.4634	-0.0045	0.0001	
285	SLU 69	-0.04	-11.8	73.49		0.5098	-0.0022	0.0001	
285	SLU 70	-0.04	-11.3	71.36		0.4868	-0.0034	0.0001	
285	SLU 71	-0.04	-11.68	72.8		0.5046	-0.0021	0.0001	
285	SLU 72	-0.04	-11.18	70.67		0.4815	-0.0033	0.0001	
285	SLU 73	-0.04	-11.62	75.37		0.5025	-0.0049	0.0001	
285	SLU 74	-0.04	-12.66	79.62		0.5489	-0.0026	0.0001	
285	SLU 75	-0.04	-12.16	77.49		0.5258	-0.0038	0.0001	
285	SLU 76	-0.04	-11.7	75.38		0.5052	-0.0045	0.0001	
285	SLU 77	-0.04	-12.74	79.63		0.5516	-0.0023	0.0001	
285	SLU 78	-0.04	-12.23	77.5		0.5286	-0.0035	0.0001	
285	SLU 79	-0.04	-12.62	78.93		0.5464	-0.0022	0.0001	
285	SLU 80	-0.04	-12.12	76.81		0.5233	-0.0034	0.0001	
285	SLU 81	-0.04	-12.86	81.55		0.5589	-0.0029	0.0001	
285	SLU 82	-0.04	-12.36	79.42		0.5358	-0.0041	0.0001	
285	SLU 83	-0.04	-12.94	81.56		0.5616	-0.0026	0.0001	
285	SLU 84	-0.04	-12.44	79.43		0.5385	-0.0038	0.0001	
285	SLE RA 1	-0.03	-8.66	54.74		0.3749	-0.0022	0.0001	
285	SLE RA 2	-0.03	-8.1	52.38		0.3493	-0.0035	0.0001	
285	SLE RA 3	-0.03	-8.79	55.21		0.3802	-0.002	0.0001	
285	SLE RA 4	-0.03	-8.45	53.79		0.3648	-0.0028	0.0001	
285	SLE RA 5	-0.03	-8.15	52.38		0.3511	-0.0033	0.0001	
285	SLE RA 6	-0.03	-8.84	55.21		0.382	-0.0018	0.0001	
285	SLE RA 7	-0.03	-8.51	53.8		0.3666	-0.0026	0.0001	
285	SLE RA 8	-0.03	-8.76	54.75		0.3785	-0.0017	0.0001	
285	SLE RA 9	-0.03	-8.43	53.33		0.3632	-0.0025	0.0001	
285	SLE RA 10	-0.03	-8.72	56.47		0.3771	-0.0036	0.0001	
285	SLE RA 11	-0.03	-9.42	59.3		0.4081	-0.0021	0.0001	
285	SLE RA 12	-0.03	-9.08	57.88		0.3927	-0.0029	0.0001	
285	SLE RA 13	-0.03	-8.78	56.48		0.379	-0.0033	0.0001	
285	SLE RA 14	-0.03	-9.47	59.31		0.4099	-0.0018	0.0001	
285	SLE RA 15	-0.03	-9.13	57.89		0.3945	-0.0026	0.0001	
285	SLE RA 16	-0.03	-9.39	58.84		0.4064	-0.0018	0.0001	
285	SLE RA 17	-0.03	-9.05	57.43		0.391	-0.0026	0.0001	
285	SLE RA 18	-0.03	-9.55	60.59		0.4147	-0.0023	0.0001	
285	SLE RA 19	-0.03	-9.21	59.17		0.3993	-0.0031	0.0001	
285	SLE RA 20	-0.03	-9.6	60.59		0.4165	-0.002	0.0001	
285	SLE RA 21	-0.03	-9.27	59.18		0.4012	-0.0028	0.0001	
285	SLE FR 1	-0.03	-8.66	54.74		0.3749	-0.0022	0.0001	
285	SLE FR 2	-0.03	-8.55	54.27		0.3698	-0.0025	0.0001	
285	SLE FR 3	-0.03	-8.68	54.74		0.3756	-0.0021	0.0001	
285	SLE FR 4	-0.03	-8.81	56.02		0.3817	-0.0025	0.0001	
285	SLE FR 5	-0.03	-8.95	56.5		0.3876	-0.0021	0.0001	
285	SLE FR 6	-0.03	-9.1	57.66		0.3948	-0.0022	0.0001	
285	SLE QP 1	-0.03	-8.66	54.74		0.3749	-0.0022	0.0001	
285	SLE QP 2	-0.03	-8.93	56.5		0.3869	-0.0022	0.0001	
285	SLD 1	-0.05	-5.66	36.15		0.2396	0.0373	-0.0001	
285	SLD 2	-0.05	-5.66	36.15		0.2396	0.0373	-0.0001	
285	SLD 3	0.08	-8.64	44.69		0.3719	0.0943	0.0001	
285	SLD 4	0.08	-8.64	44.69		0.3719	0.0943	0.0001	
285	SLD 5	-0.23	-3.42	37.43		0.142	-0.0768	-0.0002	
285	SLD 6	-0.23	-3.42	37.43		0.142	-0.0768	-0.0002	
285	SLD 7	0.2	-13.37	65.92		0.583	0.1132	0.0004	
285	SLD 8	0.2	-13.37	65.92		0.583	0.1132	0.0004	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
285	SLD 9	-0.26	-4.48	47.07		0.1907	-0.1176	-0.0002	
285	SLD 10	-0.26	-4.48	47.07		0.1907	-0.1176	-0.0002	
285	SLD 11	0.17	-14.43	75.56		0.6317	0.0723	0.0004	
285	SLD 12	0.17	-14.43	75.56		0.6317	0.0723	0.0004	
285	SLD 13	-0.14	-9.21	68.3		0.4018	-0.0988	0.0001	
285	SLD 14	-0.14	-9.21	68.3		0.4018	-0.0988	0.0001	
285	SLD 15	-0.01	-12.19	76.84		0.5341	-0.0418	0.0002	
285	SLD 16	-0.01	-12.19	76.84		0.5341	-0.0418	0.0002	
285	SLV 1	-0.09	-1.26	8.75		0.0416	0.0924	-0.0003	
285	SLV 2	-0.09	-1.26	8.75		0.0416	0.0924	-0.0003	
285	SLV 3	0.24	-8.26	28.9		0.3516	0.236	0.0001	
285	SLV 4	0.24	-8.26	28.9		0.3516	0.236	0.0001	
285	SLV 5	-0.54	3.99	11.62		-0.1869	-0.1917	-0.0007	
285	SLV 6	-0.54	3.99	11.62		-0.1869	-0.1917	-0.0007	
285	SLV 7	0.54	-19.34	78.77		0.8464	0.2871	0.0008	
285	SLV 8	0.54	-19.34	78.77		0.8464	0.2871	0.0008	
285	SLV 9	-0.6	1.49	34.22		-0.0727	-0.2915	-0.0006	
285	SLV 10	-0.6	1.49	34.22		-0.0727	-0.2915	-0.0006	
285	SLV 11	0.48	-21.85	101.37		0.9606	0.1872	0.0009	
285	SLV 12	0.48	-21.85	101.37		0.9606	0.1872	0.0009	
285	SLV 13	-0.3	-9.59	84.09		0.4221	-0.2405	0	
285	SLV 14	-0.3	-9.59	84.09		0.4221	-0.2405	0	
285	SLV 15	0.03	-16.6	104.24		0.7321	-0.0969	0.0005	
285	SLV 16	0.03	-16.6	104.24		0.7321	-0.0969	0.0005	
286	SLU 1	0	-5.4	38.83		0.4737	0.0008	0	
286	SLU 2	0	-5.38	38.77		0.472	0.0008	0	
286	SLU 3	0	-5.91	39.7		0.5097	0.0009	0	
286	SLU 4	0	-5.9	39.67		0.5087	0.0009	0	
286	SLU 5	0	-5.87	39.1		0.5049	0.0009	0	
286	SLU 6	0	-6.4	40.02		0.5426	0.001	0	
286	SLU 7	0	-6.39	39.99		0.5416	0.001	0	
286	SLU 8	0	-6.38	39.47		0.5395	0.001	0	
286	SLU 9	0	-6.37	39.44		0.5385	0.001	0	
286	SLU 10	0	-6.23	44.95		0.5478	0.001	0	
286	SLU 11	0	-6.76	45.88		0.5854	0.0011	0	
286	SLU 12	0	-6.75	45.85		0.5844	0.0011	0	
286	SLU 13	0	-6.73	45.28		0.5806	0.0011	0	
286	SLU 14	0	-7.25	46.21		0.6183	0.0012	0	
286	SLU 15	0	-7.24	46.18		0.6173	0.0012	0	
286	SLU 16	0	-7.24	45.65		0.6152	0.0012	0	
286	SLU 17	0	-7.23	45.62		0.6142	0.0012	0	
286	SLU 18	0	-6.62	47.66		0.5819	0.0011	0	
286	SLU 19	0	-6.61	47.63		0.5809	0.0011	0	
286	SLU 20	0	-7.11	47.98		0.6148	0.0012	0	
286	SLU 21	0	-7.1	47.95		0.6138	0.0012	0	
286	SLU 22	0	-6.33	44.2		0.5541	0.001	0	
286	SLU 23	0	-6.31	44.15		0.5524	0.001	0	
286	SLU 24	0	-6.83	45.08		0.5901	0.0011	0	
286	SLU 25	0	-6.82	45.05		0.5891	0.0011	0	
286	SLU 26	0	-6.8	44.47		0.5853	0.0011	0	
286	SLU 27	0	-7.33	45.4		0.623	0.0012	0	
286	SLU 28	0	-7.32	45.37		0.622	0.0012	0	
286	SLU 29	0	-7.31	44.85		0.6199	0.0012	0	
286	SLU 30	0	-7.3	44.82		0.6189	0.0012	0	
286	SLU 31	0	-7.16	50.33		0.6281	0.0012	0	
286	SLU 32	0	-7.69	51.26		0.6658	0.0013	0	
286	SLU 33	0	-7.68	51.23		0.6648	0.0013	0	
286	SLU 34	0	-7.66	50.66		0.661	0.0013	0	
286	SLU 35	0	-8.18	51.59		0.6987	0.0014	0	
286	SLU 36	0	-8.17	51.55		0.6977	0.0014	0	
286	SLU 37	0	-8.17	51.03		0.6956	0.0014	0	
286	SLU 38	0	-8.16	51		0.6946	0.0014	0	
286	SLU 39	0	-7.55	53.04		0.6623	0.0013	0	
286	SLU 40	0	-7.54	53		0.6613	0.0013	0	
286	SLU 41	0	-8.04	53.36		0.6952	0.0014	0	
286	SLU 42	0	-8.03	53.33		0.6941	0.0014	0	
286	SLU 43	0	-6.7	48.63		0.5883	0.001	0	
286	SLU 44	0	-6.68	48.58		0.5866	0.001	0	
286	SLU 45	0	-7.21	49.5		0.6243	0.0011	0	
286	SLU 46	0	-7.2	49.47		0.6233	0.0011	0	
286	SLU 47	0	-7.17	48.9		0.6195	0.0011	0	
286	SLU 48	0	-7.7	49.83		0.6572	0.0012	0	
286	SLU 49	0	-7.69	49.8		0.6562	0.0012	0	
286	SLU 50	0	-7.68	49.28		0.6541	0.0012	0	
286	SLU 51	0	-7.67	49.24		0.6531	0.0012	0	
286	SLU 52	0	-7.53	54.76		0.6623	0.0012	0	
286	SLU 53	0	-8.06	55.69		0.7	0.0013	0	
286	SLU 54	0	-8.05	55.66		0.699	0.0013	0	
286	SLU 55	0	-8.03	55.08		0.6952	0.0013	0	
286	SLU 56	0	-8.55	56.01		0.7329	0.0014	0	
286	SLU 57	0	-8.54	55.98		0.7319	0.0014	0	
286	SLU 58	0	-8.54	55.46		0.7298	0.0014	0	
286	SLU 59	0	-8.53	55.43		0.7288	0.0014	0	
286	SLU 60	0	-7.92	57.46		0.6964	0.0013	0	
286	SLU 61	0	-7.91	57.43		0.6954	0.0013	0	
286	SLU 62	0	-8.41	57.78		0.7293	0.0014	0	
286	SLU 63	0	-8.4	57.75		0.7283	0.0014	0	
286	SLU 64	0	-7.63	54.01		0.6687	0.0012	0	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
286	SLU 65	0	-7.61	53.95	0.667	0.0012	0		
286	SLU 66	0	-8.13	54.88	0.7047	0.0013	0		
286	SLU 67	0	-8.12	54.85	0.7037	0.0013	0		
286	SLU 68	0	-8.1	54.28	0.6999	0.0013	0		
286	SLU 69	0	-8.63	55.21	0.7376	0.0014	0		
286	SLU 70	0	-8.62	55.17	0.7365	0.0014	0		
286	SLU 71	0	-8.61	54.65	0.7344	0.0014	0		
286	SLU 72	0	-8.6	54.62	0.7334	0.0014	0		
286	SLU 73	0	-8.46	60.14	0.7427	0.0014	0		
286	SLU 74	0	-8.99	61.07	0.7804	0.0015	0		
286	SLU 75	0	-8.98	61.03	0.7794	0.0015	0		
286	SLU 76	0	-8.96	60.46	0.7756	0.0015	0		
286	SLU 77	0	-9.48	61.39	0.8133	0.0016	0		
286	SLU 78	0	-9.47	61.36	0.8123	0.0016	0		
286	SLU 79	0	-9.47	60.84	0.8102	0.0016	0		
286	SLU 80	0	-9.46	60.8	0.8091	0.0016	0		
286	SLU 81	0	-8.85	62.84	0.7768	0.0015	0		
286	SLU 82	0	-8.84	62.81	0.7758	0.0015	0		
286	SLU 83	0	-9.34	63.16	0.8097	0.0016	0		
286	SLU 84	0	-9.33	63.13	0.8087	0.0016	0		
286	SLE RA 1	0	-5.66	40.36	0.4967	0.0009	0		
286	SLE RA 2	0	-5.65	40.33	0.4956	0.0009	0		
286	SLE RA 3	0	-6	40.95	0.5207	0.001	0		
286	SLE RA 4	0	-5.99	40.92	0.52	0.001	0		
286	SLE RA 5	0	-5.98	40.54	0.5175	0.001	0		
286	SLE RA 6	0	-6.33	41.16	0.5426	0.001	0		
286	SLE RA 7	0	-6.32	41.14	0.5419	0.001	0		
286	SLE RA 8	0	-6.32	40.79	0.5405	0.001	0		
286	SLE RA 9	0	-6.31	40.77	0.5399	0.001	0		
286	SLE RA 10	0	-6.22	44.45	0.546	0.001	0		
286	SLE RA 11	0	-6.57	45.07	0.5712	0.0011	0		
286	SLE RA 12	0	-6.56	45.05	0.5705	0.0011	0		
286	SLE RA 13	0	-6.55	44.66	0.568	0.0011	0		
286	SLE RA 14	0	-6.9	45.28	0.5931	0.0011	0		
286	SLE RA 15	0	-6.89	45.26	0.5924	0.0012	0		
286	SLE RA 16	0	-6.89	44.91	0.591	0.0012	0		
286	SLE RA 17	0	-6.88	44.89	0.5903	0.0012	0		
286	SLE RA 18	0	-6.48	46.25	0.5688	0.0011	0		
286	SLE RA 19	0	-6.47	46.23	0.5681	0.0011	0		
286	SLE RA 20	0	-6.8	46.47	0.5907	0.0011	0		
286	SLE RA 21	0	-6.8	46.44	0.5901	0.0011	0		
286	SLE FR 1	0	-5.66	40.36	0.4967	0.0009	0		
286	SLE FR 2	0	-5.66	40.35	0.4965	0.0009	0		
286	SLE FR 3	0	-5.79	40.45	0.5055	0.0009	0		
286	SLE FR 4	0	-5.9	42.12	0.5181	0.0009	0		
286	SLE FR 5	0	-6.04	42.21	0.5271	0.001	0		
286	SLE FR 6	0	-6.07	43.31	0.5327	0.001	0		
286	SLE QP 1	0	-5.66	40.36	0.4967	0.0009	0		
286	SLE QP 2	0	-5.91	42.13	0.5183	0.0009	0		
286	SLD 1	-0.05	-2.92	39.43	0.3719	-0.0338	-0.0001		
286	SLD 2	-0.05	-2.92	39.43	0.3719	-0.0338	-0.0001		
286	SLD 3	-0.03	-7.15	40.87	0.5649	-0.0523	-0.0001		
286	SLD 4	-0.03	-7.15	40.87	0.5649	-0.0523	-0.0001		
286	SLD 5	-0.05	1.4	39.13	0.1816	0.0184	0		
286	SLD 6	-0.05	1.4	39.13	0.1816	0.0184	0		
286	SLD 7	0.03	-12.69	43.94	0.8251	-0.0429	-0.0001		
286	SLD 8	0.03	-12.69	43.94	0.8251	-0.0429	-0.0001		
286	SLD 9	-0.02	0.87	40.32	0.2116	0.0448	0.0001		
286	SLD 10	-0.02	0.87	40.32	0.2116	0.0448	0.0001		
286	SLD 11	0.05	-13.21	45.12	0.855	-0.0166	0		
286	SLD 12	0.05	-13.21	45.12	0.855	-0.0166	0		
286	SLD 13	0.03	-4.67	43.39	0.4717	0.0541	0.0001		
286	SLD 14	0.03	-4.67	43.39	0.4717	0.0541	0.0001		
286	SLD 15	0.06	-8.89	44.83	0.6648	0.0357	0.0001		
286	SLD 16	0.06	-8.89	44.83	0.6648	0.0357	0.0001		
286	SLV 1	-0.13	1.15	35.79	0.1723	-0.0878	-0.0002		
286	SLV 2	-0.13	1.15	35.79	0.1723	-0.0878	-0.0002		
286	SLV 3	-0.08	-8.82	39.2	0.6291	-0.1341	-0.0002		
286	SLV 4	-0.08	-8.82	39.2	0.6291	-0.1341	-0.0002		
286	SLV 5	-0.12	11.32	35.06	-0.2783	0.0445	0		
286	SLV 6	-0.12	11.32	35.06	-0.2783	0.0445	0		
286	SLV 7	0.06	-21.89	46.42	1.2444	-0.1097	-0.0002		
286	SLV 8	0.06	-21.89	46.42	1.2444	-0.1097	-0.0002		
286	SLV 9	-0.06	10.08	37.84	-0.2077	0.1116	0.0001		
286	SLV 10	-0.06	10.08	37.84	-0.2077	0.1116	0.0001		
286	SLV 11	0.13	-23.13	49.2	1.3149	-0.0426	0		
286	SLV 12	0.13	-23.13	49.2	1.3149	-0.0426	0		
286	SLV 13	0.08	-2.99	45.06	0.4076	0.136	0.0002		
286	SLV 14	0.08	-2.99	45.06	0.4076	0.136	0.0002		
286	SLV 15	0.14	-12.96	48.47	0.8644	0.0897	0.0002		
286	SLV 16	0.14	-12.96	48.47	0.8644	0.0897	0.0002		
287	SLU 1	0.12	-11.24	52.1	0.6781	0.0016	-0.0005		
287	SLU 2	0.11	-9.88	48.04	0.6011	0.002	-0.0004		
287	SLU 3	0.13	-11.44	53.1	0.6905	0.0017	-0.0005		
287	SLU 4	0.12	-10.62	50.67	0.6443	0.0019	-0.0005		
287	SLU 5	0.11	-9.91	48.48	0.6038	0.002	-0.0004		
287	SLU 6	0.13	-11.47	53.54	0.6932	0.0017	-0.0005		
287	SLU 7	0.12	-10.66	51.11	0.647	0.0019	-0.0005		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
287	SLU 8		0.13	-11.31	52.97	0.6836	0.0016	-0.0005	
287	SLU 9		0.12	-10.49	50.54	0.6374	0.0019	-0.0005	
287	SLU 10		0.13	-11.15	54.23	0.6823	0.0024	-0.0005	
287	SLU 11		0.14	-12.71	59.29	0.7717	0.002	-0.0005	
287	SLU 12		0.14	-11.89	56.86	0.7254	0.0022	-0.0005	
287	SLU 13		0.13	-11.18	54.67	0.685	0.0024	-0.0005	
287	SLU 14		0.14	-12.74	59.73	0.7744	0.002	-0.0005	
287	SLU 15		0.14	-11.93	57.3	0.7282	0.0023	-0.0005	
287	SLU 16		0.14	-12.58	59.16	0.7648	0.002	-0.0005	
287	SLU 17		0.14	-11.76	56.73	0.7185	0.0022	-0.0005	
287	SLU 18		0.14	-13.05	60.94	0.7941	0.0021	-0.0005	
287	SLU 19		0.14	-12.24	58.51	0.7479	0.0024	-0.0005	
287	SLU 20		0.15	-13.09	61.38	0.7968	0.0021	-0.0006	
287	SLU 21		0.14	-12.27	58.94	0.7506	0.0024	-0.0005	
287	SLU 22		0.14	-12.46	57.99	0.7557	0.0019	-0.0005	
287	SLU 23		0.13	-11.1	53.94	0.6786	0.0023	-0.0005	
287	SLU 24		0.14	-12.66	59	0.768	0.002	-0.0005	
287	SLU 25		0.13	-11.85	56.57	0.7218	0.0022	-0.0005	
287	SLU 26		0.13	-11.14	54.38	0.6813	0.0023	-0.0005	
287	SLU 27		0.14	-12.7	59.44	0.7707	0.002	-0.0005	
287	SLU 28		0.14	-11.88	57.01	0.7245	0.0022	-0.0005	
287	SLU 29		0.14	-12.53	58.87	0.7611	0.002	-0.0005	
287	SLU 30		0.13	-11.72	56.44	0.7149	0.0022	-0.0005	
287	SLU 31		0.14	-12.37	60.13	0.7598	0.0027	-0.0005	
287	SLU 32		0.16	-13.93	65.19	0.8492	0.0023	-0.0006	
287	SLU 33		0.15	-13.12	62.75	0.803	0.0026	-0.0006	
287	SLU 34		0.15	-12.41	60.56	0.7625	0.0027	-0.0005	
287	SLU 35		0.16	-13.97	65.62	0.8519	0.0023	-0.0006	
287	SLU 36		0.15	-13.15	63.19	0.8057	0.0026	-0.0006	
287	SLU 37		0.16	-13.8	65.06	0.8423	0.0023	-0.0006	
287	SLU 38		0.15	-12.99	62.62	0.7961	0.0025	-0.0006	
287	SLU 39		0.16	-14.28	66.83	0.8716	0.0024	-0.0006	
287	SLU 40		0.15	-13.46	64.4	0.8254	0.0027	-0.0006	
287	SLU 41		0.16	-14.31	67.27	0.8744	0.0024	-0.0006	
287	SLU 42		0.16	-13.5	64.84	0.8281	0.0027	-0.0006	
287	SLU 43		0.15	-14.19	65.7	0.855	0.002	-0.0006	
287	SLU 44		0.14	-12.83	61.65	0.778	0.0024	-0.0005	
287	SLU 45		0.16	-14.39	66.71	0.8673	0.002	-0.0006	
287	SLU 46		0.15	-13.58	64.28	0.8211	0.0023	-0.0006	
287	SLU 47		0.15	-12.87	62.09	0.7807	0.0024	-0.0006	
287	SLU 48		0.16	-14.43	67.15	0.8701	0.002	-0.0006	
287	SLU 49		0.15	-13.61	64.72	0.8238	0.0023	-0.0006	
287	SLU 50		0.16	-14.26	66.58	0.8605	0.002	-0.0006	
287	SLU 51		0.15	-13.45	64.15	0.8142	0.0023	-0.0006	
287	SLU 52		0.16	-14.1	67.84	0.8591	0.0027	-0.0006	
287	SLU 53		0.17	-15.66	72.9	0.9485	0.0024	-0.0007	
287	SLU 54		0.17	-14.84	70.47	0.9023	0.0026	-0.0006	
287	SLU 55		0.16	-14.14	68.28	0.8619	0.0028	-0.0006	
287	SLU 56		0.17	-15.7	73.34	0.9512	0.0024	-0.0007	
287	SLU 57		0.17	-14.88	70.91	0.905	0.0026	-0.0006	
287	SLU 58		0.17	-15.53	72.77	0.9416	0.0024	-0.0007	
287	SLU 59		0.17	-14.72	70.34	0.8954	0.0026	-0.0006	
287	SLU 60		0.18	-16.01	74.54	0.971	0.0025	-0.0007	
287	SLU 61		0.17	-15.19	72.11	0.9247	0.0027	-0.0006	
287	SLU 62		0.18	-16.04	74.98	0.9737	0.0025	-0.0007	
287	SLU 63		0.17	-15.23	72.55	0.9275	0.0027	-0.0007	
287	SLU 64		0.17	-15.41	71.6	0.9325	0.0023	-0.0006	
287	SLU 65		0.16	-14.05	67.54	0.8555	0.0027	-0.0006	
287	SLU 66		0.17	-15.61	72.61	0.9449	0.0023	-0.0007	
287	SLU 67		0.17	-14.8	70.17	0.8986	0.0026	-0.0006	
287	SLU 68		0.16	-14.09	67.98	0.8582	0.0027	-0.0006	
287	SLU 69		0.17	-15.65	73.04	0.9476	0.0024	-0.0007	
287	SLU 70		0.17	-14.83	70.61	0.9014	0.0026	-0.0006	
287	SLU 71		0.17	-15.49	72.47	0.938	0.0023	-0.0006	
287	SLU 72		0.17	-14.67	70.04	0.8917	0.0026	-0.0006	
287	SLU 73		0.18	-15.32	73.73	0.9367	0.0031	-0.0007	
287	SLU 74		0.19	-16.88	78.79	1.026	0.0027	-0.0007	
287	SLU 75		0.18	-16.07	76.36	0.9798	0.0029	-0.0007	
287	SLU 76		0.18	-15.36	74.17	0.9394	0.0031	-0.0007	
287	SLU 77		0.19	-16.92	79.23	1.0288	0.0027	-0.0007	
287	SLU 78		0.18	-16.1	76.8	0.9825	0.0029	-0.0007	
287	SLU 79		0.19	-16.76	78.66	1.0192	0.0027	-0.0007	
287	SLU 80		0.18	-15.94	76.23	0.9729	0.0029	-0.0007	
287	SLU 81		0.19	-17.23	80.44	1.0485	0.0028	-0.0007	
287	SLU 82		0.19	-16.41	78.01	1.0023	0.003	-0.0007	
287	SLU 83		0.19	-17.26	80.88	1.0512	0.0028	-0.0007	
287	SLU 84		0.19	-16.45	78.45	1.005	0.0031	-0.0007	
287	SLE RA 1		0.13	-11.59	53.78	0.7003	0.0017	-0.0005	
287	SLE RA 2		0.12	-10.68	51.08	0.6489	0.002	-0.0005	
287	SLE RA 3		0.13	-11.72	54.45	0.7085	0.0017	-0.0005	
287	SLE RA 4		0.12	-11.18	52.83	0.6777	0.0019	-0.0005	
287	SLE RA 5		0.12	-10.71	51.37	0.6507	0.002	-0.0005	
287	SLE RA 6		0.13	-11.75	54.74	0.7103	0.0017	-0.0005	
287	SLE RA 7		0.13	-11.2	53.12	0.6795	0.0019	-0.0005	
287	SLE RA 8		0.13	-11.64	54.36	0.7039	0.0017	-0.0005	
287	SLE RA 9		0.12	-11.09	52.74	0.6731	0.0019	-0.0005	
287	SLE RA 10		0.13	-11.53	55.2	0.703	0.0022	-0.0005	
287	SLE RA 11		0.14	-12.57	58.58	0.7626	0.002	-0.0005	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
287	SLE RA 12		0.14	-12.02	56.96	0.7318	0.0021	-0.0005	
287	SLE RA 13		0.13	-11.55	55.5	0.7049	0.0022	-0.0005	
287	SLE RA 14		0.14	-12.59	58.87	0.7645	0.002	-0.0005	
287	SLE RA 15		0.14	-12.05	57.25	0.7336	0.0021	-0.0005	
287	SLE RA 16		0.14	-12.48	58.49	0.758	0.002	-0.0005	
287	SLE RA 17		0.14	-11.94	56.87	0.7272	0.0021	-0.0005	
287	SLE RA 18		0.14	-12.8	59.67	0.7776	0.002	-0.0005	
287	SLE RA 19		0.14	-12.25	58.05	0.7468	0.0022	-0.0005	
287	SLE RA 20		0.14	-12.82	59.97	0.7794	0.002	-0.0005	
287	SLE RA 21		0.14	-12.28	58.35	0.7486	0.0022	-0.0005	
287	SLE FR 1		0.13	-11.59	53.78	0.7003	0.0017	-0.0005	
287	SLE FR 2		0.13	-11.41	53.24	0.69	0.0018	-0.0005	
287	SLE FR 3		0.13	-11.6	53.9	0.701	0.0017	-0.0005	
287	SLE FR 4		0.13	-11.77	55.01	0.7132	0.0019	-0.0005	
287	SLE FR 5		0.13	-11.96	55.66	0.7242	0.0018	-0.0005	
287	SLE FR 6		0.13	-12.19	56.73	0.739	0.0019	-0.0005	
287	SLE QP 1		0.13	-11.59	53.78	0.7003	0.0017	-0.0005	
287	SLE QP 2		0.13	-11.95	55.55	0.7235	0.0018	-0.0005	
287	SLD 1		0.13	-12.93	67.95	0.804	0.0571	-0.0006	
287	SLD 2		0.13	-12.93	67.95	0.804	0.0571	-0.0006	
287	SLD 3		0.23	-16.64	77.08	0.9996	0.0139	-0.0007	
287	SLD 4		0.23	-16.64	77.08	0.9996	0.0139	-0.0007	
287	SLD 5		-0.01	-6.6	45.42	0.451	0.0838	-0.0004	
287	SLD 6		-0.01	-6.6	45.42	0.451	0.0838	-0.0004	
287	SLD 7		0.3	-19	75.85	1.1029	-0.0599	-0.0007	
287	SLD 8		0.3	-19	75.85	1.1029	-0.0599	-0.0007	
287	SLD 9		-0.04	-4.9	35.24	0.3441	0.0635	-0.0003	
287	SLD 10		-0.04	-4.9	35.24	0.3441	0.0635	-0.0003	
287	SLD 11		0.27	-17.3	65.67	0.9959	-0.0801	-0.0006	
287	SLD 12		0.27	-17.3	65.67	0.9959	-0.0801	-0.0006	
287	SLD 13		0.03	-7.26	34.01	0.4474	-0.0103	-0.0003	
287	SLD 14		0.03	-7.26	34.01	0.4474	-0.0103	-0.0003	
287	SLD 15		0.13	-10.98	43.14	0.643	-0.0534	-0.0004	
287	SLD 16		0.13	-10.98	43.14	0.643	-0.0534	-0.0004	
287	SLV 1		0.14	-14.24	84.58	0.9112	0.137	-0.0008	
287	SLV 2		0.14	-14.24	84.58	0.9112	0.137	-0.0008	
287	SLV 3		0.36	-22.98	106.07	1.3718	0.0308	-0.001	
287	SLV 4		0.36	-22.98	106.07	1.3718	0.0308	-0.001	
287	SLV 5		-0.22	0.61	31.67	0.0811	0.2034	-0.0003	
287	SLV 6		-0.22	0.61	31.67	0.0811	0.2034	-0.0003	
287	SLV 7		0.55	-28.51	103.29	1.6167	-0.1506	-0.001	
287	SLV 8		0.55	-28.51	103.29	1.6167	-0.1506	-0.001	
287	SLV 9		-0.29	4.61	7.81	-0.1697	0.1542	0	
287	SLV 10		-0.29	4.61	7.81	-0.1697	0.1542	0	
287	SLV 11		0.48	-24.51	79.42	1.3658	-0.1998	-0.0007	
287	SLV 12		0.48	-24.51	79.42	1.3658	-0.1998	-0.0007	
287	SLV 13		-0.1	-0.92	5.03	0.0751	-0.0272	0	
287	SLV 14		-0.1	-0.92	5.03	0.0751	-0.0272	0	
287	SLV 15		0.13	-9.66	26.51	0.5358	-0.1334	-0.0002	
287	SLV 16		0.13	-9.66	26.51	0.5358	-0.1334	-0.0002	
288	SLU 1		0	-4.16	37.51	0.1696	-0.0009	0	
288	SLU 2		0	-4.16	37.46	0.1694	-0.0009	0	
288	SLU 3		0	-4.46	38.43	0.1833	-0.0009	0	
288	SLU 4		0	-4.46	38.4	0.1832	-0.0009	0	
288	SLU 5		0	-4.43	37.87	0.1826	-0.0009	0	
288	SLU 6		0	-4.73	38.84	0.1964	-0.0009	0	
288	SLU 7		0	-4.73	38.81	0.1963	-0.0009	0	
288	SLU 8		0	-4.71	38.34	0.1959	-0.0008	0	
288	SLU 9		0	-4.7	38.31	0.1958	-0.0008	0	
288	SLU 10		0	-4.79	43.27	0.1944	-0.0011	0	
288	SLU 11		0	-5.09	44.24	0.2083	-0.001	0	
288	SLU 12		0	-5.09	44.21	0.2082	-0.001	0	
288	SLU 13		0	-5.06	43.69	0.2076	-0.001	0	
288	SLU 14		0	-5.36	44.66	0.2214	-0.001	0	
288	SLU 15		0	-5.36	44.63	0.2213	-0.001	0	
288	SLU 16		0	-5.34	44.15	0.2209	-0.001	0	
288	SLU 17		0	-5.34	44.12	0.2208	-0.001	0	
288	SLU 18		0	-5.07	45.81	0.2053	-0.0011	0	
288	SLU 19		0	-5.07	45.78	0.2052	-0.0011	0	
288	SLU 20		0	-5.34	46.23	0.2185	-0.0011	0	
288	SLU 21		0	-5.34	46.2	0.2184	-0.0011	0	
288	SLU 22		0	-4.87	42.94	0.1988	-0.001	0	
288	SLU 23		0	-4.87	42.89	0.1987	-0.001	0	
288	SLU 24		0	-5.17	43.86	0.2125	-0.001	0	
288	SLU 25		0	-5.17	43.83	0.2124	-0.001	0	
288	SLU 26		0	-5.14	43.3	0.2118	-0.001	0	
288	SLU 27		0	-5.44	44.27	0.2257	-0.001	0	
288	SLU 28		0	-5.44	44.24	0.2256	-0.001	0	
288	SLU 29		0	-5.42	43.77	0.2251	-0.001	0	
288	SLU 30		0	-5.42	43.74	0.225	-0.001	0	
288	SLU 31		0	-5.51	48.7	0.2237	-0.0012	0	
288	SLU 32		0	-5.8	49.67	0.2375	-0.0012	0	
288	SLU 33		0	-5.8	49.64	0.2374	-0.0012	0	
288	SLU 34		0	-5.78	49.11	0.2368	-0.0011	0	
288	SLU 35		0	-6.07	50.08	0.2507	-0.0011	0	
288	SLU 36		0	-6.07	50.05	0.2506	-0.0011	0	
288	SLU 37		0	-6.05	49.58	0.2502	-0.0011	0	
288	SLU 38		0	-6.05	49.55	0.2501	-0.0011	0	





Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
288	SLU 39		0		-5.78	51.24	0.2345	-0.0012	0
288	SLU 40		0		-5.78	51.21	0.2344	-0.0012	0
288	SLU 41		0		-6.05	51.65	0.2477	-0.0012	0
288	SLU 42		0		-6.05	51.62	0.2476	-0.0012	0
288	SLU 43		0		-5.17	46.9	0.2104	-0.0011	0
288	SLU 44		0		-5.16	46.85	0.2102	-0.0011	0
288	SLU 45		0		-5.46	47.82	0.2241	-0.0011	0
288	SLU 46		0		-5.46	47.79	0.224	-0.0011	0
288	SLU 47		0		-5.44	47.27	0.2234	-0.0011	0
288	SLU 48		0		-5.73	48.23	0.2373	-0.0011	0
288	SLU 49		0		-5.73	48.2	0.2372	-0.0011	0
288	SLU 50		0		-5.71	47.73	0.2367	-0.0011	0
288	SLU 51		0		-5.71	47.7	0.2366	-0.0011	0
288	SLU 52		0		-5.8	52.66	0.2353	-0.0013	0
288	SLU 53		0		-6.1	53.63	0.2491	-0.0013	0
288	SLU 54		0		-6.09	53.6	0.249	-0.0013	0
288	SLU 55		0		-6.07	53.08	0.2484	-0.0013	0
288	SLU 56		0		-6.37	54.05	0.2623	-0.0012	0
288	SLU 57		0		-6.36	54.02	0.2622	-0.0012	0
288	SLU 58		0		-6.34	53.54	0.2617	-0.0012	0
288	SLU 59		0		-6.34	53.51	0.2616	-0.0012	0
288	SLU 60		0		-6.07	55.2	0.2461	-0.0013	0
288	SLU 61		0		-6.07	55.17	0.246	-0.0013	0
288	SLU 62		0		-6.34	55.62	0.2593	-0.0013	0
288	SLU 63		0		-6.34	55.59	0.2592	-0.0013	0
288	SLU 64		0		-5.88	52.33	0.2397	-0.0013	0
288	SLU 65		0		-5.88	52.28	0.2395	-0.0013	0
288	SLU 66		0		-6.17	53.25	0.2534	-0.0012	0
288	SLU 67		0		-6.17	53.22	0.2533	-0.0012	0
288	SLU 68		0		-6.15	52.69	0.2527	-0.0012	0
288	SLU 69		0		-6.44	53.66	0.2665	-0.0012	0
288	SLU 70		0		-6.44	53.63	0.2664	-0.0012	0
288	SLU 71		0		-6.42	53.16	0.266	-0.0012	0
288	SLU 72		0		-6.42	53.13	0.2659	-0.0012	0
288	SLU 73		0		-6.51	58.09	0.2645	-0.0014	0
288	SLU 74		0		-6.81	59.06	0.2784	-0.0014	0
288	SLU 75		0		-6.81	59.03	0.2783	-0.0014	0
288	SLU 76		0		-6.78	58.51	0.2777	-0.0014	0
288	SLU 77		0		-7.08	59.48	0.2915	-0.0014	0
288	SLU 78		0		-7.08	59.44	0.2914	-0.0014	0
288	SLU 79		0		-7.06	58.97	0.291	-0.0013	0
288	SLU 80		0		-7.05	58.94	0.2909	-0.0013	0
288	SLU 81		0		-6.78	60.63	0.2754	-0.0015	0
288	SLU 82		0		-6.78	60.6	0.2753	-0.0015	0
288	SLU 83		0		-7.06	61.05	0.2886	-0.0014	0
288	SLU 84		0		-7.05	61.02	0.2885	-0.0014	0
288	SLE RA 1		0		-4.37	39.06	0.1779	-0.0009	0
288	SLE RA 2		0		-4.36	39.03	0.1778	-0.0009	0
288	SLE RA 3		0		-4.56	39.67	0.1871	-0.0009	0
288	SLE RA 4		0		-4.56	39.65	0.187	-0.0009	0
288	SLE RA 5		0		-4.55	39.3	0.1866	-0.0009	0
288	SLE RA 6		0		-4.74	39.95	0.1958	-0.0009	0
288	SLE RA 7		0		-4.74	39.93	0.1958	-0.0009	0
288	SLE RA 8		0		-4.73	39.61	0.1955	-0.0009	0
288	SLE RA 9		0		-4.73	39.59	0.1954	-0.0009	0
288	SLE RA 10		0		-4.79	42.9	0.1945	-0.001	0
288	SLE RA 11		0		-4.98	43.55	0.2037	-0.001	0
288	SLE RA 12		0		-4.98	43.53	0.2037	-0.001	0
288	SLE RA 13		0		-4.97	43.18	0.2033	-0.001	0
288	SLE RA 14		0		-5.17	43.82	0.2125	-0.001	0
288	SLE RA 15		0		-5.16	43.8	0.2124	-0.001	0
288	SLE RA 16		0		-5.15	43.49	0.2121	-0.001	0
288	SLE RA 17		0		-5.15	43.47	0.2121	-0.001	0
288	SLE RA 18		0		-4.97	44.59	0.2017	-0.0011	0
288	SLE RA 19		0		-4.97	44.57	0.2017	-0.0011	0
288	SLE RA 20		0		-5.15	44.87	0.2105	-0.0011	0
288	SLE RA 21		0		-5.15	44.85	0.2105	-0.0011	0
288	SLE FR 1		0		-4.37	39.06	0.1779	-0.0009	0
288	SLE FR 2		0		-4.37	39.05	0.1779	-0.0009	0
288	SLE FR 3		0		-4.44	39.17	0.1814	-0.0009	0
288	SLE FR 4		0		-4.55	40.71	0.1851	-0.001	0
288	SLE FR 5		0		-4.62	40.83	0.1886	-0.001	0
288	SLE FR 6		0		-4.67	41.83	0.1898	-0.001	0
288	SLE QP 1		0		-4.37	39.06	0.1779	-0.0009	0
288	SLE QP 2		0		-4.55	40.72	0.1851	-0.001	0
288	SLD 1		0		-3.74	40.22	0.1492	-0.015	-0.0001
288	SLD 2		0		-3.74	40.22	0.1492	-0.015	-0.0001
288	SLD 3		-0.02		-7.64	42.84	0.3261	-0.0309	-0.0001
288	SLD 4		-0.02		-7.64	42.84	0.3261	-0.0309	-0.0001
288	SLD 5		0.03		1.6	36.6	-0.0941	0.019	-0.0001
288	SLD 6		0.03		1.6	36.6	-0.0941	0.019	-0.0001
288	SLD 7		-0.04		-11.38	45.32	0.4958	-0.0341	0
288	SLD 8		-0.04		-11.38	45.32	0.4958	-0.0341	0
288	SLD 9		0.04		2.28	36.12	-0.1256	0.0321	0
288	SLD 10		0.04		2.28	36.12	-0.1256	0.0321	0
288	SLD 11		-0.03		-10.69	44.84	0.4642	-0.0209	0.0001
288	SLD 12		-0.03		-10.69	44.84	0.4642	-0.0209	0.0001
288	SLD 13		0.02		-1.46	38.6	0.044	0.0289	0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
288	SLD 14	0.02	-1.46	38.6	0.044	0.0289	0.0001		
288	SLD 15	0	-5.35	41.22	0.221	0.013	0.0001		
288	SLD 16	0	-5.35	41.22	0.221	0.013	0.0001		
288	SLV 1	0.01	-2.64	39.53	0.0998	-0.0371	-0.0002		
288	SLV 2	0.01	-2.64	39.53	0.0998	-0.0371	-0.0002		
288	SLV 3	-0.04	-11.82	45.72	0.5172	-0.0763	-0.0002		
288	SLV 4	-0.04	-11.82	45.72	0.5172	-0.0763	-0.0002		
288	SLV 5	0.08	9.94	30.98	-0.4735	0.0476	-0.0002		
288	SLV 6	0.08	9.94	30.98	-0.4735	0.0476	-0.0002		
288	SLV 7	-0.09	-20.65	51.6	0.9178	-0.083	0.0001		
288	SLV 8	-0.09	-20.65	51.6	0.9178	-0.083	0.0001		
288	SLV 9	0.09	11.55	29.84	-0.5476	0.081	-0.0001		
288	SLV 10	0.09	11.55	29.84	-0.5476	0.081	-0.0001		
288	SLV 11	-0.08	-19.04	50.46	0.8437	-0.0496	0.0002		
288	SLV 12	-0.08	-19.04	50.46	0.8437	-0.0496	0.0002		
288	SLV 13	0.04	2.72	35.72	-0.1471	0.0743	0.0002		
288	SLV 14	0.04	2.72	35.72	-0.1471	0.0743	0.0002		
288	SLV 15	-0.01	-6.45	41.91	0.2703	0.0351	0.0002		
288	SLV 16	-0.01	-6.45	41.91	0.2703	0.0351	0.0002		
289	SLU 1	0.01	-0.67	60.96	0.0026	0.0052	0.0001		
289	SLU 2	0.01	-0.58	60.45	-0.0004	0.0051	0.0001		
289	SLU 3	0.01	-0.73	64.33	0.0035	0.0056	0.0001		
289	SLU 4	0.01	-0.67	64.03	0.0017	0.0055	0.0001		
289	SLU 5	0.01	-0.62	63.36	0.0002	0.0054	0.0001		
289	SLU 6	0.01	-0.77	67.24	0.0041	0.0059	0.0001		
289	SLU 7	0.01	-0.71	66.93	0.0023	0.0058	0.0001		
289	SLU 8	0.01	-0.75	66.76	0.0038	0.0058	0.0001		
289	SLU 9	0.01	-0.7	66.46	0.002	0.0058	0.0001		
289	SLU 10	0.01	-0.84	70.1	0.0041	0.0059	0.0001		
289	SLU 11	0.02	-0.98	73.98	0.008	0.0063	0.0001		
289	SLU 12	0.02	-0.93	73.68	0.0063	0.0062	0.0001		
289	SLU 13	0.02	-0.88	73	0.0048	0.0062	0.0001		
289	SLU 14	0.02	-1.02	76.88	0.0086	0.0066	0.0001		
289	SLU 15	0.02	-0.97	76.58	0.0069	0.0065	0.0001		
289	SLU 16	0.02	-1.01	76.41	0.0083	0.0066	0.0001		
289	SLU 17	0.02	-0.95	76.11	0.0065	0.0065	0.0001		
289	SLU 18	0.02	-1.04	74.74	0.009	0.0063	0.0001		
289	SLU 19	0.02	-0.98	74.43	0.0073	0.0062	0.0001		
289	SLU 20	0.02	-1.08	77.64	0.0096	0.0066	0.0001		
289	SLU 21	0.02	-1.02	77.34	0.0079	0.0065	0.0001		
289	SLU 22	0.02	-0.92	70.91	0.007	0.0061	0.0001		
289	SLU 23	0.01	-0.82	70.4	0.004	0.0059	0.0001		
289	SLU 24	0.02	-0.97	74.28	0.0079	0.0064	0.0001		
289	SLU 25	0.02	-0.92	73.98	0.0061	0.0063	0.0001		
289	SLU 26	0.02	-0.86	73.31	0.0046	0.0062	0.0001		
289	SLU 27	0.02	-1.01	77.19	0.0085	0.0067	0.0001		
289	SLU 28	0.02	-0.96	76.88	0.0068	0.0066	0.0001		
289	SLU 29	0.02	-1	76.71	0.0082	0.0067	0.0001		
289	SLU 30	0.02	-0.94	76.41	0.0064	0.0066	0.0001		
289	SLU 31	0.02	-1.08	80.05	0.0086	0.0067	0.0001		
289	SLU 32	0.02	-1.23	83.93	0.0124	0.0072	0.0001		
289	SLU 33	0.02	-1.17	83.63	0.0107	0.0071	0.0001		
289	SLU 34	0.02	-1.12	82.95	0.0092	0.007	0.0001		
289	SLU 35	0.02	-1.27	86.83	0.0131	0.0074	0.0001		
289	SLU 36	0.02	-1.21	86.53	0.0113	0.0074	0.0001		
289	SLU 37	0.02	-1.25	86.36	0.0127	0.0074	0.0001		
289	SLU 38	0.02	-1.2	86.06	0.011	0.0073	0.0001		
289	SLU 39	0.02	-1.28	84.69	0.0135	0.0072	0.0001		
289	SLU 40	0.02	-1.23	84.39	0.0117	0.0071	0.0001		
289	SLU 41	0.02	-1.32	87.59	0.0141	0.0074	0.0001		
289	SLU 42	0.02	-1.27	87.29	0.0123	0.0074	0.0001		
289	SLU 43	0.02	-0.79	75.83	0.0018	0.0065	0.0001		
289	SLU 44	0.02	-0.7	75.33	-0.0011	0.0064	0.0001		
289	SLU 45	0.02	-0.85	79.21	0.0027	0.0068	0.0001		
289	SLU 46	0.02	-0.79	78.91	0.001	0.0068	0.0001		
289	SLU 47	0.02	-0.74	78.23	-0.0005	0.0067	0.0001		
289	SLU 48	0.02	-0.89	82.11	0.0034	0.0071	0.0001		
289	SLU 49	0.02	-0.83	81.81	0.0016	0.0071	0.0001		
289	SLU 50	0.02	-0.87	81.64	0.003	0.0071	0.0001		
289	SLU 51	0.02	-0.81	81.34	0.0013	0.007	0.0001		
289	SLU 52	0.02	-0.95	84.97	0.0034	0.0071	0.0001		
289	SLU 53	0.02	-1.1	88.85	0.0073	0.0076	0.0001		
289	SLU 54	0.02	-1.05	88.55	0.0055	0.0075	0.0001		
289	SLU 55	0.02	-0.99	87.88	0.004	0.0074	0.0001		
289	SLU 56	0.02	-1.14	91.76	0.0079	0.0079	0.0001		
289	SLU 57	0.02	-1.09	91.46	0.0061	0.0078	0.0001		
289	SLU 58	0.02	-1.13	91.28	0.0076	0.0079	0.0001		
289	SLU 59	0.02	-1.07	90.98	0.0058	0.0078	0.0001		
289	SLU 60	0.02	-1.16	89.61	0.0083	0.0076	0.0001		
289	SLU 61	0.02	-1.1	89.31	0.0065	0.0075	0.0001		
289	SLU 62	0.02	-1.2	92.51	0.0089	0.0079	0.0001		
289	SLU 63	0.02	-1.14	92.21	0.0071	0.0078	0.0001		
289	SLU 64	0.02	-1.03	85.78	0.0062	0.0074	0.0001		
289	SLU 65	0.02	-0.94	85.28	0.0033	0.0072	0.0001		
289	SLU 66	0.02	-1.09	89.16	0.0072	0.0077	0.0001		
289	SLU 67	0.02	-1.03	88.86	0.0054	0.0076	0.0001		
289	SLU 68	0.02	-0.98	88.18	0.0039	0.0075	0.0001		
289	SLU 69	0.02	-1.13	92.06	0.0078	0.008	0.0001		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
289	SLU 70	0.02	-1.07	91.76	0.006	0.0079	0.0001		
289	SLU 71	0.02	-1.11	91.59	0.0075	0.008	0.0001		
289	SLU 72	0.02	-1.06	91.29	0.0057	0.0079	0.0001		
289	SLU 73	0.02	-1.2	94.93	0.0078	0.008	0.0001		
289	SLU 74	0.02	-1.35	98.8	0.0117	0.0084	0.0001		
289	SLU 75	0.02	-1.29	98.5	0.0099	0.0084	0.0001		
289	SLU 76	0.02	-1.24	97.83	0.0084	0.0083	0.0001		
289	SLU 77	0.02	-1.39	101.71	0.0123	0.0087	0.0001		
289	SLU 78	0.02	-1.33	101.41	0.0105	0.0087	0.0001		
289	SLU 79	0.02	-1.37	101.23	0.012	0.0087	0.0001		
289	SLU 80	0.02	-1.31	100.93	0.0102	0.0086	0.0001		
289	SLU 81	0.02	-1.4	99.56	0.0127	0.0084	0.0001		
289	SLU 82	0.02	-1.34	99.26	0.0109	0.0084	0.0001		
289	SLU 83	0.02	-1.44	102.47	0.0133	0.0087	0.0001		
289	SLU 84	0.02	-1.38	102.16	0.0115	0.0087	0.0001		
289	SLE RA 1	0.01	-0.74	63.8	0.0038	0.0055	0.0001		
289	SLE RA 2	0.01	-0.68	63.46	0.0019	0.0054	0.0001		
289	SLE RA 3	0.01	-0.78	66.05	0.0044	0.0057	0.0001		
289	SLE RA 4	0.01	-0.74	65.85	0.0033	0.0056	0.0001		
289	SLE RA 5	0.01	-0.71	65.4	0.0023	0.0056	0.0001		
289	SLE RA 6	0.01	-0.81	67.98	0.0049	0.0059	0.0001		
289	SLE RA 7	0.01	-0.77	67.78	0.0037	0.0058	0.0001		
289	SLE RA 8	0.01	-0.79	67.67	0.0046	0.0059	0.0001		
289	SLE RA 9	0.01	-0.76	67.47	0.0035	0.0058	0.0001		
289	SLE RA 10	0.01	-0.85	69.89	0.0049	0.0059	0.0001		
289	SLE RA 11	0.02	-0.95	72.48	0.0075	0.0062	0.0001		
289	SLE RA 12	0.02	-0.91	72.28	0.0063	0.0061	0.0001		
289	SLE RA 13	0.02	-0.88	71.83	0.0053	0.0061	0.0001		
289	SLE RA 14	0.02	-0.98	74.42	0.0079	0.0064	0.0001		
289	SLE RA 15	0.02	-0.94	74.22	0.0067	0.0063	0.0001		
289	SLE RA 16	0.02	-0.97	74.1	0.0077	0.0064	0.0001		
289	SLE RA 17	0.02	-0.93	73.9	0.0065	0.0063	0.0001		
289	SLE RA 18	0.02	-0.99	72.99	0.0081	0.0062	0.0001		
289	SLE RA 19	0.02	-0.95	72.78	0.007	0.0061	0.0001		
289	SLE RA 20	0.02	-1.01	74.92	0.0085	0.0064	0.0001		
289	SLE RA 21	0.02	-0.98	74.72	0.0074	0.0063	0.0001		
289	SLE FR 1	0.01	-0.74	63.8	0.0038	0.0055	0.0001		
289	SLE FR 2	0.01	-0.73	63.73	0.0034	0.0055	0.0001		
289	SLE FR 3	0.01	-0.75	64.57	0.004	0.0056	0.0001		
289	SLE FR 4	0.01	-0.8	66.49	0.0047	0.0057	0.0001		
289	SLE FR 5	0.01	-0.83	67.33	0.0053	0.0058	0.0001		
289	SLE FR 6	0.01	-0.86	68.39	0.006	0.0058	0.0001		
289	SLE QP 1	0.01	-0.74	63.8	0.0038	0.0055	0.0001		
289	SLE QP 2	0.01	-0.82	66.55	0.0051	0.0057	0.0001		
289	SLD 1	-0.06	1.88	68.21	-0.0077	0.0572	-0.0005		
289	SLD 2	-0.06	1.88	68.21	-0.0077	0.0572	-0.0005		
289	SLD 3	-0.05	-1.3	74.95	0.0979	0.0672	-0.0004		
289	SLD 4	-0.05	-1.3	74.95	0.0979	0.0672	-0.0004		
289	SLD 5	-0.03	4.82	56.84	-0.159	0.0059	-0.0002		
289	SLD 6	-0.03	4.82	56.84	-0.159	0.0059	-0.0002		
289	SLD 7	0.01	-5.79	79.28	0.1932	0.0394	0.0001		
289	SLD 8	0.01	-5.79	79.28	0.1932	0.0394	0.0001		
289	SLD 9	0.02	4.16	53.83	-0.1829	-0.028	0.0001		
289	SLD 10	0.02	4.16	53.83	-0.1829	-0.028	0.0001		
289	SLD 11	0.05	-6.45	76.27	0.1692	0.0055	0.0004		
289	SLD 12	0.05	-6.45	76.27	0.1692	0.0055	0.0004		
289	SLD 13	0.08	-0.33	58.16	-0.0877	-0.0558	0.0006		
289	SLD 14	0.08	-0.33	58.16	-0.0877	-0.0558	0.0006		
289	SLD 15	0.09	-3.51	64.89	0.018	-0.0458	0.0007		
289	SLD 16	0.09	-3.51	64.89	0.018	-0.0458	0.0007		
289	SLV 1	-0.16	5.59	70.36	-0.0234	0.1289	-0.0014		
289	SLV 2	-0.16	5.59	70.36	-0.0234	0.1289	-0.0014		
289	SLV 3	-0.14	-1.9	86.34	0.225	0.1541	-0.0012		
289	SLV 4	-0.14	-1.9	86.34	0.225	0.1541	-0.0012		
289	SLV 5	-0.08	12.47	43.46	-0.3802	0.0045	-0.0007		
289	SLV 6	-0.08	12.47	43.46	-0.3802	0.0045	-0.0007		
289	SLV 7	0.01	-12.5	96.73	0.4478	0.0884	0		
289	SLV 8	0.01	-12.5	96.73	0.4478	0.0884	0		
289	SLV 9	0.02	10.87	36.38	-0.4376	-0.077	0.0001		
289	SLV 10	0.02	10.87	36.38	-0.4376	-0.077	0.0001		
289	SLV 11	0.11	-14.1	89.65	0.3904	0.0069	0.0008		
289	SLV 12	0.11	-14.1	89.65	0.3904	0.0069	0.0008		
289	SLV 13	0.16	0.27	46.76	-0.2148	-0.1427	0.0013		
289	SLV 14	0.16	0.27	46.76	-0.2148	-0.1427	0.0013		
289	SLV 15	0.19	-7.22	62.75	0.0336	-0.1176	0.0015		
289	SLV 16	0.19	-7.22	62.75	0.0336	-0.1176	0.0015		
290	SLU 1	-0.08	3.33	24.21	-0.0257	-0.0057	0.0021		
290	SLU 2	-0.08	3.35	24.24	-0.0273	-0.0057	0.0021		
290	SLU 3	-0.08	3.42	24.96	-0.0262	-0.0059	0.0021		
290	SLU 4	-0.08	3.44	24.98	-0.0271	-0.0059	0.0021		
290	SLU 5	-0.08	3.41	24.75	-0.0279	-0.0058	0.0021		
290	SLU 6	-0.08	3.49	25.47	-0.0268	-0.0059	0.0022		
290	SLU 7	-0.08	3.5	25.49	-0.0277	-0.0059	0.0022		
290	SLU 8	-0.08	3.46	25.23	-0.0269	-0.0059	0.0022		
290	SLU 9	-0.08	3.47	25.25	-0.0279	-0.0059	0.0022		
290	SLU 10	-0.09	3.84	27.94	-0.0295	-0.0067	0.0024		
290	SLU 11	-0.09	3.92	28.66	-0.0284	-0.0069	0.0025		
290	SLU 12	-0.09	3.93	28.68	-0.0294	-0.0069	0.0025		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
290	SLU 13	-0.09	3.91	28.45	-0.0301	-0.0068	0.0025
290	SLU 14	-0.09	3.98	29.17	-0.029	-0.007	0.0025
290	SLU 15	-0.09	3.99	29.19	-0.03	-0.007	0.0025
290	SLU 16	-0.09	3.95	28.92	-0.0292	-0.0069	0.0025
290	SLU 17	-0.09	3.96	28.94	-0.0301	-0.0069	0.0025
290	SLU 18	-0.09	4.03	29.49	-0.0289	-0.0071	0.0026
290	SLU 19	-0.09	4.04	29.51	-0.0299	-0.0071	0.0026
290	SLU 20	-0.09	4.1	30	-0.0295	-0.0072	0.0026
290	SLU 21	-0.09	4.11	30.02	-0.0305	-0.0072	0.0026
290	SLU 22	-0.09	3.79	27.74	-0.0278	-0.0066	0.0024
290	SLU 23	-0.09	3.81	27.77	-0.0294	-0.0066	0.0024
290	SLU 24	-0.09	3.89	28.49	-0.0283	-0.0068	0.0025
290	SLU 25	-0.09	3.9	28.51	-0.0292	-0.0068	0.0025
290	SLU 26	-0.09	3.88	28.28	-0.03	-0.0067	0.0024
290	SLU 27	-0.09	3.96	29	-0.0289	-0.0069	0.0025
290	SLU 28	-0.09	3.97	29.02	-0.0298	-0.0069	0.0025
290	SLU 29	-0.09	3.93	28.76	-0.029	-0.0068	0.0025
290	SLU 30	-0.09	3.94	28.78	-0.03	-0.0068	0.0025
290	SLU 31	-0.1	4.31	31.47	-0.0316	-0.0076	0.0027
290	SLU 32	-0.1	4.38	32.19	-0.0305	-0.0078	0.0028
290	SLU 33	-0.1	4.4	32.21	-0.0315	-0.0078	0.0028
290	SLU 34	-0.1	4.37	31.98	-0.0322	-0.0077	0.0028
290	SLU 35	-0.1	4.45	32.7	-0.0311	-0.0079	0.0028
290	SLU 36	-0.1	4.46	32.72	-0.0321	-0.0079	0.0028
290	SLU 37	-0.1	4.42	32.45	-0.0313	-0.0078	0.0028
290	SLU 38	-0.1	4.43	32.47	-0.0322	-0.0078	0.0028
290	SLU 39	-0.1	4.5	33.02	-0.031	-0.0081	0.0029
290	SLU 40	-0.1	4.51	33.04	-0.032	-0.0081	0.0029
290	SLU 41	-0.11	4.56	33.53	-0.0316	-0.0082	0.0029
290	SLU 42	-0.11	4.58	33.55	-0.0326	-0.0082	0.0029
290	SLU 43	-0.09	4.16	30.26	-0.0327	-0.0071	0.0026
290	SLU 44	-0.09	4.18	30.29	-0.0343	-0.0071	0.0026
290	SLU 45	-0.1	4.26	31.01	-0.0332	-0.0072	0.0027
290	SLU 46	-0.1	4.27	31.03	-0.0341	-0.0072	0.0027
290	SLU 47	-0.1	4.25	30.8	-0.0349	-0.0072	0.0026
290	SLU 48	-0.1	4.33	31.52	-0.0338	-0.0073	0.0027
290	SLU 49	-0.1	4.34	31.54	-0.0347	-0.0073	0.0027
290	SLU 50	-0.1	4.3	31.28	-0.0339	-0.0073	0.0027
290	SLU 51	-0.1	4.31	31.3	-0.0348	-0.0072	0.0027
290	SLU 52	-0.11	4.68	33.99	-0.0365	-0.0081	0.0029
290	SLU 53	-0.11	4.75	34.71	-0.0354	-0.0083	0.003
290	SLU 54	-0.11	4.77	34.73	-0.0364	-0.0083	0.003
290	SLU 55	-0.11	4.74	34.5	-0.0371	-0.0082	0.003
290	SLU 56	-0.11	4.82	35.22	-0.036	-0.0083	0.003
290	SLU 57	-0.11	4.83	35.24	-0.037	-0.0083	0.003
290	SLU 58	-0.11	4.79	34.97	-0.0362	-0.0083	0.003
290	SLU 59	-0.11	4.8	34.99	-0.0371	-0.0083	0.003
290	SLU 60	-0.11	4.87	35.54	-0.0359	-0.0085	0.0031
290	SLU 61	-0.11	4.88	35.56	-0.0369	-0.0085	0.0031
290	SLU 62	-0.11	4.93	36.05	-0.0365	-0.0086	0.0031
290	SLU 63	-0.11	4.95	36.07	-0.0375	-0.0086	0.0031
290	SLU 64	-0.11	4.63	33.79	-0.0348	-0.008	0.0029
290	SLU 65	-0.11	4.65	33.82	-0.0364	-0.008	0.0029
290	SLU 66	-0.11	4.73	34.54	-0.0353	-0.0082	0.003
290	SLU 67	-0.11	4.74	34.56	-0.0362	-0.0082	0.003
290	SLU 68	-0.11	4.72	34.33	-0.037	-0.0081	0.0029
290	SLU 69	-0.11	4.8	35.05	-0.0359	-0.0083	0.003
290	SLU 70	-0.11	4.81	35.07	-0.0368	-0.0083	0.003
290	SLU 71	-0.11	4.76	34.81	-0.036	-0.0082	0.003
290	SLU 72	-0.11	4.78	34.83	-0.037	-0.0082	0.003
290	SLU 73	-0.12	5.14	37.52	-0.0386	-0.009	0.0032
290	SLU 74	-0.12	5.22	38.24	-0.0375	-0.0092	0.0033
290	SLU 75	-0.12	5.23	38.26	-0.0385	-0.0092	0.0033
290	SLU 76	-0.12	5.21	38.03	-0.0392	-0.0091	0.0033
290	SLU 77	-0.12	5.29	38.75	-0.0381	-0.0093	0.0034
290	SLU 78	-0.12	5.3	38.77	-0.0391	-0.0093	0.0034
290	SLU 79	-0.12	5.26	38.51	-0.0383	-0.0092	0.0033
290	SLU 80	-0.12	5.27	38.52	-0.0392	-0.0092	0.0033
290	SLU 81	-0.12	5.34	39.07	-0.038	-0.0095	0.0034
290	SLU 82	-0.12	5.35	39.09	-0.039	-0.0095	0.0034
290	SLU 83	-0.13	5.4	39.58	-0.0386	-0.0096	0.0034
290	SLU 84	-0.12	5.41	39.6	-0.0396	-0.0096	0.0034
290	SLE RA 1	-0.08	3.46	25.22	-0.0263	-0.006	0.0022
290	SLE RA 2	-0.08	3.47	25.24	-0.0273	-0.006	0.0022
290	SLE RA 3	-0.08	3.52	25.72	-0.0266	-0.0061	0.0022
290	SLE RA 4	-0.08	3.53	25.73	-0.0272	-0.0061	0.0022
290	SLE RA 5	-0.08	3.52	25.58	-0.0278	-0.006	0.0022
290	SLE RA 6	-0.08	3.57	26.06	-0.027	-0.0061	0.0022
290	SLE RA 7	-0.08	3.58	26.07	-0.0276	-0.0061	0.0022
290	SLE RA 8	-0.08	3.55	25.9	-0.0271	-0.0061	0.0022
290	SLE RA 9	-0.08	3.56	25.91	-0.0277	-0.0061	0.0022
290	SLE RA 10	-0.09	3.8	27.7	-0.0289	-0.0066	0.0024
290	SLE RA 11	-0.09	3.85	28.18	-0.0281	-0.0067	0.0024
290	SLE RA 12	-0.09	3.86	28.19	-0.0288	-0.0067	0.0024
290	SLE RA 13	-0.09	3.85	28.04	-0.0293	-0.0067	0.0024
290	SLE RA 14	-0.09	3.9	28.52	-0.0285	-0.0068	0.0025
290	SLE RA 15	-0.09	3.91	28.53	-0.0292	-0.0068	0.0025
290	SLE RA 16	-0.09	3.88	28.36	-0.0286	-0.0068	0.0024



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
290	SLE RA 17	-0.09	3.89	28.37	-0.0292	-0.0068	0.0024
290	SLE RA 18	-0.09	3.93	28.74	-0.0285	-0.0069	0.0025
290	SLE RA 19	-0.09	3.94	28.75	-0.0291	-0.0069	0.0025
290	SLE RA 20	-0.09	3.97	29.08	-0.0289	-0.007	0.0025
290	SLE RA 21	-0.09	3.98	29.09	-0.0295	-0.007	0.0025
290	SLE FR 1	-0.08	3.46	25.22	-0.0263	-0.006	0.0022
290	SLE FR 2	-0.08	3.46	25.22	-0.0265	-0.006	0.0022
290	SLE FR 3	-0.08	3.48	25.35	-0.0265	-0.006	0.0022
290	SLE FR 4	-0.08	3.6	26.28	-0.0272	-0.0063	0.0023
290	SLE FR 5	-0.08	3.62	26.41	-0.0271	-0.0063	0.0023
290	SLE FR 6	-0.09	3.69	26.98	-0.0274	-0.0065	0.0023
290	SLE QP 1	-0.08	3.46	25.22	-0.0263	-0.006	0.0022
290	SLE QP 2	-0.08	3.6	26.27	-0.027	-0.0063	0.0023
290	SLD 1	-0.05	3.37	24.44	-0.0788	-0.0033	0.0015
290	SLD 2	-0.05	3.37	24.44	-0.0788	-0.0033	0.0015
290	SLD 3	-0.08	2.56	21.44	-0.0219	-0.0058	0.0021
290	SLD 4	-0.08	2.56	21.44	-0.0219	-0.0058	0.0021
290	SLD 5	-0.04	4.76	30.27	-0.1289	-0.0016	0.0011
290	SLD 6	-0.04	4.76	30.27	-0.1289	-0.0016	0.0011
290	SLD 7	-0.11	2.06	20.27	0.0609	-0.0099	0.0031
290	SLD 8	-0.11	2.06	20.27	0.0609	-0.0099	0.0031
290	SLD 9	-0.05	5.14	32.27	-0.1148	-0.0026	0.0014
290	SLD 10	-0.05	5.14	32.27	-0.1148	-0.0026	0.0014
290	SLD 11	-0.12	2.44	22.27	0.075	-0.0109	0.0034
290	SLD 12	-0.12	2.44	22.27	0.075	-0.0109	0.0034
290	SLD 13	-0.09	4.64	31.1	-0.032	-0.0068	0.0025
290	SLD 14	-0.09	4.64	31.1	-0.032	-0.0068	0.0025
290	SLD 15	-0.11	3.83	28.1	0.0249	-0.0093	0.003
290	SLD 16	-0.11	3.83	28.1	0.0249	-0.0093	0.003
290	SLV 1	-0.01	3.07	21.99	-0.1503	0.0009	0.0004
290	SLV 2	-0.01	3.07	21.99	-0.1503	0.0009	0.0004
290	SLV 3	-0.07	1.14	14.81	-0.0156	-0.0052	0.0019
290	SLV 4	-0.07	1.14	14.81	-0.0156	-0.0052	0.0019
290	SLV 5	0.02	6.37	35.87	-0.2682	0.0051	-0.0005
290	SLV 6	0.02	6.37	35.87	-0.2682	0.0051	-0.0005
290	SLV 7	-0.16	-0.07	11.95	0.1808	-0.0152	0.0043
290	SLV 8	-0.16	-0.07	11.95	0.1808	-0.0152	0.0043
290	SLV 9	-0.01	7.27	40.59	-0.2347	0.0026	0.0002
290	SLV 10	-0.01	7.27	40.59	-0.2347	0.0026	0.0002
290	SLV 11	-0.18	0.83	16.67	0.2143	-0.0176	0.005
290	SLV 12	-0.18	0.83	16.67	0.2143	-0.0176	0.005
290	SLV 13	-0.1	6.07	37.73	-0.0383	-0.0073	0.0027
290	SLV 14	-0.1	6.07	37.73	-0.0383	-0.0073	0.0027
290	SLV 15	-0.15	4.13	30.55	0.0964	-0.0134	0.0041
290	SLV 16	-0.15	4.13	30.55	0.0964	-0.0134	0.0041
291	SLU 1	-0.08	-9.51	57.54	0.4234	-0.0094	0.0004
291	SLU 2	-0.07	-8.62	53.05	0.3798	-0.0094	0.0004
291	SLU 3	-0.08	-9.71	58.25	0.4319	-0.0094	0.0004
291	SLU 4	-0.08	-9.17	55.55	0.4057	-0.0093	0.0004
291	SLU 5	-0.08	-8.68	52.99	0.3823	-0.0092	0.0004
291	SLU 6	-0.08	-9.77	58.19	0.4343	-0.0092	0.0004
291	SLU 7	-0.08	-9.23	55.49	0.4081	-0.0091	0.0004
291	SLU 8	-0.08	-9.63	57.42	0.4283	-0.009	0.0004
291	SLU 9	-0.08	-9.1	54.72	0.4021	-0.009	0.0004
291	SLU 10	-0.09	-9.68	59.89	0.4269	-0.011	0.0005
291	SLU 11	-0.09	-10.76	65.09	0.4789	-0.011	0.0005
291	SLU 12	-0.09	-10.22	62.4	0.4527	-0.011	0.0005
291	SLU 13	-0.09	-9.73	59.83	0.4293	-0.0108	0.0005
291	SLU 14	-0.09	-10.82	65.03	0.4813	-0.0108	0.0005
291	SLU 15	-0.09	-10.28	62.33	0.4552	-0.0108	0.0005
291	SLU 16	-0.09	-10.69	64.26	0.4753	-0.0106	0.0005
291	SLU 17	-0.09	-10.15	61.56	0.4492	-0.0106	0.0005
291	SLU 18	-0.1	-11.02	67.31	0.4906	-0.0117	0.0005
291	SLU 19	-0.09	-10.48	64.62	0.4645	-0.0117	0.0005
291	SLU 20	-0.1	-11.08	67.25	0.493	-0.0115	0.0005
291	SLU 21	-0.09	-10.54	64.56	0.4669	-0.0115	0.0005
291	SLU 22	-0.09	-10.55	63.78	0.4696	-0.0107	0.0005
291	SLU 23	-0.08	-9.66	59.29	0.426	-0.0106	0.0004
291	SLU 24	-0.09	-10.74	64.49	0.4781	-0.0106	0.0005
291	SLU 25	-0.09	-10.21	61.8	0.4519	-0.0106	0.0005
291	SLU 26	-0.09	-9.72	59.23	0.4284	-0.0104	0.0004
291	SLU 27	-0.09	-10.8	64.43	0.4805	-0.0104	0.0005
291	SLU 28	-0.09	-10.27	61.73	0.4543	-0.0104	0.0005
291	SLU 29	-0.09	-10.67	63.66	0.4745	-0.0103	0.0005
291	SLU 30	-0.09	-10.13	60.96	0.4483	-0.0102	0.0005
291	SLU 31	-0.1	-10.71	66.13	0.473	-0.0122	0.0005
291	SLU 32	-0.1	-11.8	71.33	0.5251	-0.0122	0.0005
291	SLU 33	-0.1	-11.26	68.64	0.4989	-0.0122	0.0005
291	SLU 34	-0.1	-10.77	66.07	0.4755	-0.012	0.0005
291	SLU 35	-0.1	-11.86	71.27	0.5275	-0.012	0.0005
291	SLU 36	-0.1	-11.32	68.57	0.5014	-0.012	0.0005
291	SLU 37	-0.1	-11.72	70.5	0.5215	-0.0119	0.0005
291	SLU 38	-0.1	-11.19	67.8	0.4953	-0.0118	0.0005
291	SLU 39	-0.11	-12.05	73.55	0.5368	-0.013	0.0005
291	SLU 40	-0.1	-11.52	70.86	0.5106	-0.013	0.0005
291	SLU 41	-0.11	-12.11	73.49	0.5392	-0.0128	0.0005
291	SLU 42	-0.1	-11.58	70.8	0.5131	-0.0127	0.0005
291	SLU 43	-0.1	-12.01	72.66	0.5346	-0.0118	0.0005



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
291	SLU 44	-0.1	-11.12	68.17	0.491	-0.0118	0.0005
291	SLU 45	-0.1	-12.2	73.37	0.5431	-0.0118	0.0005
291	SLU 46	-0.1	-11.67	70.68	0.5169	-0.0117	0.0005
291	SLU 47	-0.1	-11.18	68.11	0.4934	-0.0116	0.0005
291	SLU 48	-0.1	-12.26	73.31	0.5455	-0.0116	0.0005
291	SLU 49	-0.1	-11.73	70.61	0.5193	-0.0115	0.0005
291	SLU 50	-0.1	-12.13	72.54	0.5395	-0.0114	0.0005
291	SLU 51	-0.1	-11.6	69.84	0.5133	-0.0114	0.0005
291	SLU 52	-0.11	-12.17	75.01	0.538	-0.0134	0.0006
291	SLU 53	-0.11	-13.26	80.21	0.5901	-0.0134	0.0006
291	SLU 54	-0.11	-12.72	77.52	0.5639	-0.0134	0.0006
291	SLU 55	-0.11	-12.23	74.95	0.5405	-0.0132	0.0006
291	SLU 56	-0.11	-13.32	80.15	0.5925	-0.0132	0.0006
291	SLU 57	-0.11	-12.78	77.45	0.5664	-0.0132	0.0006
291	SLU 58	-0.11	-13.18	79.38	0.5865	-0.013	0.0006
291	SLU 59	-0.11	-12.65	76.68	0.5603	-0.013	0.0006
291	SLU 60	-0.12	-13.52	82.44	0.6018	-0.0141	0.0006
291	SLU 61	-0.11	-12.98	79.74	0.5756	-0.0141	0.0006
291	SLU 62	-0.12	-13.58	82.37	0.6042	-0.0139	0.0006
291	SLU 63	-0.11	-13.04	79.68	0.5781	-0.0139	0.0006
291	SLU 64	-0.11	-13.05	78.9	0.5808	-0.0131	0.0006
291	SLU 65	-0.11	-12.16	74.42	0.5372	-0.013	0.0006
291	SLU 66	-0.11	-13.24	79.61	0.5892	-0.013	0.0006
291	SLU 67	-0.11	-12.71	76.92	0.5631	-0.013	0.0006
291	SLU 68	-0.11	-12.22	74.35	0.5396	-0.0128	0.0006
291	SLU 69	-0.11	-13.3	79.55	0.5917	-0.0128	0.0006
291	SLU 70	-0.11	-12.76	76.86	0.5655	-0.0128	0.0006
291	SLU 71	-0.11	-13.17	78.78	0.5857	-0.0127	0.0006
291	SLU 72	-0.11	-12.63	76.09	0.5595	-0.0126	0.0006
291	SLU 73	-0.12	-13.21	81.26	0.5842	-0.0146	0.0006
291	SLU 74	-0.12	-14.29	86.45	0.6363	-0.0146	0.0006
291	SLU 75	-0.12	-13.76	83.76	0.6101	-0.0146	0.0006
291	SLU 76	-0.12	-13.27	81.19	0.5867	-0.0144	0.0006
291	SLU 77	-0.12	-14.35	86.39	0.6387	-0.0144	0.0006
291	SLU 78	-0.12	-13.82	83.7	0.6125	-0.0144	0.0006
291	SLU 79	-0.12	-14.22	85.62	0.6327	-0.0143	0.0006
291	SLU 80	-0.12	-13.69	82.93	0.6065	-0.0143	0.0006
291	SLU 81	-0.13	-14.55	88.68	0.648	-0.0154	0.0006
291	SLU 82	-0.12	-14.02	85.98	0.6218	-0.0154	0.0006
291	SLU 83	-0.13	-14.61	88.61	0.6504	-0.0152	0.0006
291	SLU 84	-0.12	-14.08	85.92	0.6243	-0.0152	0.0006
291	SLE RA 1	-0.08	-9.81	59.32	0.4366	-0.0098	0.0004
291	SLE RA 2	-0.08	-9.21	56.33	0.4076	-0.0098	0.0004
291	SLE RA 3	-0.09	-9.94	59.8	0.4422	-0.0098	0.0004
291	SLE RA 4	-0.08	-9.58	58	0.4248	-0.0097	0.0004
291	SLE RA 5	-0.08	-9.25	56.29	0.4092	-0.0096	0.0004
291	SLE RA 6	-0.09	-9.98	59.75	0.4439	-0.0096	0.0004
291	SLE RA 7	-0.08	-9.62	57.96	0.4264	-0.0096	0.0004
291	SLE RA 8	-0.08	-9.89	59.24	0.4399	-0.0095	0.0004
291	SLE RA 9	-0.08	-9.53	57.45	0.4224	-0.0095	0.0004
291	SLE RA 10	-0.09	-9.92	60.89	0.4389	-0.0108	0.0005
291	SLE RA 11	-0.09	-10.64	64.36	0.4736	-0.0108	0.0005
291	SLE RA 12	-0.09	-10.28	62.56	0.4562	-0.0108	0.0005
291	SLE RA 13	-0.09	-9.96	60.85	0.4405	-0.0107	0.0005
291	SLE RA 14	-0.09	-10.68	64.31	0.4752	-0.0107	0.0005
291	SLE RA 15	-0.09	-10.32	62.52	0.4578	-0.0107	0.0005
291	SLE RA 16	-0.09	-10.59	63.8	0.4712	-0.0106	0.0005
291	SLE RA 17	-0.09	-10.23	62.01	0.4538	-0.0106	0.0005
291	SLE RA 18	-0.09	-10.81	65.84	0.4814	-0.0113	0.0005
291	SLE RA 19	-0.09	-10.46	64.04	0.464	-0.0113	0.0005
291	SLE RA 20	-0.09	-10.85	65.8	0.483	-0.0112	0.0005
291	SLE RA 21	-0.09	-10.5	64	0.4656	-0.0112	0.0005
291	SLE FR 1	-0.08	-9.81	59.32	0.4366	-0.0098	0.0004
291	SLE FR 2	-0.08	-9.69	58.73	0.4308	-0.0098	0.0004
291	SLE FR 3	-0.08	-9.82	59.31	0.4373	-0.0097	0.0004
291	SLE FR 4	-0.09	-9.99	60.68	0.4442	-0.0102	0.0004
291	SLE FR 5	-0.09	-10.13	61.26	0.4507	-0.0102	0.0004
291	SLE FR 6	-0.09	-10.31	62.58	0.459	-0.0106	0.0004
291	SLE QP 1	-0.08	-9.81	59.32	0.4366	-0.0098	0.0004
291	SLE QP 2	-0.09	-10.11	61.28	0.4501	-0.0103	0.0004
291	SLD 1	0.01	-6.69	37.18	0.2921	0.0184	-0.0001
291	SLD 2	0.01	-6.69	37.18	0.2921	0.0184	-0.0001
291	SLD 3	-0.08	-9.38	48.3	0.4231	0.0029	0.0002
291	SLD 4	-0.08	-9.38	48.3	0.4231	0.0029	0.0002
291	SLD 5	0.08	-5.01	37.19	0.2041	0.0219	0
291	SLD 6	0.08	-5.01	37.19	0.2041	0.0219	0
291	SLD 7	-0.23	-13.97	74.24	0.6406	-0.0299	0.0007
291	SLD 8	-0.23	-13.97	74.24	0.6406	-0.0299	0.0007
291	SLD 9	0.05	-6.25	48.32	0.2596	0.0093	0.0002
291	SLD 10	0.05	-6.25	48.32	0.2596	0.0093	0.0002
291	SLD 11	-0.26	-15.21	85.36	0.696	-0.0424	0.0009
291	SLD 12	-0.26	-15.21	85.36	0.696	-0.0424	0.0009
291	SLD 13	-0.09	-10.84	74.26	0.477	-0.0234	0.0007
291	SLD 14	-0.09	-10.84	74.26	0.477	-0.0234	0.0007
291	SLD 15	-0.18	-13.53	85.37	0.608	-0.0389	0.0009
291	SLD 16	-0.18	-13.53	85.37	0.608	-0.0389	0.0009
291	SLV 1	0.14	-2.1	4.74	0.0797	0.0592	-0.0008
291	SLV 2	0.14	-2.1	4.74	0.0797	0.0592	-0.0008



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
291	SLV 3	-0.09	-8.41	30.9	0.3868	0.0203	-0.0002
291	SLV 4	-0.09	-8.41	30.9	0.3868	0.0203	-0.0002
291	SLV 5	0.33	1.87	4.64	-0.1268	0.0695	-0.0007
291	SLV 6	0.33	1.87	4.64	-0.1268	0.0695	-0.0007
291	SLV 7	-0.43	-19.17	91.84	0.8968	-0.06	0.001
291	SLV 8	-0.43	-19.17	91.84	0.8968	-0.06	0.001
291	SLV 9	0.26	-1.05	30.72	0.0033	0.0395	-0.0001
291	SLV 10	0.26	-1.05	30.72	0.0033	0.0395	-0.0001
291	SLV 11	-0.5	-22.08	117.92	1.0269	-0.09	0.0016
291	SLV 12	-0.5	-22.08	117.92	1.0269	-0.09	0.0016
291	SLV 13	-0.09	-11.81	91.65	0.5133	-0.0408	0.0011
291	SLV 14	-0.09	-11.81	91.65	0.5133	-0.0408	0.0011
291	SLV 15	-0.32	-18.12	117.81	0.8204	-0.0797	0.0016
291	SLV 16	-0.32	-18.12	117.81	0.8204	-0.0797	0.0016
292	SLU 1	0	-2.64	38.66	-0.1654	0.0005	0
292	SLU 2	0	-2.63	38.59	-0.1647	0.0005	0
292	SLU 3	0	-2.96	39.86	-0.165	0.0006	0
292	SLU 4	0	-2.95	39.82	-0.1646	0.0006	0
292	SLU 5	0	-2.96	39.31	-0.1603	0.0006	0
292	SLU 6	0	-3.29	40.59	-0.1606	0.0007	0
292	SLU 7	0	-3.29	40.54	-0.1602	0.0007	0
292	SLU 8	0	-3.3	40.11	-0.1566	0.0007	0
292	SLU 9	0	-3.3	40.07	-0.1562	0.0007	0
292	SLU 10	0	-3.04	44.63	-0.1934	0.0007	0
292	SLU 11	0	-3.36	45.9	-0.1936	0.0008	0
292	SLU 12	0	-3.36	45.86	-0.1932	0.0008	0
292	SLU 13	0	-3.37	45.35	-0.189	0.0008	0
292	SLU 14	0	-3.69	46.63	-0.1892	0.0008	0
292	SLU 15	0	-3.69	46.58	-0.1888	0.0008	0
292	SLU 16	0	-3.71	46.15	-0.1852	0.0009	0
292	SLU 17	0	-3.7	46.11	-0.1848	0.0009	0
292	SLU 18	0	-3.21	47.29	-0.2063	0.0007	0
292	SLU 19	0	-3.21	47.25	-0.2059	0.0007	0
292	SLU 20	0	-3.55	48.02	-0.2019	0.0008	0
292	SLU 21	0	-3.54	47.97	-0.2015	0.0008	0
292	SLU 22	0	-3.08	44.15	-0.1916	0.0007	0
292	SLU 23	0	-3.07	44.08	-0.191	0.0007	0
292	SLU 24	0	-3.4	45.35	-0.1912	0.0008	0
292	SLU 25	0	-3.4	45.31	-0.1908	0.0008	0
292	SLU 26	0	-3.41	44.8	-0.1866	0.0008	0
292	SLU 27	0	-3.73	46.08	-0.1868	0.0009	0
292	SLU 28	0	-3.73	46.03	-0.1864	0.0009	0
292	SLU 29	0	-3.74	45.6	-0.1828	0.0009	0
292	SLU 30	0	-3.74	45.55	-0.1824	0.0009	0
292	SLU 31	0	-3.48	50.12	-0.2196	0.0008	0
292	SLU 32	0	-3.8	51.39	-0.2198	0.0009	0
292	SLU 33	0	-3.8	51.35	-0.2195	0.0009	0
292	SLU 34	0	-3.81	50.84	-0.2152	0.0009	0
292	SLU 35	0	-4.14	52.12	-0.2154	0.001	0
292	SLU 36	0	-4.13	52.07	-0.2151	0.001	0
292	SLU 37	0	-4.15	51.64	-0.2115	0.001	0
292	SLU 38	0	-4.15	51.6	-0.2111	0.001	0
292	SLU 39	0	-3.66	52.78	-0.2325	0.0009	0
292	SLU 40	0	-3.65	52.74	-0.2322	0.0009	0
292	SLU 41	0	-3.99	53.51	-0.2281	0.001	0
292	SLU 42	0	-3.99	53.46	-0.2278	0.001	0
292	SLU 43	0	-3.27	48.38	-0.206	0.0007	0
292	SLU 44	0	-3.27	48.31	-0.2054	0.0007	0
292	SLU 45	0	-3.59	49.58	-0.2056	0.0007	0
292	SLU 46	0	-3.59	49.54	-0.2052	0.0007	0
292	SLU 47	0	-3.6	49.03	-0.201	0.0007	0
292	SLU 48	0	-3.93	50.3	-0.2012	0.0008	0
292	SLU 49	0	-3.93	50.26	-0.2008	0.0008	0
292	SLU 50	0	-3.94	49.83	-0.1972	0.0008	0
292	SLU 51	0	-3.94	49.78	-0.1968	0.0008	0
292	SLU 52	0	-3.67	54.35	-0.234	0.0008	0
292	SLU 53	0	-4	55.62	-0.2342	0.0009	0
292	SLU 54	0	-4	55.58	-0.2338	0.0009	0
292	SLU 55	0	-4.01	55.07	-0.2296	0.0009	0
292	SLU 56	0	-4.33	56.35	-0.2298	0.001	0
292	SLU 57	0	-4.33	56.3	-0.2294	0.001	0
292	SLU 58	0	-4.35	55.87	-0.2259	0.001	0
292	SLU 59	0	-4.34	55.82	-0.2255	0.001	0
292	SLU 60	0	-3.85	57.01	-0.2469	0.0009	0
292	SLU 61	0	-3.85	56.97	-0.2465	0.0009	0
292	SLU 62	0	-4.19	57.73	-0.2425	0.0009	0
292	SLU 63	0	-4.18	57.69	-0.2421	0.0009	0
292	SLU 64	0	-3.72	53.87	-0.2322	0.0008	0
292	SLU 65	0	-3.71	53.8	-0.2316	0.0008	0
292	SLU 66	0	-4.04	55.07	-0.2318	0.0009	0
292	SLU 67	0	-4.03	55.03	-0.2314	0.0009	0
292	SLU 68	0	-4.04	54.52	-0.2272	0.0009	0
292	SLU 69	0	-4.37	55.79	-0.2274	0.001	0
292	SLU 70	0	-4.37	55.75	-0.227	0.001	0
292	SLU 71	0	-4.38	55.32	-0.2234	0.001	0
292	SLU 72	0	-4.38	55.27	-0.2231	0.001	0
292	SLU 73	0	-4.12	59.84	-0.2603	0.0009	0
292	SLU 74	0	-4.44	61.11	-0.2605	0.001	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
292	SLU 75	0	-4.44	61.07	-0.2601	0.001	0		
292	SLU 76	0	-4.45	60.56	-0.2559	0.001	0		
292	SLU 77	0	-4.78	61.83	-0.2561	0.0011	0		
292	SLU 78	0	-4.77	61.79	-0.2557	0.0011	0		
292	SLU 79	0	-4.79	61.36	-0.2521	0.0011	0		
292	SLU 80	0	-4.78	61.31	-0.2517	0.0011	0		
292	SLU 81	0	-4.29	62.5	-0.2732	0.001	0		
292	SLU 82	0	-4.29	62.46	-0.2728	0.001	0		
292	SLU 83	0	-4.63	63.22	-0.2688	0.0011	0		
292	SLU 84	0	-4.63	63.18	-0.2684	0.0011	0		
292	SLE RA 1	0	-2.76	40.23	-0.1729	0.0006	0		
292	SLE RA 2	0	-2.76	40.18	-0.1725	0.0006	0		
292	SLE RA 3	0	-2.98	41.03	-0.1726	0.0006	0		
292	SLE RA 4	0	-2.97	41	-0.1723	0.0006	0		
292	SLE RA 5	0	-2.98	40.67	-0.1695	0.0006	0		
292	SLE RA 6	0	-3.2	41.51	-0.1697	0.0007	0		
292	SLE RA 7	0	-3.2	41.49	-0.1694	0.0007	0		
292	SLE RA 8	0	-3.21	41.2	-0.167	0.0007	0		
292	SLE RA 9	0	-3.2	41.17	-0.1668	0.0007	0		
292	SLE RA 10	0	-3.03	44.21	-0.1916	0.0007	0		
292	SLE RA 11	0	-3.25	45.06	-0.1917	0.0007	0		
292	SLE RA 12	0	-3.24	45.03	-0.1914	0.0007	0		
292	SLE RA 13	0	-3.25	44.69	-0.1886	0.0007	0		
292	SLE RA 14	0	-3.47	45.54	-0.1888	0.0008	0		
292	SLE RA 15	0	-3.47	45.51	-0.1885	0.0008	0		
292	SLE RA 16	0	-3.48	45.22	-0.1861	0.0008	0		
292	SLE RA 17	0	-3.47	45.19	-0.1859	0.0008	0		
292	SLE RA 18	0	-3.15	45.99	-0.2002	0.0007	0		
292	SLE RA 19	0	-3.15	45.96	-0.1999	0.0007	0		
292	SLE RA 20	0	-3.37	46.47	-0.1972	0.0008	0		
292	SLE RA 21	0	-3.37	46.44	-0.197	0.0008	0		
292	SLE FR 1	0	-2.76	40.23	-0.1729	0.0006	0		
292	SLE FR 2	0	-2.76	40.22	-0.1728	0.0006	0		
292	SLE FR 3	0	-2.85	40.43	-0.1717	0.0006	0		
292	SLE FR 4	0	-2.88	41.95	-0.181	0.0006	0		
292	SLE FR 5	0	-2.97	42.15	-0.1799	0.0006	0		
292	SLE FR 6	0	-2.95	43.11	-0.1865	0.0006	0		
292	SLE QP 1	0	-2.76	40.23	-0.1729	0.0006	0		
292	SLE QP 2	0	-2.88	41.96	-0.1811	0.0006	0		
292	SLD 1	-0.02	-1.64	38.69	-0.229	-0.0316	-0.0001		
292	SLD 2	-0.02	-1.64	38.69	-0.229	-0.0316	-0.0001		
292	SLD 3	0	-5.68	41.05	-0.0645	-0.0178	-0.0001		
292	SLD 4	0	-5.68	41.05	-0.0645	-0.0178	-0.0001		
292	SLD 5	-0.03	3.61	37.4	-0.4449	-0.0301	0		
292	SLD 6	-0.03	3.61	37.4	-0.4449	-0.0301	0		
292	SLD 7	0.03	-9.84	45.26	0.1034	0.0162	-0.0001		
292	SLD 8	0.03	-9.84	45.26	0.1034	0.0162	-0.0001		
292	SLD 9	-0.03	4.08	38.65	-0.4656	-0.0149	0.0001		
292	SLD 10	-0.03	4.08	38.65	-0.4656	-0.0149	0.0001		
292	SLD 11	0.04	-9.37	46.52	0.0828	0.0314	0		
292	SLD 12	0.04	-9.37	46.52	0.0828	0.0314	0		
292	SLD 13	0	-0.08	42.87	-0.2977	0.019	0.0001		
292	SLD 14	0	-0.08	42.87	-0.2977	0.019	0.0001		
292	SLD 15	0.02	-4.11	45.22	-0.1332	0.0329	0.0001		
292	SLD 16	0.02	-4.11	45.22	-0.1332	0.0329	0.0001		
292	SLV 1	-0.04	0.01	34.28	-0.2922	-0.0808	-0.0002		
292	SLV 2	-0.04	0.01	34.28	-0.2922	-0.0808	-0.0002		
292	SLV 3	0.01	-9.48	39.87	0.0936	-0.0464	-0.0003		
292	SLV 4	0.01	-9.48	39.87	0.0936	-0.0464	-0.0003		
292	SLV 5	-0.08	12.39	31.17	-0.7996	-0.076	0.0001		
292	SLV 6	-0.08	12.39	31.17	-0.7996	-0.076	0.0001		
292	SLV 7	0.08	-19.26	49.82	0.4865	0.0387	-0.0002		
292	SLV 8	0.08	-19.26	49.82	0.4865	0.0387	-0.0002		
292	SLV 9	-0.07	13.51	34.1	-0.8486	-0.0374	0.0002		
292	SLV 10	-0.07	13.51	34.1	-0.8486	-0.0374	0.0002		
292	SLV 11	0.09	-18.14	52.75	0.4374	0.0772	-0.0001		
292	SLV 12	0.09	-18.14	52.75	0.4374	0.0772	-0.0001		
292	SLV 13	0	3.73	44.05	-0.4557	0.0476	0.0003		
292	SLV 14	0	3.73	44.05	-0.4557	0.0476	0.0003		
292	SLV 15	0.04	-5.76	49.64	-0.0699	0.082	0.0002		
292	SLV 16	0.04	-5.76	49.64	-0.0699	0.082	0.0002		
293	SLU 1	4.96	-8.99	55.83	0.168	0.0509	-0.0016		
293	SLU 2	4.65	-7.99	50.89	0.1418	0.0515	-0.0013		
293	SLU 3	5.06	-9.15	56.86	0.1704	0.0522	-0.0016		
293	SLU 4	4.88	-8.55	53.9	0.1546	0.0525	-0.0014		
293	SLU 5	4.72	-8.03	51.31	0.1418	0.0529	-0.0012		
293	SLU 6	5.12	-9.19	57.28	0.1704	0.0537	-0.0016		
293	SLU 7	4.94	-8.59	54.32	0.1546	0.054	-0.0014		
293	SLU 8	5.08	-9.08	56.67	0.1681	0.0538	-0.0015		
293	SLU 9	4.9	-8.47	53.7	0.1523	0.0542	-0.0013		
293	SLU 10	5.38	-9.02	57.82	0.1594	0.0621	-0.0014		
293	SLU 11	5.78	-10.18	63.79	0.188	0.0628	-0.0017		
293	SLU 12	5.6	-9.58	60.83	0.1722	0.0632	-0.0015		
293	SLU 13	5.44	-9.07	58.24	0.1594	0.0636	-0.0014		
293	SLU 14	5.84	-10.23	64.21	0.188	0.0643	-0.0017		
293	SLU 15	5.66	-9.62	61.24	0.1722	0.0646	-0.0015		
293	SLU 16	5.8	-10.11	63.59	0.1856	0.0645	-0.0016		
293	SLU 17	5.62	-9.51	60.63	0.1699	0.0648	-0.0015		





Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
293	SLU 18	5.99	-10.47	65.73	0.1932	0.0661	-0.0017		
293	SLU 19	5.81	-9.87	62.76	0.1774	0.0664	-0.0016		
293	SLU 20	6.05	-10.51	66.14	0.1932	0.0675	-0.0017		
293	SLU 21	5.87	-9.91	63.18	0.1774	0.0679	-0.0015		
293	SLU 22	5.63	-9.98	62.38	0.1849	0.0603	-0.0017		
293	SLU 23	5.32	-8.98	57.43	0.1586	0.0609	-0.0014		
293	SLU 24	5.73	-10.14	63.41	0.1873	0.0616	-0.0017		
293	SLU 25	5.54	-9.54	60.44	0.1715	0.062	-0.0015		
293	SLU 26	5.38	-9.02	57.85	0.1586	0.0624	-0.0014		
293	SLU 27	5.79	-10.18	63.83	0.1873	0.0631	-0.0017		
293	SLU 28	5.61	-9.58	60.86	0.1715	0.0634	-0.0015		
293	SLU 29	5.75	-10.06	63.21	0.1849	0.0633	-0.0016		
293	SLU 30	5.57	-9.46	60.25	0.1691	0.0636	-0.0015		
293	SLU 31	6.04	-10.01	64.36	0.1762	0.0715	-0.0015		
293	SLU 32	6.45	-11.17	70.34	0.2049	0.0722	-0.0018		
293	SLU 33	6.27	-10.57	67.37	0.1891	0.0726	-0.0016		
293	SLU 34	6.11	-10.05	64.78	0.1762	0.073	-0.0015		
293	SLU 35	6.51	-11.21	70.75	0.2049	0.0737	-0.0018		
293	SLU 36	6.33	-10.61	67.79	0.1891	0.074	-0.0016		
293	SLU 37	6.47	-11.1	70.14	0.2025	0.0739	-0.0018		
293	SLU 38	6.29	-10.5	67.17	0.1867	0.0742	-0.0016		
293	SLU 39	6.66	-11.46	72.27	0.21	0.0755	-0.0019		
293	SLU 40	6.48	-10.86	69.31	0.1942	0.0758	-0.0017		
293	SLU 41	6.72	-11.5	72.69	0.21	0.0769	-0.0018		
293	SLU 42	6.54	-10.9	69.72	0.1942	0.0773	-0.0017		
293	SLU 43	6.22	-11.35	70.34	0.2127	0.0629	-0.002		
293	SLU 44	5.91	-10.35	65.4	0.1864	0.0635	-0.0017		
293	SLU 45	6.32	-11.51	71.37	0.2151	0.0642	-0.002		
293	SLU 46	6.13	-10.91	68.41	0.1993	0.0646	-0.0018		
293	SLU 47	5.97	-10.39	65.81	0.1864	0.065	-0.0017		
293	SLU 48	6.38	-11.55	71.79	0.2151	0.0657	-0.002		
293	SLU 49	6.2	-10.95	68.82	0.1993	0.0661	-0.0018		
293	SLU 50	6.34	-11.43	71.17	0.2127	0.0659	-0.0019		
293	SLU 51	6.16	-10.83	68.21	0.1969	0.0662	-0.0018		
293	SLU 52	6.63	-11.38	72.32	0.204	0.0741	-0.0018		
293	SLU 53	7.04	-12.54	78.3	0.2327	0.0748	-0.0021		
293	SLU 54	6.86	-11.94	75.33	0.2169	0.0752	-0.0019		
293	SLU 55	6.7	-11.42	72.74	0.204	0.0756	-0.0018		
293	SLU 56	7.1	-12.58	78.71	0.2327	0.0763	-0.0021		
293	SLU 57	6.92	-11.98	75.75	0.2169	0.0767	-0.0019		
293	SLU 58	7.06	-12.47	78.1	0.2303	0.0765	-0.0021		
293	SLU 59	6.88	-11.87	75.13	0.2145	0.0768	-0.0019		
293	SLU 60	7.25	-12.83	80.23	0.2378	0.0781	-0.0022		
293	SLU 61	7.06	-12.23	77.27	0.2221	0.0784	-0.002		
293	SLU 62	7.31	-12.87	80.65	0.2378	0.0796	-0.0021		
293	SLU 63	7.13	-12.27	77.69	0.2221	0.0799	-0.002		
293	SLU 64	6.88	-12.34	76.88	0.2295	0.0723	-0.0021		
293	SLU 65	6.58	-11.34	71.94	0.2032	0.0729	-0.0018		
293	SLU 66	6.99	-12.5	77.91	0.2319	0.0737	-0.0021		
293	SLU 67	6.8	-11.89	74.95	0.2161	0.074	-0.0019		
293	SLU 68	6.64	-11.38	72.36	0.2032	0.0744	-0.0018		
293	SLU 69	7.05	-12.54	78.33	0.2319	0.0751	-0.0021		
293	SLU 70	6.86	-11.94	75.37	0.2161	0.0755	-0.0019		
293	SLU 71	7.01	-12.42	77.72	0.2295	0.0753	-0.0021		
293	SLU 72	6.83	-11.82	74.75	0.2138	0.0756	-0.0019		
293	SLU 73	7.3	-12.37	78.87	0.2208	0.0835	-0.0019		
293	SLU 74	7.71	-13.53	84.84	0.2495	0.0843	-0.0022		
293	SLU 75	7.52	-12.93	81.88	0.2337	0.0846	-0.0021		
293	SLU 76	7.36	-12.41	79.28	0.2208	0.085	-0.0019		
293	SLU 77	7.77	-13.57	85.26	0.2495	0.0857	-0.0022		
293	SLU 78	7.59	-12.97	82.29	0.2337	0.0861	-0.0021		
293	SLU 79	7.73	-13.46	84.64	0.2471	0.0859	-0.0022		
293	SLU 80	7.55	-12.85	81.68	0.2314	0.0863	-0.002		
293	SLU 81	7.92	-13.82	86.78	0.2547	0.0875	-0.0023		
293	SLU 82	7.73	-13.21	83.81	0.2389	0.0879	-0.0021		
293	SLU 83	7.98	-13.86	87.19	0.2547	0.089	-0.0023		
293	SLU 84	7.8	-13.26	84.23	0.2389	0.0893	-0.0021		
293	SLE RA 1	5.15	-9.27	57.7	0.1729	0.0536	-0.0016		
293	SLE RA 2	4.95	-8.61	54.41	0.1553	0.054	-0.0014		
293	SLE RA 3	5.22	-9.38	58.39	0.1744	0.0545	-0.0016		
293	SLE RA 4	5.09	-8.98	56.41	0.1639	0.0547	-0.0015		
293	SLE RA 5	4.99	-8.63	54.69	0.1553	0.0549	-0.0014		
293	SLE RA 6	5.26	-9.41	58.67	0.1744	0.0554	-0.0016		
293	SLE RA 7	5.14	-9.01	56.69	0.1639	0.0557	-0.0015		
293	SLE RA 8	5.23	-9.33	58.26	0.1729	0.0555	-0.0016		
293	SLE RA 9	5.11	-8.93	56.28	0.1623	0.0558	-0.0015		
293	SLE RA 10	5.43	-9.3	59.03	0.1671	0.061	-0.0015		
293	SLE RA 11	5.7	-10.07	63.01	0.1862	0.0615	-0.0017		
293	SLE RA 12	5.58	-9.67	61.03	0.1757	0.0618	-0.0016		
293	SLE RA 13	5.47	-9.32	59.3	0.1671	0.062	-0.0015		
293	SLE RA 14	5.74	-10.1	63.29	0.1862	0.0625	-0.0017		
293	SLE RA 15	5.62	-9.7	61.31	0.1757	0.0627	-0.0016		
293	SLE RA 16	5.71	-10.02	62.88	0.1846	0.0626	-0.0017		
293	SLE RA 17	5.59	-9.62	60.9	0.1741	0.0629	-0.0015		
293	SLE RA 18	5.84	-10.26	64.3	0.1896	0.0637	-0.0017		
293	SLE RA 19	5.71	-9.86	62.32	0.1791	0.0639	-0.0016		
293	SLE RA 20	5.88	-10.29	64.58	0.1896	0.0647	-0.0017		
293	SLE RA 21	5.76	-9.89	62.6	0.1791	0.0649	-0.0016		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
293	SLE FR 1	5.15	-9.27	57.7	0.1729	0.0536	-0.0016
293	SLE FR 2	5.11	-9.14	57.04	0.1694	0.0537	-0.0015
293	SLE FR 3	5.17	-9.28	57.81	0.1729	0.054	-0.0016
293	SLE FR 4	5.31	-9.44	59.02	0.1744	0.0567	-0.0016
293	SLE FR 5	5.37	-9.58	59.79	0.1779	0.057	-0.0016
293	SLE FR 6	5.49	-9.77	61	0.1812	0.0586	-0.0016
293	SLE QP 1	5.15	-9.27	57.7	0.1729	0.0536	-0.0016
293	SLE QP 2	5.35	-9.57	59.68	0.1779	0.0566	-0.0016
293	SLD 1	8.02	-10.75	73.74	0.1812	0.1436	-0.0002
293	SLD 2	8.02	-10.75	73.74	0.1812	0.1436	-0.0002
293	SLD 3	8.95	-13.34	85.45	0.2653	0.1643	-0.0011
293	SLD 4	8.95	-13.34	85.45	0.2653	0.1643	-0.0011
293	SLD 5	4.75	-6	46.14	0.0513	0.0515	0.0001
293	SLD 6	4.75	-6	46.14	0.0513	0.0515	0.0001
293	SLD 7	7.84	-14.63	85.17	0.3317	0.1202	-0.0027
293	SLD 8	7.84	-14.63	85.17	0.3317	0.1202	-0.0027
293	SLD 9	2.87	-4.51	34.19	0.024	-0.0069	-0.0005
293	SLD 10	2.87	-4.51	34.19	0.024	-0.0069	-0.0005
293	SLD 11	5.96	-13.14	73.23	0.3045	0.0618	-0.0033
293	SLD 12	5.96	-13.14	73.23	0.3045	0.0618	-0.0033
293	SLD 13	1.76	-5.8	33.91	0.0904	-0.051	-0.0022
293	SLD 14	1.76	-5.8	33.91	0.0904	-0.051	-0.0022
293	SLD 15	2.69	-8.39	45.63	0.1746	-0.0304	-0.003
293	SLD 16	2.69	-8.39	45.63	0.1746	-0.0304	-0.003
293	SLV 1	11.6	-12.33	92.58	0.1874	0.2603	0.0016
293	SLV 2	11.6	-12.33	92.58	0.1874	0.2603	0.0016
293	SLV 3	13.79	-18.4	120.1	0.3838	0.3095	-0.0004
293	SLV 4	13.79	-18.4	120.1	0.3838	0.3095	-0.0004
293	SLV 5	3.92	-1.21	27.82	-0.1171	0.0431	0.0024
293	SLV 6	3.92	-1.21	27.82	-0.1171	0.0431	0.0024
293	SLV 7	11.2	-21.41	119.54	0.5375	0.2071	-0.0042
293	SLV 8	11.2	-21.41	119.54	0.5375	0.2071	-0.0042
293	SLV 9	-0.49	2.27	-0.17	-0.1818	-0.0939	0.001
293	SLV 10	-0.49	2.27	-0.17	-0.1818	-0.0939	0.001
293	SLV 11	6.79	-17.93	91.54	0.4729	0.0701	-0.0056
293	SLV 12	6.79	-17.93	91.54	0.4729	0.0701	-0.0056
293	SLV 13	-3.08	-0.74	-0.74	-0.028	-0.1963	-0.0029
293	SLV 14	-3.08	-0.74	-0.74	-0.028	-0.1963	-0.0029
293	SLV 15	-0.89	-6.8	26.78	0.1684	-0.1471	-0.0049
293	SLV 16	-0.89	-6.8	26.78	0.1684	-0.1471	-0.0049
294	SLU 1	1.35	-0.12	39.94	0.0073	0.1735	0.0003
294	SLU 2	1.52	-0.11	36.64	0.0048	0.1701	0.0003
294	SLU 3	1.4	-0.12	40.65	0.0072	0.1784	0.0003
294	SLU 4	1.5	-0.11	38.67	0.0057	0.1763	0.0003
294	SLU 5	1.58	-0.11	36.93	0.0046	0.174	0.0003
294	SLU 6	1.46	-0.12	40.93	0.007	0.1823	0.0003
294	SLU 7	1.56	-0.12	38.95	0.0055	0.1802	0.0003
294	SLU 8	1.47	-0.12	40.51	0.007	0.1813	0.0003
294	SLU 9	1.58	-0.11	38.53	0.0055	0.1793	0.0003
294	SLU 10	1.9	-0.12	41.63	0.0057	0.2015	0.0003
294	SLU 11	1.78	-0.14	45.64	0.0082	0.2097	0.0004
294	SLU 12	1.88	-0.13	43.66	0.0067	0.2077	0.0004
294	SLU 13	1.96	-0.12	41.92	0.0056	0.2054	0.0003
294	SLU 14	1.84	-0.14	45.92	0.008	0.2136	0.0004
294	SLU 15	1.94	-0.13	43.94	0.0065	0.2116	0.0004
294	SLU 16	1.85	-0.14	45.5	0.008	0.2127	0.0004
294	SLU 17	1.96	-0.13	43.52	0.0064	0.2106	0.0004
294	SLU 18	1.89	-0.14	47.07	0.0087	0.2184	0.0004
294	SLU 19	1.99	-0.13	45.09	0.0072	0.2163	0.0004
294	SLU 20	1.95	-0.14	47.36	0.0085	0.2222	0.0004
294	SLU 21	2.05	-0.13	45.38	0.007	0.2202	0.0004
294	SLU 22	1.68	-0.13	44.65	0.0081	0.2023	0.0004
294	SLU 23	1.85	-0.12	41.35	0.0055	0.1989	0.0003
294	SLU 24	1.73	-0.14	45.36	0.008	0.2072	0.0004
294	SLU 25	1.83	-0.13	43.38	0.0064	0.2051	0.0004
294	SLU 26	1.92	-0.12	41.63	0.0054	0.2028	0.0003
294	SLU 27	1.79	-0.14	45.64	0.0078	0.211	0.0004
294	SLU 28	1.9	-0.13	43.66	0.0063	0.209	0.0004
294	SLU 29	1.81	-0.14	45.22	0.0077	0.2101	0.0004
294	SLU 30	1.91	-0.13	43.24	0.0062	0.2081	0.0004
294	SLU 31	2.23	-0.14	46.34	0.0065	0.2303	0.0004
294	SLU 32	2.11	-0.15	50.35	0.0089	0.2385	0.0004
294	SLU 33	2.21	-0.14	48.37	0.0074	0.2365	0.0004
294	SLU 34	2.29	-0.14	46.63	0.0063	0.2342	0.0004
294	SLU 35	2.17	-0.15	50.63	0.0088	0.2424	0.0004
294	SLU 36	2.28	-0.15	48.65	0.0073	0.2404	0.0004
294	SLU 37	2.19	-0.15	50.21	0.0087	0.2415	0.0004
294	SLU 38	2.29	-0.14	48.23	0.0072	0.2394	0.0004
294	SLU 39	2.22	-0.15	51.78	0.0095	0.2471	0.0004
294	SLU 40	2.32	-0.15	49.8	0.0079	0.2451	0.0004
294	SLU 41	2.28	-0.16	52.06	0.0093	0.251	0.0004
294	SLU 42	2.39	-0.15	50.08	0.0078	0.249	0.0004
294	SLU 43	1.64	-0.15	50.31	0.0092	0.2157	0.0004
294	SLU 44	1.81	-0.14	47.01	0.0067	0.2123	0.0004
294	SLU 45	1.69	-0.15	51.02	0.0091	0.2206	0.0004
294	SLU 46	1.79	-0.15	49.04	0.0076	0.2185	0.0004
294	SLU 47	1.87	-0.14	47.3	0.0065	0.2162	0.0004
294	SLU 48	1.75	-0.15	51.3	0.009	0.2245	0.0004



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
294	SLU 49	1.85	-0.15	49.32	0.0074	0.2224	0.0004
294	SLU 50	1.76	-0.15	50.88	0.0089	0.2235	0.0004
294	SLU 51	1.87	-0.15	48.9	0.0074	0.2215	0.0004
294	SLU 52	2.19	-0.15	52	0.0077	0.2437	0.0004
294	SLU 53	2.06	-0.17	56.01	0.0101	0.2519	0.0005
294	SLU 54	2.17	-0.16	54.03	0.0086	0.2499	0.0004
294	SLU 55	2.25	-0.15	52.29	0.0075	0.2476	0.0004
294	SLU 56	2.13	-0.17	56.29	0.01	0.2558	0.0005
294	SLU 57	2.23	-0.16	54.31	0.0084	0.2538	0.0005
294	SLU 58	2.14	-0.17	55.87	0.0099	0.2549	0.0005
294	SLU 59	2.25	-0.16	53.89	0.0084	0.2528	0.0004
294	SLU 60	2.18	-0.17	57.44	0.0106	0.2605	0.0005
294	SLU 61	2.28	-0.16	55.46	0.0091	0.2585	0.0005
294	SLU 62	2.24	-0.17	57.72	0.0105	0.2644	0.0005
294	SLU 63	2.34	-0.17	55.75	0.009	0.2624	0.0005
294	SLU 64	1.97	-0.16	55.02	0.01	0.2445	0.0005
294	SLU 65	2.14	-0.15	51.72	0.0074	0.2411	0.0004
294	SLU 66	2.02	-0.17	55.72	0.0099	0.2493	0.0005
294	SLU 67	2.12	-0.16	53.75	0.0084	0.2473	0.0004
294	SLU 68	2.2	-0.15	52	0.0073	0.245	0.0004
294	SLU 69	2.08	-0.17	56.01	0.0097	0.2532	0.0005
294	SLU 70	2.19	-0.16	54.03	0.0082	0.2512	0.0004
294	SLU 71	2.1	-0.17	55.59	0.0097	0.2523	0.0005
294	SLU 72	2.2	-0.16	53.61	0.0081	0.2502	0.0004
294	SLU 73	2.52	-0.17	56.71	0.0084	0.2725	0.0005
294	SLU 74	2.4	-0.18	60.72	0.0109	0.2807	0.0005
294	SLU 75	2.5	-0.17	58.74	0.0093	0.2787	0.0005
294	SLU 76	2.58	-0.17	56.99	0.0083	0.2764	0.0005
294	SLU 77	2.46	-0.18	61	0.0107	0.2846	0.0005
294	SLU 78	2.57	-0.18	59.02	0.0092	0.2826	0.0005
294	SLU 79	2.48	-0.18	60.58	0.0107	0.2837	0.0005
294	SLU 80	2.58	-0.17	58.6	0.0091	0.2816	0.0005
294	SLU 81	2.51	-0.19	62.15	0.0114	0.2893	0.0005
294	SLU 82	2.61	-0.18	60.17	0.0099	0.2873	0.0005
294	SLU 83	2.57	-0.19	62.43	0.0112	0.2932	0.0005
294	SLU 84	2.68	-0.18	60.45	0.0097	0.2912	0.0005
294	SLE RA 1	1.44	-0.12	41.29	0.0075	0.1818	0.0003
294	SLE RA 2	1.56	-0.12	39.09	0.0058	0.1795	0.0003
294	SLE RA 3	1.48	-0.12	41.76	0.0074	0.185	0.0003
294	SLE RA 4	1.54	-0.12	40.44	0.0064	0.1836	0.0003
294	SLE RA 5	1.6	-0.12	39.28	0.0057	0.1821	0.0003
294	SLE RA 6	1.52	-0.13	41.95	0.0073	0.1876	0.0003
294	SLE RA 7	1.59	-0.12	40.63	0.0063	0.1862	0.0003
294	SLE RA 8	1.53	-0.12	41.67	0.0073	0.187	0.0003
294	SLE RA 9	1.6	-0.12	40.35	0.0063	0.1856	0.0003
294	SLE RA 10	1.81	-0.13	42.42	0.0065	0.2004	0.0004
294	SLE RA 11	1.73	-0.13	45.09	0.0081	0.2059	0.0004
294	SLE RA 12	1.8	-0.13	43.77	0.0071	0.2045	0.0004
294	SLE RA 13	1.85	-0.13	42.6	0.0064	0.203	0.0004
294	SLE RA 14	1.77	-0.14	45.27	0.008	0.2085	0.0004
294	SLE RA 15	1.84	-0.13	43.96	0.007	0.2071	0.0004
294	SLE RA 16	1.78	-0.13	44.99	0.008	0.2079	0.0004
294	SLE RA 17	1.85	-0.13	43.67	0.0069	0.2065	0.0004
294	SLE RA 18	1.8	-0.14	46.04	0.0085	0.2116	0.0004
294	SLE RA 19	1.87	-0.13	44.72	0.0074	0.2103	0.0004
294	SLE RA 20	1.84	-0.14	46.23	0.0083	0.2142	0.0004
294	SLE RA 21	1.91	-0.13	44.91	0.0073	0.2129	0.0004
294	SLE FR 1	1.44	-0.12	41.29	0.0075	0.1818	0.0003
294	SLE FR 2	1.46	-0.12	40.85	0.0072	0.1813	0.0003
294	SLE FR 3	1.46	-0.12	41.36	0.0075	0.1828	0.0003
294	SLE FR 4	1.57	-0.13	42.27	0.0075	0.1903	0.0004
294	SLE FR 5	1.57	-0.13	42.79	0.0078	0.1918	0.0004
294	SLE FR 6	1.62	-0.13	43.66	0.008	0.1967	0.0004
294	SLE QP 1	1.44	-0.12	41.29	0.0075	0.1818	0.0003
294	SLE QP 2	1.55	-0.13	42.71	0.0078	0.1907	0.0004
294	SLD 1	5.35	-0.16	51.39	-0.0289	0.3605	0.0005
294	SLD 2	5.35	-0.16	51.39	-0.0289	0.3605	0.0005
294	SLD 3	4.6	-0.19	58.94	0.0073	0.3993	0.0005
294	SLD 4	4.6	-0.19	58.94	0.0073	0.3993	0.0005
294	SLD 5	3.83	-0.09	33.86	-0.0582	0.1827	0.0003
294	SLD 6	3.83	-0.09	33.86	-0.0582	0.1827	0.0003
294	SLD 7	1.32	-0.19	59.03	0.0627	0.3122	0.0005
294	SLD 8	1.32	-0.19	59.03	0.0627	0.3122	0.0005
294	SLD 9	1.78	-0.06	26.39	-0.0471	0.0693	0.0002
294	SLD 10	1.78	-0.06	26.39	-0.0471	0.0693	0.0002
294	SLD 11	-0.73	-0.16	51.56	0.0738	0.1987	0.0004
294	SLD 12	-0.73	-0.16	51.56	0.0738	0.1987	0.0004
294	SLD 13	-1.5	-0.06	26.49	0.0083	-0.0178	0.0002
294	SLD 14	-1.5	-0.06	26.49	0.0083	-0.0178	0.0002
294	SLD 15	-2.25	-0.09	34.04	0.0445	0.021	0.0003
294	SLD 16	-2.25	-0.09	34.04	0.0445	0.021	0.0003
294	SLV 1	10.45	-0.21	63.02	-0.0832	0.5886	0.0006
294	SLV 2	10.45	-0.21	63.02	-0.0832	0.5886	0.0006
294	SLV 3	8.7	-0.28	80.78	0.0059	0.6797	0.0007
294	SLV 4	8.7	-0.28	80.78	0.0059	0.6797	0.0007
294	SLV 5	6.88	-0.04	21.88	-0.1546	0.1718	0.0002
294	SLV 6	6.88	-0.04	21.88	-0.1546	0.1718	0.0002
294	SLV 7	1.04	-0.29	81.06	0.1423	0.4757	0.0007



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
294	SLV 8	1.04	-0.29	81.06	0.1423	0.4757	0.0007
294	SLV 9	2.06	0.03	4.37	-0.1268	-0.0942	0
294	SLV 10	2.06	0.03	4.37	-0.1268	-0.0942	0
294	SLV 11	-3.78	-0.21	63.54	0.1702	0.2096	0.0005
294	SLV 12	-3.78	-0.21	63.54	0.1702	0.2096	0.0005
294	SLV 13	-5.6	0.03	4.65	0.0097	-0.2983	0
294	SLV 14	-5.6	0.03	4.65	0.0097	-0.2983	0
294	SLV 15	-7.35	-0.04	22.4	0.0988	-0.2071	0.0001
294	SLV 16	-7.35	-0.04	22.4	0.0988	-0.2071	0.0001
295	SLU 1	-1.23	0.01	34.29	-0.0358	-0.092	0
295	SLU 2	-0.91	0.01	31.79	-0.0358	-0.0774	0
295	SLU 3	-1.22	0.01	34.87	-0.0371	-0.0928	0
295	SLU 4	-1.03	0.01	33.37	-0.037	-0.0841	0
295	SLU 5	-0.87	0.01	32.03	-0.0365	-0.0759	0
295	SLU 6	-1.18	0.01	35.11	-0.0378	-0.0914	0
295	SLU 7	-0.99	0.01	33.61	-0.0378	-0.0826	0
295	SLU 8	-1.14	0.01	34.77	-0.0372	-0.089	0
295	SLU 9	-0.95	0.01	33.27	-0.0372	-0.0802	0
295	SLU 10	-0.87	0.01	36.13	-0.04	-0.0813	0
295	SLU 11	-1.18	0.01	39.21	-0.0413	-0.0968	0
295	SLU 12	-0.99	0.01	37.71	-0.0412	-0.088	0
295	SLU 13	-0.82	0.01	36.37	-0.0407	-0.0798	0
295	SLU 14	-1.14	0.01	39.45	-0.042	-0.0953	0
295	SLU 15	-0.95	0.01	37.95	-0.0419	-0.0865	0
295	SLU 16	-1.1	0.01	39.11	-0.0414	-0.0929	0
295	SLU 17	-0.91	0.01	37.61	-0.0414	-0.0842	0
295	SLU 18	-1.17	0.01	40.49	-0.0418	-0.0976	0
295	SLU 19	-0.98	0.01	38.99	-0.0418	-0.0888	0
295	SLU 20	-1.12	0.01	40.73	-0.0425	-0.0961	0
295	SLU 21	-0.93	0.01	39.23	-0.0425	-0.0873	0
295	SLU 22	-1.21	0.01	38.36	-0.0403	-0.0967	0
295	SLU 23	-0.89	0.01	35.86	-0.0402	-0.0821	0
295	SLU 24	-1.21	0.01	38.94	-0.0415	-0.0976	0
295	SLU 25	-1.02	0.01	37.44	-0.0415	-0.0888	0
295	SLU 26	-0.85	0.01	36.1	-0.0409	-0.0806	0
295	SLU 27	-1.16	0.01	39.18	-0.0422	-0.0961	0
295	SLU 28	-0.98	0.01	37.68	-0.0422	-0.0873	0
295	SLU 29	-1.12	0.01	38.84	-0.0417	-0.0938	0
295	SLU 30	-0.93	0.01	37.34	-0.0416	-0.085	0
295	SLU 31	-0.85	0.01	40.2	-0.0444	-0.086	0
295	SLU 32	-1.17	0.01	43.28	-0.0457	-0.1015	0
295	SLU 33	-0.98	0.01	41.78	-0.0456	-0.0927	0
295	SLU 34	-0.81	0.01	40.44	-0.0451	-0.0846	0
295	SLU 35	-1.12	0.01	43.52	-0.0464	-0.1	0
295	SLU 36	-0.93	0.01	42.02	-0.0463	-0.0913	0
295	SLU 37	-1.08	0.01	43.18	-0.0458	-0.0977	0
295	SLU 38	-0.89	0.01	41.68	-0.0458	-0.0889	0
295	SLU 39	-1.15	0.01	44.56	-0.0462	-0.1023	0
295	SLU 40	-0.96	0.01	43.06	-0.0462	-0.0936	0
295	SLU 41	-1.11	0.01	44.8	-0.0469	-0.1009	0
295	SLU 42	-0.92	0.01	43.3	-0.0469	-0.0921	0
295	SLU 43	-1.6	0.01	43.18	-0.0451	-0.1179	0
295	SLU 44	-1.28	0.01	40.68	-0.045	-0.1033	0
295	SLU 45	-1.6	0.01	43.76	-0.0463	-0.1188	0
295	SLU 46	-1.41	0.01	42.26	-0.0463	-0.11	0
295	SLU 47	-1.24	0.01	40.92	-0.0457	-0.1018	0
295	SLU 48	-1.55	0.01	44	-0.047	-0.1173	0
295	SLU 49	-1.36	0.01	42.5	-0.047	-0.1085	0
295	SLU 50	-1.51	0.01	43.66	-0.0465	-0.115	0
295	SLU 51	-1.32	0.01	42.16	-0.0465	-0.1062	0
295	SLU 52	-1.24	0.01	45.02	-0.0492	-0.1072	0
295	SLU 53	-1.56	0.01	48.1	-0.0505	-0.1227	0
295	SLU 54	-1.37	0.01	46.6	-0.0505	-0.1139	0
295	SLU 55	-1.2	0.01	45.26	-0.0499	-0.1058	0
295	SLU 56	-1.51	0.01	48.34	-0.0512	-0.1212	0
295	SLU 57	-1.32	0.01	46.84	-0.0512	-0.1125	0
295	SLU 58	-1.47	0.01	48	-0.0507	-0.1189	0
295	SLU 59	-1.28	0.01	46.5	-0.0506	-0.1101	0
295	SLU 60	-1.54	0.01	49.38	-0.051	-0.1235	0
295	SLU 61	-1.35	0.01	47.88	-0.051	-0.1148	0
295	SLU 62	-1.5	0.01	49.62	-0.0517	-0.1221	0
295	SLU 63	-1.31	0.01	48.12	-0.0517	-0.1133	0
295	SLU 64	-1.58	0.01	47.25	-0.0495	-0.1227	0
295	SLU 65	-1.27	0.01	44.75	-0.0494	-0.1081	0
295	SLU 66	-1.58	0.01	47.83	-0.0507	-0.1236	0
295	SLU 67	-1.39	0.01	46.33	-0.0507	-0.1148	0
295	SLU 68	-1.22	0.01	44.99	-0.0501	-0.1066	0
295	SLU 69	-1.54	0.01	48.07	-0.0514	-0.1221	0
295	SLU 70	-1.35	0.01	46.57	-0.0514	-0.1133	0
295	SLU 71	-1.5	0.01	47.73	-0.0509	-0.1197	0
295	SLU 72	-1.31	0.01	46.23	-0.0509	-0.111	0
295	SLU 73	-1.23	0.01	49.09	-0.0536	-0.112	0
295	SLU 74	-1.54	0.01	52.17	-0.0549	-0.1275	0
295	SLU 75	-1.35	0.01	50.67	-0.0549	-0.1187	0
295	SLU 76	-1.18	0.01	49.33	-0.0543	-0.1105	0
295	SLU 77	-1.5	0.01	52.41	-0.0556	-0.126	0
295	SLU 78	-1.31	0.01	50.91	-0.0556	-0.1172	0
295	SLU 79	-1.45	0.01	52.07	-0.0551	-0.1237	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
295	SLU 80	-1.26	0.01	50.57	-0.055	-0.1149	0
295	SLU 81	-1.52	0.01	53.45	-0.0555	-0.1283	0
295	SLU 82	-1.33	0.01	51.95	-0.0554	-0.1195	0
295	SLU 83	-1.48	0.01	53.69	-0.0562	-0.1268	0
295	SLU 84	-1.29	0.01	52.19	-0.0561	-0.1181	0
295	SLE RA 1	-1.22	0.01	35.45	-0.0371	-0.0933	0
295	SLE RA 2	-1.01	0.01	33.79	-0.0371	-0.0836	0
295	SLE RA 3	-1.22	0.01	35.84	-0.0379	-0.0939	0
295	SLE RA 4	-1.09	0.01	34.84	-0.0379	-0.0881	0
295	SLE RA 5	-0.98	0.01	33.95	-0.0375	-0.0826	0
295	SLE RA 6	-1.19	0.01	36	-0.0384	-0.0929	0
295	SLE RA 7	-1.06	0.01	35	-0.0384	-0.0871	0
295	SLE RA 8	-1.16	0.01	35.77	-0.038	-0.0914	0
295	SLE RA 9	-1.04	0.01	34.77	-0.038	-0.0855	0
295	SLE RA 10	-0.98	0.01	36.68	-0.0398	-0.0862	0
295	SLE RA 11	-1.19	0.01	38.73	-0.0407	-0.0965	0
295	SLE RA 12	-1.07	0.01	37.73	-0.0407	-0.0907	0
295	SLE RA 13	-0.95	0.01	36.84	-0.0403	-0.0852	0
295	SLE RA 14	-1.16	0.01	38.89	-0.0412	-0.0955	0
295	SLE RA 15	-1.04	0.01	37.89	-0.0412	-0.0897	0
295	SLE RA 16	-1.14	0.01	38.67	-0.0408	-0.094	0
295	SLE RA 17	-1.01	0.01	37.67	-0.0408	-0.0881	0
295	SLE RA 18	-1.18	0.01	39.59	-0.0411	-0.0971	0
295	SLE RA 19	-1.06	0.01	38.59	-0.0411	-0.0912	0
295	SLE RA 20	-1.15	0.01	39.75	-0.0415	-0.0961	0
295	SLE RA 21	-1.03	0.01	38.75	-0.0415	-0.0902	0
295	SLE FR 1	-1.22	0.01	35.45	-0.0371	-0.0933	0
295	SLE FR 2	-1.18	0.01	35.12	-0.0371	-0.0914	0
295	SLE FR 3	-1.21	0.01	35.52	-0.0373	-0.0929	0
295	SLE FR 4	-1.17	0.01	36.36	-0.0383	-0.0925	0
295	SLE FR 5	-1.2	0.01	36.76	-0.0385	-0.0941	0
295	SLE FR 6	-1.2	0.01	37.52	-0.0391	-0.0952	0
295	SLE QP 1	-1.22	0.01	35.45	-0.0371	-0.0933	0
295	SLE QP 2	-1.21	0.01	36.69	-0.0383	-0.0945	0
295	SLD 1	2.54	0.09	42.62	-0.1105	0.0779	0.0002
295	SLD 2	2.54	0.09	42.62	-0.1105	0.0779	0.0002
295	SLD 3	1.78	0.05	48.22	-0.0356	0.0442	0.0001
295	SLD 4	1.78	0.05	48.22	-0.0356	0.0442	0.0001
295	SLD 5	1.07	0.1	29.98	-0.1734	0.0084	0.0002
295	SLD 6	1.07	0.1	29.98	-0.1734	0.0084	0.0002
295	SLD 7	-1.46	-0.04	48.64	0.076	-0.104	0
295	SLD 8	-1.46	-0.04	48.64	0.076	-0.104	0
295	SLD 9	-0.96	0.06	24.75	-0.1526	-0.0849	0.0001
295	SLD 10	-0.96	0.06	24.75	-0.1526	-0.0849	0.0001
295	SLD 11	-3.49	-0.08	43.4	0.0968	-0.1973	-0.0001
295	SLD 12	-3.49	-0.08	43.4	0.0968	-0.1973	-0.0001
295	SLD 13	-4.2	-0.03	25.17	-0.041	-0.2331	-0.0001
295	SLD 14	-4.2	-0.03	25.17	-0.041	-0.2331	-0.0001
295	SLD 15	-4.96	-0.07	30.76	0.0339	-0.2668	-0.0002
295	SLD 16	-4.96	-0.07	30.76	0.0339	-0.2668	-0.0002
295	SLV 1	7.57	0.21	50.57	-0.2166	0.309	0.0004
295	SLV 2	7.57	0.21	50.57	-0.2166	0.309	0.0004
295	SLV 3	5.79	0.11	63.75	-0.0328	0.2298	0.0003
295	SLV 4	5.79	0.11	63.75	-0.0328	0.2298	0.0003
295	SLV 5	4.12	0.22	20.86	-0.3706	0.1466	0.0004
295	SLV 6	4.12	0.22	20.86	-0.3706	0.1466	0.0004
295	SLV 7	-1.8	-0.12	64.8	0.2421	-0.1172	-0.0001
295	SLV 8	-1.8	-0.12	64.8	0.2421	-0.1172	-0.0001
295	SLV 9	-0.62	0.13	8.58	-0.3187	-0.0717	0.0002
295	SLV 10	-0.62	0.13	8.58	-0.3187	-0.0717	0.0002
295	SLV 11	-6.54	-0.21	52.52	0.294	-0.3356	-0.0003
295	SLV 12	-6.54	-0.21	52.52	0.294	-0.3356	-0.0003
295	SLV 13	-8.21	-0.09	9.64	-0.0438	-0.4187	-0.0002
295	SLV 14	-8.21	-0.09	9.64	-0.0438	-0.4187	-0.0002
295	SLV 15	-9.99	-0.19	22.82	0.14	-0.4979	-0.0004
295	SLV 16	-9.99	-0.19	22.82	0.14	-0.4979	-0.0004
296	SLU 1	-1.24	0.1	30.51	-0.0796	0.0229	-0.0003
296	SLU 2	-0.97	0.1	28.55	-0.0771	0.0287	-0.0003
296	SLU 3	-1.23	0.11	31	-0.0821	0.0254	-0.0003
296	SLU 4	-1.06	0.1	29.83	-0.0806	0.0289	-0.0003
296	SLU 5	-0.92	0.1	28.76	-0.0785	0.0318	-0.0003
296	SLU 6	-1.18	0.11	31.21	-0.0835	0.0285	-0.0003
296	SLU 7	-1.01	0.11	30.04	-0.082	0.032	-0.0003
296	SLU 8	-1.14	0.11	30.93	-0.0823	0.029	-0.0003
296	SLU 9	-0.98	0.1	29.76	-0.0808	0.0325	-0.0003
296	SLU 10	-0.95	0.11	32.49	-0.0867	0.0397	-0.0003
296	SLU 11	-1.21	0.12	34.94	-0.0916	0.0364	-0.0003
296	SLU 12	-1.04	0.12	33.77	-0.0901	0.0399	-0.0003
296	SLU 13	-0.9	0.11	32.7	-0.088	0.0427	-0.0003
296	SLU 14	-1.16	0.12	35.15	-0.093	0.0394	-0.0003
296	SLU 15	-0.99	0.12	33.98	-0.0915	0.0429	-0.0003
296	SLU 16	-1.12	0.12	34.87	-0.0918	0.0399	-0.0003
296	SLU 17	-0.96	0.12	33.7	-0.0903	0.0434	-0.0003
296	SLU 18	-1.22	0.12	36.13	-0.0932	0.0385	-0.0003
296	SLU 19	-1.05	0.12	34.96	-0.0917	0.042	-0.0003
296	SLU 20	-1.16	0.12	36.35	-0.0946	0.0416	-0.0003
296	SLU 21	-1	0.12	35.17	-0.0931	0.0451	-0.0003
296	SLU 22	-1.24	0.12	34.18	-0.0894	0.033	-0.0003



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
296	SLU 23	-0.96	0.11	32.23	-0.0869	0.0388	-0.0003	
296	SLU 24	-1.22	0.12	34.68	-0.0919	0.0355	-0.0003	
296	SLU 25	-1.06	0.12	33.5	-0.0904	0.039	-0.0003	
296	SLU 26	-0.91	0.11	32.44	-0.0883	0.0419	-0.0003	
296	SLU 27	-1.17	0.12	34.89	-0.0933	0.0386	-0.0003	
296	SLU 28	-1	0.12	33.72	-0.0918	0.0421	-0.0003	
296	SLU 29	-1.14	0.12	34.6	-0.0921	0.0391	-0.0003	
296	SLU 30	-0.97	0.12	33.43	-0.0906	0.0426	-0.0003	
296	SLU 31	-0.94	0.13	36.17	-0.0965	0.0498	-0.0003	
296	SLU 32	-1.2	0.13	38.62	-0.1014	0.0465	-0.0004	
296	SLU 33	-1.04	0.13	37.44	-0.0999	0.05	-0.0004	
296	SLU 34	-0.89	0.13	36.38	-0.0978	0.0528	-0.0003	
296	SLU 35	-1.15	0.13	38.83	-0.1028	0.0495	-0.0004	
296	SLU 36	-0.98	0.13	37.65	-0.1013	0.053	-0.0004	
296	SLU 37	-1.12	0.13	38.54	-0.1016	0.05	-0.0004	
296	SLU 38	-0.95	0.13	37.37	-0.1001	0.0535	-0.0004	
296	SLU 39	-1.21	0.13	39.81	-0.103	0.0486	-0.0004	
296	SLU 40	-1.04	0.13	38.64	-0.1015	0.0521	-0.0004	
296	SLU 41	-1.16	0.14	40.02	-0.1044	0.0517	-0.0004	
296	SLU 42	-0.99	0.13	38.85	-0.1029	0.0552	-0.0004	
296	SLU 43	-1.62	0.13	38.4	-0.1002	0.0263	-0.0004	
296	SLU 44	-1.34	0.13	36.45	-0.0977	0.0321	-0.0003	
296	SLU 45	-1.61	0.13	38.9	-0.1027	0.0288	-0.0004	
296	SLU 46	-1.44	0.13	37.72	-0.1012	0.0323	-0.0004	
296	SLU 47	-1.29	0.13	36.66	-0.099	0.0352	-0.0004	
296	SLU 48	-1.55	0.14	39.11	-0.104	0.0319	-0.0004	
296	SLU 49	-1.39	0.13	37.93	-0.1025	0.0354	-0.0004	
296	SLU 50	-1.52	0.13	38.82	-0.1029	0.0324	-0.0004	
296	SLU 51	-1.35	0.13	37.65	-0.1014	0.0359	-0.0004	
296	SLU 52	-1.32	0.14	40.38	-0.1072	0.0431	-0.0004	
296	SLU 53	-1.59	0.15	42.83	-0.1122	0.0398	-0.0004	
296	SLU 54	-1.42	0.14	41.66	-0.1107	0.0433	-0.0004	
296	SLU 55	-1.27	0.14	40.6	-0.1085	0.0461	-0.0004	
296	SLU 56	-1.53	0.15	43.04	-0.1135	0.0428	-0.0004	
296	SLU 57	-1.37	0.15	41.87	-0.112	0.0463	-0.0004	
296	SLU 58	-1.5	0.15	42.76	-0.1124	0.0433	-0.0004	
296	SLU 59	-1.33	0.14	41.59	-0.1109	0.0468	-0.0004	
296	SLU 60	-1.59	0.15	44.03	-0.1138	0.0419	-0.0004	
296	SLU 61	-1.43	0.15	42.85	-0.1123	0.0454	-0.0004	
296	SLU 62	-1.54	0.15	44.24	-0.1151	0.045	-0.0004	
296	SLU 63	-1.37	0.15	43.07	-0.1136	0.0485	-0.0004	
296	SLU 64	-1.61	0.14	42.08	-0.11	0.0364	-0.0004	
296	SLU 65	-1.34	0.14	40.12	-0.1075	0.0422	-0.0004	
296	SLU 66	-1.6	0.15	42.57	-0.1125	0.0389	-0.0004	
296	SLU 67	-1.43	0.14	41.4	-0.111	0.0424	-0.0004	
296	SLU 68	-1.28	0.14	40.33	-0.1088	0.0453	-0.0004	
296	SLU 69	-1.55	0.15	42.78	-0.1138	0.042	-0.0004	
296	SLU 70	-1.38	0.15	41.61	-0.1123	0.0455	-0.0004	
296	SLU 71	-1.51	0.15	42.5	-0.1127	0.0425	-0.0004	
296	SLU 72	-1.34	0.14	41.32	-0.1112	0.046	-0.0004	
296	SLU 73	-1.32	0.15	44.06	-0.117	0.0532	-0.0004	
296	SLU 74	-1.58	0.16	46.51	-0.122	0.0499	-0.0004	
296	SLU 75	-1.41	0.16	45.34	-0.1205	0.0534	-0.0004	
296	SLU 76	-1.26	0.15	44.27	-0.1183	0.0562	-0.0004	
296	SLU 77	-1.53	0.16	46.72	-0.1233	0.0529	-0.0004	
296	SLU 78	-1.36	0.16	45.55	-0.1218	0.0564	-0.0004	
296	SLU 79	-1.49	0.16	46.44	-0.1222	0.0534	-0.0004	
296	SLU 80	-1.32	0.16	45.26	-0.1207	0.0569	-0.0004	
296	SLU 81	-1.58	0.16	47.7	-0.1236	0.052	-0.0004	
296	SLU 82	-1.42	0.16	46.53	-0.1221	0.0555	-0.0004	
296	SLU 83	-1.53	0.16	47.91	-0.1249	0.0551	-0.0004	
296	SLU 84	-1.37	0.16	46.74	-0.1234	0.0586	-0.0004	
296	SLE RA 1	-1.24	0.11	31.56	-0.0824	0.0258	-0.0003	
296	SLE RA 2	-1.06	0.11	30.26	-0.0808	0.0296	-0.0003	
296	SLE RA 3	-1.23	0.11	31.89	-0.0841	0.0275	-0.0003	
296	SLE RA 4	-1.12	0.11	31.11	-0.0831	0.0298	-0.0003	
296	SLE RA 5	-1.02	0.11	30.4	-0.0817	0.0317	-0.0003	
296	SLE RA 6	-1.2	0.11	32.03	-0.085	0.0295	-0.0003	
296	SLE RA 7	-1.09	0.11	31.25	-0.084	0.0318	-0.0003	
296	SLE RA 8	-1.17	0.11	31.84	-0.0842	0.0298	-0.0003	
296	SLE RA 9	-1.06	0.11	31.06	-0.0832	0.0322	-0.0003	
296	SLE RA 10	-1.04	0.11	32.88	-0.0871	0.0369	-0.0003	
296	SLE RA 11	-1.22	0.12	34.51	-0.0904	0.0348	-0.0003	
296	SLE RA 12	-1.11	0.12	33.73	-0.0894	0.0371	-0.0003	
296	SLE RA 13	-1.01	0.11	33.02	-0.088	0.039	-0.0003	
296	SLE RA 14	-1.19	0.12	34.65	-0.0913	0.0368	-0.0003	
296	SLE RA 15	-1.07	0.12	33.87	-0.0903	0.0391	-0.0003	
296	SLE RA 16	-1.16	0.12	34.46	-0.0906	0.0371	-0.0003	
296	SLE RA 17	-1.05	0.12	33.68	-0.0896	0.0395	-0.0003	
296	SLE RA 18	-1.22	0.12	35.31	-0.0915	0.0362	-0.0003	
296	SLE RA 19	-1.11	0.12	34.53	-0.0905	0.0385	-0.0003	
296	SLE RA 20	-1.19	0.12	35.45	-0.0924	0.0382	-0.0003	
296	SLE RA 21	-1.08	0.12	34.67	-0.0914	0.0406	-0.0003	
296	SLE FR 1	-1.24	0.11	31.56	-0.0824	0.0258	-0.0003	
296	SLE FR 2	-1.21	0.11	31.3	-0.0821	0.0265	-0.0003	
296	SLE FR 3	-1.23	0.11	31.61	-0.0828	0.0266	-0.0003	
296	SLE FR 4	-1.2	0.11	32.42	-0.0848	0.0297	-0.0003	
296	SLE FR 5	-1.22	0.11	32.74	-0.0855	0.0297	-0.0003	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
296	SLE FR 6	-1.23	0.11	33.43	-0.087	0.031	-0.0003	
296	SLE QP 1	-1.24	0.11	31.56	-0.0824	0.0258	-0.0003	
296	SLE QP 2	-1.24	0.11	32.68	-0.0851	0.0289	-0.0003	
296	SLD 1	2.81	0.13	36.69	-0.074	0.1926	-0.0004	
296	SLD 2	2.81	0.13	36.69	-0.074	0.1926	-0.0004	
296	SLD 3	2.05	0.23	41.25	-0.1919	0.2258	-0.0006	
296	SLD 4	2.05	0.23	41.25	-0.1919	0.2258	-0.0006	
296	SLD 5	1.14	-0.02	26.96	0.097	0.0277	0	
296	SLD 6	1.14	-0.02	26.96	0.097	0.0277	0	
296	SLD 7	-1.41	0.29	42.18	-0.296	0.1382	-0.0007	
296	SLD 8	-1.41	0.29	42.18	-0.296	0.1382	-0.0007	
296	SLD 9	-1.06	-0.06	23.19	0.1257	-0.0805	0.0001	
296	SLD 10	-1.06	-0.06	23.19	0.1257	-0.0805	0.0001	
296	SLD 11	-3.61	0.24	38.41	-0.2673	0.0301	-0.0006	
296	SLD 12	-3.61	0.24	38.41	-0.2673	0.0301	-0.0006	
296	SLD 13	-4.52	0	24.11	0.0216	-0.168	0	
296	SLD 14	-4.52	0	24.11	0.0216	-0.168	0	
296	SLD 15	-5.28	0.09	28.68	-0.0963	-0.1348	-0.0002	
296	SLD 16	-5.28	0.09	28.68	-0.0963	-0.1348	-0.0002	
296	SLV 1	8.24	0.17	42.02	-0.0587	0.4121	-0.0006	
296	SLV 2	8.24	0.17	42.02	-0.0587	0.4121	-0.0006	
296	SLV 3	6.44	0.39	52.83	-0.348	0.4899	-0.0011	
296	SLV 4	6.44	0.39	52.83	-0.348	0.4899	-0.0011	
296	SLV 5	4.33	-0.21	19.1	0.3616	0.0258	0.0004	
296	SLV 6	4.33	-0.21	19.1	0.3616	0.0258	0.0004	
296	SLV 7	-1.66	0.54	55.11	-0.6028	0.2852	-0.0013	
296	SLV 8	-1.66	0.54	55.11	-0.6028	0.2852	-0.0013	
296	SLV 9	-0.81	-0.32	10.25	0.4325	-0.2275	0.0007	
296	SLV 10	-0.81	-0.32	10.25	0.4325	-0.2275	0.0007	
296	SLV 11	-6.8	0.44	46.27	-0.5319	0.0319	-0.001	
296	SLV 12	-6.8	0.44	46.27	-0.5319	0.0319	-0.001	
296	SLV 13	-8.91	-0.17	12.54	0.1777	-0.4322	0.0005	
296	SLV 14	-8.91	-0.17	12.54	0.1777	-0.4322	0.0005	
296	SLV 15	-10.71	0.06	23.34	-0.1116	-0.3543	0	
296	SLV 16	-10.71	0.06	23.34	-0.1116	-0.3543	0	
297	SLU 1	-2.49	0.17	27.11	-0.1148	-0.1474	-0.0007	
297	SLU 2	-2.18	0.16	25.61	-0.1105	-0.1327	-0.0006	
297	SLU 3	-2.5	0.17	27.53	-0.1184	-0.1486	-0.0007	
297	SLU 4	-2.31	0.17	26.63	-0.1158	-0.1397	-0.0007	
297	SLU 5	-2.14	0.16	25.8	-0.1124	-0.1312	-0.0007	
297	SLU 6	-2.45	0.17	27.72	-0.1203	-0.1471	-0.0007	
297	SLU 7	-2.27	0.17	26.82	-0.1177	-0.1383	-0.0007	
297	SLU 8	-2.41	0.17	27.49	-0.1187	-0.1445	-0.0007	
297	SLU 9	-2.22	0.17	26.58	-0.1161	-0.1357	-0.0007	
297	SLU 10	-2.37	0.18	29.18	-0.1243	-0.1466	-0.0007	
297	SLU 11	-2.68	0.19	31.1	-0.1322	-0.1624	-0.0008	
297	SLU 12	-2.5	0.19	30.2	-0.1296	-0.1536	-0.0008	
297	SLU 13	-2.32	0.18	29.36	-0.1263	-0.1451	-0.0007	
297	SLU 14	-2.64	0.19	31.29	-0.1342	-0.161	-0.0008	
297	SLU 15	-2.45	0.19	30.39	-0.1316	-0.1522	-0.0008	
297	SLU 16	-2.59	0.19	31.06	-0.1325	-0.1584	-0.0008	
297	SLU 17	-2.4	0.19	30.15	-0.1299	-0.1496	-0.0008	
297	SLU 18	-2.76	0.19	32.21	-0.1346	-0.1672	-0.0008	
297	SLU 19	-2.57	0.19	31.31	-0.132	-0.1584	-0.0008	
297	SLU 20	-2.71	0.2	32.4	-0.1365	-0.1658	-0.0008	
297	SLU 21	-2.53	0.19	31.5	-0.1339	-0.157	-0.0008	
297	SLU 22	-2.67	0.19	30.42	-0.129	-0.1605	-0.0008	
297	SLU 23	-2.36	0.18	28.92	-0.1247	-0.1458	-0.0007	
297	SLU 24	-2.67	0.19	30.84	-0.1326	-0.1617	-0.0008	
297	SLU 25	-2.48	0.19	29.94	-0.13	-0.1528	-0.0008	
297	SLU 26	-2.31	0.18	29.11	-0.1266	-0.1443	-0.0007	
297	SLU 27	-2.63	0.19	31.03	-0.1345	-0.1602	-0.0008	
297	SLU 28	-2.44	0.19	30.13	-0.1319	-0.1514	-0.0008	
297	SLU 29	-2.58	0.19	30.8	-0.1329	-0.1576	-0.0008	
297	SLU 30	-2.39	0.19	29.9	-0.1303	-0.1488	-0.0008	
297	SLU 31	-2.54	0.2	32.49	-0.1385	-0.1597	-0.0008	
297	SLU 32	-2.86	0.21	34.41	-0.1464	-0.1755	-0.0009	
297	SLU 33	-2.67	0.21	33.51	-0.1438	-0.1667	-0.0008	
297	SLU 34	-2.5	0.2	32.68	-0.1405	-0.1582	-0.0008	
297	SLU 35	-2.81	0.21	34.6	-0.1484	-0.1741	-0.0009	
297	SLU 36	-2.62	0.21	33.7	-0.1458	-0.1653	-0.0008	
297	SLU 37	-2.76	0.21	34.37	-0.1467	-0.1715	-0.0009	
297	SLU 38	-2.58	0.21	33.47	-0.1441	-0.1627	-0.0008	
297	SLU 39	-2.93	0.21	35.52	-0.1488	-0.1803	-0.0009	
297	SLU 40	-2.74	0.21	34.62	-0.1462	-0.1715	-0.0009	
297	SLU 41	-2.89	0.22	35.71	-0.1507	-0.1789	-0.0009	
297	SLU 42	-2.7	0.21	34.81	-0.1481	-0.1701	-0.0009	
297	SLU 43	-3.18	0.21	34.11	-0.1444	-0.1871	-0.0008	
297	SLU 44	-2.87	0.2	32.6	-0.14	-0.1724	-0.0008	
297	SLU 45	-3.19	0.21	34.53	-0.1479	-0.1883	-0.0009	
297	SLU 46	-3	0.21	33.63	-0.1453	-0.1795	-0.0008	
297	SLU 47	-2.83	0.2	32.79	-0.142	-0.171	-0.0008	
297	SLU 48	-3.14	0.22	34.72	-0.1499	-0.1869	-0.0009	
297	SLU 49	-2.95	0.21	33.82	-0.1473	-0.178	-0.0009	
297	SLU 50	-3.09	0.21	34.48	-0.1482	-0.1842	-0.0009	
297	SLU 51	-2.91	0.21	33.58	-0.1456	-0.1754	-0.0008	
297	SLU 52	-3.06	0.22	36.17	-0.1539	-0.1863	-0.0009	
297	SLU 53	-3.37	0.23	38.1	-0.1618	-0.2022	-0.0009	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
297	SLU 54	-3.18	0.23	37.2	-0.1592	-0.1933	-0.0009	
297	SLU 55	-3.01	0.22	36.36	-0.1558	-0.1849	-0.0009	
297	SLU 56	-3.33	0.24	38.29	-0.1637	-0.2007	-0.001	
297	SLU 57	-3.14	0.23	37.39	-0.1611	-0.1919	-0.0009	
297	SLU 58	-3.28	0.23	38.05	-0.1621	-0.1981	-0.0009	
297	SLU 59	-3.09	0.23	37.15	-0.1595	-0.1893	-0.0009	
297	SLU 60	-3.45	0.24	39.21	-0.1642	-0.2069	-0.001	
297	SLU 61	-3.26	0.23	38.3	-0.1616	-0.1981	-0.0009	
297	SLU 62	-3.4	0.24	39.39	-0.1661	-0.2055	-0.001	
297	SLU 63	-3.22	0.23	38.49	-0.1635	-0.1967	-0.001	
297	SLU 64	-3.36	0.23	37.42	-0.1586	-0.2002	-0.0009	
297	SLU 65	-3.04	0.22	35.92	-0.1543	-0.1855	-0.0009	
297	SLU 66	-3.36	0.23	37.84	-0.1621	-0.2014	-0.0009	
297	SLU 67	-3.17	0.23	36.94	-0.1595	-0.1926	-0.0009	
297	SLU 68	-3	0.22	36.1	-0.1562	-0.1841	-0.0009	
297	SLU 69	-3.32	0.24	38.03	-0.1641	-0.2	-0.001	
297	SLU 70	-3.13	0.23	37.13	-0.1615	-0.1911	-0.0009	
297	SLU 71	-3.27	0.23	37.79	-0.1624	-0.1973	-0.0009	
297	SLU 72	-3.08	0.23	36.89	-0.1598	-0.1885	-0.0009	
297	SLU 73	-3.23	0.24	39.49	-0.1681	-0.1994	-0.001	
297	SLU 74	-3.54	0.25	41.41	-0.176	-0.2153	-0.001	
297	SLU 75	-3.36	0.25	40.51	-0.1734	-0.2064	-0.001	
297	SLU 76	-3.18	0.24	39.67	-0.17	-0.198	-0.001	
297	SLU 77	-3.5	0.26	41.6	-0.1779	-0.2138	-0.001	
297	SLU 78	-3.31	0.25	40.7	-0.1753	-0.205	-0.001	
297	SLU 79	-3.45	0.25	41.36	-0.1763	-0.2112	-0.001	
297	SLU 80	-3.27	0.25	40.46	-0.1737	-0.2024	-0.001	
297	SLU 81	-3.62	0.26	42.52	-0.1784	-0.22	-0.001	
297	SLU 82	-3.43	0.25	41.62	-0.1758	-0.2112	-0.001	
297	SLU 83	-3.58	0.26	42.71	-0.1803	-0.2186	-0.0011	
297	SLU 84	-3.39	0.25	41.8	-0.1777	-0.2098	-0.001	
297	SLE RA 1	-2.54	0.17	28.05	-0.1189	-0.1511	-0.0007	
297	SLE RA 2	-2.34	0.17	27.05	-0.116	-0.1413	-0.0007	
297	SLE RA 3	-2.55	0.17	28.34	-0.1212	-0.1519	-0.0007	
297	SLE RA 4	-2.42	0.17	27.74	-0.1195	-0.146	-0.0007	
297	SLE RA 5	-2.31	0.17	27.18	-0.1173	-0.1404	-0.0007	
297	SLE RA 6	-2.52	0.18	28.46	-0.1225	-0.151	-0.0007	
297	SLE RA 7	-2.39	0.17	27.86	-0.1208	-0.1451	-0.0007	
297	SLE RA 8	-2.48	0.17	28.31	-0.1214	-0.1492	-0.0007	
297	SLE RA 9	-2.36	0.17	27.71	-0.1197	-0.1433	-0.0007	
297	SLE RA 10	-2.46	0.18	29.43	-0.1252	-0.1506	-0.0007	
297	SLE RA 11	-2.67	0.19	30.72	-0.1305	-0.1612	-0.0008	
297	SLE RA 12	-2.54	0.18	30.12	-0.1287	-0.1553	-0.0007	
297	SLE RA 13	-2.43	0.18	29.56	-0.1265	-0.1496	-0.0007	
297	SLE RA 14	-2.64	0.19	30.84	-0.1318	-0.1602	-0.0008	
297	SLE RA 15	-2.51	0.19	30.24	-0.13	-0.1543	-0.0008	
297	SLE RA 16	-2.61	0.19	30.69	-0.1307	-0.1585	-0.0008	
297	SLE RA 17	-2.48	0.18	30.08	-0.1289	-0.1526	-0.0007	
297	SLE RA 18	-2.72	0.19	31.45	-0.1321	-0.1644	-0.0008	
297	SLE RA 19	-2.6	0.19	30.85	-0.1303	-0.1585	-0.0008	
297	SLE RA 20	-2.69	0.19	31.58	-0.1333	-0.1634	-0.0008	
297	SLE RA 21	-2.57	0.19	30.98	-0.1316	-0.1575	-0.0008	
297	SLE FR 1	-2.54	0.17	28.05	-0.1189	-0.1511	-0.0007	
297	SLE FR 2	-2.5	0.17	27.85	-0.1183	-0.1492	-0.0007	
297	SLE FR 3	-2.53	0.17	28.11	-0.1194	-0.1508	-0.0007	
297	SLE FR 4	-2.56	0.18	28.87	-0.1222	-0.1531	-0.0007	
297	SLE FR 5	-2.59	0.18	29.12	-0.1233	-0.1547	-0.0007	
297	SLE FR 6	-2.63	0.18	29.75	-0.1255	-0.1577	-0.0007	
297	SLE QP 1	-2.54	0.17	28.05	-0.1189	-0.1511	-0.0007	
297	SLE QP 2	-2.6	0.18	29.07	-0.1228	-0.1551	-0.0007	
297	SLD 1	1.75	0.18	31.5	-0.1009	0.0408	-0.0008	
297	SLD 2	1.75	0.18	31.5	-0.1009	0.0408	-0.0008	
297	SLD 3	0.91	0.32	35.53	-0.2597	0.0029	-0.0012	
297	SLD 4	0.91	0.32	35.53	-0.2597	0.0029	-0.0012	
297	SLD 5	-0.02	-0.04	23.69	0.1247	-0.0389	0	
297	SLD 6	-0.02	-0.04	23.69	0.1247	-0.0389	0	
297	SLD 7	-2.81	0.44	37.12	-0.4048	-0.1651	-0.0016	
297	SLD 8	-2.81	0.44	37.12	-0.4048	-0.1651	-0.0016	
297	SLD 9	-2.38	-0.09	21.03	0.1592	-0.1451	0.0002	
297	SLD 10	-2.38	-0.09	21.03	0.1592	-0.1451	0.0002	
297	SLD 11	-5.17	0.4	34.46	-0.3703	-0.2713	-0.0014	
297	SLD 12	-5.17	0.4	34.46	-0.3703	-0.2713	-0.0014	
297	SLD 13	-6.11	0.03	22.62	0.0141	-0.3132	-0.0002	
297	SLD 14	-6.11	0.03	22.62	0.0141	-0.3132	-0.0002	
297	SLD 15	-6.94	0.18	26.65	-0.1448	-0.351	-0.0007	
297	SLD 16	-6.94	0.18	26.65	-0.1448	-0.351	-0.0007	
297	SLV 1	7.57	0.18	34.67	-0.0691	0.3032	-0.0008	
297	SLV 2	7.57	0.18	34.67	-0.0691	0.3032	-0.0008	
297	SLV 3	5.6	0.53	44.28	-0.4585	0.2143	-0.002	
297	SLV 4	5.6	0.53	44.28	-0.4585	0.2143	-0.002	
297	SLV 5	3.44	-0.36	16.17	0.4839	0.1172	0.0011	
297	SLV 6	3.44	-0.36	16.17	0.4839	0.1172	0.0011	
297	SLV 7	-3.12	0.82	48.22	-0.8141	-0.1792	-0.0029	
297	SLV 8	-3.12	0.82	48.22	-0.8141	-0.1792	-0.0029	
297	SLV 9	-2.07	-0.47	9.93	0.5685	-0.131	0.0015	
297	SLV 10	-2.07	-0.47	9.93	0.5685	-0.131	0.0015	
297	SLV 11	-8.63	0.71	41.98	-0.7295	-0.4275	-0.0025	
297	SLV 12	-8.63	0.71	41.98	-0.7295	-0.4275	-0.0025	





Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
297	SLV 13			-10.8	-0.18	13.87	0.2129	-0.5245	0.0006
297	SLV 14			-10.8	-0.18	13.87	0.2129	-0.5245	0.0006
297	SLV 15			-12.76	0.17	23.48	-0.1765	-0.6134	-0.0006
297	SLV 16			-12.76	0.17	23.48	-0.1765	-0.6134	-0.0006
298	SLU 1			-1.32	0.19	24.32	-0.1392	0.0068	-0.001
298	SLU 2			-1.12	0.19	23.19	-0.1339	0.0114	-0.001
298	SLU 3			-1.28	0.2	24.69	-0.1436	0.0102	-0.001
298	SLU 4			-1.16	0.19	24.01	-0.1404	0.013	-0.001
298	SLU 5			-1.05	0.19	23.37	-0.1363	0.0153	-0.001
298	SLU 6			-1.21	0.2	24.87	-0.146	0.0141	-0.0011
298	SLU 7			-1.09	0.2	24.19	-0.1428	0.0169	-0.001
298	SLU 8			-1.18	0.2	24.68	-0.1441	0.0144	-0.0011
298	SLU 9			-1.06	0.2	24	-0.1409	0.0172	-0.001
298	SLU 10			-1.17	0.21	26.45	-0.1509	0.018	-0.0011
298	SLU 11			-1.34	0.22	27.96	-0.1606	0.0168	-0.0012
298	SLU 12			-1.21	0.22	27.28	-0.1574	0.0196	-0.0011
298	SLU 13			-1.1	0.21	26.63	-0.1533	0.0218	-0.0011
298	SLU 14			-1.27	0.23	28.14	-0.163	0.0206	-0.0012
298	SLU 15			-1.14	0.22	27.46	-0.1598	0.0234	-0.0012
298	SLU 16			-1.24	0.22	27.94	-0.1611	0.021	-0.0012
298	SLU 17			-1.12	0.22	27.26	-0.1578	0.0238	-0.0011
298	SLU 18			-1.4	0.23	28.98	-0.1635	0.0161	-0.0012
298	SLU 19			-1.28	0.22	28.3	-0.1603	0.019	-0.0012
298	SLU 20			-1.33	0.23	29.16	-0.1659	0.02	-0.0012
298	SLU 21			-1.21	0.23	28.48	-0.1627	0.0228	-0.0012
298	SLU 22			-1.35	0.22	27.34	-0.1566	0.014	-0.0011
298	SLU 23			-1.15	0.21	26.21	-0.1513	0.0187	-0.0011
298	SLU 24			-1.31	0.22	27.71	-0.161	0.0175	-0.0012
298	SLU 25			-1.19	0.22	27.03	-0.1578	0.0203	-0.0011
298	SLU 26			-1.08	0.21	26.39	-0.1537	0.0225	-0.0011
298	SLU 27			-1.24	0.23	27.89	-0.1635	0.0213	-0.0012
298	SLU 28			-1.12	0.22	27.21	-0.1602	0.0241	-0.0012
298	SLU 29			-1.22	0.22	27.69	-0.1615	0.0216	-0.0012
298	SLU 30			-1.09	0.22	27.02	-0.1583	0.0244	-0.0011
298	SLU 31			-1.2	0.23	29.47	-0.1683	0.0252	-0.0012
298	SLU 32			-1.37	0.25	30.98	-0.178	0.024	-0.0013
298	SLU 33			-1.24	0.24	30.3	-0.1748	0.0268	-0.0013
298	SLU 34			-1.13	0.24	29.65	-0.1707	0.0291	-0.0012
298	SLU 35			-1.3	0.25	31.15	-0.1804	0.0279	-0.0013
298	SLU 36			-1.18	0.25	30.48	-0.1772	0.0307	-0.0013
298	SLU 37			-1.27	0.25	30.96	-0.1785	0.0282	-0.0013
298	SLU 38			-1.15	0.24	30.28	-0.1753	0.031	-0.0013
298	SLU 39			-1.43	0.25	32	-0.1809	0.0234	-0.0013
298	SLU 40			-1.31	0.25	31.32	-0.1777	0.0262	-0.0013
298	SLU 41			-1.36	0.25	32.18	-0.1833	0.0272	-0.0013
298	SLU 42			-1.24	0.25	31.5	-0.1801	0.03	-0.0013
298	SLU 43			-1.71	0.24	30.58	-0.175	0.0063	-0.0013
298	SLU 44			-1.5	0.24	29.45	-0.1697	0.011	-0.0012
298	SLU 45			-1.67	0.25	30.95	-0.1794	0.0098	-0.0013
298	SLU 46			-1.54	0.24	30.27	-0.1762	0.0126	-0.0013
298	SLU 47			-1.43	0.24	29.63	-0.1721	0.0148	-0.0013
298	SLU 48			-1.6	0.25	31.13	-0.1818	0.0136	-0.0013
298	SLU 49			-1.47	0.25	30.45	-0.1786	0.0164	-0.0013
298	SLU 50			-1.57	0.25	30.94	-0.1799	0.014	-0.0013
298	SLU 51			-1.45	0.25	30.26	-0.1766	0.0168	-0.0013
298	SLU 52			-1.56	0.26	32.71	-0.1867	0.0176	-0.0014
298	SLU 53			-1.72	0.27	34.22	-0.1964	0.0164	-0.0014
298	SLU 54			-1.6	0.27	33.54	-0.1932	0.0192	-0.0014
298	SLU 55			-1.49	0.26	32.89	-0.1891	0.0214	-0.0014
298	SLU 56			-1.65	0.28	34.4	-0.1988	0.0202	-0.0015
298	SLU 57			-1.53	0.27	33.72	-0.1956	0.023	-0.0014
298	SLU 58			-1.62	0.27	34.2	-0.1968	0.0205	-0.0014
298	SLU 59			-1.5	0.27	33.52	-0.1936	0.0233	-0.0014
298	SLU 60			-1.78	0.28	35.24	-0.1993	0.0157	-0.0015
298	SLU 61			-1.66	0.27	34.56	-0.1961	0.0185	-0.0014
298	SLU 62			-1.72	0.28	35.42	-0.2017	0.0195	-0.0015
298	SLU 63			-1.59	0.28	34.74	-0.1985	0.0223	-0.0014
298	SLU 64			-1.74	0.27	33.6	-0.1924	0.0135	-0.0014
298	SLU 65			-1.53	0.26	32.47	-0.1871	0.0182	-0.0014
298	SLU 66			-1.7	0.27	33.97	-0.1968	0.017	-0.0014
298	SLU 67			-1.57	0.27	33.29	-0.1936	0.0198	-0.0014
298	SLU 68			-1.46	0.26	32.65	-0.1895	0.022	-0.0014
298	SLU 69			-1.63	0.28	34.15	-0.1992	0.0208	-0.0015
298	SLU 70			-1.51	0.27	33.47	-0.196	0.0237	-0.0014
298	SLU 71			-1.6	0.27	33.95	-0.1973	0.0212	-0.0014
298	SLU 72			-1.48	0.27	33.28	-0.1941	0.024	-0.0014
298	SLU 73			-1.59	0.28	35.73	-0.2041	0.0248	-0.0015
298	SLU 74			-1.75	0.3	37.23	-0.2138	0.0236	-0.0016
298	SLU 75			-1.63	0.29	36.56	-0.2106	0.0264	-0.0015
298	SLU 76			-1.52	0.29	35.91	-0.2065	0.0286	-0.0015
298	SLU 77			-1.68	0.3	37.41	-0.2162	0.0274	-0.0016
298	SLU 78			-1.56	0.3	36.74	-0.213	0.0302	-0.0015
298	SLU 79			-1.66	0.3	37.22	-0.2143	0.0278	-0.0016
298	SLU 80			-1.53	0.29	36.54	-0.2111	0.0306	-0.0015
298	SLU 81			-1.82	0.3	38.26	-0.2167	0.0229	-0.0016
298	SLU 82			-1.69	0.3	37.58	-0.2135	0.0257	-0.0016
298	SLU 83			-1.75	0.31	38.44	-0.2191	0.0267	-0.0016
298	SLU 84			-1.63	0.3	37.76	-0.2159	0.0296	-0.0016



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
298	SLE RA 1	-1.33	0.2	25.18	-0.1442	0.0088	-0.0011	
298	SLE RA 2	-1.19	0.19	24.43	-0.1406	0.012	-0.001	
298	SLE RA 3	-1.3	0.21	25.43	-0.1471	0.0111	-0.0011	
298	SLE RA 4	-1.22	0.2	24.98	-0.145	0.013	-0.0011	
298	SLE RA 5	-1.15	0.2	24.55	-0.1422	0.0145	-0.001	
298	SLE RA 6	-1.26	0.21	25.55	-0.1487	0.0137	-0.0011	
298	SLE RA 7	-1.18	0.2	25.1	-0.1466	0.0156	-0.0011	
298	SLE RA 8	-1.24	0.21	25.42	-0.1474	0.0139	-0.0011	
298	SLE RA 9	-1.16	0.2	24.97	-0.1453	0.0158	-0.0011	
298	SLE RA 10	-1.23	0.21	26.6	-0.152	0.0163	-0.0011	
298	SLE RA 11	-1.34	0.22	27.61	-0.1585	0.0155	-0.0012	
298	SLE RA 12	-1.26	0.22	27.15	-0.1563	0.0174	-0.0011	
298	SLE RA 13	-1.18	0.21	26.72	-0.1536	0.0189	-0.0011	
298	SLE RA 14	-1.29	0.22	27.72	-0.1601	0.0181	-0.0012	
298	SLE RA 15	-1.21	0.22	27.27	-0.1579	0.0199	-0.0011	
298	SLE RA 16	-1.28	0.22	27.6	-0.1588	0.0183	-0.0012	
298	SLE RA 17	-1.19	0.22	27.14	-0.1566	0.0202	-0.0011	
298	SLE RA 18	-1.38	0.22	28.29	-0.1604	0.0151	-0.0012	
298	SLE RA 19	-1.3	0.22	27.84	-0.1582	0.017	-0.0012	
298	SLE RA 20	-1.34	0.23	28.41	-0.162	0.0176	-0.0012	
298	SLE RA 21	-1.25	0.22	27.96	-0.1599	0.0195	-0.0012	
298	SLE FR 1	-1.33	0.2	25.18	-0.1442	0.0088	-0.0011	
298	SLE FR 2	-1.3	0.2	25.03	-0.1435	0.0095	-0.001	
298	SLE FR 3	-1.31	0.2	25.23	-0.1448	0.0098	-0.0011	
298	SLE FR 4	-1.32	0.21	25.96	-0.1483	0.0113	-0.0011	
298	SLE FR 5	-1.33	0.21	26.16	-0.1497	0.0117	-0.0011	
298	SLE FR 6	-1.36	0.21	26.73	-0.1523	0.012	-0.0011	
298	SLE QP 1	-1.33	0.2	25.18	-0.1442	0.0088	-0.0011	
298	SLE QP 2	-1.35	0.21	26.11	-0.149	0.0107	-0.0011	
298	SLD 1	3.58	0.19	27.37	-0.117	0.2033	-0.001	
298	SLD 2	3.58	0.19	27.37	-0.117	0.2033	-0.001	
298	SLD 3	2.71	0.38	31.21	-0.3091	0.2437	-0.0019	
298	SLD 4	2.71	0.38	31.21	-0.3091	0.2437	-0.0019	
298	SLD 5	1.45	-0.08	20.66	0.1519	0.0072	0.0002	
298	SLD 6	1.45	-0.08	20.66	0.1519	0.0072	0.0002	
298	SLD 7	-1.45	0.54	33.46	-0.4884	0.1418	-0.0026	
298	SLD 8	-1.45	0.54	33.46	-0.4884	0.1418	-0.0026	
298	SLD 9	-1.24	-0.13	18.76	0.1903	-0.1204	0.0004	
298	SLD 10	-1.24	-0.13	18.76	0.1903	-0.1204	0.0004	
298	SLD 11	-4.14	0.49	31.56	-0.45	0.0142	-0.0024	
298	SLD 12	-4.14	0.49	31.56	-0.45	0.0142	-0.0024	
298	SLD 13	-5.4	0.04	21.02	0.011	-0.2222	-0.0003	
298	SLD 14	-5.4	0.04	21.02	0.011	-0.2222	-0.0003	
298	SLD 15	-6.27	0.22	24.86	-0.1811	-0.1819	-0.0011	
298	SLD 16	-6.27	0.22	24.86	-0.1811	-0.1819	-0.0011	
298	SLV 1	10.18	0.17	28.93	-0.0697	0.4609	-0.0009	
298	SLV 2	10.18	0.17	28.93	-0.0697	0.4609	-0.0009	
298	SLV 3	8.12	0.62	38.18	-0.5403	0.5563	-0.003	
298	SLV 4	8.12	0.62	38.18	-0.5403	0.5563	-0.003	
298	SLV 5	5.22	-0.5	12.93	0.5886	0.001	0.0021	
298	SLV 6	5.22	-0.5	12.93	0.5886	0.001	0.0021	
298	SLV 7	-1.62	1.02	43.76	-0.9803	0.3191	-0.0048	
298	SLV 8	-1.62	1.02	43.76	-0.9803	0.3191	-0.0048	
298	SLV 9	-1.07	-0.61	8.46	0.6822	-0.2977	0.0026	
298	SLV 10	-1.07	-0.61	8.46	0.6822	-0.2977	0.0026	
298	SLV 11	-7.91	0.91	39.29	-0.8867	0.0204	-0.0043	
298	SLV 12	-7.91	0.91	39.29	-0.8867	0.0204	-0.0043	
298	SLV 13	-10.82	-0.21	14.04	0.2422	-0.5349	0.0008	
298	SLV 14	-10.82	-0.21	14.04	0.2422	-0.5349	0.0008	
298	SLV 15	-12.87	0.25	23.29	-0.2284	-0.4395	-0.0012	
298	SLV 16	-12.87	0.25	23.29	-0.2284	-0.4395	-0.0012	
299	SLU 1	-1.32	0.21	22.43	-0.1554	-0.1035	-0.0013	
299	SLU 2	-1.15	0.2	21.59	-0.1497	-0.095	-0.0012	
299	SLU 3	-1.27	0.21	22.78	-0.1604	-0.1027	-0.0013	
299	SLU 4	-1.17	0.21	22.28	-0.157	-0.0976	-0.0013	
299	SLU 5	-1.08	0.2	21.77	-0.1526	-0.0924	-0.0012	
299	SLU 6	-1.2	0.22	22.97	-0.1633	-0.1002	-0.0013	
299	SLU 7	-1.09	0.21	22.46	-0.1599	-0.0951	-0.0013	
299	SLU 8	-1.17	0.21	22.8	-0.1611	-0.0984	-0.0013	
299	SLU 9	-1.07	0.21	22.29	-0.1577	-0.0933	-0.0013	
299	SLU 10	-1.24	0.22	24.65	-0.169	-0.1058	-0.0014	
299	SLU 11	-1.36	0.24	25.85	-0.1797	-0.1135	-0.0014	
299	SLU 12	-1.25	0.23	25.35	-0.1763	-0.1084	-0.0014	
299	SLU 13	-1.16	0.23	24.84	-0.1719	-0.1032	-0.0014	
299	SLU 14	-1.28	0.24	26.04	-0.1826	-0.111	-0.0015	
299	SLU 15	-1.18	0.24	25.53	-0.1792	-0.1058	-0.0014	
299	SLU 16	-1.26	0.24	25.87	-0.1804	-0.1092	-0.0015	
299	SLU 17	-1.15	0.23	25.36	-0.177	-0.1041	-0.0014	
299	SLU 18	-1.44	0.24	26.81	-0.1829	-0.1189	-0.0015	
299	SLU 19	-1.34	0.24	26.31	-0.1795	-0.1138	-0.0014	
299	SLU 20	-1.37	0.25	27	-0.1858	-0.1164	-0.0015	
299	SLU 21	-1.26	0.24	26.49	-0.1824	-0.1113	-0.0015	
299	SLU 22	-1.37	0.23	25.26	-0.1751	-0.1124	-0.0014	
299	SLU 23	-1.2	0.22	24.42	-0.1695	-0.1039	-0.0014	
299	SLU 24	-1.32	0.24	25.62	-0.1802	-0.1116	-0.0015	
299	SLU 25	-1.22	0.23	25.11	-0.1768	-0.1065	-0.0014	
299	SLU 26	-1.12	0.23	24.61	-0.1723	-0.1014	-0.0014	
299	SLU 27	-1.25	0.24	25.8	-0.183	-0.1091	-0.0015	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
299	SLU 28	-1.14	0.24	25.3	-0.1796	-0.104	-0.0014
299	SLU 29	-1.22	0.24	25.64	-0.1808	-0.1074	-0.0015
299	SLU 30	-1.12	0.23	25.13	-0.1775	-0.1023	-0.0014
299	SLU 31	-1.28	0.25	27.49	-0.1888	-0.1147	-0.0015
299	SLU 32	-1.41	0.26	28.69	-0.1995	-0.1224	-0.0016
299	SLU 33	-1.3	0.26	28.18	-0.1961	-0.1173	-0.0016
299	SLU 34	-1.21	0.25	27.68	-0.1916	-0.1122	-0.0015
299	SLU 35	-1.33	0.27	28.87	-0.2023	-0.1199	-0.0016
299	SLU 36	-1.23	0.26	28.37	-0.1989	-0.1148	-0.0016
299	SLU 37	-1.3	0.26	28.71	-0.2001	-0.1182	-0.0016
299	SLU 38	-1.2	0.26	28.2	-0.1968	-0.1131	-0.0016
299	SLU 39	-1.49	0.27	29.65	-0.2027	-0.1279	-0.0016
299	SLU 40	-1.39	0.26	29.14	-0.1993	-0.1227	-0.0016
299	SLU 41	-1.42	0.27	29.83	-0.2056	-0.1253	-0.0017
299	SLU 42	-1.31	0.27	29.33	-0.2022	-0.1202	-0.0016
299	SLU 43	-1.71	0.26	28.18	-0.1952	-0.1315	-0.0016
299	SLU 44	-1.53	0.25	27.34	-0.1895	-0.123	-0.0015
299	SLU 45	-1.65	0.27	28.54	-0.2002	-0.1307	-0.0016
299	SLU 46	-1.55	0.26	28.03	-0.1968	-0.1256	-0.0016
299	SLU 47	-1.46	0.25	27.53	-0.1924	-0.1204	-0.0015
299	SLU 48	-1.58	0.27	28.72	-0.2031	-0.1281	-0.0016
299	SLU 49	-1.47	0.26	28.22	-0.1997	-0.123	-0.0016
299	SLU 50	-1.55	0.27	28.55	-0.2009	-0.1264	-0.0016
299	SLU 51	-1.45	0.26	28.05	-0.1975	-0.1213	-0.0016
299	SLU 52	-1.62	0.27	30.41	-0.2088	-0.1337	-0.0017
299	SLU 53	-1.74	0.29	31.61	-0.2195	-0.1415	-0.0018
299	SLU 54	-1.64	0.28	31.1	-0.2161	-0.1364	-0.0017
299	SLU 55	-1.54	0.28	30.6	-0.2117	-0.1312	-0.0017
299	SLU 56	-1.66	0.29	31.79	-0.2224	-0.1389	-0.0018
299	SLU 57	-1.56	0.29	31.29	-0.219	-0.1338	-0.0018
299	SLU 58	-1.64	0.29	31.62	-0.2202	-0.1372	-0.0018
299	SLU 59	-1.53	0.29	31.12	-0.2168	-0.1321	-0.0017
299	SLU 60	-1.83	0.29	32.57	-0.2228	-0.1469	-0.0018
299	SLU 61	-1.72	0.29	32.06	-0.2194	-0.1418	-0.0018
299	SLU 62	-1.75	0.3	32.75	-0.2256	-0.1444	-0.0018
299	SLU 63	-1.65	0.29	32.25	-0.2222	-0.1393	-0.0018
299	SLU 64	-1.75	0.28	31.02	-0.215	-0.1404	-0.0017
299	SLU 65	-1.58	0.28	30.18	-0.2093	-0.1319	-0.0017
299	SLU 66	-1.7	0.29	31.37	-0.22	-0.1396	-0.0018
299	SLU 67	-1.6	0.29	30.87	-0.2166	-0.1345	-0.0017
299	SLU 68	-1.5	0.28	30.36	-0.2122	-0.1294	-0.0017
299	SLU 69	-1.63	0.29	31.56	-0.2229	-0.1371	-0.0018
299	SLU 70	-1.52	0.29	31.06	-0.2195	-0.132	-0.0018
299	SLU 71	-1.6	0.29	31.39	-0.2207	-0.1354	-0.0018
299	SLU 72	-1.5	0.29	30.89	-0.2173	-0.1302	-0.0017
299	SLU 73	-1.66	0.3	33.25	-0.2286	-0.1427	-0.0018
299	SLU 74	-1.79	0.32	34.44	-0.2393	-0.1504	-0.0019
299	SLU 75	-1.68	0.31	33.94	-0.2359	-0.1453	-0.0019
299	SLU 76	-1.59	0.3	33.43	-0.2315	-0.1402	-0.0019
299	SLU 77	-1.71	0.32	34.63	-0.2422	-0.1479	-0.0019
299	SLU 78	-1.61	0.31	34.12	-0.2388	-0.1428	-0.0019
299	SLU 79	-1.69	0.32	34.46	-0.24	-0.1462	-0.0019
299	SLU 80	-1.58	0.31	33.96	-0.2366	-0.141	-0.0019
299	SLU 81	-1.87	0.32	35.4	-0.2425	-0.1558	-0.002
299	SLU 82	-1.77	0.31	34.9	-0.2391	-0.1507	-0.0019
299	SLU 83	-1.8	0.32	35.59	-0.2454	-0.1533	-0.002
299	SLU 84	-1.69	0.32	35.09	-0.242	-0.1482	-0.0019
299	SLE RA 1	-1.34	0.21	23.24	-0.161	-0.1061	-0.0013
299	SLE RA 2	-1.22	0.21	22.68	-0.1572	-0.1004	-0.0013
299	SLE RA 3	-1.3	0.22	23.47	-0.1644	-0.1055	-0.0013
299	SLE RA 4	-1.24	0.21	23.14	-0.1621	-0.1021	-0.0013
299	SLE RA 5	-1.17	0.21	22.8	-0.1591	-0.0987	-0.0013
299	SLE RA 6	-1.25	0.22	23.6	-0.1663	-0.1038	-0.0013
299	SLE RA 7	-1.18	0.22	23.26	-0.164	-0.1004	-0.0013
299	SLE RA 8	-1.24	0.22	23.49	-0.1648	-0.1027	-0.0013
299	SLE RA 9	-1.17	0.21	23.15	-0.1625	-0.0993	-0.0013
299	SLE RA 10	-1.28	0.22	24.72	-0.1701	-0.1076	-0.0014
299	SLE RA 11	-1.36	0.23	25.52	-0.1772	-0.1127	-0.0014
299	SLE RA 12	-1.29	0.23	25.18	-0.175	-0.1093	-0.0014
299	SLE RA 13	-1.23	0.23	24.85	-0.172	-0.1059	-0.0014
299	SLE RA 14	-1.31	0.24	25.64	-0.1791	-0.111	-0.0014
299	SLE RA 15	-1.24	0.23	25.31	-0.1769	-0.1076	-0.0014
299	SLE RA 16	-1.29	0.23	25.53	-0.1777	-0.1099	-0.0014
299	SLE RA 17	-1.22	0.23	25.2	-0.1754	-0.1065	-0.0014
299	SLE RA 18	-1.42	0.24	26.16	-0.1794	-0.1163	-0.0014
299	SLE RA 19	-1.35	0.23	25.82	-0.1771	-0.1129	-0.0014
299	SLE RA 20	-1.37	0.24	26.28	-0.1813	-0.1146	-0.0015
299	SLE RA 21	-1.3	0.24	25.95	-0.179	-0.1112	-0.0014
299	SLE FR 1	-1.34	0.21	23.24	-0.161	-0.1061	-0.0013
299	SLE FR 2	-1.32	0.21	23.13	-0.1603	-0.1049	-0.0013
299	SLE FR 3	-1.32	0.21	23.29	-0.1618	-0.1054	-0.0013
299	SLE FR 4	-1.34	0.22	24	-0.1658	-0.108	-0.0013
299	SLE FR 5	-1.34	0.22	24.16	-0.1673	-0.1085	-0.0013
299	SLE FR 6	-1.38	0.23	24.7	-0.1702	-0.1112	-0.0014
299	SLE QP 1	-1.34	0.21	23.24	-0.161	-0.1061	-0.0013
299	SLE QP 2	-1.36	0.22	24.11	-0.1665	-0.1091	-0.0013
299	SLD 1	3.01	0.19	24.7	-0.1273	0.1271	-0.0012
299	SLD 2	3.01	0.19	24.7	-0.1273	0.1271	-0.0012



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
299	SLD 3	3.94	0.4	28.5	-0.3414	0.0853	-0.0024
299	SLD 4	3.94	0.4	28.5	-0.3414	0.0853	-0.0024
299	SLD 5	-1.46	-0.11	18.52	0.17	0.0251	0.0005
299	SLD 6	-1.46	-0.11	18.52	0.17	0.0251	0.0005
299	SLD 7	1.63	0.6	31.2	-0.5437	-0.1142	-0.0035
299	SLD 8	1.63	0.6	31.2	-0.5437	-0.1142	-0.0035
299	SLD 9	-4.36	-0.16	17.03	0.2107	-0.1041	0.0008
299	SLD 10	-4.36	-0.16	17.03	0.2107	-0.1041	0.0008
299	SLD 11	-1.27	0.55	29.71	-0.503	-0.2434	-0.0032
299	SLD 12	-1.27	0.55	29.71	-0.503	-0.2434	-0.0032
299	SLD 13	-6.66	0.04	19.73	0.0083	-0.3036	-0.0003
299	SLD 14	-6.66	0.04	19.73	0.0083	-0.3036	-0.0003
299	SLD 15	-5.73	0.25	23.53	-0.2058	-0.3454	-0.0015
299	SLD 16	-5.73	0.25	23.53	-0.2058	-0.3454	-0.0015
299	SLV 1	8.85	0.15	25.34	-0.0683	0.4439	-0.001
299	SLV 2	8.85	0.15	25.34	-0.0683	0.4439	-0.001
299	SLV 3	11.04	0.67	34.55	-0.5927	0.3452	-0.0039
299	SLV 4	11.04	0.67	34.55	-0.5927	0.3452	-0.0039
299	SLV 5	-1.63	-0.59	10.5	0.6583	0.2064	0.0032
299	SLV 6	-1.63	-0.59	10.5	0.6583	0.2064	0.0032
299	SLV 7	5.69	1.14	41.23	-1.0898	-0.1225	-0.0066
299	SLV 8	5.69	1.14	41.23	-1.0898	-0.1225	-0.0066
299	SLV 9	-8.41	-0.7	7	0.7567	-0.0958	0.0039
299	SLV 10	-8.41	-0.7	7	0.7567	-0.0958	0.0039
299	SLV 11	-1.1	1.03	37.73	-0.9914	-0.4247	-0.0059
299	SLV 12	-1.1	1.03	37.73	-0.9914	-0.4247	-0.0059
299	SLV 13	-13.77	-0.23	13.67	0.2597	-0.5635	0.0012
299	SLV 14	-13.77	-0.23	13.67	0.2597	-0.5635	0.0012
299	SLV 15	-11.57	0.29	22.89	-0.2648	-0.6621	-0.0017
299	SLV 16	-11.57	0.29	22.89	-0.2648	-0.6621	-0.0017
300	SLU 1	0.59	0.22	21.79	-0.1675	0.0802	-0.0013
300	SLU 2	0.66	0.21	21.16	-0.162	0.0804	-0.0013
300	SLU 3	0.7	0.22	22.16	-0.1731	0.0867	-0.0013
300	SLU 4	0.74	0.22	21.79	-0.1698	0.0869	-0.0013
300	SLU 5	0.77	0.21	21.38	-0.1653	0.0862	-0.0013
300	SLU 6	0.81	0.23	22.38	-0.1764	0.0924	-0.0014
300	SLU 7	0.85	0.22	22	-0.1731	0.0926	-0.0013
300	SLU 8	0.81	0.22	22.22	-0.174	0.0916	-0.0014
300	SLU 9	0.85	0.22	21.85	-0.1707	0.0918	-0.0013
300	SLU 10	0.83	0.24	24.22	-0.1833	0.0962	-0.0014
300	SLU 11	0.88	0.25	25.22	-0.1944	0.1025	-0.0015
300	SLU 12	0.92	0.25	24.84	-0.1911	0.1027	-0.0015
300	SLU 13	0.94	0.24	24.43	-0.1866	0.102	-0.0014
300	SLU 14	0.99	0.26	25.43	-0.1977	0.1082	-0.0015
300	SLU 15	1.03	0.25	25.06	-0.1944	0.1084	-0.0015
300	SLU 16	0.99	0.25	25.28	-0.1954	0.1074	-0.0015
300	SLU 17	1.03	0.25	24.9	-0.1921	0.1076	-0.0015
300	SLU 18	0.84	0.26	26.15	-0.198	0.1027	-0.0015
300	SLU 19	0.88	0.25	25.78	-0.1947	0.1029	-0.0015
300	SLU 20	0.95	0.26	26.37	-0.2012	0.1085	-0.0016
300	SLU 21	0.99	0.25	25.99	-0.1979	0.1086	-0.0015
300	SLU 22	0.8	0.24	24.62	-0.1893	0.0972	-0.0015
300	SLU 23	0.87	0.24	23.99	-0.1838	0.0975	-0.0014
300	SLU 24	0.91	0.25	24.99	-0.1949	0.1038	-0.0015
300	SLU 25	0.95	0.25	24.62	-0.1916	0.1039	-0.0015
300	SLU 26	0.98	0.24	24.21	-0.1871	0.1032	-0.0014
300	SLU 27	1.02	0.26	25.21	-0.1982	0.1095	-0.0015
300	SLU 28	1.06	0.25	24.84	-0.1949	0.1097	-0.0015
300	SLU 29	1.02	0.25	25.05	-0.1959	0.1087	-0.0015
300	SLU 30	1.06	0.25	24.68	-0.1926	0.1088	-0.0015
300	SLU 31	1.05	0.26	27.05	-0.2052	0.1133	-0.0016
300	SLU 32	1.09	0.28	28.05	-0.2163	0.1196	-0.0017
300	SLU 33	1.13	0.27	27.67	-0.213	0.1198	-0.0016
300	SLU 34	1.16	0.27	27.27	-0.2084	0.119	-0.0016
300	SLU 35	1.2	0.28	28.27	-0.2196	0.1253	-0.0017
300	SLU 36	1.24	0.28	27.89	-0.2163	0.1255	-0.0017
300	SLU 37	1.2	0.28	28.11	-0.2172	0.1245	-0.0017
300	SLU 38	1.24	0.28	27.73	-0.2139	0.1246	-0.0017
300	SLU 39	1.05	0.28	28.98	-0.2198	0.1198	-0.0017
300	SLU 40	1.09	0.28	28.61	-0.2165	0.12	-0.0017
300	SLU 41	1.16	0.29	29.2	-0.2231	0.1255	-0.0017
300	SLU 42	1.2	0.28	28.82	-0.2198	0.1257	-0.0017
300	SLU 43	0.69	0.27	27.35	-0.2102	0.0983	-0.0016
300	SLU 44	0.76	0.26	26.73	-0.2047	0.0986	-0.0016
300	SLU 45	0.8	0.28	27.73	-0.2159	0.1049	-0.0017
300	SLU 46	0.84	0.27	27.35	-0.2126	0.1051	-0.0016
300	SLU 47	0.87	0.27	26.95	-0.208	0.1043	-0.0016
300	SLU 48	0.91	0.28	27.95	-0.2191	0.1106	-0.0017
300	SLU 49	0.95	0.28	27.57	-0.2158	0.1108	-0.0017
300	SLU 50	0.91	0.28	27.79	-0.2168	0.1098	-0.0017
300	SLU 51	0.95	0.28	27.41	-0.2135	0.1099	-0.0017
300	SLU 52	0.94	0.29	29.78	-0.2261	0.1144	-0.0017
300	SLU 53	0.98	0.31	30.78	-0.2372	0.1207	-0.0018
300	SLU 54	1.02	0.3	30.41	-0.2339	0.1209	-0.0018
300	SLU 55	1.05	0.29	30	-0.2293	0.1202	-0.0018
300	SLU 56	1.09	0.31	31	-0.2405	0.1264	-0.0019
300	SLU 57	1.13	0.31	30.62	-0.2372	0.1266	-0.0018
300	SLU 58	1.09	0.31	30.84	-0.2381	0.1256	-0.0019



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
300	SLU 59	1.13	0.3	30.47	-0.2348	0.1258	-0.0018	
300	SLU 60	0.95	0.31	31.72	-0.2407	0.1209	-0.0019	
300	SLU 61	0.99	0.31	31.34	-0.2374	0.1211	-0.0018	
300	SLU 62	1.06	0.31	31.93	-0.244	0.1266	-0.0019	
300	SLU 63	1.1	0.31	31.56	-0.2407	0.1268	-0.0019	
300	SLU 64	0.9	0.3	30.19	-0.2321	0.1154	-0.0018	
300	SLU 65	0.97	0.29	29.56	-0.2266	0.1157	-0.0018	
300	SLU 66	1.02	0.31	30.56	-0.2377	0.122	-0.0018	
300	SLU 67	1.06	0.3	30.18	-0.2344	0.1221	-0.0018	
300	SLU 68	1.08	0.3	29.78	-0.2298	0.1214	-0.0018	
300	SLU 69	1.13	0.31	30.78	-0.241	0.1277	-0.0019	
300	SLU 70	1.17	0.31	30.4	-0.2377	0.1279	-0.0018	
300	SLU 71	1.12	0.31	30.62	-0.2386	0.1268	-0.0019	
300	SLU 72	1.16	0.3	30.24	-0.2353	0.127	-0.0018	
300	SLU 73	1.15	0.32	32.61	-0.2479	0.1315	-0.0019	
300	SLU 74	1.19	0.33	33.61	-0.259	0.1378	-0.002	
300	SLU 75	1.23	0.33	33.24	-0.2557	0.1379	-0.002	
300	SLU 76	1.26	0.32	32.83	-0.2512	0.1372	-0.0019	
300	SLU 77	1.3	0.34	33.83	-0.2623	0.1435	-0.002	
300	SLU 78	1.34	0.33	33.46	-0.259	0.1437	-0.002	
300	SLU 79	1.3	0.34	33.67	-0.26	0.1427	-0.002	
300	SLU 80	1.34	0.33	33.3	-0.2567	0.1428	-0.002	
300	SLU 81	1.16	0.34	34.55	-0.2626	0.138	-0.002	
300	SLU 82	1.2	0.33	34.17	-0.2593	0.1382	-0.002	
300	SLU 83	1.27	0.34	34.77	-0.2658	0.1437	-0.0021	
300	SLU 84	1.31	0.34	34.39	-0.2625	0.1439	-0.002	
300	SLE RA 1	0.65	0.22	22.6	-0.1737	0.085	-0.0014	
300	SLE RA 2	0.69	0.22	22.18	-0.1701	0.0852	-0.0013	
300	SLE RA 3	0.72	0.23	22.85	-0.1775	0.0894	-0.0014	
300	SLE RA 4	0.75	0.23	22.6	-0.1753	0.0895	-0.0014	
300	SLE RA 5	0.77	0.22	22.32	-0.1722	0.089	-0.0013	
300	SLE RA 6	0.8	0.23	22.99	-0.1797	0.0932	-0.0014	
300	SLE RA 7	0.82	0.23	22.74	-0.1774	0.0933	-0.0014	
300	SLE RA 8	0.8	0.23	22.89	-0.1781	0.0927	-0.0014	
300	SLE RA 9	0.82	0.23	22.64	-0.1759	0.0928	-0.0014	
300	SLE RA 10	0.81	0.24	24.22	-0.1843	0.0958	-0.0014	
300	SLE RA 11	0.84	0.25	24.88	-0.1917	0.0999	-0.0015	
300	SLE RA 12	0.87	0.24	24.63	-0.1895	0.1	-0.0015	
300	SLE RA 13	0.89	0.24	24.36	-0.1865	0.0996	-0.0014	
300	SLE RA 14	0.92	0.25	25.03	-0.1939	0.1037	-0.0015	
300	SLE RA 15	0.94	0.25	24.78	-0.1917	0.1039	-0.0015	
300	SLE RA 16	0.91	0.25	24.92	-0.1923	0.1032	-0.0015	
300	SLE RA 17	0.94	0.24	24.67	-0.1901	0.1033	-0.0015	
300	SLE RA 18	0.82	0.25	25.51	-0.194	0.1001	-0.0015	
300	SLE RA 19	0.84	0.25	25.26	-0.1918	0.1002	-0.0015	
300	SLE RA 20	0.89	0.25	25.65	-0.1962	0.1039	-0.0015	
300	SLE RA 21	0.92	0.25	25.4	-0.194	0.104	-0.0015	
300	SLE FR 1	0.65	0.22	22.6	-0.1737	0.085	-0.0014	
300	SLE FR 2	0.66	0.22	22.51	-0.173	0.0851	-0.0013	
300	SLE FR 3	0.68	0.23	22.66	-0.1746	0.0866	-0.0014	
300	SLE FR 4	0.71	0.23	23.39	-0.1791	0.0896	-0.0014	
300	SLE FR 5	0.73	0.23	23.53	-0.1807	0.0911	-0.0014	
300	SLE FR 6	0.73	0.24	24.05	-0.1839	0.0926	-0.0014	
300	SLE QP 1	0.65	0.22	22.6	-0.1737	0.085	-0.0014	
300	SLE QP 2	0.7	0.23	23.47	-0.1798	0.0895	-0.0014	
300	SLD 1	5.42	0.2	23.85	-0.1376	0.3068	-0.0012	
300	SLD 2	5.42	0.2	23.85	-0.1376	0.3068	-0.0012	
300	SLD 3	6.42	0.42	27.56	-0.3607	0.3558	-0.0025	
300	SLD 4	6.42	0.42	27.56	-0.3607	0.3558	-0.0025	
300	SLD 5	0.59	-0.12	17.96	0.1711	0.0804	0.0006	
300	SLD 6	0.59	-0.12	17.96	0.1711	0.0804	0.0006	
300	SLD 7	3.94	0.63	30.33	-0.5724	0.2438	-0.0037	
300	SLD 8	3.94	0.63	30.33	-0.5724	0.2438	-0.0037	
300	SLD 9	-2.54	-0.16	16.62	0.2127	-0.0647	0.0009	
300	SLD 10	-2.54	-0.16	16.62	0.2127	-0.0647	0.0009	
300	SLD 11	0.81	0.58	28.99	-0.5308	0.0987	-0.0034	
300	SLD 12	0.81	0.58	28.99	-0.5308	0.0987	-0.0034	
300	SLD 13	-5.02	0.04	19.38	0.0011	-0.1767	-0.0003	
300	SLD 14	-5.02	0.04	19.38	0.0011	-0.1767	-0.0003	
300	SLD 15	-4.02	0.27	23.09	-0.222	-0.1277	-0.0016	
300	SLD 16	-4.02	0.27	23.09	-0.222	-0.1277	-0.0016	
300	SLV 1	11.72	0.15	24.21	-0.0734	0.5971	-0.0009	
300	SLV 2	11.72	0.15	24.21	-0.0734	0.5971	-0.0009	
300	SLV 3	14.1	0.69	33.22	-0.6196	0.7134	-0.0041	
300	SLV 4	14.1	0.69	33.22	-0.6196	0.7134	-0.0041	
300	SLV 5	0.4	-0.62	10.03	0.6805	0.0655	0.0035	
300	SLV 6	0.4	-0.62	10.03	0.6805	0.0655	0.0035	
300	SLV 7	8.33	1.2	40.06	-1.1401	0.4531	-0.007	
300	SLV 8	8.33	1.2	40.06	-1.1401	0.4531	-0.007	
300	SLV 9	-6.93	-0.74	6.88	0.7805	-0.274	0.0042	
300	SLV 10	-6.93	-0.74	6.88	0.7805	-0.274	0.0042	
300	SLV 11	1	1.09	36.91	-1.0401	0.1136	-0.0063	
300	SLV 12	1	1.09	36.91	-1.0401	0.1136	-0.0063	
300	SLV 13	-12.7	-0.23	13.72	0.26	-0.5343	0.0013	
300	SLV 14	-12.7	-0.23	13.72	0.26	-0.5343	0.0013	
300	SLV 15	-10.32	0.32	22.73	-0.2862	-0.418	-0.0019	
300	SLV 16	-10.32	0.32	22.73	-0.2862	-0.418	-0.0019	
301	SLU 1	0.97	0.24	22.35	-0.1778	-0.0196	-0.0013	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
301	SLU 2	0.99	0.23	21.88	-0.1727	-0.0176	-0.0013
301	SLU 3	1.09	0.24	22.78	-0.184	-0.0162	-0.0014
301	SLU 4	1.11	0.24	22.49	-0.1809	-0.015	-0.0014
301	SLU 5	1.11	0.23	22.14	-0.1764	-0.0138	-0.0013
301	SLU 6	1.21	0.25	23.05	-0.1877	-0.0123	-0.0014
301	SLU 7	1.22	0.24	22.76	-0.1846	-0.0111	-0.0014
301	SLU 8	1.2	0.25	22.88	-0.1852	-0.0119	-0.0014
301	SLU 9	1.22	0.24	22.6	-0.1821	-0.0107	-0.0014
301	SLU 10	1.2	0.26	25.09	-0.196	-0.0184	-0.0015
301	SLU 11	1.3	0.27	26	-0.2073	-0.017	-0.0016
301	SLU 12	1.32	0.27	25.71	-0.2043	-0.0158	-0.0015
301	SLU 13	1.32	0.26	25.35	-0.1997	-0.0146	-0.0015
301	SLU 14	1.42	0.28	26.26	-0.211	-0.0132	-0.0016
301	SLU 15	1.43	0.28	25.97	-0.2079	-0.012	-0.0016
301	SLU 16	1.41	0.28	26.1	-0.2085	-0.0127	-0.0016
301	SLU 17	1.42	0.27	25.81	-0.2055	-0.0115	-0.0015
301	SLU 18	1.26	0.28	26.95	-0.2112	-0.0208	-0.0016
301	SLU 19	1.28	0.28	26.66	-0.2081	-0.0196	-0.0016
301	SLU 20	1.38	0.28	27.21	-0.2149	-0.0169	-0.0016
301	SLU 21	1.4	0.28	26.92	-0.2118	-0.0157	-0.0016
301	SLU 22	1.21	0.27	25.35	-0.2017	-0.0184	-0.0015
301	SLU 23	1.24	0.26	24.87	-0.1965	-0.0164	-0.0015
301	SLU 24	1.34	0.28	25.77	-0.2078	-0.015	-0.0016
301	SLU 25	1.36	0.27	25.49	-0.2047	-0.0138	-0.0015
301	SLU 26	1.36	0.26	25.13	-0.2002	-0.0125	-0.0015
301	SLU 27	1.45	0.28	26.04	-0.2115	-0.0111	-0.0016
301	SLU 28	1.47	0.28	25.75	-0.2084	-0.0099	-0.0016
301	SLU 29	1.45	0.28	25.88	-0.209	-0.0107	-0.0016
301	SLU 30	1.46	0.27	25.59	-0.206	-0.0095	-0.0015
301	SLU 31	1.45	0.29	28.08	-0.2199	-0.0172	-0.0016
301	SLU 32	1.55	0.31	28.99	-0.2312	-0.0158	-0.0017
301	SLU 33	1.56	0.3	28.7	-0.2281	-0.0146	-0.0017
301	SLU 34	1.57	0.3	28.35	-0.2236	-0.0133	-0.0017
301	SLU 35	1.66	0.31	29.25	-0.2349	-0.0119	-0.0018
301	SLU 36	1.68	0.31	28.97	-0.2318	-0.0107	-0.0017
301	SLU 37	1.66	0.31	29.09	-0.2324	-0.0115	-0.0017
301	SLU 38	1.67	0.3	28.8	-0.2293	-0.0103	-0.0017
301	SLU 39	1.51	0.31	29.94	-0.235	-0.0195	-0.0018
301	SLU 40	1.53	0.31	29.65	-0.2319	-0.0183	-0.0017
301	SLU 41	1.63	0.32	30.2	-0.2387	-0.0157	-0.0018
301	SLU 42	1.65	0.31	29.92	-0.2356	-0.0145	-0.0018
301	SLU 43	1.17	0.3	28.03	-0.223	-0.0259	-0.0017
301	SLU 44	1.2	0.29	27.56	-0.2179	-0.0239	-0.0016
301	SLU 45	1.3	0.3	28.46	-0.2292	-0.0225	-0.0017
301	SLU 46	1.31	0.3	28.18	-0.2261	-0.0213	-0.0017
301	SLU 47	1.31	0.29	27.82	-0.2216	-0.0201	-0.0017
301	SLU 48	1.41	0.31	28.73	-0.2329	-0.0186	-0.0017
301	SLU 49	1.43	0.3	28.44	-0.2298	-0.0174	-0.0017
301	SLU 50	1.4	0.31	28.57	-0.2304	-0.0182	-0.0017
301	SLU 51	1.42	0.3	28.28	-0.2273	-0.017	-0.0017
301	SLU 52	1.41	0.32	30.77	-0.2412	-0.0247	-0.0018
301	SLU 53	1.5	0.33	31.68	-0.2525	-0.0233	-0.0019
301	SLU 54	1.52	0.33	31.39	-0.2494	-0.0221	-0.0019
301	SLU 55	1.52	0.32	31.04	-0.2449	-0.0209	-0.0018
301	SLU 56	1.62	0.34	31.94	-0.2562	-0.0195	-0.0019
301	SLU 57	1.64	0.34	31.65	-0.2531	-0.0183	-0.0019
301	SLU 58	1.61	0.34	31.78	-0.2537	-0.019	-0.0019
301	SLU 59	1.63	0.33	31.49	-0.2506	-0.0178	-0.0019
301	SLU 60	1.47	0.34	32.63	-0.2564	-0.0271	-0.0019
301	SLU 61	1.49	0.34	32.34	-0.2533	-0.0259	-0.0019
301	SLU 62	1.58	0.34	32.89	-0.2601	-0.0232	-0.002
301	SLU 63	1.6	0.34	32.6	-0.257	-0.022	-0.0019
301	SLU 64	1.42	0.33	31.03	-0.2469	-0.0247	-0.0019
301	SLU 65	1.45	0.32	30.55	-0.2417	-0.0227	-0.0018
301	SLU 66	1.54	0.34	31.45	-0.253	-0.0213	-0.0019
301	SLU 67	1.56	0.33	31.17	-0.2499	-0.0201	-0.0019
301	SLU 68	1.56	0.32	30.81	-0.2454	-0.0188	-0.0018
301	SLU 69	1.66	0.34	31.72	-0.2567	-0.0174	-0.0019
301	SLU 70	1.68	0.34	31.43	-0.2536	-0.0162	-0.0019
301	SLU 71	1.65	0.34	31.56	-0.2542	-0.017	-0.0019
301	SLU 72	1.67	0.33	31.27	-0.2511	-0.0158	-0.0019
301	SLU 73	1.66	0.35	33.76	-0.2651	-0.0235	-0.002
301	SLU 74	1.75	0.37	34.67	-0.2764	-0.0221	-0.0021
301	SLU 75	1.77	0.36	34.38	-0.2733	-0.0209	-0.0021
301	SLU 76	1.77	0.36	34.03	-0.2687	-0.0196	-0.002
301	SLU 77	1.87	0.37	34.93	-0.28	-0.0182	-0.0021
301	SLU 78	1.89	0.37	34.65	-0.277	-0.017	-0.0021
301	SLU 79	1.86	0.37	34.77	-0.2776	-0.0178	-0.0021
301	SLU 80	1.88	0.36	34.48	-0.2745	-0.0166	-0.0021
301	SLU 81	1.72	0.37	35.62	-0.2802	-0.0258	-0.0021
301	SLU 82	1.73	0.37	35.33	-0.2771	-0.0246	-0.0021
301	SLU 83	1.83	0.38	35.88	-0.2839	-0.022	-0.0021
301	SLU 84	1.85	0.37	35.6	-0.2808	-0.0208	-0.0021
301	SLE RA 1	1.04	0.24	23.21	-0.1846	-0.0192	-0.0014
301	SLE RA 2	1.06	0.24	22.89	-0.1812	-0.0179	-0.0014
301	SLE RA 3	1.12	0.25	23.49	-0.1888	-0.017	-0.0014
301	SLE RA 4	1.13	0.25	23.3	-0.1867	-0.0162	-0.0014
301	SLE RA 5	1.13	0.24	23.07	-0.1837	-0.0154	-0.0014



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
301	SLE RA 6	1.2	0.25	23.67	-0.1912	-0.0144	-0.0014	
301	SLE RA 7	1.21	0.25	23.48	-0.1892	-0.0136	-0.0014	
301	SLE RA 8	1.19	0.25	23.56	-0.1896	-0.0141	-0.0014	
301	SLE RA 9	1.2	0.25	23.37	-0.1875	-0.0133	-0.0014	
301	SLE RA 10	1.19	0.26	25.03	-0.1968	-0.0185	-0.0015	
301	SLE RA 11	1.26	0.27	25.64	-0.2043	-0.0175	-0.0015	
301	SLE RA 12	1.27	0.27	25.45	-0.2023	-0.0167	-0.0015	
301	SLE RA 13	1.27	0.26	25.21	-0.1992	-0.0159	-0.0015	
301	SLE RA 14	1.34	0.27	25.81	-0.2068	-0.015	-0.0016	
301	SLE RA 15	1.35	0.27	25.62	-0.2047	-0.0142	-0.0015	
301	SLE RA 16	1.33	0.27	25.71	-0.2051	-0.0147	-0.0015	
301	SLE RA 17	1.34	0.27	25.51	-0.2031	-0.0139	-0.0015	
301	SLE RA 18	1.24	0.27	26.27	-0.2069	-0.02	-0.0016	
301	SLE RA 19	1.25	0.27	26.08	-0.2048	-0.0192	-0.0015	
301	SLE RA 20	1.31	0.28	26.45	-0.2093	-0.0175	-0.0016	
301	SLE RA 21	1.32	0.27	26.26	-0.2073	-0.0167	-0.0016	
301	SLE FR 1	1.04	0.24	23.21	-0.1846	-0.0192	-0.0014	
301	SLE FR 2	1.04	0.24	23.15	-0.184	-0.019	-0.0014	
301	SLE FR 3	1.07	0.25	23.28	-0.1856	-0.0182	-0.0014	
301	SLE FR 4	1.1	0.25	24.06	-0.1906	-0.0192	-0.0014	
301	SLE FR 5	1.13	0.25	24.2	-0.1923	-0.0185	-0.0014	
301	SLE FR 6	1.14	0.26	24.74	-0.1958	-0.0196	-0.0015	
301	SLE QP 1	1.04	0.24	23.21	-0.1846	-0.0192	-0.0014	
301	SLE QP 2	1.1	0.25	24.13	-0.1913	-0.0195	-0.0014	
301	SLD 1	5.83	0.22	24.68	-0.1513	0.1915	-0.0013	
301	SLD 2	5.83	0.22	24.68	-0.1513	0.1915	-0.0013	
301	SLD 3	6.85	0.44	28.12	-0.3694	0.2367	-0.0025	
301	SLD 4	6.85	0.44	28.12	-0.3694	0.2367	-0.0025	
301	SLD 5	0.98	-0.09	19.08	0.1514	-0.0248	0.0004	
301	SLD 6	0.98	-0.09	19.08	0.1514	-0.0248	0.0004	
301	SLD 7	4.36	0.64	30.53	-0.5755	0.1259	-0.0036	
301	SLD 8	4.36	0.64	30.53	-0.5755	0.1259	-0.0036	
301	SLD 9	-2.17	-0.13	17.72	0.1928	-0.1649	0.0007	
301	SLD 10	-2.17	-0.13	17.72	0.1928	-0.1649	0.0007	
301	SLD 11	1.22	0.59	29.17	-0.534	-0.0142	-0.0033	
301	SLD 12	1.22	0.59	29.17	-0.534	-0.0142	-0.0033	
301	SLD 13	-4.66	0.06	20.14	-0.0133	-0.2757	-0.0004	
301	SLD 14	-4.66	0.06	20.14	-0.0133	-0.2757	-0.0004	
301	SLD 15	-3.64	0.28	23.57	-0.2313	-0.2305	-0.0016	
301	SLD 16	-3.64	0.28	23.57	-0.2313	-0.2305	-0.0016	
301	SLV 1	12.16	0.18	25.29	-0.0893	0.4733	-0.001	
301	SLV 2	12.16	0.18	25.29	-0.0893	0.4733	-0.001	
301	SLV 3	14.57	0.71	33.62	-0.6232	0.5805	-0.004	
301	SLV 4	14.57	0.71	33.62	-0.6232	0.5805	-0.004	
301	SLV 5	0.76	-0.58	11.83	0.6489	-0.0343	0.0032	
301	SLV 6	0.76	-0.58	11.83	0.6489	-0.0343	0.0032	
301	SLV 7	8.79	1.2	39.62	-1.1305	0.3231	-0.0067	
301	SLV 8	8.79	1.2	39.62	-1.1305	0.3231	-0.0067	
301	SLV 9	-6.6	-0.69	8.64	0.7479	-0.3621	0.0038	
301	SLV 10	-6.6	-0.69	8.64	0.7479	-0.3621	0.0038	
301	SLV 11	1.43	1.08	36.42	-1.0316	-0.0047	-0.006	
301	SLV 12	1.43	1.08	36.42	-1.0316	-0.0047	-0.006	
301	SLV 13	-12.38	-0.2	14.63	0.2405	-0.6195	0.0011	
301	SLV 14	-12.38	-0.2	14.63	0.2405	-0.6195	0.0011	
301	SLV 15	-9.97	0.33	22.97	-0.2933	-0.5122	-0.0018	
301	SLV 16	-9.97	0.33	22.97	-0.2933	-0.5122	-0.0018	
302	SLU 1	2.9	0.26	24.33	-0.1849	0.1745	-0.0013	
302	SLU 2	2.86	0.25	23.95	-0.1802	0.1711	-0.0012	
302	SLU 3	3.08	0.27	24.85	-0.1914	0.1844	-0.0013	
302	SLU 4	3.06	0.26	24.63	-0.1886	0.1824	-0.0013	
302	SLU 5	3.01	0.26	24.29	-0.1842	0.1787	-0.0012	
302	SLU 6	3.24	0.27	25.19	-0.1954	0.1921	-0.0013	
302	SLU 7	3.21	0.27	24.96	-0.1926	0.19	-0.0013	
302	SLU 8	3.2	0.27	25	-0.1929	0.1898	-0.0013	
302	SLU 9	3.18	0.27	24.78	-0.1901	0.1877	-0.0013	
302	SLU 10	3.34	0.29	27.54	-0.2052	0.1993	-0.0014	
302	SLU 11	3.57	0.3	28.44	-0.2165	0.2127	-0.0015	
302	SLU 12	3.54	0.3	28.21	-0.2137	0.2106	-0.0015	
302	SLU 13	3.49	0.29	27.88	-0.2092	0.2069	-0.0014	
302	SLU 14	3.72	0.31	28.77	-0.2205	0.2203	-0.0015	
302	SLU 15	3.69	0.31	28.55	-0.2177	0.2182	-0.0015	
302	SLU 16	3.68	0.31	28.59	-0.2179	0.218	-0.0015	
302	SLU 17	3.66	0.3	28.37	-0.2151	0.216	-0.0015	
302	SLU 18	3.58	0.31	29.45	-0.2206	0.2148	-0.0015	
302	SLU 19	3.56	0.31	29.23	-0.2178	0.2128	-0.0015	
302	SLU 20	3.74	0.32	29.79	-0.2247	0.2225	-0.0015	
302	SLU 21	3.71	0.31	29.56	-0.2218	0.2204	-0.0015	
302	SLU 22	3.41	0.3	27.68	-0.2103	0.2043	-0.0014	
302	SLU 23	3.37	0.29	27.31	-0.2057	0.2008	-0.0014	
302	SLU 24	3.6	0.31	28.21	-0.2169	0.2142	-0.0015	
302	SLU 25	3.58	0.3	27.98	-0.2141	0.2121	-0.0015	
302	SLU 26	3.53	0.29	27.65	-0.2097	0.2085	-0.0014	
302	SLU 27	3.75	0.31	28.55	-0.2209	0.2218	-0.0015	
302	SLU 28	3.73	0.31	28.32	-0.2181	0.2198	-0.0015	
302	SLU 29	3.72	0.31	28.36	-0.2183	0.2196	-0.0015	
302	SLU 30	3.69	0.3	28.14	-0.2155	0.2175	-0.0015	
302	SLU 31	3.86	0.32	30.9	-0.2307	0.2291	-0.0016	
302	SLU 32	4.08	0.34	31.79	-0.2419	0.2424	-0.0016	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
302	SLU 33			4.06	0.34	31.57	-0.2391	0.2404	-0.0016
302	SLU 34			4.01	0.33	31.23	-0.2347	0.2367	-0.0016
302	SLU 35			4.24	0.35	32.13	-0.2459	0.2501	-0.0017
302	SLU 36			4.21	0.34	31.91	-0.2431	0.248	-0.0017
302	SLU 37			4.2	0.34	31.95	-0.2434	0.2478	-0.0017
302	SLU 38			4.18	0.34	31.72	-0.2406	0.2457	-0.0016
302	SLU 39			4.1	0.35	32.81	-0.2461	0.2446	-0.0017
302	SLU 40			4.08	0.34	32.58	-0.2433	0.2425	-0.0017
302	SLU 41			4.25	0.35	33.15	-0.2501	0.2522	-0.0017
302	SLU 42			4.23	0.35	32.92	-0.2473	0.2502	-0.0017
302	SLU 43			3.59	0.33	30.47	-0.2316	0.2167	-0.0016
302	SLU 44			3.55	0.32	30.1	-0.2269	0.2132	-0.0015
302	SLU 45			3.78	0.33	31	-0.2382	0.2266	-0.0016
302	SLU 46			3.75	0.33	30.77	-0.2354	0.2245	-0.0016
302	SLU 47			3.7	0.32	30.44	-0.231	0.2208	-0.0016
302	SLU 48			3.93	0.34	31.34	-0.2422	0.2342	-0.0016
302	SLU 49			3.9	0.34	31.11	-0.2394	0.2322	-0.0016
302	SLU 50			3.89	0.34	31.15	-0.2396	0.2319	-0.0016
302	SLU 51			3.87	0.33	30.93	-0.2368	0.2299	-0.0016
302	SLU 52			4.03	0.35	33.69	-0.252	0.2414	-0.0017
302	SLU 53			4.26	0.37	34.58	-0.2632	0.2548	-0.0018
302	SLU 54			4.23	0.37	34.36	-0.2604	0.2527	-0.0018
302	SLU 55			4.18	0.36	34.02	-0.256	0.2491	-0.0017
302	SLU 56			4.41	0.38	34.92	-0.2672	0.2625	-0.0018
302	SLU 57			4.39	0.37	34.7	-0.2644	0.2604	-0.0018
302	SLU 58			4.37	0.37	34.74	-0.2647	0.2602	-0.0018
302	SLU 59			4.35	0.37	34.51	-0.2619	0.2581	-0.0018
302	SLU 60			4.28	0.38	35.6	-0.2674	0.257	-0.0018
302	SLU 61			4.25	0.37	35.37	-0.2646	0.2549	-0.0018
302	SLU 62			4.43	0.38	35.94	-0.2714	0.2646	-0.0018
302	SLU 63			4.4	0.38	35.71	-0.2686	0.2626	-0.0018
302	SLU 64			4.1	0.36	33.83	-0.2571	0.2464	-0.0017
302	SLU 65			4.07	0.35	33.46	-0.2524	0.243	-0.0017
302	SLU 66			4.29	0.37	34.35	-0.2636	0.2564	-0.0018
302	SLU 67			4.27	0.37	34.13	-0.2608	0.2543	-0.0018
302	SLU 68			4.22	0.36	33.79	-0.2564	0.2506	-0.0017
302	SLU 69			4.45	0.38	34.69	-0.2676	0.264	-0.0018
302	SLU 70			4.42	0.37	34.47	-0.2648	0.2619	-0.0018
302	SLU 71			4.41	0.37	34.51	-0.2651	0.2617	-0.0018
302	SLU 72			4.38	0.37	34.28	-0.2623	0.2596	-0.0018
302	SLU 73			4.55	0.39	37.04	-0.2774	0.2712	-0.0019
302	SLU 74			4.78	0.41	37.94	-0.2887	0.2846	-0.002
302	SLU 75			4.75	0.4	37.72	-0.2859	0.2825	-0.0019
302	SLU 76			4.7	0.4	37.38	-0.2814	0.2788	-0.0019
302	SLU 77			4.93	0.41	38.28	-0.2927	0.2922	-0.002
302	SLU 78			4.9	0.41	38.05	-0.2899	0.2902	-0.002
302	SLU 79			4.89	0.41	38.09	-0.2901	0.2899	-0.002
302	SLU 80			4.87	0.4	37.87	-0.2873	0.2879	-0.002
302	SLU 81			4.79	0.41	38.95	-0.2928	0.2867	-0.002
302	SLU 82			4.77	0.41	38.73	-0.29	0.2847	-0.002
302	SLU 83			4.94	0.42	39.29	-0.2968	0.2944	-0.002
302	SLU 84			4.92	0.41	39.07	-0.294	0.2923	-0.002
302	SLE RA 1			3.04	0.27	25.29	-0.1922	0.183	-0.0013
302	SLE RA 2			3.02	0.27	25.04	-0.189	0.1807	-0.0013
302	SLE RA 3			3.17	0.28	25.64	-0.1965	0.1896	-0.0013
302	SLE RA 4			3.15	0.27	25.49	-0.1947	0.1883	-0.0013
302	SLE RA 5			3.12	0.27	25.26	-0.1917	0.1858	-0.0013
302	SLE RA 6			3.27	0.28	25.86	-0.1992	0.1947	-0.0014
302	SLE RA 7			3.26	0.28	25.71	-0.1973	0.1933	-0.0013
302	SLE RA 8			3.25	0.28	25.74	-0.1975	0.1932	-0.0013
302	SLE RA 9			3.23	0.28	25.59	-0.1956	0.1918	-0.0013
302	SLE RA 10			3.34	0.29	27.43	-0.2057	0.1995	-0.0014
302	SLE RA 11			3.49	0.3	28.03	-0.2132	0.2085	-0.0014
302	SLE RA 12			3.48	0.3	27.88	-0.2113	0.2071	-0.0014
302	SLE RA 13			3.44	0.29	27.65	-0.2084	0.2046	-0.0014
302	SLE RA 14			3.59	0.3	28.25	-0.2159	0.2135	-0.0015
302	SLE RA 15			3.58	0.3	28.1	-0.214	0.2122	-0.0015
302	SLE RA 16			3.57	0.3	28.13	-0.2142	0.212	-0.0015
302	SLE RA 17			3.55	0.3	27.98	-0.2123	0.2106	-0.0014
302	SLE RA 18			3.5	0.3	28.7	-0.216	0.2099	-0.0015
302	SLE RA 19			3.49	0.3	28.55	-0.2141	0.2085	-0.0015
302	SLE RA 20			3.6	0.31	28.93	-0.2187	0.215	-0.0015
302	SLE RA 21			3.59	0.3	28.78	-0.2168	0.2136	-0.0015
302	SLE FR 1			3.04	0.27	25.29	-0.1922	0.183	-0.0013
302	SLE FR 2			3.04	0.27	25.24	-0.1915	0.1826	-0.0013
302	SLE FR 3			3.08	0.27	25.38	-0.1932	0.185	-0.0013
302	SLE FR 4			3.18	0.28	26.26	-0.1987	0.1906	-0.0014
302	SLE FR 5			3.22	0.28	26.4	-0.2004	0.1931	-0.0014
302	SLE FR 6			3.27	0.29	26.99	-0.2041	0.1965	-0.0014
302	SLE QP 1			3.04	0.27	25.29	-0.1922	0.183	-0.0013
302	SLE QP 2			3.18	0.28	26.31	-0.1993	0.1911	-0.0014
302	SLD 1			7.85	0.26	27.23	-0.1662	0.4054	-0.0013
302	SLD 2			7.85	0.26	27.23	-0.1662	0.4054	-0.0013
302	SLD 3			8.94	0.46	30.23	-0.3657	0.4604	-0.0022
302	SLD 4			8.94	0.46	30.23	-0.3657	0.4604	-0.0022
302	SLD 5			2.94	-0.02	22.04	0.1131	0.1719	0.0001
302	SLD 6			2.94	-0.02	22.04	0.1131	0.1719	0.0001
302	SLD 7			6.55	0.63	32.03	-0.5517	0.3554	-0.0031





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
302	SLD 8	6.55	0.63	32.03	-0.5517	0.3554	-0.0031
302	SLD 9	-0.19	-0.07	20.59	0.1531	0.0268	0.0004
302	SLD 10	-0.19	-0.07	20.59	0.1531	0.0268	0.0004
302	SLD 11	3.42	0.58	30.58	-0.5117	0.2103	-0.0028
302	SLD 12	3.42	0.58	30.58	-0.5117	0.2103	-0.0028
302	SLD 13	-2.57	0.1	22.39	-0.033	-0.0783	-0.0005
302	SLD 14	-2.57	0.1	22.39	-0.033	-0.0783	-0.0005
302	SLD 15	-1.49	0.3	25.39	-0.2324	-0.0232	-0.0015
302	SLD 16	-1.49	0.3	25.39	-0.2324	-0.0232	-0.0015
302	SLV 1	14.09	0.23	28.37	-0.1136	0.6912	-0.0011
302	SLV 2	14.09	0.23	28.37	-0.1136	0.6912	-0.0011
302	SLV 3	16.66	0.71	35.61	-0.6017	0.8224	-0.0034
302	SLV 4	16.66	0.71	35.61	-0.6017	0.8224	-0.0034
302	SLV 5	2.56	-0.46	15.94	0.5668	0.1422	0.0023
302	SLV 6	2.56	-0.46	15.94	0.5668	0.1422	0.0023
302	SLV 7	11.12	1.13	40.09	-1.0604	0.5794	-0.0055
302	SLV 8	11.12	1.13	40.09	-1.0604	0.5794	-0.0055
302	SLV 9	-4.76	-0.57	12.53	0.6618	-0.1972	0.0028
302	SLV 10	-4.76	-0.57	12.53	0.6618	-0.1972	0.0028
302	SLV 11	3.81	1.02	36.68	-0.9654	0.2399	-0.005
302	SLV 12	3.81	1.02	36.68	-0.9654	0.2399	-0.005
302	SLV 13	-10.3	-0.15	17.01	0.2031	-0.4402	0.0007
302	SLV 14	-10.3	-0.15	17.01	0.2031	-0.4402	0.0007
302	SLV 15	-7.73	0.33	24.26	-0.2851	-0.3091	-0.0016
302	SLV 16	-7.73	0.33	24.26	-0.2851	-0.3091	-0.0016
303	SLU 1	2.69	0.27	27.26	-0.1839	0.0415	-0.0012
303	SLU 2	2.63	0.27	26.96	-0.1798	0.0398	-0.0012
303	SLU 3	2.87	0.28	27.9	-0.1905	0.0468	-0.0012
303	SLU 4	2.84	0.28	27.72	-0.1881	0.0457	-0.0012
303	SLU 5	2.78	0.27	27.38	-0.1839	0.0444	-0.0012
303	SLU 6	3.01	0.29	28.33	-0.1946	0.0514	-0.0013
303	SLU 7	2.98	0.29	28.15	-0.1922	0.0504	-0.0012
303	SLU 8	2.97	0.29	28.1	-0.1921	0.0508	-0.0012
303	SLU 9	2.94	0.28	27.92	-0.1896	0.0497	-0.0012
303	SLU 10	3.05	0.31	31.05	-0.2054	0.0458	-0.0013
303	SLU 11	3.28	0.32	32	-0.2161	0.0528	-0.0014
303	SLU 12	3.25	0.32	31.82	-0.2137	0.0518	-0.0014
303	SLU 13	3.19	0.31	31.48	-0.2095	0.0505	-0.0014
303	SLU 14	3.43	0.33	32.42	-0.2202	0.0575	-0.0014
303	SLU 15	3.4	0.33	32.24	-0.2178	0.0564	-0.0014
303	SLU 16	3.39	0.33	32.2	-0.2177	0.0569	-0.0014
303	SLU 17	3.36	0.32	32.02	-0.2153	0.0558	-0.0014
303	SLU 18	3.28	0.33	33.11	-0.2205	0.0502	-0.0014
303	SLU 19	3.25	0.33	32.93	-0.218	0.0491	-0.0014
303	SLU 20	3.43	0.34	33.53	-0.2246	0.0548	-0.0015
303	SLU 21	3.39	0.33	33.35	-0.2221	0.0538	-0.0014
303	SLU 22	3.15	0.31	31.11	-0.2098	0.0498	-0.0014
303	SLU 23	3.09	0.31	30.81	-0.2057	0.0481	-0.0013
303	SLU 24	3.33	0.32	31.75	-0.2164	0.0551	-0.0014
303	SLU 25	3.3	0.32	31.57	-0.214	0.054	-0.0014
303	SLU 26	3.24	0.31	31.23	-0.2098	0.0527	-0.0014
303	SLU 27	3.47	0.33	32.18	-0.2205	0.0597	-0.0014
303	SLU 28	3.44	0.33	32	-0.2181	0.0587	-0.0014
303	SLU 29	3.43	0.33	31.96	-0.218	0.0591	-0.0014
303	SLU 30	3.4	0.32	31.78	-0.2155	0.058	-0.0014
303	SLU 31	3.51	0.35	34.91	-0.2313	0.0542	-0.0015
303	SLU 32	3.74	0.36	35.85	-0.242	0.0612	-0.0016
303	SLU 33	3.71	0.36	35.67	-0.2396	0.0601	-0.0016
303	SLU 34	3.65	0.35	35.33	-0.2354	0.0588	-0.0015
303	SLU 35	3.89	0.37	36.28	-0.2462	0.0658	-0.0016
303	SLU 36	3.86	0.37	36.1	-0.2437	0.0647	-0.0016
303	SLU 37	3.85	0.37	36.06	-0.2436	0.0652	-0.0016
303	SLU 38	3.82	0.36	35.87	-0.2412	0.0641	-0.0016
303	SLU 39	3.74	0.37	36.96	-0.2464	0.0585	-0.0016
303	SLU 40	3.71	0.37	36.78	-0.2439	0.0575	-0.0016
303	SLU 41	3.89	0.38	37.39	-0.2505	0.0631	-0.0016
303	SLU 42	3.85	0.37	37.21	-0.248	0.0621	-0.0016
303	SLU 43	3.34	0.34	34.11	-0.2302	0.0511	-0.0015
303	SLU 44	3.28	0.34	33.81	-0.2261	0.0494	-0.0015
303	SLU 45	3.52	0.35	34.76	-0.2368	0.0564	-0.0015
303	SLU 46	3.48	0.35	34.58	-0.2343	0.0553	-0.0015
303	SLU 47	3.43	0.34	34.24	-0.2302	0.054	-0.0015
303	SLU 48	3.66	0.36	35.18	-0.2409	0.061	-0.0016
303	SLU 49	3.63	0.36	35	-0.2384	0.06	-0.0015
303	SLU 50	3.62	0.36	34.96	-0.2384	0.0604	-0.0015
303	SLU 51	3.59	0.35	34.78	-0.2359	0.0593	-0.0015
303	SLU 52	3.7	0.38	37.91	-0.2517	0.0554	-0.0016
303	SLU 53	3.93	0.39	38.86	-0.2624	0.0624	-0.0017
303	SLU 54	3.9	0.39	38.67	-0.26	0.0614	-0.0017
303	SLU 55	3.84	0.38	38.33	-0.2558	0.0601	-0.0017
303	SLU 56	4.08	0.4	39.28	-0.2665	0.0671	-0.0017
303	SLU 57	4.04	0.4	39.1	-0.2641	0.066	-0.0017
303	SLU 58	4.04	0.4	39.06	-0.264	0.0665	-0.0017
303	SLU 59	4.01	0.39	38.88	-0.2615	0.0654	-0.0017
303	SLU 60	3.93	0.4	39.97	-0.2668	0.0598	-0.0017
303	SLU 61	3.9	0.4	39.79	-0.2643	0.0587	-0.0017
303	SLU 62	4.07	0.41	40.39	-0.2709	0.0644	-0.0018
303	SLU 63	4.04	0.4	40.21	-0.2684	0.0634	-0.0017



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
303	SLU 64	3.8	0.38	37.97	-0.2561	0.0594	-0.0017
303	SLU 65	3.74	0.38	37.66	-0.252	0.0577	-0.0016
303	SLU 66	3.98	0.39	38.61	-0.2627	0.0647	-0.0017
303	SLU 67	3.94	0.39	38.43	-0.2602	0.0636	-0.0017
303	SLU 68	3.89	0.38	38.09	-0.2561	0.0623	-0.0017
303	SLU 69	4.12	0.4	39.04	-0.2668	0.0693	-0.0017
303	SLU 70	4.09	0.4	38.85	-0.2644	0.0683	-0.0017
303	SLU 71	4.08	0.4	38.81	-0.2643	0.0687	-0.0017
303	SLU 72	4.05	0.39	38.63	-0.2618	0.0677	-0.0017
303	SLU 73	4.16	0.42	41.76	-0.2776	0.0638	-0.0018
303	SLU 74	4.39	0.43	42.71	-0.2883	0.0708	-0.0019
303	SLU 75	4.36	0.43	42.53	-0.2859	0.0697	-0.0019
303	SLU 76	4.3	0.42	42.19	-0.2817	0.0684	-0.0018
303	SLU 77	4.54	0.44	43.13	-0.2924	0.0754	-0.0019
303	SLU 78	4.5	0.43	42.95	-0.29	0.0743	-0.0019
303	SLU 79	4.5	0.43	42.91	-0.2899	0.0748	-0.0019
303	SLU 80	4.47	0.43	42.73	-0.2875	0.0737	-0.0019
303	SLU 81	4.39	0.44	43.82	-0.2927	0.0681	-0.0019
303	SLU 82	4.36	0.43	43.64	-0.2902	0.0671	-0.0019
303	SLU 83	4.53	0.44	44.24	-0.2968	0.0727	-0.0019
303	SLU 84	4.5	0.44	44.06	-0.2943	0.0717	-0.0019
303	SLE RA 1	2.82	0.29	28.36	-0.1913	0.0439	-0.0012
303	SLE RA 2	2.78	0.28	28.16	-0.1886	0.0427	-0.0012
303	SLE RA 3	2.94	0.29	28.79	-0.1957	0.0474	-0.0013
303	SLE RA 4	2.92	0.29	28.67	-0.1941	0.0467	-0.0013
303	SLE RA 5	2.88	0.29	28.44	-0.1913	0.0458	-0.0012
303	SLE RA 6	3.03	0.3	29.07	-0.1985	0.0505	-0.0013
303	SLE RA 7	3.01	0.29	28.95	-0.1968	0.0498	-0.0013
303	SLE RA 8	3.01	0.29	28.92	-0.1968	0.0501	-0.0013
303	SLE RA 9	2.99	0.29	28.8	-0.1951	0.0494	-0.0013
303	SLE RA 10	3.06	0.31	30.89	-0.2056	0.0468	-0.0013
303	SLE RA 11	3.22	0.32	31.52	-0.2128	0.0514	-0.0014
303	SLE RA 12	3.2	0.32	31.4	-0.2112	0.0507	-0.0014
303	SLE RA 13	3.16	0.31	31.17	-0.2084	0.0499	-0.0013
303	SLE RA 14	3.31	0.32	31.8	-0.2155	0.0545	-0.0014
303	SLE RA 15	3.29	0.32	31.68	-0.2139	0.0538	-0.0014
303	SLE RA 16	3.29	0.32	31.65	-0.2139	0.0541	-0.0014
303	SLE RA 17	3.27	0.32	31.53	-0.2122	0.0534	-0.0014
303	SLE RA 18	3.21	0.32	32.26	-0.2157	0.0497	-0.0014
303	SLE RA 19	3.19	0.32	32.14	-0.2141	0.049	-0.0014
303	SLE RA 20	3.31	0.33	32.54	-0.2184	0.0528	-0.0014
303	SLE RA 21	3.29	0.32	32.42	-0.2168	0.0521	-0.0014
303	SLE FR 1	2.82	0.29	28.36	-0.1913	0.0439	-0.0012
303	SLE FR 2	2.81	0.29	28.32	-0.1908	0.0437	-0.0012
303	SLE FR 3	2.86	0.29	28.47	-0.1924	0.0451	-0.0012
303	SLE FR 4	2.93	0.3	29.49	-0.1981	0.0454	-0.0013
303	SLE FR 5	2.98	0.3	29.64	-0.1997	0.0469	-0.0013
303	SLE FR 6	3.02	0.3	30.31	-0.2035	0.0468	-0.0013
303	SLE QP 1	2.82	0.29	28.36	-0.1913	0.0439	-0.0012
303	SLE QP 2	2.94	0.3	29.53	-0.1986	0.0456	-0.0013
303	SLD 1	7.34	0.3	30.87	-0.1758	0.244	-0.0012
303	SLD 2	7.34	0.3	30.87	-0.1758	0.244	-0.0012
303	SLD 3	8.36	0.45	33.31	-0.3443	0.2892	-0.002
303	SLD 4	8.36	0.45	33.31	-0.3443	0.2892	-0.002
303	SLD 5	2.7	0.06	26.24	0.0637	0.0365	-0.0001
303	SLD 6	2.7	0.06	26.24	0.0637	0.0365	-0.0001
303	SLD 7	6.12	0.58	34.35	-0.4978	0.1873	-0.0027
303	SLD 8	6.12	0.58	34.35	-0.4978	0.1873	-0.0027
303	SLD 9	-0.25	0.02	24.7	0.1006	-0.0961	0.0001
303	SLD 10	-0.25	0.02	24.7	0.1006	-0.0961	0.0001
303	SLD 11	3.17	0.53	32.82	-0.461	0.0547	-0.0025
303	SLD 12	3.17	0.53	32.82	-0.461	0.0547	-0.0025
303	SLD 13	-2.49	0.14	25.75	-0.053	-0.198	-0.0006
303	SLD 14	-2.49	0.14	25.75	-0.053	-0.198	-0.0006
303	SLD 15	-1.46	0.3	28.18	-0.2214	-0.1527	-0.0014
303	SLD 16	-1.46	0.3	28.18	-0.2214	-0.1527	-0.0014
303	SLV 1	13.21	0.29	32.61	-0.1378	0.5084	-0.0011
303	SLV 2	13.21	0.29	32.61	-0.1378	0.5084	-0.0011
303	SLV 3	15.65	0.67	38.45	-0.55	0.6163	-0.003
303	SLV 4	15.65	0.67	38.45	-0.55	0.6163	-0.003
303	SLV 5	2.32	-0.27	21.6	0.4447	0.0209	0.0017
303	SLV 6	2.32	-0.27	21.6	0.4447	0.0209	0.0017
303	SLV 7	10.45	0.98	41.06	-0.9291	0.3804	-0.0047
303	SLV 8	10.45	0.98	41.06	-0.9291	0.3804	-0.0047
303	SLV 9	-4.58	-0.38	18	0.5319	-0.2891	0.0022
303	SLV 10	-4.58	-0.38	18	0.5319	-0.2891	0.0022
303	SLV 11	3.56	0.87	37.46	-0.842	0.0703	-0.0043
303	SLV 12	3.56	0.87	37.46	-0.842	0.0703	-0.0043
303	SLV 13	-9.77	-0.07	20.61	0.1527	-0.525	0.0005
303	SLV 14	-9.77	-0.07	20.61	0.1527	-0.525	0.0005
303	SLV 15	-7.33	0.3	26.45	-0.2594	-0.4172	-0.0015
303	SLV 16	-7.33	0.3	26.45	-0.2594	-0.4172	-0.0015
304	SLU 1	3.98	0.26	31.22	-0.1696	0.2152	-0.001
304	SLU 2	3.9	0.26	30.98	-0.1662	0.2103	-0.001
304	SLU 3	4.21	0.27	32.02	-0.1757	0.2269	-0.001
304	SLU 4	4.16	0.27	31.88	-0.1737	0.2239	-0.001
304	SLU 5	4.07	0.27	31.51	-0.17	0.2188	-0.001
304	SLU 6	4.38	0.28	32.55	-0.1796	0.2354	-0.001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
304	SLU 7	4.33	0.28	32.41	-0.1776	0.2324	-0.001
304	SLU 8	4.32	0.28	32.28	-0.1773	0.2322	-0.001
304	SLU 9	4.27	0.27	32.14	-0.1753	0.2292	-0.001
304	SLU 10	4.48	0.3	35.73	-0.1904	0.242	-0.0011
304	SLU 11	4.79	0.31	36.78	-0.2	0.2586	-0.0012
304	SLU 12	4.75	0.31	36.63	-0.1979	0.2557	-0.0011
304	SLU 13	4.65	0.3	36.26	-0.1943	0.2505	-0.0011
304	SLU 14	4.97	0.32	37.31	-0.2038	0.2671	-0.0012
304	SLU 15	4.92	0.32	37.16	-0.2018	0.2641	-0.0012
304	SLU 16	4.91	0.32	37.03	-0.2015	0.2639	-0.0012
304	SLU 17	4.86	0.31	36.89	-0.1995	0.2609	-0.0012
304	SLU 18	4.81	0.32	38.01	-0.2042	0.2606	-0.0012
304	SLU 19	4.77	0.32	37.87	-0.2022	0.2576	-0.0012
304	SLU 20	4.99	0.33	38.54	-0.2081	0.269	-0.0012
304	SLU 21	4.94	0.32	38.4	-0.206	0.2661	-0.0012
304	SLU 22	4.62	0.3	35.71	-0.194	0.2493	-0.0011
304	SLU 23	4.53	0.3	35.47	-0.1906	0.2443	-0.0011
304	SLU 24	4.85	0.31	36.52	-0.2001	0.261	-0.0012
304	SLU 25	4.8	0.31	36.37	-0.1981	0.258	-0.0011
304	SLU 26	4.7	0.3	36	-0.1944	0.2528	-0.0011
304	SLU 27	5.02	0.32	37.05	-0.204	0.2694	-0.0012
304	SLU 28	4.97	0.32	36.9	-0.2019	0.2665	-0.0012
304	SLU 29	4.96	0.32	36.77	-0.2017	0.2663	-0.0012
304	SLU 30	4.91	0.31	36.63	-0.1996	0.2633	-0.0012
304	SLU 31	5.12	0.34	40.23	-0.2148	0.2761	-0.0012
304	SLU 32	5.43	0.35	41.27	-0.2243	0.2927	-0.0013
304	SLU 33	5.38	0.35	41.12	-0.2223	0.2897	-0.0013
304	SLU 34	5.29	0.34	40.76	-0.2186	0.2845	-0.0013
304	SLU 35	5.6	0.36	41.8	-0.2282	0.3012	-0.0013
304	SLU 36	5.55	0.35	41.65	-0.2262	0.2982	-0.0013
304	SLU 37	5.54	0.35	41.53	-0.2259	0.298	-0.0013
304	SLU 38	5.49	0.35	41.38	-0.2238	0.295	-0.0013
304	SLU 39	5.45	0.36	42.5	-0.2286	0.2946	-0.0013
304	SLU 40	5.4	0.35	42.36	-0.2265	0.2916	-0.0013
304	SLU 41	5.62	0.36	43.03	-0.2324	0.3031	-0.0013
304	SLU 42	5.57	0.36	42.89	-0.2304	0.3001	-0.0013
304	SLU 43	4.96	0.33	39.05	-0.2121	0.2681	-0.0012
304	SLU 44	4.87	0.32	38.81	-0.2087	0.2632	-0.0012
304	SLU 45	5.19	0.34	39.85	-0.2183	0.2798	-0.0013
304	SLU 46	5.14	0.34	39.7	-0.2162	0.2768	-0.0012
304	SLU 47	5.05	0.33	39.34	-0.2126	0.2716	-0.0012
304	SLU 48	5.36	0.35	40.38	-0.2221	0.2883	-0.0013
304	SLU 49	5.31	0.34	40.23	-0.2201	0.2853	-0.0013
304	SLU 50	5.3	0.34	40.11	-0.2198	0.2851	-0.0013
304	SLU 51	5.25	0.34	39.96	-0.2178	0.2821	-0.0013
304	SLU 52	5.46	0.36	43.56	-0.233	0.2949	-0.0013
304	SLU 53	5.77	0.38	44.6	-0.2425	0.3115	-0.0014
304	SLU 54	5.72	0.38	44.46	-0.2405	0.3086	-0.0014
304	SLU 55	5.63	0.37	44.09	-0.2368	0.3034	-0.0014
304	SLU 56	5.94	0.38	45.13	-0.2463	0.32	-0.0014
304	SLU 57	5.89	0.38	44.99	-0.2443	0.317	-0.0014
304	SLU 58	5.88	0.38	44.86	-0.244	0.3168	-0.0014
304	SLU 59	5.83	0.38	44.72	-0.242	0.3138	-0.0014
304	SLU 60	5.79	0.39	45.84	-0.2467	0.3135	-0.0014
304	SLU 61	5.74	0.38	45.69	-0.2447	0.3105	-0.0014
304	SLU 62	5.96	0.39	46.37	-0.2506	0.3219	-0.0014
304	SLU 63	5.91	0.39	46.22	-0.2485	0.319	-0.0014
304	SLU 64	5.59	0.37	43.54	-0.2365	0.3022	-0.0014
304	SLU 65	5.51	0.36	43.3	-0.2331	0.2972	-0.0013
304	SLU 66	5.82	0.38	44.34	-0.2426	0.3139	-0.0014
304	SLU 67	5.77	0.38	44.2	-0.2406	0.3109	-0.0014
304	SLU 68	5.68	0.37	43.83	-0.2369	0.3057	-0.0014
304	SLU 69	5.99	0.38	44.87	-0.2465	0.3223	-0.0014
304	SLU 70	5.94	0.38	44.73	-0.2444	0.3194	-0.0014
304	SLU 71	5.93	0.38	44.6	-0.2442	0.3191	-0.0014
304	SLU 72	5.88	0.38	44.45	-0.2421	0.3162	-0.0014
304	SLU 73	6.09	0.4	48.05	-0.2573	0.329	-0.0015
304	SLU 74	6.41	0.42	49.1	-0.2669	0.3456	-0.0015
304	SLU 75	6.36	0.41	48.95	-0.2648	0.3426	-0.0015
304	SLU 76	6.26	0.41	48.58	-0.2612	0.3374	-0.0015
304	SLU 77	6.58	0.42	49.63	-0.2707	0.3541	-0.0016
304	SLU 78	6.53	0.42	49.48	-0.2687	0.3511	-0.0015
304	SLU 79	6.52	0.42	49.35	-0.2684	0.3509	-0.0015
304	SLU 80	6.47	0.42	49.21	-0.2664	0.3479	-0.0015
304	SLU 81	6.43	0.42	50.33	-0.2711	0.3475	-0.0016
304	SLU 82	6.38	0.42	50.19	-0.2691	0.3445	-0.0016
304	SLU 83	6.6	0.43	50.86	-0.2749	0.356	-0.0016
304	SLU 84	6.55	0.43	50.72	-0.2729	0.353	-0.0016
304	SLE RA 1	4.16	0.28	32.5	-0.1766	0.225	-0.001
304	SLE RA 2	4.11	0.27	32.34	-0.1743	0.2217	-0.001
304	SLE RA 3	4.32	0.28	33.04	-0.1807	0.2328	-0.001
304	SLE RA 4	4.28	0.28	32.94	-0.1793	0.2308	-0.001
304	SLE RA 5	4.22	0.28	32.7	-0.1769	0.2273	-0.001
304	SLE RA 6	4.43	0.29	33.39	-0.1832	0.2384	-0.0011
304	SLE RA 7	4.4	0.28	33.3	-0.1819	0.2364	-0.001
304	SLE RA 8	4.39	0.28	33.21	-0.1817	0.2363	-0.001
304	SLE RA 9	4.36	0.28	33.11	-0.1803	0.2343	-0.001
304	SLE RA 10	4.5	0.3	35.51	-0.1904	0.2428	-0.0011



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
304	SLE RA 11	4.7	0.31	36.21	-0.1968	0.2539	-0.0011
304	SLE RA 12	4.67	0.31	36.11	-0.1955	0.2519	-0.0011
304	SLE RA 13	4.61	0.3	35.87	-0.193	0.2485	-0.0011
304	SLE RA 14	4.82	0.31	36.56	-0.1994	0.2596	-0.0011
304	SLE RA 15	4.79	0.31	36.47	-0.198	0.2576	-0.0011
304	SLE RA 16	4.78	0.31	36.38	-0.1978	0.2574	-0.0011
304	SLE RA 17	4.75	0.31	36.28	-0.1965	0.2554	-0.0011
304	SLE RA 18	4.72	0.31	37.03	-0.1996	0.2552	-0.0012
304	SLE RA 19	4.69	0.31	36.94	-0.1983	0.2532	-0.0011
304	SLE RA 20	4.83	0.32	37.39	-0.2022	0.2608	-0.0012
304	SLE RA 21	4.8	0.31	37.29	-0.2008	0.2589	-0.0012
304	SLE FR 1	4.16	0.28	32.5	-0.1766	0.225	-0.001
304	SLE FR 2	4.15	0.27	32.47	-0.1761	0.2243	-0.001
304	SLE FR 3	4.21	0.28	32.65	-0.1776	0.2272	-0.001
304	SLE FR 4	4.32	0.29	33.83	-0.183	0.2334	-0.0011
304	SLE FR 5	4.37	0.29	34	-0.1845	0.2363	-0.0011
304	SLE FR 6	4.44	0.29	34.77	-0.1881	0.2401	-0.0011
304	SLE QP 1	4.16	0.28	32.5	-0.1766	0.225	-0.001
304	SLE QP 2	4.33	0.29	33.86	-0.1835	0.234	-0.0011
304	SLD 1	8.5	0.31	35.63	-0.1721	0.4261	-0.001
304	SLD 2	8.5	0.31	35.63	-0.1721	0.4261	-0.001
304	SLD 3	9.59	0.4	37.63	-0.3003	0.4845	-0.0016
304	SLD 4	9.59	0.4	37.63	-0.3003	0.4845	-0.0016
304	SLD 5	3.93	0.14	31.35	0.0143	0.2031	-0.0002
304	SLD 6	3.93	0.14	31.35	0.0143	0.2031	-0.0002
304	SLD 7	7.56	0.47	38.03	-0.4129	0.3977	-0.002
304	SLD 8	7.56	0.47	38.03	-0.4129	0.3977	-0.002
304	SLD 9	1.1	0.1	29.69	0.0459	0.0704	-0.0001
304	SLD 10	1.1	0.1	29.69	0.0459	0.0704	-0.0001
304	SLD 11	4.73	0.43	36.37	-0.3812	0.2649	-0.0019
304	SLD 12	4.73	0.43	36.37	-0.3812	0.2649	-0.0019
304	SLD 13	-0.93	0.17	30.09	-0.0667	-0.0164	-0.0005
304	SLD 14	-0.93	0.17	30.09	-0.0667	-0.0164	-0.0005
304	SLD 15	0.16	0.27	32.1	-0.1948	0.0419	-0.0011
304	SLD 16	0.16	0.27	32.1	-0.1948	0.0419	-0.0011
304	SLV 1	14.05	0.33	37.98	-0.1511	0.6813	-0.001
304	SLV 2	14.05	0.33	37.98	-0.1511	0.6813	-0.001
304	SLV 3	16.66	0.57	42.72	-0.4645	0.8214	-0.0023
304	SLV 4	16.66	0.57	42.72	-0.4645	0.8214	-0.0023
304	SLV 5	3.29	-0.06	27.91	0.3016	0.1558	0.0009
304	SLV 6	3.29	-0.06	27.91	0.3016	0.1558	0.0009
304	SLV 7	11.98	0.73	43.71	-0.7431	0.6227	-0.0034
304	SLV 8	11.98	0.73	43.71	-0.7431	0.6227	-0.0034
304	SLV 9	-3.33	-0.16	24.01	0.3762	-0.1546	0.0013
304	SLV 10	-3.33	-0.16	24.01	0.3762	-0.1546	0.0013
304	SLV 11	5.37	0.64	39.82	-0.6685	0.3123	-0.003
304	SLV 12	5.37	0.64	39.82	-0.6685	0.3123	-0.003
304	SLV 13	-8	0	25	0.0976	-0.3533	0.0002
304	SLV 14	-8	0	25	0.0976	-0.3533	0.0002
304	SLV 15	-5.4	0.24	29.75	-0.2158	-0.2132	-0.0011
304	SLV 16	-5.4	0.24	29.75	-0.2158	-0.2132	-0.0011
305	SLU 1	2.58	0.22	35.75	-0.1396	0.028	-0.0007
305	SLU 2	2.51	0.21	35.56	-0.1372	0.0251	-0.0007
305	SLU 3	2.77	0.23	36.72	-0.1447	0.033	-0.0007
305	SLU 4	2.72	0.22	36.61	-0.1433	0.0313	-0.0007
305	SLU 5	2.65	0.22	36.21	-0.1404	0.0293	-0.0007
305	SLU 6	2.9	0.23	37.37	-0.1479	0.0371	-0.0007
305	SLU 7	2.86	0.23	37.26	-0.1464	0.0354	-0.0007
305	SLU 8	2.86	0.23	37.04	-0.146	0.0363	-0.0007
305	SLU 9	2.82	0.23	36.92	-0.1446	0.0346	-0.0007
305	SLU 10	2.84	0.25	41.05	-0.1576	0.0263	-0.0008
305	SLU 11	3.1	0.26	42.21	-0.1651	0.0341	-0.0008
305	SLU 12	3.06	0.26	42.09	-0.1637	0.0324	-0.0008
305	SLU 13	2.98	0.25	41.69	-0.1608	0.0304	-0.0008
305	SLU 14	3.24	0.26	42.85	-0.1683	0.0383	-0.0008
305	SLU 15	3.2	0.26	42.74	-0.1669	0.0366	-0.0008
305	SLU 16	3.19	0.26	42.52	-0.1664	0.0375	-0.0008
305	SLU 17	3.15	0.26	42.41	-0.165	0.0358	-0.0008
305	SLU 18	3.06	0.26	43.58	-0.1688	0.0296	-0.0008
305	SLU 19	3.02	0.26	43.47	-0.1673	0.0279	-0.0008
305	SLU 20	3.2	0.27	44.22	-0.172	0.0338	-0.0009
305	SLU 21	3.16	0.27	44.11	-0.1705	0.0321	-0.0009
305	SLU 22	2.98	0.25	40.95	-0.16	0.0322	-0.0008
305	SLU 23	2.91	0.25	40.77	-0.1576	0.0293	-0.0008
305	SLU 24	3.16	0.26	41.93	-0.1651	0.0372	-0.0008
305	SLU 25	3.12	0.26	41.82	-0.1637	0.0355	-0.0008
305	SLU 26	3.05	0.25	41.41	-0.1608	0.0335	-0.0008
305	SLU 27	3.3	0.26	42.57	-0.1683	0.0414	-0.0008
305	SLU 28	3.26	0.26	42.46	-0.1668	0.0397	-0.0008
305	SLU 29	3.26	0.26	42.24	-0.1664	0.0406	-0.0008
305	SLU 30	3.21	0.26	42.13	-0.165	0.0388	-0.0008
305	SLU 31	3.24	0.28	46.25	-0.178	0.0305	-0.0009
305	SLU 32	3.5	0.29	47.41	-0.1855	0.0383	-0.0009
305	SLU 33	3.46	0.29	47.3	-0.1841	0.0366	-0.0009
305	SLU 34	3.38	0.28	46.89	-0.1812	0.0347	-0.0009
305	SLU 35	3.64	0.3	48.05	-0.1887	0.0425	-0.0009
305	SLU 36	3.6	0.29	47.94	-0.1873	0.0408	-0.0009
305	SLU 37	3.59	0.29	47.72	-0.1868	0.0417	-0.0009



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
305	SLU 38			3.55	0.29	47.61	-0.1854	0.04	-0.0009
305	SLU 39			3.46	0.3	48.78	-0.1892	0.0338	-0.0009
305	SLU 40			3.42	0.3	48.67	-0.1877	0.0321	-0.0009
305	SLU 41			3.6	0.3	49.43	-0.1924	0.038	-0.001
305	SLU 42			3.55	0.3	49.32	-0.1909	0.0363	-0.001
305	SLU 43			3.22	0.27	44.69	-0.1745	0.0349	-0.0009
305	SLU 44			3.15	0.27	44.5	-0.1721	0.0321	-0.0009
305	SLU 45			3.4	0.28	45.66	-0.1796	0.0399	-0.0009
305	SLU 46			3.36	0.28	45.55	-0.1782	0.0382	-0.0009
305	SLU 47			3.29	0.27	45.15	-0.1753	0.0362	-0.0009
305	SLU 48			3.54	0.28	46.31	-0.1828	0.0441	-0.0009
305	SLU 49			3.5	0.28	46.2	-0.1813	0.0424	-0.0009
305	SLU 50			3.5	0.28	45.98	-0.1809	0.0433	-0.0009
305	SLU 51			3.45	0.28	45.86	-0.1795	0.0416	-0.0009
305	SLU 52			3.48	0.3	49.99	-0.1925	0.0332	-0.001
305	SLU 53			3.74	0.31	51.15	-0.2	0.0411	-0.001
305	SLU 54			3.7	0.31	51.03	-0.1986	0.0393	-0.001
305	SLU 55			3.62	0.31	50.63	-0.1957	0.0374	-0.001
305	SLU 56			3.88	0.32	51.79	-0.2032	0.0452	-0.001
305	SLU 57			3.83	0.32	51.68	-0.2018	0.0435	-0.001
305	SLU 58			3.83	0.31	51.46	-0.2013	0.0444	-0.001
305	SLU 59			3.79	0.31	51.35	-0.1999	0.0427	-0.001
305	SLU 60			3.7	0.32	52.52	-0.2037	0.0366	-0.001
305	SLU 61			3.65	0.32	52.41	-0.2022	0.0348	-0.001
305	SLU 62			3.84	0.32	53.16	-0.2069	0.0407	-0.001
305	SLU 63			3.79	0.32	53.05	-0.2054	0.039	-0.001
305	SLU 64			3.62	0.3	49.89	-0.1949	0.0392	-0.001
305	SLU 65			3.55	0.3	49.71	-0.1925	0.0363	-0.001
305	SLU 66			3.8	0.31	50.87	-0.2	0.0442	-0.001
305	SLU 67			3.76	0.31	50.76	-0.1986	0.0424	-0.001
305	SLU 68			3.68	0.31	50.35	-0.1957	0.0405	-0.001
305	SLU 69			3.94	0.32	51.51	-0.2032	0.0483	-0.001
305	SLU 70			3.9	0.32	51.4	-0.2017	0.0466	-0.001
305	SLU 71			3.9	0.31	51.18	-0.2013	0.0475	-0.001
305	SLU 72			3.85	0.31	51.07	-0.1999	0.0458	-0.001
305	SLU 73			3.88	0.33	55.19	-0.2129	0.0374	-0.0011
305	SLU 74			4.14	0.35	56.35	-0.2204	0.0453	-0.0011
305	SLU 75			4.09	0.34	56.24	-0.219	0.0436	-0.0011
305	SLU 76			4.02	0.34	55.83	-0.2161	0.0416	-0.0011
305	SLU 77			4.28	0.35	56.99	-0.2236	0.0495	-0.0011
305	SLU 78			4.23	0.35	56.88	-0.2222	0.0477	-0.0011
305	SLU 79			4.23	0.35	56.66	-0.2217	0.0486	-0.0011
305	SLU 80			4.19	0.35	56.55	-0.2203	0.0469	-0.0011
305	SLU 81			4.1	0.35	57.72	-0.2241	0.0408	-0.0011
305	SLU 82			4.05	0.35	57.61	-0.2226	0.0391	-0.0011
305	SLU 83			4.24	0.36	58.37	-0.2273	0.045	-0.0011
305	SLU 84			4.19	0.35	58.26	-0.2258	0.0432	-0.0011
305	SLE RA 1			2.7	0.23	37.23	-0.1455	0.0292	-0.0007
305	SLE RA 2			2.65	0.22	37.11	-0.1438	0.0273	-0.0007
305	SLE RA 3			2.82	0.23	37.88	-0.1489	0.0325	-0.0007
305	SLE RA 4			2.79	0.23	37.81	-0.1479	0.0314	-0.0007
305	SLE RA 5			2.74	0.23	37.54	-0.146	0.0301	-0.0007
305	SLE RA 6			2.91	0.24	38.31	-0.151	0.0353	-0.0008
305	SLE RA 7			2.88	0.23	38.24	-0.15	0.0342	-0.0008
305	SLE RA 8			2.88	0.23	38.09	-0.1497	0.0348	-0.0007
305	SLE RA 9			2.85	0.23	38.02	-0.1487	0.0336	-0.0007
305	SLE RA 10			2.87	0.25	40.77	-0.1575	0.028	-0.0008
305	SLE RA 11			3.04	0.25	41.54	-0.1625	0.0333	-0.0008
305	SLE RA 12			3.01	0.25	41.47	-0.1615	0.0321	-0.0008
305	SLE RA 13			2.96	0.25	41.2	-0.1596	0.0308	-0.0008
305	SLE RA 14			3.13	0.26	41.97	-0.1646	0.0361	-0.0008
305	SLE RA 15			3.11	0.26	41.89	-0.1636	0.0349	-0.0008
305	SLE RA 16			3.1	0.26	41.75	-0.1633	0.0355	-0.0008
305	SLE RA 17			3.08	0.25	41.67	-0.1624	0.0344	-0.0008
305	SLE RA 18			3.02	0.26	42.46	-0.1649	0.0303	-0.0008
305	SLE RA 19			2.99	0.26	42.38	-0.1639	0.0291	-0.0008
305	SLE RA 20			3.11	0.26	42.88	-0.167	0.0331	-0.0008
305	SLE RA 21			3.08	0.26	42.81	-0.1661	0.0319	-0.0008
305	SLE FR 1			2.7	0.23	37.23	-0.1455	0.0292	-0.0007
305	SLE FR 2			2.69	0.23	37.21	-0.1451	0.0288	-0.0007
305	SLE FR 3			2.73	0.23	37.41	-0.1463	0.0303	-0.0007
305	SLE FR 4			2.78	0.24	38.78	-0.151	0.0291	-0.0008
305	SLE FR 5			2.83	0.24	38.97	-0.1522	0.0306	-0.0008
305	SLE FR 6			2.86	0.24	39.84	-0.1552	0.0297	-0.0008
305	SLE QP 1			2.7	0.23	37.23	-0.1455	0.0292	-0.0007
305	SLE QP 2			2.79	0.24	38.8	-0.1513	0.0295	-0.0008
305	SLD 1			6.66	0.27	34.58	-0.1501	0.0265	-0.0008
305	SLD 2			6.66	0.27	34.58	-0.1501	0.0265	-0.0008
305	SLD 3			7.66	0.31	36.61	-0.2342	0.2525	-0.0011
305	SLD 4			7.66	0.31	36.61	-0.2342	0.2525	-0.0011
305	SLD 5			2.43	0.19	34.45	-0.0234	0.0129	-0.0003
305	SLD 6			2.43	0.19	34.45	-0.0234	0.0129	-0.0003
305	SLD 7			5.77	0.31	41.23	-0.3037	0.1661	-0.0013
305	SLD 8			5.77	0.31	41.23	-0.3037	0.1661	-0.0013
305	SLD 9			-0.19	0.16	36.37	0.0011	-0.1071	-0.0002
305	SLD 10			-0.19	0.16	36.37	0.0011	-0.1071	-0.0002
305	SLD 11			3.15	0.28	43.15	-0.2792	0.0461	-0.0012
305	SLD 12			3.15	0.28	43.15	-0.2792	0.0461	-0.0012



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
305	SLD 13	-2.08	0.16	40.99	-0.0684	-0.1934	-0.0004
305	SLD 14	-2.08	0.16	40.99	-0.0684	-0.1934	-0.0004
305	SLD 15	-1.08	0.2	43.02	-0.1525	-0.1475	-0.0007
305	SLD 16	-1.08	0.2	43.02	-0.1525	-0.1475	-0.0007
305	SLV 1	11.8	0.32	28.88	-0.1447	0.4417	-0.0008
305	SLV 2	11.8	0.32	28.88	-0.1447	0.4417	-0.0008
305	SLV 3	14.2	0.41	33.68	-0.3502	0.552	-0.0015
305	SLV 4	14.2	0.41	33.68	-0.3502	0.552	-0.0015
305	SLV 5	1.85	0.12	28.54	0.1624	-0.014	0.0003
305	SLV 6	1.85	0.12	28.54	0.1624	-0.014	0.0003
305	SLV 7	9.86	0.42	44.55	-0.5227	0.3535	-0.0021
305	SLV 8	9.86	0.42	44.55	-0.5227	0.3535	-0.0021
305	SLV 9	-4.28	0.05	33.05	0.2201	-0.2944	0.0006
305	SLV 10	-4.28	0.05	33.05	0.2201	-0.2944	0.0006
305	SLV 11	3.74	0.35	49.06	-0.465	0.0731	-0.0018
305	SLV 12	3.74	0.35	49.06	-0.465	0.0731	-0.0018
305	SLV 13	-8.62	0.07	43.92	0.0476	-0.4929	0
305	SLV 14	-8.62	0.07	43.92	0.0476	-0.4929	0
305	SLV 15	-6.21	0.16	48.72	-0.1579	-0.3827	-0.0007
305	SLV 16	-6.21	0.16	48.72	-0.1579	-0.3827	-0.0007
306	SLU 1	2.25	0.15	40.55	-0.0982	0.1307	-0.0004
306	SLU 2	2.17	0.15	40.44	-0.0968	0.126	-0.0004
306	SLU 3	2.43	0.16	41.71	-0.1018	0.14	-0.0004
306	SLU 4	2.38	0.16	41.64	-0.1009	0.1372	-0.0004
306	SLU 5	2.3	0.15	41.2	-0.0991	0.1327	-0.0004
306	SLU 6	2.56	0.16	42.48	-0.104	0.1468	-0.0004
306	SLU 7	2.51	0.16	42.41	-0.1032	0.1439	-0.0004
306	SLU 8	2.51	0.16	42.08	-0.1027	0.1442	-0.0004
306	SLU 9	2.47	0.16	42.01	-0.1019	0.1414	-0.0004
306	SLU 10	2.42	0.18	46.68	-0.1115	0.1423	-0.0004
306	SLU 11	2.68	0.18	47.95	-0.1164	0.1563	-0.0005
306	SLU 12	2.63	0.18	47.88	-0.1156	0.1535	-0.0004
306	SLU 13	2.55	0.18	47.44	-0.1137	0.149	-0.0004
306	SLU 14	2.82	0.19	48.72	-0.1186	0.1631	-0.0005
306	SLU 15	2.77	0.19	48.64	-0.1178	0.1602	-0.0005
306	SLU 16	2.77	0.18	48.32	-0.1173	0.1605	-0.0005
306	SLU 17	2.72	0.18	48.25	-0.1165	0.1577	-0.0005
306	SLU 18	2.61	0.19	49.47	-0.1191	0.154	-0.0005
306	SLU 19	2.56	0.19	49.4	-0.1183	0.1511	-0.0005
306	SLU 20	2.74	0.19	50.23	-0.1213	0.1608	-0.0005
306	SLU 21	2.7	0.19	50.16	-0.1205	0.1579	-0.0005
306	SLU 22	2.58	0.18	46.49	-0.1127	0.1506	-0.0004
306	SLU 23	2.5	0.18	46.38	-0.1113	0.1458	-0.0004
306	SLU 24	2.76	0.18	47.65	-0.1163	0.1599	-0.0004
306	SLU 25	2.71	0.18	47.58	-0.1154	0.157	-0.0004
306	SLU 26	2.63	0.18	47.14	-0.1136	0.1526	-0.0004
306	SLU 27	2.89	0.19	48.42	-0.1185	0.1667	-0.0005
306	SLU 28	2.85	0.18	48.35	-0.1177	0.1638	-0.0005
306	SLU 29	2.85	0.18	48.02	-0.1172	0.1641	-0.0005
306	SLU 30	2.8	0.18	47.95	-0.1164	0.1612	-0.0004
306	SLU 31	2.75	0.2	52.62	-0.126	0.1621	-0.0005
306	SLU 32	3.01	0.21	53.89	-0.1309	0.1762	-0.0005
306	SLU 33	2.97	0.21	53.82	-0.13	0.1733	-0.0005
306	SLU 34	2.89	0.2	53.38	-0.1282	0.1689	-0.0005
306	SLU 35	3.15	0.21	54.66	-0.1331	0.183	-0.0005
306	SLU 36	3.1	0.21	54.59	-0.1323	0.1801	-0.0005
306	SLU 37	3.1	0.21	54.26	-0.1318	0.1804	-0.0005
306	SLU 38	3.05	0.21	54.19	-0.131	0.1775	-0.0005
306	SLU 39	2.94	0.21	55.41	-0.1336	0.1739	-0.0005
306	SLU 40	2.89	0.21	55.34	-0.1328	0.171	-0.0005
306	SLU 41	3.08	0.21	56.17	-0.1358	0.1806	-0.0005
306	SLU 42	3.03	0.21	56.1	-0.135	0.1778	-0.0005
306	SLU 43	2.81	0.19	50.68	-0.1227	0.1631	-0.0005
306	SLU 44	2.73	0.19	50.57	-0.1213	0.1584	-0.0005
306	SLU 45	2.99	0.2	51.84	-0.1263	0.1724	-0.0005
306	SLU 46	2.94	0.2	51.77	-0.1254	0.1696	-0.0005
306	SLU 47	2.86	0.19	51.33	-0.1236	0.1651	-0.0005
306	SLU 48	3.12	0.2	52.61	-0.1285	0.1792	-0.0005
306	SLU 49	3.07	0.2	52.53	-0.1277	0.1763	-0.0005
306	SLU 50	3.07	0.2	52.21	-0.1272	0.1766	-0.0005
306	SLU 51	3.03	0.2	52.14	-0.1264	0.1738	-0.0005
306	SLU 52	2.98	0.21	56.8	-0.136	0.1747	-0.0005
306	SLU 53	3.24	0.22	58.08	-0.1409	0.1887	-0.0005
306	SLU 54	3.19	0.22	58.01	-0.1401	0.1859	-0.0005
306	SLU 55	3.11	0.22	57.57	-0.1382	0.1814	-0.0005
306	SLU 56	3.38	0.22	58.84	-0.1431	0.1955	-0.0006
306	SLU 57	3.33	0.22	58.77	-0.1423	0.1926	-0.0006
306	SLU 58	3.33	0.22	58.45	-0.1418	0.1929	-0.0005
306	SLU 59	3.28	0.22	58.38	-0.141	0.1901	-0.0005
306	SLU 60	3.17	0.23	59.6	-0.1436	0.1864	-0.0006
306	SLU 61	3.12	0.22	59.53	-0.1428	0.1836	-0.0006
306	SLU 62	3.3	0.23	60.36	-0.1458	0.1932	-0.0006
306	SLU 63	3.26	0.23	60.29	-0.145	0.1903	-0.0006
306	SLU 64	3.14	0.21	56.62	-0.1372	0.183	-0.0005
306	SLU 65	3.06	0.21	56.51	-0.1358	0.1782	-0.0005
306	SLU 66	3.32	0.22	57.78	-0.1407	0.1923	-0.0005
306	SLU 67	3.27	0.22	57.71	-0.1399	0.1895	-0.0005
306	SLU 68	3.19	0.22	57.27	-0.1381	0.185	-0.0005



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
306	SLU 69	3.45	0.22	58.55	-0.143	0.1991	-0.0006
306	SLU 70	3.41	0.22	58.48	-0.1422	0.1962	-0.0005
306	SLU 71	3.41	0.22	58.15	-0.1417	0.1965	-0.0005
306	SLU 72	3.36	0.22	58.08	-0.1409	0.1936	-0.0005
306	SLU 73	3.31	0.24	62.75	-0.1505	0.1945	-0.0006
306	SLU 74	3.57	0.24	64.02	-0.1554	0.2086	-0.0006
306	SLU 75	3.53	0.24	63.95	-0.1545	0.2057	-0.0006
306	SLU 76	3.45	0.24	63.51	-0.1527	0.2013	-0.0006
306	SLU 77	3.71	0.25	64.79	-0.1576	0.2154	-0.0006
306	SLU 78	3.66	0.25	64.71	-0.1568	0.2125	-0.0006
306	SLU 79	3.66	0.25	64.39	-0.1563	0.2128	-0.0006
306	SLU 80	3.61	0.24	64.32	-0.1555	0.2099	-0.0006
306	SLU 81	3.5	0.25	65.54	-0.1581	0.2063	-0.0006
306	SLU 82	3.45	0.25	65.47	-0.1573	0.2034	-0.0006
306	SLU 83	3.64	0.25	66.3	-0.1603	0.213	-0.0006
306	SLU 84	3.59	0.25	66.23	-0.1595	0.2102	-0.0006
306	SLE RA 1	2.34	0.16	42.25	-0.1024	0.1364	-0.0004
306	SLE RA 2	2.29	0.16	42.17	-0.1014	0.1332	-0.0004
306	SLE RA 3	2.46	0.16	43.02	-0.1047	0.1426	-0.0004
306	SLE RA 4	2.43	0.16	42.98	-0.1042	0.1407	-0.0004
306	SLE RA 5	2.38	0.16	42.68	-0.1029	0.1377	-0.0004
306	SLE RA 6	2.55	0.17	43.53	-0.1062	0.1471	-0.0004
306	SLE RA 7	2.52	0.16	43.49	-0.1057	0.1452	-0.0004
306	SLE RA 8	2.52	0.16	43.27	-0.1053	0.1454	-0.0004
306	SLE RA 9	2.49	0.16	43.22	-0.1048	0.1435	-0.0004
306	SLE RA 10	2.46	0.17	46.33	-0.1112	0.1441	-0.0004
306	SLE RA 11	2.63	0.18	47.18	-0.1145	0.1535	-0.0004
306	SLE RA 12	2.6	0.18	47.14	-0.1139	0.1516	-0.0004
306	SLE RA 13	2.55	0.18	46.84	-0.1127	0.1486	-0.0004
306	SLE RA 14	2.72	0.18	47.69	-0.116	0.158	-0.0004
306	SLE RA 15	2.69	0.18	47.65	-0.1154	0.1561	-0.0004
306	SLE RA 16	2.69	0.18	47.43	-0.1151	0.1563	-0.0004
306	SLE RA 17	2.66	0.18	47.38	-0.1145	0.1544	-0.0004
306	SLE RA 18	2.58	0.18	48.19	-0.1163	0.1519	-0.0005
306	SLE RA 19	2.55	0.18	48.15	-0.1157	0.15	-0.0004
306	SLE RA 20	2.67	0.19	48.7	-0.1178	0.1564	-0.0005
306	SLE RA 21	2.64	0.18	48.66	-0.1172	0.1545	-0.0005
306	SLE FR 1	2.34	0.16	42.25	-0.1024	0.1364	-0.0004
306	SLE FR 2	2.33	0.16	42.24	-0.1022	0.1358	-0.0004
306	SLE FR 3	2.38	0.16	42.45	-0.103	0.1382	-0.0004
306	SLE FR 4	2.4	0.17	44.02	-0.1064	0.1404	-0.0004
306	SLE FR 5	2.45	0.17	44.24	-0.1071	0.1429	-0.0004
306	SLE FR 6	2.46	0.17	45.22	-0.1093	0.1442	-0.0004
306	SLE QP 1	2.34	0.16	42.25	-0.1024	0.1364	-0.0004
306	SLE QP 2	2.41	0.17	44.03	-0.1065	0.1411	-0.0004
306	SLD 1	6.12	0.19	38.53	-0.1118	0.3107	-0.0002
306	SLD 2	6.12	0.19	38.53	-0.1118	0.3107	-0.0002
306	SLD 3	7.18	0.22	41.34	-0.1565	0.3718	-0.0004
306	SLD 4	7.18	0.22	41.34	-0.1565	0.3718	-0.0004
306	SLD 5	1.9	0.12	38.12	-0.0403	0.0994	-0.0001
306	SLD 6	1.9	0.12	38.12	-0.0403	0.0994	-0.0001
306	SLD 7	5.46	0.23	47.48	-0.1893	0.3029	-0.0006
306	SLD 8	5.46	0.23	47.48	-0.1893	0.3029	-0.0006
306	SLD 9	-0.64	0.1	40.58	-0.0238	-0.0208	-0.0002
306	SLD 10	-0.64	0.1	40.58	-0.0238	-0.0208	-0.0002
306	SLD 11	2.92	0.21	49.94	-0.1727	0.1828	-0.0007
306	SLD 12	2.92	0.21	49.94	-0.1727	0.1828	-0.0007
306	SLD 13	-2.36	0.11	46.73	-0.0566	-0.0897	-0.0004
306	SLD 14	-2.36	0.11	46.73	-0.0566	-0.0897	-0.0004
306	SLD 15	-1.29	0.15	49.54	-0.1013	-0.0286	-0.0006
306	SLD 16	-1.29	0.15	49.54	-0.1013	-0.0286	-0.0006
306	SLV 1	11.03	0.22	31.01	-0.1169	0.5349	0
306	SLV 2	11.03	0.22	31.01	-0.1169	0.5349	0
306	SLV 3	13.59	0.3	37.75	-0.226	0.6828	-0.0004
306	SLV 4	13.59	0.3	37.75	-0.226	0.6828	-0.0004
306	SLV 5	1.11	0.06	29.9	0.0559	0.0349	0.0003
306	SLV 6	1.11	0.06	29.9	0.0559	0.0349	0.0003
306	SLV 7	9.65	0.33	52.37	-0.3079	0.5279	-0.001
306	SLV 8	9.65	0.33	52.37	-0.3079	0.5279	-0.001
306	SLV 9	-4.83	0.01	35.69	0.0949	-0.2457	0.0001
306	SLV 10	-4.83	0.01	35.69	0.0949	-0.2457	0.0001
306	SLV 11	3.72	0.27	58.16	-0.269	0.2472	-0.0011
306	SLV 12	3.72	0.27	58.16	-0.269	0.2472	-0.0011
306	SLV 13	-8.76	0.04	50.31	0.013	-0.4006	-0.0005
306	SLV 14	-8.76	0.04	50.31	0.013	-0.4006	-0.0005
306	SLV 15	-6.2	0.12	57.05	-0.0962	-0.2528	-0.0008
306	SLV 16	-6.2	0.12	57.05	-0.0962	-0.2528	-0.0008
307	SLU 1	-1.25	0.15	46.23	-0.0486	-0.1545	0.0007
307	SLU 2	-1.3	0.15	46.21	-0.0482	-0.1571	0.0007
307	SLU 3	-1.19	0.16	47.58	-0.0503	-0.1552	0.0007
307	SLU 4	-1.23	0.16	47.56	-0.0501	-0.1568	0.0007
307	SLU 5	-1.25	0.16	47.09	-0.0493	-0.1568	0.0007
307	SLU 6	-1.14	0.16	48.46	-0.0514	-0.1549	0.0007
307	SLU 7	-1.17	0.16	48.45	-0.0512	-0.1565	0.0007
307	SLU 8	-1.15	0.16	48	-0.0508	-0.1539	0.0007
307	SLU 9	-1.18	0.16	47.99	-0.0506	-0.1555	0.0007
307	SLU 10	-1.6	0.17	53.33	-0.0553	-0.1868	0.0008
307	SLU 11	-1.49	0.18	54.7	-0.0575	-0.1849	0.0008



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
307	SLU 12			-1.53	0.18	54.69	-0.0572	-0.1864	0.0008
307	SLU 13			-1.55	0.18	54.21	-0.0565	-0.1864	0.0008
307	SLU 14			-1.44	0.18	55.58	-0.0586	-0.1845	0.0008
307	SLU 15			-1.48	0.18	55.57	-0.0584	-0.1861	0.0008
307	SLU 16			-1.45	0.18	55.12	-0.058	-0.1835	0.0008
307	SLU 17			-1.48	0.18	55.11	-0.0577	-0.1851	0.0008
307	SLU 18			-1.68	0.18	56.4	-0.0588	-0.1968	0.0008
307	SLU 19			-1.71	0.18	56.39	-0.0585	-0.1984	0.0008
307	SLU 20			-1.63	0.19	57.29	-0.0599	-0.1965	0.0008
307	SLU 21			-1.66	0.19	57.27	-0.0597	-0.1981	0.0008
307	SLU 22			-1.46	0.17	53.01	-0.0556	-0.1795	0.0008
307	SLU 23			-1.51	0.17	52.99	-0.0552	-0.1821	0.0008
307	SLU 24			-1.41	0.18	54.36	-0.0574	-0.1802	0.0008
307	SLU 25			-1.44	0.18	54.34	-0.0571	-0.1818	0.0008
307	SLU 26			-1.46	0.18	53.87	-0.0564	-0.1818	0.0008
307	SLU 27			-1.36	0.18	55.24	-0.0585	-0.1799	0.0008
307	SLU 28			-1.39	0.18	55.23	-0.0583	-0.1815	0.0008
307	SLU 29			-1.36	0.18	54.78	-0.0579	-0.1789	0.0008
307	SLU 30			-1.39	0.18	54.77	-0.0577	-0.1804	0.0008
307	SLU 31			-1.82	0.2	60.11	-0.0624	-0.2117	0.0009
307	SLU 32			-1.71	0.2	61.48	-0.0645	-0.2098	0.0009
307	SLU 33			-1.74	0.2	61.47	-0.0643	-0.2114	0.0009
307	SLU 34			-1.76	0.2	60.99	-0.0635	-0.2114	0.0009
307	SLU 35			-1.66	0.2	62.36	-0.0656	-0.2095	0.0009
307	SLU 36			-1.69	0.2	62.35	-0.0654	-0.2111	0.0009
307	SLU 37			-1.66	0.2	61.9	-0.065	-0.2085	0.0009
307	SLU 38			-1.69	0.2	61.89	-0.0648	-0.2101	0.0009
307	SLU 39			-1.89	0.21	63.18	-0.0658	-0.2218	0.0009
307	SLU 40			-1.92	0.21	63.17	-0.0656	-0.2234	0.0009
307	SLU 41			-1.84	0.21	64.07	-0.067	-0.2215	0.0009
307	SLU 42			-1.87	0.21	64.05	-0.0667	-0.2231	0.0009
307	SLU 43			-1.55	0.19	57.77	-0.0607	-0.1923	0.0009
307	SLU 44			-1.6	0.19	57.75	-0.0603	-0.1949	0.0009
307	SLU 45			-1.49	0.19	59.12	-0.0625	-0.193	0.0009
307	SLU 46			-1.53	0.19	59.11	-0.0622	-0.1946	0.0009
307	SLU 47			-1.55	0.19	58.64	-0.0615	-0.1946	0.0009
307	SLU 48			-1.44	0.2	60.01	-0.0636	-0.1927	0.0009
307	SLU 49			-1.48	0.2	59.99	-0.0634	-0.1943	0.0009
307	SLU 50			-1.45	0.2	59.54	-0.063	-0.1917	0.0009
307	SLU 51			-1.48	0.2	59.53	-0.0628	-0.1933	0.0009
307	SLU 52			-1.9	0.21	64.87	-0.0675	-0.2245	0.001
307	SLU 53			-1.79	0.22	66.24	-0.0696	-0.2227	0.001
307	SLU 54			-1.83	0.22	66.23	-0.0694	-0.2242	0.001
307	SLU 55			-1.85	0.22	65.76	-0.0686	-0.2242	0.001
307	SLU 56			-1.74	0.22	67.13	-0.0707	-0.2223	0.001
307	SLU 57			-1.78	0.22	67.11	-0.0705	-0.2239	0.001
307	SLU 58			-1.75	0.22	66.66	-0.0701	-0.2213	0.001
307	SLU 59			-1.78	0.22	66.65	-0.0699	-0.2229	0.001
307	SLU 60			-1.98	0.22	67.94	-0.0709	-0.2346	0.001
307	SLU 61			-2.01	0.22	67.93	-0.0707	-0.2362	0.001
307	SLU 62			-1.93	0.23	68.83	-0.0721	-0.2343	0.001
307	SLU 63			-1.96	0.23	68.82	-0.0718	-0.2359	0.001
307	SLU 64			-1.76	0.21	64.55	-0.0678	-0.2173	0.0009
307	SLU 65			-1.82	0.21	64.53	-0.0674	-0.2199	0.0009
307	SLU 66			-1.71	0.22	65.9	-0.0695	-0.218	0.001
307	SLU 67			-1.74	0.22	65.89	-0.0693	-0.2196	0.001
307	SLU 68			-1.77	0.21	65.42	-0.0685	-0.2196	0.001
307	SLU 69			-1.66	0.22	66.79	-0.0707	-0.2177	0.001
307	SLU 70			-1.69	0.22	66.77	-0.0704	-0.2193	0.001
307	SLU 71			-1.66	0.22	66.32	-0.0701	-0.2167	0.001
307	SLU 72			-1.69	0.22	66.31	-0.0698	-0.2182	0.001
307	SLU 73			-2.12	0.23	71.65	-0.0745	-0.2495	0.001
307	SLU 74			-2.01	0.24	73.02	-0.0767	-0.2476	0.0011
307	SLU 75			-2.04	0.24	73.01	-0.0764	-0.2492	0.0011
307	SLU 76			-2.07	0.24	72.54	-0.0757	-0.2492	0.0011
307	SLU 77			-1.96	0.24	73.91	-0.0778	-0.2473	0.0011
307	SLU 78			-1.99	0.24	73.89	-0.0776	-0.2489	0.0011
307	SLU 79			-1.96	0.24	73.44	-0.0772	-0.2463	0.0011
307	SLU 80			-1.99	0.24	73.43	-0.077	-0.2479	0.0011
307	SLU 81			-2.19	0.24	74.72	-0.078	-0.2596	0.0011
307	SLU 82			-2.22	0.24	74.71	-0.0777	-0.2612	0.0011
307	SLU 83			-2.14	0.25	75.61	-0.0791	-0.2593	0.0011
307	SLU 84			-2.17	0.25	75.6	-0.0789	-0.2609	0.0011
307	SLE RA 1			-1.31	0.16	48.16	-0.0506	-0.1617	0.0007
307	SLE RA 2			-1.34	0.16	48.15	-0.0503	-0.1634	0.0007
307	SLE RA 3			-1.27	0.16	49.06	-0.0518	-0.1621	0.0007
307	SLE RA 4			-1.29	0.16	49.06	-0.0516	-0.1632	0.0007
307	SLE RA 5			-1.31	0.16	48.74	-0.0511	-0.1632	0.0007
307	SLE RA 6			-1.24	0.16	49.65	-0.0525	-0.1619	0.0007
307	SLE RA 7			-1.26	0.16	49.65	-0.0523	-0.163	0.0007
307	SLE RA 8			-1.24	0.16	49.34	-0.0521	-0.1612	0.0007
307	SLE RA 9			-1.26	0.16	49.34	-0.0519	-0.1623	0.0007
307	SLE RA 10			-1.54	0.17	52.9	-0.0551	-0.1832	0.0008
307	SLE RA 11			-1.47	0.18	53.81	-0.0565	-0.1819	0.0008
307	SLE RA 12			-1.49	0.18	53.8	-0.0564	-0.1829	0.0008
307	SLE RA 13			-1.51	0.18	53.49	-0.0558	-0.1829	0.0008
307	SLE RA 14			-1.44	0.18	54.4	-0.0573	-0.1817	0.0008
307	SLE RA 15			-1.46	0.18	54.39	-0.0571	-0.1827	0.0008





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
307	SLE RA 16			-1.44	0.18	54.09	-0.0569	-0.181	0.0008
307	SLE RA 17			-1.46	0.18	54.08	-0.0567	-0.182	0.0008
307	SLE RA 18			-1.59	0.18	54.95	-0.0574	-0.1899	0.0008
307	SLE RA 19			-1.62	0.18	54.94	-0.0572	-0.1909	0.0008
307	SLE RA 20			-1.56	0.18	55.54	-0.0582	-0.1897	0.0008
307	SLE RA 21			-1.58	0.18	55.53	-0.058	-0.1907	0.0008
307	SLE FR 1			-1.31	0.16	48.16	-0.0506	-0.1617	0.0007
307	SLE FR 2			-1.32	0.16	48.16	-0.0505	-0.162	0.0007
307	SLE FR 3			-1.3	0.16	48.4	-0.0509	-0.1616	0.0007
307	SLE FR 4			-1.4	0.16	50.2	-0.0526	-0.1705	0.0007
307	SLE FR 5			-1.38	0.16	50.43	-0.0529	-0.17	0.0007
307	SLE FR 6			-1.45	0.17	51.55	-0.054	-0.1758	0.0008
307	SLE QP 1			-1.31	0.16	48.16	-0.0506	-0.1617	0.0007
307	SLE QP 2			-1.39	0.16	50.2	-0.0526	-0.1701	0.0007
307	SLD 1			1.78	0.23	46.57	-0.077	0.0508	0.001
307	SLD 2			1.78	0.23	46.57	-0.077	0.0508	0.001
307	SLD 3			2.8	0.19	41.8	-0.0582	-0.0064	0.0008
307	SLD 4			2.8	0.19	41.8	-0.0582	-0.0064	0.0008
307	SLD 5			-1.99	0.24	56.34	-0.0885	-0.0171	0.0012
307	SLD 6			-1.99	0.24	56.34	-0.0885	-0.0171	0.0012
307	SLD 7			1.42	0.11	40.45	-0.0257	-0.2078	0.0004
307	SLD 8			1.42	0.11	40.45	-0.0257	-0.2078	0.0004
307	SLD 9			-4.21	0.22	59.95	-0.0795	-0.1325	0.0011
307	SLD 10			-4.21	0.22	59.95	-0.0795	-0.1325	0.0011
307	SLD 11			-0.79	0.09	44.05	-0.0168	-0.3232	0.0003
307	SLD 12			-0.79	0.09	44.05	-0.0168	-0.3232	0.0003
307	SLD 13			-5.59	0.14	58.6	-0.0471	-0.3339	0.0007
307	SLD 14			-5.59	0.14	58.6	-0.0471	-0.3339	0.0007
307	SLD 15			-4.57	0.1	53.83	-0.0283	-0.3911	0.0005
307	SLD 16			-4.57	0.1	53.83	-0.0283	-0.3911	0.0005
307	SLV 1			5.99	0.31	41.81	-0.1106	0.3477	0.0014
307	SLV 2			5.99	0.31	41.81	-0.1106	0.3477	0.0014
307	SLV 3			8.43	0.22	30.25	-0.0649	0.2108	0.0009
307	SLV 4			8.43	0.22	30.25	-0.0649	0.2108	0.0009
307	SLV 5			-2.87	0.35	65.21	-0.1393	0.1929	0.0018
307	SLV 6			-2.87	0.35	65.21	-0.1393	0.1929	0.0018
307	SLV 7			5.25	0.04	26.68	0.013	-0.2635	-0.0001
307	SLV 8			5.25	0.04	26.68	0.013	-0.2635	-0.0001
307	SLV 9			-8.04	0.29	73.72	-0.1182	-0.0768	0.0015
307	SLV 10			-8.04	0.29	73.72	-0.1182	-0.0768	0.0015
307	SLV 11			0.08	-0.02	35.18	0.034	-0.5331	-0.0003
307	SLV 12			0.08	-0.02	35.18	0.034	-0.5331	-0.0003
307	SLV 13			-11.22	0.11	70.15	-0.0404	-0.551	0.0006
307	SLV 14			-11.22	0.11	70.15	-0.0404	-0.551	0.0006
307	SLV 15			-8.78	0.01	58.59	0.0053	-0.688	0.0001
307	SLV 16			-8.78	0.01	58.59	0.0053	-0.688	0.0001
309	SLU 1			-6.01	1.71	72.04	5.9493	1.3118	-0.4529
309	SLU 2			-6.05	1.74	72.06	5.9366	1.311	-0.4531
309	SLU 3			-6.14	1.76	74.19	6.1333	1.3535	-0.4674
309	SLU 4			-6.16	1.78	74.2	6.1257	1.3531	-0.4676
309	SLU 5			-6.13	1.77	73.45	6.0541	1.3385	-0.4627
309	SLU 6			-6.22	1.8	75.58	6.2508	1.381	-0.477
309	SLU 7			-6.25	1.82	75.59	6.2432	1.3806	-0.4771
309	SLU 8			-6.17	1.79	74.82	6.1842	1.3668	-0.4721
309	SLU 9			-6.19	1.8	74.83	6.1766	1.3663	-0.4722
309	SLU 10			-7.02	1.9	83.2	6.8759	1.5055	-0.518
309	SLU 11			-7.12	1.93	85.33	7.0726	1.5481	-0.5324
309	SLU 12			-7.14	1.94	85.34	7.065	1.5476	-0.5325
309	SLU 13			-7.11	1.94	84.59	6.9933	1.533	-0.5276
309	SLU 14			-7.2	1.97	86.71	7.1901	1.5756	-0.5419
309	SLU 15			-7.22	1.98	86.73	7.1825	1.5751	-0.5421
309	SLU 16			-7.15	1.95	85.96	7.1235	1.5613	-0.537
309	SLU 17			-7.17	1.97	85.97	7.1159	1.5609	-0.5371
309	SLU 18			-7.4	1.95	87.95	7.2912	1.5897	-0.5456
309	SLU 19			-7.43	1.96	87.96	7.2835	1.5892	-0.5458
309	SLU 20			-7.49	1.98	89.34	7.4086	1.6172	-0.5552
309	SLU 21			-7.51	2	89.35	7.401	1.6167	-0.5553
309	SLU 22			-6.9	1.88	82.63	6.8434	1.4994	-0.5158
309	SLU 23			-6.94	1.9	82.65	6.8307	1.4986	-0.516
309	SLU 24			-7.03	1.93	84.77	7.0274	1.5411	-0.5303
309	SLU 25			-7.06	1.95	84.79	7.0198	1.5406	-0.5305
309	SLU 26			-7.02	1.94	84.04	6.9481	1.5261	-0.5256
309	SLU 27			-7.12	1.97	86.16	7.1449	1.5686	-0.5399
309	SLU 28			-7.14	1.99	86.17	7.1373	1.5681	-0.54
309	SLU 29			-7.06	1.96	85.41	7.0783	1.5544	-0.535
309	SLU 30			-7.09	1.97	85.42	7.0707	1.5539	-0.5351
309	SLU 31			-7.92	2.07	93.78	7.77	1.6931	-0.5809
309	SLU 32			-8.01	2.1	95.91	7.9667	1.7356	-0.5953
309	SLU 33			-8.03	2.11	95.92	7.9591	1.7352	-0.5954
309	SLU 34			-8	2.11	95.17	7.8874	1.7206	-0.5905
309	SLU 35			-8.09	2.14	97.3	8.0842	1.7631	-0.6048
309	SLU 36			-8.12	2.15	97.31	8.0765	1.7627	-0.605
309	SLU 37			-8.04	2.12	96.54	8.0176	1.7489	-0.5999
309	SLU 38			-8.06	2.14	96.55	8.01	1.7484	-0.6
309	SLU 39			-8.3	2.11	98.54	8.1852	1.7772	-0.6086
309	SLU 40			-8.32	2.13	98.55	8.1776	1.7768	-0.6087
309	SLU 41			-8.38	2.15	99.92	8.3027	1.8047	-0.6181
309	SLU 42			-8.4	2.17	99.94	8.2951	1.8043	-0.6183



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
309	SLU 43	-7.5	2.17	90.03	7.4276	1.641	-0.5672
309	SLU 44	-7.54	2.19	90.05	7.4149	1.6402	-0.5674
309	SLU 45	-7.64	2.22	92.17	7.6116	1.6828	-0.5817
309	SLU 46	-7.66	2.23	92.19	7.604	1.6823	-0.5818
309	SLU 47	-7.62	2.23	91.44	7.5323	1.6677	-0.577
309	SLU 48	-7.72	2.26	93.56	7.729	1.7103	-0.5913
309	SLU 49	-7.74	2.27	93.58	7.7214	1.7098	-0.5914
309	SLU 50	-7.67	2.24	92.81	7.6625	1.696	-0.5864
309	SLU 51	-7.69	2.26	92.82	7.6548	1.6956	-0.5865
309	SLU 52	-8.52	2.36	101.19	8.3541	1.8348	-0.6323
309	SLU 53	-8.61	2.38	103.31	8.5509	1.8773	-0.6467
309	SLU 54	-8.64	2.4	103.32	8.5433	1.8768	-0.6468
309	SLU 55	-8.6	2.39	102.57	8.4716	1.8623	-0.6419
309	SLU 56	-8.7	2.42	104.7	8.6683	1.9048	-0.6562
309	SLU 57	-8.72	2.44	104.71	8.6607	1.9043	-0.6564
309	SLU 58	-8.64	2.41	103.94	8.6018	1.8906	-0.6513
309	SLU 59	-8.67	2.42	103.95	8.5941	1.8901	-0.6514
309	SLU 60	-8.9	2.4	105.94	8.7694	1.9189	-0.6599
309	SLU 61	-8.92	2.42	105.95	8.7618	1.9185	-0.6601
309	SLU 62	-8.98	2.44	107.33	8.8869	1.9464	-0.6695
309	SLU 63	-9	2.46	107.34	8.8792	1.946	-0.6696
309	SLU 64	-8.4	2.33	100.61	8.3217	1.8286	-0.6301
309	SLU 65	-8.44	2.36	100.63	8.3089	1.8278	-0.6303
309	SLU 66	-8.53	2.39	102.76	8.5057	1.8703	-0.6446
309	SLU 67	-8.55	2.4	102.77	8.4981	1.8699	-0.6448
309	SLU 68	-8.52	2.4	102.02	8.4264	1.8553	-0.6399
309	SLU 69	-8.61	2.43	104.15	8.6231	1.8978	-0.6542
309	SLU 70	-8.63	2.44	104.16	8.6155	1.8974	-0.6543
309	SLU 71	-8.56	2.41	103.39	8.5566	1.8836	-0.6493
309	SLU 72	-8.58	2.43	103.4	8.5489	1.8831	-0.6494
309	SLU 73	-9.41	2.52	111.77	9.2482	2.0223	-0.6952
309	SLU 74	-9.51	2.55	113.89	9.445	2.0649	-0.7096
309	SLU 75	-9.53	2.57	113.91	9.4373	2.0644	-0.7097
309	SLU 76	-9.49	2.56	113.16	9.3657	2.0498	-0.7048
309	SLU 77	-9.59	2.59	115.28	9.5624	2.0924	-0.7191
309	SLU 78	-9.61	2.61	115.29	9.5548	2.0919	-0.7193
309	SLU 79	-9.54	2.58	114.53	9.4958	2.0781	-0.7142
309	SLU 80	-9.56	2.59	114.54	9.4882	2.0776	-0.7143
309	SLU 81	-9.79	2.57	116.52	9.6635	2.1065	-0.7229
309	SLU 82	-9.82	2.59	116.53	9.6559	2.106	-0.723
309	SLU 83	-9.88	2.61	117.91	9.7809	2.134	-0.7324
309	SLU 84	-9.9	2.62	117.92	9.7733	2.1335	-0.7326
309	SLE RA 1	-6.26	1.76	75.07	6.2048	1.3654	-0.4709
309	SLE RA 2	-6.29	1.78	75.08	6.1963	1.3649	-0.471
309	SLE RA 3	-6.35	1.79	76.5	6.3275	1.3932	-0.4806
309	SLE RA 4	-6.37	1.8	76.51	6.3224	1.3929	-0.4806
309	SLE RA 5	-6.34	1.8	76.01	6.2746	1.3832	-0.4774
309	SLE RA 6	-6.41	1.82	77.42	6.4058	1.4115	-0.4869
309	SLE RA 7	-6.42	1.83	77.43	6.4007	1.4112	-0.487
309	SLE RA 8	-6.37	1.81	76.92	6.3614	1.4021	-0.4836
309	SLE RA 9	-6.39	1.82	76.93	6.3563	1.4017	-0.4837
309	SLE RA 10	-6.94	1.89	82.51	6.8225	1.4945	-0.5143
309	SLE RA 11	-7	1.9	83.92	6.9536	1.5229	-0.5238
309	SLE RA 12	-7.02	1.91	83.93	6.9486	1.5226	-0.5239
309	SLE RA 13	-6.99	1.91	83.43	6.9008	1.5129	-0.5207
309	SLE RA 14	-7.06	1.93	84.85	7.0319	1.5412	-0.5302
309	SLE RA 15	-7.07	1.94	84.86	7.0269	1.5409	-0.5303
309	SLE RA 16	-7.02	1.92	84.34	6.9876	1.5317	-0.5269
309	SLE RA 17	-7.04	1.93	84.35	6.9825	1.5314	-0.527
309	SLE RA 18	-7.19	1.92	85.67	7.0993	1.5506	-0.5327
309	SLE RA 19	-7.21	1.93	85.68	7.0942	1.5503	-0.5328
309	SLE RA 20	-7.25	1.94	86.6	7.1776	1.569	-0.5391
309	SLE RA 21	-7.26	1.95	86.61	7.1725	1.5687	-0.5392
309	SLE FR 1	-6.26	1.76	75.07	6.2048	1.3654	-0.4709
309	SLE FR 2	-6.27	1.76	75.07	6.2031	1.3653	-0.4709
309	SLE FR 3	-6.28	1.77	75.44	6.2361	1.3727	-0.4734
309	SLE FR 4	-6.55	1.81	78.25	6.4714	1.4209	-0.4894
309	SLE FR 5	-6.56	1.82	78.62	6.5045	1.4283	-0.492
309	SLE FR 6	-6.73	1.84	80.37	6.652	1.458	-0.5018
309	SLE QP 1	-6.26	1.76	75.07	6.2048	1.3654	-0.4709
309	SLE QP 2	-6.54	1.81	78.25	6.4731	1.421	-0.4894
309	SLD 1	-4.85	4.21	63.88	5.4689	1.7382	-0.6609
309	SLD 2	-4.85	4.21	63.88	5.4689	1.7382	-0.6609
309	SLD 3	-3.7	2.43	71.79	6.0876	1.5609	-0.5537
309	SLD 4	-3.7	2.43	71.79	6.0876	1.5609	-0.5537
309	SLD 5	-7.78	5.22	61.93	5.2335	1.7849	-0.7034
309	SLD 6	-7.78	5.22	61.93	5.2335	1.7849	-0.7034
309	SLD 7	-3.94	-0.7	88.32	7.2958	1.1942	-0.3461
309	SLD 8	-3.94	-0.7	88.32	7.2958	1.1942	-0.3461
309	SLD 9	-9.14	4.31	68.18	5.6505	1.6478	-0.6327
309	SLD 10	-9.14	4.31	68.18	5.6505	1.6478	-0.6327
309	SLD 11	-5.31	-1.61	94.57	7.7127	1.057	-0.2754
309	SLD 12	-5.31	-1.61	94.57	7.7127	1.057	-0.2754
309	SLD 13	-9.38	1.18	84.7	6.8587	1.281	-0.4252
309	SLD 14	-9.38	1.18	84.7	6.8587	1.281	-0.4252
309	SLD 15	-8.23	-0.6	92.62	7.4774	1.1038	-0.318
309	SLD 16	-8.23	-0.6	92.62	7.4774	1.1038	-0.318
309	SLV 1	-2.64	7.44	44.11	4.1045	2.1693	-0.8932



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
309	SLV 2			-2.64	7.44	44.11	4.1045	2.1693	-0.8932
309	SLV 3			0.18	3.25	63.32	5.574	1.7454	-0.6382
309	SLV 4			0.18	3.25	63.32	5.574	1.7454	-0.6382
309	SLV 5			-9.64	9.85	38.87	3.5337	2.2885	-0.9974
309	SLV 6			-9.64	9.85	38.87	3.5337	2.2885	-0.9974
309	SLV 7			-0.26	-4.11	102.91	8.4322	0.8753	-0.1472
309	SLV 8			-0.26	-4.11	102.91	8.4322	0.8753	-0.1472
309	SLV 9			-12.82	7.72	53.59	4.514	1.9666	-0.8316
309	SLV 10			-12.82	7.72	53.59	4.514	1.9666	-0.8316
309	SLV 11			-3.45	-6.24	117.63	9.4126	0.5535	0.0186
309	SLV 12			-3.45	-6.24	117.63	9.4126	0.5535	0.0186
309	SLV 13			-13.26	0.36	93.18	7.3723	1.0965	-0.3407
309	SLV 14			-13.26	0.36	93.18	7.3723	1.0965	-0.3407
309	SLV 15			-10.45	-3.83	112.39	8.8418	0.6726	-0.0856
309	SLV 16			-10.45	-3.83	112.39	8.8418	0.6726	-0.0856
310	SLU 1			3.47	0.37	13.44	-0.2159	0.0826	0.0349
310	SLU 2			3.49	0.36	13.55	-0.2119	0.0834	0.0343
310	SLU 3			3.63	0.39	14.07	-0.228	0.0863	0.0369
310	SLU 4			3.64	0.38	14.13	-0.2256	0.0867	0.0365
310	SLU 5			3.66	0.38	14.21	-0.222	0.0874	0.0359
310	SLU 6			3.8	0.41	14.72	-0.238	0.0903	0.0385
310	SLU 7			3.81	0.4	14.79	-0.2357	0.0907	0.0381
310	SLU 8			3.81	0.4	14.75	-0.236	0.0906	0.0382
310	SLU 9			3.83	0.4	14.82	-0.2336	0.091	0.0378
310	SLU 10			4.09	0.42	15.79	-0.2448	0.0983	0.0396
310	SLU 11			4.23	0.45	16.3	-0.2609	0.1012	0.0422
310	SLU 12			4.24	0.44	16.37	-0.2585	0.1017	0.0418
310	SLU 13			4.27	0.44	16.44	-0.2548	0.1023	0.0412
310	SLU 14			4.4	0.46	16.96	-0.2709	0.1052	0.0438
310	SLU 15			4.41	0.46	17.02	-0.2685	0.1056	0.0434
310	SLU 16			4.41	0.46	16.99	-0.2688	0.1055	0.0435
310	SLU 17			4.43	0.46	17.05	-0.2664	0.106	0.0431
310	SLU 18			4.33	0.45	16.64	-0.2629	0.104	0.0425
310	SLU 19			4.34	0.45	16.7	-0.2605	0.1044	0.0421
310	SLU 20			4.5	0.47	17.29	-0.2729	0.1079	0.0442
310	SLU 21			4.51	0.46	17.36	-0.2705	0.1084	0.0438
310	SLU 22			4.02	0.43	15.53	-0.2508	0.0962	0.0406
310	SLU 23			4.05	0.42	15.64	-0.2468	0.0969	0.0399
310	SLU 24			4.18	0.45	16.16	-0.2629	0.0998	0.0425
310	SLU 25			4.2	0.44	16.22	-0.2605	0.1003	0.0421
310	SLU 26			4.22	0.44	16.3	-0.2568	0.1009	0.0415
310	SLU 27			4.35	0.47	16.81	-0.2729	0.1038	0.0441
310	SLU 28			4.37	0.46	16.88	-0.2705	0.1042	0.0438
310	SLU 29			4.36	0.46	16.84	-0.2708	0.1041	0.0438
310	SLU 30			4.38	0.46	16.91	-0.2684	0.1046	0.0434
310	SLU 31			4.65	0.48	17.88	-0.2796	0.1118	0.0453
310	SLU 32			4.78	0.51	18.39	-0.2957	0.1147	0.0479
310	SLU 33			4.8	0.5	18.46	-0.2933	0.1152	0.0475
310	SLU 34			4.82	0.5	18.53	-0.2897	0.1158	0.0469
310	SLU 35			4.95	0.52	19.05	-0.3057	0.1187	0.0495
310	SLU 36			4.97	0.52	19.11	-0.3033	0.1192	0.0491
310	SLU 37			4.96	0.52	19.08	-0.3037	0.1191	0.0491
310	SLU 38			4.98	0.52	19.15	-0.3013	0.1195	0.0488
310	SLU 39			4.88	0.51	18.73	-0.2977	0.1175	0.0482
310	SLU 40			4.9	0.51	18.79	-0.2953	0.1179	0.0478
310	SLU 41			5.05	0.53	19.38	-0.3077	0.1215	0.0498
310	SLU 42			5.07	0.52	19.45	-0.3053	0.1219	0.0494
310	SLU 43			4.32	0.46	16.76	-0.2687	0.1028	0.0435
310	SLU 44			4.35	0.45	16.87	-0.2648	0.1035	0.0428
310	SLU 45			4.48	0.48	17.38	-0.2808	0.1064	0.0454
310	SLU 46			4.49	0.47	17.45	-0.2785	0.1069	0.045
310	SLU 47			4.52	0.47	17.52	-0.2748	0.1075	0.0444
310	SLU 48			4.65	0.5	18.04	-0.2909	0.1104	0.047
310	SLU 49			4.66	0.49	18.1	-0.2885	0.1109	0.0467
310	SLU 50			4.66	0.49	18.07	-0.2888	0.1107	0.0467
310	SLU 51			4.68	0.49	18.14	-0.2864	0.1112	0.0463
310	SLU 52			4.95	0.51	19.1	-0.2976	0.1185	0.0481
310	SLU 53			5.08	0.54	19.62	-0.3137	0.1214	0.0508
310	SLU 54			5.09	0.53	19.68	-0.3113	0.1218	0.0504
310	SLU 55			5.12	0.53	19.76	-0.3076	0.1225	0.0498
310	SLU 56			5.25	0.55	20.27	-0.3237	0.1253	0.0524
310	SLU 57			5.27	0.55	20.34	-0.3213	0.1258	0.052
310	SLU 58			5.26	0.55	20.31	-0.3217	0.1257	0.052
310	SLU 59			5.28	0.55	20.37	-0.3193	0.1261	0.0516
310	SLU 60			5.18	0.54	19.95	-0.3157	0.1241	0.0511
310	SLU 61			5.19	0.54	20.02	-0.3133	0.1246	0.0507
310	SLU 62			5.35	0.56	20.61	-0.3257	0.1281	0.0527
310	SLU 63			5.36	0.55	20.67	-0.3233	0.1286	0.0523
310	SLU 64			4.87	0.52	18.85	-0.3036	0.1163	0.0491
310	SLU 65			4.9	0.51	18.96	-0.2996	0.1171	0.0485
310	SLU 66			5.03	0.54	19.47	-0.3157	0.12	0.0511
310	SLU 67			5.05	0.53	19.54	-0.3133	0.1204	0.0507
310	SLU 68			5.07	0.53	19.61	-0.3096	0.121	0.0501
310	SLU 69			5.2	0.56	20.13	-0.3257	0.1239	0.0527
310	SLU 70			5.22	0.55	20.19	-0.3233	0.1244	0.0523
310	SLU 71			5.22	0.55	20.16	-0.3236	0.1243	0.0524
310	SLU 72			5.23	0.55	20.23	-0.3212	0.1247	0.052
310	SLU 73			5.5	0.57	21.19	-0.3325	0.132	0.0538



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
310	SLU 74	5.63	0.6	21.71	-0.3485	0.1349	0.0564
310	SLU 75	5.65	0.59	21.77	-0.3462	0.1353	0.056
310	SLU 76	5.67	0.59	21.85	-0.3425	0.136	0.0554
310	SLU 77	5.8	0.61	22.36	-0.3586	0.1389	0.058
310	SLU 78	5.82	0.61	22.43	-0.3562	0.1393	0.0576
310	SLU 79	5.82	0.61	22.4	-0.3565	0.1392	0.0577
310	SLU 80	5.83	0.61	22.46	-0.3541	0.1397	0.0573
310	SLU 81	5.73	0.6	22.04	-0.3505	0.1376	0.0567
310	SLU 82	5.75	0.6	22.11	-0.3481	0.1381	0.0563
310	SLU 83	5.9	0.62	22.7	-0.3605	0.1416	0.0583
310	SLU 84	5.92	0.61	22.76	-0.3582	0.1421	0.058
310	SLE RA 1	3.63	0.39	14.04	-0.2259	0.0865	0.0365
310	SLE RA 2	3.64	0.38	14.11	-0.2232	0.087	0.0361
310	SLE RA 3	3.73	0.4	14.46	-0.2339	0.0889	0.0378
310	SLE RA 4	3.74	0.4	14.5	-0.2323	0.0892	0.0376
310	SLE RA 5	3.76	0.39	14.55	-0.2299	0.0897	0.0372
310	SLE RA 6	3.85	0.41	14.89	-0.2406	0.0916	0.0389
310	SLE RA 7	3.86	0.41	14.94	-0.239	0.0919	0.0387
310	SLE RA 8	3.85	0.41	14.91	-0.2392	0.0918	0.0387
310	SLE RA 9	3.86	0.41	14.96	-0.2376	0.0921	0.0384
310	SLE RA 10	4.04	0.42	15.6	-0.2451	0.097	0.0397
310	SLE RA 11	4.13	0.44	15.95	-0.2558	0.0989	0.0414
310	SLE RA 12	4.14	0.43	15.99	-0.2542	0.0992	0.0411
310	SLE RA 13	4.16	0.43	16.04	-0.2518	0.0996	0.0407
310	SLE RA 14	4.25	0.45	16.38	-0.2625	0.1015	0.0425
310	SLE RA 15	4.26	0.45	16.43	-0.2609	0.1018	0.0422
310	SLE RA 16	4.26	0.45	16.4	-0.2611	0.1018	0.0423
310	SLE RA 17	4.27	0.44	16.45	-0.2595	0.1021	0.042
310	SLE RA 18	4.2	0.44	16.17	-0.2572	0.1007	0.0416
310	SLE RA 19	4.21	0.44	16.21	-0.2556	0.101	0.0414
310	SLE RA 20	4.31	0.45	16.61	-0.2638	0.1034	0.0427
310	SLE RA 21	4.32	0.45	16.65	-0.2623	0.1037	0.0424
310	SLE FR 1	3.63	0.39	14.04	-0.2259	0.0865	0.0365
310	SLE FR 2	3.63	0.39	14.06	-0.2253	0.0866	0.0365
310	SLE FR 3	3.67	0.39	14.22	-0.2285	0.0876	0.037
310	SLE FR 4	3.8	0.4	14.69	-0.2347	0.0909	0.038
310	SLE FR 5	3.84	0.41	14.85	-0.2379	0.0918	0.0385
310	SLE FR 6	3.91	0.41	15.11	-0.2415	0.0936	0.0391
310	SLE QP 1	3.63	0.39	14.04	-0.2259	0.0865	0.0365
310	SLE QP 2	3.8	0.4	14.68	-0.2353	0.0908	0.0381
310	SLD 1	7.77	0.13	28.51	-0.1621	0.2043	0.0256
310	SLD 2	7.77	0.13	28.51	-0.1621	0.2043	0.0256
310	SLD 3	6.58	0.49	23.3	-0.2029	0.1742	0.0338
310	SLD 4	6.58	0.49	23.3	-0.2029	0.1742	0.0338
310	SLD 5	6.79	-0.22	26.72	-0.1513	0.1706	0.0218
310	SLD 6	6.79	-0.22	26.72	-0.1513	0.1706	0.0218
310	SLD 7	2.83	0.97	9.37	-0.2875	0.07	0.0493
310	SLD 8	2.83	0.97	9.37	-0.2875	0.07	0.0493
310	SLD 9	4.77	-0.17	19.99	-0.183	0.1115	0.0268
310	SLD 10	4.77	-0.17	19.99	-0.183	0.1115	0.0268
310	SLD 11	0.81	1.03	2.63	-0.3192	0.0109	0.0543
310	SLD 12	0.81	1.03	2.63	-0.3192	0.0109	0.0543
310	SLD 13	1.01	0.32	6.06	-0.2676	0.0074	0.0423
310	SLD 14	1.01	0.32	6.06	-0.2676	0.0074	0.0423
310	SLD 15	-0.17	0.68	0.85	-0.3084	-0.0228	0.0506
310	SLD 16	-0.17	0.68	0.85	-0.3084	-0.0228	0.0506
310	SLV 1	13.16	-0.28	47.38	-0.0615	0.3579	0.0082
310	SLV 2	13.16	-0.28	47.38	-0.0615	0.3579	0.0082
310	SLV 3	10.25	0.62	34.51	-0.1613	0.2844	0.0286
310	SLV 4	10.25	0.62	34.51	-0.1613	0.2844	0.0286
310	SLV 5	11.03	-1.16	44.02	-0.0319	0.2824	-0.0018
310	SLV 6	11.03	-1.16	44.02	-0.0319	0.2824	-0.0018
310	SLV 7	1.31	1.82	1.1	-0.3643	0.0373	0.0661
310	SLV 8	1.31	1.82	1.1	-0.3643	0.0373	0.0661
310	SLV 9	6.29	-1.02	28.26	-0.1062	0.1442	0.01
310	SLV 10	6.29	-1.02	28.26	-0.1062	0.1442	0.01
310	SLV 11	-3.43	1.96	-14.66	-0.4386	-0.1009	0.0779
310	SLV 12	-3.43	1.96	-14.66	-0.4386	-0.1009	0.0779
310	SLV 13	-2.65	0.19	-5.15	-0.3093	-0.1028	0.0475
310	SLV 14	-2.65	0.19	-5.15	-0.3093	-0.1028	0.0475
310	SLV 15	-5.57	1.08	-18.02	-0.409	-0.1764	0.0679
310	SLV 16	-5.57	1.08	-18.02	-0.409	-0.1764	0.0679
311	SLU 1	2.23	0.59	23.25	-0.3894	0.1056	-0.0013
311	SLU 2	2.23	0.58	23.34	-0.3824	0.1065	-0.0013
311	SLU 3	2.33	0.63	24.23	-0.4113	0.1119	-0.0014
311	SLU 4	2.34	0.62	24.29	-0.4071	0.1124	-0.0014
311	SLU 5	2.36	0.61	24.34	-0.4005	0.1141	-0.0013
311	SLU 6	2.46	0.65	25.22	-0.4295	0.1195	-0.0014
311	SLU 7	2.46	0.65	25.28	-0.4252	0.12	-0.0014
311	SLU 8	2.48	0.65	25.23	-0.4257	0.1209	-0.0014
311	SLU 9	2.48	0.64	25.29	-0.4215	0.1214	-0.0014
311	SLU 10	2.65	0.67	27.07	-0.4411	0.1266	-0.0015
311	SLU 11	2.75	0.72	27.96	-0.4701	0.132	-0.0016
311	SLU 12	2.75	0.71	28.02	-0.4658	0.1325	-0.0016
311	SLU 13	2.77	0.7	28.06	-0.4592	0.1343	-0.0015
311	SLU 14	2.87	0.74	28.95	-0.4882	0.1397	-0.0016
311	SLU 15	2.87	0.74	29.01	-0.484	0.1402	-0.0016
311	SLU 16	2.89	0.74	28.96	-0.4845	0.141	-0.0016



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
311	SLU 17	2.89	0.73	29.02	-0.4802	0.1416	-0.0016
311	SLU 18	2.82	0.72	28.57	-0.4733	0.1344	-0.0016
311	SLU 19	2.82	0.71	28.63	-0.4691	0.1349	-0.0016
311	SLU 20	2.94	0.75	29.56	-0.4915	0.142	-0.0016
311	SLU 21	2.95	0.74	29.62	-0.4872	0.1425	-0.0016
311	SLU 22	2.6	0.69	26.72	-0.4519	0.1242	-0.0015
311	SLU 23	2.6	0.68	26.82	-0.4448	0.125	-0.0015
311	SLU 24	2.7	0.72	27.71	-0.4738	0.1304	-0.0016
311	SLU 25	2.71	0.71	27.77	-0.4696	0.131	-0.0016
311	SLU 26	2.73	0.7	27.82	-0.463	0.1327	-0.0015
311	SLU 27	2.83	0.75	28.7	-0.492	0.1381	-0.0016
311	SLU 28	2.83	0.74	28.76	-0.4877	0.1386	-0.0016
311	SLU 29	2.85	0.74	28.71	-0.4882	0.1395	-0.0016
311	SLU 30	2.85	0.74	28.77	-0.484	0.14	-0.0016
311	SLU 31	3.02	0.77	30.55	-0.5036	0.1452	-0.0017
311	SLU 32	3.12	0.81	31.44	-0.5325	0.1506	-0.0018
311	SLU 33	3.12	0.8	31.5	-0.5283	0.1511	-0.0018
311	SLU 34	3.14	0.79	31.54	-0.5217	0.1528	-0.0017
311	SLU 35	3.24	0.84	32.43	-0.5507	0.1582	-0.0018
311	SLU 36	3.24	0.83	32.49	-0.5465	0.1588	-0.0018
311	SLU 37	3.26	0.83	32.44	-0.5469	0.1596	-0.0018
311	SLU 38	3.26	0.83	32.5	-0.5427	0.1602	-0.0018
311	SLU 39	3.19	0.82	32.05	-0.5358	0.153	-0.0018
311	SLU 40	3.19	0.81	32.11	-0.5316	0.1535	-0.0018
311	SLU 41	3.31	0.84	33.04	-0.554	0.1606	-0.0018
311	SLU 42	3.32	0.84	33.1	-0.5497	0.1611	-0.0018
311	SLU 43	2.77	0.74	29.03	-0.4848	0.1309	-0.0016
311	SLU 44	2.77	0.73	29.13	-0.4778	0.1318	-0.0016
311	SLU 45	2.87	0.77	30.01	-0.5067	0.1372	-0.0017
311	SLU 46	2.88	0.76	30.07	-0.5025	0.1377	-0.0017
311	SLU 47	2.9	0.75	30.12	-0.4959	0.1394	-0.0017
311	SLU 48	3	0.8	31	-0.5249	0.1448	-0.0017
311	SLU 49	3	0.79	31.06	-0.5206	0.1453	-0.0017
311	SLU 50	3.02	0.79	31.01	-0.5211	0.1462	-0.0017
311	SLU 51	3.02	0.79	31.07	-0.5169	0.1467	-0.0017
311	SLU 52	3.19	0.82	32.85	-0.5365	0.1519	-0.0018
311	SLU 53	3.29	0.86	33.74	-0.5655	0.1573	-0.0019
311	SLU 54	3.29	0.85	33.8	-0.5612	0.1578	-0.0019
311	SLU 55	3.31	0.84	33.85	-0.5546	0.1596	-0.0019
311	SLU 56	3.41	0.89	34.73	-0.5836	0.165	-0.0019
311	SLU 57	3.41	0.88	34.79	-0.5794	0.1655	-0.0019
311	SLU 58	3.43	0.88	34.74	-0.5799	0.1664	-0.0019
311	SLU 59	3.43	0.88	34.8	-0.5756	0.1669	-0.0019
311	SLU 60	3.36	0.87	34.35	-0.5687	0.1597	-0.0019
311	SLU 61	3.36	0.86	34.41	-0.5645	0.1602	-0.0019
311	SLU 62	3.48	0.89	35.34	-0.5869	0.1673	-0.002
311	SLU 63	3.49	0.89	35.4	-0.5826	0.1678	-0.0019
311	SLU 64	3.14	0.83	32.51	-0.5473	0.1495	-0.0018
311	SLU 65	3.14	0.82	32.6	-0.5402	0.1504	-0.0018
311	SLU 66	3.24	0.87	33.49	-0.5692	0.1558	-0.0019
311	SLU 67	3.25	0.86	33.55	-0.565	0.1563	-0.0019
311	SLU 68	3.27	0.85	33.6	-0.5584	0.158	-0.0019
311	SLU 69	3.37	0.89	34.48	-0.5874	0.1634	-0.002
311	SLU 70	3.37	0.89	34.54	-0.5831	0.1639	-0.0019
311	SLU 71	3.39	0.89	34.49	-0.5836	0.1648	-0.0019
311	SLU 72	3.39	0.88	34.55	-0.5794	0.1653	-0.0019
311	SLU 73	3.56	0.91	36.33	-0.599	0.1705	-0.002
311	SLU 74	3.66	0.96	37.22	-0.6279	0.1759	-0.0021
311	SLU 75	3.66	0.95	37.28	-0.6237	0.1764	-0.0021
311	SLU 76	3.68	0.94	37.32	-0.6171	0.1782	-0.0021
311	SLU 77	3.78	0.98	38.21	-0.6461	0.1835	-0.0022
311	SLU 78	3.78	0.98	38.27	-0.6419	0.1841	-0.0021
311	SLU 79	3.8	0.98	38.22	-0.6423	0.1849	-0.0021
311	SLU 80	3.8	0.97	38.28	-0.6381	0.1855	-0.0021
311	SLU 81	3.73	0.96	37.83	-0.6312	0.1783	-0.0021
311	SLU 82	3.73	0.95	37.89	-0.627	0.1788	-0.0021
311	SLU 83	3.85	0.99	38.82	-0.6494	0.1859	-0.0022
311	SLU 84	3.86	0.98	38.88	-0.6451	0.1864	-0.0022
311	SLE RA 1	2.33	0.62	24.24	-0.4073	0.1109	-0.0014
311	SLE RA 2	2.34	0.61	24.31	-0.4026	0.1115	-0.0013
311	SLE RA 3	2.4	0.64	24.9	-0.4219	0.1151	-0.0014
311	SLE RA 4	2.41	0.64	24.94	-0.4191	0.1154	-0.0014
311	SLE RA 5	2.42	0.63	24.97	-0.4147	0.1166	-0.0014
311	SLE RA 6	2.49	0.66	25.56	-0.434	0.1202	-0.0014
311	SLE RA 7	2.49	0.66	25.6	-0.4312	0.1205	-0.0014
311	SLE RA 8	2.5	0.66	25.56	-0.4315	0.1211	-0.0014
311	SLE RA 9	2.5	0.65	25.6	-0.4287	0.1215	-0.0014
311	SLE RA 10	2.61	0.67	26.79	-0.4417	0.1249	-0.0015
311	SLE RA 11	2.68	0.7	27.38	-0.461	0.1285	-0.0015
311	SLE RA 12	2.68	0.7	27.42	-0.4582	0.1289	-0.0015
311	SLE RA 13	2.7	0.69	27.45	-0.4538	0.13	-0.0015
311	SLE RA 14	2.76	0.72	28.04	-0.4731	0.1336	-0.0016
311	SLE RA 15	2.76	0.72	28.08	-0.4703	0.134	-0.0016
311	SLE RA 16	2.77	0.72	28.05	-0.4706	0.1345	-0.0016
311	SLE RA 17	2.78	0.71	28.09	-0.4678	0.1349	-0.0016
311	SLE RA 18	2.73	0.71	27.79	-0.4632	0.1301	-0.0015
311	SLE RA 19	2.73	0.7	27.83	-0.4604	0.1304	-0.0015
311	SLE RA 20	2.81	0.72	28.45	-0.4753	0.1352	-0.0016



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
311	SLE RA 21			2.81	0.72	28.49	-0.4725	0.1355	-0.0016
311	SLE FR 1			2.33	0.62	24.24	-0.4073	0.1109	-0.0014
311	SLE FR 2			2.33	0.62	24.25	-0.4063	0.111	-0.0014
311	SLE FR 3			2.37	0.63	24.5	-0.4121	0.1129	-0.0014
311	SLE FR 4			2.45	0.64	25.32	-0.4231	0.1168	-0.0014
311	SLE FR 5			2.48	0.65	25.57	-0.4289	0.1187	-0.0014
311	SLE FR 6			2.53	0.66	26.02	-0.4352	0.1205	-0.0015
311	SLE QP 1			2.33	0.62	24.24	-0.4073	0.1109	-0.0014
311	SLE QP 2			2.45	0.65	25.3	-0.4241	0.1167	-0.0014
311	SLD 1			6.17	0.45	42.49	-0.2888	0.3403	-0.001
311	SLD 2			6.17	0.45	42.49	-0.2888	0.3403	-0.001
311	SLD 3			5.43	0.53	35.35	-0.3509	0.2946	-0.0012
311	SLD 4			5.43	0.53	35.35	-0.3509	0.2946	-0.0012
311	SLD 5			4.7	0.47	41.29	-0.2893	0.2531	-0.0009
311	SLD 6			4.7	0.47	41.29	-0.2893	0.2531	-0.0009
311	SLD 7			2.22	0.73	17.49	-0.4963	0.1007	-0.0017
311	SLD 8			2.22	0.73	17.49	-0.4963	0.1007	-0.0017
311	SLD 9			2.69	0.56	33.12	-0.3519	0.1326	-0.0011
311	SLD 10			2.69	0.56	33.12	-0.3519	0.1326	-0.0011
311	SLD 11			0.21	0.82	9.32	-0.5588	-0.0197	-0.0019
311	SLD 12			0.21	0.82	9.32	-0.5588	-0.0197	-0.0019
311	SLD 13			-0.52	0.76	15.26	-0.4972	-0.0612	-0.0016
311	SLD 14			-0.52	0.76	15.26	-0.4972	-0.0612	-0.0016
311	SLD 15			-1.27	0.84	8.12	-0.5593	-0.107	-0.0019
311	SLD 16			-1.27	0.84	8.12	-0.5593	-0.107	-0.0019
311	SLV 1			11.18	0.19	66.02	-0.1059	0.6417	-0.0004
311	SLV 2			11.18	0.19	66.02	-0.1059	0.6417	-0.0004
311	SLV 3			9.4	0.38	48.34	-0.254	0.532	-0.0009
311	SLV 4			9.4	0.38	48.34	-0.254	0.532	-0.0009
311	SLV 5			7.76	0.22	64.33	-0.1041	0.4406	-0.0003
311	SLV 6			7.76	0.22	64.33	-0.1041	0.4406	-0.0003
311	SLV 7			1.85	0.85	5.4	-0.5976	0.0749	-0.0021
311	SLV 8			1.85	0.85	5.4	-0.5976	0.0749	-0.0021
311	SLV 9			3.06	0.44	45.21	-0.2505	0.1584	-0.0008
311	SLV 10			3.06	0.44	45.21	-0.2505	0.1584	-0.0008
311	SLV 11			-2.86	1.07	-13.72	-0.744	-0.2072	-0.0025
311	SLV 12			-2.86	1.07	-13.72	-0.744	-0.2072	-0.0025
311	SLV 13			-4.5	0.91	2.27	-0.5941	-0.2987	-0.0019
311	SLV 14			-4.5	0.91	2.27	-0.5941	-0.2987	-0.0019
311	SLV 15			-6.28	1.1	-15.41	-0.7422	-0.4084	-0.0025
311	SLV 16			-6.28	1.1	-15.41	-0.7422	-0.4084	-0.0025
312	SLU 1			0.95	0.36	22.9	-0.3151	0.0404	0.0006
312	SLU 2			0.96	0.35	22.87	-0.3094	0.0413	0.0006
312	SLU 3			1	0.38	23.75	-0.3329	0.0423	0.0007
312	SLU 4			1	0.38	23.73	-0.3295	0.0429	0.0007
312	SLU 5			1.03	0.37	23.68	-0.3241	0.0443	0.0007
312	SLU 6			1.07	0.4	24.55	-0.3476	0.0453	0.0007
312	SLU 7			1.07	0.39	24.54	-0.3442	0.0458	0.0007
312	SLU 8			1.09	0.39	24.51	-0.3445	0.0463	0.0007
312	SLU 9			1.1	0.39	24.5	-0.3411	0.0469	0.0007
312	SLU 10			1.17	0.41	26.45	-0.3562	0.0509	0.0007
312	SLU 11			1.21	0.43	27.32	-0.3797	0.0518	0.0008
312	SLU 12			1.21	0.43	27.31	-0.3762	0.0524	0.0008
312	SLU 13			1.24	0.42	27.25	-0.3709	0.0538	0.0008
312	SLU 14			1.28	0.45	28.13	-0.3944	0.0548	0.0008
312	SLU 15			1.29	0.45	28.11	-0.391	0.0554	0.0008
312	SLU 16			1.31	0.45	28.09	-0.3913	0.0558	0.0008
312	SLU 17			1.31	0.44	28.07	-0.3879	0.0564	0.0008
312	SLU 18			1.26	0.44	28.01	-0.382	0.054	0.0008
312	SLU 19			1.26	0.43	27.99	-0.3785	0.0546	0.0008
312	SLU 20			1.33	0.45	28.81	-0.3967	0.057	0.0008
312	SLU 21			1.33	0.45	28.8	-0.3933	0.0575	0.0008
312	SLU 22			1.13	0.42	26.2	-0.3651	0.0482	0.0007
312	SLU 23			1.13	0.41	26.17	-0.3595	0.0491	0.0007
312	SLU 24			1.17	0.44	27.05	-0.3829	0.0501	0.0008
312	SLU 25			1.18	0.43	27.03	-0.3795	0.0507	0.0008
312	SLU 26			1.2	0.43	26.98	-0.3742	0.0521	0.0008
312	SLU 27			1.24	0.46	27.86	-0.3976	0.0531	0.0008
312	SLU 28			1.25	0.45	27.84	-0.3942	0.0536	0.0008
312	SLU 29			1.27	0.45	27.81	-0.3946	0.0541	0.0008
312	SLU 30			1.27	0.45	27.8	-0.3912	0.0547	0.0008
312	SLU 31			1.35	0.46	29.75	-0.4062	0.0586	0.0008
312	SLU 32			1.39	0.49	30.62	-0.4297	0.0596	0.0009
312	SLU 33			1.39	0.49	30.61	-0.4263	0.0602	0.0009
312	SLU 34			1.42	0.48	30.55	-0.421	0.0616	0.0009
312	SLU 35			1.46	0.51	31.43	-0.4444	0.0626	0.0009
312	SLU 36			1.46	0.5	31.41	-0.441	0.0631	0.0009
312	SLU 37			1.48	0.51	31.39	-0.4414	0.0636	0.0009
312	SLU 38			1.49	0.5	31.37	-0.4379	0.0642	0.0009
312	SLU 39			1.43	0.49	31.31	-0.432	0.0618	0.0009
312	SLU 40			1.44	0.49	31.29	-0.4286	0.0624	0.0009
312	SLU 41			1.5	0.51	32.11	-0.4467	0.0648	0.0009
312	SLU 42			1.51	0.51	32.1	-0.4433	0.0653	0.0009
312	SLU 43			1.17	0.45	28.64	-0.3925	0.0499	0.0008
312	SLU 44			1.18	0.44	28.61	-0.3868	0.0508	0.0008
312	SLU 45			1.22	0.47	29.49	-0.4103	0.0518	0.0008
312	SLU 46			1.22	0.47	29.47	-0.4068	0.0523	0.0008
312	SLU 47			1.25	0.46	29.41	-0.4015	0.0538	0.0008



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
312	SLU 48	1.29	0.49	30.29	-0.425	0.0547	0.0009
312	SLU 49	1.3	0.48	30.28	-0.4216	0.0553	0.0009
312	SLU 50	1.32	0.48	30.25	-0.4219	0.0558	0.0009
312	SLU 51	1.32	0.48	30.23	-0.4185	0.0563	0.0009
312	SLU 52	1.39	0.5	32.18	-0.4336	0.0603	0.0009
312	SLU 53	1.43	0.52	33.06	-0.457	0.0613	0.0009
312	SLU 54	1.44	0.52	33.04	-0.4536	0.0618	0.0009
312	SLU 55	1.47	0.51	32.99	-0.4483	0.0633	0.0009
312	SLU 56	1.51	0.54	33.87	-0.4718	0.0642	0.001
312	SLU 57	1.51	0.54	33.85	-0.4683	0.0648	0.001
312	SLU 58	1.53	0.54	33.82	-0.4687	0.0653	0.001
312	SLU 59	1.53	0.53	33.81	-0.4653	0.0659	0.0009
312	SLU 60	1.48	0.53	33.74	-0.4593	0.0635	0.0009
312	SLU 61	1.48	0.52	33.73	-0.4559	0.064	0.0009
312	SLU 62	1.55	0.54	34.55	-0.474	0.0664	0.001
312	SLU 63	1.55	0.54	34.53	-0.4706	0.067	0.001
312	SLU 64	1.35	0.51	31.94	-0.4425	0.0577	0.0009
312	SLU 65	1.36	0.5	31.91	-0.4368	0.0586	0.0009
312	SLU 66	1.4	0.53	32.79	-0.4603	0.0596	0.0009
312	SLU 67	1.4	0.52	32.77	-0.4569	0.0601	0.0009
312	SLU 68	1.43	0.52	32.72	-0.4516	0.0615	0.0009
312	SLU 69	1.47	0.54	33.59	-0.475	0.0625	0.001
312	SLU 70	1.47	0.54	33.58	-0.4716	0.0631	0.001
312	SLU 71	1.49	0.54	33.55	-0.472	0.0636	0.001
312	SLU 72	1.5	0.54	33.53	-0.4685	0.0641	0.001
312	SLU 73	1.57	0.55	35.48	-0.4836	0.0681	0.001
312	SLU 74	1.61	0.58	36.36	-0.5071	0.0691	0.001
312	SLU 75	1.62	0.58	36.34	-0.5037	0.0696	0.001
312	SLU 76	1.64	0.57	36.29	-0.4983	0.0711	0.001
312	SLU 77	1.68	0.6	37.17	-0.5218	0.072	0.0011
312	SLU 78	1.69	0.59	37.15	-0.5184	0.0726	0.0011
312	SLU 79	1.71	0.59	37.13	-0.5187	0.0731	0.0011
312	SLU 80	1.71	0.59	37.11	-0.5153	0.0736	0.0011
312	SLU 81	1.66	0.58	37.04	-0.5094	0.0712	0.001
312	SLU 82	1.66	0.58	37.03	-0.5059	0.0718	0.001
312	SLU 83	1.73	0.6	37.85	-0.5241	0.0742	0.0011
312	SLU 84	1.73	0.6	37.83	-0.5207	0.0748	0.0011
312	SLE RA 1	1	0.38	23.84	-0.3294	0.0426	0.0007
312	SLE RA 2	1	0.37	23.82	-0.3256	0.0433	0.0007
312	SLE RA 3	1.03	0.39	24.41	-0.3412	0.0439	0.0007
312	SLE RA 4	1.03	0.39	24.4	-0.339	0.0443	0.0007
312	SLE RA 5	1.05	0.38	24.36	-0.3354	0.0452	0.0007
312	SLE RA 6	1.08	0.4	24.95	-0.3511	0.0459	0.0007
312	SLE RA 7	1.08	0.4	24.93	-0.3488	0.0463	0.0007
312	SLE RA 8	1.1	0.4	24.92	-0.349	0.0466	0.0007
312	SLE RA 9	1.1	0.4	24.91	-0.3468	0.047	0.0007
312	SLE RA 10	1.15	0.41	26.21	-0.3568	0.0496	0.0007
312	SLE RA 11	1.17	0.43	26.79	-0.3724	0.0503	0.0008
312	SLE RA 12	1.18	0.42	26.78	-0.3702	0.0506	0.0008
312	SLE RA 13	1.19	0.42	26.74	-0.3666	0.0516	0.0007
312	SLE RA 14	1.22	0.44	27.33	-0.3823	0.0522	0.0008
312	SLE RA 15	1.22	0.43	27.32	-0.38	0.0526	0.0008
312	SLE RA 16	1.24	0.44	27.3	-0.3802	0.0529	0.0008
312	SLE RA 17	1.24	0.43	27.29	-0.3779	0.0533	0.0008
312	SLE RA 18	1.2	0.43	27.25	-0.374	0.0517	0.0008
312	SLE RA 19	1.21	0.43	27.23	-0.3717	0.0521	0.0008
312	SLE RA 20	1.25	0.44	27.78	-0.3838	0.0537	0.0008
312	SLE RA 21	1.25	0.44	27.77	-0.3815	0.054	0.0008
312	SLE FR 1	1	0.38	23.84	-0.3294	0.0426	0.0007
312	SLE FR 2	1	0.38	23.84	-0.3287	0.0428	0.0007
312	SLE FR 3	1.02	0.38	24.06	-0.3333	0.0434	0.0007
312	SLE FR 4	1.06	0.39	24.86	-0.342	0.0455	0.0007
312	SLE FR 5	1.08	0.4	25.08	-0.3467	0.0461	0.0007
312	SLE FR 6	1.1	0.4	25.54	-0.3517	0.0472	0.0007
312	SLE QP 1	1	0.38	23.84	-0.3294	0.0426	0.0007
312	SLE QP 2	1.06	0.39	24.86	-0.3428	0.0454	0.0007
312	SLD 1	5.18	0.2	34.49	-0.1786	0.2371	0.0008
312	SLD 2	5.18	0.2	34.49	-0.1786	0.2371	0.0008
312	SLD 3	4.27	0.35	30.37	-0.3111	0.1977	0.0009
312	SLD 4	4.27	0.35	30.37	-0.3111	0.1977	0.0009
312	SLD 5	3.68	0.11	33.99	-0.0926	0.1627	0.0005
312	SLD 6	3.68	0.11	33.99	-0.0926	0.1627	0.0005
312	SLD 7	0.64	0.6	20.27	-0.5342	0.0313	0.0009
312	SLD 8	0.64	0.6	20.27	-0.5342	0.0313	0.0009
312	SLD 9	1.48	0.18	29.45	-0.1513	0.0595	0.0005
312	SLD 10	1.48	0.18	29.45	-0.1513	0.0595	0.0005
312	SLD 11	-1.55	0.67	15.73	-0.593	-0.072	0.0008
312	SLD 12	-1.55	0.67	15.73	-0.593	-0.072	0.0008
312	SLD 13	-2.15	0.43	19.35	-0.3744	-0.107	0.0005
312	SLD 14	-2.15	0.43	19.35	-0.3744	-0.107	0.0005
312	SLD 15	-3.06	0.58	15.24	-0.5069	-0.1464	0.0006
312	SLD 16	-3.06	0.58	15.24	-0.5069	-0.1464	0.0006
312	SLV 1	10.73	-0.06	47.67	0.0509	0.4948	0.0009
312	SLV 2	10.73	-0.06	47.67	0.0509	0.4948	0.0009
312	SLV 3	8.54	0.31	37.51	-0.2764	0.4009	0.0012
312	SLV 4	8.54	0.31	37.51	-0.2764	0.4009	0.0012
312	SLV 5	7.27	-0.3	47.11	0.2718	0.3226	0.0003
312	SLV 6	7.27	-0.3	47.11	0.2718	0.3226	0.0003



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
312	SLV 7			0	0.92	13.25	-0.8194	0.0096	0.0013
312	SLV 8			0	0.92	13.25	-0.8194	0.0096	0.0013
312	SLV 9			2.13	-0.14	36.48	0.1338	0.0811	0.0001
312	SLV 10			2.13	-0.14	36.48	0.1338	0.0811	0.0001
312	SLV 11			-5.15	1.08	2.61	-0.9574	-0.2319	0.0011
312	SLV 12			-5.15	1.08	2.61	-0.9574	-0.2319	0.0011
312	SLV 13			-6.42	0.48	12.21	-0.4091	-0.3102	0.0002
312	SLV 14			-6.42	0.48	12.21	-0.4091	-0.3102	0.0002
312	SLV 15			-8.6	0.84	2.05	-0.7365	-0.4041	0.0005
312	SLV 16			-8.6	0.84	2.05	-0.7365	-0.4041	0.0005
313	SLU 1			-0.28	0.29	22.99	-0.2557	-0.0115	0.0007
313	SLU 2			-0.27	0.28	22.85	-0.2509	-0.0109	0.0007
313	SLU 3			-0.26	0.31	23.74	-0.27	-0.0096	0.0007
313	SLU 4			-0.26	0.3	23.66	-0.2672	-0.0093	0.0007
313	SLU 5			-0.22	0.3	23.53	-0.2628	-0.007	0.0007
313	SLU 6			-0.2	0.32	24.43	-0.2819	-0.0057	0.0008
313	SLU 7			-0.2	0.32	24.35	-0.279	-0.0053	0.0008
313	SLU 8			-0.16	0.32	24.35	-0.2794	-0.0036	0.0008
313	SLU 9			-0.16	0.31	24.27	-0.2765	-0.0033	0.0008
313	SLU 10			-0.28	0.33	26.39	-0.288	-0.0108	0.0008
313	SLU 11			-0.26	0.35	27.28	-0.3071	-0.0096	0.0008
313	SLU 12			-0.26	0.35	27.2	-0.3043	-0.0092	0.0008
313	SLU 13			-0.22	0.34	27.07	-0.2999	-0.0069	0.0008
313	SLU 14			-0.2	0.36	27.97	-0.319	-0.0056	0.0009
313	SLU 15			-0.2	0.36	27.89	-0.3161	-0.0053	0.0009
313	SLU 16			-0.17	0.36	27.89	-0.3165	-0.0036	0.0009
313	SLU 17			-0.16	0.36	27.81	-0.3136	-0.0032	0.0009
313	SLU 18			-0.28	0.35	28.04	-0.3087	-0.0114	0.0008
313	SLU 19			-0.28	0.35	27.96	-0.3058	-0.0111	0.0008
313	SLU 20			-0.22	0.36	28.73	-0.3205	-0.0075	0.0009
313	SLU 21			-0.22	0.36	28.65	-0.3177	-0.0071	0.0009
313	SLU 22			-0.29	0.34	26.22	-0.2956	-0.0114	0.0008
313	SLU 23			-0.29	0.33	26.08	-0.2908	-0.0108	0.0008
313	SLU 24			-0.27	0.35	26.97	-0.31	-0.0095	0.0008
313	SLU 25			-0.27	0.35	26.89	-0.3071	-0.0092	0.0008
313	SLU 26			-0.23	0.34	26.76	-0.3027	-0.0069	0.0008
313	SLU 27			-0.22	0.37	27.66	-0.3218	-0.0056	0.0009
313	SLU 28			-0.21	0.36	27.58	-0.319	-0.0052	0.0009
313	SLU 29			-0.18	0.36	27.58	-0.3193	-0.0036	0.0009
313	SLU 30			-0.17	0.36	27.5	-0.3165	-0.0032	0.0009
313	SLU 31			-0.29	0.37	29.62	-0.328	-0.0108	0.0009
313	SLU 32			-0.28	0.39	30.51	-0.3471	-0.0095	0.001
313	SLU 33			-0.27	0.39	30.43	-0.3442	-0.0091	0.0009
313	SLU 34			-0.23	0.39	30.3	-0.3398	-0.0068	0.0009
313	SLU 35			-0.22	0.41	31.2	-0.3589	-0.0055	0.001
313	SLU 36			-0.22	0.4	31.12	-0.3561	-0.0052	0.001
313	SLU 37			-0.18	0.4	31.12	-0.3564	-0.0035	0.001
313	SLU 38			-0.18	0.4	31.04	-0.3536	-0.0031	0.001
313	SLU 39			-0.3	0.4	31.27	-0.3486	-0.0113	0.001
313	SLU 40			-0.29	0.39	31.19	-0.3458	-0.011	0.0009
313	SLU 41			-0.24	0.41	31.96	-0.3605	-0.0074	0.001
313	SLU 42			-0.24	0.41	31.88	-0.3576	-0.007	0.001
313	SLU 43			-0.36	0.36	28.77	-0.3187	-0.015	0.0009
313	SLU 44			-0.35	0.36	28.64	-0.3139	-0.0144	0.0009
313	SLU 45			-0.34	0.38	29.53	-0.3331	-0.0131	0.0009
313	SLU 46			-0.33	0.37	29.45	-0.3302	-0.0127	0.0009
313	SLU 47			-0.29	0.37	29.32	-0.3258	-0.0105	0.0009
313	SLU 48			-0.28	0.39	30.22	-0.3449	-0.0092	0.0009
313	SLU 49			-0.28	0.39	30.14	-0.342	-0.0088	0.0009
313	SLU 50			-0.24	0.39	30.14	-0.3424	-0.0071	0.0009
313	SLU 51			-0.24	0.39	30.06	-0.3395	-0.0068	0.0009
313	SLU 52			-0.35	0.4	32.18	-0.351	-0.0143	0.001
313	SLU 53			-0.34	0.42	33.07	-0.3702	-0.013	0.001
313	SLU 54			-0.34	0.42	32.99	-0.3673	-0.0127	0.001
313	SLU 55			-0.3	0.41	32.86	-0.3629	-0.0104	0.001
313	SLU 56			-0.28	0.43	33.76	-0.382	-0.0091	0.001
313	SLU 57			-0.28	0.43	33.68	-0.3792	-0.0088	0.001
313	SLU 58			-0.24	0.43	33.68	-0.3795	-0.0071	0.001
313	SLU 59			-0.24	0.43	33.6	-0.3767	-0.0067	0.001
313	SLU 60			-0.36	0.42	33.83	-0.3717	-0.0149	0.001
313	SLU 61			-0.36	0.42	33.75	-0.3688	-0.0145	0.001
313	SLU 62			-0.3	0.44	34.52	-0.3836	-0.011	0.0011
313	SLU 63			-0.3	0.43	34.43	-0.3807	-0.0106	0.001
313	SLU 64			-0.37	0.41	32	-0.3586	-0.0149	0.001
313	SLU 65			-0.36	0.4	31.87	-0.3539	-0.0143	0.001
313	SLU 66			-0.35	0.42	32.76	-0.373	-0.013	0.001
313	SLU 67			-0.35	0.42	32.68	-0.3701	-0.0126	0.001
313	SLU 68			-0.31	0.41	32.55	-0.3657	-0.0104	0.001
313	SLU 69			-0.29	0.44	33.45	-0.3848	-0.0091	0.0011
313	SLU 70			-0.29	0.43	33.36	-0.382	-0.0087	0.001
313	SLU 71			-0.25	0.43	33.37	-0.3823	-0.007	0.001
313	SLU 72			-0.25	0.43	33.29	-0.3795	-0.0067	0.001
313	SLU 73			-0.37	0.44	35.41	-0.391	-0.0142	0.0011
313	SLU 74			-0.35	0.47	36.3	-0.4101	-0.013	0.0011
313	SLU 75			-0.35	0.46	36.22	-0.4072	-0.0126	0.0011
313	SLU 76			-0.31	0.46	36.09	-0.4028	-0.0103	0.0011
313	SLU 77			-0.3	0.48	36.99	-0.4219	-0.009	0.0012
313	SLU 78			-0.29	0.48	36.9	-0.4191	-0.0087	0.0011





Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
313	SLU 79	-0.26	0.48	36.91	-0.4194	-0.007	0.0011		
313	SLU 80	-0.26	0.47	36.83	-0.4166	-0.0066	0.0011		
313	SLU 81	-0.37	0.47	37.06	-0.4116	-0.0148	0.0011		
313	SLU 82	-0.37	0.46	36.98	-0.4088	-0.0145	0.0011		
313	SLU 83	-0.32	0.48	37.74	-0.4235	-0.0109	0.0012		
313	SLU 84	-0.31	0.48	37.66	-0.4206	-0.0105	0.0012		
313	SLE RA 1	-0.28	0.3	23.91	-0.2671	-0.0115	0.0007		
313	SLE RA 2	-0.28	0.3	23.82	-0.2639	-0.0111	0.0007		
313	SLE RA 3	-0.27	0.31	24.41	-0.2767	-0.0102	0.0008		
313	SLE RA 4	-0.27	0.31	24.36	-0.2748	-0.01	0.0008		
313	SLE RA 5	-0.24	0.31	24.27	-0.2718	-0.0085	0.0007		
313	SLE RA 6	-0.23	0.32	24.87	-0.2846	-0.0076	0.0008		
313	SLE RA 7	-0.23	0.32	24.82	-0.2827	-0.0074	0.0008		
313	SLE RA 8	-0.2	0.32	24.82	-0.2829	-0.0062	0.0008		
313	SLE RA 9	-0.2	0.32	24.77	-0.281	-0.006	0.0008		
313	SLE RA 10	-0.28	0.33	26.18	-0.2887	-0.011	0.0008		
313	SLE RA 11	-0.27	0.34	26.77	-0.3014	-0.0102	0.0008		
313	SLE RA 12	-0.27	0.34	26.72	-0.2995	-0.0099	0.0008		
313	SLE RA 13	-0.24	0.34	26.63	-0.2966	-0.0084	0.0008		
313	SLE RA 14	-0.23	0.35	27.23	-0.3093	-0.0076	0.0008		
313	SLE RA 15	-0.23	0.35	27.18	-0.3074	-0.0073	0.0008		
313	SLE RA 16	-0.21	0.35	27.18	-0.3076	-0.0062	0.0008		
313	SLE RA 17	-0.2	0.35	27.13	-0.3057	-0.006	0.0008		
313	SLE RA 18	-0.28	0.34	27.28	-0.3024	-0.0114	0.0008		
313	SLE RA 19	-0.28	0.34	27.23	-0.3005	-0.0112	0.0008		
313	SLE RA 20	-0.25	0.35	27.74	-0.3103	-0.0088	0.0008		
313	SLE RA 21	-0.24	0.35	27.68	-0.3084	-0.0086	0.0008		
313	SLE FR 1	-0.28	0.3	23.91	-0.2671	-0.0115	0.0007		
313	SLE FR 2	-0.28	0.3	23.89	-0.2665	-0.0114	0.0007		
313	SLE FR 3	-0.27	0.31	24.09	-0.2703	-0.0104	0.0007		
313	SLE FR 4	-0.28	0.31	24.9	-0.2771	-0.0114	0.0008		
313	SLE FR 5	-0.27	0.32	25.1	-0.2809	-0.0104	0.0008		
313	SLE FR 6	-0.28	0.32	25.59	-0.2848	-0.0115	0.0008		
313	SLE QP 1	-0.28	0.3	23.91	-0.2671	-0.0115	0.0007		
313	SLE QP 2	-0.28	0.32	24.92	-0.2777	-0.0115	0.0008		
313	SLD 1	4.65	0.11	27.96	-0.0895	0.2264	0.0003		
313	SLD 2	4.65	0.11	27.96	-0.0895	0.2264	0.0003		
313	SLD 3	3.6	0.31	29.9	-0.2806	0.1804	0.0008		
313	SLD 4	3.6	0.31	29.9	-0.2806	0.1804	0.0008		
313	SLD 5	2.78	-0.05	22.89	0.0687	0.1298	-0.0001		
313	SLD 6	2.78	-0.05	22.89	0.0687	0.1298	-0.0001		
313	SLD 7	-0.7	0.62	29.36	-0.5684	-0.0238	0.0015		
313	SLD 8	-0.7	0.62	29.36	-0.5684	-0.0238	0.0015		
313	SLD 9	0.14	0.02	20.48	0.013	0.0009	0.0001		
313	SLD 10	0.14	0.02	20.48	0.013	0.0009	0.0001		
313	SLD 11	-3.34	0.68	26.96	-0.624	-0.1527	0.0016		
313	SLD 12	-3.34	0.68	26.96	-0.624	-0.1527	0.0016		
313	SLD 13	-4.16	0.32	19.94	-0.2748	-0.2033	0.0007		
313	SLD 14	-4.16	0.32	19.94	-0.2748	-0.2033	0.0007		
313	SLD 15	-5.21	0.52	21.88	-0.4659	-0.2493	0.0012		
313	SLD 16	-5.21	0.52	21.88	-0.4659	-0.2493	0.0012		
313	SLV 1	11.28	-0.17	31.97	0.1789	0.5466	-0.0003		
313	SLV 2	11.28	-0.17	31.97	0.1789	0.5466	-0.0003		
313	SLV 3	8.78	0.32	36.66	-0.2957	0.437	0.0008		
313	SLV 4	8.78	0.32	36.66	-0.2957	0.437	0.0008		
313	SLV 5	6.98	-0.58	19.93	0.5791	0.3222	-0.0013		
313	SLV 6	6.98	-0.58	19.93	0.5791	0.3222	-0.0013		
313	SLV 7	-1.36	1.06	35.55	-1.0029	-0.0432	0.0025		
313	SLV 8	-1.36	1.06	35.55	-1.0029	-0.0432	0.0025		
313	SLV 9	0.79	-0.43	14.29	0.4475	0.0203	-0.001		
313	SLV 10	0.79	-0.43	14.29	0.4475	0.0203	-0.001		
313	SLV 11	-7.55	1.21	29.91	-1.1345	-0.3451	0.0028		
313	SLV 12	-7.55	1.21	29.91	-1.1345	-0.3451	0.0028		
313	SLV 13	-9.35	0.31	13.18	-0.2597	-0.4599	0.0007		
313	SLV 14	-9.35	0.31	13.18	-0.2597	-0.4599	0.0007		
313	SLV 15	-11.85	0.81	17.87	-0.7343	-0.5695	0.0018		
313	SLV 16	-11.85	0.81	17.87	-0.7343	-0.5695	0.0018		
314	SLU 1	-1.17	0.25	22.65	-0.21	-0.0485	0.0007		
314	SLU 2	-1.17	0.24	22.42	-0.2057	-0.0478	0.0006		
314	SLU 3	-1.19	0.26	23.32	-0.2216	-0.0495	0.0007		
314	SLU 4	-1.18	0.26	23.18	-0.219	-0.0491	0.0007		
314	SLU 5	-1.14	0.25	22.99	-0.2152	-0.0469	0.0007		
314	SLU 6	-1.16	0.27	23.89	-0.2311	-0.0486	0.0007		
314	SLU 7	-1.16	0.27	23.75	-0.2286	-0.0482	0.0007		
314	SLU 8	-1.12	0.27	23.79	-0.229	-0.0468	0.0007		
314	SLU 9	-1.12	0.27	23.65	-0.2264	-0.0464	0.0007		
314	SLU 10	-1.34	0.28	25.86	-0.2352	-0.0546	0.0007		
314	SLU 11	-1.36	0.29	26.75	-0.2511	-0.0563	0.0008		
314	SLU 12	-1.36	0.29	26.62	-0.2485	-0.0558	0.0008		
314	SLU 13	-1.31	0.29	26.43	-0.2447	-0.0537	0.0008		
314	SLU 14	-1.34	0.31	27.32	-0.2606	-0.0554	0.0008		
314	SLU 15	-1.33	0.3	27.19	-0.258	-0.055	0.0008		
314	SLU 16	-1.29	0.3	27.23	-0.2585	-0.0536	0.0008		
314	SLU 17	-1.29	0.3	27.09	-0.2559	-0.0532	0.0008		
314	SLU 18	-1.42	0.3	27.56	-0.2521	-0.0582	0.0008		
314	SLU 19	-1.42	0.29	27.42	-0.2495	-0.0578	0.0008		
314	SLU 20	-1.39	0.31	28.13	-0.2616	-0.0574	0.0008		
314	SLU 21	-1.39	0.3	27.99	-0.2591	-0.0569	0.0008		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
314	SLU 22	-1.34	0.28	25.75	-0.2419	-0.0554	0.0008		
314	SLU 23	-1.34	0.28	25.52	-0.2377	-0.0547	0.0007		
314	SLU 24	-1.36	0.3	26.42	-0.2536	-0.0564	0.0008		
314	SLU 25	-1.36	0.29	26.28	-0.251	-0.0559	0.0008		
314	SLU 26	-1.31	0.29	26.09	-0.2472	-0.0538	0.0008		
314	SLU 27	-1.33	0.31	26.99	-0.2631	-0.0555	0.0008		
314	SLU 28	-1.33	0.3	26.85	-0.2605	-0.0551	0.0008		
314	SLU 29	-1.29	0.31	26.89	-0.261	-0.0537	0.0008		
314	SLU 30	-1.29	0.3	26.75	-0.2584	-0.0533	0.0008		
314	SLU 31	-1.51	0.31	28.96	-0.2672	-0.0614	0.0008		
314	SLU 32	-1.53	0.33	29.86	-0.2831	-0.0631	0.0009		
314	SLU 33	-1.53	0.33	29.72	-0.2805	-0.0627	0.0009		
314	SLU 34	-1.49	0.32	29.53	-0.2767	-0.0606	0.0009		
314	SLU 35	-1.51	0.34	30.43	-0.2926	-0.0623	0.0009		
314	SLU 36	-1.5	0.34	30.29	-0.29	-0.0619	0.0009		
314	SLU 37	-1.46	0.34	30.33	-0.2905	-0.0605	0.0009		
314	SLU 38	-1.46	0.34	30.19	-0.2879	-0.06	0.0009		
314	SLU 39	-1.59	0.33	30.66	-0.2841	-0.0651	0.0009		
314	SLU 40	-1.59	0.33	30.52	-0.2815	-0.0646	0.0009		
314	SLU 41	-1.56	0.34	31.23	-0.2936	-0.0642	0.0009		
314	SLU 42	-1.56	0.34	31.1	-0.291	-0.0638	0.0009		
314	SLU 43	-1.46	0.31	28.38	-0.262	-0.0607	0.0008		
314	SLU 44	-1.46	0.3	28.15	-0.2577	-0.06	0.0008		
314	SLU 45	-1.48	0.32	29.05	-0.2736	-0.0617	0.0009		
314	SLU 46	-1.48	0.32	28.91	-0.2711	-0.0613	0.0008		
314	SLU 47	-1.43	0.31	28.72	-0.2673	-0.0592	0.0008		
314	SLU 48	-1.45	0.33	29.62	-0.2831	-0.0609	0.0009		
314	SLU 49	-1.45	0.33	29.48	-0.2806	-0.0604	0.0009		
314	SLU 50	-1.41	0.33	29.52	-0.281	-0.059	0.0009		
314	SLU 51	-1.41	0.33	29.38	-0.2785	-0.0586	0.0009		
314	SLU 52	-1.63	0.34	31.59	-0.2872	-0.0668	0.0009		
314	SLU 53	-1.65	0.36	32.49	-0.3031	-0.0685	0.0009		
314	SLU 54	-1.65	0.35	32.35	-0.3006	-0.0681	0.0009		
314	SLU 55	-1.61	0.35	32.16	-0.2967	-0.0659	0.0009		
314	SLU 56	-1.63	0.37	33.06	-0.3126	-0.0676	0.001		
314	SLU 57	-1.63	0.36	32.92	-0.3101	-0.0672	0.001		
314	SLU 58	-1.58	0.36	32.96	-0.3105	-0.0658	0.001		
314	SLU 59	-1.58	0.36	32.82	-0.308	-0.0654	0.001		
314	SLU 60	-1.71	0.36	33.3	-0.3041	-0.0704	0.001		
314	SLU 61	-1.71	0.35	33.16	-0.3016	-0.07	0.0009		
314	SLU 62	-1.68	0.37	33.87	-0.3136	-0.0696	0.001		
314	SLU 63	-1.68	0.36	33.73	-0.3111	-0.0691	0.001		
314	SLU 64	-1.63	0.34	31.48	-0.294	-0.0676	0.0009		
314	SLU 65	-1.63	0.34	31.25	-0.2897	-0.0669	0.0009		
314	SLU 66	-1.65	0.36	32.15	-0.3056	-0.0686	0.001		
314	SLU 67	-1.65	0.35	32.01	-0.303	-0.0681	0.0009		
314	SLU 68	-1.6	0.35	31.82	-0.2992	-0.066	0.0009		
314	SLU 69	-1.62	0.37	32.72	-0.3151	-0.0677	0.001		
314	SLU 70	-1.62	0.37	32.58	-0.3126	-0.0673	0.001		
314	SLU 71	-1.58	0.37	32.62	-0.313	-0.0659	0.001		
314	SLU 72	-1.58	0.36	32.49	-0.3105	-0.0655	0.001		
314	SLU 73	-1.8	0.37	34.69	-0.3192	-0.0736	0.001		
314	SLU 74	-1.82	0.39	35.59	-0.3351	-0.0753	0.001		
314	SLU 75	-1.82	0.39	35.45	-0.3325	-0.0749	0.001		
314	SLU 76	-1.78	0.38	35.26	-0.3287	-0.0728	0.001		
314	SLU 77	-1.8	0.4	36.16	-0.3446	-0.0745	0.0011		
314	SLU 78	-1.8	0.4	36.02	-0.3421	-0.0741	0.0011		
314	SLU 79	-1.75	0.4	36.06	-0.3425	-0.0727	0.0011		
314	SLU 80	-1.75	0.4	35.92	-0.3399	-0.0723	0.0011		
314	SLU 81	-1.88	0.39	36.4	-0.3361	-0.0773	0.0011		
314	SLU 82	-1.88	0.39	36.26	-0.3335	-0.0769	0.001		
314	SLU 83	-1.85	0.4	36.97	-0.3456	-0.0764	0.0011		
314	SLU 84	-1.85	0.4	36.83	-0.3431	-0.076	0.0011		
314	SLE RA 1	-1.22	0.26	23.54	-0.2191	-0.0505	0.0007		
314	SLE RA 2	-1.21	0.25	23.38	-0.2163	-0.05	0.0007		
314	SLE RA 3	-1.23	0.27	23.98	-0.2268	-0.0511	0.0007		
314	SLE RA 4	-1.23	0.26	23.89	-0.2251	-0.0508	0.0007		
314	SLE RA 5	-1.2	0.26	23.76	-0.2226	-0.0494	0.0007		
314	SLE RA 6	-1.21	0.27	24.36	-0.2332	-0.0506	0.0007		
314	SLE RA 7	-1.21	0.27	24.27	-0.2315	-0.0503	0.0007		
314	SLE RA 8	-1.18	0.27	24.3	-0.2318	-0.0494	0.0007		
314	SLE RA 9	-1.18	0.27	24.2	-0.2301	-0.0491	0.0007		
314	SLE RA 10	-1.33	0.28	25.67	-0.2359	-0.0545	0.0007		
314	SLE RA 11	-1.34	0.29	26.27	-0.2465	-0.0557	0.0008		
314	SLE RA 12	-1.34	0.29	26.18	-0.2448	-0.0554	0.0008		
314	SLE RA 13	-1.31	0.28	26.05	-0.2423	-0.054	0.0008		
314	SLE RA 14	-1.33	0.3	26.65	-0.2529	-0.0551	0.0008		
314	SLE RA 15	-1.33	0.29	26.56	-0.2512	-0.0548	0.0008		
314	SLE RA 16	-1.3	0.29	26.59	-0.2515	-0.0539	0.0008		
314	SLE RA 17	-1.3	0.29	26.5	-0.2498	-0.0536	0.0008		
314	SLE RA 18	-1.38	0.29	26.81	-0.2472	-0.057	0.0008		
314	SLE RA 19	-1.38	0.29	26.72	-0.2455	-0.0567	0.0008		
314	SLE RA 20	-1.37	0.3	27.19	-0.2535	-0.0564	0.0008		
314	SLE RA 21	-1.36	0.29	27.1	-0.2518	-0.0561	0.0008		
314	SLE FR 1	-1.22	0.26	23.54	-0.2191	-0.0505	0.0007		
314	SLE FR 2	-1.22	0.26	23.51	-0.2185	-0.0504	0.0007		
314	SLE FR 3	-1.21	0.26	23.69	-0.2216	-0.0503	0.0007		
314	SLE FR 4	-1.27	0.27	24.49	-0.227	-0.0523	0.0007		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
314	SLE FR 5	-1.26	0.27	24.67	-0.2301	-0.0522	0.0007	
314	SLE FR 6	-1.3	0.27	25.17	-0.2331	-0.0537	0.0007	
314	SLE QP 1	-1.22	0.26	23.54	-0.2191	-0.0505	0.0007	
314	SLE QP 2	-1.27	0.27	24.52	-0.2275	-0.0524	0.0007	
314	SLD 1	4.29	0.05	25.46	-0.0218	0.1939	0.0002	
314	SLD 2	4.29	0.05	25.46	-0.0218	0.1939	0.0002	
314	SLD 3	3.19	0.29	27.09	-0.2557	0.1456	0.0008	
314	SLD 4	3.19	0.29	27.09	-0.2557	0.1456	0.0008	
314	SLD 5	2.06	-0.15	22.33	0.1889	0.0948	-0.0004	
314	SLD 6	2.06	-0.15	22.33	0.1889	0.0948	-0.0004	
314	SLD 7	-1.59	0.63	27.76	-0.5907	-0.0663	0.0017	
314	SLD 8	-1.59	0.63	27.76	-0.5907	-0.0663	0.0017	
314	SLD 9	-0.94	-0.1	21.28	0.1356	-0.0385	-0.0003	
314	SLD 10	-0.94	-0.1	21.28	0.1356	-0.0385	-0.0003	
314	SLD 11	-4.59	0.69	26.7	-0.6439	-0.1996	0.0019	
314	SLD 12	-4.59	0.69	26.7	-0.6439	-0.1996	0.0019	
314	SLD 13	-5.73	0.24	21.95	-0.1994	-0.2505	0.0006	
314	SLD 14	-5.73	0.24	21.95	-0.1994	-0.2505	0.0006	
314	SLD 15	-6.82	0.48	23.58	-0.4332	-0.2988	0.0013	
314	SLD 16	-6.82	0.48	23.58	-0.4332	-0.2988	0.0013	
314	SLV 1	11.76	-0.25	26.71	0.2752	0.5248	-0.0006	
314	SLV 2	11.76	-0.25	26.71	0.2752	0.5248	-0.0006	
314	SLV 3	9.15	0.33	30.6	-0.3063	0.4101	0.001	
314	SLV 4	9.15	0.33	30.6	-0.3063	0.4101	0.001	
314	SLV 5	6.59	-0.77	19.27	0.8052	0.2948	-0.0021	
314	SLV 6	6.59	-0.77	19.27	0.8052	0.2948	-0.0021	
314	SLV 7	-2.09	1.17	32.25	-1.1331	-0.0877	0.0032	
314	SLV 8	-2.09	1.17	32.25	-1.1331	-0.0877	0.0032	
314	SLV 9	-0.45	-0.64	16.79	0.678	-0.0171	-0.0018	
314	SLV 10	-0.45	-0.64	16.79	0.678	-0.0171	-0.0018	
314	SLV 11	-9.12	1.31	29.77	-1.2602	-0.3997	0.0035	
314	SLV 12	-9.12	1.31	29.77	-1.2602	-0.3997	0.0035	
314	SLV 13	-11.69	0.2	18.44	-0.1488	-0.5149	0.0004	
314	SLV 14	-11.69	0.2	18.44	-0.1488	-0.5149	0.0004	
314	SLV 15	-14.29	0.79	22.33	-0.7302	-0.6297	0.002	
314	SLV 16	-14.29	0.79	22.33	-0.7302	-0.6297	0.002	
315	SLU 1	-1.62	0.2	22.13	-0.1724	-0.0678	0.0005	
315	SLU 2	-1.64	0.2	21.8	-0.1684	-0.0683	0.0005	
315	SLU 3	-1.63	0.22	22.71	-0.1816	-0.0674	0.0006	
315	SLU 4	-1.65	0.21	22.51	-0.1792	-0.0677	0.0006	
315	SLU 5	-1.6	0.21	22.27	-0.1758	-0.0654	0.0006	
315	SLU 6	-1.6	0.22	23.17	-0.1891	-0.0645	0.0006	
315	SLU 7	-1.61	0.22	22.97	-0.1867	-0.0648	0.0006	
315	SLU 8	-1.55	0.22	23.07	-0.1873	-0.0619	0.0006	
315	SLU 9	-1.56	0.22	22.87	-0.1848	-0.0623	0.0006	
315	SLU 10	-1.93	0.23	25.09	-0.1915	-0.0803	0.0006	
315	SLU 11	-1.92	0.24	26	-0.2048	-0.0794	0.0006	
315	SLU 12	-1.93	0.24	25.8	-0.2023	-0.0797	0.0006	
315	SLU 13	-1.89	0.23	25.56	-0.1989	-0.0774	0.0006	
315	SLU 14	-1.89	0.25	26.47	-0.2122	-0.0765	0.0007	
315	SLU 15	-1.9	0.25	26.27	-0.2098	-0.0768	0.0007	
315	SLU 16	-1.83	0.25	26.36	-0.2104	-0.0739	0.0007	
315	SLU 17	-1.85	0.25	26.16	-0.208	-0.0743	0.0007	
315	SLU 18	-2.03	0.24	26.84	-0.2054	-0.0849	0.0007	
315	SLU 19	-2.04	0.24	26.64	-0.203	-0.0852	0.0006	
315	SLU 20	-1.99	0.25	27.31	-0.2129	-0.082	0.0007	
315	SLU 21	-2	0.25	27.11	-0.2105	-0.0823	0.0007	
315	SLU 22	-1.87	0.23	25.07	-0.1977	-0.078	0.0006	
315	SLU 23	-1.9	0.23	24.74	-0.1937	-0.0785	0.0006	
315	SLU 24	-1.89	0.25	25.65	-0.2069	-0.0776	0.0007	
315	SLU 25	-1.9	0.24	25.45	-0.2045	-0.0779	0.0006	
315	SLU 26	-1.86	0.24	25.21	-0.2011	-0.0756	0.0006	
315	SLU 27	-1.86	0.25	26.11	-0.2144	-0.0747	0.0007	
315	SLU 28	-1.87	0.25	25.91	-0.212	-0.075	0.0007	
315	SLU 29	-1.8	0.25	26.01	-0.2126	-0.0721	0.0007	
315	SLU 30	-1.82	0.25	25.81	-0.2101	-0.0725	0.0007	
315	SLU 31	-2.18	0.26	28.03	-0.2168	-0.0905	0.0007	
315	SLU 32	-2.18	0.27	28.94	-0.2301	-0.0896	0.0007	
315	SLU 33	-2.19	0.27	28.74	-0.2276	-0.0899	0.0007	
315	SLU 34	-2.15	0.26	28.5	-0.2242	-0.0876	0.0007	
315	SLU 35	-2.14	0.28	29.41	-0.2375	-0.0867	0.0008	
315	SLU 36	-2.16	0.28	29.21	-0.2351	-0.087	0.0007	
315	SLU 37	-2.09	0.28	29.3	-0.2357	-0.0841	0.0007	
315	SLU 38	-2.1	0.28	29.1	-0.2333	-0.0845	0.0007	
315	SLU 39	-2.28	0.27	29.78	-0.2307	-0.0951	0.0007	
315	SLU 40	-2.3	0.27	29.58	-0.2283	-0.0954	0.0007	
315	SLU 41	-2.25	0.28	30.25	-0.2382	-0.0922	0.0008	
315	SLU 42	-2.26	0.28	30.05	-0.2358	-0.0925	0.0007	
315	SLU 43	-2.01	0.26	27.77	-0.2154	-0.0846	0.0007	
315	SLU 44	-2.04	0.25	27.43	-0.2114	-0.0851	0.0007	
315	SLU 45	-2.03	0.27	28.34	-0.2247	-0.0842	0.0007	
315	SLU 46	-2.04	0.26	28.14	-0.2223	-0.0846	0.0007	
315	SLU 47	-2	0.26	27.9	-0.2188	-0.0822	0.0007	
315	SLU 48	-2	0.28	28.81	-0.2321	-0.0813	0.0007	
315	SLU 49	-2.01	0.27	28.61	-0.2297	-0.0816	0.0007	
315	SLU 50	-1.94	0.27	28.7	-0.2303	-0.0788	0.0007	
315	SLU 51	-1.96	0.27	28.5	-0.2279	-0.0791	0.0007	
315	SLU 52	-2.32	0.28	30.73	-0.2345	-0.0971	0.0007	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
315	SLU 53	-2.32	0.29	31.64	-0.2478	-0.0962	0.0008		
315	SLU 54	-2.33	0.29	31.43	-0.2454	-0.0965	0.0008		
315	SLU 55	-2.29	0.29	31.19	-0.242	-0.0942	0.0008		
315	SLU 56	-2.28	0.3	32.1	-0.2552	-0.0933	0.0008		
315	SLU 57	-2.3	0.3	31.9	-0.2528	-0.0936	0.0008		
315	SLU 58	-2.23	0.3	31.99	-0.2534	-0.0907	0.0008		
315	SLU 59	-2.24	0.3	31.79	-0.251	-0.0911	0.0008		
315	SLU 60	-2.42	0.29	32.47	-0.2485	-0.1017	0.0008		
315	SLU 61	-2.44	0.29	32.27	-0.2461	-0.102	0.0008		
315	SLU 62	-2.39	0.3	32.94	-0.2559	-0.0988	0.0008		
315	SLU 63	-2.4	0.3	32.74	-0.2535	-0.0991	0.0008		
315	SLU 64	-2.27	0.29	30.7	-0.2407	-0.0948	0.0008		
315	SLU 65	-2.29	0.28	30.37	-0.2367	-0.0953	0.0007		
315	SLU 66	-2.29	0.3	31.28	-0.25	-0.0944	0.0008		
315	SLU 67	-2.3	0.29	31.08	-0.2476	-0.0948	0.0008		
315	SLU 68	-2.26	0.29	30.84	-0.2441	-0.0924	0.0008		
315	SLU 69	-2.25	0.3	31.75	-0.2574	-0.0915	0.0008		
315	SLU 70	-2.27	0.3	31.55	-0.255	-0.0919	0.0008		
315	SLU 71	-2.2	0.3	31.64	-0.2556	-0.089	0.0008		
315	SLU 72	-2.21	0.3	31.44	-0.2532	-0.0893	0.0008		
315	SLU 73	-2.58	0.31	33.67	-0.2598	-0.1073	0.0008		
315	SLU 74	-2.57	0.32	34.57	-0.2731	-0.1064	0.0009		
315	SLU 75	-2.59	0.32	34.37	-0.2707	-0.1068	0.0009		
315	SLU 76	-2.54	0.32	34.13	-0.2673	-0.1044	0.0008		
315	SLU 77	-2.54	0.33	35.04	-0.2805	-0.1035	0.0009		
315	SLU 78	-2.55	0.33	34.84	-0.2781	-0.1038	0.0009		
315	SLU 79	-2.49	0.33	34.93	-0.2787	-0.101	0.0009		
315	SLU 80	-2.5	0.33	34.73	-0.2763	-0.1013	0.0009		
315	SLU 81	-2.68	0.32	35.41	-0.2738	-0.1119	0.0009		
315	SLU 82	-2.69	0.32	35.21	-0.2714	-0.1123	0.0009		
315	SLU 83	-2.65	0.33	35.88	-0.2812	-0.109	0.0009		
315	SLU 84	-2.66	0.33	35.68	-0.2788	-0.1093	0.0009		
315	SLE RA 1	-1.69	0.21	22.97	-0.1796	-0.0707	0.0006		
315	SLE RA 2	-1.7	0.21	22.75	-0.1769	-0.071	0.0006		
315	SLE RA 3	-1.7	0.22	23.36	-0.1858	-0.0704	0.0006		
315	SLE RA 4	-1.71	0.22	23.22	-0.1842	-0.0707	0.0006		
315	SLE RA 5	-1.68	0.22	23.06	-0.1819	-0.0691	0.0006		
315	SLE RA 6	-1.68	0.23	23.67	-0.1907	-0.0685	0.0006		
315	SLE RA 7	-1.69	0.22	23.53	-0.1891	-0.0687	0.0006		
315	SLE RA 8	-1.64	0.22	23.6	-0.1895	-0.0668	0.0006		
315	SLE RA 9	-1.65	0.22	23.46	-0.1879	-0.067	0.0006		
315	SLE RA 10	-1.9	0.23	24.95	-0.1924	-0.079	0.0006		
315	SLE RA 11	-1.89	0.24	25.55	-0.2012	-0.0784	0.0006		
315	SLE RA 12	-1.9	0.24	25.42	-0.1996	-0.0786	0.0006		
315	SLE RA 13	-1.87	0.23	25.26	-0.1973	-0.0771	0.0006		
315	SLE RA 14	-1.87	0.24	25.86	-0.2062	-0.0765	0.0007		
315	SLE RA 15	-1.88	0.24	25.73	-0.2045	-0.0767	0.0006		
315	SLE RA 16	-1.83	0.24	25.79	-0.2049	-0.0748	0.0006		
315	SLE RA 17	-1.84	0.24	25.66	-0.2033	-0.075	0.0006		
315	SLE RA 18	-1.96	0.24	26.11	-0.2016	-0.0821	0.0006		
315	SLE RA 19	-1.97	0.24	25.98	-0.2	-0.0823	0.0006		
315	SLE RA 20	-1.94	0.24	26.42	-0.2066	-0.0802	0.0007		
315	SLE RA 21	-1.95	0.24	26.29	-0.205	-0.0804	0.0006		
315	SLE FR 1	-1.69	0.21	22.97	-0.1796	-0.0707	0.0006		
315	SLE FR 2	-1.69	0.21	22.93	-0.1791	-0.0707	0.0006		
315	SLE FR 3	-1.68	0.22	23.1	-0.1816	-0.0699	0.0006		
315	SLE FR 4	-1.77	0.22	23.87	-0.1857	-0.0742	0.0006		
315	SLE FR 5	-1.76	0.22	24.04	-0.1882	-0.0733	0.0006		
315	SLE FR 6	-1.83	0.23	24.54	-0.1906	-0.0764	0.0006		
315	SLE QP 1	-1.69	0.21	22.97	-0.1796	-0.0707	0.0006		
315	SLE QP 2	-1.77	0.22	23.91	-0.1862	-0.0741	0.0006		
315	SLD 1	4.64	0	23.64	0.0294	0.2203	0		
315	SLD 2	4.64	0	23.64	0.0294	0.2203	0		
315	SLD 3	3.46	0.26	26.28	-0.2317	0.166	0.0007		
315	SLD 4	3.46	0.26	26.28	-0.2317	0.166	0.0007		
315	SLD 5	1.96	-0.24	19.83	0.2745	0.0965	-0.0006		
315	SLD 6	1.96	-0.24	19.83	0.2745	0.0965	-0.0006		
315	SLD 7	-2.01	0.63	28.63	-0.5959	-0.0843	0.0016		
315	SLD 8	-2.01	0.63	28.63	-0.5959	-0.0843	0.0016		
315	SLD 9	-1.54	-0.18	19.2	0.2234	-0.0638	-0.0004		
315	SLD 10	-1.54	-0.18	19.2	0.2234	-0.0638	-0.0004		
315	SLD 11	-5.5	0.68	28	-0.6469	-0.2447	0.0018		
315	SLD 12	-5.5	0.68	28	-0.6469	-0.2447	0.0018		
315	SLD 13	-7	0.18	21.55	-0.1407	-0.3142	0.0005		
315	SLD 14	-7	0.18	21.55	-0.1407	-0.3142	0.0005		
315	SLD 15	-8.19	0.44	24.19	-0.4018	-0.3684	0.0011		
315	SLD 16	-8.19	0.44	24.19	-0.4018	-0.3684	0.0011		
315	SLV 1	13.26	-0.31	23.18	0.3437	0.616	-0.0007		
315	SLV 2	13.26	-0.31	23.18	0.3437	0.616	-0.0007		
315	SLV 3	10.45	0.33	29.67	-0.3058	0.4872	0.0009		
315	SLV 4	10.45	0.33	29.67	-0.3058	0.4872	0.0009		
315	SLV 5	7.01	-0.91	13.85	0.9579	0.3282	-0.0023		
315	SLV 6	7.01	-0.91	13.85	0.9579	0.3282	-0.0023		
315	SLV 7	-2.38	1.23	35.48	-1.2073	-0.101	0.0032		
315	SLV 8	-2.38	1.23	35.48	-1.2073	-0.101	0.0032		
315	SLV 9	-1.16	-0.79	12.35	0.8348	-0.0472	-0.002		
315	SLV 10	-1.16	-0.79	12.35	0.8348	-0.0472	-0.002		
315	SLV 11	-10.56	1.35	33.98	-1.3303	-0.4764	0.0035		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
315	SLV 12	-10.56	1.35	33.98	-1.3303	-0.4764	0.0035	
315	SLV 13	-13.99	0.11	18.16	-0.0666	-0.6354	0.0003	
315	SLV 14	-13.99	0.11	18.16	-0.0666	-0.6354	0.0003	
315	SLV 15	-16.81	0.75	24.65	-0.7161	-0.7642	0.0019	
315	SLV 16	-16.81	0.75	24.65	-0.7161	-0.7642	0.0019	
316	SLU 1	-1.56	0.17	21.83	-0.1429	-0.0679	0.0005	
316	SLU 2	-1.62	0.17	21.37	-0.1389	-0.0697	0.0005	
316	SLU 3	-1.58	0.18	22.33	-0.1501	-0.0693	0.0005	
316	SLU 4	-1.62	0.18	22.05	-0.1477	-0.0704	0.0005	
316	SLU 5	-1.6	0.17	21.75	-0.1445	-0.0691	0.0005	
316	SLU 6	-1.56	0.19	22.7	-0.1557	-0.0688	0.0005	
316	SLU 7	-1.6	0.18	22.43	-0.1533	-0.0698	0.0005	
316	SLU 8	-1.52	0.18	22.58	-0.1541	-0.0668	0.0005	
316	SLU 9	-1.55	0.18	22.31	-0.1517	-0.0679	0.0005	
316	SLU 10	-1.93	0.19	24.54	-0.157	-0.0823	0.0005	
316	SLU 11	-1.89	0.2	25.5	-0.1682	-0.082	0.0005	
316	SLU 12	-1.93	0.2	25.23	-0.1658	-0.0831	0.0005	
316	SLU 13	-1.91	0.19	24.92	-0.1626	-0.0818	0.0005	
316	SLU 14	-1.87	0.21	25.88	-0.1738	-0.0814	0.0006	
316	SLU 15	-1.91	0.2	25.6	-0.1714	-0.0825	0.0006	
316	SLU 16	-1.82	0.21	25.76	-0.1722	-0.0795	0.0006	
316	SLU 17	-1.86	0.2	25.48	-0.1698	-0.0805	0.0005	
316	SLU 18	-2	0.2	26.37	-0.1688	-0.086	0.0006	
316	SLU 19	-2.03	0.2	26.09	-0.1663	-0.0871	0.0005	
316	SLU 20	-1.98	0.21	26.74	-0.1744	-0.0855	0.0006	
316	SLU 21	-2.01	0.2	26.47	-0.172	-0.0865	0.0006	
316	SLU 22	-1.83	0.19	24.64	-0.1628	-0.0795	0.0005	
316	SLU 23	-1.89	0.19	24.17	-0.1588	-0.0812	0.0005	
316	SLU 24	-1.86	0.2	25.13	-0.17	-0.0809	0.0006	
316	SLU 25	-1.89	0.2	24.85	-0.1676	-0.0819	0.0005	
316	SLU 26	-1.87	0.19	24.55	-0.1644	-0.0806	0.0005	
316	SLU 27	-1.84	0.21	25.51	-0.1756	-0.0803	0.0006	
316	SLU 28	-1.87	0.21	25.23	-0.1732	-0.0813	0.0006	
316	SLU 29	-1.79	0.21	25.39	-0.1741	-0.0783	0.0006	
316	SLU 30	-1.83	0.2	25.11	-0.1716	-0.0794	0.0006	
316	SLU 31	-2.2	0.21	27.35	-0.1769	-0.0939	0.0006	
316	SLU 32	-2.17	0.22	28.31	-0.1881	-0.0935	0.0006	
316	SLU 33	-2.2	0.22	28.03	-0.1857	-0.0946	0.0006	
316	SLU 34	-2.18	0.22	27.73	-0.1825	-0.0933	0.0006	
316	SLU 35	-2.14	0.23	28.68	-0.1937	-0.093	0.0006	
316	SLU 36	-2.18	0.23	28.41	-0.1913	-0.094	0.0006	
316	SLU 37	-2.1	0.23	28.56	-0.1922	-0.091	0.0006	
316	SLU 38	-2.13	0.22	28.29	-0.1897	-0.092	0.0006	
316	SLU 39	-2.27	0.22	29.17	-0.1887	-0.0976	0.0006	
316	SLU 40	-2.31	0.22	28.89	-0.1863	-0.0986	0.0006	
316	SLU 41	-2.25	0.23	29.55	-0.1943	-0.097	0.0006	
316	SLU 42	-2.29	0.23	29.27	-0.1919	-0.098	0.0006	
316	SLU 43	-1.93	0.21	27.42	-0.1789	-0.0844	0.0006	
316	SLU 44	-1.99	0.21	26.96	-0.1749	-0.0861	0.0006	
316	SLU 45	-1.96	0.22	27.92	-0.1861	-0.0858	0.0006	
316	SLU 46	-1.99	0.22	27.64	-0.1837	-0.0868	0.0006	
316	SLU 47	-1.97	0.21	27.33	-0.1805	-0.0855	0.0006	
316	SLU 48	-1.94	0.23	28.29	-0.1918	-0.0852	0.0006	
316	SLU 49	-1.97	0.23	28.02	-0.1893	-0.0862	0.0006	
316	SLU 50	-1.89	0.23	28.17	-0.1902	-0.0832	0.0006	
316	SLU 51	-1.93	0.22	27.9	-0.1877	-0.0843	0.0006	
316	SLU 52	-2.3	0.23	30.13	-0.193	-0.0988	0.0006	
316	SLU 53	-2.27	0.24	31.09	-0.2042	-0.0984	0.0007	
316	SLU 54	-2.3	0.24	30.81	-0.2018	-0.0995	0.0007	
316	SLU 55	-2.28	0.24	30.51	-0.1986	-0.0982	0.0006	
316	SLU 56	-2.24	0.25	31.47	-0.2099	-0.0979	0.0007	
316	SLU 57	-2.28	0.25	31.19	-0.2074	-0.0989	0.0007	
316	SLU 58	-2.2	0.25	31.35	-0.2083	-0.0959	0.0007	
316	SLU 59	-2.23	0.24	31.07	-0.2058	-0.097	0.0007	
316	SLU 60	-2.37	0.24	31.95	-0.2048	-0.1025	0.0007	
316	SLU 61	-2.41	0.24	31.68	-0.2024	-0.1035	0.0007	
316	SLU 62	-2.35	0.25	32.33	-0.2104	-0.1019	0.0007	
316	SLU 63	-2.39	0.25	32.05	-0.208	-0.1029	0.0007	
316	SLU 64	-2.21	0.24	30.22	-0.1989	-0.0959	0.0006	
316	SLU 65	-2.27	0.23	29.76	-0.1948	-0.0976	0.0006	
316	SLU 66	-2.23	0.25	30.72	-0.2061	-0.0973	0.0007	
316	SLU 67	-2.27	0.24	30.44	-0.2036	-0.0983	0.0007	
316	SLU 68	-2.25	0.24	30.14	-0.2004	-0.0971	0.0006	
316	SLU 69	-2.21	0.25	31.1	-0.2117	-0.0967	0.0007	
316	SLU 70	-2.25	0.25	30.82	-0.2093	-0.0978	0.0007	
316	SLU 71	-2.16	0.25	30.98	-0.2101	-0.0948	0.0007	
316	SLU 72	-2.2	0.25	30.7	-0.2077	-0.0958	0.0007	
316	SLU 73	-2.57	0.25	32.94	-0.2129	-0.1103	0.0007	
316	SLU 74	-2.54	0.27	33.89	-0.2242	-0.11	0.0007	
316	SLU 75	-2.58	0.26	33.62	-0.2217	-0.111	0.0007	
316	SLU 76	-2.55	0.26	33.31	-0.2185	-0.1097	0.0007	
316	SLU 77	-2.52	0.27	34.27	-0.2298	-0.1094	0.0007	
316	SLU 78	-2.55	0.27	33.99	-0.2274	-0.1104	0.0007	
316	SLU 79	-2.47	0.27	34.15	-0.2282	-0.1074	0.0007	
316	SLU 80	-2.51	0.27	33.87	-0.2258	-0.1085	0.0007	
316	SLU 81	-2.64	0.27	34.76	-0.2247	-0.114	0.0007	
316	SLU 82	-2.68	0.26	34.48	-0.2223	-0.115	0.0007	
316	SLU 83	-2.62	0.27	35.13	-0.2303	-0.1134	0.0008	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z		x	y	z
316	SLU 84	-2.66	0.27	34.86		-0.2279	-0.1145	0.0007
316	SLE RA 1	-1.64	0.18	22.63		-0.1486	-0.0712	0.0005
316	SLE RA 2	-1.68	0.17	22.33		-0.1459	-0.0724	0.0005
316	SLE RA 3	-1.65	0.18	22.96		-0.1534	-0.0722	0.0005
316	SLE RA 4	-1.68	0.18	22.78		-0.1518	-0.0729	0.0005
316	SLE RA 5	-1.66	0.18	22.58		-0.1496	-0.072	0.0005
316	SLE RA 6	-1.64	0.19	23.21		-0.1571	-0.0718	0.0005
316	SLE RA 7	-1.66	0.19	23.03		-0.1555	-0.0725	0.0005
316	SLE RA 8	-1.61	0.19	23.13		-0.1561	-0.0705	0.0005
316	SLE RA 9	-1.63	0.18	22.95		-0.1545	-0.0712	0.0005
316	SLE RA 10	-1.88	0.19	24.44		-0.158	-0.0808	0.0005
316	SLE RA 11	-1.86	0.2	25.08		-0.1655	-0.0806	0.0005
316	SLE RA 12	-1.88	0.2	24.9		-0.1638	-0.0813	0.0005
316	SLE RA 13	-1.87	0.19	24.69		-0.1617	-0.0805	0.0005
316	SLE RA 14	-1.84	0.2	25.33		-0.1692	-0.0802	0.0006
316	SLE RA 15	-1.87	0.2	25.15		-0.1676	-0.0809	0.0005
316	SLE RA 16	-1.81	0.2	25.25		-0.1681	-0.0789	0.0005
316	SLE RA 17	-1.84	0.2	25.07		-0.1665	-0.0796	0.0005
316	SLE RA 18	-1.93	0.2	25.66		-0.1658	-0.0833	0.0005
316	SLE RA 19	-1.95	0.2	25.47		-0.1642	-0.084	0.0005
316	SLE RA 20	-1.92	0.2	25.91		-0.1696	-0.0829	0.0006
316	SLE RA 21	-1.94	0.2	25.72		-0.168	-0.0836	0.0005
316	SLE FR 1	-1.64	0.18	22.63		-0.1486	-0.0712	0.0005
316	SLE FR 2	-1.64	0.18	22.57		-0.1481	-0.0715	0.0005
316	SLE FR 3	-1.63	0.18	22.73		-0.1501	-0.0711	0.0005
316	SLE FR 4	-1.73	0.18	23.48		-0.1532	-0.0751	0.0005
316	SLE FR 5	-1.72	0.19	23.64		-0.1553	-0.0747	0.0005
316	SLE FR 6	-1.78	0.19	24.14		-0.1572	-0.0773	0.0005
316	SLE QP 1	-1.64	0.18	22.63		-0.1486	-0.0712	0.0005
316	SLE QP 2	-1.72	0.18	23.54		-0.1538	-0.0748	0.0005
316	SLD 1	5.08	-0.03	20.43		-0.2084	0.2224	0
316	SLD 2	5.08	-0.03	20.43		-0.2084	0.2224	0
316	SLD 3	3.82	0.24	23.82		0.0635	0.165	0.0006
316	SLD 4	3.82	0.24	23.82		0.0635	0.165	0.0006
316	SLD 5	2.24	-0.29	17.45		-0.5827	0.1014	-0.0006
316	SLD 6	2.24	-0.29	17.45		-0.5827	0.1014	-0.0006
316	SLD 7	-1.98	0.6	28.78		0.3239	-0.09	0.0015
316	SLD 8	-1.98	0.6	28.78		0.3239	-0.09	0.0015
316	SLD 9	-1.47	-0.24	18.3		-0.6314	-0.0597	-0.0005
316	SLD 10	-1.47	-0.24	18.3		-0.6314	-0.0597	-0.0005
316	SLD 11	-5.68	0.65	29.63		0.2751	-0.2511	0.0016
316	SLD 12	-5.68	0.65	29.63		0.2751	-0.2511	0.0016
316	SLD 13	-7.26	0.13	23.25		-0.3711	-0.3147	0.0004
316	SLD 14	-7.26	0.13	23.25		-0.3711	-0.3147	0.0004
316	SLD 15	-8.53	0.4	26.65		-0.0991	-0.3721	0.001
316	SLD 16	-8.53	0.4	26.65		-0.0991	-0.3721	0.001
316	SLV 1	14.22	-0.34	15.98		-0.2941	0.6218	-0.0008
316	SLV 2	14.22	-0.34	15.98		-0.2941	0.6218	-0.0008
316	SLV 3	11.21	0.32	24.37		0.3826	0.4849	0.0008
316	SLV 4	11.21	0.32	24.37		0.3826	0.4849	0.0008
316	SLV 5	7.62	-0.98	8.55		-1.2223	0.3419	-0.0023
316	SLV 6	7.62	-0.98	8.55		-1.2223	0.3419	-0.0023
316	SLV 7	-2.41	1.23	36.51		1.0336	-0.1147	0.003
316	SLV 8	-2.41	1.23	36.51		1.0336	-0.1147	0.003
316	SLV 9	-1.04	-0.86	10.57		-1.3411	-0.035	-0.002
316	SLV 10	-1.04	-0.86	10.57		-1.3411	-0.035	-0.002
316	SLV 11	-11.07	1.35	38.53		0.9148	-0.4916	0.0033
316	SLV 12	-11.07	1.35	38.53		0.9148	-0.4916	0.0033
316	SLV 13	-14.66	0.05	22.71		-0.6902	-0.6345	0.0002
316	SLV 14	-14.66	0.05	22.71		-0.6902	-0.6345	0.0002
316	SLV 15	-17.67	0.71	31.1		-0.0134	-0.7715	0.0018
316	SLV 16	-17.67	0.71	31.1		-0.0134	-0.7715	0.0018
317	SLU 1	-1.04	0.15	22.26		-0.1221	-0.0495	0.0004
317	SLU 2	-1.16	0.15	21.62		-0.1179	-0.0541	0.0004
317	SLU 3	-1.04	0.16	22.69		-0.1277	-0.0486	0.0004
317	SLU 4	-1.11	0.16	22.31		-0.1252	-0.0514	0.0004
317	SLU 5	-1.12	0.15	21.92		-0.122	-0.0511	0.0004
317	SLU 6	-1	0.17	22.99		-0.1318	-0.0456	0.0004
317	SLU 7	-1.07	0.16	22.61		-0.1293	-0.0483	0.0004
317	SLU 8	-0.96	0.16	22.85		-0.1304	-0.0434	0.0004
317	SLU 9	-1.03	0.16	22.47		-0.1278	-0.0462	0.0004
317	SLU 10	-1.43	0.17	24.78		-0.1324	-0.0663	0.0004
317	SLU 11	-1.31	0.18	25.85		-0.1423	-0.0608	0.0004
317	SLU 12	-1.38	0.17	25.47		-0.1397	-0.0636	0.0004
317	SLU 13	-1.39	0.17	25.08		-0.1366	-0.0633	0.0004
317	SLU 14	-1.27	0.18	26.15		-0.1464	-0.0578	0.0004
317	SLU 15	-1.34	0.18	25.77		-0.1439	-0.0605	0.0004
317	SLU 16	-1.22	0.18	26.01		-0.1449	-0.0556	0.0004
317	SLU 17	-1.3	0.18	25.63		-0.1424	-0.0584	0.0004
317	SLU 18	-1.42	0.18	26.77		-0.1429	-0.0669	0.0004
317	SLU 19	-1.5	0.18	26.39		-0.1404	-0.0697	0.0004
317	SLU 20	-1.38	0.18	27.07		-0.147	-0.0639	0.0005
317	SLU 21	-1.45	0.18	26.69		-0.1445	-0.0667	0.0004
317	SLU 22	-1.26	0.17	25.02		-0.1381	-0.059	0.0004
317	SLU 23	-1.38	0.17	24.39		-0.1339	-0.0636	0.0004
317	SLU 24	-1.26	0.18	25.46		-0.1437	-0.0581	0.0004
317	SLU 25	-1.33	0.18	25.08		-0.1412	-0.0609	0.0004
317	SLU 26	-1.34	0.17	24.69		-0.1381	-0.0606	0.0004



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
317	SLU 27	-1.22	0.19	25.76	-0.1479	-0.0551	0.0005		
317	SLU 28	-1.29	0.18	25.38	-0.1453	-0.0578	0.0004		
317	SLU 29	-1.18	0.18	25.62	-0.1464	-0.053	0.0004		
317	SLU 30	-1.25	0.18	25.24	-0.1439	-0.0557	0.0004		
317	SLU 31	-1.65	0.19	27.55	-0.1485	-0.0758	0.0005		
317	SLU 32	-1.53	0.2	28.62	-0.1583	-0.0703	0.0005		
317	SLU 33	-1.6	0.19	28.24	-0.1558	-0.0731	0.0005		
317	SLU 34	-1.61	0.19	27.84	-0.1526	-0.0728	0.0005		
317	SLU 35	-1.48	0.2	28.92	-0.1624	-0.0673	0.0005		
317	SLU 36	-1.56	0.2	28.54	-0.1599	-0.07	0.0005		
317	SLU 37	-1.44	0.2	28.78	-0.161	-0.0652	0.0005		
317	SLU 38	-1.52	0.2	28.4	-0.1585	-0.0679	0.0005		
317	SLU 39	-1.64	0.2	29.54	-0.1589	-0.0765	0.0005		
317	SLU 40	-1.72	0.2	29.15	-0.1564	-0.0792	0.0005		
317	SLU 41	-1.6	0.2	29.84	-0.1631	-0.0734	0.0005		
317	SLU 42	-1.67	0.2	29.45	-0.1606	-0.0762	0.0005		
317	SLU 43	-1.28	0.19	27.98	-0.1532	-0.0611	0.0005		
317	SLU 44	-1.4	0.19	27.35	-0.149	-0.0657	0.0005		
317	SLU 45	-1.28	0.2	28.42	-0.1588	-0.0602	0.0005		
317	SLU 46	-1.35	0.2	28.04	-0.1563	-0.063	0.0005		
317	SLU 47	-1.36	0.19	27.65	-0.1531	-0.0627	0.0005		
317	SLU 48	-1.23	0.21	28.72	-0.1629	-0.0572	0.0005		
317	SLU 49	-1.31	0.2	28.34	-0.1604	-0.0599	0.0005		
317	SLU 50	-1.19	0.2	28.58	-0.1615	-0.055	0.0005		
317	SLU 51	-1.27	0.2	28.2	-0.159	-0.0578	0.0005		
317	SLU 52	-1.67	0.21	30.51	-0.1636	-0.0779	0.0005		
317	SLU 53	-1.54	0.22	31.58	-0.1734	-0.0724	0.0005		
317	SLU 54	-1.62	0.21	31.2	-0.1709	-0.0751	0.0005		
317	SLU 55	-1.63	0.21	30.8	-0.1677	-0.0749	0.0005		
317	SLU 56	-1.5	0.22	31.88	-0.1775	-0.0694	0.0005		
317	SLU 57	-1.58	0.22	31.5	-0.175	-0.0721	0.0005		
317	SLU 58	-1.46	0.22	31.74	-0.176	-0.0672	0.0005		
317	SLU 59	-1.54	0.22	31.36	-0.1735	-0.07	0.0005		
317	SLU 60	-1.66	0.22	32.5	-0.174	-0.0785	0.0005		
317	SLU 61	-1.73	0.22	32.11	-0.1715	-0.0813	0.0005		
317	SLU 62	-1.62	0.22	32.8	-0.1782	-0.0755	0.0005		
317	SLU 63	-1.69	0.22	32.41	-0.1756	-0.0782	0.0005		
317	SLU 64	-1.49	0.21	30.75	-0.1693	-0.0706	0.0005		
317	SLU 65	-1.62	0.21	30.11	-0.1651	-0.0752	0.0005		
317	SLU 66	-1.5	0.22	31.19	-0.1749	-0.0697	0.0005		
317	SLU 67	-1.57	0.22	30.81	-0.1723	-0.0725	0.0005		
317	SLU 68	-1.58	0.21	30.41	-0.1692	-0.0722	0.0005		
317	SLU 69	-1.45	0.22	31.49	-0.179	-0.0667	0.0005		
317	SLU 70	-1.53	0.22	31.11	-0.1765	-0.0694	0.0005		
317	SLU 71	-1.41	0.22	31.35	-0.1775	-0.0645	0.0005		
317	SLU 72	-1.49	0.22	30.97	-0.175	-0.0673	0.0005		
317	SLU 73	-1.89	0.22	33.27	-0.1796	-0.0874	0.0005		
317	SLU 74	-1.76	0.24	34.35	-0.1894	-0.0819	0.0006		
317	SLU 75	-1.84	0.23	33.97	-0.1869	-0.0847	0.0006		
317	SLU 76	-1.85	0.23	33.57	-0.1838	-0.0844	0.0006		
317	SLU 77	-1.72	0.24	34.65	-0.1936	-0.0789	0.0006		
317	SLU 78	-1.8	0.24	34.26	-0.191	-0.0816	0.0006		
317	SLU 79	-1.68	0.24	34.51	-0.1921	-0.0767	0.0006		
317	SLU 80	-1.75	0.24	34.13	-0.1896	-0.0795	0.0006		
317	SLU 81	-1.88	0.24	35.26	-0.1901	-0.0881	0.0006		
317	SLU 82	-1.95	0.24	34.88	-0.1875	-0.0908	0.0006		
317	SLU 83	-1.84	0.24	35.56	-0.1942	-0.085	0.0006		
317	SLU 84	-1.91	0.24	35.18	-0.1917	-0.0878	0.0006		
317	SLE RA 1	-1.1	0.16	23.05	-0.1267	-0.0522	0.0004		
317	SLE RA 2	-1.19	0.16	22.62	-0.1239	-0.0553	0.0004		
317	SLE RA 3	-1.1	0.16	23.34	-0.1304	-0.0516	0.0004		
317	SLE RA 4	-1.15	0.16	23.08	-0.1287	-0.0535	0.0004		
317	SLE RA 5	-1.16	0.16	22.82	-0.1266	-0.0533	0.0004		
317	SLE RA 6	-1.07	0.17	23.54	-0.1332	-0.0496	0.0004		
317	SLE RA 7	-1.12	0.16	23.28	-0.1315	-0.0514	0.0004		
317	SLE RA 8	-1.05	0.17	23.45	-0.1322	-0.0482	0.0004		
317	SLE RA 9	-1.1	0.16	23.19	-0.1305	-0.05	0.0004		
317	SLE RA 10	-1.36	0.17	24.73	-0.1336	-0.0634	0.0004		
317	SLE RA 11	-1.28	0.18	25.44	-0.1401	-0.0598	0.0004		
317	SLE RA 12	-1.33	0.17	25.19	-0.1384	-0.0616	0.0004		
317	SLE RA 13	-1.34	0.17	24.93	-0.1363	-0.0614	0.0004		
317	SLE RA 14	-1.25	0.18	25.64	-0.1429	-0.0577	0.0004		
317	SLE RA 15	-1.3	0.18	25.39	-0.1412	-0.0596	0.0004		
317	SLE RA 16	-1.22	0.18	25.55	-0.1419	-0.0563	0.0004		
317	SLE RA 17	-1.27	0.18	25.3	-0.1402	-0.0581	0.0004		
317	SLE RA 18	-1.36	0.18	26.06	-0.1405	-0.0639	0.0004		
317	SLE RA 19	-1.41	0.17	25.8	-0.1389	-0.0657	0.0004		
317	SLE RA 20	-1.33	0.18	26.25	-0.1433	-0.0618	0.0004		
317	SLE RA 21	-1.38	0.18	26	-0.1416	-0.0637	0.0004		
317	SLE FR 1	-1.1	0.16	23.05	-0.1267	-0.0522	0.0004		
317	SLE FR 2	-1.12	0.16	22.96	-0.1261	-0.0529	0.0004		
317	SLE FR 3	-1.09	0.16	23.13	-0.1278	-0.0514	0.0004		
317	SLE FR 4	-1.19	0.16	23.86	-0.1303	-0.0563	0.0004		
317	SLE FR 5	-1.17	0.17	24.03	-0.1319	-0.0549	0.0004		
317	SLE FR 6	-1.23	0.17	24.55	-0.1336	-0.0581	0.0004		
317	SLE QP 1	-1.1	0.16	23.05	-0.1267	-0.0522	0.0004		
317	SLE QP 2	-1.18	0.17	23.95	-0.1308	-0.0557	0.0004		
317	SLD 1	5.79	-0.04	20.22	-0.1866	0.2573			



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
317	SLD 2	5.79	-0.04	20.22		-0.1866	0.2573	0	
317	SLD 3	4.5	0.22	23.93		0.0795	0.2002	0.0005	
317	SLD 4	4.5	0.22	23.93		0.0795	0.2002	0.0005	
317	SLD 5	2.86	-0.29	17.21		-0.551	0.1247	-0.0005	
317	SLD 6	2.86	-0.29	17.21		-0.551	0.1247	-0.0005	
317	SLD 7	-1.43	0.57	29.57		0.3357	-0.0655	0.0012	
317	SLD 8	-1.43	0.57	29.57		0.3357	-0.0655	0.0012	
317	SLD 9	-0.93	-0.24	18.33		-0.5974	-0.046	-0.0004	
317	SLD 10	-0.93	-0.24	18.33		-0.5974	-0.046	-0.0004	
317	SLD 11	-5.22	0.62	30.69		0.2893	-0.2361	0.0013	
317	SLD 12	-5.22	0.62	30.69		0.2893	-0.2361	0.0013	
317	SLD 13	-6.85	0.11	23.97		-0.3411	-0.3117	0.0003	
317	SLD 14	-6.85	0.11	23.97		-0.3411	-0.3117	0.0003	
317	SLD 15	-8.14	0.37	27.68		-0.0751	-0.3687	0.0008	
317	SLD 16	-8.14	0.37	27.68		-0.0751	-0.3687	0.0008	
317	SLV 1	15.15	-0.34	14.95		-0.2721	0.6781	-0.0007	
317	SLV 2	15.15	-0.34	14.95		-0.2721	0.6781	-0.0007	
317	SLV 3	12.07	0.3	24.09		0.3899	0.5422	0.0007	
317	SLV 4	12.07	0.3	24.09		0.3899	0.5422	0.0007	
317	SLV 5	8.38	-0.96	7.38		-1.1773	0.3705	-0.0019	
317	SLV 6	8.38	-0.96	7.38		-1.1773	0.3705	-0.0019	
317	SLV 7	-1.86	1.18	37.87		1.0295	-0.0824	0.0025	
317	SLV 8	-1.86	1.18	37.87		1.0295	-0.0824	0.0025	
317	SLV 9	-0.49	-0.85	10.03		-1.2912	-0.029	-0.0017	
317	SLV 10	-0.49	-0.85	10.03		-1.2912	-0.029	-0.0017	
317	SLV 11	-10.74	1.29	40.52		0.9156	-0.482	0.0027	
317	SLV 12	-10.74	1.29	40.52		0.9156	-0.482	0.0027	
317	SLV 13	-14.43	0.03	23.81		-0.6516	-0.6537	0.0001	
317	SLV 14	-14.43	0.03	23.81		-0.6516	-0.6537	0.0001	
317	SLV 15	-17.5	0.67	32.95		0.0104	-0.7896	0.0015	
317	SLV 16	-17.5	0.67	32.95		0.0104	-0.7896	0.0015	
318	SLU 1	-0.42	0.15	23.72		-0.1074	-0.032	0.0003	
318	SLU 2	-0.61	0.14	22.84		-0.1032	-0.0387	0.0003	
318	SLU 3	-0.42	0.16	24.12		-0.1118	-0.0325	0.0003	
318	SLU 4	-0.53	0.15	23.59		-0.1093	-0.0365	0.0003	
318	SLU 5	-0.58	0.15	23.07		-0.1062	-0.038	0.0003	
318	SLU 6	-0.39	0.16	24.36		-0.1148	-0.0319	0.0004	
318	SLU 7	-0.51	0.16	23.82		-0.1123	-0.0359	0.0003	
318	SLU 8	-0.36	0.16	24.19		-0.1135	-0.0307	0.0003	
318	SLU 9	-0.48	0.15	23.65		-0.1109	-0.0347	0.0003	
318	SLU 10	-0.82	0.16	26.13		-0.1154	-0.049	0.0004	
318	SLU 11	-0.62	0.17	27.41		-0.1241	-0.0429	0.0004	
318	SLU 12	-0.74	0.17	26.88		-0.1215	-0.0469	0.0004	
318	SLU 13	-0.79	0.16	26.36		-0.1184	-0.0484	0.0004	
318	SLU 14	-0.6	0.18	27.65		-0.1271	-0.0422	0.0004	
318	SLU 15	-0.71	0.17	27.12		-0.1245	-0.0462	0.0004	
318	SLU 16	-0.57	0.18	27.48		-0.1257	-0.041	0.0004	
318	SLU 17	-0.69	0.17	26.95		-0.1231	-0.045	0.0004	
318	SLU 18	-0.71	0.18	28.42		-0.1249	-0.0468	0.0004	
318	SLU 19	-0.83	0.17	27.89		-0.1224	-0.0508	0.0004	
318	SLU 20	-0.69	0.18	28.66		-0.1279	-0.0461	0.0004	
318	SLU 21	-0.8	0.18	28.12		-0.1254	-0.0501	0.0004	
318	SLU 22	-0.58	0.17	26.59		-0.1208	-0.0405	0.0004	
318	SLU 23	-0.77	0.16	25.71		-0.1166	-0.0471	0.0004	
318	SLU 24	-0.58	0.18	26.99		-0.1252	-0.041	0.0004	
318	SLU 25	-0.69	0.17	26.46		-0.1227	-0.045	0.0004	
318	SLU 26	-0.74	0.17	25.94		-0.1196	-0.0465	0.0004	
318	SLU 27	-0.55	0.18	27.23		-0.1282	-0.0403	0.0004	
318	SLU 28	-0.66	0.17	26.69		-0.1257	-0.0443	0.0004	
318	SLU 29	-0.52	0.18	27.06		-0.1269	-0.0391	0.0004	
318	SLU 30	-0.64	0.17	26.52		-0.1243	-0.0431	0.0004	
318	SLU 31	-0.98	0.18	29		-0.1288	-0.0575	0.0004	
318	SLU 32	-0.78	0.19	30.28		-0.1375	-0.0513	0.0004	
318	SLU 33	-0.9	0.19	29.75		-0.1349	-0.0553	0.0004	
318	SLU 34	-0.95	0.18	29.23		-0.1318	-0.0568	0.0004	
318	SLU 35	-0.76	0.2	30.52		-0.1405	-0.0507	0.0004	
318	SLU 36	-0.87	0.19	29.99		-0.1379	-0.0547	0.0004	
318	SLU 37	-0.73	0.19	30.35		-0.1391	-0.0495	0.0004	
318	SLU 38	-0.85	0.19	29.82		-0.1366	-0.0535	0.0004	
318	SLU 39	-0.87	0.19	31.29		-0.1383	-0.0552	0.0004	
318	SLU 40	-0.99	0.19	30.76		-0.1358	-0.0593	0.0004	
318	SLU 41	-0.85	0.2	31.53		-0.1414	-0.0546	0.0004	
318	SLU 42	-0.96	0.19	30.99		-0.1388	-0.0586	0.0004	
318	SLU 43	-0.49	0.19	29.85		-0.1351	-0.0387	0.0004	
318	SLU 44	-0.68	0.18	28.97		-0.1308	-0.0454	0.0004	
318	SLU 45	-0.49	0.2	30.26		-0.1395	-0.0393	0.0004	
318	SLU 46	-0.61	0.19	29.73		-0.1369	-0.0433	0.0004	
318	SLU 47	-0.66	0.19	29.2		-0.1338	-0.0447	0.0004	
318	SLU 48	-0.46	0.2	30.49		-0.1425	-0.0386	0.0004	
318	SLU 49	-0.58	0.2	29.96		-0.1399	-0.0426	0.0004	
318	SLU 50	-0.44	0.2	30.32		-0.1411	-0.0374	0.0004	
318	SLU 51	-0.55	0.19	29.79		-0.1385	-0.0414	0.0004	
318	SLU 52	-0.89	0.2	32.26		-0.143	-0.0557	0.0004	
318	SLU 53	-0.7	0.21	33.55		-0.1517	-0.0496	0.0005	
318	SLU 54	-0.81	0.21	33.02		-0.1491	-0.0536	0.0005	
318	SLU 55	-0.86	0.2	32.49		-0.1461	-0.0551	0.0004	
318	SLU 56	-0.67	0.22	33.78		-0.1547	-0.0489	0.0005	
318	SLU 57	-0.78	0.21	33.25		-0.1522	-0.0529	0.0005	





Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
318	SLU 58	-0.64	0.22	33.61	-0.1534	-0.0477	0.0005	
318	SLU 59	-0.76	0.21	33.08	-0.1508	-0.0517	0.0005	
318	SLU 60	-0.79	0.22	34.56	-0.1526	-0.0535	0.0005	
318	SLU 61	-0.9	0.21	34.02	-0.15	-0.0575	0.0005	
318	SLU 62	-0.76	0.22	34.79	-0.1556	-0.0528	0.0005	
318	SLU 63	-0.87	0.21	34.26	-0.153	-0.0568	0.0005	
318	SLU 64	-0.65	0.21	32.72	-0.1485	-0.0472	0.0005	
318	SLU 65	-0.84	0.2	31.84	-0.1442	-0.0539	0.0004	
318	SLU 66	-0.65	0.22	33.13	-0.1529	-0.0477	0.0005	
318	SLU 67	-0.76	0.21	32.59	-0.1503	-0.0517	0.0005	
318	SLU 68	-0.82	0.21	32.07	-0.1472	-0.0532	0.0004	
318	SLU 69	-0.62	0.22	33.36	-0.1559	-0.047	0.0005	
318	SLU 70	-0.74	0.21	32.83	-0.1533	-0.051	0.0005	
318	SLU 71	-0.59	0.22	33.19	-0.1545	-0.0458	0.0005	
318	SLU 72	-0.71	0.21	32.66	-0.1519	-0.0498	0.0005	
318	SLU 73	-1.05	0.22	35.13	-0.1564	-0.0642	0.0005	
318	SLU 74	-0.85	0.23	36.42	-0.1651	-0.058	0.0005	
318	SLU 75	-0.97	0.23	35.89	-0.1625	-0.0621	0.0005	
318	SLU 76	-1.02	0.22	35.36	-0.1595	-0.0635	0.0005	
318	SLU 77	-0.83	0.24	36.65	-0.1681	-0.0574	0.0005	
318	SLU 78	-0.94	0.23	36.12	-0.1656	-0.0614	0.0005	
318	SLU 79	-0.8	0.23	36.48	-0.1668	-0.0562	0.0005	
318	SLU 80	-0.92	0.23	35.95	-0.1642	-0.0602	0.0005	
318	SLU 81	-0.95	0.23	37.43	-0.166	-0.062	0.0005	
318	SLU 82	-1.06	0.23	36.89	-0.1634	-0.066	0.0005	
318	SLU 83	-0.92	0.24	37.66	-0.169	-0.0613	0.0005	
318	SLU 84	-1.03	0.23	37.13	-0.1664	-0.0653	0.0005	
318	SLE RA 1	-0.47	0.16	24.54	-0.1113	-0.0344	0.0003	
318	SLE RA 2	-0.59	0.15	23.95	-0.1084	-0.0389	0.0003	
318	SLE RA 3	-0.46	0.16	24.81	-0.1142	-0.0348	0.0004	
318	SLE RA 4	-0.54	0.16	24.46	-0.1125	-0.0375	0.0003	
318	SLE RA 5	-0.58	0.15	24.11	-0.1104	-0.0384	0.0003	
318	SLE RA 6	-0.45	0.16	24.96	-0.1162	-0.0343	0.0004	
318	SLE RA 7	-0.52	0.16	24.61	-0.1145	-0.037	0.0003	
318	SLE RA 8	-0.43	0.16	24.85	-0.1153	-0.0335	0.0004	
318	SLE RA 9	-0.51	0.16	24.5	-0.1136	-0.0362	0.0003	
318	SLE RA 10	-0.73	0.16	26.15	-0.1166	-0.0458	0.0004	
318	SLE RA 11	-0.6	0.17	27	-0.1224	-0.0417	0.0004	
318	SLE RA 12	-0.68	0.17	26.65	-0.1206	-0.0443	0.0004	
318	SLE RA 13	-0.71	0.17	26.3	-0.1186	-0.0453	0.0004	
318	SLE RA 14	-0.58	0.17	27.16	-0.1244	-0.0412	0.0004	
318	SLE RA 15	-0.66	0.17	26.8	-0.1227	-0.0439	0.0004	
318	SLE RA 16	-0.57	0.17	27.04	-0.1235	-0.0404	0.0004	
318	SLE RA 17	-0.64	0.17	26.69	-0.1217	-0.0431	0.0004	
318	SLE RA 18	-0.66	0.17	27.68	-0.1229	-0.0443	0.0004	
318	SLE RA 19	-0.74	0.17	27.32	-0.1212	-0.047	0.0004	
318	SLE RA 20	-0.64	0.18	27.83	-0.1249	-0.0438	0.0004	
318	SLE RA 21	-0.72	0.17	27.48	-0.1232	-0.0465	0.0004	
318	SLE FR 1	-0.47	0.16	24.54	-0.1113	-0.0344	0.0003	
318	SLE FR 2	-0.49	0.16	24.42	-0.1107	-0.0353	0.0003	
318	SLE FR 3	-0.46	0.16	24.6	-0.1121	-0.0343	0.0003	
318	SLE FR 4	-0.55	0.16	25.36	-0.1142	-0.0383	0.0004	
318	SLE FR 5	-0.52	0.16	25.54	-0.1156	-0.0372	0.0004	
318	SLE FR 6	-0.56	0.17	26.11	-0.1171	-0.0394	0.0004	
318	SLE QP 1	-0.47	0.16	24.54	-0.1113	-0.0344	0.0003	
318	SLE QP 2	-0.52	0.16	25.48	-0.1148	-0.0374	0.0004	
318	SLD 1	6.03	-0.03	21.06	-0.1642	0.2506	0	
318	SLD 2	6.03	-0.03	21.06	-0.1642	0.2506	0	
318	SLD 3	4.75	0.2	24.76	0.0795	0.1942	0.0004	
318	SLD 4	4.75	0.2	24.76	0.0795	0.1942	0.0004	
318	SLD 5	3.38	-0.25	18.55	-0.4992	0.1346	-0.0003	
318	SLD 6	3.38	-0.25	18.55	-0.4992	0.1346	-0.0003	
318	SLD 7	-0.88	0.53	30.87	0.3131	-0.0535	0.0009	
318	SLD 8	-0.88	0.53	30.87	0.3131	-0.0535	0.0009	
318	SLD 9	-0.17	-0.21	20.09	-0.5426	-0.0213	-0.0002	
318	SLD 10	-0.17	-0.21	20.09	-0.5426	-0.0213	-0.0002	
318	SLD 11	-4.43	0.57	32.41	0.2697	-0.2093	0.001	
318	SLD 12	-4.43	0.57	32.41	0.2697	-0.2093	0.001	
318	SLD 13	-5.8	0.12	26.21	-0.309	-0.269	0.0003	
318	SLD 14	-5.8	0.12	26.21	-0.309	-0.269	0.0003	
318	SLD 15	-7.08	0.35	29.9	-0.0653	-0.3254	0.0007	
318	SLD 16	-7.08	0.35	29.9	-0.0653	-0.3254	0.0007	
318	SLV 1	14.84	-0.31	14.9	-0.2391	0.6378	-0.0004	
318	SLV 2	14.84	-0.31	14.9	-0.2391	0.6378	-0.0004	
318	SLV 3	11.78	0.27	23.96	0.3674	0.5025	0.0005	
318	SLV 4	11.78	0.27	23.96	0.3674	0.5025	0.0005	
318	SLV 5	8.73	-0.86	8.57	-1.072	0.3704	-0.0013	
318	SLV 6	8.73	-0.86	8.57	-1.072	0.3704	-0.0013	
318	SLV 7	-1.48	1.07	38.77	0.9498	-0.0807	0.0018	
318	SLV 8	-1.48	1.07	38.77	0.9498	-0.0807	0.0018	
318	SLV 9	0.43	-0.75	12.2	-1.1793	0.0059	-0.0011	
318	SLV 10	0.43	-0.75	12.2	-1.1793	0.0059	-0.0011	
318	SLV 11	-9.78	1.18	42.4	0.8424	-0.4452	0.002	
318	SLV 12	-9.78	1.18	42.4	0.8424	-0.4452	0.002	
318	SLV 13	-12.83	0.05	27	-0.597	-0.5773	0.0002	
318	SLV 14	-12.83	0.05	27	-0.597	-0.5773	0.0002	
318	SLV 15	-15.89	0.63	36.06	0.0096	-0.7126	0.0011	
318	SLV 16	-15.89	0.63	36.06	0.0096	-0.7126	0.0011	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
319	SLU 1	0.11	0.15	26.33	-0.0927	-0.0093	0.0002	
319	SLU 2	-0.15	0.14	25.11	-0.0888	-0.0189	0.0002	
319	SLU 3	0.14	0.15	26.72	-0.0961	-0.0074	0.0002	
319	SLU 4	-0.02	0.15	25.99	-0.0938	-0.0131	0.0002	
319	SLU 5	-0.11	0.14	25.28	-0.091	-0.0158	0.0002	
319	SLU 6	0.18	0.15	26.89	-0.0983	-0.0043	0.0002	
319	SLU 7	0.02	0.15	26.16	-0.096	-0.0101	0.0002	
319	SLU 8	0.19	0.15	26.67	-0.0971	-0.0032	0.0002	
319	SLU 9	0.04	0.15	25.94	-0.0947	-0.009	0.0002	
319	SLU 10	-0.32	0.16	28.69	-0.0992	-0.0281	0.0002	
319	SLU 11	-0.04	0.17	30.3	-0.1064	-0.0166	0.0002	
319	SLU 12	-0.19	0.16	29.57	-0.1041	-0.0224	0.0002	
319	SLU 13	-0.28	0.16	28.86	-0.1013	-0.0251	0.0002	
319	SLU 14	0	0.17	30.46	-0.1086	-0.0136	0.0003	
319	SLU 15	-0.15	0.17	29.74	-0.1063	-0.0193	0.0002	
319	SLU 16	0.02	0.17	30.24	-0.1074	-0.0125	0.0002	
319	SLU 17	-0.14	0.16	29.51	-0.1051	-0.0182	0.0002	
319	SLU 18	-0.14	0.17	31.44	-0.1074	-0.0225	0.0002	
319	SLU 19	-0.3	0.17	30.71	-0.1051	-0.0282	0.0002	
319	SLU 20	-0.1	0.17	31.61	-0.1096	-0.0195	0.0003	
319	SLU 21	-0.25	0.17	30.88	-0.1073	-0.0252	0.0002	
319	SLU 22	0	0.17	29.45	-0.1039	-0.015	0.0002	
319	SLU 23	-0.26	0.16	28.23	-0.1	-0.0246	0.0002	
319	SLU 24	0.03	0.17	29.84	-0.1073	-0.0131	0.0002	
319	SLU 25	-0.13	0.17	29.11	-0.105	-0.0189	0.0002	
319	SLU 26	-0.21	0.16	28.4	-0.1022	-0.0216	0.0002	
319	SLU 27	0.07	0.17	30	-0.1095	-0.0101	0.0003	
319	SLU 28	-0.08	0.17	29.28	-0.1071	-0.0158	0.0002	
319	SLU 29	0.09	0.17	29.78	-0.1082	-0.009	0.0002	
319	SLU 30	-0.07	0.17	29.05	-0.1059	-0.0147	0.0002	
319	SLU 31	-0.43	0.17	31.81	-0.1103	-0.0339	0.0003	
319	SLU 32	-0.14	0.19	33.41	-0.1176	-0.0224	0.0003	
319	SLU 33	-0.3	0.18	32.68	-0.1153	-0.0281	0.0003	
319	SLU 34	-0.39	0.18	31.98	-0.1125	-0.0308	0.0003	
319	SLU 35	-0.1	0.19	33.58	-0.1198	-0.0193	0.0003	
319	SLU 36	-0.26	0.18	32.85	-0.1174	-0.0251	0.0003	
319	SLU 37	-0.09	0.19	33.36	-0.1185	-0.0182	0.0003	
319	SLU 38	-0.24	0.18	32.63	-0.1162	-0.024	0.0003	
319	SLU 39	-0.25	0.19	34.56	-0.1186	-0.0282	0.0003	
319	SLU 40	-0.4	0.18	33.83	-0.1163	-0.034	0.0003	
319	SLU 41	-0.21	0.19	34.73	-0.1208	-0.0252	0.0003	
319	SLU 42	-0.36	0.19	34	-0.1185	-0.031	0.0003	
319	SLU 43	0.18	0.19	33.16	-0.1167	-0.0101	0.0003	
319	SLU 44	-0.08	0.18	31.94	-0.1128	-0.0197	0.0003	
319	SLU 45	0.21	0.19	33.55	-0.1201	-0.0082	0.0003	
319	SLU 46	0.05	0.19	32.82	-0.1178	-0.0139	0.0003	
319	SLU 47	-0.04	0.18	32.11	-0.115	-0.0166	0.0003	
319	SLU 48	0.25	0.19	33.72	-0.1223	-0.0052	0.0003	
319	SLU 49	0.09	0.19	32.99	-0.12	-0.0109	0.0003	
319	SLU 50	0.26	0.19	33.5	-0.121	-0.0041	0.0003	
319	SLU 51	0.11	0.19	32.77	-0.1187	-0.0098	0.0003	
319	SLU 52	-0.25	0.19	35.52	-0.1231	-0.0289	0.0003	
319	SLU 53	0.03	0.21	37.13	-0.1304	-0.0174	0.0003	
319	SLU 54	-0.12	0.2	36.4	-0.1281	-0.0232	0.0003	
319	SLU 55	-0.21	0.2	35.69	-0.1253	-0.0259	0.0003	
319	SLU 56	0.07	0.21	37.29	-0.1326	-0.0144	0.0003	
319	SLU 57	-0.08	0.21	36.57	-0.1303	-0.0201	0.0003	
319	SLU 58	0.09	0.21	37.07	-0.1314	-0.0133	0.0003	
319	SLU 59	-0.07	0.2	36.34	-0.129	-0.019	0.0003	
319	SLU 60	-0.07	0.21	38.27	-0.1314	-0.0233	0.0003	
319	SLU 61	-0.23	0.2	37.54	-0.1291	-0.029	0.0003	
319	SLU 62	-0.03	0.21	38.44	-0.1336	-0.0203	0.0003	
319	SLU 63	-0.18	0.21	37.71	-0.1313	-0.026	0.0003	
319	SLU 64	0.07	0.2	36.28	-0.1279	-0.0158	0.0003	
319	SLU 65	-0.19	0.2	35.06	-0.124	-0.0254	0.0003	
319	SLU 66	0.1	0.21	36.67	-0.1313	-0.0139	0.0003	
319	SLU 67	-0.06	0.2	35.94	-0.1289	-0.0197	0.0003	
319	SLU 68	-0.14	0.2	35.23	-0.1262	-0.0224	0.0003	
319	SLU 69	0.14	0.21	36.83	-0.1334	-0.0109	0.0003	
319	SLU 70	-0.01	0.21	36.11	-0.1311	-0.0167	0.0003	
319	SLU 71	0.16	0.21	36.61	-0.1322	-0.0098	0.0003	
319	SLU 72	0	0.2	35.88	-0.1299	-0.0156	0.0003	
319	SLU 73	-0.36	0.21	38.64	-0.1343	-0.0347	0.0003	
319	SLU 74	-0.07	0.22	40.24	-0.1416	-0.0232	0.0003	
319	SLU 75	-0.23	0.22	39.51	-0.1393	-0.0289	0.0003	
319	SLU 76	-0.32	0.21	38.81	-0.1365	-0.0316	0.0003	
319	SLU 77	-0.03	0.23	40.41	-0.1438	-0.0202	0.0003	
319	SLU 78	-0.19	0.22	39.68	-0.1414	-0.0259	0.0003	
319	SLU 79	-0.02	0.23	40.19	-0.1425	-0.0191	0.0003	
319	SLU 80	-0.17	0.22	39.46	-0.1402	-0.0248	0.0003	
319	SLU 81	-0.18	0.23	41.39	-0.1426	-0.029	0.0003	
319	SLU 82	-0.33	0.22	40.66	-0.1403	-0.0348	0.0003	
319	SLU 83	-0.14	0.23	41.56	-0.1448	-0.026	0.0003	
319	SLU 84	-0.29	0.23	40.83	-0.1424	-0.0318	0.0003	
319	SLE RA 1	0.08	0.15	27.22	-0.0959	-0.0109	0.0002	
319	SLE RA 2	-0.09	0.15	26.41	-0.0933	-0.0173	0.0002	
319	SLE RA 3	0.1	0.16	27.48	-0.0982	-0.0096	0.0002	
319	SLE RA 4	-0.01	0.15	26.99	-0.0966	-0.0135	0.0002	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
319	SLE RA 5	-0.07	0.15	26.52	-0.0948	-0.0153	0.0002
319	SLE RA 6	0.13	0.16	27.59	-0.0996	-0.0076	0.0002
319	SLE RA 7	0.02	0.15	27.11	-0.0981	-0.0115	0.0002
319	SLE RA 8	0.14	0.16	27.44	-0.0988	-0.0069	0.0002
319	SLE RA 9	0.03	0.15	26.96	-0.0973	-0.0107	0.0002
319	SLE RA 10	-0.21	0.16	28.8	-0.1002	-0.0235	0.0002
319	SLE RA 11	-0.02	0.17	29.86	-0.105	-0.0158	0.0002
319	SLE RA 12	-0.12	0.16	29.38	-0.1035	-0.0196	0.0002
319	SLE RA 13	-0.18	0.16	28.91	-0.1016	-0.0215	0.0002
319	SLE RA 14	0.01	0.17	29.98	-0.1065	-0.0138	0.0002
319	SLE RA 15	-0.09	0.17	29.49	-0.105	-0.0176	0.0002
319	SLE RA 16	0.02	0.17	29.83	-0.1057	-0.0131	0.0002
319	SLE RA 17	-0.08	0.16	29.34	-0.1041	-0.0169	0.0002
319	SLE RA 18	-0.09	0.17	30.63	-0.1057	-0.0197	0.0002
319	SLE RA 19	-0.19	0.17	30.14	-0.1042	-0.0236	0.0002
319	SLE RA 20	-0.06	0.17	30.74	-0.1072	-0.0177	0.0002
319	SLE RA 21	-0.16	0.17	30.25	-0.1056	-0.0215	0.0002
319	SLE FR 1	0.08	0.15	27.22	-0.0959	-0.0109	0.0002
319	SLE FR 2	0.04	0.15	27.06	-0.0954	-0.0122	0.0002
319	SLE FR 3	0.09	0.15	27.26	-0.0965	-0.0101	0.0002
319	SLE FR 4	-0.01	0.16	28.08	-0.0983	-0.0148	0.0002
319	SLE FR 5	0.04	0.16	28.29	-0.0994	-0.0128	0.0002
319	SLE FR 6	0	0.16	28.92	-0.1008	-0.0153	0.0002
319	SLE QP 1	0.08	0.15	27.22	-0.0959	-0.0109	0.0002
319	SLE QP 2	0.03	0.16	28.24	-0.0988	-0.0136	0.0002
319	SLD 1	6.04	-0.01	22.49	-0.136	0.2602	0.0001
319	SLD 2	6.04	-0.01	22.49	-0.136	0.2602	0.0001
319	SLD 3	4.87	0.18	26.17	0.0707	0.2107	0.0002
319	SLD 4	4.87	0.18	26.17	0.0707	0.2107	0.0002
319	SLD 5	3.61	-0.18	20.93	-0.4234	0.1438	0
319	SLD 6	3.61	-0.18	20.93	-0.4234	0.1438	0
319	SLD 7	-0.29	0.45	33.2	0.2654	-0.0215	0.0004
319	SLD 8	-0.29	0.45	33.2	0.2654	-0.0215	0.0004
319	SLD 9	0.35	-0.14	23.28	-0.4631	-0.0056	0
319	SLD 10	0.35	-0.14	23.28	-0.4631	-0.0056	0
319	SLD 11	-3.55	0.5	35.55	0.2257	-0.1709	0.0005
319	SLD 12	-3.55	0.5	35.55	0.2257	-0.1709	0.0005
319	SLD 13	-4.81	0.14	30.31	-0.2684	-0.2378	0.0002
319	SLD 14	-4.81	0.14	30.31	-0.2684	-0.2378	0.0002
319	SLD 15	-5.98	0.33	33.99	-0.0617	-0.2874	0.0004
319	SLD 16	-5.98	0.33	33.99	-0.0617	-0.2874	0.0004
319	SLV 1	14.12	-0.26	14.63	-0.1917	0.6283	-0.0001
319	SLV 2	14.12	-0.26	14.63	-0.1917	0.6283	-0.0001
319	SLV 3	11.31	0.21	23.52	0.3228	0.5099	0.0002
319	SLV 4	11.31	0.21	23.52	0.3228	0.5099	0.0002
319	SLV 5	8.51	-0.69	10.68	-0.907	0.3585	-0.0003
319	SLV 6	8.51	-0.69	10.68	-0.907	0.3585	-0.0003
319	SLV 7	-0.84	0.9	40.3	0.8079	-0.036	0.0007
319	SLV 8	-0.84	0.9	40.3	0.8079	-0.036	0.0007
319	SLV 9	0.9	-0.58	16.18	-1.0056	0.0089	-0.0002
319	SLV 10	0.9	-0.58	16.18	-1.0056	0.0089	-0.0002
319	SLV 11	-8.45	1	45.8	0.7093	-0.3856	0.0008
319	SLV 12	-8.45	1	45.8	0.7093	-0.3856	0.0008
319	SLV 13	-11.25	0.1	32.97	-0.5205	-0.5371	0.0003
319	SLV 14	-11.25	0.1	32.97	-0.5205	-0.5371	0.0003
319	SLV 15	-14.06	0.58	41.85	-0.006	-0.6554	0.0006
319	SLV 16	-14.06	0.58	41.85	-0.006	-0.6554	0.0006
320	SLU 1	0.03	0.12	29.89	-0.0711	-0.0238	0.0001
320	SLU 2	-0.25	0.11	28.26	-0.0685	-0.0335	0.0001
320	SLU 3	0.05	0.12	30.28	-0.0736	-0.0239	0.0001
320	SLU 4	-0.12	0.12	29.31	-0.072	-0.0297	0.0001
320	SLU 5	-0.23	0.12	28.37	-0.07	-0.0331	0.0001
320	SLU 6	0.07	0.13	30.38	-0.075	-0.0235	0.0001
320	SLU 7	-0.1	0.12	29.41	-0.0734	-0.0293	0.0001
320	SLU 8	0.07	0.12	30.09	-0.0741	-0.0231	0.0001
320	SLU 9	-0.1	0.12	29.12	-0.0725	-0.0289	0.0001
320	SLU 10	-0.48	0.13	32.24	-0.0763	-0.0461	0.0001
320	SLU 11	-0.18	0.14	34.26	-0.0814	-0.0366	0.0001
320	SLU 12	-0.35	0.13	33.28	-0.0798	-0.0424	0.0001
320	SLU 13	-0.46	0.13	32.34	-0.0778	-0.0458	0.0001
320	SLU 14	-0.16	0.14	34.36	-0.0828	-0.0362	0.0001
320	SLU 15	-0.33	0.14	33.38	-0.0813	-0.042	0.0001
320	SLU 16	-0.15	0.14	34.07	-0.0819	-0.0357	0.0001
320	SLU 17	-0.33	0.13	33.09	-0.0803	-0.0415	0.0001
320	SLU 18	-0.29	0.14	35.57	-0.0823	-0.0419	0.0001
320	SLU 19	-0.46	0.14	34.59	-0.0807	-0.0477	0.0001
320	SLU 20	-0.27	0.14	35.67	-0.0838	-0.0415	0.0001
320	SLU 21	-0.44	0.14	34.69	-0.0822	-0.0473	0.0001
320	SLU 22	-0.11	0.13	33.36	-0.0795	-0.0331	0.0001
320	SLU 23	-0.4	0.13	31.74	-0.0769	-0.0428	0.0001
320	SLU 24	-0.1	0.14	33.76	-0.082	-0.0332	0.0001
320	SLU 25	-0.27	0.14	32.78	-0.0804	-0.039	0.0001
320	SLU 26	-0.38	0.13	31.84	-0.0783	-0.0424	0.0001
320	SLU 27	-0.08	0.14	33.86	-0.0834	-0.0328	0.0001
320	SLU 28	-0.25	0.14	32.88	-0.0818	-0.0386	0.0001
320	SLU 29	-0.07	0.14	33.57	-0.0824	-0.0323	0.0001
320	SLU 30	-0.25	0.14	32.59	-0.0808	-0.0381	0.0001
320	SLU 31	-0.63	0.14	35.71	-0.0847	-0.0554	0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
320	SLU 32			-0.32	0.15	37.73	-0.0898	-0.0458	0.0001
320	SLU 33			-0.5	0.15	36.75	-0.0882	-0.0516	0.0001
320	SLU 34			-0.61	0.14	35.81	-0.0861	-0.055	0.0001
320	SLU 35			-0.3	0.15	37.83	-0.0912	-0.0454	0.0001
320	SLU 36			-0.48	0.15	36.85	-0.0896	-0.0512	0.0001
320	SLU 37			-0.3	0.15	37.54	-0.0902	-0.045	0.0001
320	SLU 38			-0.47	0.15	36.56	-0.0887	-0.0508	0.0001
320	SLU 39			-0.44	0.15	39.04	-0.0907	-0.0512	0.0001
320	SLU 40			-0.61	0.15	38.06	-0.0891	-0.057	0.0001
320	SLU 41			-0.42	0.16	39.14	-0.0921	-0.0508	0.0001
320	SLU 42			-0.59	0.15	38.16	-0.0905	-0.0566	0.0001
320	SLU 43			0.09	0.15	37.67	-0.0896	-0.0278	0.0001
320	SLU 44			-0.19	0.15	36.04	-0.087	-0.0375	0.0001
320	SLU 45			0.11	0.16	38.06	-0.0921	-0.0279	0.0001
320	SLU 46			-0.06	0.15	37.08	-0.0905	-0.0337	0.0001
320	SLU 47			-0.17	0.15	36.14	-0.0884	-0.0371	0.0001
320	SLU 48			0.13	0.16	38.16	-0.0935	-0.0275	0.0001
320	SLU 49			-0.04	0.15	37.18	-0.0919	-0.0333	0.0001
320	SLU 50			0.13	0.16	37.87	-0.0925	-0.027	0.0001
320	SLU 51			-0.04	0.15	36.89	-0.0909	-0.0328	0.0001
320	SLU 52			-0.42	0.16	40.01	-0.0948	-0.0501	0.0001
320	SLU 53			-0.12	0.17	42.03	-0.0999	-0.0405	0.0001
320	SLU 54			-0.29	0.17	41.06	-0.0983	-0.0463	0.0001
320	SLU 55			-0.4	0.16	40.12	-0.0962	-0.0497	0.0001
320	SLU 56			-0.1	0.17	42.13	-0.1013	-0.0402	0.0001
320	SLU 57			-0.27	0.17	41.16	-0.0997	-0.046	0.0001
320	SLU 58			-0.09	0.17	41.84	-0.1003	-0.0397	0.0001
320	SLU 59			-0.27	0.17	40.87	-0.0988	-0.0455	0.0001
320	SLU 60			-0.23	0.17	43.35	-0.1008	-0.0459	0.0001
320	SLU 61			-0.4	0.17	42.37	-0.0992	-0.0517	0.0001
320	SLU 62			-0.21	0.17	43.45	-0.1022	-0.0455	0.0001
320	SLU 63			-0.38	0.17	42.47	-0.1006	-0.0513	0.0001
320	SLU 64			-0.05	0.17	41.14	-0.098	-0.0371	0.0001
320	SLU 65			-0.34	0.16	39.51	-0.0954	-0.0467	0.0001
320	SLU 66			-0.04	0.17	41.53	-0.1004	-0.0371	0.0001
320	SLU 67			-0.21	0.17	40.56	-0.0988	-0.0429	0.0001
320	SLU 68			-0.32	0.16	39.61	-0.0968	-0.0463	0.0001
320	SLU 69			-0.02	0.17	41.63	-0.1019	-0.0368	0.0001
320	SLU 70			-0.19	0.17	40.66	-0.1003	-0.0426	0.0001
320	SLU 71			-0.01	0.17	41.34	-0.1009	-0.0363	0.0001
320	SLU 72			-0.19	0.17	40.37	-0.0993	-0.0421	0.0001
320	SLU 73			-0.57	0.17	43.49	-0.1032	-0.0594	0.0001
320	SLU 74			-0.26	0.18	45.51	-0.1082	-0.0498	0.0001
320	SLU 75			-0.44	0.18	44.53	-0.1066	-0.0556	0.0001
320	SLU 76			-0.55	0.18	43.59	-0.1046	-0.059	0.0001
320	SLU 77			-0.24	0.19	45.61	-0.1097	-0.0494	0.0001
320	SLU 78			-0.42	0.18	44.63	-0.1081	-0.0552	0.0001
320	SLU 79			-0.24	0.18	45.32	-0.1087	-0.049	0.0001
320	SLU 80			-0.41	0.18	44.34	-0.1071	-0.0548	0.0001
320	SLU 81			-0.38	0.19	46.82	-0.1091	-0.0551	0.0001
320	SLU 82			-0.55	0.18	45.84	-0.1076	-0.0609	0.0001
320	SLU 83			-0.36	0.19	46.92	-0.1106	-0.0548	0.0001
320	SLU 84			-0.53	0.18	45.94	-0.109	-0.0606	0.0001
320	SLE RA 1			-0.01	0.12	30.88	-0.0735	-0.0265	0.0001
320	SLE RA 2			-0.2	0.12	29.8	-0.0718	-0.0329	0.0001
320	SLE RA 3			0	0.13	31.14	-0.0752	-0.0265	0.0001
320	SLE RA 4			-0.11	0.12	30.49	-0.0741	-0.0304	0.0001
320	SLE RA 5			-0.19	0.12	29.87	-0.0728	-0.0327	0.0001
320	SLE RA 6			0.01	0.13	31.21	-0.0761	-0.0263	0.0001
320	SLE RA 7			-0.1	0.13	30.56	-0.0751	-0.0301	0.0001
320	SLE RA 8			0.02	0.13	31.02	-0.0755	-0.026	0.0001
320	SLE RA 9			-0.1	0.12	30.37	-0.0744	-0.0298	0.0001
320	SLE RA 10			-0.35	0.13	32.45	-0.077	-0.0414	0.0001
320	SLE RA 11			-0.15	0.14	33.79	-0.0804	-0.035	0.0001
320	SLE RA 12			-0.26	0.13	33.14	-0.0793	-0.0388	0.0001
320	SLE RA 13			-0.34	0.13	32.52	-0.078	-0.0411	0.0001
320	SLE RA 14			-0.14	0.14	33.86	-0.0813	-0.0347	0.0001
320	SLE RA 15			-0.25	0.14	33.21	-0.0803	-0.0386	0.0001
320	SLE RA 16			-0.13	0.14	33.67	-0.0807	-0.0344	0.0001
320	SLE RA 17			-0.25	0.13	33.02	-0.0796	-0.0383	0.0001
320	SLE RA 18			-0.23	0.14	34.67	-0.081	-0.0385	0.0001
320	SLE RA 19			-0.34	0.14	34.02	-0.0799	-0.0424	0.0001
320	SLE RA 20			-0.21	0.14	34.74	-0.0819	-0.0383	0.0001
320	SLE RA 21			-0.33	0.14	34.08	-0.0809	-0.0421	0.0001
320	SLE FR 1			-0.01	0.12	30.88	-0.0735	-0.0265	0.0001
320	SLE FR 2			-0.05	0.12	30.67	-0.0732	-0.0278	0.0001
320	SLE FR 3			0	0.13	30.91	-0.0739	-0.0264	0.0001
320	SLE FR 4			-0.11	0.13	31.8	-0.0754	-0.0314	0.0001
320	SLE FR 5			-0.07	0.13	32.05	-0.0762	-0.03	0.0001
320	SLE FR 6			-0.12	0.13	32.78	-0.0773	-0.0325	0.0001
320	SLE QP 1			-0.01	0.12	30.88	-0.0735	-0.0265	0.0001
320	SLE QP 2			-0.07	0.13	32.02	-0.0758	-0.0301	0.0001
320	SLD 1			4.2	-0.02	23.85	-0.0968	0.2105	0.0001
320	SLD 2			4.2	-0.02	23.85	-0.0968	0.2105	0.0001
320	SLD 3			5.25	0.12	27.95	0.0619	0.1654	0.0002
320	SLD 4			5.25	0.12	27.95	0.0619	0.1654	0.0002
320	SLD 5			-0.39	-0.12	23.35	-0.3229	0.1105	0
320	SLD 6			-0.39	-0.12	23.35	-0.3229	0.1105	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
320	SLD 7	3.12	0.33	37.02	0.2063	-0.0398	0.0002
320	SLD 8	3.12	0.33	37.02	0.2063	-0.0398	0.0002
320	SLD 9	-3.27	-0.07	27.02	-0.3579	-0.0203	0
320	SLD 10	-3.27	-0.07	27.02	-0.3579	-0.0203	0
320	SLD 11	0.24	0.38	40.69	0.1713	-0.1707	0.0002
320	SLD 12	0.24	0.38	40.69	0.1713	-0.1707	0.0002
320	SLD 13	-5.4	0.14	36.09	-0.2135	-0.2256	0
320	SLD 14	-5.4	0.14	36.09	-0.2135	-0.2256	0
320	SLD 15	-4.35	0.27	40.19	-0.0547	-0.2707	0.0001
320	SLD 16	-4.35	0.27	40.19	-0.0547	-0.2707	0.0001
320	SLV 1	9.88	-0.23	12.81	-0.128	0.5338	0.0002
320	SLV 2	9.88	-0.23	12.81	-0.128	0.5338	0.0002
320	SLV 3	12.41	0.11	22.54	0.2674	0.4256	0.0003
320	SLV 4	12.41	0.11	22.54	0.2674	0.4256	0.0003
320	SLV 5	-0.93	-0.49	11.51	-0.6912	0.3032	-0.0001
320	SLV 6	-0.93	-0.49	11.51	-0.6912	0.3032	-0.0001
320	SLV 7	7.52	0.63	43.93	0.627	-0.0575	0.0004
320	SLV 8	7.52	0.63	43.93	0.627	-0.0575	0.0004
320	SLV 9	-7.66	-0.38	20.11	-0.7785	-0.0027	-0.0002
320	SLV 10	-7.66	-0.38	20.11	-0.7785	-0.0027	-0.0002
320	SLV 11	0.78	0.75	52.53	0.5397	-0.3634	0.0003
320	SLV 12	0.78	0.75	52.53	0.5397	-0.3634	0.0003
320	SLV 13	-12.56	0.15	41.5	-0.419	-0.4858	-0.0001
320	SLV 14	-12.56	0.15	41.5	-0.419	-0.4858	-0.0001
320	SLV 15	-10.03	0.49	51.23	-0.0235	-0.594	0
320	SLV 16	-10.03	0.49	51.23	-0.0235	-0.594	0
321	SLU 1	-0.68	0.06	34.17	-0.04	-0.0496	0
321	SLU 2	-0.95	0.06	32.05	-0.0394	-0.0586	0
321	SLU 3	-0.66	0.06	34.57	-0.0413	-0.0481	0
321	SLU 4	-0.82	0.06	33.3	-0.041	-0.0534	0
321	SLU 5	-0.91	0.06	32.08	-0.0402	-0.0561	0
321	SLU 6	-0.63	0.07	34.59	-0.0421	-0.0455	0
321	SLU 7	-0.79	0.06	33.33	-0.0417	-0.0509	0
321	SLU 8	-0.62	0.06	34.22	-0.0415	-0.0446	0
321	SLU 9	-0.78	0.06	32.95	-0.0412	-0.0499	0
321	SLU 10	-1.3	0.07	36.5	-0.0436	-0.076	0
321	SLU 11	-1.02	0.07	39.02	-0.0456	-0.0655	0
321	SLU 12	-1.17	0.07	37.75	-0.0452	-0.0709	0
321	SLU 13	-1.27	0.07	36.53	-0.0444	-0.0735	0
321	SLU 14	-0.98	0.07	39.04	-0.0464	-0.063	0
321	SLU 15	-1.14	0.07	37.77	-0.046	-0.0683	0
321	SLU 16	-0.98	0.07	38.66	-0.0458	-0.062	0
321	SLU 17	-1.13	0.07	37.4	-0.0454	-0.0674	0
321	SLU 18	-1.19	0.07	40.52	-0.0461	-0.0745	0
321	SLU 19	-1.35	0.07	39.25	-0.0457	-0.0799	0
321	SLU 20	-1.16	0.07	40.54	-0.0468	-0.072	0
321	SLU 21	-1.32	0.07	39.28	-0.0465	-0.0774	0
321	SLU 22	-0.92	0.07	38.07	-0.0446	-0.0617	0
321	SLU 23	-1.19	0.07	35.96	-0.044	-0.0706	0
321	SLU 24	-0.9	0.07	38.47	-0.0459	-0.0601	0
321	SLU 25	-1.06	0.07	37.21	-0.0456	-0.0655	0
321	SLU 26	-1.15	0.07	35.98	-0.0447	-0.0681	0
321	SLU 27	-0.87	0.07	38.5	-0.0467	-0.0575	0
321	SLU 28	-1.03	0.07	37.23	-0.0463	-0.0629	0
321	SLU 29	-0.86	0.07	38.12	-0.0461	-0.0566	0
321	SLU 30	-1.02	0.07	36.85	-0.0458	-0.0619	0
321	SLU 31	-1.54	0.08	40.41	-0.0482	-0.088	0
321	SLU 32	-1.26	0.08	42.92	-0.0502	-0.0775	0.0001
321	SLU 33	-1.41	0.08	41.65	-0.0498	-0.0829	0
321	SLU 34	-1.51	0.08	40.43	-0.049	-0.0855	0
321	SLU 35	-1.22	0.08	42.94	-0.0509	-0.075	0.0001
321	SLU 36	-1.38	0.08	41.68	-0.0506	-0.0803	0
321	SLU 37	-1.22	0.08	42.57	-0.0504	-0.074	0
321	SLU 38	-1.37	0.08	41.3	-0.05	-0.0794	0
321	SLU 39	-1.43	0.08	44.42	-0.0506	-0.0866	0.0001
321	SLU 40	-1.59	0.08	43.16	-0.0503	-0.0919	0
321	SLU 41	-1.4	0.08	44.45	-0.0514	-0.084	0.0001
321	SLU 42	-1.56	0.08	43.18	-0.0511	-0.0894	0.0001
321	SLU 43	-0.81	0.08	43.08	-0.0504	-0.0604	0.0001
321	SLU 44	-1.07	0.08	40.97	-0.0498	-0.0694	0.0001
321	SLU 45	-0.78	0.08	43.48	-0.0518	-0.0588	0.0001
321	SLU 46	-0.94	0.08	42.21	-0.0514	-0.0642	0.0001
321	SLU 47	-1.04	0.08	40.99	-0.0506	-0.0668	0.0001
321	SLU 48	-0.75	0.08	43.51	-0.0525	-0.0563	0.0001
321	SLU 49	-0.91	0.08	42.24	-0.0522	-0.0617	0.0001
321	SLU 50	-0.75	0.08	43.13	-0.052	-0.0553	0.0001
321	SLU 51	-0.9	0.08	41.86	-0.0516	-0.0607	0.0001
321	SLU 52	-1.42	0.09	45.41	-0.054	-0.0868	0.0001
321	SLU 53	-1.14	0.09	47.93	-0.056	-0.0763	0.0001
321	SLU 54	-1.3	0.09	46.66	-0.0556	-0.0816	0.0001
321	SLU 55	-1.39	0.09	45.44	-0.0548	-0.0843	0.0001
321	SLU 56	-1.11	0.09	47.95	-0.0568	-0.0737	0.0001
321	SLU 57	-1.26	0.09	46.68	-0.0564	-0.0791	0.0001
321	SLU 58	-1.1	0.09	47.57	-0.0562	-0.0728	0.0001
321	SLU 59	-1.26	0.09	46.31	-0.0558	-0.0781	0.0001
321	SLU 60	-1.31	0.09	49.43	-0.0565	-0.0853	0.0001
321	SLU 61	-1.47	0.09	48.16	-0.0561	-0.0907	0.0001
321	SLU 62	-1.28	0.09	49.46	-0.0573	-0.0828	0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
321	SLU 63	-1.44	0.09	48.19	-0.0569	-0.0881	0.0001		
321	SLU 64	-1.05	0.09	46.98	-0.055	-0.0724	0.0001		
321	SLU 65	-1.31	0.09	44.87	-0.0544	-0.0814	0.0001		
321	SLU 66	-1.02	0.09	47.39	-0.0563	-0.0709	0.0001		
321	SLU 67	-1.18	0.09	46.12	-0.056	-0.0762	0.0001		
321	SLU 68	-1.28	0.09	44.89	-0.0552	-0.0788	0.0001		
321	SLU 69	-0.99	0.09	47.41	-0.0571	-0.0683	0.0001		
321	SLU 70	-1.15	0.09	46.14	-0.0568	-0.0737	0.0001		
321	SLU 71	-0.99	0.09	47.03	-0.0566	-0.0673	0.0001		
321	SLU 72	-1.14	0.09	45.76	-0.0562	-0.0727	0.0001		
321	SLU 73	-1.66	0.09	49.32	-0.0586	-0.0988	0.0001		
321	SLU 74	-1.38	0.1	51.83	-0.0606	-0.0883	0.0001		
321	SLU 75	-1.54	0.09	50.56	-0.0602	-0.0937	0.0001		
321	SLU 76	-1.63	0.09	49.34	-0.0594	-0.0963	0.0001		
321	SLU 77	-1.35	0.1	51.86	-0.0614	-0.0857	0.0001		
321	SLU 78	-1.5	0.1	50.59	-0.061	-0.0911	0.0001		
321	SLU 79	-1.34	0.09	51.48	-0.0608	-0.0848	0.0001		
321	SLU 80	-1.5	0.09	50.21	-0.0604	-0.0901	0.0001		
321	SLU 81	-1.55	0.1	53.34	-0.0611	-0.0973	0.0001		
321	SLU 82	-1.71	0.1	52.07	-0.0607	-0.1027	0.0001		
321	SLU 83	-1.52	0.1	53.36	-0.0618	-0.0948	0.0001		
321	SLU 84	-1.68	0.1	52.09	-0.0615	-0.1002	0.0001		
321	SLE RA 1	-0.75	0.06	35.28	-0.0413	-0.0531	0		
321	SLE RA 2	-0.93	0.06	33.87	-0.0409	-0.059	0		
321	SLE RA 3	-0.74	0.07	35.55	-0.0422	-0.052	0		
321	SLE RA 4	-0.84	0.07	34.71	-0.042	-0.0556	0		
321	SLE RA 5	-0.91	0.06	33.89	-0.0414	-0.0573	0		
321	SLE RA 6	-0.72	0.07	35.57	-0.0427	-0.0503	0		
321	SLE RA 7	-0.82	0.07	34.72	-0.0425	-0.0539	0		
321	SLE RA 8	-0.71	0.07	35.32	-0.0423	-0.0497	0		
321	SLE RA 9	-0.82	0.07	34.47	-0.0421	-0.0533	0		
321	SLE RA 10	-1.16	0.07	36.84	-0.0437	-0.0707	0		
321	SLE RA 11	-0.97	0.07	38.52	-0.045	-0.0636	0		
321	SLE RA 12	-1.08	0.07	37.67	-0.0448	-0.0672	0		
321	SLE RA 13	-1.14	0.07	36.86	-0.0442	-0.069	0		
321	SLE RA 14	-0.95	0.07	38.53	-0.0455	-0.0619	0		
321	SLE RA 15	-1.06	0.07	37.69	-0.0453	-0.0655	0		
321	SLE RA 16	-0.95	0.07	38.28	-0.0452	-0.0613	0		
321	SLE RA 17	-1.05	0.07	37.43	-0.0449	-0.0649	0		
321	SLE RA 18	-1.09	0.07	39.52	-0.0453	-0.0697	0		
321	SLE RA 19	-1.19	0.07	38.67	-0.0451	-0.0733	0		
321	SLE RA 20	-1.07	0.07	39.53	-0.0459	-0.068	0		
321	SLE RA 21	-1.17	0.07	38.69	-0.0456	-0.0716	0		
321	SLE FR 1	-0.75	0.06	35.28	-0.0413	-0.0531	0		
321	SLE FR 2	-0.79	0.06	35	-0.0412	-0.0543	0		
321	SLE FR 3	-0.74	0.07	35.29	-0.0415	-0.0524	0		
321	SLE FR 4	-0.89	0.07	36.27	-0.0424	-0.0592	0		
321	SLE FR 5	-0.85	0.07	36.56	-0.0427	-0.0574	0		
321	SLE FR 6	-0.92	0.07	37.4	-0.0433	-0.0614	0		
321	SLE QP 1	-0.75	0.06	35.28	-0.0413	-0.0531	0		
321	SLE QP 2	-0.85	0.07	36.55	-0.0425	-0.0581	0		
321	SLD 1	3.2	-0.06	24.67	-0.0476	0.1749	-0.0001		
321	SLD 2	3.2	-0.06	24.67	-0.0476	0.1749	-0.0001		
321	SLD 3	4.08	0.02	29.84	0.0596	0.1375	0		
321	SLD 4	4.08	0.02	29.84	0.0596	0.1375	0		
321	SLD 5	-0.98	-0.1	25.15	-0.2065	0.0685	-0.0002		
321	SLD 6	-0.98	-0.1	25.15	-0.2065	0.0685	-0.0002		
321	SLD 7	1.97	0.18	42.38	0.1506	-0.0561	0.0002		
321	SLD 8	1.97	0.18	42.38	0.1506	-0.0561	0.0002		
321	SLD 9	-3.67	-0.05	30.73	-0.2356	-0.06	-0.0001		
321	SLD 10	-3.67	-0.05	30.73	-0.2356	-0.06	-0.0001		
321	SLD 11	-0.73	0.23	47.96	0.1215	-0.1846	0.0002		
321	SLD 12	-0.73	0.23	47.96	0.1215	-0.1846	0.0002		
321	SLD 13	-5.79	0.11	43.26	-0.1446	-0.2536	0.0001		
321	SLD 14	-5.79	0.11	43.26	-0.1446	-0.2536	0.0001		
321	SLD 15	-4.9	0.2	48.43	-0.0375	-0.291	0.0002		
321	SLD 16	-4.9	0.2	48.43	-0.0375	-0.291	0.0002		
321	SLV 1	8.59	-0.25	8.69	-0.0549	0.4877	-0.0003		
321	SLV 2	8.59	-0.25	8.69	-0.0549	0.4877	-0.0003		
321	SLV 3	10.71	-0.04	20.86	0.2124	0.3991	0		
321	SLV 4	10.71	-0.04	20.86	0.2124	0.3991	0		
321	SLV 5	-1.23	-0.35	9.74	-0.4515	0.24	-0.0004		
321	SLV 6	-1.23	-0.35	9.74	-0.4515	0.24	-0.0004		
321	SLV 7	5.82	0.35	50.3	0.4393	-0.0553	0.0004		
321	SLV 8	5.82	0.35	50.3	0.4393	-0.0553	0.0004		
321	SLV 9	-7.53	-0.22	22.81	-0.5243	-0.0608	-0.0003		
321	SLV 10	-7.53	-0.22	22.81	-0.5243	-0.0608	-0.0003		
321	SLV 11	-0.48	0.48	63.37	0.3665	-0.3561	0.0005		
321	SLV 12	-0.48	0.48	63.37	0.3665	-0.3561	0.0005		
321	SLV 13	-12.41	0.18	52.25	-0.2974	-0.5152	0.0001		
321	SLV 14	-12.41	0.18	52.25	-0.2974	-0.5152	0.0001		
321	SLV 15	-10.3	0.39	64.42	-0.0302	-0.6038	0.0004		
321	SLV 16	-10.3	0.39	64.42	-0.0302	-0.6038	0.0004		
322	SLU 1	-2.71	-0.04	39.74	0.0006	-0.1608	0		
322	SLU 2	-2.81	-0.03	37.09	-0.0013	-0.1614	0		
322	SLU 3	-2.73	-0.04	40.17	0.0004	-0.1622	0		
322	SLU 4	-2.79	-0.04	38.57	-0.0008	-0.1626	0		
322	SLU 5	-2.8	-0.03	37.02	-0.0016	-0.161	0		



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
322	SLU 6	-2.71	-0.04	40.1	0.0002	-0.1618	0
322	SLU 7	-2.77	-0.04	38.51	-0.001	-0.1622	0
322	SLU 8	-2.68	-0.04	39.61	0.0002	-0.16	0
322	SLU 9	-2.74	-0.04	38.02	-0.001	-0.1603	0
322	SLU 10	-3.41	-0.04	42.23	-0.0009	-0.1935	0
322	SLU 11	-3.33	-0.05	45.31	0.0008	-0.1943	0
322	SLU 12	-3.39	-0.04	43.71	-0.0004	-0.1947	0
322	SLU 13	-3.4	-0.04	42.16	-0.0011	-0.1931	0
322	SLU 14	-3.32	-0.05	45.24	0.0006	-0.1939	0
322	SLU 15	-3.37	-0.04	43.65	-0.0006	-0.1943	0
322	SLU 16	-3.29	-0.05	44.75	0.0006	-0.1921	0
322	SLU 17	-3.35	-0.04	43.16	-0.0006	-0.1924	0
322	SLU 18	-3.58	-0.05	47.09	0.0012	-0.2067	0
322	SLU 19	-3.63	-0.04	45.5	0.0001	-0.207	0
322	SLU 20	-3.56	-0.05	47.02	0.001	-0.2063	0
322	SLU 21	-3.62	-0.04	45.43	-0.0002	-0.2066	0
322	SLU 22	-3.18	-0.05	44.27	0.0008	-0.1866	0
322	SLU 23	-3.28	-0.04	41.61	-0.0012	-0.1872	0
322	SLU 24	-3.2	-0.05	44.69	0.0006	-0.188	0
322	SLU 25	-3.25	-0.04	43.1	-0.0006	-0.1884	0
322	SLU 26	-3.27	-0.04	41.55	-0.0014	-0.1868	0
322	SLU 27	-3.18	-0.05	44.62	0.0003	-0.1876	0
322	SLU 28	-3.24	-0.04	43.03	-0.0008	-0.188	0
322	SLU 29	-3.15	-0.05	44.14	0.0003	-0.1858	0
322	SLU 30	-3.21	-0.04	42.54	-0.0008	-0.1862	0
322	SLU 31	-3.88	-0.04	46.75	-0.0008	-0.2194	0
322	SLU 32	-3.8	-0.05	49.83	0.001	-0.2201	0
322	SLU 33	-3.86	-0.05	48.24	-0.0002	-0.2205	0
322	SLU 34	-3.87	-0.04	46.69	-0.001	-0.2189	0
322	SLU 35	-3.78	-0.05	49.77	0.0008	-0.2197	0
322	SLU 36	-3.84	-0.05	48.17	-0.0004	-0.2201	0
322	SLU 37	-3.76	-0.05	49.28	0.0008	-0.2179	0
322	SLU 38	-3.81	-0.05	47.69	-0.0004	-0.2183	0
322	SLU 39	-4.04	-0.05	51.61	0.0014	-0.2325	0
322	SLU 40	-4.1	-0.05	50.02	0.0002	-0.2329	0
322	SLU 41	-4.03	-0.05	51.55	0.0012	-0.2321	0
322	SLU 42	-4.09	-0.05	49.96	0	-0.2325	0
322	SLU 43	-3.37	-0.05	50.11	0.0008	-0.2002	0
322	SLU 44	-3.47	-0.04	47.46	-0.0012	-0.2008	0
322	SLU 45	-3.38	-0.05	50.54	0.0006	-0.2016	0
322	SLU 46	-3.44	-0.05	48.94	-0.0006	-0.2019	0
322	SLU 47	-3.45	-0.04	47.39	-0.0014	-0.2004	0
322	SLU 48	-3.37	-0.05	50.47	0.0003	-0.2012	0
322	SLU 49	-3.42	-0.05	48.88	-0.0008	-0.2015	0
322	SLU 50	-3.34	-0.05	49.98	0.0003	-0.1994	0
322	SLU 51	-3.4	-0.05	48.39	-0.0008	-0.1997	0
322	SLU 52	-4.07	-0.05	52.6	-0.0008	-0.2329	0
322	SLU 53	-3.98	-0.06	55.68	0.001	-0.2337	0
322	SLU 54	-4.04	-0.05	54.09	-0.0002	-0.234	0
322	SLU 55	-4.05	-0.05	52.54	-0.001	-0.2325	0
322	SLU 56	-3.97	-0.06	55.61	0.0007	-0.2333	0
322	SLU 57	-4.03	-0.05	54.02	-0.0004	-0.2336	0
322	SLU 58	-3.94	-0.06	55.13	0.0007	-0.2315	0
322	SLU 59	-4	-0.05	53.53	-0.0004	-0.2318	0
322	SLU 60	-4.23	-0.06	57.46	0.0014	-0.246	0
322	SLU 61	-4.29	-0.05	55.87	0.0002	-0.2464	0
322	SLU 62	-4.21	-0.06	57.4	0.0012	-0.2456	0
322	SLU 63	-4.27	-0.05	55.8	0	-0.246	0
322	SLU 64	-3.84	-0.06	54.64	0.0009	-0.226	0
322	SLU 65	-3.93	-0.05	51.98	-0.001	-0.2266	0
322	SLU 66	-3.85	-0.06	55.06	0.0007	-0.2274	0
322	SLU 67	-3.91	-0.05	53.47	-0.0005	-0.2278	0
322	SLU 68	-3.92	-0.05	51.92	-0.0013	-0.2262	0
322	SLU 69	-3.83	-0.06	55	0.0005	-0.227	0
322	SLU 70	-3.89	-0.05	53.4	-0.0007	-0.2274	0
322	SLU 71	-3.81	-0.06	54.51	0.0005	-0.2252	0
322	SLU 72	-3.87	-0.05	52.92	-0.0007	-0.2256	0
322	SLU 73	-4.54	-0.05	57.13	-0.0006	-0.2587	0
322	SLU 74	-4.45	-0.06	60.2	0.0011	-0.2595	0
322	SLU 75	-4.51	-0.06	58.61	-0.0001	-0.2599	0
322	SLU 76	-4.52	-0.05	57.06	-0.0008	-0.2583	0
322	SLU 77	-4.44	-0.06	60.14	0.0009	-0.2591	0
322	SLU 78	-4.5	-0.06	58.55	-0.0003	-0.2595	0
322	SLU 79	-4.41	-0.06	59.65	0.0009	-0.2573	0
322	SLU 80	-4.47	-0.06	58.06	-0.0003	-0.2577	0
322	SLU 81	-4.7	-0.06	61.99	0.0015	-0.2719	0
322	SLU 82	-4.76	-0.06	60.39	0.0003	-0.2722	0
322	SLU 83	-4.68	-0.06	61.92	0.0013	-0.2715	0
322	SLU 84	-4.74	-0.06	60.33	0.0001	-0.2718	0
322	SLE RA 1	-2.85	-0.04	41.04	0.0007	-0.1682	0
322	SLE RA 2	-2.91	-0.04	39.27	-0.0006	-0.1686	0
322	SLE RA 3	-2.86	-0.04	41.32	0.0005	-0.1691	0
322	SLE RA 4	-2.9	-0.04	40.25	-0.0003	-0.1694	0
322	SLE RA 5	-2.9	-0.04	39.22	-0.0008	-0.1683	0
322	SLE RA 6	-2.85	-0.04	41.27	0.0004	-0.1688	0
322	SLE RA 7	-2.89	-0.04	40.21	-0.0004	-0.1691	0
322	SLE RA 8	-2.83	-0.04	40.95	0.0004	-0.1676	0
322	SLE RA 9	-2.87	-0.04	39.89	-0.0004	-0.1679	0



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
322	SLE RA 10			-3.31	-0.04	42.69	-0.0004	-0.19	0
322	SLE RA 11			-3.26	-0.05	44.75	0.0008	-0.1905	0
322	SLE RA 12			-3.3	-0.04	43.68	0	-0.1908	0
322	SLE RA 13			-3.31	-0.04	42.65	-0.0005	-0.1897	0
322	SLE RA 14			-3.25	-0.05	44.7	0.0007	-0.1902	0
322	SLE RA 15			-3.29	-0.04	43.64	-0.0001	-0.1905	0
322	SLE RA 16			-3.23	-0.05	44.38	0.0007	-0.189	0
322	SLE RA 17			-3.27	-0.04	43.31	-0.0001	-0.1893	0
322	SLE RA 18			-3.42	-0.05	45.93	0.0011	-0.1988	0
322	SLE RA 19			-3.46	-0.04	44.87	0.0003	-0.199	0
322	SLE RA 20			-3.41	-0.05	45.89	0.0009	-0.1985	0
322	SLE RA 21			-3.45	-0.04	44.83	0.0001	-0.1987	0
322	SLE FR 1			-2.85	-0.04	41.04	0.0007	-0.1682	0
322	SLE FR 2			-2.86	-0.04	40.68	0.0004	-0.1683	0
322	SLE FR 3			-2.84	-0.04	41.02	0.0006	-0.1681	0
322	SLE FR 4			-3.03	-0.04	42.15	0.0005	-0.1774	0
322	SLE FR 5			-3.02	-0.04	42.49	0.0007	-0.1772	0
322	SLE FR 6			-3.13	-0.04	43.48	0.0009	-0.1835	0
322	SLE QP 1			-2.85	-0.04	41.04	0.0007	-0.1682	0
322	SLE QP 2			-3.02	-0.04	42.5	0.0008	-0.1774	0
322	SLD 1			1.59	-0.11	24.78	0.0037	0.0604	-0.0001
322	SLD 2			1.59	-0.11	24.78	0.0037	0.0604	-0.0001
322	SLD 3			0.85	-0.2	31.68	0.0614	0.0195	-0.0006
322	SLD 4			0.85	-0.2	31.68	0.0614	0.0195	-0.0006
322	SLD 5			-0.52	0.08	26.72	-0.0858	-0.0441	0.0007
322	SLD 6			-0.52	0.08	26.72	-0.0858	-0.0441	0.0007
322	SLD 7			-2.97	-0.23	49.72	0.1065	-0.1803	-0.001
322	SLD 8			-2.97	-0.23	49.72	0.1065	-0.1803	-0.001
322	SLD 9			-3.07	0.15	35.29	-0.1049	-0.1745	0.0009
322	SLD 10			-3.07	0.15	35.29	-0.1049	-0.1745	0.0009
322	SLD 11			-5.52	-0.16	58.29	0.0875	-0.3107	-0.0008
322	SLD 12			-5.52	-0.16	58.29	0.0875	-0.3107	-0.0008
322	SLD 13			-6.89	0.11	53.33	-0.0598	-0.3743	0.0006
322	SLD 14			-6.89	0.11	53.33	-0.0598	-0.3743	0.0006
322	SLD 15			-7.63	0.02	60.23	-0.0021	-0.4151	0.0001
322	SLD 16			-7.63	0.02	60.23	-0.0021	-0.4151	0.0001
322	SLV 1			7.77	-0.2	0.91	0.0082	0.3794	-0.0003
322	SLV 2			7.77	-0.2	0.91	0.0082	0.3794	-0.0003
322	SLV 3			6.03	-0.44	17.16	0.1524	0.2823	-0.0015
322	SLV 4			6.03	-0.44	17.16	0.1524	0.2823	-0.0015
322	SLV 5			2.86	0.27	5.38	-0.2156	0.1369	0.0018
322	SLV 6			2.86	0.27	5.38	-0.2156	0.1369	0.0018
322	SLV 7			-2.95	-0.52	59.55	0.2649	-0.1867	-0.0024
322	SLV 8			-2.95	-0.52	59.55	0.2649	-0.1867	-0.0024
322	SLV 9			-3.09	0.43	25.46	-0.2633	-0.1681	0.0023
322	SLV 10			-3.09	0.43	25.46	-0.2633	-0.1681	0.0023
322	SLV 11			-8.9	-0.35	79.63	0.2172	-0.4916	-0.0018
322	SLV 12			-8.9	-0.35	79.63	0.2172	-0.4916	-0.0018
322	SLV 13			-12.07	0.35	67.85	-0.1508	-0.637	0.0015
322	SLV 14			-12.07	0.35	67.85	-0.1508	-0.637	0.0015
322	SLV 15			-13.81	0.11	84.1	-0.0066	-0.7341	0.0002
322	SLV 16			-13.81	0.11	84.1	-0.0066	-0.7341	0.0002
324	SLU 1			0	-7.11	38.47	0.2786	0.0004	0
324	SLU 2			0	-7.1	38.4	0.2782	0.0004	0
324	SLU 3			0	-7.5	39.72	0.2951	0.0005	0
324	SLU 4			0	-7.5	39.68	0.2948	0.0005	0
324	SLU 5			0	-7.43	39.2	0.2925	0.0005	0
324	SLU 6			0	-7.83	40.51	0.3094	0.0005	0
324	SLU 7			0	-7.83	40.47	0.3091	0.0005	0
324	SLU 8			0	-7.77	40.06	0.3072	0.0005	0
324	SLU 9			0	-7.77	40.02	0.307	0.0005	0
324	SLU 10			0	-8.21	44.27	0.3211	0.0005	0
324	SLU 11			0	-8.61	45.58	0.338	0.0006	0
324	SLU 12			0	-8.6	45.54	0.3377	0.0005	0
324	SLU 13			0	-8.54	45.06	0.3354	0.0005	0
324	SLU 14			0	-8.94	46.37	0.3523	0.0006	0
324	SLU 15			0	-8.93	46.33	0.352	0.0006	0
324	SLU 16			0	-8.88	45.92	0.3501	0.0006	0
324	SLU 17			0	-8.87	45.88	0.3499	0.0006	0
324	SLU 18			0	-8.69	46.84	0.3399	0.0005	0
324	SLU 19			0	-8.68	46.8	0.3396	0.0005	0
324	SLU 20			0	-9.02	47.64	0.3542	0.0006	0
324	SLU 21			0	-9.01	47.6	0.354	0.0006	0
324	SLU 22			0	-8.27	44.11	0.3244	0.0005	0
324	SLU 23			0	-8.27	44.04	0.324	0.0005	0
324	SLU 24			0	-8.67	45.36	0.3409	0.0006	0
324	SLU 25			0	-8.66	45.32	0.3406	0.0006	0
324	SLU 26			0	-8.6	44.84	0.3383	0.0005	0
324	SLU 27			0	-9	46.15	0.3552	0.0006	0
324	SLU 28			0	-8.99	46.11	0.3549	0.0006	0
324	SLU 29			0	-8.93	45.7	0.353	0.0006	0
324	SLU 30			0	-8.93	45.66	0.3528	0.0006	0
324	SLU 31			0	-9.37	49.91	0.3669	0.0006	0
324	SLU 32			0	-9.77	51.22	0.3838	0.0006	0
324	SLU 33			0	-9.76	51.18	0.3835	0.0006	0
324	SLU 34			0	-9.7	50.7	0.3812	0.0006	0
324	SLU 35			0.01	-10.1	52.01	0.3981	0.0007	0
324	SLU 36			0.01	-10.09	51.97	0.3978	0.0007	0





Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
324	SLU 37	0.01	-10.04	51.56	0.3959	0.0007	0
324	SLU 38	0.01	-10.03	51.52	0.3957	0.0007	0
324	SLU 39	0	-9.85	52.48	0.3857	0.0006	0
324	SLU 40	0	-9.85	52.44	0.3854	0.0006	0
324	SLU 41	0.01	-10.18	53.28	0.4	0.0007	0
324	SLU 42	0.01	-10.18	53.24	0.3997	0.0007	0
324	SLU 43	0	-8.85	48.07	0.3465	0.0005	0
324	SLU 44	0	-8.84	48.01	0.346	0.0005	0
324	SLU 45	0	-9.24	49.32	0.3629	0.0006	0
324	SLU 46	0	-9.23	49.28	0.3627	0.0006	0
324	SLU 47	0	-9.17	48.81	0.3604	0.0006	0
324	SLU 48	0	-9.57	50.12	0.3773	0.0006	0
324	SLU 49	0	-9.56	50.08	0.377	0.0006	0
324	SLU 50	0	-9.51	49.66	0.3751	0.0006	0
324	SLU 51	0	-9.5	49.62	0.3748	0.0006	0
324	SLU 52	0.01	-9.94	53.87	0.389	0.0006	0
324	SLU 53	0.01	-10.34	55.19	0.4059	0.0006	0
324	SLU 54	0.01	-10.34	55.15	0.4056	0.0006	0
324	SLU 55	0.01	-10.27	54.67	0.4033	0.0006	0
324	SLU 56	0.01	-10.67	55.98	0.4202	0.0007	0
324	SLU 57	0.01	-10.67	55.94	0.4199	0.0007	0
324	SLU 58	0.01	-10.61	55.52	0.418	0.0007	0
324	SLU 59	0.01	-10.61	55.49	0.4177	0.0007	0
324	SLU 60	0.01	-10.42	56.45	0.4078	0.0006	0
324	SLU 61	0.01	-10.42	56.41	0.4075	0.0006	0
324	SLU 62	0.01	-10.75	57.24	0.4221	0.0007	0
324	SLU 63	0.01	-10.75	57.21	0.4218	0.0007	0
324	SLU 64	0.01	-10.01	53.71	0.3923	0.0006	0
324	SLU 65	0.01	-10	53.65	0.3918	0.0006	0
324	SLU 66	0.01	-10.4	54.96	0.4087	0.0007	0
324	SLU 67	0.01	-10.4	54.92	0.4085	0.0006	0
324	SLU 68	0.01	-10.33	54.44	0.4061	0.0006	0
324	SLU 69	0.01	-10.73	55.76	0.423	0.0007	0
324	SLU 70	0.01	-10.73	55.72	0.4228	0.0007	0
324	SLU 71	0.01	-10.67	55.3	0.4209	0.0007	0
324	SLU 72	0.01	-10.66	55.26	0.4206	0.0007	0
324	SLU 73	0.01	-11.1	59.51	0.4348	0.0007	0
324	SLU 74	0.01	-11.51	60.82	0.4517	0.0007	0
324	SLU 75	0.01	-11.5	60.79	0.4514	0.0007	0
324	SLU 76	0.01	-11.43	60.31	0.4491	0.0007	0
324	SLU 77	0.01	-11.83	61.62	0.466	0.0008	0
324	SLU 78	0.01	-11.83	61.58	0.4657	0.0008	0
324	SLU 79	0.01	-11.77	61.16	0.4638	0.0008	0
324	SLU 80	0.01	-11.77	61.13	0.4635	0.0008	0
324	SLU 81	0.01	-11.59	62.09	0.4536	0.0007	0
324	SLU 82	0.01	-11.58	62.05	0.4533	0.0007	0
324	SLU 83	0.01	-11.92	62.88	0.4679	0.0008	0
324	SLU 84	0.01	-11.91	62.84	0.4676	0.0008	0
324	SLE RA 1	0	-7.44	40.08	0.2917	0.0004	0
324	SLE RA 2	0	-7.44	40.04	0.2914	0.0004	0
324	SLE RA 3	0	-7.71	40.91	0.3027	0.0005	0
324	SLE RA 4	0	-7.7	40.89	0.3025	0.0005	0
324	SLE RA 5	0	-7.66	40.57	0.3009	0.0005	0
324	SLE RA 6	0	-7.92	41.44	0.3122	0.0005	0
324	SLE RA 7	0	-7.92	41.42	0.312	0.0005	0
324	SLE RA 8	0	-7.88	41.14	0.3108	0.0005	0
324	SLE RA 9	0	-7.88	41.11	0.3106	0.0005	0
324	SLE RA 10	0	-8.17	43.95	0.32	0.0005	0
324	SLE RA 11	0	-8.44	44.82	0.3313	0.0005	0
324	SLE RA 12	0	-8.44	44.79	0.3311	0.0005	0
324	SLE RA 13	0	-8.39	44.47	0.3295	0.0005	0
324	SLE RA 14	0	-8.66	45.35	0.3408	0.0006	0
324	SLE RA 15	0	-8.66	45.32	0.3406	0.0006	0
324	SLE RA 16	0	-8.62	45.05	0.3394	0.0006	0
324	SLE RA 17	0	-8.62	45.02	0.3392	0.0006	0
324	SLE RA 18	0	-8.5	45.66	0.3325	0.0005	0
324	SLE RA 19	0	-8.49	45.64	0.3324	0.0005	0
324	SLE RA 20	0	-8.72	46.19	0.3421	0.0006	0
324	SLE RA 21	0	-8.71	46.17	0.3419	0.0006	0
324	SLE FR 1	0	-7.44	40.08	0.2917	0.0004	0
324	SLE FR 2	0	-7.44	40.07	0.2916	0.0004	0
324	SLE FR 3	0	-7.53	40.29	0.2955	0.0005	0
324	SLE FR 4	0	-7.76	41.75	0.3039	0.0005	0
324	SLE FR 5	0	-7.85	41.97	0.3078	0.0005	0
324	SLE FR 6	0	-7.97	42.87	0.3121	0.0005	0
324	SLE QP 1	0	-7.44	40.08	0.2917	0.0004	0
324	SLE QP 2	0	-7.76	41.75	0.3039	0.0005	0
324	SLD 1	0.03	-6.92	40.66	0.2701	-0.0036	0
324	SLD 2	0.03	-6.92	40.66	0.2701	-0.0036	0
324	SLD 3	0.01	-10.79	45.45	0.4274	-0.0147	0
324	SLD 4	0.01	-10.79	45.45	0.4274	-0.0147	0
324	SLD 5	0.04	-1.64	34.17	0.0552	0.0161	0
324	SLD 6	0.04	-1.64	34.17	0.0552	0.0161	0
324	SLD 7	-0.02	-14.54	50.12	0.5795	-0.021	0
324	SLD 8	-0.02	-14.54	50.12	0.5795	-0.021	0
324	SLD 9	0.03	-0.98	33.39	0.0283	0.0219	0
324	SLD 10	0.03	-0.98	33.39	0.0283	0.0219	0
324	SLD 11	-0.03	-13.88	49.34	0.5526	-0.0152	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
324	SLD 12			-0.03	-13.88	49.34	0.5526	-0.0152	0
324	SLD 13			0	-4.73	38.06	0.1805	0.0157	0
324	SLD 14			0	-4.73	38.06	0.1805	0.0157	0
324	SLD 15			-0.02	-8.6	42.84	0.3377	0.0046	0
324	SLD 16			-0.02	-8.6	42.84	0.3377	0.0046	0
324	SLV 1			0.07	-5.77	39.15	0.2235	-0.0103	0
324	SLV 2			0.07	-5.77	39.15	0.2235	-0.0103	0
324	SLV 3			0.03	-14.91	50.48	0.595	-0.0374	-0.0001
324	SLV 4			0.03	-14.91	50.48	0.595	-0.0374	-0.0001
324	SLV 5			0.09	6.7	23.78	-0.2836	0.0384	0
324	SLV 6			0.09	6.7	23.78	-0.2836	0.0384	0
324	SLV 7			-0.06	-23.77	61.56	0.9547	-0.0521	-0.0001
324	SLV 8			-0.06	-23.77	61.56	0.9547	-0.0521	-0.0001
324	SLV 9			0.07	8.25	21.94	-0.3468	0.053	0.0001
324	SLV 10			0.07	8.25	21.94	-0.3468	0.053	0.0001
324	SLV 11			-0.09	-22.22	59.73	0.8915	-0.0375	-0.0001
324	SLV 12			-0.09	-22.22	59.73	0.8915	-0.0375	-0.0001
324	SLV 13			-0.02	-0.61	33.03	0.0129	0.0384	0
324	SLV 14			-0.02	-0.61	33.03	0.0129	0.0384	0
324	SLV 15			-0.07	-9.75	44.36	0.3844	0.0112	0
324	SLV 16			-0.07	-9.75	44.36	0.3844	0.0112	0
325	SLU 1			0.01	-4.32	65.45	0.2047	0.0026	0.0001
325	SLU 2			0.01	-4.22	64.91	0.2006	0.0025	0.0001
325	SLU 3			0.01	-4.59	69.17	0.2174	0.0028	0.0001
325	SLU 4			0.01	-4.52	68.85	0.2149	0.0027	0.0001
325	SLU 5			0.01	-4.44	68.12	0.2112	0.0026	0.0001
325	SLU 6			0.01	-4.8	72.38	0.2279	0.0029	0.0001
325	SLU 7			0.01	-4.74	72.05	0.2255	0.0028	0.0001
325	SLU 8			0.01	-4.76	71.86	0.2258	0.0029	0.0001
325	SLU 9			0.01	-4.7	71.54	0.2234	0.0028	0.0001
325	SLU 10			0.01	-5.05	75.2	0.2391	0.0028	0.0001
325	SLU 11			0.01	-5.42	79.46	0.2558	0.0031	0.0001
325	SLU 12			0.01	-5.36	79.13	0.2534	0.003	0.0001
325	SLU 13			0.01	-5.27	78.41	0.2496	0.0029	0.0001
325	SLU 14			0.01	-5.64	82.66	0.2664	0.0033	0.0001
325	SLU 15			0.01	-5.57	82.34	0.2639	0.0032	0.0001
325	SLU 16			0.01	-5.59	82.15	0.2643	0.0033	0.0001
325	SLU 17			0.01	-5.53	81.83	0.2618	0.0032	0.0001
325	SLU 18			0.01	-5.51	80.15	0.2596	0.0031	0.0001
325	SLU 19			0.01	-5.45	79.82	0.2572	0.003	0.0001
325	SLU 20			0.01	-5.73	83.35	0.2702	0.0033	0.0001
325	SLU 21			0.01	-5.67	83.03	0.2677	0.0032	0.0001
325	SLU 22			0.01	-5.16	76.14	0.2436	0.003	0.0001
325	SLU 23			0.01	-5.06	75.6	0.2396	0.0028	0.0001
325	SLU 24			0.01	-5.42	79.86	0.2563	0.0032	0.0001
325	SLU 25			0.01	-5.36	79.53	0.2539	0.0031	0.0001
325	SLU 26			0.01	-5.28	78.81	0.2501	0.003	0.0001
325	SLU 27			0.01	-5.64	83.06	0.2669	0.0033	0.0001
325	SLU 28			0.01	-5.58	82.74	0.2644	0.0032	0.0001
325	SLU 29			0.01	-5.6	82.55	0.2648	0.0033	0.0001
325	SLU 30			0.01	-5.54	82.23	0.2623	0.0032	0.0001
325	SLU 31			0.01	-5.89	85.89	0.278	0.0032	0.0001
325	SLU 32			0.01	-6.26	90.14	0.2947	0.0035	0.0001
325	SLU 33			0.01	-6.2	89.82	0.2923	0.0034	0.0001
325	SLU 34			0.01	-6.11	89.09	0.2886	0.0033	0.0001
325	SLU 35			0.01	-6.48	93.35	0.3053	0.0037	0.0001
325	SLU 36			0.01	-6.41	93.03	0.3029	0.0035	0.0001
325	SLU 37			0.01	-6.43	92.84	0.3032	0.0037	0.0001
325	SLU 38			0.01	-6.37	92.52	0.3008	0.0035	0.0001
325	SLU 39			0.01	-6.35	90.83	0.2986	0.0035	0.0001
325	SLU 40			0.01	-6.29	90.51	0.2961	0.0034	0.0001
325	SLU 41			0.01	-6.57	94.04	0.3091	0.0037	0.0001
325	SLU 42			0.01	-6.51	93.72	0.3067	0.0035	0.0001
325	SLU 43			0.01	-5.33	81.42	0.2528	0.0033	0.0001
325	SLU 44			0.01	-5.23	80.88	0.2487	0.0031	0.0001
325	SLU 45			0.01	-5.59	85.14	0.2654	0.0035	0.0001
325	SLU 46			0.01	-5.53	84.82	0.263	0.0033	0.0001
325	SLU 47			0.01	-5.45	84.09	0.2592	0.0033	0.0001
325	SLU 48			0.01	-5.81	88.35	0.276	0.0036	0.0001
325	SLU 49			0.01	-5.75	88.02	0.2735	0.0035	0.0001
325	SLU 50			0.01	-5.77	87.83	0.2739	0.0036	0.0001
325	SLU 51			0.01	-5.71	87.51	0.2714	0.0035	0.0001
325	SLU 52			0.01	-6.06	91.17	0.2871	0.0034	0.0001
325	SLU 53			0.01	-6.43	95.43	0.3039	0.0038	0.0001
325	SLU 54			0.01	-6.37	95.1	0.3014	0.0037	0.0001
325	SLU 55			0.01	-6.28	94.38	0.2977	0.0036	0.0001
325	SLU 56			0.02	-6.65	98.63	0.3144	0.0039	0.0002
325	SLU 57			0.02	-6.58	98.31	0.312	0.0038	0.0001
325	SLU 58			0.02	-6.6	98.12	0.3123	0.0039	0.0002
325	SLU 59			0.01	-6.54	97.8	0.3099	0.0038	0.0001
325	SLU 60			0.01	-6.52	96.11	0.3077	0.0038	0.0001
325	SLU 61			0.01	-6.46	95.79	0.3052	0.0037	0.0001
325	SLU 62			0.02	-6.74	99.32	0.3182	0.0039	0.0002
325	SLU 63			0.02	-6.68	99	0.3158	0.0038	0.0001
325	SLU 64			0.01	-6.17	92.1	0.2917	0.0037	0.0001
325	SLU 65			0.01	-6.07	91.57	0.2876	0.0035	0.0001
325	SLU 66			0.01	-6.43	95.83	0.3044	0.0038	0.0001
325	SLU 67			0.01	-6.37	95.5	0.3019	0.0037	0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
325	SLU 68		0.01	-6.28	94.78	0.2982	0.0036	0.0001	
325	SLU 69		0.02	-6.65	99.03	0.3149	0.004	0.0002	
325	SLU 70		0.02	-6.59	98.71	0.3125	0.0039	0.0001	
325	SLU 71		0.02	-6.61	98.52	0.3128	0.004	0.0002	
325	SLU 72		0.02	-6.54	98.2	0.3104	0.0039	0.0001	
325	SLU 73		0.02	-6.9	101.86	0.3261	0.0038	0.0002	
325	SLU 74		0.02	-7.27	106.11	0.3428	0.0042	0.0002	
325	SLU 75		0.02	-7.2	105.79	0.3404	0.0041	0.0002	
325	SLU 76		0.02	-7.12	105.06	0.3366	0.004	0.0002	
325	SLU 77		0.02	-7.49	109.32	0.3534	0.0043	0.0002	
325	SLU 78		0.02	-7.42	109	0.3509	0.0042	0.0002	
325	SLU 79		0.02	-7.44	108.81	0.3513	0.0043	0.0002	
325	SLU 80		0.02	-7.38	108.49	0.3488	0.0042	0.0002	
325	SLU 81		0.02	-7.36	106.8	0.3466	0.0042	0.0002	
325	SLU 82		0.02	-7.3	106.48	0.3442	0.0041	0.0002	
325	SLU 83		0.02	-7.58	110.01	0.3572	0.0043	0.0002	
325	SLU 84		0.02	-7.52	109.69	0.3547	0.0042	0.0002	
325	SLE RA 1		0.01	-4.56	68.5	0.2158	0.0028	0.0001	
325	SLE RA 2		0.01	-4.49	68.14	0.2131	0.0026	0.0001	
325	SLE RA 3		0.01	-4.74	70.98	0.2243	0.0029	0.0001	
325	SLE RA 4		0.01	-4.7	70.77	0.2226	0.0028	0.0001	
325	SLE RA 5		0.01	-4.64	70.28	0.2202	0.0027	0.0001	
325	SLE RA 6		0.01	-4.88	73.12	0.2313	0.003	0.0001	
325	SLE RA 7		0.01	-4.84	72.91	0.2297	0.0029	0.0001	
325	SLE RA 8		0.01	-4.85	72.78	0.2299	0.003	0.0001	
325	SLE RA 9		0.01	-4.81	72.56	0.2283	0.0029	0.0001	
325	SLE RA 10		0.01	-5.05	75	0.2387	0.0029	0.0001	
325	SLE RA 11		0.01	-5.29	77.84	0.2499	0.0031	0.0001	
325	SLE RA 12		0.01	-5.25	77.63	0.2483	0.003	0.0001	
325	SLE RA 13		0.01	-5.19	77.14	0.2458	0.0029	0.0001	
325	SLE RA 14		0.01	-5.44	79.98	0.2569	0.0032	0.0001	
325	SLE RA 15		0.01	-5.4	79.76	0.2553	0.0031	0.0001	
325	SLE RA 16		0.01	-5.41	79.64	0.2555	0.0032	0.0001	
325	SLE RA 17		0.01	-5.37	79.42	0.2539	0.0031	0.0001	
325	SLE RA 18		0.01	-5.36	78.3	0.2524	0.0031	0.0001	
325	SLE RA 19		0.01	-5.31	78.08	0.2508	0.003	0.0001	
325	SLE RA 20		0.01	-5.5	80.44	0.2595	0.0032	0.0001	
325	SLE RA 21		0.01	-5.46	80.22	0.2579	0.0031	0.0001	
325	SLE FR 1		0.01	-4.56	68.5	0.2158	0.0028	0.0001	
325	SLE FR 2		0.01	-4.55	68.43	0.2153	0.0027	0.0001	
325	SLE FR 3		0.01	-4.62	69.36	0.2186	0.0028	0.0001	
325	SLE FR 4		0.01	-4.79	71.37	0.2263	0.0028	0.0001	
325	SLE FR 5		0.01	-4.86	72.3	0.2296	0.0029	0.0001	
325	SLE FR 6		0.01	-4.96	73.4	0.2341	0.0029	0.0001	
325	SLE QP 1		0.01	-4.56	68.5	0.2158	0.0028	0.0001	
325	SLE QP 2		0.01	-4.8	71.44	0.2268	0.0029	0.0001	
325	SLD 1		-0.09	-2.34	72.81	0.1276	-0.0536	-0.0017	
325	SLD 2		-0.09	-2.34	72.81	0.1276	-0.0536	-0.0017	
325	SLD 3		-0.08	-5.42	81.33	0.249	-0.0481	-0.0014	
325	SLD 4		-0.08	-5.42	81.33	0.249	-0.0481	-0.0014	
325	SLD 5		-0.04	0.62	58.94	0.0129	-0.0223	-0.0008	
325	SLD 6		-0.04	0.62	58.94	0.0129	-0.0223	-0.0008	
325	SLD 7		0.01	-9.67	87.33	0.4176	-0.0042	0.0001	
325	SLD 8		0.01	-9.67	87.33	0.4176	-0.0042	0.0001	
325	SLD 9		0.01	0.07	55.56	0.036	0.0099	0.0002	
325	SLD 10		0.01	0.07	55.56	0.036	0.0099	0.0002	
325	SLD 11		0.07	-10.22	83.95	0.4407	0.028	0.0011	
325	SLD 12		0.07	-10.22	83.95	0.4407	0.028	0.0011	
325	SLD 13		0.1	-4.18	61.55	0.2046	0.0538	0.0017	
325	SLD 14		0.1	-4.18	61.55	0.2046	0.0538	0.0017	
325	SLD 15		0.12	-7.27	70.07	0.326	0.0593	0.0019	
325	SLD 16		0.12	-7.27	70.07	0.326	0.0593	0.0019	
325	SLV 1		-0.24	1.06	74.56	-0.0088	-0.13	-0.0043	
325	SLV 2		-0.24	1.06	74.56	-0.0088	-0.13	-0.0043	
325	SLV 3		-0.2	-6.22	94.78	0.2778	-0.1165	-0.0036	
325	SLV 4		-0.2	-6.22	94.78	0.2778	-0.1165	-0.0036	
325	SLV 5		-0.13	8	41.71	-0.2784	-0.0575	-0.0023	
325	SLV 6		-0.13	8	41.71	-0.2784	-0.0575	-0.0023	
325	SLV 7		0.01	-16.27	109.11	0.6767	-0.0125	0	
325	SLV 8		0.01	-16.27	109.11	0.6767	-0.0125	0	
325	SLV 9		0.01	6.66	33.77	-0.2231	0.0182	0.0002	
325	SLV 10		0.01	6.66	33.77	-0.2231	0.0182	0.0002	
325	SLV 11		0.15	-17.6	101.17	0.7321	0.0632	0.0025	
325	SLV 12		0.15	-17.6	101.17	0.7321	0.0632	0.0025	
325	SLV 13		0.22	-3.38	48.1	0.1759	0.1222	0.0039	
325	SLV 14		0.22	-3.38	48.1	0.1759	0.1222	0.0039	
325	SLV 15		0.27	-10.66	68.32	0.4624	0.1357	0.0045	
325	SLV 16		0.27	-10.66	68.32	0.4624	0.1357	0.0045	
327	SLU 1		-5.78	-10.93	61	-5.1071	-0.1335	-1.3062	
327	SLU 2		-5.51	-9.98	56.23	-4.7793	-0.1296	-1.2459	
327	SLU 3		-5.82	-11.1	61.7	-5.1545	-0.1338	-1.3164	
327	SLU 4		-5.66	-10.53	58.84	-4.9578	-0.1315	-1.2801	
327	SLU 5		-5.48	-9.99	56.11	-4.761	-0.1282	-1.2393	
327	SLU 6		-5.79	-11.11	61.58	-5.1362	-0.1324	-1.3098	
327	SLU 7		-5.63	-10.54	58.72	-4.9395	-0.1301	-1.2736	
327	SLU 8		-5.72	-10.96	60.77	-5.0705	-0.1306	-1.2932	
327	SLU 9		-5.55	-10.39	57.91	-4.8738	-0.1283	-1.257	
327	SLU 10		-6.38	-11.29	63.89	-5.4628	-0.1526	-1.4433	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
327	SLU 11	-6.7	-12.41	69.36	-5.838	-0.1568	-1.5138
327	SLU 12	-6.54	-11.83	66.5	-5.6413	-0.1545	-1.4776
327	SLU 13	-6.35	-11.3	63.77	-5.4445	-0.1512	-1.4368
327	SLU 14	-6.67	-12.42	69.24	-5.8197	-0.1554	-1.5073
327	SLU 15	-6.51	-11.85	66.38	-5.623	-0.1531	-1.4711
327	SLU 16	-6.6	-12.27	68.43	-5.754	-0.1536	-1.4906
327	SLU 17	-6.43	-11.7	65.56	-5.5573	-0.1513	-1.4544
327	SLU 18	-7.03	-12.8	71.94	-6.0836	-0.1663	-1.5883
327	SLU 19	-6.87	-12.23	69.08	-5.8869	-0.164	-1.5521
327	SLU 20	-7	-12.82	71.82	-6.0653	-0.1649	-1.5818
327	SLU 21	-6.84	-12.24	68.96	-5.8686	-0.1626	-1.5456
327	SLU 22	-6.51	-12.15	67.87	-5.7017	-0.152	-1.4726
327	SLU 23	-6.24	-11.2	63.1	-5.3739	-0.1482	-1.4122
327	SLU 24	-6.56	-12.31	68.57	-5.7491	-0.1524	-1.4827
327	SLU 25	-6.4	-11.74	65.71	-5.5524	-0.1501	-1.4465
327	SLU 26	-6.21	-11.21	62.98	-5.3556	-0.1468	-1.4057
327	SLU 27	-6.53	-12.33	68.45	-5.7308	-0.151	-1.4762
327	SLU 28	-6.37	-11.76	65.59	-5.5341	-0.1487	-1.44
327	SLU 29	-6.46	-12.17	67.64	-5.6651	-0.1492	-1.4596
327	SLU 30	-6.29	-11.6	64.77	-5.4684	-0.1469	-1.4233
327	SLU 31	-7.12	-12.51	70.75	-6.0574	-0.1712	-1.6097
327	SLU 32	-7.44	-13.62	76.23	-6.4326	-0.1754	-1.6802
327	SLU 33	-7.27	-13.05	73.36	-6.2359	-0.1731	-1.644
327	SLU 34	-7.09	-12.52	70.64	-6.0391	-0.1698	-1.6032
327	SLU 35	-7.41	-13.64	76.11	-6.4143	-0.174	-1.6737
327	SLU 36	-7.24	-13.06	73.25	-6.2176	-0.1717	-1.6375
327	SLU 37	-7.33	-13.48	75.29	-6.3486	-0.1722	-1.657
327	SLU 38	-7.17	-12.91	72.43	-6.1519	-0.1699	-1.6208
327	SLU 39	-7.77	-14.02	78.81	-6.6782	-0.1849	-1.7547
327	SLU 40	-7.61	-13.45	75.94	-6.4815	-0.1826	-1.7185
327	SLU 41	-7.74	-14.03	78.69	-6.6599	-0.1834	-1.7482
327	SLU 42	-7.58	-13.46	75.83	-6.4632	-0.1811	-1.7119
327	SLU 43	-7.26	-13.8	76.95	-6.4354	-0.1671	-1.641
327	SLU 44	-6.98	-12.84	72.18	-6.1076	-0.1633	-1.5807
327	SLU 45	-7.3	-13.96	77.65	-6.4827	-0.1675	-1.6512
327	SLU 46	-7.14	-13.39	74.78	-6.286	-0.1652	-1.615
327	SLU 47	-6.96	-12.86	72.06	-6.0892	-0.1619	-1.5741
327	SLU 48	-7.27	-13.97	77.53	-6.4644	-0.1661	-1.6447
327	SLU 49	-7.11	-13.4	74.67	-6.2677	-0.1638	-1.6084
327	SLU 50	-7.2	-13.82	76.72	-6.3988	-0.1643	-1.628
327	SLU 51	-7.03	-13.25	73.85	-6.2021	-0.162	-1.5918
327	SLU 52	-7.86	-14.15	79.83	-6.7911	-0.1863	-1.7781
327	SLU 53	-8.18	-15.27	85.3	-7.1663	-0.1905	-1.8486
327	SLU 54	-8.01	-14.7	82.44	-6.9696	-0.1882	-1.8124
327	SLU 55	-7.83	-14.17	79.72	-6.7728	-0.1849	-1.7716
327	SLU 56	-8.15	-15.28	85.19	-7.148	-0.1891	-1.8421
327	SLU 57	-7.99	-14.71	82.33	-6.9513	-0.1868	-1.8059
327	SLU 58	-8.07	-15.13	84.37	-7.0823	-0.1873	-1.8255
327	SLU 59	-7.91	-14.56	81.51	-6.8856	-0.185	-1.7892
327	SLU 60	-8.51	-15.67	87.89	-7.4119	-0.2	-1.9231
327	SLU 61	-8.35	-15.1	85.02	-7.2152	-0.1977	-1.8869
327	SLU 62	-8.48	-15.68	87.77	-7.3936	-0.1986	-1.9166
327	SLU 63	-8.32	-15.11	84.91	-7.1969	-0.1963	-1.8804
327	SLU 64	-7.99	-15.01	83.82	-7.03	-0.1857	-1.8074
327	SLU 65	-7.72	-14.06	79.04	-6.7022	-0.1819	-1.7471
327	SLU 66	-8.04	-15.18	84.51	-7.0774	-0.1861	-1.8176
327	SLU 67	-7.88	-14.61	81.65	-6.8807	-0.1838	-1.7813
327	SLU 68	-7.69	-14.07	78.93	-6.6839	-0.1805	-1.7405
327	SLU 69	-8.01	-15.19	84.4	-7.059	-0.1846	-1.811
327	SLU 70	-7.85	-14.62	81.54	-6.8623	-0.1823	-1.7748
327	SLU 71	-7.94	-15.04	83.58	-6.9934	-0.1828	-1.7944
327	SLU 72	-7.77	-14.47	80.72	-6.7967	-0.1805	-1.7582
327	SLU 73	-8.6	-15.37	86.7	-7.3857	-0.2049	-1.9445
327	SLU 74	-8.92	-16.49	92.17	-7.7609	-0.2091	-2.015
327	SLU 75	-8.75	-15.91	89.31	-7.5642	-0.2068	-1.9788
327	SLU 76	-8.57	-15.38	86.58	-7.3674	-0.2034	-1.938
327	SLU 77	-8.89	-16.5	92.05	-7.7426	-0.2076	-2.0085
327	SLU 78	-8.72	-15.93	89.19	-7.5459	-0.2053	-1.9723
327	SLU 79	-8.81	-16.35	91.24	-7.6769	-0.2058	-1.9918
327	SLU 80	-8.65	-15.78	88.38	-7.4802	-0.2035	-1.9556
327	SLU 81	-9.25	-16.88	94.75	-8.0065	-0.2186	-2.0895
327	SLU 82	-9.09	-16.31	91.89	-7.8098	-0.2163	-2.0533
327	SLU 83	-9.22	-16.9	94.64	-7.9882	-0.2171	-2.083
327	SLU 84	-9.06	-16.32	91.77	-7.7915	-0.2148	-2.0468
327	SLE RA 1	-5.99	-11.28	62.96	-5.277	-0.1388	-1.3538
327	SLE RA 2	-5.81	-10.65	59.78	-5.0585	-0.1362	-1.3135
327	SLE RA 3	-6.02	-11.39	63.43	-5.3086	-0.139	-1.3605
327	SLE RA 4	-5.91	-11.01	61.52	-5.1774	-0.1375	-1.3364
327	SLE RA 5	-5.79	-10.65	59.71	-5.0462	-0.1353	-1.3092
327	SLE RA 6	-6	-11.4	63.35	-5.2964	-0.1381	-1.3562
327	SLE RA 7	-5.89	-11.02	61.44	-5.1652	-0.1365	-1.332
327	SLE RA 8	-5.95	-11.3	62.81	-5.2526	-0.1369	-1.3451
327	SLE RA 9	-5.84	-10.92	60.9	-5.1215	-0.1353	-1.3209
327	SLE RA 10	-6.39	-11.52	64.89	-5.5141	-0.1515	-1.4452
327	SLE RA 11	-6.6	-12.26	68.53	-5.7643	-0.1543	-1.4922
327	SLE RA 12	-6.49	-11.88	66.63	-5.6331	-0.1528	-1.468
327	SLE RA 13	-6.37	-11.53	64.81	-5.5019	-0.1506	-1.4408
327	SLE RA 14	-6.58	-12.27	68.46	-5.7521	-0.1534	-1.4878



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
327	SLE RA 15	-6.47	-11.89	66.55	-5.6209	-0.1519	-1.4637
327	SLE RA 16	-6.53	-12.17	67.91	-5.7083	-0.1522	-1.4767
327	SLE RA 17	-6.42	-11.79	66	-5.5771	-0.1507	-1.4526
327	SLE RA 18	-6.82	-12.53	70.26	-5.928	-0.1607	-1.5418
327	SLE RA 19	-6.71	-12.15	68.35	-5.7969	-0.1591	-1.5177
327	SLE RA 20	-6.8	-12.54	70.18	-5.9158	-0.1597	-1.5375
327	SLE RA 21	-6.7	-12.16	68.27	-5.7847	-0.1582	-1.5133
327	SLE FR 1	-5.99	-11.28	62.96	-5.277	-0.1388	-1.3538
327	SLE FR 2	-5.95	-11.15	62.33	-5.2333	-0.1383	-1.3457
327	SLE FR 3	-5.98	-11.28	62.93	-5.2721	-0.1384	-1.352
327	SLE FR 4	-6.2	-11.53	64.52	-5.4286	-0.1448	-1.4021
327	SLE FR 5	-6.23	-11.66	65.12	-5.4674	-0.145	-1.4084
327	SLE FR 6	-6.4	-11.9	66.61	-5.6025	-0.1497	-1.4478
327	SLE QP 1	-5.99	-11.28	62.96	-5.277	-0.1388	-1.3538
327	SLE QP 2	-6.24	-11.66	65.15	-5.4723	-0.1453	-1.4102
327	SLD 1	-1.86	-7.11	36.2	-2.6204	-0.0018	-0.4139
327	SLD 2	-1.86	-7.11	36.2	-2.6204	-0.0018	-0.4139
327	SLD 3	-2.92	-9.67	48.75	-3.5628	-0.031	-0.6574
327	SLD 4	-2.92	-9.67	48.75	-3.5628	-0.031	-0.6574
327	SLD 5	-3.32	-6.4	37.44	-3.1873	-0.058	-0.7419
327	SLD 6	-3.32	-6.4	37.44	-3.1873	-0.058	-0.7419
327	SLD 7	-6.85	-14.95	79.26	-6.3289	-0.1553	-1.5537
327	SLD 8	-6.85	-14.95	79.26	-6.3289	-0.1553	-1.5537
327	SLD 9	-5.62	-8.36	51.04	-4.6157	-0.1354	-1.2666
327	SLD 10	-5.62	-8.36	51.04	-4.6157	-0.1354	-1.2666
327	SLD 11	-9.16	-16.91	92.87	-7.7573	-0.2327	-2.0785
327	SLD 12	-9.16	-16.91	92.87	-7.7573	-0.2327	-2.0785
327	SLD 13	-9.55	-13.64	81.56	-7.3818	-0.2597	-2.1629
327	SLD 14	-9.55	-13.64	81.56	-7.3818	-0.2597	-2.1629
327	SLD 15	-10.61	-16.2	94.1	-8.3243	-0.2889	-2.4065
327	SLD 16	-10.61	-16.2	94.1	-8.3243	-0.2889	-2.4065
327	SLV 1	4.01	-0.99	1.2184	0.1909	0.9261	0.9261
327	SLV 2	4.01	-0.99	1.2184	0.1909	0.9261	0.9261
327	SLV 3	1.51	-7.01	26.76	-1.0044	0.1214	0.3512
327	SLV 4	1.51	-7.01	26.76	-1.0044	0.1214	0.3512
327	SLV 5	0.64	0.67	0.01	-0.0938	0.0611	0.1626
327	SLV 6	0.64	0.67	0.01	-0.0938	0.0611	0.1626
327	SLV 7	-7.72	-19.39	98.4	-7.5032	-0.1708	-1.7537
327	SLV 8	-7.72	-19.39	98.4	-7.5032	-0.1708	-1.7537
327	SLV 9	-4.76	-3.92	31.9	-3.4414	-0.1199	-1.0667
327	SLV 10	-4.76	-3.92	31.9	-3.4414	-0.1199	-1.0667
327	SLV 11	-13.12	-23.99	130.3	-10.8508	-0.3517	-2.9829
327	SLV 12	-13.12	-23.99	130.3	-10.8508	-0.3517	-2.9829
327	SLV 13	-13.98	-16.3	103.55	-9.9402	-0.4121	-3.1716
327	SLV 14	-13.98	-16.3	103.55	-9.9402	-0.4121	-3.1716
327	SLV 15	-16.49	-22.32	133.07	-12.1631	-0.4816	-3.7464
327	SLV 16	-16.49	-22.32	133.07	-12.1631	-0.4816	-3.7464
328	SLU 1	0.21	0.17	35.12	-0.0376	0.0206	0.0002
328	SLU 2	0.2	0.18	35.08	-0.039	0.0203	0.0002
328	SLU 3	0.21	0.18	36.16	-0.0394	0.0215	0.0002
328	SLU 4	0.21	0.19	36.14	-0.0402	0.0213	0.0002
328	SLU 5	0.21	0.19	35.74	-0.0406	0.0209	0.0002
328	SLU 6	0.22	0.19	36.82	-0.0409	0.022	0.0002
328	SLU 7	0.22	0.2	36.8	-0.0418	0.0218	0.0003
328	SLU 8	0.22	0.19	36.43	-0.0407	0.0217	0.0002
328	SLU 9	0.21	0.2	36.41	-0.0416	0.0215	0.0002
328	SLU 10	0.23	0.08	40.43	-0.0387	0.0233	0.0003
328	SLU 11	0.24	0.08	41.51	-0.039	0.0245	0.0003
328	SLU 12	0.24	0.09	41.49	-0.0399	0.0243	0.0003
328	SLU 13	0.24	0.09	41.09	-0.0402	0.0239	0.0003
328	SLU 14	0.25	0.09	42.17	-0.0406	0.025	0.0003
328	SLU 15	0.25	0.1	42.15	-0.0414	0.0248	0.0003
328	SLU 16	0.25	0.09	41.78	-0.0404	0.0247	0.0003
328	SLU 17	0.24	0.1	41.76	-0.0412	0.0245	0.0003
328	SLU 18	0.25	0.03	42.76	-0.0371	0.0249	0.0003
328	SLU 19	0.25	0.03	42.74	-0.038	0.0247	0.0003
328	SLU 20	0.25	0.04	43.42	-0.0387	0.0254	0.0003
328	SLU 21	0.25	0.04	43.39	-0.0395	0.0253	0.0003
328	SLU 22	0.24	0.09	40.21	-0.0384	0.0237	0.0003
328	SLU 23	0.23	0.1	40.17	-0.0398	0.0234	0.0003
328	SLU 24	0.24	0.1	41.26	-0.0402	0.0245	0.0003
328	SLU 25	0.24	0.11	41.23	-0.041	0.0243	0.0003
328	SLU 26	0.24	0.12	40.83	-0.0414	0.0239	0.0003
328	SLU 27	0.25	0.11	41.91	-0.0417	0.025	0.0003
328	SLU 28	0.25	0.12	41.89	-0.0426	0.0249	0.0003
328	SLU 29	0.25	0.11	41.52	-0.0415	0.0247	0.0003
328	SLU 30	0.24	0.12	41.5	-0.0424	0.0246	0.0003
328	SLU 31	0.26	0	45.52	-0.0395	0.0264	0.0003
328	SLU 32	0.27	0	46.61	-0.0399	0.0275	0.0003
328	SLU 33	0.27	0.01	46.58	-0.0407	0.0273	0.0003
328	SLU 34	0.27	0.02	46.18	-0.0411	0.0269	0.0003
328	SLU 35	0.28	0.01	47.26	-0.0414	0.028	0.0003
328	SLU 36	0.28	0.02	47.24	-0.0422	0.0279	0.0003
328	SLU 37	0.28	0.01	46.87	-0.0412	0.0277	0.0003
328	SLU 38	0.28	0.02	46.85	-0.042	0.0276	0.0003
328	SLU 39	0.28	-0.05	47.85	-0.038	0.028	0.0003
328	SLU 40	0.28	-0.04	47.83	-0.0388	0.0278	0.0003
328	SLU 41	0.28	-0.04	48.51	-0.0395	0.0285	0.0003



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
328	SLU 42		0.28	-0.03	48.48	-0.0403	0.0283	0.0003	
328	SLU 43		0.26	0.24	43.91	-0.0486	0.0258	0.0003	
328	SLU 44		0.26	0.26	43.87	-0.05	0.0255	0.0003	
328	SLU 45		0.26	0.26	44.95	-0.0504	0.0266	0.0003	
328	SLU 46		0.26	0.26	44.93	-0.0512	0.0264	0.0003	
328	SLU 47		0.26	0.27	44.53	-0.0516	0.026	0.0003	
328	SLU 48		0.27	0.27	45.61	-0.0519	0.0271	0.0003	
328	SLU 49		0.27	0.28	45.59	-0.0528	0.027	0.0003	
328	SLU 50		0.27	0.27	45.22	-0.0517	0.0268	0.0003	
328	SLU 51		0.27	0.27	45.2	-0.0526	0.0267	0.0003	
328	SLU 52		0.29	0.16	49.22	-0.0497	0.0285	0.0003	
328	SLU 53		0.29	0.16	50.3	-0.0501	0.0296	0.0003	
328	SLU 54		0.29	0.17	50.28	-0.0509	0.0294	0.0003	
328	SLU 55		0.29	0.17	49.88	-0.0512	0.029	0.0003	
328	SLU 56		0.3	0.17	50.96	-0.0516	0.0301	0.0003	
328	SLU 57		0.3	0.18	50.94	-0.0524	0.03	0.0003	
328	SLU 58		0.3	0.17	50.57	-0.0514	0.0298	0.0003	
328	SLU 59		0.3	0.18	50.55	-0.0522	0.0297	0.0003	
328	SLU 60		0.3	0.1	51.55	-0.0482	0.0301	0.0003	
328	SLU 61		0.3	0.11	51.53	-0.049	0.0299	0.0003	
328	SLU 62		0.31	0.11	52.21	-0.0497	0.0306	0.0003	
328	SLU 63		0.3	0.12	52.18	-0.0505	0.0304	0.0003	
328	SLU 64		0.29	0.17	49	-0.0495	0.0288	0.0003	
328	SLU 65		0.29	0.18	48.96	-0.0509	0.0285	0.0003	
328	SLU 66		0.29	0.18	50.05	-0.0512	0.0296	0.0003	
328	SLU 67		0.29	0.19	50.02	-0.052	0.0295	0.0003	
328	SLU 68		0.29	0.19	49.62	-0.0524	0.029	0.0003	
328	SLU 69		0.3	0.19	50.7	-0.0528	0.0302	0.0003	
328	SLU 70		0.3	0.2	50.68	-0.0536	0.03	0.0003	
328	SLU 71		0.3	0.19	50.31	-0.0525	0.0299	0.0003	
328	SLU 72		0.3	0.2	50.29	-0.0534	0.0297	0.0003	
328	SLU 73		0.32	0.08	54.31	-0.0505	0.0315	0.0004	
328	SLU 74		0.33	0.08	55.39	-0.0509	0.0326	0.0004	
328	SLU 75		0.32	0.09	55.37	-0.0517	0.0325	0.0004	
328	SLU 76		0.32	0.09	54.97	-0.0521	0.0321	0.0004	
328	SLU 77		0.33	0.09	56.05	-0.0524	0.0332	0.0004	
328	SLU 78		0.33	0.1	56.03	-0.0533	0.033	0.0004	
328	SLU 79		0.33	0.09	55.66	-0.0522	0.0329	0.0004	
328	SLU 80		0.33	0.1	55.64	-0.053	0.0327	0.0004	
328	SLU 81		0.33	0.02	56.64	-0.049	0.0331	0.0004	
328	SLU 82		0.33	0.03	56.62	-0.0498	0.0329	0.0004	
328	SLU 83		0.34	0.04	57.3	-0.0505	0.0336	0.0004	
328	SLU 84		0.33	0.04	57.27	-0.0514	0.0335	0.0004	
328	SLE RA 1		0.21	0.15	36.57	-0.0379	0.0215	0.0002	
328	SLE RA 2		0.21	0.15	36.55	-0.0388	0.0213	0.0002	
328	SLE RA 3		0.22	0.15	37.27	-0.039	0.022	0.0003	
328	SLE RA 4		0.22	0.16	37.25	-0.0396	0.0219	0.0003	
328	SLE RA 5		0.22	0.16	36.98	-0.0398	0.0216	0.0002	
328	SLE RA 6		0.22	0.16	37.71	-0.0401	0.0224	0.0003	
328	SLE RA 7		0.22	0.17	37.69	-0.0406	0.0223	0.0003	
328	SLE RA 8		0.22	0.16	37.45	-0.0399	0.0222	0.0003	
328	SLE RA 9		0.22	0.17	37.43	-0.0405	0.0221	0.0003	
328	SLE RA 10		0.23	0.09	40.11	-0.0386	0.0233	0.0003	
328	SLE RA 11		0.24	0.09	40.84	-0.0388	0.0241	0.0003	
328	SLE RA 12		0.24	0.09	40.82	-0.0394	0.0239	0.0003	
328	SLE RA 13		0.24	0.1	40.55	-0.0396	0.0237	0.0003	
328	SLE RA 14		0.24	0.09	41.27	-0.0398	0.0244	0.0003	
328	SLE RA 15		0.24	0.1	41.26	-0.0404	0.0243	0.0003	
328	SLE RA 16		0.24	0.09	41.01	-0.0397	0.0242	0.0003	
328	SLE RA 17		0.24	0.1	41	-0.0403	0.0241	0.0003	
328	SLE RA 18		0.24	0.05	41.67	-0.0375	0.0243	0.0003	
328	SLE RA 19		0.24	0.06	41.65	-0.0381	0.0242	0.0003	
328	SLE RA 20		0.25	0.06	42.1	-0.0386	0.0247	0.0003	
328	SLE RA 21		0.25	0.06	42.09	-0.0391	0.0246	0.0003	
328	SLE FR 1		0.21	0.15	36.57	-0.0379	0.0215	0.0002	
328	SLE FR 2		0.21	0.15	36.57	-0.038	0.0214	0.0002	
328	SLE FR 3		0.22	0.15	36.75	-0.0383	0.0216	0.0002	
328	SLE FR 4		0.22	0.12	38.1	-0.0379	0.0223	0.0003	
328	SLE FR 5		0.22	0.12	38.28	-0.0382	0.0225	0.0003	
328	SLE FR 6		0.23	0.1	39.12	-0.0377	0.0229	0.0003	
328	SLE QP 1		0.21	0.15	36.57	-0.0379	0.0215	0.0002	
328	SLE QP 2		0.22	0.12	38.1	-0.0378	0.0223	0.0003	
328	SLD 1		0.26	3.04	31.84	-0.1871	0.0317	0.0004	
328	SLD 2		0.26	3.04	31.84	-0.1871	0.0317	0.0004	
328	SLD 3		0.31	1.21	34.71	-0.0652	0.0353	0.0003	
328	SLD 4		0.31	1.21	34.71	-0.0652	0.0353	0.0003	
328	SLD 5		0.17	3.78	31.88	-0.2674	0.0197	0.0005	
328	SLD 6		0.17	3.78	31.88	-0.2674	0.0197	0.0005	
328	SLD 7		0.31	-2.34	41.43	0.1388	0.0317	0.0001	
328	SLD 8		0.31	-2.34	41.43	0.1388	0.0317	0.0001	
328	SLD 9		0.13	2.58	34.78	-0.2144	0.013	0.0004	
328	SLD 10		0.13	2.58	34.78	-0.2144	0.013	0.0004	
328	SLD 11		0.28	-3.55	44.32	0.1918	0.025	0	
328	SLD 12		0.28	-3.55	44.32	0.1918	0.025	0	
328	SLD 13		0.14	-0.97	41.49	-0.0103	0.0094	0.0002	
328	SLD 14		0.14	-0.97	41.49	-0.0103	0.0094	0.0002	
328	SLD 15		0.18	-2.81	44.36	0.1115	0.013	0.0001	
328	SLD 16		0.18	-2.81	44.36	0.1115	0.013	0.0001	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
328	SLV 1	0.32	6.97	23.32		-0.3883	0.0441	0.0006	
328	SLV 2	0.32	6.97	23.32		-0.3883	0.0441	0.0006	
328	SLV 3	0.42	2.65	30.19		-0.1009	0.0527	0.0003	
328	SLV 4	0.42	2.65	30.19		-0.1009	0.0527	0.0003	
328	SLV 5	0.09	8.73	23.25		-0.5788	0.0158	0.0008	
328	SLV 6	0.09	8.73	23.25		-0.5788	0.0158	0.0008	
328	SLV 7	0.44	-5.68	46.14		0.3792	0.0445	-0.0001	
328	SLV 8	0.44	-5.68	46.14		0.3792	0.0445	-0.0001	
328	SLV 9	0	5.91	30.06		-0.4547	0.0002	0.0007	
328	SLV 10	0	5.91	30.06		-0.4547	0.0002	0.0007	
328	SLV 11	0.35	-8.49	52.95		0.5033	0.0288	-0.0003	
328	SLV 12	0.35	-8.49	52.95		0.5033	0.0288	-0.0003	
328	SLV 13	0.02	-2.41	46.01		0.0254	-0.008	0.0002	
328	SLV 14	0.02	-2.41	46.01		0.0254	-0.008	0.0002	
328	SLV 15	0.13	-6.73	52.88		0.3128	0.0006	-0.0001	
328	SLV 16	0.13	-6.73	52.88		0.3128	0.0006	-0.0001	
329	SLU 1	0	-11.95	36.95		0.7658	-0.0006	0	
329	SLU 2	0	-11.91	36.86		0.7634	-0.0006	0	
329	SLU 3	0	-12.72	38.42		0.8144	-0.0006	0	
329	SLU 4	0	-12.7	38.37		0.813	-0.0006	0	
329	SLU 5	0	-12.6	37.95		0.8055	-0.0006	0	
329	SLU 6	0	-13.41	39.51		0.8566	-0.0005	0	
329	SLU 7	0	-13.39	39.46		0.8551	-0.0006	0	
329	SLU 8	0	-13.32	39.13		0.8501	-0.0005	0	
329	SLU 9	0	-13.3	39.08		0.8486	-0.0005	0	
329	SLU 10	0	-13.82	42.5		0.8862	-0.0007	0	
329	SLU 11	0	-14.64	44.06		0.9372	-0.0007	0	
329	SLU 12	0	-14.62	44		0.9358	-0.0007	0	
329	SLU 13	0	-14.51	43.59		0.9283	-0.0007	0	
329	SLU 14	0	-15.32	45.15		0.9794	-0.0007	0	
329	SLU 15	0	-15.3	45.09		0.9779	-0.0007	0	
329	SLU 16	0	-15.23	44.77		0.9729	-0.0006	0	
329	SLU 17	0	-15.21	44.72		0.9714	-0.0007	0	
329	SLU 18	0	-14.68	45		0.9413	-0.0008	0	
329	SLU 19	0	-14.66	44.95		0.9398	-0.0008	0	
329	SLU 20	0	-15.36	46.09		0.9834	-0.0007	0	
329	SLU 21	0	-15.34	46.04		0.9819	-0.0007	0	
329	SLU 22	0	-13.89	42.3		0.8915	-0.0007	0	
329	SLU 23	0	-13.85	42.21		0.8891	-0.0007	0	
329	SLU 24	0	-14.66	43.77		0.9401	-0.0007	0	
329	SLU 25	0	-14.64	43.71		0.9386	-0.0007	0	
329	SLU 26	0	-14.54	43.3		0.9312	-0.0007	0	
329	SLU 27	0	-15.35	44.86		0.9823	-0.0006	0	
329	SLU 28	0	-15.33	44.81		0.9808	-0.0006	0	
329	SLU 29	0	-15.26	44.48		0.9758	-0.0006	0	
329	SLU 30	0	-15.23	44.43		0.9743	-0.0006	0	
329	SLU 31	0	-15.76	47.85		1.0119	-0.0008	0	
329	SLU 32	0	-16.58	49.4		1.0629	-0.0008	0	
329	SLU 33	0	-16.56	49.35		1.0614	-0.0008	0	
329	SLU 34	0	-16.45	48.94		1.054	-0.0008	0	
329	SLU 35	0	-17.26	50.49		1.1051	-0.0008	0	
329	SLU 36	0	-17.24	50.44		1.1036	-0.0008	0	
329	SLU 37	0	-17.17	50.12		1.0986	-0.0007	0	
329	SLU 38	0	-17.15	50.06		1.0971	-0.0007	0	
329	SLU 39	0	-16.62	50.35		1.0669	-0.0008	0	
329	SLU 40	0	-16.6	50.3		1.0655	-0.0009	0	
329	SLU 41	0	-17.3	51.44		1.1091	-0.0008	0	
329	SLU 42	0	-17.28	51.39		1.1076	-0.0008	0	
329	SLU 43	0	-14.86	46.2		0.9525	-0.0007	0	
329	SLU 44	0	-14.83	46.11		0.9501	-0.0008	0	
329	SLU 45	0	-15.64	47.67		1.0011	-0.0007	0	
329	SLU 46	0	-15.62	47.62		0.9996	-0.0007	0	
329	SLU 47	0	-15.52	47.21		0.9922	-0.0007	0	
329	SLU 48	0	-16.33	48.76		1.0433	-0.0007	0	
329	SLU 49	0	-16.31	48.71		1.0418	-0.0007	0	
329	SLU 50	0	-16.23	48.39		1.0368	-0.0007	0	
329	SLU 51	0	-16.21	48.33		1.0353	-0.0007	0	
329	SLU 52	0	-16.74	51.75		1.0728	-0.0009	0	
329	SLU 53	0	-17.56	53.31		1.1239	-0.0008	0	
329	SLU 54	0	-17.53	53.25		1.1224	-0.0009	0	
329	SLU 55	0	-17.43	52.84		1.115	-0.0008	0	
329	SLU 56	0	-18.24	54.4		1.166	-0.0008	0	
329	SLU 57	0	-18.22	54.34		1.1646	-0.0008	0	
329	SLU 58	0	-18.15	54.02		1.1596	-0.0008	0	
329	SLU 59	0	-18.13	53.97		1.1581	-0.0008	0	
329	SLU 60	0	-17.6	54.25		1.1279	-0.0009	0	
329	SLU 61	0	-17.58	54.2		1.1265	-0.0009	0	
329	SLU 62	0	-18.28	55.34		1.1701	-0.0009	0	
329	SLU 63	0	-18.26	55.29		1.1686	-0.0009	0	
329	SLU 64	0	-16.8	51.55		1.0782	-0.0008	0	
329	SLU 65	0	-16.77	51.46		1.0757	-0.0008	0	
329	SLU 66	0	-17.58	53.02		1.1268	-0.0008	0	
329	SLU 67	0	-17.56	52.97		1.1253	-0.0008	0	
329	SLU 68	0	-17.45	52.55		1.1179	-0.0008	0	
329	SLU 69	0	-18.27	54.11		1.1689	-0.0008	0	
329	SLU 70	0	-18.25	54.06		1.1675	-0.0008	0	
329	SLU 71	0	-18.17	53.73		1.1625	-0.0008	0	
329	SLU 72	0	-18.15	53.68		1.161	-0.0008	0	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y
329	SLU 73		0	-18.68	57.1	1.1985	-0.001	0
329	SLU 74		0	-19.49	58.66	1.2496	-0.0009	0
329	SLU 75		0	-19.47	58.6	1.2481	-0.0009	0
329	SLU 76		0	-19.37	58.19	1.2407	-0.0009	0
329	SLU 77		0	-20.18	59.75	1.2917	-0.0009	0
329	SLU 78		0	-20.16	59.69	1.2902	-0.0009	0
329	SLU 79		0	-20.09	59.37	1.2853	-0.0009	0
329	SLU 80		0	-20.07	59.32	1.2838	-0.0009	0
329	SLU 81		0	-19.54	59.6	1.2536	-0.001	0
329	SLU 82		0	-19.52	59.55	1.2521	-0.001	0
329	SLU 83		0	-20.22	60.69	1.2957	-0.001	0
329	SLU 84		0	-20.2	60.64	1.2943	-0.001	0
329	SLE RA 1		0	-12.5	38.48	0.8018	-0.0006	0
329	SLE RA 2		0	-12.48	38.42	0.8001	-0.0006	0
329	SLE RA 3		0	-13.02	39.46	0.8342	-0.0006	0
329	SLE RA 4		0	-13	39.42	0.8332	-0.0006	0
329	SLE RA 5		0	-12.93	39.15	0.8282	-0.0006	0
329	SLE RA 6		0	-13.48	40.19	0.8622	-0.0006	0
329	SLE RA 7		0	-13.46	40.15	0.8613	-0.0006	0
329	SLE RA 8		0	-13.41	39.93	0.8579	-0.0006	0
329	SLE RA 9		0	-13.4	39.9	0.857	-0.0006	0
329	SLE RA 10		0	-13.75	42.18	0.882	-0.0007	0
329	SLE RA 11		0	-14.29	43.22	0.916	-0.0007	0
329	SLE RA 12		0	-14.28	43.18	0.915	-0.0007	0
329	SLE RA 13		0	-14.21	42.9	0.9101	-0.0007	0
329	SLE RA 14		0	-14.75	43.94	0.9441	-0.0007	0
329	SLE RA 15		0	-14.74	43.91	0.9431	-0.0007	0
329	SLE RA 16		0	-14.69	43.69	0.9398	-0.0007	0
329	SLE RA 17		0	-14.67	43.66	0.9388	-0.0007	0
329	SLE RA 18		0	-14.32	43.85	0.9187	-0.0007	0
329	SLE RA 19		0	-14.31	43.81	0.9177	-0.0007	0
329	SLE RA 20		0	-14.78	44.57	0.9468	-0.0007	0
329	SLE RA 21		0	-14.76	44.54	0.9458	-0.0007	0
329	SLE FR 1		0	-12.5	38.48	0.8018	-0.0006	0
329	SLE FR 2		0	-12.5	38.47	0.8014	-0.0006	0
329	SLE FR 3		0	-12.68	38.77	0.813	-0.0006	0
329	SLE FR 4		0	-13.04	40.08	0.8365	-0.0007	0
329	SLE FR 5		0	-13.23	40.38	0.8481	-0.0006	0
329	SLE FR 6		0	-13.41	41.16	0.8602	-0.0007	0
329	SLE QP 1		0	-12.5	38.48	0.8018	-0.0006	0
329	SLE QP 2		0	-13.05	40.09	0.8368	-0.0007	0
329	SLD 1	0.01		-9.72	36.25	0.6659	-0.0134	0
329	SLD 2	0.01		-9.72	36.25	0.6659	-0.0134	0
329	SLD 3	0.03		-14.04	39.7	0.8726	-0.0057	0
329	SLD 4	0.03		-14.04	39.7	0.8726	-0.0057	0
329	SLD 5	-0.02		-5.5	33.7	0.4721	-0.0162	0
329	SLD 6	-0.02		-5.5	33.7	0.4721	-0.0162	0
329	SLD 7	0.03		-19.9	45.21	1.1611	0.0095	0
329	SLD 8	0.03		-19.9	45.21	1.1611	0.0095	0
329	SLD 9	-0.04		-6.2	34.97	0.5126	-0.0108	0
329	SLD 10	-0.04		-6.2	34.97	0.5126	-0.0108	0
329	SLD 11	0.02		-20.6	46.47	1.2016	0.0149	0.0001
329	SLD 12	0.02		-20.6	46.47	1.2016	0.0149	0.0001
329	SLD 13	-0.04		-12.05	40.48	0.801	0.0044	0
329	SLD 14	-0.04		-12.05	40.48	0.801	0.0044	0
329	SLD 15	-0.02		-16.37	43.93	1.0077	0.0121	0.0001
329	SLD 16	-0.02		-16.37	43.93	1.0077	0.0121	0.0001
329	SLV 1	0.04		-5.19	31.05	0.4332	-0.0325	-0.0001
329	SLV 2	0.04		-5.19	31.05	0.4332	-0.0325	-0.0001
329	SLV 3	0.08		-15.4	39.24	0.9233	-0.0136	0
329	SLV 4	0.08		-15.4	39.24	0.9233	-0.0136	0
329	SLV 5	-0.05		4.8	24.96	-0.0276	-0.0389	-0.0001
329	SLV 6	-0.05		4.8	24.96	-0.0276	-0.0389	-0.0001
329	SLV 7	0.08		-29.24	52.25	1.6061	0.0242	0.0001
329	SLV 8	0.08		-29.24	52.25	1.6061	0.0242	0.0001
329	SLV 9	-0.09		3.15	27.93	0.0676	-0.0255	0
329	SLV 10	-0.09		3.15	27.93	0.0676	-0.0255	0
329	SLV 11	0.04		-30.89	55.21	1.7012	0.0376	0.0001
329	SLV 12	0.04		-30.89	55.21	1.7012	0.0376	0.0001
329	SLV 13	-0.08		-10.69	40.94	0.7504	0.0122	0.0001
329	SLV 14	-0.08		-10.69	40.94	0.7504	0.0122	0.0001
329	SLV 15	-0.05		-20.9	49.13	1.2405	0.0312	0.0001
329	SLV 16	-0.05		-20.9	49.13	1.2405	0.0312	0.0001
330	SLU 1	0.18		-2.84	36.31	0.2116	0.0303	-0.0001
330	SLU 2	0.18		-2.81	36.18	0.2093	0.0301	-0.0001
330	SLU 3	0.19		-2.93	37.37	0.2184	0.0313	-0.0001
330	SLU 4	0.19		-2.91	37.3	0.217	0.0312	-0.0001
330	SLU 5	0.19		-2.86	36.81	0.213	0.0307	-0.0001
330	SLU 6	0.19		-2.98	38	0.2221	0.032	-0.0001
330	SLU 7	0.19		-2.96	37.93	0.2207	0.0318	-0.0001
330	SLU 8	0.19		-2.95	37.56	0.2191	0.0315	-0.0001
330	SLU 9	0.19		-2.93	37.49	0.2177	0.0314	-0.0001
330	SLU 10	0.21		-3.38	41.74	0.2486	0.0346	-0.0001
330	SLU 11	0.22		-3.5	42.93	0.2577	0.0359	-0.0001
330	SLU 12	0.22		-3.48	42.85	0.2563	0.0357	-0.0001
330	SLU 13	0.22		-3.43	42.37	0.2523	0.0352	-0.0001
330	SLU 14	0.22		-3.56	43.55	0.2614	0.0365	-0.0001
330	SLU 15	0.22		-3.54	43.48	0.26	0.0364	-0.0001





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
330	SLU 16	0.22	-3.52	43.11	0.2584	0.0361	-0.0001
330	SLU 17	0.22	-3.5	43.04	0.257	0.036	-0.0001
330	SLU 18	0.22	-3.66	44.24	0.2678	0.0368	-0.0001
330	SLU 19	0.22	-3.64	44.17	0.2664	0.0366	-0.0001
330	SLU 20	0.23	-3.71	44.87	0.2715	0.0374	-0.0001
330	SLU 21	0.23	-3.69	44.79	0.2701	0.0373	-0.0001
330	SLU 22	0.21	-3.38	41.58	0.2488	0.0347	-0.0001
330	SLU 23	0.21	-3.34	41.46	0.2465	0.0345	-0.0001
330	SLU 24	0.22	-3.47	42.64	0.2556	0.0357	-0.0001
330	SLU 25	0.22	-3.45	42.57	0.2542	0.0356	-0.0001
330	SLU 26	0.21	-3.4	42.08	0.2502	0.0351	-0.0001
330	SLU 27	0.22	-3.52	43.27	0.2593	0.0364	-0.0001
330	SLU 28	0.22	-3.5	43.2	0.2579	0.0363	-0.0001
330	SLU 29	0.22	-3.48	42.83	0.2563	0.036	-0.0001
330	SLU 30	0.22	-3.46	42.76	0.2549	0.0358	-0.0001
330	SLU 31	0.24	-3.92	47.01	0.2858	0.039	-0.0001
330	SLU 32	0.25	-4.04	48.2	0.2949	0.0403	-0.0001
330	SLU 33	0.25	-4.02	48.12	0.2935	0.0402	-0.0001
330	SLU 34	0.24	-3.97	47.64	0.2895	0.0397	-0.0001
330	SLU 35	0.25	-4.09	48.82	0.2986	0.0409	-0.0001
330	SLU 36	0.25	-4.07	48.75	0.2972	0.0408	-0.0001
330	SLU 37	0.25	-4.06	48.39	0.2956	0.0405	-0.0001
330	SLU 38	0.25	-4.04	48.31	0.2942	0.0404	-0.0001
330	SLU 39	0.25	-4.2	49.51	0.305	0.0412	-0.0001
330	SLU 40	0.25	-4.18	49.44	0.3036	0.0411	-0.0001
330	SLU 41	0.26	-4.25	50.14	0.3087	0.0418	-0.0001
330	SLU 42	0.26	-4.23	50.07	0.3073	0.0417	-0.0001
330	SLU 43	0.23	-3.51	45.39	0.2623	0.0378	-0.0001
330	SLU 44	0.23	-3.47	45.27	0.26	0.0376	-0.0001
330	SLU 45	0.24	-3.6	46.46	0.2691	0.0389	-0.0001
330	SLU 46	0.24	-3.58	46.38	0.2677	0.0388	-0.0001
330	SLU 47	0.23	-3.53	45.9	0.2637	0.0383	-0.0001
330	SLU 48	0.24	-3.65	47.08	0.2728	0.0395	-0.0001
330	SLU 49	0.24	-3.63	47.01	0.2714	0.0394	-0.0001
330	SLU 50	0.24	-3.61	46.64	0.2698	0.0391	-0.0001
330	SLU 51	0.24	-3.59	46.57	0.2684	0.039	-0.0001
330	SLU 52	0.26	-4.05	50.82	0.2993	0.0422	-0.0001
330	SLU 53	0.26	-4.17	52.01	0.3084	0.0434	-0.0001
330	SLU 54	0.26	-4.15	51.94	0.307	0.0433	-0.0001
330	SLU 55	0.26	-4.1	51.45	0.303	0.0428	-0.0001
330	SLU 56	0.27	-4.22	52.64	0.3122	0.0441	-0.0001
330	SLU 57	0.27	-4.21	52.56	0.3108	0.0439	-0.0001
330	SLU 58	0.27	-4.19	52.2	0.3091	0.0437	-0.0001
330	SLU 59	0.26	-4.17	52.13	0.3077	0.0435	-0.0001
330	SLU 60	0.27	-4.33	53.33	0.3185	0.0443	-0.0001
330	SLU 61	0.27	-4.31	53.25	0.3171	0.0442	-0.0001
330	SLU 62	0.27	-4.38	53.95	0.3222	0.045	-0.0001
330	SLU 63	0.27	-4.36	53.88	0.3208	0.0448	-0.0001
330	SLU 64	0.26	-4.04	50.66	0.2995	0.0423	-0.0001
330	SLU 65	0.26	-4.01	50.54	0.2972	0.0421	-0.0001
330	SLU 66	0.26	-4.13	51.73	0.3063	0.0433	-0.0001
330	SLU 67	0.26	-4.12	51.66	0.3049	0.0432	-0.0001
330	SLU 68	0.26	-4.06	51.17	0.3009	0.0427	-0.0001
330	SLU 69	0.27	-4.19	52.35	0.31	0.0439	-0.0001
330	SLU 70	0.27	-4.17	52.28	0.3086	0.0438	-0.0001
330	SLU 71	0.26	-4.15	51.92	0.307	0.0435	-0.0001
330	SLU 72	0.26	-4.13	51.84	0.3056	0.0434	-0.0001
330	SLU 73	0.28	-4.58	56.1	0.3365	0.0466	-0.0001
330	SLU 74	0.29	-4.71	57.28	0.3456	0.0479	-0.0001
330	SLU 75	0.29	-4.69	57.21	0.3442	0.0477	-0.0001
330	SLU 76	0.29	-4.64	56.72	0.3402	0.0472	-0.0001
330	SLU 77	0.3	-4.76	57.91	0.3494	0.0485	-0.0001
330	SLU 78	0.29	-4.74	57.84	0.348	0.0484	-0.0001
330	SLU 79	0.29	-4.72	57.47	0.3463	0.0481	-0.0001
330	SLU 80	0.29	-4.7	57.4	0.3449	0.0479	-0.0001
330	SLU 81	0.3	-4.86	58.6	0.3557	0.0488	-0.0001
330	SLU 82	0.3	-4.84	58.52	0.3543	0.0486	-0.0001
330	SLU 83	0.3	-4.92	59.22	0.3594	0.0494	-0.0001
330	SLU 84	0.3	-4.9	59.15	0.358	0.0493	-0.0001
330	SLE RA 1	0.19	-2.99	37.81	0.2222	0.0315	-0.0001
330	SLE RA 2	0.19	-2.97	37.73	0.2207	0.0314	-0.0001
330	SLE RA 3	0.2	-3.05	38.52	0.2267	0.0322	-0.0001
330	SLE RA 4	0.2	-3.04	38.47	0.2258	0.0322	-0.0001
330	SLE RA 5	0.19	-3.01	38.15	0.2232	0.0318	-0.0001
330	SLE RA 6	0.2	-3.09	38.94	0.2292	0.0327	-0.0001
330	SLE RA 7	0.2	-3.08	38.89	0.2283	0.0326	-0.0001
330	SLE RA 8	0.2	-3.06	38.65	0.2272	0.0324	-0.0001
330	SLE RA 9	0.2	-3.05	38.6	0.2263	0.0323	-0.0001
330	SLE RA 10	0.21	-3.35	41.43	0.2469	0.0344	-0.0001
330	SLE RA 11	0.21	-3.44	42.23	0.253	0.0353	-0.0001
330	SLE RA 12	0.21	-3.42	42.18	0.252	0.0352	-0.0001
330	SLE RA 13	0.21	-3.39	41.85	0.2494	0.0348	-0.0001
330	SLE RA 14	0.22	-3.47	42.64	0.2555	0.0357	-0.0001
330	SLE RA 15	0.22	-3.46	42.59	0.2545	0.0356	-0.0001
330	SLE RA 16	0.22	-3.45	42.35	0.2534	0.0354	-0.0001
330	SLE RA 17	0.22	-3.43	42.3	0.2525	0.0353	-0.0001
330	SLE RA 18	0.22	-3.54	43.1	0.2597	0.0359	-0.0001
330	SLE RA 19	0.22	-3.53	43.05	0.2587	0.0358	-0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
330	SLE RA 20		0.22	-3.57	43.52	0.2622	0.0363	-0.0001	
330	SLE RA 21		0.22	-3.56	43.47	0.2612	0.0362	-0.0001	
330	SLE FR 1		0.19	-2.99	37.81	0.2222	0.0315	-0.0001	
330	SLE FR 2		0.19	-2.99	37.8	0.2219	0.0315	-0.0001	
330	SLE FR 3		0.19	-3.01	37.98	0.2232	0.0317	-0.0001	
330	SLE FR 4		0.2	-3.15	39.38	0.2332	0.0328	-0.0001	
330	SLE FR 5		0.2	-3.17	39.57	0.2345	0.033	-0.0001	
330	SLE FR 6		0.21	-3.27	40.46	0.241	0.0337	-0.0001	
330	SLE QP 1		0.19	-2.99	37.81	0.2222	0.0315	-0.0001	
330	SLE QP 2		0.2	-3.16	39.4	0.2335	0.0328	-0.0001	
330	SLD 1		0.23	-0.14	31.51	0.0868	0.0426	0	
330	SLD 2		0.23	-0.14	31.51	0.0868	0.0426	0	
330	SLD 3		0.26	-2.37	36.59	0.2306	0.0464	-0.0002	
330	SLD 4		0.26	-2.37	36.59	0.2306	0.0464	-0.0002	
330	SLD 5		0.17	1.12	29.33	-0.0287	0.03	0.0001	
330	SLD 6		0.17	1.12	29.33	-0.0287	0.03	0.0001	
330	SLD 7		0.25	-6.29	46.26	0.4507	0.0427	-0.0003	
330	SLD 8		0.25	-6.29	46.26	0.4507	0.0427	-0.0003	
330	SLD 9		0.15	-0.03	32.54	0.0162	0.023	0.0001	
330	SLD 10		0.15	-0.03	32.54	0.0162	0.023	0.0001	
330	SLD 11		0.23	-7.43	49.47	0.4956	0.0357	-0.0002	
330	SLD 12		0.23	-7.43	49.47	0.4956	0.0357	-0.0002	
330	SLD 13		0.14	-3.95	42.21	0.2363	0.0193	0	
330	SLD 14		0.14	-3.95	42.21	0.2363	0.0193	0	
330	SLD 15		0.17	-6.17	47.29	0.3802	0.0231	-0.0001	
330	SLD 16		0.17	-6.17	47.29	0.3802	0.0231	-0.0001	
330	SLV 1		0.28	3.9	20.85	-0.1116	0.0555	0	
330	SLV 2		0.28	3.9	20.85	-0.1116	0.0555	0	
330	SLV 3		0.34	-1.33	32.85	0.2282	0.0647	-0.0003	
330	SLV 4		0.34	-1.33	32.85	0.2282	0.0647	-0.0003	
330	SLV 5		0.13	6.89	15.64	-0.3853	0.0257	0.0004	
330	SLV 6		0.13	6.89	15.64	-0.3853	0.0257	0.0004	
330	SLV 7		0.33	-10.54	55.63	0.7472	0.0563	-0.0005	
330	SLV 8		0.33	-10.54	55.63	0.7472	0.0563	-0.0005	
330	SLV 9		0.07	4.23	23.17	-0.2803	0.0094	0.0004	
330	SLV 10		0.07	4.23	23.17	-0.2803	0.0094	0.0004	
330	SLV 11		0.26	-13.21	63.16	0.8523	0.0399	-0.0005	
330	SLV 12		0.26	-13.21	63.16	0.8523	0.0399	-0.0005	
330	SLV 13		0.06	-4.98	45.95	0.2387	0.001	0.0002	
330	SLV 14		0.06	-4.98	45.95	0.2387	0.001	0.0002	
330	SLV 15		0.12	-10.21	57.95	0.5785	0.0102	-0.0001	
330	SLV 16		0.12	-10.21	57.95	0.5785	0.0102	-0.0001	
332	SLU 1		0	-6.37	73.42	0.2828	-0.0023	-0.0001	
332	SLU 2		0	-6.27	72.78	0.2772	-0.0025	-0.0001	
332	SLU 3		0	-6.74	77.71	0.3003	-0.0025	-0.0001	
332	SLU 4		0	-6.68	77.33	0.2969	-0.0026	-0.0001	
332	SLU 5		0	-6.58	76.49	0.2923	-0.0027	-0.0001	
332	SLU 6		0	-7.05	81.41	0.3153	-0.0026	-0.0001	
332	SLU 7		0	-6.99	81.03	0.312	-0.0027	-0.0001	
332	SLU 8		0	-7	80.82	0.3129	-0.0026	-0.0001	
332	SLU 9		0	-6.94	80.44	0.3096	-0.0027	-0.0001	
332	SLU 10		0	-7.36	84.34	0.3253	-0.003	-0.0001	
332	SLU 11		0	-7.84	89.26	0.3484	-0.0029	-0.0001	
332	SLU 12		0	-7.78	88.88	0.345	-0.0031	-0.0001	
332	SLU 13		0	-7.68	88.04	0.3404	-0.0031	-0.0001	
332	SLU 14		0	-8.15	92.96	0.3634	-0.0031	-0.0001	
332	SLU 15		0	-8.09	92.58	0.3601	-0.0032	-0.0001	
332	SLU 16		0	-8.1	92.38	0.361	-0.003	-0.0001	
332	SLU 17		0	-8.04	92	0.3577	-0.0031	-0.0001	
332	SLU 18		0	-7.94	89.92	0.3515	-0.0029	-0.0001	
332	SLU 19		0	-7.88	89.54	0.3482	-0.0031	-0.0001	
332	SLU 20		0	-8.25	93.63	0.3666	-0.0031	-0.0001	
332	SLU 21		0	-8.19	93.25	0.3632	-0.0032	-0.0001	
332	SLU 22		0	-7.49	85.49	0.3331	-0.0027	-0.0001	
332	SLU 23		0	-7.39	84.86	0.3276	-0.003	-0.0001	
332	SLU 24		0	-7.86	89.78	0.3506	-0.0029	-0.0001	
332	SLU 25		0	-7.8	89.4	0.3472	-0.003	-0.0001	
332	SLU 26		0	-7.71	88.56	0.3426	-0.0031	-0.0001	
332	SLU 27		0	-8.18	93.48	0.3656	-0.003	-0.0001	
332	SLU 28		0	-8.12	93.1	0.3623	-0.0032	-0.0001	
332	SLU 29		0	-8.12	92.9	0.3632	-0.003	-0.0001	
332	SLU 30		0	-8.06	92.52	0.3599	-0.0031	-0.0001	
332	SLU 31		0	-8.49	96.41	0.3756	-0.0034	-0.0001	
332	SLU 32		0	-8.96	101.33	0.3987	-0.0034	-0.0001	
332	SLU 33		0	-8.9	100.95	0.3953	-0.0035	-0.0001	
332	SLU 34		0	-8.8	100.11	0.3907	-0.0035	-0.0001	
332	SLU 35		0	-9.28	105.04	0.4137	-0.0035	-0.0001	
332	SLU 36		0	-9.22	104.65	0.4104	-0.0036	-0.0001	
332	SLU 37		0	-9.22	104.45	0.4113	-0.0034	-0.0001	
332	SLU 38		0	-9.16	104.07	0.408	-0.0036	-0.0001	
332	SLU 39		0	-9.06	102	0.4018	-0.0034	-0.0001	
332	SLU 40		0	-9	101.62	0.3985	-0.0035	-0.0001	
332	SLU 41		0	-9.38	105.7	0.4169	-0.0035	-0.0001	
332	SLU 42		0	-9.32	105.32	0.4135	-0.0036	-0.0001	
332	SLU 43		0	-7.89	91.31	0.3504	-0.0029	-0.0001	
332	SLU 44		0	-7.79	90.67	0.3448	-0.0031	-0.0001	
332	SLU 45		0	-8.26	95.59	0.3679	-0.003	-0.0001	
332	SLU 46		0	-8.2	95.21	0.3645	-0.0032	-0.0001	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
332	SLU 47	0	-8.11	94.37	0.3599	-0.0032	-0.0001
332	SLU 48	0	-8.58	99.3	0.3829	-0.0032	-0.0001
332	SLU 49	0	-8.52	98.92	0.3796	-0.0033	-0.0001
332	SLU 50	0	-8.52	98.71	0.3805	-0.0031	-0.0001
332	SLU 51	0	-8.46	98.33	0.3772	-0.0032	-0.0001
332	SLU 52	0	-8.89	102.22	0.3929	-0.0035	-0.0001
332	SLU 53	0	-9.36	107.15	0.416	-0.0035	-0.0001
332	SLU 54	0	-9.3	106.77	0.4126	-0.0036	-0.0001
332	SLU 55	0	-9.2	105.93	0.408	-0.0036	-0.0001
332	SLU 56	0	-9.68	110.85	0.431	-0.0036	-0.0001
332	SLU 57	0	-9.62	110.47	0.4277	-0.0037	-0.0001
332	SLU 58	0	-9.62	110.27	0.4286	-0.0036	-0.0001
332	SLU 59	0	-9.56	109.88	0.4253	-0.0037	-0.0001
332	SLU 60	0	-9.46	107.81	0.4191	-0.0035	-0.0001
332	SLU 61	0	-9.4	107.43	0.4158	-0.0036	-0.0001
332	SLU 62	0	-9.78	111.51	0.4342	-0.0036	-0.0001
332	SLU 63	0	-9.72	111.13	0.4308	-0.0037	-0.0001
332	SLU 64	0	-9.02	103.38	0.4007	-0.0033	-0.0001
332	SLU 65	0	-8.92	102.74	0.3951	-0.0035	-0.0001
332	SLU 66	0	-9.39	107.66	0.4182	-0.0035	-0.0001
332	SLU 67	0	-9.33	107.28	0.4148	-0.0036	-0.0001
332	SLU 68	0	-9.23	106.45	0.4102	-0.0036	-0.0001
332	SLU 69	0	-9.7	111.37	0.4332	-0.0036	-0.0001
332	SLU 70	0	-9.64	110.99	0.4299	-0.0037	-0.0001
332	SLU 71	0	-9.65	110.78	0.4308	-0.0035	-0.0001
332	SLU 72	0	-9.59	110.4	0.4275	-0.0037	-0.0001
332	SLU 73	0	-10.01	114.3	0.4432	-0.0039	-0.0001
332	SLU 74	0	-10.49	119.22	0.4663	-0.0039	-0.0001
332	SLU 75	0	-10.43	118.84	0.4629	-0.004	-0.0001
332	SLU 76	0	-10.33	118	0.4583	-0.0041	-0.0001
332	SLU 77	0	-10.8	122.92	0.4813	-0.004	-0.0001
332	SLU 78	0	-10.74	122.54	0.478	-0.0042	-0.0001
332	SLU 79	0	-10.75	122.34	0.4789	-0.004	-0.0001
332	SLU 80	0	-10.69	121.96	0.4756	-0.0041	-0.0001
332	SLU 81	0	-10.59	119.88	0.4694	-0.0039	-0.0001
332	SLU 82	0	-10.53	119.5	0.4661	-0.0041	-0.0001
332	SLU 83	0	-10.9	123.59	0.4845	-0.0041	-0.0001
332	SLU 84	0	-10.84	123.21	0.4811	-0.0042	-0.0001
332	SLE RA 1	0	-6.69	76.87	0.2972	-0.0024	-0.0001
332	SLE RA 2	0	-6.62	76.44	0.2935	-0.0026	-0.0001
332	SLE RA 3	0	-6.94	79.73	0.3088	-0.0025	-0.0001
332	SLE RA 4	0	-6.9	79.47	0.3066	-0.0026	-0.0001
332	SLE RA 5	0	-6.83	78.91	0.3035	-0.0027	-0.0001
332	SLE RA 6	0	-7.15	82.2	0.3189	-0.0026	-0.0001
332	SLE RA 7	0	-7.11	81.94	0.3166	-0.0027	-0.0001
332	SLE RA 8	0	-7.11	81.8	0.3172	-0.0026	-0.0001
332	SLE RA 9	0	-7.07	81.55	0.315	-0.0027	-0.0001
332	SLE RA 10	0	-7.35	84.15	0.3255	-0.0029	-0.0001
332	SLE RA 11	0	-7.67	87.43	0.3409	-0.0028	-0.0001
332	SLE RA 12	0	-7.63	87.18	0.3387	-0.0029	-0.0001
332	SLE RA 13	0	-7.56	86.62	0.3356	-0.003	-0.0001
332	SLE RA 14	0	-7.88	89.9	0.3509	-0.0029	-0.0001
332	SLE RA 15	0	-7.84	89.64	0.3487	-0.003	-0.0001
332	SLE RA 16	0	-7.84	89.51	0.3493	-0.0029	-0.0001
332	SLE RA 17	0	-7.8	89.25	0.3471	-0.003	-0.0001
332	SLE RA 18	0	-7.74	87.87	0.343	-0.0029	-0.0001
332	SLE RA 19	0	-7.7	87.62	0.3408	-0.0029	-0.0001
332	SLE RA 20	0	-7.95	90.34	0.353	-0.0029	-0.0001
332	SLE RA 21	0	-7.91	90.09	0.3508	-0.003	-0.0001
332	SLE FR 1	0	-6.69	76.87	0.2972	-0.0024	-0.0001
332	SLE FR 2	0	-6.68	76.78	0.2964	-0.0025	-0.0001
332	SLE FR 3	0	-6.77	77.85	0.3012	-0.0025	-0.0001
332	SLE FR 4	0	-6.99	80.08	0.3102	-0.0026	-0.0001
332	SLE FR 5	0	-7.09	81.16	0.3149	-0.0026	-0.0001
332	SLE FR 6	0	-7.21	82.37	0.3201	-0.0026	-0.0001
332	SLE QP 1	0	-6.69	76.87	0.2972	-0.0024	-0.0001
332	SLE QP 2	0	-7	80.17	0.3109	-0.0026	-0.0001
332	SLD 1	-0.14	-6.44	80.69	0.2775	-0.077	-0.0013
332	SLD 2	-0.14	-6.44	80.69	0.2775	-0.077	-0.0013
332	SLD 3	-0.12	-8.96	92.7	0.4345	-0.067	-0.001
332	SLD 4	-0.12	-8.96	92.7	0.4345	-0.067	-0.001
332	SLD 5	-0.08	-3.01	62.12	0.0627	-0.0401	-0.0008
332	SLD 6	-0.08	-3.01	62.12	0.0627	-0.0401	-0.0008
332	SLD 7	0	-11.42	102.13	0.5862	-0.0067	0
332	SLD 8	0	-11.42	102.13	0.5862	-0.0067	0
332	SLD 9	0	-2.59	58.2	0.0357	0.0015	-0.0001
332	SLD 10	0	-2.59	58.2	0.0357	0.0015	-0.0001
332	SLD 11	0.08	-11	98.22	0.5591	0.035	0.0007
332	SLD 12	0.08	-11	98.22	0.5591	0.035	0.0007
332	SLD 13	0.12	-5.05	67.64	0.1873	0.0618	0.0009
332	SLD 14	0.12	-5.05	67.64	0.1873	0.0618	0.0009
332	SLD 15	0.14	-7.57	79.64	0.3444	0.0719	0.0012
332	SLD 16	0.14	-7.57	79.64	0.3444	0.0719	0.0012
332	SLV 1	-0.35	-5.71	81.28	0.2347	-0.183	-0.0031
332	SLV 2	-0.35	-5.71	81.28	0.2347	-0.183	-0.0031
332	SLV 3	-0.29	-11.66	109.76	0.6049	-0.1574	-0.0025
332	SLV 4	-0.29	-11.66	109.76	0.6049	-0.1574	-0.0025
332	SLV 5	-0.2	2.41	37.31	-0.2734	-0.0955	-0.0019



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
332	SLV 6	-0.2	2.41	37.31	-0.2734	-0.0955	-0.0019
332	SLV 7	0	-17.43	132.24	0.9605	-0.0102	0.0001
332	SLV 8	0	-17.43	132.24	0.9605	-0.0102	0.0001
332	SLV 9	0	3.42	28.09	-0.3387	0.005	-0.0002
332	SLV 10	0	3.42	28.09	-0.3387	0.005	-0.0002
332	SLV 11	0.2	-16.42	123.03	0.8952	0.0904	0.0018
332	SLV 12	0.2	-16.42	123.03	0.8952	0.0904	0.0018
332	SLV 13	0.29	-2.35	50.57	0.017	0.1523	0.0024
332	SLV 14	0.29	-2.35	50.57	0.017	0.1523	0.0024
332	SLV 15	0.35	-8.3	79.05	0.3871	0.1779	0.003
332	SLV 16	0.35	-8.3	79.05	0.3871	0.1779	0.003
333	SLU 1	7.91	-6.24	50.64	0.0547	0.2392	0.0002
333	SLU 2	7.9	-6.2	50.39	0.0537	0.2389	0.0002
333	SLU 3	8.14	-6.42	52.09	0.0559	0.2464	0.0002
333	SLU 4	8.13	-6.39	51.95	0.0553	0.2462	0.0002
333	SLU 5	8.02	-6.3	51.21	0.0542	0.243	0.0002
333	SLU 6	8.27	-6.52	52.9	0.0564	0.2505	0.0002
333	SLU 7	8.26	-6.49	52.76	0.0558	0.2504	0.0002
333	SLU 8	8.17	-6.44	52.26	0.0557	0.2475	0.0002
333	SLU 9	8.16	-6.41	52.11	0.0551	0.2473	0.0002
333	SLU 10	9.03	-7.23	58.12	0.0654	0.2728	0.0002
333	SLU 11	9.27	-7.45	59.82	0.0676	0.2803	0.0002
333	SLU 12	9.26	-7.42	59.67	0.067	0.2801	0.0002
333	SLU 13	9.15	-7.33	58.93	0.0659	0.2769	0.0002
333	SLU 14	9.4	-7.55	60.63	0.0681	0.2844	0.0002
333	SLU 15	9.39	-7.52	60.48	0.0675	0.2843	0.0002
333	SLU 16	9.3	-7.47	59.99	0.0673	0.2814	0.0002
333	SLU 17	9.29	-7.44	59.84	0.0667	0.2812	0.0002
333	SLU 18	9.53	-7.71	61.67	0.0714	0.2876	0.0001
333	SLU 19	9.52	-7.68	61.53	0.0708	0.2875	0.0001
333	SLU 20	9.66	-7.81	62.49	0.0719	0.2918	0.0001
333	SLU 21	9.65	-7.79	62.34	0.0713	0.2916	0.0002
333	SLU 22	8.99	-7.21	57.95	0.0651	0.2717	0.0002
333	SLU 23	8.97	-7.16	57.71	0.0642	0.2714	0.0002
333	SLU 24	9.22	-7.39	59.41	0.0664	0.2789	0.0002
333	SLU 25	9.2	-7.36	59.26	0.0658	0.2787	0.0002
333	SLU 26	9.1	-7.26	58.52	0.0646	0.2755	0.0002
333	SLU 27	9.34	-7.49	60.22	0.0669	0.283	0.0002
333	SLU 28	9.33	-7.46	60.07	0.0663	0.2829	0.0002
333	SLU 29	9.24	-7.41	59.58	0.0661	0.28	0.0002
333	SLU 30	9.23	-7.38	59.43	0.0655	0.2798	0.0002
333	SLU 31	10.1	-8.2	65.44	0.0758	0.3053	0.0001
333	SLU 32	10.35	-8.42	67.13	0.0781	0.3128	0.0001
333	SLU 33	10.34	-8.39	66.99	0.0775	0.3127	0.0001
333	SLU 34	10.23	-8.3	66.25	0.0763	0.3095	0.0001
333	SLU 35	10.47	-8.52	67.95	0.0785	0.317	0.0001
333	SLU 36	10.46	-8.49	67.8	0.0779	0.3168	0.0001
333	SLU 37	10.37	-8.44	67.3	0.0778	0.3139	0.0001
333	SLU 38	10.36	-8.41	67.16	0.0772	0.3137	0.0001
333	SLU 39	10.61	-8.68	68.99	0.0818	0.3201	0.0001
333	SLU 40	10.59	-8.65	68.84	0.0812	0.32	0.0001
333	SLU 41	10.73	-8.78	69.8	0.0823	0.3243	0.0001
333	SLU 42	10.72	-8.75	69.66	0.0817	0.3241	0.0001
333	SLU 43	9.92	-7.78	63.32	0.0675	0.2998	0.0003
333	SLU 44	9.9	-7.73	63.08	0.0666	0.2995	0.0003
333	SLU 45	10.15	-7.96	64.77	0.0688	0.307	0.0003
333	SLU 46	10.13	-7.93	64.63	0.0682	0.3068	0.0003
333	SLU 47	10.03	-7.84	63.89	0.067	0.3036	0.0003
333	SLU 48	10.27	-8.06	65.59	0.0693	0.3111	0.0003
333	SLU 49	10.26	-8.03	65.44	0.0687	0.311	0.0003
333	SLU 50	10.17	-7.98	64.94	0.0685	0.3081	0.0003
333	SLU 51	10.16	-7.95	64.8	0.0679	0.3079	0.0003
333	SLU 52	11.03	-8.77	70.8	0.0782	0.3334	0.0002
333	SLU 53	11.28	-8.99	72.5	0.0805	0.3409	0.0002
333	SLU 54	11.27	-8.96	72.35	0.0799	0.3408	0.0002
333	SLU 55	11.16	-8.87	71.61	0.0787	0.3376	0.0003
333	SLU 56	11.4	-9.09	73.31	0.0809	0.3451	0.0002
333	SLU 57	11.39	-9.06	73.17	0.0803	0.3449	0.0002
333	SLU 58	11.3	-9.01	72.67	0.0802	0.342	0.0002
333	SLU 59	11.29	-8.98	72.52	0.0796	0.3418	0.0002
333	SLU 60	11.54	-9.25	74.36	0.0842	0.3482	0.0002
333	SLU 61	11.52	-9.22	74.21	0.0836	0.3481	0.0002
333	SLU 62	11.66	-9.35	75.17	0.0847	0.3524	0.0002
333	SLU 63	11.65	-9.32	75.02	0.0841	0.3522	0.0002
333	SLU 64	10.99	-8.74	70.63	0.078	0.3323	0.0002
333	SLU 65	10.98	-8.7	70.39	0.077	0.332	0.0003
333	SLU 66	11.22	-8.93	72.09	0.0792	0.3395	0.0002
333	SLU 67	11.21	-8.9	71.94	0.0786	0.3393	0.0002
333	SLU 68	11.1	-8.8	71.2	0.0775	0.3361	0.0003
333	SLU 69	11.35	-9.03	72.9	0.0797	0.3436	0.0002
333	SLU 70	11.34	-9	72.76	0.0791	0.3435	0.0003
333	SLU 71	11.25	-8.95	72.26	0.0789	0.3406	0.0002
333	SLU 72	11.24	-8.92	72.11	0.0783	0.3404	0.0003
333	SLU 73	12.11	-9.73	78.12	0.0887	0.3659	0.0002
333	SLU 74	12.35	-9.96	79.82	0.0909	0.3734	0.0002
333	SLU 75	12.34	-9.93	79.67	0.0903	0.3733	0.0002
333	SLU 76	12.23	-9.83	78.93	0.0891	0.3701	0.0002
333	SLU 77	12.48	-10.06	80.63	0.0914	0.3776	0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
333	SLU 78	12.47	-10.03	80.48	0.0908	0.3774	0.0002
333	SLU 79	12.38	-9.98	79.98	0.0906	0.3745	0.0002
333	SLU 80	12.37	-9.95	79.84	0.09	0.3743	0.0002
333	SLU 81	12.61	-10.22	81.67	0.0947	0.3808	0.0002
333	SLU 82	12.6	-10.19	81.53	0.0941	0.3806	0.0002
333	SLU 83	12.74	-10.32	82.48	0.0951	0.3849	0.0002
333	SLU 84	12.73	-10.29	82.34	0.0945	0.3847	0.0002
333	SLE RA 1	8.22	-6.51	52.73	0.0577	0.2485	0.0002
333	SLE RA 2	8.21	-6.49	52.56	0.057	0.2483	0.0002
333	SLE RA 3	8.37	-6.63	53.7	0.0585	0.2533	0.0002
333	SLE RA 4	8.36	-6.62	53.6	0.0581	0.2532	0.0002
333	SLE RA 5	8.29	-6.55	53.11	0.0573	0.251	0.0002
333	SLE RA 6	8.46	-6.7	54.24	0.0588	0.256	0.0002
333	SLE RA 7	8.45	-6.68	54.14	0.0584	0.2559	0.0002
333	SLE RA 8	8.39	-6.65	53.81	0.0583	0.254	0.0002
333	SLE RA 9	8.38	-6.63	53.71	0.0579	0.2539	0.0002
333	SLE RA 10	8.96	-7.17	57.72	0.0648	0.2709	0.0002
333	SLE RA 11	9.13	-7.32	58.85	0.0663	0.2759	0.0002
333	SLE RA 12	9.12	-7.3	58.75	0.0659	0.2758	0.0002
333	SLE RA 13	9.05	-7.24	58.26	0.0651	0.2736	0.0002
333	SLE RA 14	9.21	-7.39	59.39	0.0666	0.2786	0.0002
333	SLE RA 15	9.2	-7.37	59.29	0.0662	0.2785	0.0002
333	SLE RA 16	9.14	-7.33	58.96	0.0661	0.2766	0.0002
333	SLE RA 17	9.14	-7.32	58.86	0.0657	0.2765	0.0002
333	SLE RA 18	9.3	-7.5	60.09	0.0688	0.2808	0.0001
333	SLE RA 19	9.29	-7.48	59.99	0.0684	0.2807	0.0002
333	SLE RA 20	9.38	-7.56	60.63	0.0691	0.2835	0.0002
333	SLE RA 21	9.38	-7.55	60.53	0.0687	0.2834	0.0002
333	SLE FR 1	8.22	-6.51	52.73	0.0577	0.2485	0.0002
333	SLE FR 2	8.22	-6.51	52.69	0.0576	0.2484	0.0002
333	SLE FR 3	8.25	-6.54	52.94	0.0578	0.2496	0.0002
333	SLE FR 4	8.54	-6.8	54.9	0.0609	0.2581	0.0002
333	SLE FR 5	8.58	-6.83	55.15	0.0612	0.2593	0.0002
333	SLE FR 6	8.76	-7	56.41	0.0633	0.2646	0.0002
333	SLE QP 1	8.22	-6.51	52.73	0.0577	0.2485	0.0002
333	SLE QP 2	8.54	-6.81	54.93	0.061	0.2582	0.0002
333	SLD 1	11.08	-5.04	58.09	-0.0182	0.3598	0.0024
333	SLD 2	11.08	-5.04	58.09	-0.0182	0.3598	0.0024
333	SLD 3	11.87	-7.31	69.17	0.0551	0.3789	0.001
333	SLD 4	11.87	-7.31	69.17	0.0551	0.3789	0.001
333	SLD 5	8.11	-2.82	39.08	-0.074	0.2597	0.0029
333	SLD 6	8.11	-2.82	39.08	-0.074	0.2597	0.0029
333	SLD 7	10.74	-10.41	76.01	0.1705	0.3233	-0.0016
333	SLD 8	10.74	-10.41	76.01	0.1705	0.3233	-0.0016
333	SLD 9	6.35	-3.2	33.86	-0.0484	0.193	0.002
333	SLD 10	6.35	-3.2	33.86	-0.0484	0.193	0.002
333	SLD 11	8.98	-10.79	70.79	0.196	0.2566	-0.0025
333	SLD 12	8.98	-10.79	70.79	0.196	0.2566	-0.0025
333	SLD 13	5.22	-6.3	40.7	0.067	0.1375	-0.0007
333	SLD 14	5.22	-6.3	40.7	0.067	0.1375	-0.0007
333	SLD 15	6.01	-8.58	51.78	0.1403	0.1566	-0.002
333	SLD 16	6.01	-8.58	51.78	0.1403	0.1566	-0.002
333	SLV 1	14.46	-2.61	62.21	-0.1252	0.4951	0.0053
333	SLV 2	14.46	-2.61	62.21	-0.1252	0.4951	0.0053
333	SLV 3	16.33	-7.99	88.43	0.0478	0.5402	0.0021
333	SLV 4	16.33	-7.99	88.43	0.0478	0.5402	0.0021
333	SLV 5	7.49	2.6	17.35	-0.2573	0.2608	0.0066
333	SLV 6	7.49	2.6	17.35	-0.2573	0.2608	0.0066
333	SLV 7	13.71	-15.32	104.75	0.3195	0.4112	-0.0041
333	SLV 8	13.71	-15.32	104.75	0.3195	0.4112	-0.0041
333	SLV 9	3.38	1.7	5.12	-0.1975	0.1051	0.0044
333	SLV 10	3.38	1.7	5.12	-0.1975	0.1051	0.0044
333	SLV 11	9.6	-16.22	92.52	0.3794	0.2555	-0.0062
333	SLV 12	9.6	-16.22	92.52	0.3794	0.2555	-0.0062
333	SLV 13	0.76	-5.63	21.44	0.0743	-0.0239	-0.0018
333	SLV 14	0.76	-5.63	21.44	0.0743	-0.0239	-0.0018
333	SLV 15	2.63	-11	47.65	0.2473	0.0212	-0.005
333	SLV 16	2.63	-11	47.65	0.2473	0.0212	-0.005
334	SLU 1	3.1	-0.05	47.36	-0.0325	0.1194	0.0002
334	SLU 2	3.12	-0.05	47.14	-0.0324	0.1203	0.0002
334	SLU 3	3.17	-0.05	48.71	-0.0339	0.1213	0.0002
334	SLU 4	3.18	-0.05	48.58	-0.0339	0.1218	0.0002
334	SLU 5	3.16	-0.05	47.91	-0.0334	0.1209	0.0002
334	SLU 6	3.21	-0.05	49.48	-0.0349	0.1219	0.0002
334	SLU 7	3.22	-0.05	49.35	-0.0348	0.1224	0.0002
334	SLU 8	3.17	-0.05	48.9	-0.0345	0.1206	0.0002
334	SLU 9	3.19	-0.05	48.76	-0.0344	0.1211	0.0002
334	SLU 10	3.44	-0.06	54.09	-0.0374	0.1332	0.0002
334	SLU 11	3.49	-0.06	55.66	-0.0389	0.1343	0.0002
334	SLU 12	3.51	-0.06	55.53	-0.0388	0.1348	0.0002
334	SLU 13	3.48	-0.06	54.86	-0.0383	0.1338	0.0002
334	SLU 14	3.53	-0.06	56.43	-0.0399	0.1349	0.0002
334	SLU 15	3.54	-0.06	56.3	-0.0398	0.1354	0.0002
334	SLU 16	3.49	-0.06	55.85	-0.0395	0.1335	0.0002
334	SLU 17	3.51	-0.06	55.72	-0.0394	0.1341	0.0002
334	SLU 18	3.56	-0.06	57.29	-0.0396	0.1379	0.0002
334	SLU 19	3.57	-0.06	57.16	-0.0395	0.1385	0.0002
334	SLU 20	3.6	-0.06	58.06	-0.0406	0.1385	0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
334	SLU 21	3.61	-0.06	57.93	-0.0405	0.139	0.0002
334	SLU 22	3.4	-0.06	53.98	-0.0376	0.1305	0.0002
334	SLU 23	3.42	-0.06	53.76	-0.0375	0.1314	0.0002
334	SLU 24	3.47	-0.06	55.33	-0.039	0.1324	0.0002
334	SLU 25	3.48	-0.06	55.2	-0.0389	0.1329	0.0002
334	SLU 26	3.46	-0.06	54.53	-0.0384	0.132	0.0002
334	SLU 27	3.5	-0.06	56.1	-0.04	0.133	0.0002
334	SLU 28	3.52	-0.06	55.97	-0.0399	0.1335	0.0002
334	SLU 29	3.47	-0.06	55.52	-0.0395	0.1317	0.0002
334	SLU 30	3.48	-0.06	55.39	-0.0395	0.1322	0.0002
334	SLU 31	3.74	-0.07	60.72	-0.0424	0.1443	0.0002
334	SLU 32	3.79	-0.07	62.29	-0.044	0.1454	0.0002
334	SLU 33	3.8	-0.07	62.16	-0.0439	0.1459	0.0002
334	SLU 34	3.78	-0.07	61.49	-0.0434	0.1449	0.0002
334	SLU 35	3.82	-0.07	63.06	-0.045	0.146	0.0002
334	SLU 36	3.84	-0.07	62.93	-0.0449	0.1465	0.0002
334	SLU 37	3.79	-0.07	62.47	-0.0445	0.1446	0.0002
334	SLU 38	3.8	-0.07	62.34	-0.0444	0.1451	0.0002
334	SLU 39	3.85	-0.07	63.92	-0.0447	0.149	0.0002
334	SLU 40	3.87	-0.07	63.78	-0.0446	0.1495	0.0002
334	SLU 41	3.89	-0.07	64.69	-0.0457	0.1496	0.0002
334	SLU 42	3.9	-0.07	64.55	-0.0456	0.1501	0.0002
334	SLU 43	3.93	-0.06	59.29	-0.0405	0.1514	0.0002
334	SLU 44	3.95	-0.06	59.07	-0.0404	0.1523	0.0002
334	SLU 45	4	-0.06	60.64	-0.042	0.1534	0.0002
334	SLU 46	4.01	-0.06	60.51	-0.0419	0.1539	0.0002
334	SLU 47	3.99	-0.06	59.84	-0.0414	0.1529	0.0002
334	SLU 48	4.04	-0.06	61.41	-0.0429	0.1539	0.0002
334	SLU 49	4.05	-0.06	61.28	-0.0429	0.1545	0.0002
334	SLU 50	4	-0.06	60.83	-0.0425	0.1526	0.0002
334	SLU 51	4.02	-0.06	60.7	-0.0424	0.1531	0.0002
334	SLU 52	4.27	-0.07	66.03	-0.0454	0.1653	0.0002
334	SLU 53	4.32	-0.07	67.6	-0.0469	0.1663	0.0003
334	SLU 54	4.33	-0.07	67.47	-0.0469	0.1668	0.0003
334	SLU 55	4.31	-0.07	66.8	-0.0464	0.1659	0.0002
334	SLU 56	4.36	-0.07	68.37	-0.0479	0.1669	0.0003
334	SLU 57	4.37	-0.07	68.24	-0.0478	0.1674	0.0003
334	SLU 58	4.32	-0.07	67.79	-0.0475	0.1656	0.0003
334	SLU 59	4.34	-0.07	67.66	-0.0474	0.1661	0.0003
334	SLU 60	4.39	-0.07	69.23	-0.0476	0.17	0.0003
334	SLU 61	4.4	-0.07	69.1	-0.0476	0.1705	0.0003
334	SLU 62	4.42	-0.07	70	-0.0486	0.1705	0.0003
334	SLU 63	4.44	-0.07	69.87	-0.0485	0.1711	0.0003
334	SLU 64	4.23	-0.07	65.91	-0.0456	0.1625	0.0002
334	SLU 65	4.25	-0.07	65.69	-0.0455	0.1634	0.0002
334	SLU 66	4.3	-0.07	67.27	-0.047	0.1644	0.0002
334	SLU 67	4.31	-0.07	67.14	-0.0469	0.165	0.0002
334	SLU 68	4.28	-0.07	66.46	-0.0465	0.164	0.0002
334	SLU 69	4.33	-0.07	68.04	-0.048	0.165	0.0003
334	SLU 70	4.35	-0.07	67.91	-0.0479	0.1655	0.0003
334	SLU 71	4.3	-0.07	67.45	-0.0476	0.1637	0.0002
334	SLU 72	4.31	-0.07	67.32	-0.0475	0.1642	0.0002
334	SLU 73	4.57	-0.08	72.65	-0.0504	0.1764	0.0003
334	SLU 74	4.62	-0.08	74.22	-0.052	0.1774	0.0003
334	SLU 75	4.63	-0.08	74.09	-0.0519	0.1779	0.0003
334	SLU 76	4.61	-0.08	73.42	-0.0514	0.1769	0.0003
334	SLU 77	4.65	-0.08	74.99	-0.053	0.178	0.0003
334	SLU 78	4.67	-0.08	74.86	-0.0529	0.1785	0.0003
334	SLU 79	4.62	-0.08	74.41	-0.0525	0.1767	0.0003
334	SLU 80	4.63	-0.08	74.28	-0.0525	0.1772	0.0003
334	SLU 81	4.68	-0.08	75.85	-0.0527	0.1811	0.0003
334	SLU 82	4.7	-0.08	75.72	-0.0526	0.1816	0.0003
334	SLU 83	4.72	-0.08	76.62	-0.0537	0.1816	0.0003
334	SLU 84	4.73	-0.08	76.49	-0.0536	0.1822	0.0003
334	SLE RA 1	3.19	-0.05	49.25	-0.034	0.1226	0.0002
334	SLE RA 2	3.2	-0.05	49.1	-0.0339	0.1232	0.0002
334	SLE RA 3	3.23	-0.05	50.15	-0.0349	0.1239	0.0002
334	SLE RA 4	3.24	-0.05	50.06	-0.0349	0.1242	0.0002
334	SLE RA 5	3.22	-0.05	49.61	-0.0345	0.1235	0.0002
334	SLE RA 6	3.26	-0.05	50.66	-0.0356	0.1242	0.0002
334	SLE RA 7	3.27	-0.05	50.58	-0.0355	0.1246	0.0002
334	SLE RA 8	3.23	-0.05	50.27	-0.0353	0.1234	0.0002
334	SLE RA 9	3.24	-0.05	50.19	-0.0352	0.1237	0.0002
334	SLE RA 10	3.41	-0.06	53.74	-0.0372	0.1318	0.0002
334	SLE RA 11	3.45	-0.06	54.79	-0.0382	0.1325	0.0002
334	SLE RA 12	3.46	-0.06	54.7	-0.0382	0.1329	0.0002
334	SLE RA 13	3.44	-0.06	54.25	-0.0378	0.1322	0.0002
334	SLE RA 14	3.47	-0.06	55.3	-0.0389	0.1329	0.0002
334	SLE RA 15	3.48	-0.06	55.21	-0.0388	0.1332	0.0002
334	SLE RA 16	3.45	-0.06	54.91	-0.0386	0.132	0.0002
334	SLE RA 17	3.46	-0.06	54.82	-0.0385	0.1323	0.0002
334	SLE RA 18	3.49	-0.06	55.87	-0.0387	0.1349	0.0002
334	SLE RA 19	3.5	-0.06	55.79	-0.0386	0.1353	0.0002
334	SLE RA 20	3.51	-0.06	56.39	-0.0393	0.1353	0.0002
334	SLE RA 21	3.52	-0.06	56.3	-0.0393	0.1357	0.0002
334	SLE FR 1	3.19	-0.05	49.25	-0.034	0.1226	0.0002
334	SLE FR 2	3.19	-0.05	49.22	-0.0339	0.1227	0.0002
334	SLE FR 3	3.19	-0.05	49.45	-0.0342	0.1227	0.0002



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
334	SLE FR 4	3.28	-0.05	51.21	-0.0354	0.1264	0.0002
334	SLE FR 5	3.29	-0.05	51.44	-0.0356	0.1264	0.0002
334	SLE FR 6	3.34	-0.06	52.56	-0.0363	0.1288	0.0002
334	SLE QP 1	3.19	-0.05	49.25	-0.034	0.1226	0.0002
334	SLE QP 2	3.28	-0.05	51.24	-0.0354	0.1263	0.0002
334	SLD 1	7.85	-0.03	53.97	-0.0517	0.327	0.0002
334	SLD 2	7.85	-0.03	53.97	-0.0517	0.327	0.0002
334	SLD 3	6.62	-0.06	63.03	-0.038	0.2921	0.0003
334	SLD 4	6.62	-0.06	63.03	-0.038	0.2921	0.0003
334	SLD 5	6.52	0	38.31	-0.061	0.2394	0.0001
334	SLD 6	6.52	0	38.31	-0.061	0.2394	0.0001
334	SLD 7	2.41	-0.1	68.52	-0.0154	0.1232	0.0003
334	SLD 8	2.41	-0.1	68.52	-0.0154	0.1232	0.0003
334	SLD 9	4.14	0	33.95	-0.0553	0.1294	0.0001
334	SLD 10	4.14	0	33.95	-0.0553	0.1294	0.0001
334	SLD 11	0.04	-0.11	64.16	-0.0097	0.0132	0.0003
334	SLD 12	0.04	-0.11	64.16	-0.0097	0.0132	0.0003
334	SLD 13	-0.06	-0.05	39.44	-0.0327	-0.0395	0.0001
334	SLD 14	-0.06	-0.05	39.44	-0.0327	-0.0395	0.0001
334	SLD 15	-1.29	-0.08	48.5	-0.019	-0.0744	0.0002
334	SLD 16	-1.29	-0.08	48.5	-0.019	-0.0744	0.0002
334	SLV 1	13.97	0.01	57.55	-0.0739	0.5954	0.0003
334	SLV 2	13.97	0.01	57.55	-0.0739	0.5954	0.0003
334	SLV 3	11.04	-0.07	79.01	-0.0416	0.5122	0.0004
334	SLV 4	11.04	-0.07	79.01	-0.0416	0.5122	0.0004
334	SLV 5	10.93	0.09	20.58	-0.0959	0.3932	0
334	SLV 6	10.93	0.09	20.58	-0.0959	0.3932	0
334	SLV 7	1.17	-0.18	92.12	0.0118	0.1159	0.0004
334	SLV 8	1.17	-0.18	92.12	0.0118	0.1159	0.0004
334	SLV 9	5.39	0.07	10.35	-0.0825	0.1367	-0.0001
334	SLV 10	5.39	0.07	10.35	-0.0825	0.1367	-0.0001
334	SLV 11	-4.37	-0.19	81.89	0.0252	-0.1406	0.0004
334	SLV 12	-4.37	-0.19	81.89	0.0252	-0.1406	0.0004
334	SLV 13	-4.49	-0.04	23.46	-0.0292	-0.2596	0
334	SLV 14	-4.49	-0.04	23.46	-0.0292	-0.2596	0
334	SLV 15	-7.42	-0.12	44.92	0.0031	-0.3428	0.0001
334	SLV 16	-7.42	-0.12	44.92	0.0031	-0.3428	0.0001
335	SLU 1	2.9	0.11	39.59	-0.101	0.2368	0.0003
335	SLU 2	2.92	0.11	39.43	-0.1006	0.2372	0.0003
335	SLU 3	2.98	0.11	40.71	-0.105	0.2442	0.0004
335	SLU 4	2.99	0.11	40.61	-0.1047	0.2444	0.0004
335	SLU 5	2.96	0.11	40.09	-0.1032	0.2414	0.0003
335	SLU 6	3.02	0.11	41.37	-0.1076	0.2484	0.0004
335	SLU 7	3.03	0.11	41.27	-0.1073	0.2486	0.0004
335	SLU 8	2.98	0.11	40.91	-0.1062	0.2452	0.0004
335	SLU 9	2.99	0.11	40.81	-0.1059	0.2454	0.0004
335	SLU 10	3.26	0.12	44.95	-0.1168	0.2704	0.0004
335	SLU 11	3.32	0.13	46.24	-0.1212	0.2775	0.0004
335	SLU 12	3.33	0.13	46.14	-0.121	0.2777	0.0004
335	SLU 13	3.3	0.12	45.62	-0.1194	0.2746	0.0004
335	SLU 14	3.36	0.13	46.9	-0.1238	0.2817	0.0004
335	SLU 15	3.37	0.13	46.8	-0.1235	0.2819	0.0004
335	SLU 16	3.33	0.13	46.44	-0.1224	0.2785	0.0004
335	SLU 17	3.34	0.13	46.34	-0.1221	0.2787	0.0004
335	SLU 18	3.39	0.13	47.49	-0.1242	0.2843	0.0004
335	SLU 19	3.4	0.13	47.39	-0.1239	0.2846	0.0004
335	SLU 20	3.43	0.13	48.15	-0.1268	0.2885	0.0004
335	SLU 21	3.44	0.13	48.05	-0.1265	0.2887	0.0004
335	SLU 22	3.22	0.12	44.89	-0.1171	0.2686	0.0004
335	SLU 23	3.24	0.12	44.73	-0.1166	0.269	0.0004
335	SLU 24	3.3	0.13	46.01	-0.121	0.276	0.0004
335	SLU 25	3.31	0.13	45.91	-0.1208	0.2762	0.0004
335	SLU 26	3.28	0.12	45.39	-0.1192	0.2731	0.0004
335	SLU 27	3.34	0.13	46.67	-0.1236	0.2802	0.0004
335	SLU 28	3.35	0.13	46.57	-0.1233	0.2804	0.0004
335	SLU 29	3.3	0.13	46.21	-0.1222	0.277	0.0004
335	SLU 30	3.31	0.13	46.11	-0.122	0.2772	0.0004
335	SLU 31	3.58	0.14	50.25	-0.1328	0.3022	0.0004
335	SLU 32	3.64	0.14	51.54	-0.1372	0.3093	0.0005
335	SLU 33	3.65	0.14	51.44	-0.137	0.3095	0.0005
335	SLU 34	3.62	0.14	50.91	-0.1354	0.3064	0.0005
335	SLU 35	3.68	0.15	52.2	-0.1398	0.3134	0.0005
335	SLU 36	3.7	0.15	52.1	-0.1395	0.3136	0.0005
335	SLU 37	3.65	0.14	51.74	-0.1384	0.3102	0.0005
335	SLU 38	3.66	0.14	51.64	-0.1382	0.3104	0.0005
335	SLU 39	3.71	0.15	52.79	-0.1402	0.3161	0.0005
335	SLU 40	3.72	0.15	52.69	-0.14	0.3163	0.0005
335	SLU 41	3.75	0.15	53.45	-0.1428	0.3203	0.0005
335	SLU 42	3.76	0.15	53.35	-0.1425	0.3205	0.0005
335	SLU 43	3.66	0.13	49.65	-0.1259	0.297	0.0004
335	SLU 44	3.68	0.13	49.49	-0.1254	0.2973	0.0004
335	SLU 45	3.74	0.14	50.77	-0.1298	0.3044	0.0004
335	SLU 46	3.75	0.14	50.67	-0.1296	0.3046	0.0004
335	SLU 47	3.72	0.13	50.15	-0.128	0.3015	0.0004
335	SLU 48	3.78	0.14	51.43	-0.1324	0.3086	0.0004
335	SLU 49	3.79	0.14	51.34	-0.1321	0.3088	0.0004
335	SLU 50	3.74	0.14	50.97	-0.131	0.3054	0.0004
335	SLU 51	3.75	0.14	50.87	-0.1308	0.3056	0.0004



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z		x	y	z	
335	SLU 52	4.02	0.15	55.01	-0.1416	0.3306	0.0005		
335	SLU 53	4.08	0.15	56.3	-0.146	0.3376	0.0005		
335	SLU 54	4.09	0.15	56.2	-0.1458	0.3379	0.0005		
335	SLU 55	4.06	0.15	55.68	-0.1442	0.3348	0.0005		
335	SLU 56	4.12	0.16	56.96	-0.1486	0.3418	0.0005		
335	SLU 57	4.13	0.16	56.86	-0.1483	0.342	0.0005		
335	SLU 58	4.09	0.15	56.5	-0.1472	0.3386	0.0005		
335	SLU 59	4.1	0.15	56.4	-0.147	0.3388	0.0005		
335	SLU 60	4.15	0.16	57.55	-0.149	0.3445	0.0005		
335	SLU 61	4.16	0.16	57.45	-0.1488	0.3447	0.0005		
335	SLU 62	4.19	0.16	58.21	-0.1516	0.3487	0.0005		
335	SLU 63	4.2	0.16	58.11	-0.1513	0.3489	0.0005		
335	SLU 64	3.98	0.15	54.95	-0.1419	0.3288	0.0005		
335	SLU 65	4	0.15	54.79	-0.1414	0.3291	0.0005		
335	SLU 66	4.06	0.15	56.07	-0.1458	0.3362	0.0005		
335	SLU 67	4.07	0.15	55.97	-0.1456	0.3364	0.0005		
335	SLU 68	4.04	0.15	55.45	-0.144	0.3333	0.0005		
335	SLU 69	4.1	0.16	56.73	-0.1484	0.3403	0.0005		
335	SLU 70	4.11	0.16	56.63	-0.1482	0.3405	0.0005		
335	SLU 71	4.06	0.15	56.27	-0.147	0.3371	0.0005		
335	SLU 72	4.07	0.15	56.17	-0.1468	0.3373	0.0005		
335	SLU 73	4.34	0.16	60.31	-0.1577	0.3624	0.0005		
335	SLU 74	4.4	0.17	61.6	-0.1621	0.3694	0.0005		
335	SLU 75	4.41	0.17	61.5	-0.1618	0.3696	0.0005		
335	SLU 76	4.38	0.17	60.97	-0.1602	0.3666	0.0005		
335	SLU 77	4.44	0.17	62.26	-0.1646	0.3736	0.0006		
335	SLU 78	4.45	0.17	62.16	-0.1644	0.3738	0.0006		
335	SLU 79	4.41	0.17	61.8	-0.1633	0.3704	0.0005		
335	SLU 80	4.42	0.17	61.7	-0.163	0.3706	0.0005		
335	SLU 81	4.47	0.17	62.85	-0.165	0.3763	0.0006		
335	SLU 82	4.48	0.17	62.75	-0.1648	0.3765	0.0006		
335	SLU 83	4.51	0.18	63.51	-0.1676	0.3805	0.0006		
335	SLU 84	4.52	0.17	63.41	-0.1674	0.3807	0.0006		
335	SLE RA 1	2.99	0.11	41.11	-0.1056	0.2459	0.0004		
335	SLE RA 2	3	0.11	41	-0.1053	0.2461	0.0004		
335	SLE RA 3	3.04	0.11	41.85	-0.1083	0.2508	0.0004		
335	SLE RA 4	3.05	0.11	41.79	-0.1081	0.251	0.0004		
335	SLE RA 5	3.03	0.11	41.44	-0.107	0.2489	0.0004		
335	SLE RA 6	3.07	0.12	42.29	-0.11	0.2536	0.0004		
335	SLE RA 7	3.08	0.11	42.23	-0.1098	0.2538	0.0004		
335	SLE RA 8	3.05	0.11	41.99	-0.1091	0.2515	0.0004		
335	SLE RA 9	3.05	0.11	41.92	-0.1089	0.2516	0.0004		
335	SLE RA 10	3.23	0.12	44.68	-0.1161	0.2683	0.0004		
335	SLE RA 11	3.27	0.12	45.54	-0.1191	0.273	0.0004		
335	SLE RA 12	3.28	0.12	45.47	-0.1189	0.2732	0.0004		
335	SLE RA 13	3.26	0.12	45.12	-0.1179	0.2711	0.0004		
335	SLE RA 14	3.3	0.13	45.98	-0.1208	0.2758	0.0004		
335	SLE RA 15	3.31	0.13	45.91	-0.1206	0.2759	0.0004		
335	SLE RA 16	3.27	0.13	45.67	-0.1199	0.2737	0.0004		
335	SLE RA 17	3.28	0.13	45.61	-0.1197	0.2738	0.0004		
335	SLE RA 18	3.32	0.13	46.37	-0.1211	0.2776	0.0004		
335	SLE RA 19	3.32	0.13	46.3	-0.1209	0.2777	0.0004		
335	SLE RA 20	3.35	0.13	46.81	-0.1228	0.2804	0.0004		
335	SLE RA 21	3.35	0.13	46.74	-0.1226	0.2805	0.0004		
335	SLE FR 1	2.99	0.11	41.11	-0.1056	0.2459	0.0004		
335	SLE FR 2	2.99	0.11	41.08	-0.1056	0.246	0.0004		
335	SLE FR 3	3	0.11	41.28	-0.1063	0.247	0.0004		
335	SLE FR 4	3.09	0.12	42.66	-0.1102	0.2555	0.0004		
335	SLE FR 5	3.1	0.12	42.86	-0.1109	0.2565	0.0004		
335	SLE FR 6	3.15	0.12	43.74	-0.1133	0.2618	0.0004		
335	SLE QP 1	2.99	0.11	41.11	-0.1056	0.2459	0.0004		
335	SLE QP 2	3.09	0.12	42.69	-0.1103	0.2554	0.0004		
335	SLD 1	7.58	0.12	34.69	-0.1231	0.4621	0.0005		
335	SLD 2	7.58	0.12	34.69	-0.1231	0.4621	0.0005		
335	SLD 3	6.64	0.14	40.86	-0.1357	0.4301	0.0005		
335	SLD 4	6.64	0.14	40.86	-0.1357	0.4301	0.0005		
335	SLD 5	5.85	0.08	30.93	-0.095	0.366	0.0003		
335	SLD 6	5.85	0.08	30.93	-0.095	0.366	0.0003		
335	SLD 7	2.74	0.16	51.5	-0.137	0.2593	0.0005		
335	SLD 8	2.74	0.16	51.5	-0.137	0.2593	0.0005		
335	SLD 9	3.44	0.07	33.87	-0.0835	0.2516	0.0002		
335	SLD 10	3.44	0.07	33.87	-0.0835	0.2516	0.0002		
335	SLD 11	0.32	0.15	54.44	-0.1255	0.1449	0.0004		
335	SLD 12	0.32	0.15	54.44	-0.1255	0.1449	0.0004		
335	SLD 13	-0.47	0.09	44.51	-0.0848	0.0808	0.0002		
335	SLD 14	-0.47	0.09	44.51	-0.0848	0.0808	0.0002		
335	SLD 15	-1.4	0.11	50.68	-0.0974	0.0487	0.0003		
335	SLD 16	-1.4	0.11	50.68	-0.0974	0.0487	0.0003		
335	SLV 1	13.58	0.13	23.87	-0.1406	0.7385	0.0006		
335	SLV 2	13.58	0.13	23.87	-0.1406	0.7385	0.0006		
335	SLV 3	11.35	0.18	38.48	-0.17	0.6621	0.0007		
335	SLV 4	11.35	0.18	38.48	-0.17	0.6621	0.0007		
335	SLV 5	9.62	0.04	14.89	-0.0747	0.5163	0.0002		
335	SLV 6	9.62	0.04	14.89	-0.0747	0.5163	0.0002		
335	SLV 7	2.18	0.22	63.58	-0.1729	0.2615	0.0007		
335	SLV 8	2.18	0.22	63.58	-0.1729	0.2615	0.0007		
335	SLV 9	4	0.01	21.79	-0.0476	0.2494	0		
335	SLV 10	4	0.01	21.79	-0.0476	0.2494	0		





Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
335	SLV 11	-3.45	0.2	70.48	-0.1459	-0.0055	0.0005	
335	SLV 12	-3.45	0.2	70.48	-0.1459	-0.0055	0.0005	
335	SLV 13	-5.18	0.05	46.89	-0.0505	-0.1513	0	
335	SLV 14	-5.18	0.05	46.89	-0.0505	-0.1513	0	
335	SLV 15	-7.41	0.1	61.5	-0.08	-0.2277	0.0002	
335	SLV 16	-7.41	0.1	61.5	-0.08	-0.2277	0.0002	
336	SLU 1	0.78	0.23	34.23	-0.1646	-0.0103	0.0008	
336	SLU 2	0.81	0.23	34.1	-0.1639	-0.0091	0.0008	
336	SLU 3	0.79	0.24	35.19	-0.171	-0.0119	0.0008	
336	SLU 4	0.81	0.24	35.11	-0.1706	-0.0111	0.0008	
336	SLU 5	0.81	0.23	34.68	-0.1681	-0.0106	0.0008	
336	SLU 6	0.79	0.24	35.78	-0.1751	-0.0134	0.0008	
336	SLU 7	0.8	0.24	35.7	-0.1747	-0.0126	0.0008	
336	SLU 8	0.78	0.24	35.4	-0.1728	-0.0133	0.0008	
336	SLU 9	0.79	0.24	35.32	-0.1724	-0.0126	0.0008	
336	SLU 10	0.88	0.27	38.64	-0.1906	-0.0124	0.0009	
336	SLU 11	0.86	0.28	39.73	-0.1976	-0.0152	0.0009	
336	SLU 12	0.88	0.27	39.65	-0.1972	-0.0144	0.0009	
336	SLU 13	0.87	0.27	39.23	-0.1947	-0.0139	0.0009	
336	SLU 14	0.86	0.28	40.32	-0.2017	-0.0167	0.0009	
336	SLU 15	0.87	0.28	40.24	-0.2013	-0.0159	0.0009	
336	SLU 16	0.85	0.28	39.94	-0.1995	-0.0166	0.0009	
336	SLU 17	0.86	0.28	39.86	-0.1991	-0.0159	0.0009	
336	SLU 18	0.88	0.28	40.72	-0.2027	-0.015	0.0009	
336	SLU 19	0.9	0.28	40.64	-0.2023	-0.0143	0.0009	
336	SLU 20	0.88	0.29	41.3	-0.2068	-0.0165	0.001	
336	SLU 21	0.89	0.29	41.22	-0.2064	-0.0158	0.001	
336	SLU 22	0.83	0.27	38.61	-0.1908	-0.0151	0.0009	
336	SLU 23	0.85	0.26	38.48	-0.1901	-0.0139	0.0009	
336	SLU 24	0.83	0.27	39.57	-0.1972	-0.0167	0.0009	
336	SLU 25	0.85	0.27	39.49	-0.1968	-0.0159	0.0009	
336	SLU 26	0.85	0.27	39.07	-0.1943	-0.0154	0.0009	
336	SLU 27	0.83	0.28	40.16	-0.2013	-0.0182	0.0009	
336	SLU 28	0.85	0.28	40.08	-0.2009	-0.0174	0.0009	
336	SLU 29	0.82	0.28	39.78	-0.199	-0.0181	0.0009	
336	SLU 30	0.83	0.28	39.7	-0.1986	-0.0174	0.0009	
336	SLU 31	0.92	0.3	43.02	-0.2168	-0.0172	0.001	
336	SLU 32	0.9	0.31	44.12	-0.2238	-0.02	0.001	
336	SLU 33	0.92	0.31	44.04	-0.2234	-0.0192	0.001	
336	SLU 34	0.92	0.31	43.61	-0.2209	-0.0187	0.001	
336	SLU 35	0.9	0.32	44.7	-0.2279	-0.0215	0.0011	
336	SLU 36	0.92	0.32	44.62	-0.2275	-0.0207	0.0011	
336	SLU 37	0.89	0.31	44.33	-0.2257	-0.0214	0.0011	
336	SLU 38	0.9	0.31	44.25	-0.2253	-0.0207	0.0011	
336	SLU 39	0.92	0.32	45.1	-0.2289	-0.0198	0.0011	
336	SLU 40	0.94	0.32	45.02	-0.2285	-0.0191	0.0011	
336	SLU 41	0.92	0.32	45.69	-0.233	-0.0213	0.0011	
336	SLU 42	0.94	0.32	45.61	-0.2326	-0.0206	0.0011	
336	SLU 43	1	0.29	43	-0.205	-0.0118	0.001	
336	SLU 44	1.03	0.28	42.86	-0.2043	-0.0105	0.001	
336	SLU 45	1.01	0.29	43.96	-0.2114	-0.0133	0.001	
336	SLU 46	1.03	0.29	43.88	-0.211	-0.0126	0.001	
336	SLU 47	1.03	0.29	43.45	-0.2085	-0.012	0.001	
336	SLU 48	1.01	0.3	44.54	-0.2155	-0.0148	0.001	
336	SLU 49	1.02	0.3	44.46	-0.2151	-0.0141	0.001	
336	SLU 50	1	0.3	44.17	-0.2132	-0.0148	0.001	
336	SLU 51	1.01	0.3	44.09	-0.2128	-0.014	0.001	
336	SLU 52	1.1	0.32	47.41	-0.231	-0.0138	0.0011	
336	SLU 53	1.08	0.33	48.5	-0.238	-0.0166	0.0011	
336	SLU 54	1.1	0.33	48.42	-0.2376	-0.0159	0.0011	
336	SLU 55	1.1	0.33	47.99	-0.2351	-0.0153	0.0011	
336	SLU 56	1.08	0.34	49.08	-0.2421	-0.0181	0.0011	
336	SLU 57	1.09	0.34	49	-0.2417	-0.0174	0.0011	
336	SLU 58	1.07	0.33	48.71	-0.2399	-0.0181	0.0011	
336	SLU 59	1.08	0.33	48.63	-0.2395	-0.0173	0.0011	
336	SLU 60	1.1	0.34	49.48	-0.2431	-0.0165	0.0011	
336	SLU 61	1.12	0.34	49.41	-0.2427	-0.0157	0.0011	
336	SLU 62	1.1	0.34	50.07	-0.2472	-0.018	0.0012	
336	SLU 63	1.11	0.34	49.99	-0.2468	-0.0172	0.0012	
336	SLU 64	1.05	0.32	47.38	-0.2312	-0.0166	0.0011	
336	SLU 65	1.07	0.32	47.25	-0.2305	-0.0153	0.0011	
336	SLU 66	1.05	0.33	48.34	-0.2376	-0.0181	0.0011	
336	SLU 67	1.07	0.33	48.26	-0.2372	-0.0174	0.0011	
336	SLU 68	1.07	0.33	47.83	-0.2347	-0.0168	0.0011	
336	SLU 69	1.05	0.34	48.92	-0.2417	-0.0196	0.0011	
336	SLU 70	1.07	0.34	48.85	-0.2413	-0.0189	0.0011	
336	SLU 71	1.04	0.33	48.55	-0.2394	-0.0196	0.0011	
336	SLU 72	1.06	0.33	48.47	-0.239	-0.0188	0.0011	
336	SLU 73	1.14	0.36	51.79	-0.2572	-0.0186	0.0012	
336	SLU 74	1.12	0.37	52.88	-0.2642	-0.0214	0.0012	
336	SLU 75	1.14	0.37	52.8	-0.2638	-0.0207	0.0012	
336	SLU 76	1.14	0.36	52.37	-0.2613	-0.0201	0.0012	
336	SLU 77	1.12	0.37	53.47	-0.2683	-0.0229	0.0013	
336	SLU 78	1.14	0.37	53.39	-0.2679	-0.0222	0.0013	
336	SLU 79	1.11	0.37	53.09	-0.2661	-0.0228	0.0012	
336	SLU 80	1.12	0.37	53.01	-0.2657	-0.0221	0.0012	
336	SLU 81	1.14	0.38	53.87	-0.2693	-0.0213	0.0013	
336	SLU 82	1.16	0.37	53.79	-0.2689	-0.0205	0.0013	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
336	SLU 83	1.14	0.38	54.45	-0.2734	-0.0228	0.0013	
336	SLU 84	1.16	0.38	54.37	-0.273	-0.022	0.0013	
336	SLE RA 1	0.8	0.24	35.48	-0.1721	-0.0117	0.0008	
336	SLE RA 2	0.81	0.24	35.39	-0.1717	-0.0109	0.0008	
336	SLE RA 3	0.8	0.25	36.12	-0.1763	-0.0127	0.0008	
336	SLE RA 4	0.81	0.25	36.07	-0.1761	-0.0122	0.0008	
336	SLE RA 5	0.81	0.24	35.78	-0.1744	-0.0119	0.0008	
336	SLE RA 6	0.8	0.25	36.51	-0.1791	-0.0137	0.0008	
336	SLE RA 7	0.81	0.25	36.46	-0.1788	-0.0132	0.0008	
336	SLE RA 8	0.79	0.25	36.26	-0.1776	-0.0137	0.0008	
336	SLE RA 9	0.8	0.25	36.21	-0.1773	-0.0132	0.0008	
336	SLE RA 10	0.86	0.26	38.42	-0.1894	-0.0131	0.0009	
336	SLE RA 11	0.85	0.27	39.15	-0.1941	-0.0149	0.0009	
336	SLE RA 12	0.86	0.27	39.1	-0.1938	-0.0144	0.0009	
336	SLE RA 13	0.86	0.27	38.81	-0.1921	-0.0141	0.0009	
336	SLE RA 14	0.85	0.27	39.54	-0.1968	-0.0159	0.0009	
336	SLE RA 15	0.86	0.27	39.49	-0.1966	-0.0154	0.0009	
336	SLE RA 16	0.84	0.27	39.29	-0.1953	-0.0159	0.0009	
336	SLE RA 17	0.85	0.27	39.24	-0.1951	-0.0154	0.0009	
336	SLE RA 18	0.86	0.28	39.81	-0.1975	-0.0148	0.0009	
336	SLE RA 19	0.87	0.27	39.76	-0.1972	-0.0143	0.0009	
336	SLE RA 20	0.86	0.28	40.2	-0.2002	-0.0158	0.0009	
336	SLE RA 21	0.87	0.28	40.15	-0.1999	-0.0153	0.0009	
336	SLE FR 1	0.8	0.24	35.48	-0.1721	-0.0117	0.0008	
336	SLE FR 2	0.8	0.24	35.46	-0.172	-0.0115	0.0008	
336	SLE FR 3	0.79	0.24	35.64	-0.1732	-0.0121	0.0008	
336	SLE FR 4	0.82	0.25	36.76	-0.1796	-0.0125	0.0008	
336	SLE FR 5	0.81	0.25	36.94	-0.1808	-0.013	0.0008	
336	SLE FR 6	0.83	0.26	37.64	-0.1848	-0.0133	0.0009	
336	SLE QP 1	0.8	0.24	35.48	-0.1721	-0.0117	0.0008	
336	SLE QP 2	0.82	0.25	36.78	-0.1797	-0.0126	0.0008	
336	SLD 1	5.34	0.21	31.19	-0.1416	0.1882	0.001	
336	SLD 2	5.34	0.21	31.19	-0.1416	0.1882	0.001	
336	SLD 3	4.51	0.23	35.84	-0.1582	0.1533	0.001	
336	SLD 4	4.51	0.23	35.84	-0.1582	0.1533	0.001	
336	SLD 5	3.43	0.21	28.05	-0.1432	0.1005	0.0008	
336	SLD 6	3.43	0.21	28.05	-0.1432	0.1005	0.0008	
336	SLD 7	0.66	0.27	43.55	-0.1983	-0.0158	0.001	
336	SLD 8	0.66	0.27	43.55	-0.1983	-0.0158	0.001	
336	SLD 9	0.97	0.23	30.01	-0.1611	-0.0095	0.0007	
336	SLD 10	0.97	0.23	30.01	-0.1611	-0.0095	0.0007	
336	SLD 11	-1.8	0.29	45.51	-0.2162	-0.1258	0.0009	
336	SLD 12	-1.8	0.29	45.51	-0.2162	-0.1258	0.0009	
336	SLD 13	-2.88	0.28	37.72	-0.2013	-0.1785	0.0006	
336	SLD 14	-2.88	0.28	37.72	-0.2013	-0.1785	0.0006	
336	SLD 15	-3.71	0.3	42.37	-0.2178	-0.2134	0.0007	
336	SLD 16	-3.71	0.3	42.37	-0.2178	-0.2134	0.0007	
336	SLV 1	11.41	0.14	23.62	-0.0901	0.4567	0.0012	
336	SLV 2	11.41	0.14	23.62	-0.0901	0.4567	0.0012	
336	SLV 3	9.41	0.19	34.6	-0.1291	0.3733	0.0013	
336	SLV 4	9.41	0.19	34.6	-0.1291	0.3733	0.0013	
336	SLV 5	7.01	0.15	16.16	-0.0938	0.2547	0.0007	
336	SLV 6	7.01	0.15	16.16	-0.0938	0.2547	0.0007	
336	SLV 7	0.38	0.31	52.79	-0.2235	-0.0234	0.0012	
336	SLV 8	0.38	0.31	52.79	-0.2235	-0.0234	0.0012	
336	SLV 9	1.25	0.2	20.77	-0.1359	-0.0019	0.0005	
336	SLV 10	1.25	0.2	20.77	-0.1359	-0.0019	0.0005	
336	SLV 11	-5.38	0.35	57.4	-0.2656	-0.2799	0.001	
336	SLV 12	-5.38	0.35	57.4	-0.2656	-0.2799	0.001	
336	SLV 13	-7.78	0.31	38.96	-0.2304	-0.3986	0.0004	
336	SLV 14	-7.78	0.31	38.96	-0.2304	-0.3986	0.0004	
336	SLV 15	-9.78	0.36	49.94	-0.2693	-0.482	0.0005	
336	SLV 16	-9.78	0.36	49.94	-0.2693	-0.482	0.0005	
337	SLU 1	2.57	0.3	29.58	-0.2099	0.2037	0.0012	
337	SLU 2	2.59	0.3	29.48	-0.2091	0.204	0.0011	
337	SLU 3	2.65	0.31	30.4	-0.218	0.2105	0.0012	
337	SLU 4	2.66	0.31	30.34	-0.2176	0.2107	0.0012	
337	SLU 5	2.63	0.31	29.99	-0.2144	0.2078	0.0012	
337	SLU 6	2.69	0.32	30.92	-0.2233	0.2143	0.0012	
337	SLU 7	2.7	0.32	30.86	-0.2228	0.2145	0.0012	
337	SLU 8	2.65	0.31	30.62	-0.2204	0.2112	0.0012	
337	SLU 9	2.66	0.31	30.55	-0.22	0.2115	0.0012	
337	SLU 10	2.99	0.35	33.2	-0.2432	0.2364	0.0013	
337	SLU 11	3.06	0.36	34.12	-0.2522	0.2429	0.0014	
337	SLU 12	3.07	0.36	34.06	-0.2517	0.2431	0.0014	
337	SLU 13	3.03	0.35	33.71	-0.2485	0.2402	0.0014	
337	SLU 14	3.1	0.37	34.64	-0.2574	0.2467	0.0014	
337	SLU 15	3.11	0.37	34.58	-0.2569	0.2469	0.0014	
337	SLU 16	3.06	0.36	34.34	-0.2546	0.2436	0.0014	
337	SLU 17	3.07	0.36	34.27	-0.2541	0.2438	0.0014	
337	SLU 18	3.15	0.37	34.89	-0.2587	0.25	0.0014	
337	SLU 19	3.16	0.37	34.83	-0.2582	0.2502	0.0014	
337	SLU 20	3.19	0.38	35.41	-0.2639	0.2537	0.0014	
337	SLU 21	3.2	0.38	35.35	-0.2634	0.2539	0.0014	
337	SLU 22	2.94	0.35	33.19	-0.2434	0.234	0.0013	
337	SLU 23	2.95	0.35	33.09	-0.2426	0.2344	0.0013	
337	SLU 24	3.02	0.36	34.01	-0.2516	0.2409	0.0014	
337	SLU 25	3.03	0.36	33.95	-0.2511	0.2411	0.0014	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
337	SLU 26		2.99	0.35	33.61	-0.2479	0.2382	0.0014	
337	SLU 27		3.06	0.37	34.53	-0.2568	0.2446	0.0014	
337	SLU 28		3.07	0.37	34.47	-0.2563	0.2448	0.0014	
337	SLU 29		3.02	0.36	34.23	-0.254	0.2416	0.0014	
337	SLU 30		3.03	0.36	34.17	-0.2535	0.2418	0.0014	
337	SLU 31		3.36	0.39	36.81	-0.2767	0.2668	0.0015	
337	SLU 32		3.42	0.41	37.73	-0.2857	0.2732	0.0016	
337	SLU 33		3.43	0.41	37.67	-0.2852	0.2735	0.0016	
337	SLU 34		3.4	0.4	37.33	-0.282	0.2706	0.0015	
337	SLU 35		3.46	0.41	38.25	-0.2909	0.277	0.0016	
337	SLU 36		3.47	0.41	38.19	-0.2905	0.2772	0.0016	
337	SLU 37		3.42	0.41	37.95	-0.2881	0.274	0.0016	
337	SLU 38		3.43	0.41	37.89	-0.2876	0.2742	0.0016	
337	SLU 39		3.51	0.42	38.51	-0.2922	0.2803	0.0016	
337	SLU 40		3.52	0.42	38.44	-0.2917	0.2805	0.0016	
337	SLU 41		3.55	0.42	39.02	-0.2974	0.2841	0.0016	
337	SLU 42		3.56	0.42	38.96	-0.2969	0.2843	0.0016	
337	SLU 43		3.22	0.37	37.22	-0.2614	0.2544	0.0014	
337	SLU 44		3.23	0.37	37.11	-0.2606	0.2547	0.0014	
337	SLU 45		3.3	0.38	38.04	-0.2695	0.2612	0.0015	
337	SLU 46		3.31	0.38	37.98	-0.2691	0.2614	0.0015	
337	SLU 47		3.27	0.38	37.63	-0.2659	0.2585	0.0015	
337	SLU 48		3.34	0.39	38.56	-0.2748	0.265	0.0015	
337	SLU 49		3.35	0.39	38.49	-0.2743	0.2652	0.0015	
337	SLU 50		3.3	0.39	38.25	-0.2719	0.2619	0.0015	
337	SLU 51		3.31	0.39	38.19	-0.2715	0.2621	0.0015	
337	SLU 52		3.64	0.42	40.83	-0.2947	0.2871	0.0016	
337	SLU 53		3.7	0.43	41.76	-0.3037	0.2936	0.0017	
337	SLU 54		3.71	0.43	41.7	-0.3032	0.2938	0.0017	
337	SLU 55		3.68	0.43	41.35	-0.3	0.2909	0.0016	
337	SLU 56		3.74	0.44	42.28	-0.3089	0.2974	0.0017	
337	SLU 57		3.75	0.44	42.21	-0.3084	0.2976	0.0017	
337	SLU 58		3.7	0.44	41.97	-0.3061	0.2943	0.0017	
337	SLU 59		3.71	0.44	41.91	-0.3056	0.2945	0.0017	
337	SLU 60		3.79	0.44	42.53	-0.3102	0.3007	0.0017	
337	SLU 61		3.8	0.44	42.47	-0.3097	0.3009	0.0017	
337	SLU 62		3.84	0.45	43.05	-0.3154	0.3044	0.0017	
337	SLU 63		3.85	0.45	42.99	-0.3149	0.3046	0.0017	
337	SLU 64		3.58	0.42	40.83	-0.2949	0.2847	0.0016	
337	SLU 65		3.6	0.42	40.72	-0.2941	0.2851	0.0016	
337	SLU 66		3.66	0.43	41.65	-0.303	0.2915	0.0017	
337	SLU 67		3.67	0.43	41.59	-0.3026	0.2918	0.0017	
337	SLU 68		3.64	0.43	41.24	-0.2994	0.2889	0.0016	
337	SLU 69		3.7	0.44	42.17	-0.3083	0.2953	0.0017	
337	SLU 70		3.71	0.44	42.11	-0.3078	0.2955	0.0017	
337	SLU 71		3.66	0.44	41.86	-0.3054	0.2923	0.0017	
337	SLU 72		3.67	0.43	41.8	-0.305	0.2925	0.0017	
337	SLU 73		4	0.47	44.44	-0.3282	0.3175	0.0018	
337	SLU 74		4.07	0.48	45.37	-0.3372	0.3239	0.0018	
337	SLU 75		4.08	0.48	45.31	-0.3367	0.3241	0.0018	
337	SLU 76		4.04	0.48	44.96	-0.3335	0.3213	0.0018	
337	SLU 77		4.11	0.49	45.89	-0.3424	0.3277	0.0019	
337	SLU 78		4.12	0.49	45.83	-0.3419	0.3279	0.0019	
337	SLU 79		4.07	0.48	45.58	-0.3396	0.3247	0.0019	
337	SLU 80		4.08	0.48	45.52	-0.3391	0.3249	0.0019	
337	SLU 81		4.16	0.49	46.14	-0.3437	0.331	0.0019	
337	SLU 82		4.17	0.49	46.08	-0.3432	0.3312	0.0019	
337	SLU 83		4.2	0.5	46.66	-0.3489	0.3348	0.0019	
337	SLU 84		4.21	0.5	46.6	-0.3484	0.335	0.0019	
337	SLE RA 1		2.67	0.31	30.61	-0.2195	0.2124	0.0012	
337	SLE RA 2		2.69	0.31	30.54	-0.219	0.2126	0.0012	
337	SLE RA 3		2.73	0.32	31.16	-0.2249	0.2169	0.0012	
337	SLE RA 4		2.74	0.32	31.12	-0.2246	0.217	0.0012	
337	SLE RA 5		2.71	0.32	30.89	-0.2225	0.2151	0.0012	
337	SLE RA 6		2.76	0.33	31.51	-0.2284	0.2194	0.0013	
337	SLE RA 7		2.76	0.33	31.46	-0.2281	0.2196	0.0012	
337	SLE RA 8		2.73	0.32	31.3	-0.2265	0.2174	0.0012	
337	SLE RA 9		2.74	0.32	31.26	-0.2262	0.2175	0.0012	
337	SLE RA 10		2.96	0.34	33.02	-0.2417	0.2342	0.0013	
337	SLE RA 11		3	0.35	33.64	-0.2477	0.2385	0.0014	
337	SLE RA 12		3	0.35	33.6	-0.2473	0.2386	0.0014	
337	SLE RA 13		2.98	0.35	33.37	-0.2452	0.2367	0.0013	
337	SLE RA 14		3.03	0.36	33.99	-0.2512	0.241	0.0014	
337	SLE RA 15		3.03	0.36	33.94	-0.2508	0.2412	0.0014	
337	SLE RA 16		3	0.36	33.78	-0.2493	0.239	0.0014	
337	SLE RA 17		3.01	0.35	33.74	-0.2489	0.2391	0.0014	
337	SLE RA 18		3.06	0.36	34.15	-0.252	0.2432	0.0014	
337	SLE RA 19		3.07	0.36	34.11	-0.2517	0.2433	0.0014	
337	SLE RA 20		3.09	0.36	34.5	-0.2555	0.2457	0.0014	
337	SLE RA 21		3.09	0.36	34.46	-0.2552	0.2459	0.0014	
337	SLE FR 1		2.67	0.31	30.61	-0.2195	0.2124	0.0012	
337	SLE FR 2		2.68	0.31	30.6	-0.2194	0.2124	0.0012	
337	SLE FR 3		2.69	0.32	30.75	-0.2209	0.2134	0.0012	
337	SLE FR 4		2.79	0.33	31.66	-0.2291	0.2217	0.0013	
337	SLE FR 5		2.8	0.33	31.81	-0.2306	0.2226	0.0013	
337	SLE FR 6		2.87	0.34	32.38	-0.2357	0.2278	0.0013	
337	SLE QP 1		2.67	0.31	30.61	-0.2195	0.2124	0.0012	
337	SLE QP 2		2.79	0.33	31.68	-0.2292	0.2216	0.0013	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
337	SLD 1			7.73	0.27	27.78	-0.1793	0.421	0.0014
337	SLD 2			7.73	0.27	27.78	-0.1793	0.421	0.0014
337	SLD 3			7.06	0.29	31.4	-0.2024	0.4502	0.0015
337	SLD 4			7.06	0.29	31.4	-0.2024	0.4502	0.0015
337	SLD 5			5.29	0.28	25.02	-0.1792	0.2373	0.0012
337	SLD 6			5.29	0.28	25.02	-0.1792	0.2373	0.0012
337	SLD 7			3.05	0.35	37.08	-0.2562	0.3343	0.0015
337	SLD 8			3.05	0.35	37.08	-0.2562	0.3343	0.0015
337	SLD 9			2.53	0.3	26.27	-0.2023	0.1089	0.001
337	SLD 10			2.53	0.3	26.27	-0.2023	0.1089	0.001
337	SLD 11			0.29	0.38	38.33	-0.2793	0.206	0.0013
337	SLD 12			0.29	0.38	38.33	-0.2793	0.206	0.0013
337	SLD 13			-1.48	0.36	31.95	-0.2561	-0.0069	0.001
337	SLD 14			-1.48	0.36	31.95	-0.2561	-0.0069	0.001
337	SLD 15			-2.15	0.39	35.57	-0.2792	0.0222	0.0011
337	SLD 16			-2.15	0.39	35.57	-0.2792	0.0222	0.0011
337	SLV 1			14.35	0.19	22.5	-0.1114	0.6862	0.0017
337	SLV 2			14.35	0.19	22.5	-0.1114	0.6862	0.0017
337	SLV 3			12.74	0.24	31.04	-0.1663	0.7557	0.0019
337	SLV 4			12.74	0.24	31.04	-0.1663	0.7557	0.0019
337	SLV 5			8.7	0.21	15.98	-0.1106	0.2555	0.001
337	SLV 6			8.7	0.21	15.98	-0.1106	0.2555	0.001
337	SLV 7			3.33	0.38	44.42	-0.2937	0.4874	0.0018
337	SLV 8			3.33	0.38	44.42	-0.2937	0.4874	0.0018
337	SLV 9			2.25	0.27	18.93	-0.1648	-0.0441	0.0007
337	SLV 10			2.25	0.27	18.93	-0.1648	-0.0441	0.0007
337	SLV 11			-3.12	0.45	47.37	-0.3479	0.1878	0.0015
337	SLV 12			-3.12	0.45	47.37	-0.3479	0.1878	0.0015
337	SLV 13			-7.16	0.41	32.31	-0.2921	-0.3125	0.0006
337	SLV 14			-7.16	0.41	32.31	-0.2921	-0.3125	0.0006
337	SLV 15			-8.77	0.47	40.85	-0.3471	-0.2429	0.0008
337	SLV 16			-8.77	0.47	40.85	-0.3471	-0.2429	0.0008
338	SLU 1			2.73	0.32	26.66	-0.2342	0.0738	0.0013
338	SLU 2			2.75	0.32	26.58	-0.2334	0.0746	0.0013
338	SLU 3			2.82	0.34	27.41	-0.2433	0.0758	0.0014
338	SLU 4			2.83	0.33	27.36	-0.2428	0.0763	0.0014
338	SLU 5			2.79	0.33	27.06	-0.2393	0.0753	0.0014
338	SLU 6			2.87	0.34	27.89	-0.2493	0.0765	0.0014
338	SLU 7			2.88	0.34	27.84	-0.2487	0.077	0.0014
338	SLU 8			2.82	0.34	27.63	-0.2461	0.0752	0.0014
338	SLU 9			2.83	0.34	27.58	-0.2456	0.0757	0.0014
338	SLU 10			3.23	0.37	29.79	-0.2716	0.0888	0.0015
338	SLU 11			3.3	0.39	30.62	-0.2815	0.0899	0.0016
338	SLU 12			3.31	0.39	30.57	-0.281	0.0904	0.0016
338	SLU 13			3.27	0.38	30.27	-0.2775	0.0895	0.0016
338	SLU 14			3.35	0.4	31.1	-0.2875	0.0906	0.0016
338	SLU 15			3.36	0.4	31.05	-0.287	0.0911	0.0016
338	SLU 16			3.31	0.39	30.84	-0.2843	0.0893	0.0016
338	SLU 17			3.31	0.39	30.79	-0.2838	0.0898	0.0016
338	SLU 18			3.42	0.4	31.25	-0.2888	0.094	0.0016
338	SLU 19			3.43	0.4	31.2	-0.2883	0.0945	0.0016
338	SLU 20			3.47	0.41	31.73	-0.2947	0.0947	0.0017
338	SLU 21			3.47	0.41	31.68	-0.2942	0.0952	0.0017
338	SLU 22			3.16	0.37	29.8	-0.2717	0.0854	0.0015
338	SLU 23			3.17	0.37	29.72	-0.2709	0.0863	0.0015
338	SLU 24			3.25	0.39	30.54	-0.2808	0.0874	0.0016
338	SLU 25			3.26	0.39	30.49	-0.2803	0.0879	0.0016
338	SLU 26			3.22	0.38	30.2	-0.2768	0.087	0.0016
338	SLU 27			3.29	0.39	31.03	-0.2867	0.0881	0.0016
338	SLU 28			3.3	0.39	30.98	-0.2862	0.0886	0.0016
338	SLU 29			3.25	0.39	30.77	-0.2836	0.0869	0.0016
338	SLU 30			3.26	0.39	30.72	-0.2831	0.0874	0.0016
338	SLU 31			3.66	0.43	32.93	-0.3091	0.1004	0.0018
338	SLU 32			3.73	0.44	33.75	-0.319	0.1016	0.0018
338	SLU 33			3.74	0.44	33.7	-0.3185	0.1021	0.0018
338	SLU 34			3.7	0.43	33.41	-0.315	0.1011	0.0018
338	SLU 35			3.78	0.45	34.24	-0.325	0.1023	0.0018
338	SLU 36			3.79	0.45	34.19	-0.3244	0.1028	0.0018
338	SLU 37			3.73	0.44	33.98	-0.3218	0.101	0.0018
338	SLU 38			3.74	0.44	33.93	-0.3213	0.1015	0.0018
338	SLU 39			3.85	0.45	34.39	-0.3263	0.1056	0.0019
338	SLU 40			3.86	0.45	34.34	-0.3258	0.1061	0.0019
338	SLU 41			3.89	0.46	34.87	-0.3322	0.1063	0.0019
338	SLU 42			3.9	0.46	34.82	-0.3317	0.1068	0.0019
338	SLU 43			3.4	0.4	33.59	-0.2916	0.0919	0.0017
338	SLU 44			3.42	0.4	33.5	-0.2908	0.0928	0.0017
338	SLU 45			3.49	0.41	34.33	-0.3008	0.0939	0.0017
338	SLU 46			3.5	0.41	34.28	-0.3002	0.0944	0.0017
338	SLU 47			3.46	0.41	33.99	-0.2967	0.0935	0.0017
338	SLU 48			3.54	0.42	34.82	-0.3067	0.0946	0.0017
338	SLU 49			3.55	0.42	34.76	-0.3062	0.0951	0.0017
338	SLU 50			3.5	0.42	34.56	-0.3035	0.0933	0.0017
338	SLU 51			3.5	0.42	34.51	-0.303	0.0938	0.0017
338	SLU 52			3.9	0.45	36.71	-0.329	0.1069	0.0019
338	SLU 53			3.97	0.47	37.54	-0.339	0.108	0.0019
338	SLU 54			3.98	0.47	37.49	-0.3385	0.1085	0.0019
338	SLU 55			3.95	0.46	37.2	-0.3349	0.1076	0.0019
338	SLU 56			4.02	0.48	38.03	-0.3449	0.1087	0.002



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
338	SLU 57	4.03	0.47	37.97	-0.3444	0.1093	0.002	
338	SLU 58	3.98	0.47	37.77	-0.3417	0.1075	0.0019	
338	SLU 59	3.99	0.47	37.72	-0.3412	0.108	0.0019	
338	SLU 60	4.09	0.48	38.17	-0.3462	0.1121	0.002	
338	SLU 61	4.1	0.48	38.12	-0.3457	0.1126	0.002	
338	SLU 62	4.14	0.49	38.66	-0.3522	0.1128	0.002	
338	SLU 63	4.15	0.48	38.61	-0.3516	0.1133	0.002	
338	SLU 64	3.83	0.45	36.72	-0.3291	0.1036	0.0019	
338	SLU 65	3.85	0.45	36.64	-0.3283	0.1044	0.0019	
338	SLU 66	3.92	0.47	37.47	-0.3382	0.1056	0.0019	
338	SLU 67	3.93	0.47	37.42	-0.3377	0.1061	0.0019	
338	SLU 68	3.89	0.46	37.12	-0.3342	0.1051	0.0019	
338	SLU 69	3.97	0.47	37.95	-0.3442	0.1063	0.002	
338	SLU 70	3.98	0.47	37.9	-0.3437	0.1068	0.002	
338	SLU 71	3.92	0.47	37.69	-0.341	0.105	0.0019	
338	SLU 72	3.93	0.47	37.64	-0.3405	0.1055	0.0019	
338	SLU 73	4.33	0.5	39.85	-0.3665	0.1186	0.0021	
338	SLU 74	4.4	0.52	40.68	-0.3765	0.1197	0.0021	
338	SLU 75	4.41	0.52	40.63	-0.3759	0.1202	0.0021	
338	SLU 76	4.38	0.51	40.33	-0.3724	0.1193	0.0021	
338	SLU 77	4.45	0.53	41.16	-0.3824	0.1204	0.0022	
338	SLU 78	4.46	0.53	41.11	-0.3819	0.1209	0.0022	
338	SLU 79	4.41	0.52	40.9	-0.3792	0.1191	0.0022	
338	SLU 80	4.42	0.52	40.85	-0.3787	0.1196	0.0022	
338	SLU 81	4.52	0.53	41.31	-0.3837	0.1238	0.0022	
338	SLU 82	4.53	0.53	41.26	-0.3832	0.1243	0.0022	
338	SLU 83	4.57	0.54	41.79	-0.3896	0.1245	0.0022	
338	SLU 84	4.58	0.54	41.74	-0.3891	0.125	0.0022	
338	SLE RA 1	2.85	0.34	27.56	-0.2449	0.0771	0.0014	
338	SLE RA 2	2.86	0.34	27.5	-0.2444	0.0777	0.0014	
338	SLE RA 3	2.91	0.35	28.06	-0.251	0.0784	0.0014	
338	SLE RA 4	2.92	0.35	28.02	-0.2507	0.0788	0.0014	
338	SLE RA 5	2.89	0.34	27.83	-0.2483	0.0781	0.0014	
338	SLE RA 6	2.94	0.35	28.38	-0.255	0.0789	0.0015	
338	SLE RA 7	2.95	0.35	28.34	-0.2546	0.0792	0.0014	
338	SLE RA 8	2.91	0.35	28.21	-0.2528	0.0781	0.0014	
338	SLE RA 9	2.92	0.35	28.17	-0.2525	0.0784	0.0014	
338	SLE RA 10	3.18	0.37	29.64	-0.2698	0.0871	0.0015	
338	SLE RA 11	3.23	0.38	30.2	-0.2765	0.0879	0.0016	
338	SLE RA 12	3.24	0.38	30.16	-0.2761	0.0882	0.0016	
338	SLE RA 13	3.22	0.38	29.97	-0.2738	0.0876	0.0016	
338	SLE RA 14	3.26	0.39	30.52	-0.2804	0.0883	0.0016	
338	SLE RA 15	3.27	0.39	30.49	-0.2801	0.0887	0.0016	
338	SLE RA 16	3.24	0.38	30.35	-0.2783	0.0875	0.0016	
338	SLE RA 17	3.24	0.38	30.31	-0.278	0.0878	0.0016	
338	SLE RA 18	3.31	0.39	30.62	-0.2813	0.0906	0.0016	
338	SLE RA 19	3.32	0.39	30.58	-0.281	0.0909	0.0016	
338	SLE RA 20	3.34	0.39	30.94	-0.2853	0.0911	0.0016	
338	SLE RA 21	3.35	0.39	30.91	-0.2849	0.0914	0.0016	
338	SLE FR 1	2.85	0.34	27.56	-0.2449	0.0771	0.0014	
338	SLE FR 2	2.86	0.34	27.55	-0.2448	0.0772	0.0014	
338	SLE FR 3	2.87	0.34	27.69	-0.2465	0.0773	0.0014	
338	SLE FR 4	2.99	0.35	28.47	-0.2557	0.0813	0.0015	
338	SLE FR 5	3	0.35	28.61	-0.2574	0.0813	0.0015	
338	SLE FR 6	3.08	0.36	29.09	-0.2631	0.0838	0.0015	
338	SLE QP 1	2.85	0.34	27.56	-0.2449	0.0771	0.0014	
338	SLE QP 2	2.99	0.35	28.48	-0.2559	0.0812	0.0015	
338	SLD 1	8.34	0.28	25.53	-0.1972	0.3151	0.0011	
338	SLD 2	8.34	0.28	25.53	-0.1972	0.3151	0.0011	
338	SLD 3	7.66	0.31	28.53	-0.227	0.2861	0.0013	
338	SLD 4	7.66	0.31	28.53	-0.227	0.2861	0.0013	
338	SLD 5	5.64	0.29	23.04	-0.193	0.1954	0.0012	
338	SLD 6	5.64	0.29	23.04	-0.193	0.1954	0.0012	
338	SLD 7	3.35	0.38	33.04	-0.2925	0.0986	0.0016	
338	SLD 8	3.35	0.38	33.04	-0.2925	0.0986	0.0016	
338	SLD 9	2.63	0.32	23.91	-0.2192	0.0637	0.0013	
338	SLD 10	2.63	0.32	23.91	-0.2192	0.0637	0.0013	
338	SLD 11	0.34	0.42	33.91	-0.3187	-0.0331	0.0017	
338	SLD 12	0.34	0.42	33.91	-0.3187	-0.0331	0.0017	
338	SLD 13	-1.67	0.39	28.43	-0.2847	-0.1238	0.0016	
338	SLD 14	-1.67	0.39	28.43	-0.2847	-0.1238	0.0016	
338	SLD 15	-2.36	0.42	31.43	-0.3145	-0.1528	0.0018	
338	SLD 16	-2.36	0.42	31.43	-0.3145	-0.1528	0.0018	
338	SLV 1	15.5	0.19	21.52	-0.117	0.6279	0.0007	
338	SLV 2	15.5	0.19	21.52	-0.117	0.6279	0.0007	
338	SLV 3	13.85	0.26	28.59	-0.1884	0.5585	0.001	
338	SLV 4	13.85	0.26	28.59	-0.1884	0.5585	0.001	
338	SLV 5	9.24	0.2	15.67	-0.1059	0.3504	0.0008	
338	SLV 6	9.24	0.2	15.67	-0.1059	0.3504	0.0008	
338	SLV 7	3.75	0.43	39.23	-0.3439	0.1192	0.0018	
338	SLV 8	3.75	0.43	39.23	-0.3439	0.1192	0.0018	
338	SLV 9	2.23	0.28	17.72	-0.1678	0.0431	0.0011	
338	SLV 10	2.23	0.28	17.72	-0.1678	0.0431	0.0011	
338	SLV 11	-3.26	0.5	41.29	-0.4058	-0.188	0.0021	
338	SLV 12	-3.26	0.5	41.29	-0.4058	-0.188	0.0021	
338	SLV 13	-7.87	0.45	28.37	-0.3233	-0.3962	0.0019	
338	SLV 14	-7.87	0.45	28.37	-0.3233	-0.3962	0.0019	
338	SLV 15	-9.52	0.51	35.44	-0.3947	-0.4656	0.0022	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
338	SLV 16			-9.52	0.51	35.44	-0.3947	-0.4656	0.0022
339	SLU 1			5.39	0.32	25.21	-0.241	0.2944	0.0015
339	SLU 2			5.39	0.32	25.14	-0.2401	0.2944	0.0015
339	SLU 3			5.58	0.33	25.93	-0.2504	0.3048	0.0015
339	SLU 4			5.58	0.33	25.88	-0.2499	0.3048	0.0015
339	SLU 5			5.5	0.33	25.62	-0.2463	0.3005	0.0015
339	SLU 6			5.69	0.34	26.41	-0.2565	0.311	0.0016
339	SLU 7			5.69	0.34	26.37	-0.256	0.311	0.0016
339	SLU 8			5.61	0.34	26.17	-0.2533	0.3067	0.0015
339	SLU 9			5.61	0.33	26.13	-0.2528	0.3066	0.0015
339	SLU 10			6.34	0.37	28.11	-0.2796	0.345	0.0017
339	SLU 11			6.52	0.38	28.89	-0.2898	0.3555	0.0018
339	SLU 12			6.53	0.38	28.85	-0.2893	0.3555	0.0018
339	SLU 13			6.45	0.38	28.59	-0.2857	0.3511	0.0017
339	SLU 14			6.64	0.39	29.38	-0.296	0.3616	0.0018
339	SLU 15			6.64	0.39	29.33	-0.2955	0.3616	0.0018
339	SLU 16			6.56	0.39	29.14	-0.2927	0.3573	0.0018
339	SLU 17			6.56	0.39	29.1	-0.2922	0.3573	0.0018
339	SLU 18			6.74	0.39	29.45	-0.2973	0.3667	0.0018
339	SLU 19			6.74	0.39	29.41	-0.2968	0.3667	0.0018
339	SLU 20			6.85	0.4	29.93	-0.3035	0.3728	0.0018
339	SLU 21			6.85	0.4	29.89	-0.303	0.3728	0.0018
339	SLU 22			6.26	0.37	28.12	-0.2796	0.3418	0.0017
339	SLU 23			6.27	0.37	28.05	-0.2788	0.3418	0.0017
339	SLU 24			6.45	0.38	28.84	-0.289	0.3523	0.0018
339	SLU 25			6.46	0.38	28.8	-0.2885	0.3523	0.0018
339	SLU 26			6.38	0.38	28.53	-0.2849	0.3479	0.0017
339	SLU 27			6.57	0.39	29.32	-0.2952	0.3584	0.0018
339	SLU 28			6.57	0.39	29.28	-0.2947	0.3584	0.0018
339	SLU 29			6.49	0.39	29.09	-0.2919	0.3541	0.0018
339	SLU 30			6.49	0.39	29.04	-0.2914	0.3541	0.0018
339	SLU 31			7.21	0.42	31.02	-0.3182	0.3924	0.0019
339	SLU 32			7.4	0.43	31.81	-0.3285	0.4029	0.002
339	SLU 33			7.4	0.43	31.77	-0.328	0.4029	0.002
339	SLU 34			7.32	0.43	31.5	-0.3244	0.3985	0.002
339	SLU 35			7.51	0.44	32.29	-0.3347	0.409	0.002
339	SLU 36			7.51	0.44	32.25	-0.3341	0.409	0.002
339	SLU 37			7.43	0.44	32.06	-0.3314	0.4047	0.002
339	SLU 38			7.43	0.44	32.01	-0.3309	0.4047	0.002
339	SLU 39			7.61	0.44	32.36	-0.336	0.4141	0.002
339	SLU 40			7.61	0.44	32.32	-0.3355	0.4141	0.002
339	SLU 41			7.72	0.45	32.85	-0.3421	0.4203	0.0021
339	SLU 42			7.73	0.45	32.8	-0.3416	0.4202	0.0021
339	SLU 43			6.7	0.4	31.77	-0.3	0.3664	0.0018
339	SLU 44			6.71	0.4	31.7	-0.2991	0.3664	0.0018
339	SLU 45			6.89	0.41	32.49	-0.3094	0.3769	0.0019
339	SLU 46			6.9	0.41	32.45	-0.3089	0.3769	0.0019
339	SLU 47			6.82	0.4	32.18	-0.3053	0.3726	0.0019
339	SLU 48			7.01	0.42	32.97	-0.3156	0.383	0.0019
339	SLU 49			7.01	0.42	32.93	-0.315	0.383	0.0019
339	SLU 50			6.93	0.41	32.74	-0.3123	0.3787	0.0019
339	SLU 51			6.93	0.41	32.69	-0.3118	0.3787	0.0019
339	SLU 52			7.65	0.45	34.67	-0.3386	0.417	0.0021
339	SLU 53			7.84	0.46	35.46	-0.3489	0.4275	0.0021
339	SLU 54			7.84	0.46	35.42	-0.3483	0.4275	0.0021
339	SLU 55			7.76	0.46	35.15	-0.3447	0.4232	0.0021
339	SLU 56			7.95	0.47	35.94	-0.355	0.4337	0.0022
339	SLU 57			7.95	0.47	35.9	-0.3545	0.4337	0.0022
339	SLU 58			7.87	0.47	35.71	-0.3517	0.4293	0.0021
339	SLU 59			7.87	0.46	35.66	-0.3512	0.4293	0.0021
339	SLU 60			8.05	0.47	36.01	-0.3563	0.4388	0.0022
339	SLU 61			8.06	0.47	35.97	-0.3558	0.4387	0.0022
339	SLU 62			8.16	0.48	36.5	-0.3625	0.4449	0.0022
339	SLU 63			8.17	0.48	36.45	-0.362	0.4449	0.0022
339	SLU 64			7.58	0.45	34.69	-0.3386	0.4139	0.0021
339	SLU 65			7.58	0.45	34.62	-0.3378	0.4138	0.0021
339	SLU 66			7.77	0.46	35.4	-0.3481	0.4243	0.0021
339	SLU 67			7.77	0.46	35.36	-0.3476	0.4243	0.0021
339	SLU 68			7.69	0.46	35.1	-0.344	0.42	0.0021
339	SLU 69			7.88	0.47	35.89	-0.3542	0.4305	0.0022
339	SLU 70			7.88	0.47	35.84	-0.3537	0.4305	0.0022
339	SLU 71			7.8	0.46	35.65	-0.351	0.4261	0.0021
339	SLU 72			7.8	0.46	35.61	-0.3505	0.4261	0.0021
339	SLU 73			8.53	0.5	37.58	-0.3773	0.4645	0.0023
339	SLU 74			8.71	0.51	38.37	-0.3875	0.4749	0.0024
339	SLU 75			8.72	0.51	38.33	-0.387	0.4749	0.0024
339	SLU 76			8.64	0.51	38.07	-0.3834	0.4706	0.0023
339	SLU 77			8.83	0.52	38.85	-0.3937	0.4811	0.0024
339	SLU 78			8.83	0.52	38.81	-0.3932	0.4811	0.0024
339	SLU 79			8.75	0.52	38.62	-0.3904	0.4767	0.0024
339	SLU 80			8.75	0.52	38.58	-0.3899	0.4767	0.0024
339	SLU 81			8.93	0.52	38.93	-0.395	0.4862	0.0024
339	SLU 82			8.93	0.52	38.88	-0.3945	0.4862	0.0024
339	SLU 83			9.04	0.53	39.41	-0.4012	0.4923	0.0024
339	SLU 84			9.04	0.53	39.37	-0.4007	0.4923	0.0024
339	SLE RA 1			5.64	0.33	26.04	-0.252	0.3079	0.0015
339	SLE RA 2			5.64	0.33	25.99	-0.2514	0.3079	0.0015
339	SLE RA 3			5.76	0.34	26.52	-0.2583	0.3149	0.0016



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
339	SLE RA 4			5.77	0.34	26.49	-0.2579	0.3149	0.0016
339	SLE RA 5			5.71	0.34	26.32	-0.2555	0.312	0.0016
339	SLE RA 6			5.84	0.35	26.84	-0.2624	0.319	0.0016
339	SLE RA 7			5.84	0.35	26.81	-0.262	0.319	0.0016
339	SLE RA 8			5.79	0.34	26.68	-0.2602	0.3161	0.0016
339	SLE RA 9			5.79	0.34	26.66	-0.2599	0.3161	0.0016
339	SLE RA 10			6.27	0.37	27.97	-0.2777	0.3417	0.0017
339	SLE RA 11			6.39	0.38	28.5	-0.2846	0.3487	0.0017
339	SLE RA 12			6.4	0.38	28.47	-0.2842	0.3487	0.0017
339	SLE RA 13			6.34	0.37	28.29	-0.2818	0.3458	0.0017
339	SLE RA 14			6.47	0.38	28.82	-0.2887	0.3527	0.0018
339	SLE RA 15			6.47	0.38	28.79	-0.2884	0.3527	0.0018
339	SLE RA 16			6.42	0.38	28.66	-0.2865	0.3499	0.0017
339	SLE RA 17			6.42	0.38	28.64	-0.2862	0.3499	0.0017
339	SLE RA 18			6.54	0.38	28.87	-0.2896	0.3561	0.0018
339	SLE RA 19			6.54	0.38	28.84	-0.2892	0.3561	0.0018
339	SLE RA 20			6.61	0.39	29.19	-0.2937	0.3602	0.0018
339	SLE RA 21			6.61	0.39	29.16	-0.2933	0.3602	0.0018
339	SLE FR 1			5.64	0.33	26.04	-0.252	0.3079	0.0015
339	SLE FR 2			5.64	0.33	26.03	-0.2519	0.3079	0.0015
339	SLE FR 3			5.67	0.34	26.17	-0.2536	0.3096	0.0015
339	SLE FR 4			5.91	0.35	26.88	-0.2632	0.3224	0.0016
339	SLE FR 5			5.94	0.35	27.02	-0.2649	0.324	0.0016
339	SLE FR 6			6.09	0.36	27.46	-0.2708	0.332	0.0017
339	SLE QP 1			5.64	0.33	26.04	-0.252	0.3079	0.0015
339	SLE QP 2			5.91	0.35	26.89	-0.2633	0.3224	0.0016
339	SLD 1			11.02	0.28	24.3	-0.1996	0.5521	0.0013
339	SLD 2			11.02	0.28	24.3	-0.1996	0.5521	0.0013
339	SLD 3			11.86	0.31	26.97	-0.235	0.5921	0.0014
339	SLD 4			11.86	0.31	26.97	-0.235	0.5921	0.0014
339	SLD 5			6.16	0.27	22.06	-0.1905	0.3307	0.0013
339	SLD 6			6.16	0.27	22.06	-0.1905	0.3307	0.0013
339	SLD 7			8.97	0.39	30.97	-0.3084	0.4639	0.0018
339	SLD 8			8.97	0.39	30.97	-0.3084	0.4639	0.0018
339	SLD 9			2.84	0.31	22.81	-0.2181	0.1809	0.0014
339	SLD 10			2.84	0.31	22.81	-0.2181	0.1809	0.0014
339	SLD 11			5.65	0.42	31.72	-0.336	0.3141	0.002
339	SLD 12			5.65	0.42	31.72	-0.336	0.3141	0.002
339	SLD 13			-0.05	0.39	26.81	-0.2916	0.0527	0.0018
339	SLD 14			-0.05	0.39	26.81	-0.2916	0.0527	0.0018
339	SLD 15			0.79	0.42	29.48	-0.3269	0.0926	0.0019
339	SLD 16			0.79	0.42	29.48	-0.3269	0.0926	0.0019
339	SLV 1			17.82	0.18	20.77	-0.112	0.8578	0.0008
339	SLV 2			17.82	0.18	20.77	-0.112	0.8578	0.0008
339	SLV 3			19.82	0.26	27.06	-0.197	0.9527	0.0012
339	SLV 4			19.82	0.26	27.06	-0.197	0.9527	0.0012
339	SLV 5			6.44	0.17	15.51	-0.0889	0.339	0.0008
339	SLV 6			6.44	0.17	15.51	-0.0889	0.339	0.0008
339	SLV 7			13.12	0.45	36.48	-0.3723	0.6555	0.0021
339	SLV 8			13.12	0.45	36.48	-0.3723	0.6555	0.0021
339	SLV 9			-1.3	0.25	17.3	-0.1542	-0.0107	0.0011
339	SLV 10			-1.3	0.25	17.3	-0.1542	-0.0107	0.0011
339	SLV 11			5.37	0.53	38.27	-0.4376	0.3058	0.0024
339	SLV 12			5.37	0.53	38.27	-0.4376	0.3058	0.0024
339	SLV 13			-8.01	0.44	26.72	-0.3296	-0.3079	0.002
339	SLV 14			-8.01	0.44	26.72	-0.3296	-0.3079	0.002
339	SLV 15			-6.01	0.52	33.01	-0.4146	-0.213	0.0024
339	SLV 16			-6.01	0.52	33.01	-0.4146	-0.213	0.0024
340	SLU 1			6.39	0.31	25.9	-0.2345	0.2343	0.0014
340	SLU 2			6.39	0.31	25.83	-0.2337	0.2345	0.0014
340	SLU 3			6.62	0.32	26.67	-0.2437	0.2426	0.0015
340	SLU 4			6.62	0.32	26.63	-0.2432	0.2427	0.0015
340	SLU 5			6.53	0.31	26.36	-0.2397	0.2394	0.0015
340	SLU 6			6.76	0.33	27.2	-0.2497	0.2475	0.0015
340	SLU 7			6.76	0.33	27.16	-0.2492	0.2476	0.0015
340	SLU 8			6.67	0.32	26.96	-0.2465	0.244	0.0015
340	SLU 9			6.67	0.32	26.92	-0.246	0.2442	0.0015
340	SLU 10			7.53	0.36	28.93	-0.2722	0.2772	0.0017
340	SLU 11			7.76	0.37	29.76	-0.2822	0.2853	0.0017
340	SLU 12			7.76	0.37	29.72	-0.2817	0.2854	0.0017
340	SLU 13			7.67	0.36	29.46	-0.2782	0.2821	0.0017
340	SLU 14			7.9	0.38	30.29	-0.2882	0.2902	0.0017
340	SLU 15			7.9	0.38	30.25	-0.2878	0.2903	0.0017
340	SLU 16			7.81	0.37	30.05	-0.2851	0.2868	0.0017
340	SLU 17			7.81	0.37	30.01	-0.2846	0.2869	0.0017
340	SLU 18			8.01	0.38	30.32	-0.2895	0.2954	0.0018
340	SLU 19			8.01	0.38	30.28	-0.289	0.2955	0.0018
340	SLU 20			8.15	0.39	30.85	-0.2955	0.3002	0.0018
340	SLU 21			8.15	0.39	30.81	-0.2951	0.3003	0.0018
340	SLU 22			7.44	0.36	28.94	-0.2722	0.2734	0.0017
340	SLU 23			7.44	0.35	28.88	-0.2714	0.2736	0.0016
340	SLU 24			7.68	0.37	29.71	-0.2814	0.2817	0.0017
340	SLU 25			7.68	0.37	29.67	-0.2809	0.2818	0.0017
340	SLU 26			7.58	0.36	29.4	-0.2774	0.2785	0.0017
340	SLU 27			7.82	0.38	30.24	-0.2874	0.2866	0.0017
340	SLU 28			7.82	0.38	30.2	-0.2869	0.2867	0.0017
340	SLU 29			7.72	0.37	30	-0.2842	0.2832	0.0017
340	SLU 30			7.72	0.37	29.96	-0.2838	0.2833	0.0017



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
340	SLU 31	8.58	0.41	31.97	-0.3099	0.3164	0.0019
340	SLU 32	8.81	0.42	32.8	-0.3199	0.3245	0.0019
340	SLU 33	8.82	0.42	32.76	-0.3194	0.3246	0.0019
340	SLU 34	8.72	0.41	32.5	-0.316	0.3212	0.0019
340	SLU 35	8.95	0.43	33.33	-0.3259	0.3293	0.002
340	SLU 36	8.96	0.43	33.29	-0.3255	0.3294	0.002
340	SLU 37	8.86	0.42	33.09	-0.3228	0.3259	0.002
340	SLU 38	8.86	0.42	33.05	-0.3223	0.326	0.002
340	SLU 39	9.07	0.43	33.36	-0.3272	0.3345	0.002
340	SLU 40	9.07	0.43	33.32	-0.3268	0.3346	0.002
340	SLU 41	9.21	0.44	33.89	-0.3333	0.3393	0.002
340	SLU 42	9.21	0.43	33.85	-0.3328	0.3395	0.002
340	SLU 43	7.94	0.38	32.63	-0.2919	0.2912	0.0018
340	SLU 44	7.94	0.38	32.56	-0.2911	0.2914	0.0018
340	SLU 45	8.17	0.39	33.4	-0.3011	0.2995	0.0018
340	SLU 46	8.17	0.39	33.36	-0.3006	0.2996	0.0018
340	SLU 47	8.08	0.39	33.09	-0.2971	0.2963	0.0018
340	SLU 48	8.31	0.4	33.92	-0.3071	0.3044	0.0019
340	SLU 49	8.31	0.4	33.89	-0.3066	0.3045	0.0019
340	SLU 50	8.22	0.4	33.68	-0.3039	0.3009	0.0018
340	SLU 51	8.22	0.4	33.65	-0.3034	0.301	0.0018
340	SLU 52	9.08	0.43	35.66	-0.3296	0.3341	0.002
340	SLU 53	9.31	0.44	36.49	-0.3396	0.3422	0.0021
340	SLU 54	9.31	0.44	36.45	-0.3391	0.3423	0.0021
340	SLU 55	9.22	0.44	36.18	-0.3356	0.339	0.002
340	SLU 56	9.45	0.45	37.02	-0.3456	0.3471	0.0021
340	SLU 57	9.45	0.45	36.98	-0.3452	0.3472	0.0021
340	SLU 58	9.36	0.45	36.78	-0.3425	0.3437	0.0021
340	SLU 59	9.36	0.45	36.74	-0.342	0.3438	0.0021
340	SLU 60	9.57	0.45	37.05	-0.3469	0.3522	0.0021
340	SLU 61	9.57	0.45	37.01	-0.3464	0.3524	0.0021
340	SLU 62	9.71	0.46	37.58	-0.3529	0.3571	0.0021
340	SLU 63	9.71	0.46	37.54	-0.3525	0.3572	0.0021
340	SLU 64	9	0.43	35.67	-0.3296	0.3303	0.002
340	SLU 65	9	0.43	35.6	-0.3288	0.3305	0.002
340	SLU 66	9.23	0.44	36.44	-0.3388	0.3386	0.0021
340	SLU 67	9.23	0.44	36.4	-0.3383	0.3387	0.0021
340	SLU 68	9.14	0.44	36.13	-0.3348	0.3354	0.002
340	SLU 69	9.37	0.45	36.96	-0.3448	0.3435	0.0021
340	SLU 70	9.37	0.45	36.93	-0.3443	0.3436	0.0021
340	SLU 71	9.28	0.45	36.72	-0.3416	0.3401	0.0021
340	SLU 72	9.28	0.45	36.69	-0.3412	0.3402	0.0021
340	SLU 73	10.14	0.48	38.7	-0.3673	0.3732	0.0022
340	SLU 74	10.37	0.49	39.53	-0.3773	0.3813	0.0023
340	SLU 75	10.37	0.49	39.49	-0.3768	0.3815	0.0023
340	SLU 76	10.28	0.49	39.22	-0.3734	0.3781	0.0023
340	SLU 77	10.51	0.5	40.06	-0.3834	0.3862	0.0023
340	SLU 78	10.51	0.5	40.02	-0.3829	0.3863	0.0023
340	SLU 79	10.42	0.5	39.82	-0.3802	0.3828	0.0023
340	SLU 80	10.42	0.5	39.78	-0.3797	0.3829	0.0023
340	SLU 81	10.62	0.5	40.09	-0.3846	0.3914	0.0023
340	SLU 82	10.62	0.5	40.05	-0.3842	0.3915	0.0023
340	SLU 83	10.76	0.51	40.62	-0.3907	0.3962	0.0024
340	SLU 84	10.76	0.51	40.58	-0.3902	0.3963	0.0024
340	SLE RA 1	6.69	0.32	26.77	-0.2452	0.2455	0.0015
340	SLE RA 2	6.69	0.32	26.73	-0.2447	0.2456	0.0015
340	SLE RA 3	6.84	0.33	27.28	-0.2514	0.251	0.0015
340	SLE RA 4	6.84	0.33	27.25	-0.2511	0.2511	0.0015
340	SLE RA 5	6.78	0.33	27.08	-0.2487	0.2489	0.0015
340	SLE RA 6	6.94	0.33	27.63	-0.2554	0.2543	0.0016
340	SLE RA 7	6.94	0.33	27.61	-0.2551	0.2543	0.0015
340	SLE RA 8	6.87	0.33	27.47	-0.2533	0.252	0.0015
340	SLE RA 9	6.87	0.33	27.45	-0.253	0.2521	0.0015
340	SLE RA 10	7.45	0.35	28.79	-0.2704	0.2741	0.0016
340	SLE RA 11	7.6	0.36	29.34	-0.2771	0.2795	0.0017
340	SLE RA 12	7.6	0.36	29.32	-0.2767	0.2796	0.0017
340	SLE RA 13	7.54	0.36	29.14	-0.2744	0.2774	0.0017
340	SLE RA 14	7.7	0.37	29.7	-0.2811	0.2828	0.0017
340	SLE RA 15	7.7	0.37	29.67	-0.2808	0.2828	0.0017
340	SLE RA 16	7.63	0.36	29.54	-0.279	0.2805	0.0017
340	SLE RA 17	7.63	0.36	29.51	-0.2787	0.2805	0.0017
340	SLE RA 18	7.77	0.37	29.71	-0.2819	0.2862	0.0017
340	SLE RA 19	7.77	0.37	29.69	-0.2816	0.2863	0.0017
340	SLE RA 20	7.87	0.37	30.07	-0.286	0.2894	0.0017
340	SLE RA 21	7.87	0.37	30.04	-0.2856	0.2895	0.0017
340	SLE FR 1	6.69	0.32	26.77	-0.2452	0.2455	0.0015
340	SLE FR 2	6.69	0.32	26.76	-0.2451	0.2455	0.0015
340	SLE FR 3	6.72	0.32	26.91	-0.2468	0.2468	0.0015
340	SLE FR 4	7.01	0.33	27.64	-0.2561	0.2577	0.0016
340	SLE FR 5	7.05	0.34	27.79	-0.2579	0.259	0.0016
340	SLE FR 6	7.23	0.34	28.24	-0.2636	0.2658	0.0016
340	SLE QP 1	6.69	0.32	26.77	-0.2452	0.2455	0.0015
340	SLE QP 2	7.01	0.33	27.65	-0.2562	0.2577	0.0016
340	SLD 1	12.25	0.26	24.81	-0.1908	0.4861	0.0012
340	SLD 2	12.25	0.26	24.81	-0.1908	0.4861	0.0012
340	SLD 3	13.21	0.3	27.46	-0.23	0.5254	0.0014
340	SLD 4	13.21	0.3	27.46	-0.23	0.5254	0.0014
340	SLD 5	7.12	0.25	22.78	-0.1772	0.2666	0.0012





Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
340	SLD 6	7.12	0.25	22.78	-0.1772	0.2666	0.0012		
340	SLD 7	10.34	0.39	31.61	-0.3078	0.3976	0.0018		
340	SLD 8	10.34	0.39	31.61	-0.3078	0.3976	0.0018		
340	SLD 9	3.69	0.28	23.69	-0.2047	0.1178	0.0013		
340	SLD 10	3.69	0.28	23.69	-0.2047	0.1178	0.0013		
340	SLD 11	6.91	0.42	32.52	-0.3353	0.2488	0.0019		
340	SLD 12	6.91	0.42	32.52	-0.3353	0.2488	0.0019		
340	SLD 13	0.81	0.37	27.84	-0.2825	-0.01	0.0017		
340	SLD 14	0.81	0.37	27.84	-0.2825	-0.01	0.0017		
340	SLD 15	1.78	0.41	30.49	-0.3217	0.0293	0.0019		
340	SLD 16	1.78	0.41	30.49	-0.3217	0.0293	0.0019		
340	SLV 1	19.2	0.16	20.96	-0.0999	0.79	0.0007		
340	SLV 2	19.2	0.16	20.96	-0.0999	0.79	0.0007		
340	SLV 3	21.5	0.26	27.2	-0.1945	0.8834	0.0012		
340	SLV 4	21.5	0.26	27.2	-0.1945	0.8834	0.0012		
340	SLV 5	7.18	0.13	16.18	-0.0659	0.2758	0.0006		
340	SLV 6	7.18	0.13	16.18	-0.0659	0.2758	0.0006		
340	SLV 7	14.85	0.46	36.98	-0.3812	0.587	0.0022		
340	SLV 8	14.85	0.46	36.98	-0.3812	0.587	0.0022		
340	SLV 9	-0.82	0.21	18.32	-0.1313	-0.0716	0.001		
340	SLV 10	-0.82	0.21	18.32	-0.1313	-0.0716	0.001		
340	SLV 11	6.84	0.54	39.13	-0.4466	0.2396	0.0025		
340	SLV 12	6.84	0.54	39.13	-0.4466	0.2396	0.0025		
340	SLV 13	-7.48	0.41	28.1	-0.318	-0.368	0.0019		
340	SLV 14	-7.48	0.41	28.1	-0.318	-0.368	0.0019		
340	SLV 15	-5.18	0.51	34.35	-0.4126	-0.2746	0.0024		
340	SLV 16	-5.18	0.51	34.35	-0.4126	-0.2746	0.0024		
341	SLU 1	8.35	0.29	28.01	-0.2153	0.3864	0.0013		
341	SLU 2	8.34	0.29	27.95	-0.2146	0.3859	0.0013		
341	SLU 3	8.66	0.3	28.89	-0.2237	0.4006	0.0014		
341	SLU 4	8.66	0.3	28.85	-0.2233	0.4004	0.0014		
341	SLU 5	8.54	0.29	28.56	-0.2201	0.3948	0.0013		
341	SLU 6	8.86	0.31	29.5	-0.2292	0.4095	0.0014		
341	SLU 7	8.85	0.3	29.46	-0.2288	0.4092	0.0014		
341	SLU 8	8.74	0.3	29.23	-0.2263	0.404	0.0014		
341	SLU 9	8.74	0.3	29.19	-0.2259	0.4038	0.0014		
341	SLU 10	9.82	0.33	31.41	-0.2501	0.4538	0.0015		
341	SLU 11	10.14	0.34	32.35	-0.2592	0.4685	0.0016		
341	SLU 12	10.14	0.34	32.31	-0.2588	0.4682	0.0016		
341	SLU 13	10.02	0.34	32.02	-0.2556	0.4626	0.0015		
341	SLU 14	10.33	0.35	32.96	-0.2648	0.4773	0.0016		
341	SLU 15	10.33	0.35	32.92	-0.2643	0.477	0.0016		
341	SLU 16	10.22	0.35	32.7	-0.2619	0.4719	0.0016		
341	SLU 17	10.21	0.35	32.66	-0.2614	0.4716	0.0016		
341	SLU 18	10.46	0.35	32.96	-0.266	0.4833	0.0016		
341	SLU 19	10.46	0.35	32.92	-0.2656	0.483	0.0016		
341	SLU 20	10.66	0.36	33.57	-0.2716	0.4921	0.0016		
341	SLU 21	10.65	0.36	33.53	-0.2711	0.4919	0.0016		
341	SLU 22	9.74	0.33	31.41	-0.25	0.4502	0.0015		
341	SLU 23	9.73	0.33	31.35	-0.2493	0.4497	0.0015		
341	SLU 24	10.05	0.34	32.29	-0.2584	0.4644	0.0016		
341	SLU 25	10.04	0.34	32.25	-0.258	0.4642	0.0016		
341	SLU 26	9.93	0.34	31.96	-0.2548	0.4586	0.0015		
341	SLU 27	10.24	0.35	32.9	-0.2639	0.4733	0.0016		
341	SLU 28	10.24	0.35	32.86	-0.2635	0.473	0.0016		
341	SLU 29	10.13	0.35	32.64	-0.261	0.4678	0.0016		
341	SLU 30	10.12	0.35	32.6	-0.2606	0.4676	0.0016		
341	SLU 31	11.21	0.38	34.81	-0.2848	0.5176	0.0017		
341	SLU 32	11.53	0.39	35.75	-0.294	0.5323	0.0018		
341	SLU 33	11.52	0.39	35.71	-0.2935	0.532	0.0018		
341	SLU 34	11.4	0.39	35.42	-0.2903	0.5264	0.0018		
341	SLU 35	11.72	0.4	36.36	-0.2995	0.5411	0.0018		
341	SLU 36	11.72	0.4	36.32	-0.2991	0.5409	0.0018		
341	SLU 37	11.61	0.39	36.1	-0.2966	0.5357	0.0018		
341	SLU 38	11.6	0.39	36.06	-0.2961	0.5354	0.0018		
341	SLU 39	11.85	0.4	36.36	-0.3007	0.5471	0.0018		
341	SLU 40	11.85	0.4	36.32	-0.3003	0.5468	0.0018		
341	SLU 41	12.04	0.41	36.97	-0.3063	0.5559	0.0019		
341	SLU 42	12.04	0.41	36.93	-0.3059	0.5557	0.0019		
341	SLU 43	10.38	0.36	35.25	-0.268	0.4804	0.0016		
341	SLU 44	10.37	0.36	35.18	-0.2673	0.48	0.0016		
341	SLU 45	10.69	0.37	36.12	-0.2764	0.4947	0.0017		
341	SLU 46	10.69	0.37	36.08	-0.276	0.4944	0.0017		
341	SLU 47	10.57	0.36	35.79	-0.2728	0.4888	0.0016		
341	SLU 48	10.89	0.38	36.73	-0.2819	0.5035	0.0017		
341	SLU 49	10.88	0.37	36.69	-0.2815	0.5032	0.0017		
341	SLU 50	10.77	0.37	36.47	-0.279	0.4981	0.0017		
341	SLU 51	10.77	0.37	36.43	-0.2786	0.4978	0.0017		
341	SLU 52	11.85	0.4	38.65	-0.3028	0.5478	0.0018		
341	SLU 53	12.17	0.42	39.59	-0.3119	0.5625	0.0019		
341	SLU 54	12.17	0.41	39.55	-0.3115	0.5622	0.0019		
341	SLU 55	12.05	0.41	39.26	-0.3083	0.5566	0.0019		
341	SLU 56	12.36	0.42	40.2	-0.3174	0.5713	0.0019		
341	SLU 57	12.36	0.42	40.16	-0.317	0.5711	0.0019		
341	SLU 58	12.25	0.42	39.93	-0.3145	0.5659	0.0019		
341	SLU 59	12.24	0.42	39.89	-0.3141	0.5656	0.0019		
341	SLU 60	12.49	0.42	40.2	-0.3187	0.5773	0.0019		
341	SLU 61	12.49	0.42	40.16	-0.3183	0.577	0.0019		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
341	SLU 62	12.69	0.43	40.81	-0.3242	0.5861	0.002
341	SLU 63	12.68	0.43	40.77	-0.3238	0.5859	0.002
341	SLU 64	11.77	0.4	38.65	-0.3027	0.5442	0.0018
341	SLU 65	11.76	0.4	38.59	-0.302	0.5438	0.0018
341	SLU 66	12.08	0.41	39.53	-0.3111	0.5585	0.0019
341	SLU 67	12.07	0.41	39.49	-0.3107	0.5582	0.0019
341	SLU 68	11.96	0.41	39.2	-0.3075	0.5526	0.0019
341	SLU 69	12.27	0.42	40.14	-0.3166	0.5673	0.0019
341	SLU 70	12.27	0.42	40.1	-0.3162	0.567	0.0019
341	SLU 71	12.16	0.42	39.87	-0.3137	0.5619	0.0019
341	SLU 72	12.15	0.42	39.83	-0.3133	0.5616	0.0019
341	SLU 73	13.24	0.45	42.05	-0.3375	0.6116	0.002
341	SLU 74	13.56	0.46	42.99	-0.3466	0.6263	0.0021
341	SLU 75	13.55	0.46	42.95	-0.3462	0.6261	0.0021
341	SLU 76	13.43	0.46	42.66	-0.343	0.6205	0.0021
341	SLU 77	13.75	0.47	43.6	-0.3522	0.6351	0.0021
341	SLU 78	13.75	0.47	43.56	-0.3517	0.6349	0.0021
341	SLU 79	13.64	0.46	43.34	-0.3492	0.6297	0.0021
341	SLU 80	13.63	0.46	43.3	-0.3488	0.6295	0.0021
341	SLU 81	13.88	0.47	43.6	-0.3534	0.6411	0.0021
341	SLU 82	13.88	0.47	43.56	-0.353	0.6409	0.0021
341	SLU 83	14.07	0.48	44.21	-0.359	0.6499	0.0022
341	SLU 84	14.07	0.48	44.17	-0.3585	0.6497	0.0022
341	SLE RA 1	8.75	0.3	28.98	-0.2252	0.4046	0.0014
341	SLE RA 2	8.74	0.3	28.94	-0.2247	0.4043	0.0014
341	SLE RA 3	8.95	0.31	29.57	-0.2308	0.4141	0.0014
341	SLE RA 4	8.95	0.31	29.54	-0.2305	0.4139	0.0014
341	SLE RA 5	8.87	0.3	29.35	-0.2284	0.4102	0.0014
341	SLE RA 6	9.08	0.31	29.97	-0.2345	0.42	0.0014
341	SLE RA 7	9.08	0.31	29.95	-0.2342	0.4198	0.0014
341	SLE RA 8	9.01	0.31	29.8	-0.2326	0.4164	0.0014
341	SLE RA 9	9	0.31	29.77	-0.2323	0.4162	0.0014
341	SLE RA 10	9.73	0.33	31.25	-0.2484	0.4495	0.0015
341	SLE RA 11	9.94	0.34	31.88	-0.2545	0.4593	0.0015
341	SLE RA 12	9.94	0.34	31.85	-0.2542	0.4592	0.0015
341	SLE RA 13	9.86	0.34	31.66	-0.2521	0.4554	0.0015
341	SLE RA 14	10.07	0.34	32.28	-0.2582	0.4652	0.0016
341	SLE RA 15	10.07	0.34	32.26	-0.2579	0.465	0.0016
341	SLE RA 16	9.99	0.34	32.11	-0.2562	0.4616	0.0015
341	SLE RA 17	9.99	0.34	32.08	-0.256	0.4614	0.0015
341	SLE RA 18	10.16	0.34	32.28	-0.259	0.4692	0.0016
341	SLE RA 19	10.15	0.34	32.26	-0.2588	0.469	0.0016
341	SLE RA 20	10.29	0.35	32.69	-0.2627	0.4751	0.0016
341	SLE RA 21	10.28	0.35	32.66	-0.2624	0.4749	0.0016
341	SLE FR 1	8.75	0.3	28.98	-0.2252	0.4046	0.0014
341	SLE FR 2	8.75	0.3	28.98	-0.2251	0.4045	0.0014
341	SLE FR 3	8.8	0.3	29.15	-0.2267	0.4069	0.0014
341	SLE FR 4	9.17	0.31	29.96	-0.2353	0.4239	0.0014
341	SLE FR 5	9.22	0.32	30.14	-0.2368	0.4263	0.0014
341	SLE FR 6	9.45	0.32	30.63	-0.2421	0.4369	0.0015
341	SLE QP 1	8.75	0.3	28.98	-0.2252	0.4046	0.0014
341	SLE QP 2	9.17	0.31	29.97	-0.2354	0.424	0.0014
341	SLD 1	14.37	0.24	30.52	-0.1707	0.6542	0.0011
341	SLD 2	14.37	0.24	30.52	-0.1707	0.6542	0.0011
341	SLD 3	15.51	0.28	33.34	-0.212	0.7056	0.0013
341	SLD 4	15.51	0.28	33.34	-0.212	0.7056	0.0013
341	SLD 5	8.99	0.22	25.87	-0.1532	0.4151	0.001
341	SLD 6	8.99	0.22	25.87	-0.1532	0.4151	0.001
341	SLD 7	12.81	0.38	35.25	-0.2911	0.5864	0.0017
341	SLD 8	12.81	0.38	35.25	-0.2911	0.5864	0.0017
341	SLD 9	5.53	0.25	24.69	-0.1797	0.2616	0.0011
341	SLD 10	5.53	0.25	24.69	-0.1797	0.2616	0.0011
341	SLD 11	9.35	0.41	34.08	-0.3175	0.4328	0.0019
341	SLD 12	9.35	0.41	34.08	-0.3175	0.4328	0.0019
341	SLD 13	2.83	0.34	26.61	-0.2587	0.1424	0.0016
341	SLD 14	2.83	0.34	26.61	-0.2587	0.1424	0.0016
341	SLD 15	3.97	0.39	29.43	-0.3001	0.1937	0.0018
341	SLD 16	3.97	0.39	29.43	-0.3001	0.1937	0.0018
341	SLV 1	21.28	0.13	31.25	-0.0798	0.9604	0.0006
341	SLV 2	21.28	0.13	31.25	-0.0798	0.9604	0.0006
341	SLV 3	23.99	0.25	37.89	-0.1801	1.0822	0.0011
341	SLV 4	23.99	0.25	37.89	-0.1801	1.0822	0.0011
341	SLV 5	8.68	0.08	20.28	-0.0367	0.4001	0.0004
341	SLV 6	8.68	0.08	20.28	-0.0367	0.4001	0.0004
341	SLV 7	17.74	0.47	42.42	-0.3708	0.8063	0.0021
341	SLV 8	17.74	0.47	42.42	-0.3708	0.8063	0.0021
341	SLV 9	0.6	0.16	17.52	-0.0999	0.0417	0.0007
341	SLV 10	0.6	0.16	17.52	-0.0999	0.0417	0.0007
341	SLV 11	9.66	0.54	39.66	-0.434	0.4478	0.0025
341	SLV 12	9.66	0.54	39.66	-0.434	0.4478	0.0025
341	SLV 13	-5.65	0.38	22.06	-0.2907	-0.2343	0.0017
341	SLV 14	-5.65	0.38	22.06	-0.2907	-0.2343	0.0017
341	SLV 15	-2.94	0.49	28.7	-0.3909	-0.1125	0.0023
341	SLV 16	-2.94	0.49	28.7	-0.3909	-0.1125	0.0023
342	SLU 1	8.58	0.24	31.53	-0.1799	0.3343	0.0009
342	SLU 2	8.57	0.24	31.46	-0.1793	0.334	0.0009
342	SLU 3	8.9	0.25	32.57	-0.1868	0.3467	0.0009
342	SLU 4	8.89	0.25	32.52	-0.1865	0.3465	0.0009



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
342	SLU 5			8.77	0.25	32.19	-0.1838	0.3418	0.0009
342	SLU 6			9.11	0.26	33.3	-0.1913	0.3545	0.0009
342	SLU 7			9.1	0.26	33.26	-0.191	0.3543	0.0009
342	SLU 8			8.99	0.25	32.99	-0.1889	0.35	0.0009
342	SLU 9			8.98	0.25	32.95	-0.1886	0.3498	0.0009
342	SLU 10			10.1	0.28	35.53	-0.2091	0.3946	0.001
342	SLU 11			10.44	0.29	36.64	-0.2167	0.4073	0.001
342	SLU 12			10.43	0.29	36.6	-0.2163	0.4071	0.001
342	SLU 13			10.31	0.29	36.26	-0.2136	0.4024	0.001
342	SLU 14			10.64	0.3	37.37	-0.2212	0.4151	0.0011
342	SLU 15			10.64	0.3	37.33	-0.2208	0.4149	0.0011
342	SLU 16			10.53	0.29	37.07	-0.2187	0.4105	0.0011
342	SLU 17			10.52	0.29	37.02	-0.2184	0.4103	0.0011
342	SLU 18			10.77	0.3	37.35	-0.2225	0.4209	0.0011
342	SLU 19			10.77	0.3	37.31	-0.2221	0.4207	0.0011
342	SLU 20			10.98	0.3	38.08	-0.227	0.4287	0.0011
342	SLU 21			10.97	0.3	38.04	-0.2267	0.4285	0.0011
342	SLU 22			10.02	0.28	35.53	-0.2089	0.3907	0.001
342	SLU 23			10.01	0.28	35.46	-0.2084	0.3904	0.001
342	SLU 24			10.34	0.29	36.56	-0.2159	0.4031	0.001
342	SLU 25			10.33	0.29	36.52	-0.2155	0.4029	0.001
342	SLU 26			10.21	0.29	36.19	-0.2129	0.3982	0.001
342	SLU 27			10.55	0.3	37.29	-0.2204	0.4109	0.0011
342	SLU 28			10.54	0.29	37.25	-0.2201	0.4107	0.0011
342	SLU 29			10.43	0.29	36.99	-0.2179	0.4064	0.001
342	SLU 30			10.42	0.29	36.95	-0.2176	0.4062	0.001
342	SLU 31			11.54	0.32	39.53	-0.2382	0.451	0.0011
342	SLU 32			11.88	0.33	40.63	-0.2457	0.4637	0.0012
342	SLU 33			11.87	0.33	40.59	-0.2454	0.4635	0.0012
342	SLU 34			11.75	0.32	40.26	-0.2427	0.4588	0.0012
342	SLU 35			12.08	0.34	41.37	-0.2502	0.4715	0.0012
342	SLU 36			12.08	0.33	41.32	-0.2499	0.4713	0.0012
342	SLU 37			11.97	0.33	41.06	-0.2478	0.4669	0.0012
342	SLU 38			11.96	0.33	41.02	-0.2474	0.4667	0.0012
342	SLU 39			12.21	0.34	41.34	-0.2515	0.4773	0.0012
342	SLU 40			12.21	0.34	41.3	-0.2512	0.4771	0.0012
342	SLU 41			12.42	0.34	42.08	-0.256	0.4851	0.0012
342	SLU 42			12.41	0.34	42.03	-0.2557	0.4849	0.0012
342	SLU 43			10.66	0.3	39.62	-0.2239	0.4153	0.0011
342	SLU 44			10.65	0.3	39.55	-0.2233	0.415	0.0011
342	SLU 45			10.98	0.31	40.66	-0.2308	0.4277	0.0011
342	SLU 46			10.97	0.31	40.61	-0.2305	0.4275	0.0011
342	SLU 47			10.85	0.31	40.28	-0.2278	0.4228	0.0011
342	SLU 48			11.19	0.32	41.39	-0.2354	0.4355	0.0011
342	SLU 49			11.18	0.31	41.35	-0.235	0.4353	0.0011
342	SLU 50			11.07	0.31	41.08	-0.2329	0.4309	0.0011
342	SLU 51			11.06	0.31	41.04	-0.2326	0.4307	0.0011
342	SLU 52			12.18	0.34	43.62	-0.2531	0.4755	0.0012
342	SLU 53			12.52	0.35	44.73	-0.2607	0.4883	0.0013
342	SLU 54			12.51	0.35	44.69	-0.2603	0.4881	0.0013
342	SLU 55			12.39	0.34	44.35	-0.2577	0.4834	0.0012
342	SLU 56			12.72	0.36	45.46	-0.2652	0.4961	0.0013
342	SLU 57			12.72	0.35	45.42	-0.2648	0.4959	0.0013
342	SLU 58			12.61	0.35	45.15	-0.2627	0.4915	0.0013
342	SLU 59			12.6	0.35	45.11	-0.2624	0.4913	0.0013
342	SLU 60			12.85	0.36	45.44	-0.2665	0.5018	0.0013
342	SLU 61			12.85	0.36	45.39	-0.2661	0.5016	0.0013
342	SLU 62			13.06	0.36	46.17	-0.271	0.5097	0.0013
342	SLU 63			13.05	0.36	46.13	-0.2707	0.5095	0.0013
342	SLU 64			12.1	0.34	43.62	-0.2529	0.4717	0.0012
342	SLU 65			12.09	0.34	43.55	-0.2524	0.4714	0.0012
342	SLU 66			12.42	0.35	44.65	-0.2599	0.4841	0.0013
342	SLU 67			12.41	0.35	44.61	-0.2595	0.4839	0.0012
342	SLU 68			12.29	0.34	44.28	-0.2569	0.4792	0.0012
342	SLU 69			12.63	0.35	45.38	-0.2644	0.4919	0.0013
342	SLU 70			12.62	0.35	45.34	-0.2641	0.4917	0.0013
342	SLU 71			12.51	0.35	45.08	-0.2619	0.4873	0.0013
342	SLU 72			12.5	0.35	45.04	-0.2616	0.4871	0.0013
342	SLU 73			13.62	0.38	47.62	-0.2822	0.5319	0.0014
342	SLU 74			13.96	0.39	48.72	-0.2897	0.5447	0.0014
342	SLU 75			13.95	0.39	48.68	-0.2894	0.5445	0.0014
342	SLU 76			13.83	0.38	48.35	-0.2867	0.5398	0.0014
342	SLU 77			14.16	0.39	49.46	-0.2942	0.5525	0.0014
342	SLU 78			14.16	0.39	49.41	-0.2939	0.5523	0.0014
342	SLU 79			14.05	0.39	49.15	-0.2918	0.5479	0.0014
342	SLU 80			14.04	0.39	49.11	-0.2914	0.5477	0.0014
342	SLU 81			14.29	0.4	49.43	-0.2955	0.5582	0.0014
342	SLU 82			14.29	0.4	49.39	-0.2952	0.558	0.0014
342	SLU 83			14.5	0.4	50.16	-0.3	0.566	0.0014
342	SLU 84			14.49	0.4	50.12	-0.2997	0.5659	0.0014
342	SLE RA 1			8.99	0.25	32.67	-0.1882	0.3504	0.0009
342	SLE RA 2			8.98	0.25	32.63	-0.1878	0.3502	0.0009
342	SLE RA 3			9.2	0.26	33.36	-0.1928	0.3587	0.0009
342	SLE RA 4			9.2	0.26	33.34	-0.1926	0.3586	0.0009
342	SLE RA 5			9.12	0.26	33.11	-0.1908	0.3554	0.0009
342	SLE RA 6			9.34	0.26	33.85	-0.1958	0.3639	0.0009
342	SLE RA 7			9.34	0.26	33.82	-0.1956	0.3638	0.0009
342	SLE RA 8			9.26	0.26	33.65	-0.1942	0.3609	0.0009



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
342	SLE RA 9	9.26	0.26	33.62	-0.194	0.3607	0.0009		
342	SLE RA 10	10.01	0.28	35.34	-0.2077	0.3906	0.001		
342	SLE RA 11	10.23	0.28	36.08	-0.2127	0.3991	0.001		
342	SLE RA 12	10.22	0.28	36.05	-0.2125	0.399	0.001		
342	SLE RA 13	10.14	0.28	35.83	-0.2107	0.3958	0.001		
342	SLE RA 14	10.37	0.29	36.57	-0.2157	0.4043	0.001		
342	SLE RA 15	10.36	0.29	36.54	-0.2155	0.4042	0.001		
342	SLE RA 16	10.29	0.29	36.36	-0.2141	0.4013	0.001		
342	SLE RA 17	10.28	0.29	36.33	-0.2138	0.4011	0.001		
342	SLE RA 18	10.45	0.29	36.55	-0.2166	0.4081	0.001		
342	SLE RA 19	10.45	0.29	36.52	-0.2163	0.408	0.001		
342	SLE RA 20	10.59	0.29	37.04	-0.2196	0.4133	0.0011		
342	SLE RA 21	10.59	0.29	37.01	-0.2194	0.4132	0.0011		
342	SLE FR 1	8.99	0.25	32.67	-0.1882	0.3504	0.0009		
342	SLE FR 2	8.99	0.25	32.66	-0.1881	0.3504	0.0009		
342	SLE FR 3	9.04	0.25	32.87	-0.1894	0.3525	0.0009		
342	SLE FR 4	9.43	0.26	33.83	-0.1966	0.3677	0.0009		
342	SLE FR 5	9.48	0.26	34.03	-0.1979	0.3698	0.001		
342	SLE FR 6	9.72	0.27	34.61	-0.2024	0.3793	0.001		
342	SLE QP 1	8.99	0.25	32.67	-0.1882	0.3504	0.0009		
342	SLE QP 2	9.43	0.26	33.84	-0.1967	0.3677	0.0009		
342	SLD 1	14.36	0.18	34.61	-0.1351	0.5849	0.001		
342	SLD 2	14.36	0.18	34.61	-0.1351	0.5849	0.001		
342	SLD 3	15.55	0.24	37.76	-0.177	0.6337	0.0013		
342	SLD 4	15.55	0.24	37.76	-0.177	0.6337	0.0013		
342	SLD 5	9.1	0.16	29.29	-0.1147	0.3589	0.0006		
342	SLD 6	9.1	0.16	29.29	-0.1147	0.3589	0.0006		
342	SLD 7	13.07	0.34	39.79	-0.2543	0.5215	0.0014		
342	SLD 8	13.07	0.34	39.79	-0.2543	0.5215	0.0014		
342	SLD 9	5.78	0.19	27.88	-0.139	0.214	0.0005		
342	SLD 10	5.78	0.19	27.88	-0.139	0.214	0.0005		
342	SLD 11	9.76	0.37	38.38	-0.2787	0.3766	0.0012		
342	SLD 12	9.76	0.37	38.38	-0.2787	0.3766	0.0012		
342	SLD 13	3.3	0.29	29.91	-0.2164	0.1018	0.0006		
342	SLD 14	3.3	0.29	29.91	-0.2164	0.1018	0.0006		
342	SLD 15	4.49	0.34	33.06	-0.2583	0.1506	0.0008		
342	SLD 16	4.49	0.34	33.06	-0.2583	0.1506	0.0008		
342	SLV 1	20.92	0.07	35.63	-0.0476	0.8737	0.0012		
342	SLV 2	20.92	0.07	35.63	-0.0476	0.8737	0.0012		
342	SLV 3	23.75	0.21	43.08	-0.1494	0.9893	0.0017		
342	SLV 4	23.75	0.21	43.08	-0.1494	0.9893	0.0017		
342	SLV 5	8.59	0	23.08	0.0025	0.3442	0.0002		
342	SLV 6	8.59	0	23.08	0.0025	0.3442	0.0002		
342	SLV 7	18.01	0.45	47.9	-0.3369	0.7296	0.002		
342	SLV 8	18.01	0.45	47.9	-0.3369	0.7296	0.002		
342	SLV 9	0.84	0.08	19.77	-0.0565	0.0059	-0.0001		
342	SLV 10	0.84	0.08	19.77	-0.0565	0.0059	-0.0001		
342	SLV 11	10.27	0.52	44.59	-0.3959	0.3913	0.0017		
342	SLV 12	10.27	0.52	44.59	-0.3959	0.3913	0.0017		
342	SLV 13	-4.89	0.32	24.6	-0.244	-0.2538	0.0002		
342	SLV 14	-4.89	0.32	24.6	-0.244	-0.2538	0.0002		
342	SLV 15	-2.06	0.45	32.04	-0.3458	-0.1382	0.0007		
342	SLV 16	-2.06	0.45	32.04	-0.3458	-0.1382	0.0007		
343	SLU 1	8.68	0.15	35.41	-0.1253	0.3755	0.0003		
343	SLU 2	8.66	0.15	35.33	-0.1249	0.3749	0.0003		
343	SLU 3	9.01	0.15	36.62	-0.1299	0.3897	0.0003		
343	SLU 4	9	0.15	36.58	-0.1297	0.3893	0.0003		
343	SLU 5	8.88	0.15	36.2	-0.1278	0.384	0.0003		
343	SLU 6	9.22	0.15	37.49	-0.1329	0.3987	0.0003		
343	SLU 7	9.21	0.15	37.44	-0.1327	0.3984	0.0003		
343	SLU 8	9.1	0.15	37.14	-0.1311	0.3937	0.0003		
343	SLU 9	9.1	0.15	37.1	-0.1309	0.3933	0.0003		
343	SLU 10	10.23	0.17	40.08	-0.1458	0.4426	0.0004		
343	SLU 11	10.58	0.18	41.37	-0.1509	0.4574	0.0004		
343	SLU 12	10.57	0.18	41.32	-0.1506	0.457	0.0004		
343	SLU 13	10.45	0.17	40.95	-0.1488	0.4517	0.0004		
343	SLU 14	10.79	0.18	42.24	-0.1538	0.4664	0.0004		
343	SLU 15	10.78	0.18	42.19	-0.1536	0.4661	0.0004		
343	SLU 16	10.68	0.18	41.89	-0.1521	0.4614	0.0004		
343	SLU 17	10.67	0.18	41.85	-0.1518	0.461	0.0004		
343	SLU 18	10.92	0.18	42.19	-0.1552	0.4722	0.0004		
343	SLU 19	10.91	0.18	42.14	-0.1549	0.4719	0.0004		
343	SLU 20	11.13	0.18	43.06	-0.1581	0.4813	0.0004		
343	SLU 21	11.13	0.18	43.01	-0.1579	0.481	0.0004		
343	SLU 22	10.15	0.17	40.06	-0.1455	0.439	0.0004		
343	SLU 23	10.13	0.17	39.99	-0.1451	0.4384	0.0004		
343	SLU 24	10.48	0.17	41.28	-0.1502	0.4531	0.0004		
343	SLU 25	10.47	0.17	41.23	-0.15	0.4528	0.0004		
343	SLU 26	10.35	0.17	40.86	-0.1481	0.4475	0.0004		
343	SLU 27	10.69	0.18	42.15	-0.1531	0.4622	0.0004		
343	SLU 28	10.68	0.18	42.1	-0.1529	0.4618	0.0004		
343	SLU 29	10.58	0.18	41.8	-0.1514	0.4571	0.0004		
343	SLU 30	10.57	0.18	41.75	-0.1512	0.4568	0.0004		
343	SLU 31	11.71	0.19	44.74	-0.1661	0.5061	0.0004		
343	SLU 32	12.05	0.2	46.03	-0.1711	0.5208	0.0004		
343	SLU 33	12.04	0.2	45.98	-0.1709	0.5205	0.0004		
343	SLU 34	11.92	0.2	45.6	-0.169	0.5152	0.0004		
343	SLU 35	12.26	0.2	46.9	-0.174	0.5299	0.0005		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
343	SLU 36	12.26	0.2	46.85	-0.1738	0.5295	0.0005
343	SLU 37	12.15	0.2	46.55	-0.1723	0.5248	0.0004
343	SLU 38	12.14	0.2	46.5	-0.1721	0.5245	0.0004
343	SLU 39	12.39	0.2	46.85	-0.1754	0.5357	0.0005
343	SLU 40	12.38	0.2	46.8	-0.1752	0.5354	0.0005
343	SLU 41	12.61	0.21	47.72	-0.1783	0.5448	0.0005
343	SLU 42	12.6	0.21	47.67	-0.1781	0.5444	0.0005
343	SLU 43	10.77	0.18	44.43	-0.1559	0.4664	0.0004
343	SLU 44	10.76	0.18	44.35	-0.1555	0.4658	0.0004
343	SLU 45	11.1	0.19	45.65	-0.1606	0.4806	0.0004
343	SLU 46	11.1	0.19	45.6	-0.1604	0.4802	0.0004
343	SLU 47	10.97	0.18	45.22	-0.1585	0.4749	0.0004
343	SLU 48	11.32	0.19	46.52	-0.1635	0.4896	0.0004
343	SLU 49	11.31	0.19	46.47	-0.1633	0.4893	0.0004
343	SLU 50	11.2	0.19	46.17	-0.1618	0.4846	0.0004
343	SLU 51	11.19	0.19	46.12	-0.1616	0.4842	0.0004
343	SLU 52	12.33	0.21	49.1	-0.1765	0.5335	0.0005
343	SLU 53	12.67	0.21	50.4	-0.1815	0.5483	0.0005
343	SLU 54	12.67	0.21	50.35	-0.1813	0.5479	0.0005
343	SLU 55	12.55	0.21	49.97	-0.1794	0.5426	0.0005
343	SLU 56	12.89	0.21	51.26	-0.1844	0.5573	0.0005
343	SLU 57	12.88	0.21	51.22	-0.1842	0.557	0.0005
343	SLU 58	12.77	0.21	50.92	-0.1827	0.5523	0.0005
343	SLU 59	12.77	0.21	50.87	-0.1825	0.5519	0.0005
343	SLU 60	13.02	0.22	51.21	-0.1858	0.5631	0.0005
343	SLU 61	13.01	0.22	51.17	-0.1856	0.5628	0.0005
343	SLU 62	13.23	0.22	52.08	-0.1887	0.5722	0.0005
343	SLU 63	13.22	0.22	52.04	-0.1885	0.5719	0.0005
343	SLU 64	12.25	0.21	49.09	-0.1762	0.5299	0.0005
343	SLU 65	12.23	0.2	49.01	-0.1758	0.5293	0.0005
343	SLU 66	12.58	0.21	50.3	-0.1808	0.544	0.0005
343	SLU 67	12.57	0.21	50.26	-0.1806	0.5437	0.0005
343	SLU 68	12.45	0.21	49.88	-0.1787	0.5384	0.0005
343	SLU 69	12.79	0.21	51.17	-0.1838	0.5531	0.0005
343	SLU 70	12.78	0.21	51.13	-0.1835	0.5527	0.0005
343	SLU 71	12.68	0.21	50.83	-0.182	0.548	0.0005
343	SLU 72	12.67	0.21	50.78	-0.1818	0.5477	0.0005
343	SLU 73	13.8	0.23	53.76	-0.1967	0.597	0.0005
343	SLU 74	14.15	0.23	55.05	-0.2018	0.6117	0.0005
343	SLU 75	14.14	0.23	55.01	-0.2015	0.6114	0.0005
343	SLU 76	14.02	0.23	54.63	-0.1996	0.6061	0.0005
343	SLU 77	14.36	0.24	55.92	-0.2047	0.6208	0.0005
343	SLU 78	14.35	0.24	55.88	-0.2045	0.6204	0.0005
343	SLU 79	14.25	0.24	55.57	-0.2029	0.6157	0.0005
343	SLU 80	14.24	0.24	55.53	-0.2027	0.6154	0.0005
343	SLU 81	14.49	0.24	55.87	-0.206	0.6266	0.0005
343	SLU 82	14.48	0.24	55.83	-0.2058	0.6263	0.0005
343	SLU 83	14.7	0.24	56.74	-0.209	0.6357	0.0005
343	SLU 84	14.7	0.24	56.69	-0.2088	0.6353	0.0005
343	SLE RA 1	9.1	0.15	36.74	-0.1311	0.3937	0.0003
343	SLE RA 2	9.09	0.15	36.69	-0.1308	0.3933	0.0003
343	SLE RA 3	9.32	0.16	37.55	-0.1342	0.4031	0.0003
343	SLE RA 4	9.31	0.16	37.52	-0.134	0.4028	0.0003
343	SLE RA 5	9.23	0.15	37.26	-0.1328	0.3993	0.0003
343	SLE RA 6	9.46	0.16	38.13	-0.1361	0.4091	0.0004
343	SLE RA 7	9.45	0.16	38.1	-0.136	0.4089	0.0004
343	SLE RA 8	9.38	0.16	37.9	-0.135	0.4058	0.0003
343	SLE RA 9	9.38	0.16	37.86	-0.1348	0.4055	0.0003
343	SLE RA 10	10.13	0.17	39.85	-0.1448	0.4384	0.0004
343	SLE RA 11	10.36	0.17	40.71	-0.1481	0.4482	0.0004
343	SLE RA 12	10.36	0.17	40.68	-0.148	0.448	0.0004
343	SLE RA 13	10.28	0.17	40.43	-0.1467	0.4444	0.0004
343	SLE RA 14	10.51	0.17	41.29	-0.1501	0.4543	0.0004
343	SLE RA 15	10.5	0.17	41.26	-0.1499	0.454	0.0004
343	SLE RA 16	10.43	0.17	41.06	-0.1489	0.4509	0.0004
343	SLE RA 17	10.42	0.17	41.03	-0.1488	0.4506	0.0004
343	SLE RA 18	10.59	0.18	41.26	-0.151	0.4581	0.0004
343	SLE RA 19	10.59	0.18	41.23	-0.1508	0.4579	0.0004
343	SLE RA 20	10.74	0.18	41.84	-0.1529	0.4642	0.0004
343	SLE RA 21	10.73	0.18	41.81	-0.1528	0.4639	0.0004
343	SLE FR 1	9.1	0.15	36.74	-0.1311	0.3937	0.0003
343	SLE FR 2	9.09	0.15	36.73	-0.131	0.3936	0.0003
343	SLE FR 3	9.15	0.15	36.97	-0.1318	0.3961	0.0003
343	SLE FR 4	9.54	0.16	38.08	-0.137	0.4129	0.0004
343	SLE FR 5	9.6	0.16	38.33	-0.1378	0.4154	0.0004
343	SLE FR 6	9.84	0.16	39	-0.141	0.4259	0.0004
343	SLE QP 1	9.1	0.15	36.74	-0.1311	0.3937	0.0003
343	SLE QP 2	9.54	0.16	38.09	-0.137	0.413	0.0004
343	SLD 1	14.18	0.18	38.79	-0.0818	0.6179	0.0004
343	SLD 2	14.18	0.18	38.79	-0.0818	0.6179	0.0004
343	SLD 3	15.4	0.24	42.35	-0.1217	0.6703	0.0006
343	SLD 4	15.4	0.24	42.35	-0.1217	0.6703	0.0006
343	SLD 5	9.09	0.07	32.89	-0.0598	0.395	0.0001
343	SLD 6	9.09	0.07	32.89	-0.0598	0.395	0.0001
343	SLD 7	13.15	0.28	44.78	-0.1931	0.5697	0.0007
343	SLD 8	13.15	0.28	44.78	-0.1931	0.5697	0.0007
343	SLD 9	5.94	0.04	31.41	-0.081	0.2563	0
343	SLD 10	5.94	0.04	31.41	-0.081	0.2563	0



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
343	SLD 11	10	0.25	43.29	-0.2142	0.431	0.0006
343	SLD 12	10	0.25	43.29	-0.2142	0.431	0.0006
343	SLD 13	3.69	0.08	33.83	-0.1523	0.1557	0.0001
343	SLD 14	3.69	0.08	33.83	-0.1523	0.1557	0.0001
343	SLD 15	4.91	0.14	37.4	-0.1923	0.2081	0.0003
343	SLD 16	4.91	0.14	37.4	-0.1923	0.2081	0.0003
343	SLV 1	20.33	0.21	39.69	-0.0022	0.8904	0.0005
343	SLV 2	20.33	0.21	39.69	-0.0022	0.8904	0.0005
343	SLV 3	23.22	0.36	48.12	-0.0993	1.0145	0.001
343	SLV 4	23.22	0.36	48.12	-0.0993	1.0145	0.001
343	SLV 5	8.4	-0.05	25.78	0.0508	0.368	-0.0003
343	SLV 6	8.4	-0.05	25.78	0.0508	0.368	-0.0003
343	SLV 7	18.03	0.45	53.89	-0.2731	0.7817	0.0013
343	SLV 8	18.03	0.45	53.89	-0.2731	0.7817	0.0013
343	SLV 9	1.06	-0.13	22.3	-0.001	0.0444	-0.0006
343	SLV 10	1.06	-0.13	22.3	-0.001	0.0444	-0.0006
343	SLV 11	10.69	0.37	50.4	-0.3248	0.458	0.0011
343	SLV 12	10.69	0.37	50.4	-0.3248	0.458	0.0011
343	SLV 13	-4.13	-0.04	28.07	-0.1747	-0.1885	-0.0003
343	SLV 14	-4.13	-0.04	28.07	-0.1747	-0.1885	-0.0003
343	SLV 15	-1.24	0.11	36.5	-0.2719	-0.0644	0.0002
343	SLV 16	-1.24	0.11	36.5	-0.2719	-0.0644	0.0002
344	SLU 1	7.42	0	39.32	-0.0574	0.292	-0.0001
344	SLU 2	7.4	0	39.23	-0.0572	0.2916	-0.0001
344	SLU 3	7.7	0	40.72	-0.0592	0.3029	-0.0001
344	SLU 4	7.69	0	40.67	-0.0591	0.3026	-0.0001
344	SLU 5	7.59	0	40.25	-0.0582	0.2986	-0.0001
344	SLU 6	7.88	0	41.73	-0.0602	0.3099	-0.0001
344	SLU 7	7.88	0	41.68	-0.0601	0.3096	-0.0001
344	SLU 8	7.79	0	41.35	-0.0593	0.306	-0.0001
344	SLU 9	7.78	0	41.29	-0.0592	0.3058	-0.0001
344	SLU 10	8.79	0	44.67	-0.0671	0.3467	-0.0001
344	SLU 11	9.08	0	46.16	-0.0691	0.358	-0.0001
344	SLU 12	9.08	0	46.11	-0.069	0.3577	-0.0001
344	SLU 13	8.98	0	45.69	-0.068	0.3537	-0.0001
344	SLU 14	9.27	0	47.18	-0.07	0.365	-0.0001
344	SLU 15	9.26	0	47.13	-0.0699	0.3647	-0.0001
344	SLU 16	9.17	0	46.79	-0.0692	0.3611	-0.0001
344	SLU 17	9.17	0	46.74	-0.0691	0.3609	-0.0001
344	SLU 18	9.4	0	47.09	-0.0715	0.3707	-0.0001
344	SLU 19	9.39	0	47.04	-0.0714	0.3705	-0.0001
344	SLU 20	9.58	0	48.11	-0.0724	0.3777	-0.0001
344	SLU 21	9.57	0	48.06	-0.0723	0.3775	-0.0001
344	SLU 22	8.7	0	44.65	-0.0667	0.3429	-0.0001
344	SLU 23	8.69	0	44.57	-0.0665	0.3424	-0.0001
344	SLU 24	8.98	0	46.06	-0.0685	0.3537	-0.0001
344	SLU 25	8.98	0	46	-0.0684	0.3534	-0.0001
344	SLU 26	8.88	0	45.58	-0.0675	0.3494	-0.0001
344	SLU 27	9.17	0	47.07	-0.0695	0.3607	-0.0001
344	SLU 28	9.16	0	47.02	-0.0694	0.3604	-0.0001
344	SLU 29	9.07	0	46.68	-0.0686	0.3568	-0.0001
344	SLU 30	9.07	0	46.63	-0.0685	0.3566	-0.0001
344	SLU 31	10.08	0	50.01	-0.0764	0.3975	-0.0001
344	SLU 32	10.37	0	51.5	-0.0784	0.4088	-0.0001
344	SLU 33	10.36	0	51.45	-0.0783	0.4085	-0.0001
344	SLU 34	10.26	0	51.03	-0.0773	0.4045	-0.0001
344	SLU 35	10.56	0	52.52	-0.0793	0.4158	-0.0001
344	SLU 36	10.55	0	52.46	-0.0792	0.4155	-0.0001
344	SLU 37	10.46	0	52.13	-0.0785	0.4119	-0.0001
344	SLU 38	10.45	0	52.08	-0.0784	0.4117	-0.0001
344	SLU 39	10.68	0	52.43	-0.0807	0.4216	-0.0001
344	SLU 40	10.68	0	52.38	-0.0806	0.4213	-0.0001
344	SLU 41	10.87	0	53.45	-0.0817	0.4286	-0.0001
344	SLU 42	10.86	0	53.39	-0.0816	0.4283	-0.0001
344	SLU 43	9.2	0	49.28	-0.0714	0.3622	-0.0001
344	SLU 44	9.19	0	49.19	-0.0713	0.3618	-0.0001
344	SLU 45	9.48	0	50.68	-0.0733	0.3731	-0.0001
344	SLU 46	9.47	0	50.63	-0.0732	0.3728	-0.0001
344	SLU 47	9.37	0	50.21	-0.0722	0.3688	-0.0001
344	SLU 48	9.67	0	51.7	-0.0742	0.3801	-0.0001
344	SLU 49	9.66	0	51.65	-0.0741	0.3798	-0.0001
344	SLU 50	9.57	0	51.31	-0.0734	0.3762	-0.0001
344	SLU 51	9.56	0	51.26	-0.0733	0.376	-0.0001
344	SLU 52	10.57	0	54.64	-0.0811	0.4169	-0.0001
344	SLU 53	10.87	0	56.13	-0.0831	0.4282	-0.0001
344	SLU 54	10.86	0	56.08	-0.083	0.4279	-0.0001
344	SLU 55	10.76	0	55.65	-0.0821	0.4239	-0.0001
344	SLU 56	11.05	0	57.14	-0.0841	0.4351	-0.0001
344	SLU 57	11.05	0	57.09	-0.084	0.4349	-0.0001
344	SLU 58	10.96	0	56.76	-0.0832	0.4313	-0.0001
344	SLU 59	10.95	0	56.7	-0.0831	0.431	-0.0001
344	SLU 60	11.18	0	57.06	-0.0855	0.4409	-0.0001
344	SLU 61	11.17	0	57.01	-0.0854	0.4407	-0.0001
344	SLU 62	11.36	0	58.07	-0.0865	0.4479	-0.0001
344	SLU 63	11.36	0	58.02	-0.0864	0.4477	-0.0001
344	SLU 64	10.49	0	54.62	-0.0807	0.413	-0.0001
344	SLU 65	10.47	0	54.53	-0.0806	0.4126	-0.0001
344	SLU 66	10.77	0	56.02	-0.0826	0.4239	-0.0001



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
344	SLU 67	10.76	0	55.97	-0.0825	0.4236	-0.0001
344	SLU 68	10.66	0	55.55	-0.0815	0.4196	-0.0001
344	SLU 69	10.95	0	57.04	-0.0835	0.4309	-0.0001
344	SLU 70	10.95	0	56.98	-0.0834	0.4306	-0.0001
344	SLU 71	10.86	0	56.65	-0.0827	0.427	-0.0001
344	SLU 72	10.85	0	56.6	-0.0826	0.4268	-0.0001
344	SLU 73	11.86	0	59.98	-0.0904	0.4677	-0.0001
344	SLU 74	12.15	0	61.47	-0.0924	0.479	-0.0001
344	SLU 75	12.15	0	61.41	-0.0923	0.4787	-0.0001
344	SLU 76	12.05	0	60.99	-0.0914	0.4747	-0.0001
344	SLU 77	12.34	0	62.48	-0.0934	0.486	-0.0001
344	SLU 78	12.33	0	62.43	-0.0933	0.4857	-0.0001
344	SLU 79	12.24	0	62.09	-0.0925	0.4821	-0.0001
344	SLU 80	12.24	0	62.04	-0.0924	0.4819	-0.0001
344	SLU 81	12.47	0	62.4	-0.0948	0.4918	-0.0001
344	SLU 82	12.46	0	62.34	-0.0947	0.4915	-0.0001
344	SLU 83	12.65	0	63.41	-0.0957	0.4988	-0.0001
344	SLU 84	12.64	0	63.36	-0.0956	0.4985	-0.0001
344	SLE RA 1	7.78	0	40.84	-0.0601	0.3066	-0.0001
344	SLE RA 2	7.78	0	40.78	-0.0599	0.3063	-0.0001
344	SLE RA 3	7.97	0	41.78	-0.0613	0.3138	-0.0001
344	SLE RA 4	7.97	0	41.74	-0.0612	0.3136	-0.0001
344	SLE RA 5	7.9	0	41.46	-0.0606	0.3109	-0.0001
344	SLE RA 6	8.09	0	42.45	-0.0619	0.3184	-0.0001
344	SLE RA 7	8.09	0	42.42	-0.0619	0.3183	-0.0001
344	SLE RA 8	8.03	0	42.19	-0.0613	0.3159	-0.0001
344	SLE RA 9	8.03	0	42.16	-0.0613	0.3157	-0.0001
344	SLE RA 10	8.7	0	44.41	-0.0665	0.343	-0.0001
344	SLE RA 11	8.9	0	45.41	-0.0678	0.3505	-0.0001
344	SLE RA 12	8.89	0	45.37	-0.0678	0.3503	-0.0001
344	SLE RA 13	8.82	0	45.09	-0.0671	0.3477	-0.0001
344	SLE RA 14	9.02	0	46.08	-0.0685	0.3552	-0.0001
344	SLE RA 15	9.01	0	46.05	-0.0684	0.355	-0.0001
344	SLE RA 16	8.95	0	45.82	-0.0679	0.3526	-0.0001
344	SLE RA 17	8.95	0	45.79	-0.0678	0.3524	-0.0001
344	SLE RA 18	9.1	0	46.03	-0.0694	0.359	-0.0001
344	SLE RA 19	9.1	0	45.99	-0.0694	0.3589	-0.0001
344	SLE RA 20	9.23	0	46.7	-0.0701	0.3637	-0.0001
344	SLE RA 21	9.22	0	46.67	-0.07	0.3635	-0.0001
344	SLE FR 1	7.78	0	40.84	-0.0601	0.3066	-0.0001
344	SLE FR 2	7.78	0	40.83	-0.06	0.3065	-0.0001
344	SLE FR 3	7.83	0	41.11	-0.0603	0.3084	-0.0001
344	SLE FR 4	8.18	0	42.39	-0.0628	0.3222	-0.0001
344	SLE FR 5	8.23	0	42.67	-0.0631	0.3242	-0.0001
344	SLE FR 6	8.44	0	43.43	-0.0647	0.3328	-0.0001
344	SLE QP 1	7.78	0	40.84	-0.0601	0.3066	-0.0001
344	SLE QP 2	8.18	0	42.4	-0.0629	0.3223	-0.0001
344	SLD 1	12.56	0.01	42.72	-0.0731	0.5166	0
344	SLD 2	12.56	0.01	42.72	-0.0731	0.5166	0
344	SLD 3	13.7	0.08	46.79	-0.1068	0.5622	0.0001
344	SLD 4	13.7	0.08	46.79	-0.1068	0.5622	0.0001
344	SLD 5	7.77	-0.09	36.32	-0.0149	0.3114	-0.0003
344	SLD 6	7.77	-0.09	36.32	-0.0149	0.3114	-0.0003
344	SLD 7	11.56	0.12	49.89	-0.1271	0.4635	0.0002
344	SLD 8	11.56	0.12	49.89	-0.1271	0.4635	0.0002
344	SLD 9	4.8	-0.12	34.9	0.0014	0.1811	-0.0003
344	SLD 10	4.8	-0.12	34.9	0.0014	0.1811	-0.0003
344	SLD 11	8.59	0.09	48.48	-0.1109	0.3332	0.0002
344	SLD 12	8.59	0.09	48.48	-0.1109	0.3332	0.0002
344	SLD 13	2.66	-0.08	38	-0.019	0.0824	-0.0002
344	SLD 14	2.66	-0.08	38	-0.019	0.0824	-0.0002
344	SLD 15	3.8	-0.01	42.07	-0.0527	0.128	-0.0001
344	SLD 16	3.8	-0.01	42.07	-0.0527	0.128	-0.0001
344	SLV 1	18.38	0.04	43.1	-0.0889	0.775	0
344	SLV 2	18.38	0.04	43.1	-0.0889	0.775	0
344	SLV 3	21.07	0.19	52.74	-0.1705	0.8829	0.0004
344	SLV 4	21.07	0.19	52.74	-0.1705	0.8829	0.0004
344	SLV 5	7.16	-0.22	27.99	0.053	0.2944	-0.0006
344	SLV 6	7.16	-0.22	27.99	0.053	0.2944	-0.0006
344	SLV 7	16.12	0.28	60.12	-0.2188	0.6542	0.0006
344	SLV 8	16.12	0.28	60.12	-0.2188	0.6542	0.0006
344	SLV 9	0.24	-0.28	24.67	0.0931	-0.0095	-0.0007
344	SLV 10	0.24	-0.28	24.67	0.0931	-0.0095	-0.0007
344	SLV 11	9.2	0.22	56.8	-0.1787	0.3502	0.0005
344	SLV 12	9.2	0.22	56.8	-0.1787	0.3502	0.0005
344	SLV 13	-4.71	-0.19	32.05	0.0447	-0.2383	-0.0005
344	SLV 14	-4.71	-0.19	32.05	0.0447	-0.2383	-0.0005
344	SLV 15	-2.02	-0.04	41.69	-0.0368	-0.1304	-0.0001
344	SLV 16	-2.02	-0.04	41.69	-0.0368	-0.1304	-0.0001
345	SLU 1	5.9	-0.19	42.88	0.0091	0.2428	-0.0004
345	SLU 2	5.89	-0.19	42.79	0.009	0.2424	-0.0004
345	SLU 3	6.12	-0.2	44.47	0.0101	0.2515	-0.0004
345	SLU 4	6.11	-0.2	44.42	0.0101	0.2513	-0.0004
345	SLU 5	6.04	-0.19	43.96	0.0101	0.248	-0.0004
345	SLU 6	6.26	-0.2	45.64	0.0111	0.257	-0.0005
345	SLU 7	6.26	-0.2	45.59	0.0111	0.2568	-0.0005
345	SLU 8	6.19	-0.2	45.22	0.0112	0.2538	-0.0005
345	SLU 9	6.18	-0.2	45.17	0.0112	0.2536	-0.0005



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
345	SLU 10	7.04	-0.22	48.88	0.01	0.2897	-0.0005
345	SLU 11	7.27	-0.23	50.57	0.011	0.2988	-0.0005
345	SLU 12	7.26	-0.23	50.51	0.011	0.2986	-0.0005
345	SLU 13	7.19	-0.22	50.05	0.0111	0.2952	-0.0005
345	SLU 14	7.41	-0.23	51.74	0.0121	0.3043	-0.0005
345	SLU 15	7.41	-0.23	51.68	0.0121	0.3041	-0.0005
345	SLU 16	7.34	-0.23	51.32	0.0121	0.3011	-0.0005
345	SLU 17	7.33	-0.23	51.26	0.0121	0.3009	-0.0005
345	SLU 18	7.54	-0.23	51.59	0.0104	0.3104	-0.0005
345	SLU 19	7.54	-0.23	51.53	0.0104	0.3101	-0.0005
345	SLU 20	7.69	-0.24	52.76	0.0115	0.3159	-0.0005
345	SLU 21	7.68	-0.24	52.7	0.0115	0.3157	-0.0005
345	SLU 22	6.95	-0.22	48.86	0.0105	0.2859	-0.0005
345	SLU 23	6.94	-0.22	48.77	0.0105	0.2856	-0.0005
345	SLU 24	7.17	-0.23	50.45	0.0115	0.2946	-0.0005
345	SLU 25	7.17	-0.23	50.39	0.0115	0.2944	-0.0005
345	SLU 26	7.09	-0.22	49.94	0.0115	0.2911	-0.0005
345	SLU 27	7.32	-0.23	51.62	0.0125	0.3002	-0.0005
345	SLU 28	7.31	-0.23	51.56	0.0125	0.2999	-0.0005
345	SLU 29	7.24	-0.23	51.2	0.0126	0.297	-0.0005
345	SLU 30	7.24	-0.23	51.14	0.0126	0.2967	-0.0005
345	SLU 31	8.1	-0.25	54.86	0.0114	0.3328	-0.0005
345	SLU 32	8.32	-0.26	56.54	0.0125	0.3419	-0.0006
345	SLU 33	8.32	-0.26	56.49	0.0124	0.3417	-0.0006
345	SLU 34	8.24	-0.25	56.03	0.0125	0.3384	-0.0006
345	SLU 35	8.47	-0.26	57.71	0.0135	0.3474	-0.0006
345	SLU 36	8.46	-0.26	57.66	0.0135	0.3472	-0.0006
345	SLU 37	8.39	-0.26	57.29	0.0136	0.3442	-0.0006
345	SLU 38	8.39	-0.26	57.24	0.0136	0.344	-0.0006
345	SLU 39	8.6	-0.26	57.57	0.0119	0.3535	-0.0006
345	SLU 40	8.59	-0.26	57.51	0.0119	0.3533	-0.0006
345	SLU 41	8.74	-0.27	58.74	0.0129	0.359	-0.0006
345	SLU 42	8.74	-0.27	58.68	0.0129	0.3588	-0.0006
345	SLU 43	7.31	-0.23	53.7	0.0113	0.3009	-0.0005
345	SLU 44	7.3	-0.23	53.6	0.0113	0.3005	-0.0005
345	SLU 45	7.53	-0.24	55.29	0.0123	0.3096	-0.0005
345	SLU 46	7.52	-0.24	55.23	0.0123	0.3094	-0.0005
345	SLU 47	7.44	-0.24	54.77	0.0123	0.306	-0.0005
345	SLU 48	7.67	-0.25	56.46	0.0133	0.3151	-0.0006
345	SLU 49	7.67	-0.25	56.4	0.0133	0.3149	-0.0006
345	SLU 50	7.6	-0.25	56.04	0.0134	0.3119	-0.0006
345	SLU 51	7.59	-0.25	55.98	0.0134	0.3117	-0.0006
345	SLU 52	8.45	-0.26	59.7	0.0122	0.3478	-0.0006
345	SLU 53	8.68	-0.27	61.38	0.0133	0.3569	-0.0006
345	SLU 54	8.67	-0.27	61.32	0.0133	0.3566	-0.0006
345	SLU 55	8.6	-0.27	60.87	0.0133	0.3533	-0.0006
345	SLU 56	8.82	-0.28	62.55	0.0143	0.3624	-0.0006
345	SLU 57	8.82	-0.28	62.49	0.0143	0.3622	-0.0006
345	SLU 58	8.75	-0.28	62.13	0.0144	0.3592	-0.0006
345	SLU 59	8.74	-0.28	62.07	0.0144	0.359	-0.0006
345	SLU 60	8.95	-0.28	62.4	0.0127	0.3684	-0.0006
345	SLU 61	8.95	-0.28	62.35	0.0127	0.3682	-0.0006
345	SLU 62	9.1	-0.28	63.57	0.0137	0.3739	-0.0006
345	SLU 63	9.09	-0.28	63.52	0.0137	0.3737	-0.0006
345	SLU 64	8.36	-0.26	59.68	0.0127	0.344	-0.0006
345	SLU 65	8.35	-0.26	59.58	0.0127	0.3436	-0.0006
345	SLU 66	8.58	-0.27	61.27	0.0137	0.3527	-0.0006
345	SLU 67	8.58	-0.27	61.21	0.0137	0.3525	-0.0006
345	SLU 68	8.5	-0.27	60.75	0.0138	0.3491	-0.0006
345	SLU 69	8.73	-0.28	62.44	0.0148	0.3582	-0.0006
345	SLU 70	8.72	-0.28	62.38	0.0148	0.358	-0.0006
345	SLU 71	8.65	-0.28	62.02	0.0148	0.355	-0.0006
345	SLU 72	8.64	-0.28	61.96	0.0148	0.3548	-0.0006
345	SLU 73	9.5	-0.29	65.68	0.0137	0.3909	-0.0007
345	SLU 74	9.73	-0.3	67.36	0.0147	0.4	-0.0007
345	SLU 75	9.73	-0.3	67.3	0.0147	0.3998	-0.0007
345	SLU 76	9.65	-0.3	66.85	0.0147	0.3964	-0.0007
345	SLU 77	9.88	-0.31	68.53	0.0157	0.4055	-0.0007
345	SLU 78	9.87	-0.31	68.47	0.0157	0.4053	-0.0007
345	SLU 79	9.8	-0.31	68.11	0.0158	0.4023	-0.0007
345	SLU 80	9.8	-0.31	68.05	0.0158	0.4021	-0.0007
345	SLU 81	10.01	-0.31	68.38	0.0141	0.4115	-0.0007
345	SLU 82	10	-0.31	68.32	0.0141	0.4113	-0.0007
345	SLU 83	10.15	-0.31	69.55	0.0151	0.4171	-0.0007
345	SLU 84	10.14	-0.31	69.49	0.0151	0.4168	-0.0007
345	SLE RA 1	6.2	-0.2	44.59	0.0095	0.2551	-0.0004
345	SLE RA 2	6.2	-0.2	44.53	0.0095	0.2549	-0.0004
345	SLE RA 3	6.35	-0.2	45.65	0.0101	0.2609	-0.0005
345	SLE RA 4	6.34	-0.2	45.61	0.0101	0.2608	-0.0005
345	SLE RA 5	6.29	-0.2	45.31	0.0102	0.2586	-0.0005
345	SLE RA 6	6.44	-0.21	46.43	0.0108	0.2646	-0.0005
345	SLE RA 7	6.44	-0.21	46.39	0.0108	0.2645	-0.0005
345	SLE RA 8	6.39	-0.21	46.15	0.0109	0.2625	-0.0005
345	SLE RA 9	6.39	-0.21	46.11	0.0109	0.2623	-0.0005
345	SLE RA 10	6.96	-0.22	48.59	0.0101	0.2864	-0.0005
345	SLE RA 11	7.11	-0.22	49.71	0.0108	0.2925	-0.0005
345	SLE RA 12	7.11	-0.22	49.68	0.0108	0.2923	-0.0005
345	SLE RA 13	7.06	-0.22	49.37	0.0108	0.2901	-0.0005





Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
345	SLE RA 14	7.21	-0.23	50.49	0.0115	0.2961	-0.0005		
345	SLE RA 15	7.21	-0.23	50.46	0.0115	0.296	-0.0005		
345	SLE RA 16	7.16	-0.23	50.21	0.0115	0.294	-0.0005		
345	SLE RA 17	7.16	-0.22	50.18	0.0115	0.2939	-0.0005		
345	SLE RA 18	7.3	-0.22	50.39	0.0104	0.3002	-0.0005		
345	SLE RA 19	7.29	-0.22	50.36	0.0104	0.3	-0.0005		
345	SLE RA 20	7.39	-0.23	51.17	0.0111	0.3038	-0.0005		
345	SLE RA 21	7.39	-0.23	51.14	0.0111	0.3037	-0.0005		
345	SLE FR 1	6.2	-0.2	44.59	0.0095	0.2551	-0.0004		
345	SLE FR 2	6.2	-0.2	44.58	0.0095	0.2551	-0.0004		
345	SLE FR 3	6.24	-0.2	44.9	0.0097	0.2566	-0.0004		
345	SLE FR 4	6.53	-0.2	46.32	0.0097	0.2686	-0.0005		
345	SLE FR 5	6.57	-0.21	46.64	0.01	0.2701	-0.0005		
345	SLE FR 6	6.75	-0.21	47.49	0.0099	0.2777	-0.0005		
345	SLE QP 1	6.2	-0.2	44.59	0.0095	0.2551	-0.0004		
345	SLE QP 2	6.53	-0.2	46.33	0.0097	0.2686	-0.0005		
345	SLD 1	10.75	-0.15	46.03	-0.0173	0.4556	-0.0003		
345	SLD 2	10.75	-0.15	46.03	-0.0173	0.4556	-0.0003		
345	SLD 3	11.78	-0.2	50.85	0.0061	0.4969	-0.0004		
345	SLD 4	11.78	-0.2	50.85	0.0061	0.4969	-0.0004		
345	SLD 5	6.24	-0.11	38.93	-0.0339	0.2621	-0.0002		
345	SLD 6	6.24	-0.11	38.93	-0.0339	0.2621	-0.0002		
345	SLD 7	9.67	-0.29	55	0.0442	0.3998	-0.0007		
345	SLD 8	9.67	-0.29	55	0.0442	0.3998	-0.0007		
345	SLD 9	3.4	-0.12	37.67	-0.0247	0.1375	-0.0002		
345	SLD 10	3.4	-0.12	37.67	-0.0247	0.1375	-0.0002		
345	SLD 11	6.82	-0.3	53.73	0.0534	0.2752	-0.0008		
345	SLD 12	6.82	-0.3	53.73	0.0534	0.2752	-0.0008		
345	SLD 13	1.28	-0.21	41.81	0.0134	0.0404	-0.0005		
345	SLD 14	1.28	-0.21	41.81	0.0134	0.0404	-0.0005		
345	SLD 15	2.31	-0.26	46.63	0.0368	0.0817	-0.0006		
345	SLD 16	2.31	-0.26	46.63	0.0368	0.0817	-0.0006		
345	SLV 1	16.37	-0.07	45.57	-0.056	0.7042	0		
345	SLV 2	16.37	-0.07	45.57	-0.056	0.7042	0		
345	SLV 3	18.8	-0.2	56.98	-0.0003	0.8018	-0.0004		
345	SLV 4	18.8	-0.2	56.98	-0.0003	0.8018	-0.0004		
345	SLV 5	5.8	0.03	28.8	-0.0945	0.2514	0.0002		
345	SLV 6	5.8	0.03	28.8	-0.0945	0.2514	0.0002		
345	SLV 7	13.89	-0.4	66.83	0.0912	0.5766	-0.001		
345	SLV 8	13.89	-0.4	66.83	0.0912	0.5766	-0.001		
345	SLV 9	-0.83	-0.01	25.83	-0.0718	-0.0393	0.0001		
345	SLV 10	-0.83	-0.01	25.83	-0.0718	-0.0393	0.0001		
345	SLV 11	7.26	-0.44	63.87	0.1139	0.2859	-0.0012		
345	SLV 12	7.26	-0.44	63.87	0.1139	0.2859	-0.0012		
345	SLV 13	-5.73	-0.21	35.69	0.0198	-0.2645	-0.0005		
345	SLV 14	-5.73	-0.21	35.69	0.0198	-0.2645	-0.0005		
345	SLV 15	-3.31	-0.34	47.1	0.0755	-0.1669	-0.0009		
345	SLV 16	-3.31	-0.34	47.1	0.0755	-0.1669	-0.0009		
346	SLU 1	2.91	-8.93	69.01	-4.6581	0.1211	0.0016		
346	SLU 2	2.9	-8.91	68.87	-4.6496	0.121	0.0016		
346	SLU 3	2.97	-9.36	71.66	-4.8353	0.1239	0.0017		
346	SLU 4	2.97	-9.35	71.57	-4.8303	0.1239	0.0017		
346	SLU 5	2.93	-9.26	70.83	-4.7773	0.1221	0.0016		
346	SLU 6	3	-9.71	73.62	-4.963	0.125	0.0017		
346	SLU 7	3	-9.7	73.53	-4.9579	0.1249	0.0017		
346	SLU 8	2.96	-9.62	72.94	-4.9133	0.1233	0.0017		
346	SLU 9	2.96	-9.61	72.85	-4.9083	0.1232	0.0017		
346	SLU 10	3.59	-10.28	79	-5.3516	0.1493	0.002		
346	SLU 11	3.66	-10.73	81.79	-5.5373	0.1522	0.002		
346	SLU 12	3.65	-10.72	81.71	-5.5322	0.1521	0.002		
346	SLU 13	3.61	-10.63	80.97	-5.4792	0.1504	0.002		
346	SLU 14	3.68	-11.08	83.76	-5.6649	0.1533	0.002		
346	SLU 15	3.68	-11.07	83.67	-5.6598	0.1532	0.002		
346	SLU 16	3.64	-10.99	83.07	-5.6153	0.1516	0.002		
346	SLU 17	3.64	-10.98	82.99	-5.6102	0.1515	0.002		
346	SLU 18	3.88	-10.89	83.49	-5.6608	0.1615	0.0021		
346	SLU 19	3.88	-10.88	83.41	-5.6558	0.1614	0.0021		
346	SLU 20	3.91	-11.23	85.45	-5.7885	0.1626	0.0021		
346	SLU 21	3.91	-11.22	85.37	-5.7834	0.1625	0.0021		
346	SLU 22	3.48	-10.33	78.97	-5.3481	0.1447	0.0019		
346	SLU 23	3.47	-10.32	78.83	-5.3397	0.1446	0.0019		
346	SLU 24	3.54	-10.76	81.62	-5.5254	0.1475	0.002		
346	SLU 25	3.54	-10.75	81.53	-5.5203	0.1475	0.002		
346	SLU 26	3.5	-10.66	80.79	-5.4673	0.1457	0.0019		
346	SLU 27	3.57	-11.11	83.58	-5.653	0.1486	0.002		
346	SLU 28	3.57	-11.1	83.49	-5.6479	0.1485	0.002		
346	SLU 29	3.53	-11.02	82.9	-5.6034	0.1469	0.002		
346	SLU 30	3.53	-11.02	82.81	-5.5983	0.1468	0.002		
346	SLU 31	4.15	-11.69	88.96	-6.0416	0.1729	0.0023		
346	SLU 32	4.23	-12.13	91.76	-6.2273	0.1758	0.0023		
346	SLU 33	4.22	-12.13	91.67	-6.2222	0.1757	0.0023		
346	SLU 34	4.18	-12.03	90.93	-6.1692	0.174	0.0023		
346	SLU 35	4.25	-12.48	93.72	-6.3549	0.1769	0.0023		
346	SLU 36	4.25	-12.47	93.63	-6.3498	0.1768	0.0023		
346	SLU 37	4.21	-12.4	93.03	-6.3053	0.1752	0.0023		
346	SLU 38	4.21	-12.39	92.95	-6.3002	0.1751	0.0023		
346	SLU 39	4.45	-12.29	93.45	-6.3508	0.1851	0.0024		
346	SLU 40	4.45	-12.28	93.37	-6.3458	0.185	0.0024		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
346	SLU 41	4.48	-12.64	95.41	-6.4785	0.1862	0.0024
346	SLU 42	4.47	-12.63	95.33	-6.4734	0.1861	0.0024
346	SLU 43	3.58	-11.12	86.3	-5.8189	0.1494	0.002
346	SLU 44	3.58	-11.11	86.16	-5.8105	0.1493	0.002
346	SLU 45	3.65	-11.56	88.95	-5.9962	0.1522	0.002
346	SLU 46	3.65	-11.55	88.86	-5.9911	0.1521	0.002
346	SLU 47	3.61	-11.46	88.12	-5.9381	0.1503	0.002
346	SLU 48	3.68	-11.9	90.91	-6.1238	0.1533	0.0021
346	SLU 49	3.67	-11.89	90.82	-6.1188	0.1532	0.0021
346	SLU 50	3.64	-11.82	90.22	-6.0742	0.1516	0.0021
346	SLU 51	3.63	-11.81	90.14	-6.0691	0.1515	0.002
346	SLU 52	4.26	-12.48	96.29	-6.5124	0.1775	0.0023
346	SLU 53	4.33	-12.93	99.08	-6.6981	0.1804	0.0024
346	SLU 54	4.33	-12.92	99	-6.693	0.1804	0.0024
346	SLU 55	4.29	-12.83	98.25	-6.64	0.1786	0.0024
346	SLU 56	4.36	-13.27	101.04	-6.8257	0.1815	0.0024
346	SLU 57	4.36	-13.26	100.96	-6.8207	0.1815	0.0024
346	SLU 58	4.32	-13.19	100.36	-6.7761	0.1798	0.0024
346	SLU 59	4.32	-13.18	100.27	-6.771	0.1797	0.0024
346	SLU 60	4.56	-13.08	100.78	-6.8217	0.1898	0.0025
346	SLU 61	4.56	-13.07	100.69	-6.8166	0.1897	0.0025
346	SLU 62	4.58	-13.43	102.74	-6.9493	0.1908	0.0025
346	SLU 63	4.58	-13.42	102.66	-6.9442	0.1908	0.0025
346	SLU 64	4.15	-12.53	96.26	-6.5089	0.173	0.0023
346	SLU 65	4.15	-12.51	96.12	-6.5005	0.1729	0.0023
346	SLU 66	4.22	-12.96	98.91	-6.6862	0.1758	0.0023
346	SLU 67	4.22	-12.95	98.82	-6.6811	0.1757	0.0023
346	SLU 68	4.18	-12.86	98.08	-6.6281	0.1739	0.0023
346	SLU 69	4.25	-13.31	100.87	-6.8138	0.1769	0.0024
346	SLU 70	4.24	-13.3	100.78	-6.8088	0.1768	0.0024
346	SLU 71	4.21	-13.22	100.18	-6.7642	0.1751	0.0024
346	SLU 72	4.2	-13.21	100.1	-6.7591	0.1751	0.0024
346	SLU 73	4.83	-13.88	106.25	-7.2024	0.2011	0.0026
346	SLU 74	4.9	-14.33	109.04	-7.3881	0.204	0.0027
346	SLU 75	4.9	-14.32	108.96	-7.3831	0.204	0.0027
346	SLU 76	4.86	-14.23	108.22	-7.3301	0.2022	0.0027
346	SLU 77	4.93	-14.68	111.01	-7.5158	0.2051	0.0027
346	SLU 78	4.93	-14.67	110.92	-7.5107	0.2051	0.0027
346	SLU 79	4.89	-14.59	110.32	-7.4661	0.2034	0.0027
346	SLU 80	4.89	-14.58	110.23	-7.4611	0.2033	0.0027
346	SLU 81	5.13	-14.49	110.74	-7.5117	0.2133	0.0028
346	SLU 82	5.13	-14.48	110.65	-7.5066	0.2133	0.0028
346	SLU 83	5.15	-14.83	112.7	-7.6393	0.2144	0.0028
346	SLU 84	5.15	-14.83	112.62	-7.6343	0.2144	0.0028
346	SLE RA 1	3.07	-9.33	71.86	-4.8552	0.1279	0.0017
346	SLE RA 2	3.07	-9.32	71.76	-4.8496	0.1278	0.0017
346	SLE RA 3	3.11	-9.62	73.62	-4.9734	0.1297	0.0017
346	SLE RA 4	3.11	-9.61	73.56	-4.97	0.1297	0.0017
346	SLE RA 5	3.08	-9.55	73.07	-4.9347	0.1285	0.0017
346	SLE RA 6	3.13	-9.85	74.93	-5.0585	0.1305	0.0018
346	SLE RA 7	3.13	-9.84	74.87	-5.0551	0.1304	0.0018
346	SLE RA 8	3.1	-9.79	74.47	-5.0254	0.1293	0.0017
346	SLE RA 9	3.1	-9.79	74.42	-5.022	0.1293	0.0017
346	SLE RA 10	3.52	-10.23	78.52	-5.3175	0.1466	0.0019
346	SLE RA 11	3.57	-10.53	80.38	-5.4413	0.1486	0.002
346	SLE RA 12	3.57	-10.52	80.32	-5.438	0.1485	0.002
346	SLE RA 13	3.54	-10.46	79.83	-5.4026	0.1474	0.002
346	SLE RA 14	3.59	-10.76	81.69	-5.5264	0.1493	0.002
346	SLE RA 15	3.58	-10.76	81.63	-5.5231	0.1493	0.002
346	SLE RA 16	3.56	-10.71	81.23	-5.4933	0.1482	0.002
346	SLE RA 17	3.56	-10.7	81.17	-5.49	0.1481	0.002
346	SLE RA 18	3.72	-10.63	81.51	-5.5237	0.1548	0.002
346	SLE RA 19	3.72	-10.63	81.45	-5.5203	0.1547	0.002
346	SLE RA 20	3.74	-10.87	82.82	-5.6088	0.1555	0.0021
346	SLE RA 21	3.74	-10.86	82.76	-5.6054	0.1555	0.0021
346	SLE FR 1	3.07	-9.33	71.86	-4.8552	0.1279	0.0017
346	SLE FR 2	3.07	-9.33	71.84	-4.8541	0.1279	0.0017
346	SLE FR 3	3.08	-9.42	72.38	-4.8893	0.1282	0.0017
346	SLE FR 4	3.26	-9.72	74.73	-5.0547	0.1359	0.0018
346	SLE FR 5	3.27	-9.81	75.28	-5.0898	0.1362	0.0018
346	SLE FR 6	3.39	-9.98	76.68	-5.1895	0.1413	0.0019
346	SLE QP 1	3.07	-9.33	71.86	-4.8552	0.1279	0.0017
346	SLE QP 2	3.26	-9.72	74.75	-5.0558	0.1359	0.0018
346	SLD 1	7.77	-9.01	72.85	-4.8717	0.3322	0.0029
346	SLD 2	7.77	-9.01	72.85	-4.8717	0.3322	0.0029
346	SLD 3	8.34	-12.23	82.71	-5.6891	0.3594	0.0049
346	SLD 4	8.34	-12.23	82.71	-5.6891	0.3594	0.0049
346	SLD 5	3.75	-4.63	59.23	-3.7608	0.1536	-0.001
346	SLD 6	3.75	-4.63	59.23	-3.7608	0.1536	-0.001
346	SLD 7	5.65	-15.35	92.1	-6.4855	0.2442	0.0058
346	SLD 8	5.65	-15.35	92.1	-6.4855	0.2442	0.0058
346	SLD 9	0.87	-4.09	57.41	-3.626	0.0277	-0.0022
346	SLD 10	0.87	-4.09	57.41	-3.626	0.0277	-0.0022
346	SLD 11	2.78	-14.82	90.28	-6.3507	0.1183	0.0046
346	SLD 12	2.78	-14.82	90.28	-6.3507	0.1183	0.0046
346	SLD 13	-1.81	-7.22	66.8	-4.4224	-0.0875	-0.0013
346	SLD 14	-1.81	-7.22	66.8	-4.4224	-0.0875	-0.0013
346	SLD 15	-1.24	-10.43	76.66	-5.2398	-0.0603	0.0007



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
346	SLD 16			-1.24	-10.43	76.66	-5.2398	-0.0603	0.0007
346	SLV 1			13.75	-8.02	70.18	-4.6159	0.5929	0.0042
346	SLV 2			13.75	-8.02	70.18	-4.6159	0.5929	0.0042
346	SLV 3			15.12	-15.63	93.54	-6.5514	0.6581	0.0091
346	SLV 4			15.12	-15.63	93.54	-6.5514	0.6581	0.0091
346	SLV 5			4.34	2.33	37.96	-1.9884	0.1742	-0.005
346	SLV 6			4.34	2.33	37.96	-1.9884	0.1742	-0.005
346	SLV 7			8.9	-23.03	115.81	-8.4399	0.3914	0.0115
346	SLV 8			8.9	-23.03	115.81	-8.4399	0.3914	0.0115
346	SLV 9			-2.37	3.59	33.69	-1.6716	-0.1195	-0.0079
346	SLV 10			-2.37	3.59	33.69	-1.6716	-0.1195	-0.0079
346	SLV 11			2.19	-21.77	111.55	-8.1232	0.0977	0.0086
346	SLV 12			2.19	-21.77	111.55	-8.1232	0.0977	0.0086
346	SLV 13			-8.59	-3.81	55.97	-3.5602	-0.3862	-0.0055
346	SLV 14			-8.59	-3.81	55.97	-3.5602	-0.3862	-0.0055
346	SLV 15			-7.22	-11.42	79.32	-5.4956	-0.321	-0.0006
346	SLV 16			-7.22	-11.42	79.32	-5.4956	-0.321	-0.0006
347	SLU 1			-0.09	-0.19	46.34	0.0069	0.0175	0.0006
347	SLU 2			-0.09	-0.19	46.24	0.007	0.0176	0.0006
347	SLU 3			-0.18	-0.2	48.04	0.0076	0.0152	0.0006
347	SLU 4			-0.17	-0.2	47.98	0.0076	0.0152	0.0006
347	SLU 5			-0.18	-0.2	47.5	0.0077	0.0147	0.0006
347	SLU 6			-0.27	-0.21	49.31	0.0083	0.0123	0.0006
347	SLU 7			-0.26	-0.21	49.25	0.0083	0.0123	0.0006
347	SLU 8			-0.27	-0.2	48.87	0.0084	0.0117	0.0006
347	SLU 9			-0.27	-0.2	48.8	0.0084	0.0117	0.0006
347	SLU 10			0.11	-0.22	53.03	0.008	0.0287	0.0006
347	SLU 11			0.02	-0.23	54.84	0.0087	0.0263	0.0007
347	SLU 12			0.02	-0.23	54.78	0.0087	0.0263	0.0007
347	SLU 13			0.02	-0.23	54.29	0.0087	0.0258	0.0007
347	SLU 14			-0.07	-0.24	56.1	0.0094	0.0234	0.0007
347	SLU 15			-0.07	-0.24	56.04	0.0094	0.0234	0.0007
347	SLU 16			-0.08	-0.23	55.66	0.0095	0.0228	0.0007
347	SLU 17			-0.08	-0.23	55.6	0.0095	0.0229	0.0007
347	SLU 18			0.19	-0.23	56.04	0.0085	0.0334	0.0007
347	SLU 19			0.19	-0.23	55.98	0.0085	0.0334	0.0007
347	SLU 20			0.1	-0.24	57.3	0.0092	0.0305	0.0007
347	SLU 21			0.1	-0.24	57.24	0.0092	0.0305	0.0007
347	SLU 22			-0.02	-0.22	52.93	0.0082	0.0239	0.0006
347	SLU 23			-0.02	-0.22	52.83	0.0082	0.0239	0.0006
347	SLU 24			-0.1	-0.23	54.64	0.0089	0.0215	0.0007
347	SLU 25			-0.1	-0.23	54.58	0.0089	0.0216	0.0007
347	SLU 26			-0.11	-0.23	54.09	0.0089	0.021	0.0007
347	SLU 27			-0.19	-0.24	55.9	0.0096	0.0186	0.0007
347	SLU 28			-0.19	-0.24	55.84	0.0096	0.0187	0.0007
347	SLU 29			-0.2	-0.23	55.46	0.0096	0.0181	0.0007
347	SLU 30			-0.2	-0.23	55.4	0.0097	0.0181	0.0007
347	SLU 31			0.18	-0.25	59.62	0.0093	0.0351	0.0007
347	SLU 32			0.09	-0.26	61.43	0.0099	0.0327	0.0008
347	SLU 33			0.1	-0.26	61.37	0.0099	0.0327	0.0008
347	SLU 34			0.09	-0.26	60.89	0.01	0.0322	0.0007
347	SLU 35			0	-0.27	62.7	0.0106	0.0298	0.0008
347	SLU 36			0.01	-0.27	62.64	0.0106	0.0298	0.0008
347	SLU 37			0	-0.26	62.25	0.0107	0.0292	0.0008
347	SLU 38			0	-0.26	62.19	0.0107	0.0292	0.0008
347	SLU 39			0.26	-0.26	62.64	0.0097	0.0398	0.0008
347	SLU 40			0.26	-0.26	62.58	0.0097	0.0398	0.0008
347	SLU 41			0.17	-0.27	63.9	0.0104	0.0369	0.0008
347	SLU 42			0.17	-0.27	63.84	0.0105	0.0369	0.0008
347	SLU 43			-0.15	-0.24	57.98	0.0086	0.0205	0.0007
347	SLU 44			-0.14	-0.24	57.88	0.0086	0.0206	0.0007
347	SLU 45			-0.23	-0.25	59.68	0.0092	0.0182	0.0007
347	SLU 46			-0.23	-0.25	59.62	0.0093	0.0183	0.0007
347	SLU 47			-0.23	-0.24	59.14	0.0093	0.0177	0.0007
347	SLU 48			-0.32	-0.25	60.95	0.01	0.0153	0.0007
347	SLU 49			-0.32	-0.25	60.89	0.01	0.0154	0.0007
347	SLU 50			-0.33	-0.25	60.51	0.01	0.0147	0.0007
347	SLU 51			-0.32	-0.25	60.44	0.0101	0.0148	0.0007
347	SLU 52			0.05	-0.27	64.67	0.0097	0.0318	0.0008
347	SLU 53			-0.03	-0.28	66.48	0.0103	0.0294	0.0008
347	SLU 54			-0.03	-0.28	66.42	0.0103	0.0294	0.0008
347	SLU 55			-0.04	-0.27	65.93	0.0104	0.0289	0.0008
347	SLU 56			-0.12	-0.28	67.74	0.011	0.0265	0.0008
347	SLU 57			-0.12	-0.28	67.68	0.011	0.0265	0.0008
347	SLU 58			-0.13	-0.28	67.3	0.0111	0.0259	0.0008
347	SLU 59			-0.13	-0.28	67.24	0.0111	0.0259	0.0008
347	SLU 60			0.13	-0.28	67.68	0.0101	0.0365	0.0008
347	SLU 61			0.13	-0.28	67.62	0.0101	0.0365	0.0008
347	SLU 62			0.04	-0.29	68.94	0.0108	0.0336	0.0008
347	SLU 63			0.04	-0.29	68.88	0.0108	0.0336	0.0008
347	SLU 64			-0.07	-0.27	64.57	0.0099	0.0269	0.0008
347	SLU 65			-0.07	-0.27	64.47	0.0099	0.027	0.0008
347	SLU 66			-0.15	-0.28	66.28	0.0105	0.0246	0.0008
347	SLU 67			-0.15	-0.28	66.22	0.0105	0.0246	0.0008
347	SLU 68			-0.16	-0.27	65.73	0.0106	0.0241	0.0008
347	SLU 69			-0.24	-0.28	67.54	0.0112	0.0217	0.0008
347	SLU 70			-0.24	-0.28	67.48	0.0112	0.0217	0.0008
347	SLU 71			-0.25	-0.28	67.1	0.0113	0.0211	0.0008



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
347	SLU 72	-0.25	-0.28	67.04	0.0113	0.0212	0.0008
347	SLU 73	0.13	-0.3	71.26	0.0109	0.0381	0.0009
347	SLU 74	0.04	-0.31	73.07	0.0116	0.0357	0.0009
347	SLU 75	0.04	-0.31	73.01	0.0116	0.0358	0.0009
347	SLU 76	0.04	-0.3	72.53	0.0117	0.0352	0.0009
347	SLU 77	-0.05	-0.31	74.34	0.0123	0.0328	0.0009
347	SLU 78	-0.05	-0.31	74.28	0.0123	0.0329	0.0009
347	SLU 79	-0.06	-0.31	73.89	0.0124	0.0323	0.0009
347	SLU 80	-0.05	-0.31	73.83	0.0124	0.0323	0.0009
347	SLU 81	0.21	-0.31	74.28	0.0114	0.0428	0.0009
347	SLU 82	0.21	-0.31	74.22	0.0114	0.0429	0.0009
347	SLU 83	0.12	-0.32	75.54	0.0121	0.0399	0.0009
347	SLU 84	0.12	-0.32	75.48	0.0121	0.04	0.0009
347	SLE RA 1	-0.07	-0.2	48.22	0.0073	0.0193	0.0006
347	SLE RA 2	-0.07	-0.2	48.15	0.0073	0.0194	0.0006
347	SLE RA 3	-0.13	-0.2	49.36	0.0077	0.0178	0.0006
347	SLE RA 4	-0.13	-0.2	49.32	0.0077	0.0178	0.0006
347	SLE RA 5	-0.13	-0.2	49	0.0078	0.0174	0.0006
347	SLE RA 6	-0.19	-0.21	50.2	0.0082	0.0158	0.0006
347	SLE RA 7	-0.19	-0.21	50.16	0.0082	0.0158	0.0006
347	SLE RA 8	-0.19	-0.21	49.91	0.0083	0.0154	0.0006
347	SLE RA 9	-0.19	-0.21	49.87	0.0083	0.0155	0.0006
347	SLE RA 10	0.06	-0.22	52.68	0.008	0.0268	0.0006
347	SLE RA 11	0	-0.23	53.89	0.0084	0.0252	0.0007
347	SLE RA 12	0	-0.22	53.85	0.0085	0.0252	0.0007
347	SLE RA 13	0	-0.22	53.52	0.0085	0.0248	0.0006
347	SLE RA 14	-0.06	-0.23	54.73	0.0089	0.0232	0.0007
347	SLE RA 15	-0.06	-0.23	54.69	0.0089	0.0233	0.0007
347	SLE RA 16	-0.06	-0.23	54.44	0.009	0.0229	0.0007
347	SLE RA 17	-0.06	-0.23	54.39	0.009	0.0229	0.0007
347	SLE RA 18	0.11	-0.23	54.69	0.0083	0.0299	0.0007
347	SLE RA 19	0.12	-0.23	54.65	0.0083	0.0299	0.0007
347	SLE RA 20	0.05	-0.23	55.53	0.0088	0.028	0.0007
347	SLE RA 21	0.06	-0.23	55.49	0.0088	0.028	0.0007
347	SLE FR 1	-0.07	-0.2	48.22	0.0073	0.0193	0.0006
347	SLE FR 2	-0.07	-0.2	48.21	0.0073	0.0193	0.0006
347	SLE FR 3	-0.1	-0.2	48.56	0.0075	0.0185	0.0006
347	SLE FR 4	-0.02	-0.21	50.15	0.0076	0.0225	0.0006
347	SLE FR 5	-0.04	-0.21	50.5	0.0078	0.0217	0.0006
347	SLE FR 6	0.02	-0.21	51.46	0.0078	0.0246	0.0006
347	SLE QP 1	-0.07	-0.2	48.22	0.0073	0.0193	0.0006
347	SLE QP 2	-0.02	-0.21	50.16	0.0076	0.0225	0.0006
347	SLD 1	5.19	-0.23	46.12	0.009	0.2446	0.0006
347	SLD 2	5.19	-0.23	46.12	0.009	0.2446	0.0006
347	SLD 3	4.49	-0.26	51.1	0.0396	0.2174	0.0008
347	SLD 4	4.49	-0.26	51.1	0.0396	0.2174	0.0008
347	SLD 5	2.61	-0.16	41.4	-0.0384	0.1303	0.0003
347	SLD 6	2.61	-0.16	41.4	-0.0384	0.1303	0.0003
347	SLD 7	0.27	-0.28	58	0.0636	0.0398	0.0009
347	SLD 8	0.27	-0.28	58	0.0636	0.0398	0.0009
347	SLD 9	-0.3	-0.14	42.33	-0.0484	0.0052	0.0003
347	SLD 10	-0.3	-0.14	42.33	-0.0484	0.0052	0.0003
347	SLD 11	-2.64	-0.26	58.93	0.0536	-0.0853	0.0009
347	SLD 12	-2.64	-0.26	58.93	0.0536	-0.0853	0.0009
347	SLD 13	-4.52	-0.15	49.23	-0.0244	-0.1724	0.0004
347	SLD 14	-4.52	-0.15	49.23	-0.0244	-0.1724	0.0004
347	SLD 15	-5.22	-0.19	54.21	0.0062	-0.1996	0.0006
347	SLD 16	-5.22	-0.19	54.21	0.0062	-0.1996	0.0006
347	SLV 1	12.16	-0.26	40.59	0.0122	0.542	0.0006
347	SLV 2	12.16	-0.26	40.59	0.0122	0.542	0.0006
347	SLV 3	10.45	-0.34	52.39	0.0867	0.4757	0.001
347	SLV 4	10.45	-0.34	52.39	0.0867	0.4757	0.001
347	SLV 5	6.23	-0.09	29.39	-0.1041	0.2789	0
347	SLV 6	6.23	-0.09	29.39	-0.1041	0.2789	0
347	SLV 7	0.53	-0.38	68.74	0.1444	0.0579	0.0013
347	SLV 8	0.53	-0.38	68.74	0.1444	0.0579	0.0013
347	SLV 9	-0.56	-0.03	31.59	-0.1292	-0.0129	-0.0001
347	SLV 10	-0.56	-0.03	31.59	-0.1292	-0.0129	-0.0001
347	SLV 11	-6.26	-0.33	70.94	0.1193	-0.2339	0.0012
347	SLV 12	-6.26	-0.33	70.94	0.1193	-0.2339	0.0012
347	SLV 13	-10.48	-0.07	47.93	-0.0715	-0.4307	0.0002
347	SLV 14	-10.48	-0.07	47.93	-0.0715	-0.4307	0.0002
347	SLV 15	-12.19	-0.16	59.74	0.003	-0.497	0.0006
347	SLV 16	-12.19	-0.16	59.74	0.003	-0.497	0.0006
348	SLU 1	-2	0.03	43.03	-0.0699	-0.0679	0
348	SLU 2	-1.99	0.03	42.93	-0.0696	-0.0677	0
348	SLU 3	-2.15	0.03	44.55	-0.0728	-0.0737	0
348	SLU 4	-2.15	0.03	44.49	-0.0727	-0.0735	0
348	SLU 5	-2.13	0.03	44.05	-0.0716	-0.0729	0
348	SLU 6	-2.29	0.03	45.66	-0.0747	-0.0789	0
348	SLU 7	-2.29	0.03	45.61	-0.0746	-0.0787	0
348	SLU 8	-2.27	0.03	45.26	-0.0737	-0.0783	0
348	SLU 9	-2.27	0.03	45.2	-0.0736	-0.0781	0
348	SLU 10	-2.12	0.04	49.29	-0.0807	-0.071	0.0001
348	SLU 11	-2.29	0.04	50.9	-0.0838	-0.077	0.0001
348	SLU 12	-2.28	0.04	50.85	-0.0837	-0.0769	0.0001
348	SLU 13	-2.26	0.04	50.41	-0.0826	-0.0762	0.0001
348	SLU 14	-2.43	0.04	52.02	-0.0857	-0.0822	0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
348	SLU 15	-2.42	0.04	51.96	-0.0856	-0.0821	0.0001	
348	SLU 16	-2.41	0.04	51.62	-0.0847	-0.0817	0.0001	
348	SLU 17	-2.4	0.04	51.56	-0.0846	-0.0815	0.0001	
348	SLU 18	-2.19	0.04	52.11	-0.0856	-0.0727	0.0001	
348	SLU 19	-2.19	0.04	52.05	-0.0855	-0.0726	0.0001	
348	SLU 20	-2.33	0.04	53.22	-0.0875	-0.0779	0.0001	
348	SLU 21	-2.32	0.04	53.17	-0.0874	-0.0777	0.0001	
348	SLU 22	-2.24	0.04	49.13	-0.0808	-0.0756	0.0001	
348	SLU 23	-2.23	0.04	49.04	-0.0806	-0.0754	0.0001	
348	SLU 24	-2.39	0.04	50.65	-0.0838	-0.0814	0.0001	
348	SLU 25	-2.39	0.04	50.6	-0.0836	-0.0812	0.0001	
348	SLU 26	-2.37	0.04	50.15	-0.0825	-0.0806	0.0001	
348	SLU 27	-2.53	0.04	51.77	-0.0857	-0.0866	0.0001	
348	SLU 28	-2.53	0.04	51.71	-0.0855	-0.0864	0.0001	
348	SLU 29	-2.51	0.04	51.36	-0.0847	-0.086	0.0001	
348	SLU 30	-2.51	0.04	51.31	-0.0845	-0.0859	0.0001	
348	SLU 31	-2.37	0.04	55.4	-0.0916	-0.0787	0.0001	
348	SLU 32	-2.53	0.04	57.01	-0.0948	-0.0847	0.0001	
348	SLU 33	-2.53	0.04	56.95	-0.0947	-0.0846	0.0001	
348	SLU 34	-2.51	0.04	56.51	-0.0936	-0.0839	0.0001	
348	SLU 35	-2.67	0.04	58.13	-0.0967	-0.0899	0.0001	
348	SLU 36	-2.66	0.04	58.07	-0.0966	-0.0898	0.0001	
348	SLU 37	-2.65	0.04	57.72	-0.0957	-0.0894	0.0001	
348	SLU 38	-2.65	0.04	57.66	-0.0956	-0.0892	0.0001	
348	SLU 39	-2.43	0.04	58.21	-0.0966	-0.0804	0.0001	
348	SLU 40	-2.43	0.04	58.16	-0.0965	-0.0803	0.0001	
348	SLU 41	-2.57	0.04	59.33	-0.0985	-0.0856	0.0001	
348	SLU 42	-2.57	0.04	59.27	-0.0984	-0.0855	0.0001	
348	SLU 43	-2.51	0.04	53.84	-0.0871	-0.0856	0.0001	
348	SLU 44	-2.5	0.04	53.75	-0.0868	-0.0854	0.0001	
348	SLU 45	-2.67	0.04	55.36	-0.09	-0.0914	0.0001	
348	SLU 46	-2.66	0.04	55.31	-0.0899	-0.0912	0.0001	
348	SLU 47	-2.64	0.04	54.86	-0.0888	-0.0906	0.0001	
348	SLU 48	-2.81	0.04	56.48	-0.0919	-0.0966	0.0001	
348	SLU 49	-2.8	0.04	56.42	-0.0918	-0.0964	0.0001	
348	SLU 50	-2.79	0.04	56.07	-0.0909	-0.096	0.0001	
348	SLU 51	-2.78	0.04	56.02	-0.0908	-0.0959	0.0001	
348	SLU 52	-2.64	0.04	60.11	-0.0979	-0.0887	0.0001	
348	SLU 53	-2.8	0.04	61.72	-0.101	-0.0947	0.0001	
348	SLU 54	-2.8	0.04	61.66	-0.1009	-0.0946	0.0001	
348	SLU 55	-2.78	0.04	61.22	-0.0998	-0.0939	0.0001	
348	SLU 56	-2.94	0.05	62.84	-0.1029	-0.0999	0.0001	
348	SLU 57	-2.94	0.05	62.78	-0.1028	-0.0998	0.0001	
348	SLU 58	-2.92	0.05	62.43	-0.1019	-0.0994	0.0001	
348	SLU 59	-2.92	0.05	62.37	-0.1018	-0.0992	0.0001	
348	SLU 60	-2.7	0.05	62.92	-0.1028	-0.0904	0.0001	
348	SLU 61	-2.7	0.05	62.87	-0.1027	-0.0903	0.0001	
348	SLU 62	-2.84	0.05	64.04	-0.1047	-0.0956	0.0001	
348	SLU 63	-2.84	0.05	63.98	-0.1046	-0.0955	0.0001	
348	SLU 64	-2.75	0.04	59.95	-0.098	-0.0933	0.0001	
348	SLU 65	-2.75	0.04	59.85	-0.0978	-0.0931	0.0001	
348	SLU 66	-2.91	0.04	61.47	-0.101	-0.0991	0.0001	
348	SLU 67	-2.91	0.04	61.41	-0.1008	-0.099	0.0001	
348	SLU 68	-2.89	0.04	60.97	-0.0997	-0.0983	0.0001	
348	SLU 69	-3.05	0.05	62.58	-0.1029	-0.1043	0.0001	
348	SLU 70	-3.04	0.05	62.53	-0.1028	-0.1042	0.0001	
348	SLU 71	-3.03	0.05	62.18	-0.1019	-0.1037	0.0001	
348	SLU 72	-3.03	0.05	62.12	-0.1017	-0.1036	0.0001	
348	SLU 73	-2.88	0.05	66.21	-0.1088	-0.0965	0.0001	
348	SLU 74	-3.05	0.05	67.83	-0.112	-0.1025	0.0001	
348	SLU 75	-3.04	0.05	67.77	-0.1119	-0.1023	0.0001	
348	SLU 76	-3.02	0.05	67.33	-0.1108	-0.1017	0.0001	
348	SLU 77	-3.18	0.05	68.94	-0.1139	-0.1077	0.0001	
348	SLU 78	-3.18	0.05	68.88	-0.1138	-0.1075	0.0001	
348	SLU 79	-3.17	0.05	68.54	-0.1129	-0.1071	0.0001	
348	SLU 80	-3.16	0.05	68.48	-0.1128	-0.107	0.0001	
348	SLU 81	-2.95	0.05	69.03	-0.1138	-0.0981	0.0001	
348	SLU 82	-2.94	0.05	68.97	-0.1137	-0.098	0.0001	
348	SLU 83	-3.09	0.05	70.15	-0.1157	-0.1033	0.0001	
348	SLU 84	-3.08	0.05	70.09	-0.1156	-0.1032	0.0001	
348	SLE RA 1	-2.06	0.03	44.77	-0.073	-0.0701	0.0001	
348	SLE RA 2	-2.06	0.03	44.71	-0.0729	-0.0699	0.0001	
348	SLE RA 3	-2.17	0.03	45.79	-0.075	-0.0739	0.0001	
348	SLE RA 4	-2.17	0.03	45.75	-0.0749	-0.0739	0.0001	
348	SLE RA 5	-2.15	0.03	45.45	-0.0741	-0.0734	0.0001	
348	SLE RA 6	-2.26	0.03	46.53	-0.0762	-0.0774	0.0001	
348	SLE RA 7	-2.26	0.03	46.49	-0.0761	-0.0773	0.0001	
348	SLE RA 8	-2.25	0.03	46.26	-0.0756	-0.077	0.0001	
348	SLE RA 9	-2.25	0.03	46.22	-0.0755	-0.0769	0.0001	
348	SLE RA 10	-2.15	0.04	48.95	-0.0802	-0.0722	0.0001	
348	SLE RA 11	-2.26	0.04	50.02	-0.0823	-0.0762	0.0001	
348	SLE RA 12	-2.26	0.04	49.99	-0.0822	-0.0761	0.0001	
348	SLE RA 13	-2.24	0.04	49.69	-0.0815	-0.0756	0.0001	
348	SLE RA 14	-2.35	0.04	50.77	-0.0836	-0.0797	0.0001	
348	SLE RA 15	-2.35	0.04	50.73	-0.0835	-0.0796	0.0001	
348	SLE RA 16	-2.34	0.04	50.5	-0.0829	-0.0793	0.0001	
348	SLE RA 17	-2.34	0.04	50.46	-0.0828	-0.0792	0.0001	
348	SLE RA 18	-2.19	0.04	50.83	-0.0835	-0.0733	0.0001	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
348	SLE RA 19	-2.19	0.04	50.79	-0.0834	-0.0732	0.0001	
348	SLE RA 20	-2.29	0.04	51.57	-0.0848	-0.0768	0.0001	
348	SLE RA 21	-2.28	0.04	51.53	-0.0847	-0.0767	0.0001	
348	SLE FR 1	-2.06	0.03	44.77	-0.073	-0.0701	0.0001	
348	SLE FR 2	-2.06	0.03	44.76	-0.073	-0.0701	0.0001	
348	SLE FR 3	-2.1	0.03	45.07	-0.0735	-0.0715	0.0001	
348	SLE FR 4	-2.1	0.03	46.58	-0.0761	-0.071	0.0001	
348	SLE FR 5	-2.14	0.03	46.89	-0.0767	-0.0725	0.0001	
348	SLE FR 6	-2.13	0.03	47.8	-0.0783	-0.0717	0.0001	
348	SLE QP 1	-2.06	0.03	44.77	-0.073	-0.0701	0.0001	
348	SLE QP 2	-2.1	0.03	46.59	-0.0762	-0.0711	0.0001	
348	SLD 1	3.11	-0.03	43.33	-0.0206	0.1557	0.0002	
348	SLD 2	3.11	-0.03	43.33	-0.0206	0.1557	0.0002	
348	SLD 3	2.44	0	47.4	-0.0783	0.1298	0.0001	
348	SLD 4	2.44	0	47.4	-0.0783	0.1298	0.0001	
348	SLD 5	0.48	-0.04	39.44	0.028	0.0362	0.0003	
348	SLD 6	0.48	-0.04	39.44	0.028	0.0362	0.0003	
348	SLD 7	-1.76	0.08	53	-0.1642	-0.05	-0.0001	
348	SLD 8	-1.76	0.08	53	-0.1642	-0.05	-0.0001	
348	SLD 9	-2.45	-0.01	40.18	0.0119	-0.0921	0.0002	
348	SLD 10	-2.45	-0.01	40.18	0.0119	-0.0921	0.0002	
348	SLD 11	-4.69	0.11	53.74	-0.1803	-0.1783	-0.0002	
348	SLD 12	-4.69	0.11	53.74	-0.1803	-0.1783	-0.0002	
348	SLD 13	-6.65	0.07	45.78	-0.0741	-0.272	0	
348	SLD 14	-6.65	0.07	45.78	-0.0741	-0.272	0	
348	SLD 15	-7.32	0.1	49.85	-0.1317	-0.2978	-0.0001	
348	SLD 16	-7.32	0.1	49.85	-0.1317	-0.2978	-0.0001	
348	SLV 1	10.1	-0.14	38.85	0.0608	0.4594	0.0005	
348	SLV 2	10.1	-0.14	38.85	0.0608	0.4594	0.0005	
348	SLV 3	8.46	-0.05	48.49	-0.0792	0.3962	0.0003	
348	SLV 4	8.46	-0.05	48.49	-0.0792	0.3962	0.0003	
348	SLV 5	4.05	-0.15	29.64	0.1774	0.1838	0.0006	
348	SLV 6	4.05	-0.15	29.64	0.1774	0.1838	0.0006	
348	SLV 7	-1.42	0.14	61.79	-0.2895	-0.0267	-0.0003	
348	SLV 8	-1.42	0.14	61.79	-0.2895	-0.0267	-0.0003	
348	SLV 9	-2.78	-0.07	31.39	0.1372	-0.1155	0.0004	
348	SLV 10	-2.78	-0.07	31.39	0.1372	-0.1155	0.0004	
348	SLV 11	-8.25	0.21	63.54	-0.3297	-0.326	-0.0005	
348	SLV 12	-8.25	0.21	63.54	-0.3297	-0.326	-0.0005	
348	SLV 13	-12.67	0.12	44.69	-0.0731	-0.5383	-0.0002	
348	SLV 14	-12.67	0.12	44.69	-0.0731	-0.5383	-0.0002	
348	SLV 15	-14.31	0.2	54.33	-0.2132	-0.6015	-0.0004	
348	SLV 16	-14.31	0.2	54.33	-0.2132	-0.6015	-0.0004	
349	SLU 1	-3.2	0.2	39.3	-0.1469	-0.1187	-0.0006	
349	SLU 2	-3.2	0.2	39.22	-0.1465	-0.1184	-0.0006	
349	SLU 3	-3.4	0.21	40.64	-0.1534	-0.1261	-0.0006	
349	SLU 4	-3.39	0.21	40.58	-0.1531	-0.1259	-0.0006	
349	SLU 5	-3.36	0.21	40.19	-0.1509	-0.1246	-0.0006	
349	SLU 6	-3.56	0.22	41.61	-0.1579	-0.1323	-0.0006	
349	SLU 7	-3.55	0.22	41.56	-0.1576	-0.1321	-0.0006	
349	SLU 8	-3.52	0.21	41.26	-0.1559	-0.1311	-0.0006	
349	SLU 9	-3.52	0.21	41.2	-0.1556	-0.1309	-0.0006	
349	SLU 10	-3.57	0.23	45.04	-0.1697	-0.1316	-0.0006	
349	SLU 11	-3.77	0.24	46.47	-0.1766	-0.1393	-0.0007	
349	SLU 12	-3.76	0.24	46.41	-0.1763	-0.1391	-0.0007	
349	SLU 13	-3.73	0.24	46.02	-0.1742	-0.1378	-0.0007	
349	SLU 14	-3.93	0.25	47.44	-0.1811	-0.1455	-0.0007	
349	SLU 15	-3.92	0.25	47.39	-0.1808	-0.1453	-0.0007	
349	SLU 16	-3.89	0.25	47.09	-0.1791	-0.1443	-0.0007	
349	SLU 17	-3.89	0.25	47.03	-0.1788	-0.1441	-0.0007	
349	SLU 18	-3.73	0.25	47.63	-0.1801	-0.1376	-0.0007	
349	SLU 19	-3.73	0.25	47.58	-0.1798	-0.1374	-0.0007	
349	SLU 20	-3.89	0.25	48.61	-0.1846	-0.1438	-0.0007	
349	SLU 21	-3.89	0.25	48.55	-0.1843	-0.1436	-0.0007	
349	SLU 22	-3.66	0.23	44.84	-0.1702	-0.1353	-0.0007	
349	SLU 23	-3.65	0.23	44.76	-0.1697	-0.135	-0.0006	
349	SLU 24	-3.85	0.24	46.18	-0.1766	-0.1427	-0.0007	
349	SLU 25	-3.85	0.24	46.13	-0.1764	-0.1425	-0.0007	
349	SLU 26	-3.81	0.24	45.74	-0.1742	-0.1412	-0.0007	
349	SLU 27	-4.01	0.25	47.16	-0.1811	-0.1489	-0.0007	
349	SLU 28	-4.01	0.25	47.1	-0.1808	-0.1487	-0.0007	
349	SLU 29	-3.98	0.25	46.8	-0.1791	-0.1477	-0.0007	
349	SLU 30	-3.97	0.25	46.75	-0.1789	-0.1475	-0.0007	
349	SLU 31	-4.02	0.27	50.59	-0.1929	-0.1482	-0.0007	
349	SLU 32	-4.22	0.27	52.01	-0.1999	-0.1559	-0.0008	
349	SLU 33	-4.22	0.27	51.96	-0.1996	-0.1558	-0.0008	
349	SLU 34	-4.18	0.27	51.57	-0.1974	-0.1544	-0.0008	
349	SLU 35	-4.38	0.28	52.99	-0.2043	-0.1621	-0.0008	
349	SLU 36	-4.38	0.28	52.93	-0.2041	-0.1619	-0.0008	
349	SLU 37	-4.35	0.28	52.63	-0.2023	-0.1609	-0.0008	
349	SLU 38	-4.34	0.28	52.58	-0.2021	-0.1607	-0.0008	
349	SLU 39	-4.19	0.28	53.17	-0.2034	-0.1542	-0.0008	
349	SLU 40	-4.18	0.28	53.12	-0.2031	-0.154	-0.0008	
349	SLU 41	-4.35	0.29	54.15	-0.2078	-0.1604	-0.0008	
349	SLU 42	-4.34	0.29	54.1	-0.2075	-0.1602	-0.0008	
349	SLU 43	-4.01	0.25	49.19	-0.183	-0.1486	-0.0007	
349	SLU 44	-4	0.25	49.11	-0.1826	-0.1483	-0.0007	
349	SLU 45	-4.2	0.26	50.53	-0.1895	-0.156	-0.0007	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione				
		Ind.	N.br.	x	y	z	x	y	z
349	SLU 46			-4.2	0.26	50.47	-0.1892	-0.1558	-0.0007
349	SLU 47			-4.16	0.26	50.08	-0.187	-0.1545	-0.0007
349	SLU 48			-4.36	0.27	51.5	-0.194	-0.1622	-0.0007
349	SLU 49			-4.36	0.27	51.45	-0.1937	-0.162	-0.0007
349	SLU 50			-4.33	0.26	51.15	-0.192	-0.161	-0.0007
349	SLU 51			-4.33	0.26	51.09	-0.1917	-0.1608	-0.0007
349	SLU 52			-4.37	0.28	54.93	-0.2058	-0.1615	-0.0008
349	SLU 53			-4.57	0.29	56.36	-0.2127	-0.1692	-0.0008
349	SLU 54			-4.57	0.29	56.3	-0.2124	-0.169	-0.0008
349	SLU 55			-4.53	0.29	55.91	-0.2103	-0.1677	-0.0008
349	SLU 56			-4.73	0.3	57.33	-0.2172	-0.1754	-0.0008
349	SLU 57			-4.73	0.3	57.28	-0.2169	-0.1752	-0.0008
349	SLU 58			-4.7	0.3	56.98	-0.2152	-0.1742	-0.0008
349	SLU 59			-4.69	0.3	56.92	-0.2149	-0.174	-0.0008
349	SLU 60			-4.54	0.3	57.52	-0.2162	-0.1675	-0.0008
349	SLU 61			-4.53	0.3	57.47	-0.2159	-0.1673	-0.0008
349	SLU 62			-4.7	0.3	58.5	-0.2207	-0.1737	-0.0008
349	SLU 63			-4.69	0.3	58.44	-0.2204	-0.1735	-0.0008
349	SLU 64			-4.46	0.28	54.73	-0.2063	-0.1652	-0.0008
349	SLU 65			-4.46	0.28	54.65	-0.2058	-0.1649	-0.0008
349	SLU 66			-4.66	0.29	56.07	-0.2128	-0.1726	-0.0008
349	SLU 67			-4.65	0.29	56.02	-0.2125	-0.1725	-0.0008
349	SLU 68			-4.62	0.29	55.63	-0.2103	-0.1711	-0.0008
349	SLU 69			-4.82	0.3	57.05	-0.2172	-0.1788	-0.0008
349	SLU 70			-4.81	0.3	56.99	-0.2169	-0.1786	-0.0008
349	SLU 71			-4.78	0.3	56.69	-0.2152	-0.1776	-0.0008
349	SLU 72			-4.78	0.3	56.64	-0.215	-0.1774	-0.0008
349	SLU 73			-4.83	0.31	60.48	-0.229	-0.1782	-0.0009
349	SLU 74			-5.03	0.32	61.9	-0.236	-0.1858	-0.0009
349	SLU 75			-5.02	0.32	61.85	-0.2357	-0.1857	-0.0009
349	SLU 76			-4.99	0.32	61.45	-0.2335	-0.1843	-0.0009
349	SLU 77			-5.19	0.33	62.88	-0.2404	-0.192	-0.0009
349	SLU 78			-5.18	0.33	62.82	-0.2402	-0.1919	-0.0009
349	SLU 79			-5.15	0.33	62.52	-0.2385	-0.1908	-0.0009
349	SLU 80			-5.15	0.33	62.47	-0.2382	-0.1907	-0.0009
349	SLU 81			-4.99	0.33	63.06	-0.2395	-0.1841	-0.0009
349	SLU 82			-4.99	0.33	63.01	-0.2392	-0.1839	-0.0009
349	SLU 83			-5.15	0.34	64.04	-0.2439	-0.1903	-0.0009
349	SLU 84			-5.15	0.34	63.99	-0.2437	-0.1901	-0.0009
349	SLE RA 1			-3.33	0.21	40.89	-0.1536	-0.1235	-0.0006
349	SLE RA 2			-3.33	0.21	40.83	-0.1533	-0.1233	-0.0006
349	SLE RA 3			-3.46	0.22	41.77	-0.1579	-0.1284	-0.0006
349	SLE RA 4			-3.46	0.22	41.74	-0.1577	-0.1283	-0.0006
349	SLE RA 5			-3.44	0.21	41.48	-0.1562	-0.1274	-0.0006
349	SLE RA 6			-3.57	0.22	42.43	-0.1609	-0.1325	-0.0006
349	SLE RA 7			-3.57	0.22	42.39	-0.1607	-0.1324	-0.0006
349	SLE RA 8			-3.55	0.22	42.19	-0.1595	-0.1317	-0.0006
349	SLE RA 9			-3.54	0.22	42.15	-0.1594	-0.1316	-0.0006
349	SLE RA 10			-3.58	0.23	44.71	-0.1687	-0.1321	-0.0006
349	SLE RA 11			-3.71	0.24	45.66	-0.1734	-0.1372	-0.0007
349	SLE RA 12			-3.71	0.24	45.63	-0.1732	-0.1371	-0.0007
349	SLE RA 13			-3.68	0.24	45.37	-0.1717	-0.1362	-0.0007
349	SLE RA 14			-3.82	0.24	46.31	-0.1763	-0.1413	-0.0007
349	SLE RA 15			-3.81	0.24	46.28	-0.1762	-0.1412	-0.0007
349	SLE RA 16			-3.79	0.24	46.07	-0.175	-0.1405	-0.0007
349	SLE RA 17			-3.79	0.24	46.04	-0.1748	-0.1404	-0.0007
349	SLE RA 18			-3.69	0.24	46.44	-0.1757	-0.136	-0.0007
349	SLE RA 19			-3.68	0.24	46.4	-0.1755	-0.1359	-0.0007
349	SLE RA 20			-3.79	0.25	47.09	-0.1787	-0.1402	-0.0007
349	SLE RA 21			-3.79	0.25	47.05	-0.1785	-0.14	-0.0007
349	SLE FR 1			-3.33	0.21	40.89	-0.1536	-0.1235	-0.0006
349	SLE FR 2			-3.33	0.21	40.87	-0.1535	-0.1234	-0.0006
349	SLE FR 3			-3.38	0.21	41.15	-0.1548	-0.1251	-0.0006
349	SLE FR 4			-3.44	0.22	42.54	-0.1601	-0.1272	-0.0006
349	SLE FR 5			-3.48	0.22	42.81	-0.1614	-0.1289	-0.0006
349	SLE FR 6			-3.51	0.23	43.66	-0.1646	-0.1297	-0.0006
349	SLE QP 1			-3.33	0.21	40.89	-0.1536	-0.1235	-0.0006
349	SLE QP 2			-3.44	0.22	42.55	-0.1602	-0.1272	-0.0006
349	SLD 1			1.83	0.14	39.57	-0.0834	0.0993	-0.0003
349	SLD 2			1.83	0.14	39.57	-0.0834	0.0993	-0.0003
349	SLD 3			1.19	0.21	43.07	-0.1751	0.0733	-0.0005
349	SLD 4			1.19	0.21	43.07	-0.1751	0.0733	-0.0005
349	SLD 5			-0.9	0.09	36.35	0.0019	-0.0199	-0.0003
349	SLD 6			-0.9	0.09	36.35	0.0019	-0.0199	-0.0003
349	SLD 7			-3.01	0.33	48.02	-0.3037	-0.1064	-0.0008
349	SLD 8			-3.01	0.33	48.02	-0.3037	-0.1064	-0.0008
349	SLD 9			-3.87	0.11	37.09	-0.0167	-0.148	-0.0004
349	SLD 10			-3.87	0.11	37.09	-0.0167	-0.148	-0.0004
349	SLD 11			-5.98	0.35	48.76	-0.3223	-0.2346	-0.001
349	SLD 12			-5.98	0.35	48.76	-0.3223	-0.2346	-0.001
349	SLD 13			-8.07	0.23	42.03	-0.1453	-0.3278	-0.0007
349	SLD 14			-8.07	0.23	42.03	-0.1453	-0.3278	-0.0007
349	SLD 15			-8.71	0.3	45.53	-0.237	-0.3538	-0.0009
349	SLD 16			-8.71	0.3	45.53	-0.237	-0.3538	-0.0009
349	SLV 1			8.88	0.01	35.46	0.0279	0.4026	0.0001
349	SLV 2			8.88	0.01	35.46	0.0279	0.4026	0.0001
349	SLV 3			7.34	0.19	43.77	-0.1941	0.3392	-0.0003
349	SLV 4			7.34	0.19	43.77	-0.1941	0.3392	-0.0003



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
349	SLV 5	2.59	-0.11	27.82	0.2329	0.1279	0.0002		
349	SLV 6	2.59	-0.11	27.82	0.2329	0.1279	0.0002		
349	SLV 7	-2.54	0.47	55.52	-0.5071	-0.0835	-0.0012		
349	SLV 8	-2.54	0.47	55.52	-0.5071	-0.0835	-0.0012		
349	SLV 9	-4.34	-0.03	29.58	0.1866	-0.171	-0.0001		
349	SLV 10	-4.34	-0.03	29.58	0.1866	-0.171	-0.0001		
349	SLV 11	-9.47	0.55	57.28	-0.5533	-0.3824	-0.0015		
349	SLV 12	-9.47	0.55	57.28	-0.5533	-0.3824	-0.0015		
349	SLV 13	-14.22	0.25	41.33	-0.1263	-0.5937	-0.0009		
349	SLV 14	-14.22	0.25	41.33	-0.1263	-0.5937	-0.0009		
349	SLV 15	-15.76	0.43	49.64	-0.3483	-0.6571	-0.0013		
349	SLV 16	-15.76	0.43	49.64	-0.3483	-0.6571	-0.0013		
350	SLU 1	-3.48	0.3	35.41	-0.2042	-0.1266	-0.0014		
350	SLU 2	-3.47	0.3	35.34	-0.2035	-0.1263	-0.0014		
350	SLU 3	-3.67	0.32	36.57	-0.2134	-0.1337	-0.0014		
350	SLU 4	-3.66	0.31	36.52	-0.213	-0.1336	-0.0014		
350	SLU 5	-3.62	0.31	36.19	-0.21	-0.1321	-0.0014		
350	SLU 6	-3.82	0.32	37.42	-0.2198	-0.1395	-0.0015		
350	SLU 7	-3.81	0.32	37.37	-0.2194	-0.1393	-0.0015		
350	SLU 8	-3.78	0.32	37.11	-0.2171	-0.1381	-0.0014		
350	SLU 9	-3.77	0.32	37.06	-0.2167	-0.138	-0.0014		
350	SLU 10	-3.92	0.35	40.59	-0.2358	-0.1422	-0.0016		
350	SLU 11	-4.12	0.36	41.82	-0.2456	-0.1496	-0.0016		
350	SLU 12	-4.11	0.36	41.77	-0.2452	-0.1494	-0.0016		
350	SLU 13	-4.07	0.36	41.43	-0.2422	-0.148	-0.0016		
350	SLU 14	-4.27	0.37	42.67	-0.252	-0.1553	-0.0017		
350	SLU 15	-4.26	0.37	42.62	-0.2516	-0.1552	-0.0017		
350	SLU 16	-4.23	0.37	42.36	-0.2493	-0.154	-0.0017		
350	SLU 17	-4.23	0.37	42.31	-0.2489	-0.1538	-0.0017		
350	SLU 18	-4.12	0.37	42.91	-0.2502	-0.1492	-0.0017		
350	SLU 19	-4.12	0.37	42.87	-0.2498	-0.1491	-0.0017		
350	SLU 20	-4.27	0.38	43.76	-0.2567	-0.155	-0.0017		
350	SLU 21	-4.27	0.38	43.71	-0.2563	-0.1549	-0.0017		
350	SLU 22	-3.99	0.35	40.36	-0.2366	-0.1451	-0.0016		
350	SLU 23	-3.98	0.35	40.28	-0.2359	-0.1449	-0.0016		
350	SLU 24	-4.18	0.36	41.51	-0.2457	-0.1522	-0.0016		
350	SLU 25	-4.18	0.36	41.47	-0.2453	-0.1521	-0.0016		
350	SLU 26	-4.13	0.36	41.13	-0.2424	-0.1506	-0.0016		
350	SLU 27	-4.33	0.37	42.36	-0.2522	-0.158	-0.0017		
350	SLU 28	-4.33	0.37	42.32	-0.2518	-0.1579	-0.0017		
350	SLU 29	-4.29	0.37	42.06	-0.2495	-0.1566	-0.0017		
350	SLU 30	-4.29	0.37	42.01	-0.2491	-0.1565	-0.0017		
350	SLU 31	-4.44	0.4	45.53	-0.2681	-0.1607	-0.0018		
350	SLU 32	-4.63	0.41	46.76	-0.278	-0.1681	-0.0019		
350	SLU 33	-4.63	0.41	46.72	-0.2776	-0.168	-0.0018		
350	SLU 34	-4.59	0.41	46.38	-0.2746	-0.1665	-0.0018		
350	SLU 35	-4.78	0.42	47.61	-0.2844	-0.1739	-0.0019		
350	SLU 36	-4.78	0.42	47.57	-0.284	-0.1737	-0.0019		
350	SLU 37	-4.74	0.42	47.3	-0.2817	-0.1725	-0.0019		
350	SLU 38	-4.74	0.42	47.26	-0.2813	-0.1724	-0.0019		
350	SLU 39	-4.64	0.42	47.86	-0.2826	-0.1678	-0.0019		
350	SLU 40	-4.63	0.42	47.81	-0.2822	-0.1676	-0.0019		
350	SLU 41	-4.79	0.43	48.71	-0.2891	-0.1735	-0.0019		
350	SLU 42	-4.78	0.43	48.66	-0.2887	-0.1734	-0.0019		
350	SLU 43	-4.34	0.38	44.34	-0.2544	-0.1582	-0.0017		
350	SLU 44	-4.34	0.37	44.27	-0.2537	-0.158	-0.0017		
350	SLU 45	-4.53	0.39	45.5	-0.2635	-0.1653	-0.0018		
350	SLU 46	-4.53	0.39	45.45	-0.2631	-0.1652	-0.0017		
350	SLU 47	-4.49	0.38	45.11	-0.2601	-0.1637	-0.0017		
350	SLU 48	-4.68	0.4	46.35	-0.27	-0.1711	-0.0018		
350	SLU 49	-4.68	0.4	46.3	-0.2696	-0.1709	-0.0018		
350	SLU 50	-4.64	0.39	46.04	-0.2672	-0.1697	-0.0018		
350	SLU 51	-4.64	0.39	45.99	-0.2669	-0.1696	-0.0018		
350	SLU 52	-4.79	0.42	49.51	-0.2859	-0.1738	-0.0019		
350	SLU 53	-4.98	0.44	50.75	-0.2957	-0.1812	-0.002		
350	SLU 54	-4.98	0.44	50.7	-0.2953	-0.181	-0.002		
350	SLU 55	-4.94	0.43	50.36	-0.2924	-0.1796	-0.0019		
350	SLU 56	-5.13	0.45	51.6	-0.3022	-0.1869	-0.002		
350	SLU 57	-5.13	0.45	51.55	-0.3018	-0.1868	-0.002		
350	SLU 58	-5.1	0.44	51.29	-0.2995	-0.1856	-0.002		
350	SLU 59	-5.09	0.44	51.24	-0.2991	-0.1854	-0.002		
350	SLU 60	-4.99	0.44	51.84	-0.3004	-0.1809	-0.002		
350	SLU 61	-4.99	0.44	51.79	-0.3	-0.1807	-0.002		
350	SLU 62	-5.14	0.45	52.69	-0.3068	-0.1866	-0.002		
350	SLU 63	-5.14	0.45	52.64	-0.3064	-0.1865	-0.002		
350	SLU 64	-4.86	0.42	49.29	-0.2867	-0.1767	-0.0019		
350	SLU 65	-4.85	0.42	49.21	-0.2861	-0.1765	-0.0019		
350	SLU 66	-5.05	0.44	50.44	-0.2959	-0.1838	-0.002		
350	SLU 67	-5.04	0.44	50.4	-0.2955	-0.1837	-0.002		
350	SLU 68	-5	0.43	50.06	-0.2925	-0.1823	-0.0019		
350	SLU 69	-5.2	0.45	51.29	-0.3023	-0.1896	-0.002		
350	SLU 70	-5.19	0.45	51.25	-0.3019	-0.1895	-0.002		
350	SLU 71	-5.16	0.44	50.98	-0.2996	-0.1882	-0.002		
350	SLU 72	-5.15	0.44	50.94	-0.2992	-0.1881	-0.002		
350	SLU 73	-5.3	0.47	54.46	-0.3183	-0.1924	-0.0021		
350	SLU 74	-5.5	0.49	55.69	-0.3281	-0.1997	-0.0022		
350	SLU 75	-5.49	0.48	55.65	-0.3277	-0.1996	-0.0022		
350	SLU 76	-5.45	0.48	55.31	-0.3247	-0.1981	-0.0022		





Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
350	SLU 77	-5.65	0.49	56.54	-0.3346	-0.2055	-0.0022	
350	SLU 78	-5.64	0.49	56.49	-0.3342	-0.2053	-0.0022	
350	SLU 79	-5.61	0.49	56.23	-0.3318	-0.2041	-0.0022	
350	SLU 80	-5.61	0.49	56.19	-0.3315	-0.204	-0.0022	
350	SLU 81	-5.5	0.49	56.79	-0.3328	-0.1994	-0.0022	
350	SLU 82	-5.5	0.49	56.74	-0.3324	-0.1993	-0.0022	
350	SLU 83	-5.65	0.5	57.63	-0.3392	-0.2052	-0.0023	
350	SLU 84	-5.65	0.5	57.59	-0.3388	-0.205	-0.0023	
350	SLE RA 1	-3.62	0.32	36.83	-0.2135	-0.1319	-0.0014	
350	SLE RA 2	-3.62	0.31	36.77	-0.213	-0.1317	-0.0014	
350	SLE RA 3	-3.75	0.32	37.6	-0.2196	-0.1366	-0.0015	
350	SLE RA 4	-3.75	0.32	37.57	-0.2193	-0.1365	-0.0015	
350	SLE RA 5	-3.72	0.32	37.34	-0.2173	-0.1356	-0.0014	
350	SLE RA 6	-3.85	0.33	38.16	-0.2239	-0.1405	-0.0015	
350	SLE RA 7	-3.85	0.33	38.13	-0.2236	-0.1404	-0.0015	
350	SLE RA 8	-3.82	0.33	37.96	-0.222	-0.1396	-0.0015	
350	SLE RA 9	-3.82	0.33	37.93	-0.2218	-0.1395	-0.0015	
350	SLE RA 10	-3.92	0.35	40.27	-0.2345	-0.1423	-0.0016	
350	SLE RA 11	-4.05	0.36	41.1	-0.241	-0.1472	-0.0016	
350	SLE RA 12	-4.05	0.36	41.07	-0.2408	-0.1471	-0.0016	
350	SLE RA 13	-4.02	0.35	40.84	-0.2388	-0.1461	-0.0016	
350	SLE RA 14	-4.15	0.36	41.66	-0.2453	-0.151	-0.0016	
350	SLE RA 15	-4.15	0.36	41.63	-0.2451	-0.1509	-0.0016	
350	SLE RA 16	-4.13	0.36	41.46	-0.2435	-0.1501	-0.0016	
350	SLE RA 17	-4.12	0.36	41.43	-0.2433	-0.15	-0.0016	
350	SLE RA 18	-4.05	0.36	41.83	-0.2441	-0.147	-0.0016	
350	SLE RA 19	-4.05	0.36	41.79	-0.2439	-0.1469	-0.0016	
350	SLE RA 20	-4.15	0.37	42.39	-0.2484	-0.1508	-0.0017	
350	SLE RA 21	-4.15	0.37	42.36	-0.2482	-0.1507	-0.0017	
350	SLE FR 1	-3.62	0.32	36.83	-0.2135	-0.1319	-0.0014	
350	SLE FR 2	-3.62	0.32	36.82	-0.2134	-0.1318	-0.0014	
350	SLE FR 3	-3.66	0.32	37.05	-0.2152	-0.1334	-0.0014	
350	SLE FR 4	-3.75	0.33	38.32	-0.2226	-0.1364	-0.0015	
350	SLE FR 5	-3.79	0.33	38.55	-0.2244	-0.1379	-0.0015	
350	SLE FR 6	-3.84	0.34	39.33	-0.2288	-0.1394	-0.0015	
350	SLE QP 1	-3.62	0.32	36.83	-0.2135	-0.1319	-0.0014	
350	SLE QP 2	-3.75	0.33	38.33	-0.2227	-0.1364	-0.0015	
350	SLD 1	1.76	0.23	35.38	-0.1918	0.1047	-0.001	
350	SLD 2	1.76	0.23	35.38	-0.1918	0.1047	-0.001	
350	SLD 3	1.22	0.34	38.54	-0.3164	0.0835	-0.0015	
350	SLD 4	1.22	0.34	38.54	-0.3164	0.0835	-0.0015	
350	SLD 5	-1.28	0.13	32.65	-0.0246	-0.0319	-0.0007	
350	SLD 6	-1.28	0.13	32.65	-0.0246	-0.0319	-0.0007	
350	SLD 7	-3.08	0.5	43.19	-0.4396	-0.1026	-0.0021	
350	SLD 8	-3.08	0.5	43.19	-0.4396	-0.1026	-0.0021	
350	SLD 9	-4.43	0.16	33.46	-0.0057	-0.1702	-0.0008	
350	SLD 10	-4.43	0.16	33.46	-0.0057	-0.1702	-0.0008	
350	SLD 11	-6.23	0.53	44.01	-0.4208	-0.2409	-0.0023	
350	SLD 12	-6.23	0.53	44.01	-0.4208	-0.2409	-0.0023	
350	SLD 13	-8.73	0.32	38.11	-0.1289	-0.3563	-0.0015	
350	SLD 14	-8.73	0.32	38.11	-0.1289	-0.3563	-0.0015	
350	SLD 15	-9.27	0.43	41.27	-0.2535	-0.3775	-0.0019	
350	SLD 16	-9.27	0.43	41.27	-0.2535	-0.3775	-0.0019	
350	SLV 1	9.14	0.09	31.33	-0.1499	0.427	-0.0004	
350	SLV 2	9.14	0.09	31.33	-0.1499	0.427	-0.0004	
350	SLV 3	7.83	0.36	38.85	-0.4508	0.3758	-0.0014	
350	SLV 4	7.83	0.36	38.85	-0.4508	0.3758	-0.0014	
350	SLV 5	2.09	-0.15	24.82	0.2556	0.1103	0.0004	
350	SLV 6	2.09	-0.15	24.82	0.2556	0.1103	0.0004	
350	SLV 7	-2.26	0.74	49.89	-0.7475	-0.0604	-0.003	
350	SLV 8	-2.26	0.74	49.89	-0.7475	-0.0604	-0.003	
350	SLV 9	-5.25	-0.08	26.76	0.3022	-0.2124	0.0001	
350	SLV 10	-5.25	-0.08	26.76	0.3022	-0.2124	0.0001	
350	SLV 11	-9.6	0.81	51.83	-0.7009	-0.3831	-0.0034	
350	SLV 12	-9.6	0.81	51.83	-0.7009	-0.3831	-0.0034	
350	SLV 13	-15.34	0.3	37.8	0.0055	-0.6486	-0.0015	
350	SLV 14	-15.34	0.3	37.8	0.0055	-0.6486	-0.0015	
350	SLV 15	-16.65	0.57	45.32	-0.2954	-0.6998	-0.0026	
350	SLV 16	-16.65	0.57	45.32	-0.2954	-0.6998	-0.0026	
351	SLU 1	-3.01	0.33	31.88	-0.2354	-0.1187	-0.002	
351	SLU 2	-3	0.33	31.81	-0.2347	-0.1185	-0.002	
351	SLU 3	-3.16	0.35	32.89	-0.2462	-0.1247	-0.0021	
351	SLU 4	-3.15	0.35	32.85	-0.2457	-0.1246	-0.0021	
351	SLU 5	-3.12	0.34	32.56	-0.2423	-0.1233	-0.0021	
351	SLU 6	-3.27	0.36	33.63	-0.2538	-0.1294	-0.0022	
351	SLU 7	-3.27	0.36	33.59	-0.2534	-0.1293	-0.0022	
351	SLU 8	-3.24	0.35	33.37	-0.2507	-0.1281	-0.0021	
351	SLU 9	-3.24	0.35	33.33	-0.2503	-0.128	-0.0021	
351	SLU 10	-3.42	0.38	36.51	-0.2717	-0.1347	-0.0023	
351	SLU 11	-3.57	0.4	37.59	-0.2832	-0.1408	-0.0024	
351	SLU 12	-3.57	0.4	37.55	-0.2828	-0.1407	-0.0024	
351	SLU 13	-3.53	0.39	37.26	-0.2794	-0.1394	-0.0024	
351	SLU 14	-3.69	0.41	38.33	-0.2909	-0.1455	-0.0025	
351	SLU 15	-3.68	0.41	38.29	-0.2904	-0.1455	-0.0025	
351	SLU 16	-3.65	0.41	38.07	-0.2878	-0.1442	-0.0025	
351	SLU 17	-3.65	0.41	38.03	-0.2873	-0.1442	-0.0025	
351	SLU 18	-3.6	0.41	38.6	-0.2884	-0.1417	-0.0025	
351	SLU 19	-3.6	0.41	38.56	-0.2879	-0.1416	-0.0025	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
351	SLU 20	-3.71	0.42	39.34	-0.296	-0.1464	-0.0025	
351	SLU 21	-3.71	0.42	39.3	-0.2955	-0.1464	-0.0025	
351	SLU 22	-3.46	0.38	36.28	-0.2728	-0.1366	-0.0023	
351	SLU 23	-3.46	0.38	36.21	-0.272	-0.1365	-0.0023	
351	SLU 24	-3.61	0.4	37.28	-0.2835	-0.1426	-0.0024	
351	SLU 25	-3.61	0.4	37.24	-0.2831	-0.1425	-0.0024	
351	SLU 26	-3.58	0.39	36.95	-0.2797	-0.1412	-0.0024	
351	SLU 27	-3.73	0.41	38.03	-0.2912	-0.1473	-0.0025	
351	SLU 28	-3.73	0.41	37.98	-0.2907	-0.1472	-0.0025	
351	SLU 29	-3.69	0.41	37.76	-0.2881	-0.146	-0.0025	
351	SLU 30	-3.69	0.41	37.72	-0.2876	-0.1459	-0.0025	
351	SLU 31	-3.87	0.44	40.91	-0.309	-0.1526	-0.0026	
351	SLU 32	-4.03	0.45	41.98	-0.3206	-0.1587	-0.0027	
351	SLU 33	-4.02	0.45	41.94	-0.3201	-0.1587	-0.0027	
351	SLU 34	-3.99	0.45	41.65	-0.3167	-0.1573	-0.0027	
351	SLU 35	-4.14	0.46	42.73	-0.3282	-0.1634	-0.0028	
351	SLU 36	-4.14	0.46	42.69	-0.3278	-0.1634	-0.0028	
351	SLU 37	-4.11	0.46	42.47	-0.3251	-0.1621	-0.0028	
351	SLU 38	-4.11	0.46	42.42	-0.3247	-0.1621	-0.0028	
351	SLU 39	-4.05	0.46	42.99	-0.3257	-0.1596	-0.0028	
351	SLU 40	-4.05	0.46	42.95	-0.3252	-0.1595	-0.0028	
351	SLU 41	-4.17	0.47	43.74	-0.3334	-0.1643	-0.0029	
351	SLU 42	-4.17	0.47	43.7	-0.3329	-0.1643	-0.0029	
351	SLU 43	-3.75	0.41	39.94	-0.2933	-0.1481	-0.0025	
351	SLU 44	-3.75	0.41	39.87	-0.2925	-0.148	-0.0025	
351	SLU 45	-3.9	0.43	40.95	-0.304	-0.1541	-0.0026	
351	SLU 46	-3.9	0.43	40.91	-0.3035	-0.1541	-0.0026	
351	SLU 47	-3.87	0.42	40.62	-0.3001	-0.1527	-0.0026	
351	SLU 48	-4.02	0.44	41.69	-0.3117	-0.1589	-0.0027	
351	SLU 49	-4.02	0.44	41.65	-0.3112	-0.1588	-0.0027	
351	SLU 50	-3.99	0.44	41.43	-0.3086	-0.1576	-0.0026	
351	SLU 51	-3.98	0.43	41.39	-0.3081	-0.1575	-0.0026	
351	SLU 52	-4.16	0.46	44.57	-0.3295	-0.1641	-0.0028	
351	SLU 53	-4.32	0.48	45.65	-0.3411	-0.1703	-0.0029	
351	SLU 54	-4.31	0.48	45.61	-0.3406	-0.1702	-0.0029	
351	SLU 55	-4.28	0.48	45.32	-0.3372	-0.1689	-0.0029	
351	SLU 56	-4.43	0.49	46.39	-0.3487	-0.175	-0.003	
351	SLU 57	-4.43	0.49	46.35	-0.3482	-0.1749	-0.003	
351	SLU 58	-4.4	0.49	46.13	-0.3456	-0.1737	-0.003	
351	SLU 59	-4.4	0.49	46.09	-0.3452	-0.1736	-0.003	
351	SLU 60	-4.34	0.49	46.66	-0.3462	-0.1712	-0.003	
351	SLU 61	-4.34	0.49	46.62	-0.3457	-0.1711	-0.003	
351	SLU 62	-4.46	0.5	47.4	-0.3538	-0.1759	-0.003	
351	SLU 63	-4.46	0.5	47.36	-0.3534	-0.1758	-0.003	
351	SLU 64	-4.21	0.47	44.33	-0.3306	-0.166	-0.0028	
351	SLU 65	-4.2	0.47	44.26	-0.3298	-0.1659	-0.0028	
351	SLU 66	-4.36	0.48	45.34	-0.3414	-0.1721	-0.0029	
351	SLU 67	-4.36	0.48	45.3	-0.3409	-0.172	-0.0029	
351	SLU 68	-4.32	0.48	45.01	-0.3375	-0.1706	-0.0029	
351	SLU 69	-4.47	0.49	46.08	-0.349	-0.1768	-0.003	
351	SLU 70	-4.47	0.49	46.04	-0.3485	-0.1767	-0.003	
351	SLU 71	-4.44	0.49	45.82	-0.3459	-0.1755	-0.003	
351	SLU 72	-4.44	0.49	45.78	-0.3455	-0.1754	-0.003	
351	SLU 73	-4.62	0.52	48.97	-0.3669	-0.182	-0.0031	
351	SLU 74	-4.77	0.53	50.04	-0.3784	-0.1882	-0.0032	
351	SLU 75	-4.77	0.53	50	-0.3779	-0.1881	-0.0032	
351	SLU 76	-4.73	0.53	49.71	-0.3745	-0.1868	-0.0032	
351	SLU 77	-4.89	0.54	50.79	-0.386	-0.1929	-0.0033	
351	SLU 78	-4.89	0.54	50.74	-0.3856	-0.1928	-0.0033	
351	SLU 79	-4.85	0.54	50.52	-0.383	-0.1916	-0.0033	
351	SLU 80	-4.85	0.54	50.48	-0.3825	-0.1915	-0.0033	
351	SLU 81	-4.8	0.54	51.05	-0.3835	-0.1891	-0.0033	
351	SLU 82	-4.8	0.54	51.01	-0.3831	-0.189	-0.0033	
351	SLU 83	-4.92	0.55	51.8	-0.3912	-0.1938	-0.0033	
351	SLU 84	-4.91	0.55	51.75	-0.3907	-0.1937	-0.0033	
351	SLE RA 1	-3.14	0.35	33.14	-0.2461	-0.1238	-0.0021	
351	SLE RA 2	-3.13	0.35	33.09	-0.2456	-0.1237	-0.0021	
351	SLE RA 3	-3.24	0.36	33.81	-0.2533	-0.1278	-0.0022	
351	SLE RA 4	-3.24	0.36	33.78	-0.253	-0.1277	-0.0022	
351	SLE RA 5	-3.21	0.35	33.59	-0.2507	-0.1268	-0.0021	
351	SLE RA 6	-3.31	0.36	34.3	-0.2584	-0.1309	-0.0022	
351	SLE RA 7	-3.31	0.36	34.28	-0.2581	-0.1309	-0.0022	
351	SLE RA 8	-3.29	0.36	34.13	-0.2563	-0.1301	-0.0022	
351	SLE RA 9	-3.29	0.36	34.1	-0.256	-0.13	-0.0022	
351	SLE RA 10	-3.41	0.38	36.23	-0.2703	-0.1345	-0.0023	
351	SLE RA 11	-3.51	0.39	36.94	-0.278	-0.1385	-0.0024	
351	SLE RA 12	-3.51	0.39	36.92	-0.2777	-0.1385	-0.0024	
351	SLE RA 13	-3.49	0.39	36.72	-0.2754	-0.1376	-0.0024	
351	SLE RA 14	-3.59	0.4	37.44	-0.2831	-0.1417	-0.0024	
351	SLE RA 15	-3.59	0.4	37.41	-0.2828	-0.1416	-0.0024	
351	SLE RA 16	-3.57	0.4	37.26	-0.281	-0.1408	-0.0024	
351	SLE RA 17	-3.57	0.4	37.24	-0.2807	-0.1408	-0.0024	
351	SLE RA 18	-3.53	0.4	37.62	-0.2814	-0.1391	-0.0024	
351	SLE RA 19	-3.53	0.4	37.59	-0.2811	-0.1391	-0.0024	
351	SLE RA 20	-3.61	0.4	38.11	-0.2865	-0.1423	-0.0025	
351	SLE RA 21	-3.61	0.4	38.08	-0.2862	-0.1422	-0.0024	
351	SLE FR 1	-3.14	0.35	33.14	-0.2461	-0.1238	-0.0021	
351	SLE FR 2	-3.14	0.35	33.13	-0.246	-0.1238	-0.0021	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
351	SLE FR 3	-3.17	0.35	33.34	-0.2481	-0.125	-0.0021	
351	SLE FR 4	-3.25	0.36	34.47	-0.2566	-0.1284	-0.0022	
351	SLE FR 5	-3.29	0.36	34.68	-0.2587	-0.1296	-0.0022	
351	SLE FR 6	-3.33	0.37	35.38	-0.2637	-0.1315	-0.0023	
351	SLE QP 1	-3.14	0.35	33.14	-0.2461	-0.1238	-0.0021	
351	SLE QP 2	-3.25	0.36	34.48	-0.2567	-0.1284	-0.0022	
351	SLD 1	2.51	0.25	31.67	-0.151	0.1202	-0.0016	
351	SLD 2	2.51	0.25	31.67	-0.151	0.1202	-0.0016	
351	SLD 3	2.08	0.4	34.67	-0.3022	0.1014	-0.0023	
351	SLD 4	2.08	0.4	34.67	-0.3022	0.1014	-0.0023	
351	SLD 5	-0.87	0.12	29.09	0.0043	-0.0253	-0.0009	
351	SLD 6	-0.87	0.12	29.09	0.0043	-0.0253	-0.0009	
351	SLD 7	-2.31	0.59	39.09	-0.4997	-0.088	-0.0034	
351	SLD 8	-2.31	0.59	39.09	-0.4997	-0.088	-0.0034	
351	SLD 9	-4.2	0.14	29.87	-0.0137	-0.1688	-0.001	
351	SLD 10	-4.2	0.14	29.87	-0.0137	-0.1688	-0.001	
351	SLD 11	-5.64	0.61	39.88	-0.5177	-0.2315	-0.0035	
351	SLD 12	-5.64	0.61	39.88	-0.5177	-0.2315	-0.0035	
351	SLD 13	-8.59	0.33	34.29	-0.2112	-0.3581	-0.0021	
351	SLD 14	-8.59	0.33	34.29	-0.2112	-0.3581	-0.0021	
351	SLD 15	-9.02	0.47	37.29	-0.3624	-0.377	-0.0028	
351	SLD 16	-9.02	0.47	37.29	-0.3624	-0.377	-0.0028	
351	SLV 1	10.22	0.1	27.81	-0.0004	0.4524	-0.0007	
351	SLV 2	10.22	0.1	27.81	-0.0004	0.4524	-0.0007	
351	SLV 3	9.17	0.44	34.97	-0.3654	0.4067	-0.0025	
351	SLV 4	9.17	0.44	34.97	-0.3654	0.4067	-0.0025	
351	SLV 5	2.37	-0.23	21.62	0.3739	0.1151	0.001	
351	SLV 6	2.37	-0.23	21.62	0.3739	0.1151	0.001	
351	SLV 7	-1.11	0.9	45.48	-0.843	-0.0371	-0.0051	
351	SLV 8	-1.11	0.9	45.48	-0.843	-0.0371	-0.0051	
351	SLV 9	-5.4	-0.18	23.48	0.3296	-0.2196	0.0007	
351	SLV 10	-5.4	-0.18	23.48	0.3296	-0.2196	0.0007	
351	SLV 11	-8.88	0.96	47.34	-0.8873	-0.3719	-0.0054	
351	SLV 12	-8.88	0.96	47.34	-0.8873	-0.3719	-0.0054	
351	SLV 13	-15.68	0.28	33.99	-0.1479	-0.6635	-0.0019	
351	SLV 14	-15.68	0.28	33.99	-0.1479	-0.6635	-0.0019	
351	SLV 15	-16.73	0.62	41.15	-0.513	-0.7092	-0.0037	
351	SLV 16	-16.73	0.62	41.15	-0.513	-0.7092	-0.0037	
352	SLU 1	-1.6	0.33	29.43	-0.2478	-0.056	-0.0024	
352	SLU 2	-1.6	0.33	29.36	-0.2469	-0.0562	-0.0024	
352	SLU 3	-1.67	0.34	30.34	-0.2593	-0.0587	-0.0026	
352	SLU 4	-1.67	0.34	30.3	-0.2588	-0.0588	-0.0025	
352	SLU 5	-1.66	0.34	30.05	-0.2552	-0.0582	-0.0025	
352	SLU 6	-1.73	0.35	31.02	-0.2676	-0.0607	-0.0026	
352	SLU 7	-1.73	0.35	30.99	-0.2671	-0.0608	-0.0026	
352	SLU 8	-1.71	0.35	30.8	-0.2644	-0.0601	-0.0026	
352	SLU 9	-1.71	0.35	30.76	-0.2639	-0.0602	-0.0026	
352	SLU 10	-1.82	0.38	33.67	-0.2858	-0.0633	-0.0028	
352	SLU 11	-1.89	0.39	34.65	-0.2982	-0.0658	-0.0029	
352	SLU 12	-1.89	0.39	34.61	-0.2977	-0.0659	-0.0029	
352	SLU 13	-1.87	0.39	34.36	-0.2941	-0.0654	-0.0029	
352	SLU 14	-1.94	0.4	35.34	-0.3065	-0.0679	-0.003	
352	SLU 15	-1.94	0.4	35.3	-0.306	-0.068	-0.003	
352	SLU 16	-1.92	0.4	35.11	-0.3033	-0.0673	-0.003	
352	SLU 17	-1.92	0.4	35.07	-0.3028	-0.0673	-0.003	
352	SLU 18	-1.9	0.4	35.59	-0.3033	-0.0662	-0.003	
352	SLU 19	-1.91	0.4	35.55	-0.3028	-0.0663	-0.003	
352	SLU 20	-1.96	0.41	36.27	-0.3116	-0.0683	-0.0031	
352	SLU 21	-1.96	0.41	36.23	-0.3111	-0.0684	-0.0031	
352	SLU 22	-1.84	0.38	33.44	-0.2871	-0.0644	-0.0028	
352	SLU 23	-1.84	0.38	33.37	-0.2863	-0.0646	-0.0028	
352	SLU 24	-1.91	0.39	34.35	-0.2986	-0.0671	-0.0029	
352	SLU 25	-1.92	0.39	34.31	-0.2981	-0.0672	-0.0029	
352	SLU 26	-1.9	0.39	34.05	-0.2946	-0.0666	-0.0029	
352	SLU 27	-1.97	0.41	35.03	-0.3069	-0.0691	-0.003	
352	SLU 28	-1.97	0.4	34.99	-0.3064	-0.0692	-0.003	
352	SLU 29	-1.95	0.4	34.8	-0.3037	-0.0685	-0.003	
352	SLU 30	-1.95	0.4	34.76	-0.3032	-0.0686	-0.003	
352	SLU 31	-2.06	0.43	37.68	-0.3251	-0.0717	-0.0032	
352	SLU 32	-2.13	0.45	38.66	-0.3375	-0.0742	-0.0033	
352	SLU 33	-2.13	0.45	38.62	-0.337	-0.0743	-0.0033	
352	SLU 34	-2.11	0.44	38.37	-0.3334	-0.0738	-0.0033	
352	SLU 35	-2.18	0.46	39.35	-0.3458	-0.0763	-0.0034	
352	SLU 36	-2.18	0.46	39.31	-0.3453	-0.0764	-0.0034	
352	SLU 37	-2.16	0.45	39.12	-0.3426	-0.0756	-0.0034	
352	SLU 38	-2.16	0.45	39.08	-0.3421	-0.0757	-0.0034	
352	SLU 39	-2.15	0.45	39.6	-0.3426	-0.0746	-0.0034	
352	SLU 40	-2.15	0.45	39.56	-0.3421	-0.0747	-0.0034	
352	SLU 41	-2.2	0.46	40.28	-0.3509	-0.0767	-0.0035	
352	SLU 42	-2.2	0.46	40.24	-0.3504	-0.0768	-0.0035	
352	SLU 43	-2	0.41	36.88	-0.3086	-0.07	-0.003	
352	SLU 44	-2	0.41	36.82	-0.3078	-0.0701	-0.003	
352	SLU 45	-2.07	0.42	37.79	-0.3202	-0.0726	-0.0032	
352	SLU 46	-2.07	0.42	37.76	-0.3197	-0.0727	-0.0031	
352	SLU 47	-2.06	0.42	37.5	-0.3161	-0.0722	-0.0031	
352	SLU 48	-2.12	0.43	38.48	-0.3285	-0.0747	-0.0032	
352	SLU 49	-2.13	0.43	38.44	-0.328	-0.0748	-0.0032	
352	SLU 50	-2.11	0.43	38.25	-0.3252	-0.0741	-0.0032	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
352	SLU 51	-2.11	0.43	38.21	-0.3247	-0.0741	-0.0032		
352	SLU 52	-2.21	0.46	41.13	-0.3467	-0.0772	-0.0034		
352	SLU 53	-2.28	0.47	42.11	-0.359	-0.0798	-0.0035		
352	SLU 54	-2.29	0.47	42.07	-0.3585	-0.0799	-0.0035		
352	SLU 55	-2.27	0.47	41.81	-0.355	-0.0793	-0.0035		
352	SLU 56	-2.34	0.49	42.79	-0.3673	-0.0818	-0.0036		
352	SLU 57	-2.34	0.48	42.75	-0.3668	-0.0819	-0.0036		
352	SLU 58	-2.32	0.48	42.56	-0.3641	-0.0812	-0.0036		
352	SLU 59	-2.32	0.48	42.52	-0.3636	-0.0813	-0.0036		
352	SLU 60	-2.3	0.48	43.04	-0.3642	-0.0802	-0.0036		
352	SLU 61	-2.3	0.48	43	-0.3637	-0.0802	-0.0036		
352	SLU 62	-2.36	0.49	43.73	-0.3725	-0.0822	-0.0037		
352	SLU 63	-2.36	0.49	43.69	-0.372	-0.0823	-0.0037		
352	SLU 64	-2.24	0.46	40.89	-0.3479	-0.0784	-0.0034		
352	SLU 65	-2.24	0.46	40.82	-0.3471	-0.0785	-0.0034		
352	SLU 66	-2.31	0.47	41.8	-0.3595	-0.081	-0.0035		
352	SLU 67	-2.31	0.47	41.76	-0.359	-0.0811	-0.0035		
352	SLU 68	-2.3	0.47	41.51	-0.3554	-0.0805	-0.0035		
352	SLU 69	-2.37	0.49	42.49	-0.3678	-0.0831	-0.0036		
352	SLU 70	-2.37	0.49	42.45	-0.3673	-0.0832	-0.0036		
352	SLU 71	-2.35	0.48	42.26	-0.3646	-0.0824	-0.0036		
352	SLU 72	-2.35	0.48	42.22	-0.3641	-0.0825	-0.0036		
352	SLU 73	-2.45	0.51	45.14	-0.386	-0.0856	-0.0038		
352	SLU 74	-2.52	0.53	46.12	-0.3984	-0.0882	-0.0039		
352	SLU 75	-2.53	0.53	46.08	-0.3978	-0.0882	-0.0039		
352	SLU 76	-2.51	0.52	45.82	-0.3943	-0.0877	-0.0039		
352	SLU 77	-2.58	0.54	46.8	-0.4067	-0.0902	-0.004		
352	SLU 78	-2.58	0.54	46.76	-0.4062	-0.0903	-0.004		
352	SLU 79	-2.56	0.53	46.57	-0.4034	-0.0896	-0.004		
352	SLU 80	-2.56	0.53	46.53	-0.4029	-0.0897	-0.004		
352	SLU 81	-2.54	0.53	47.05	-0.4035	-0.0885	-0.004		
352	SLU 82	-2.54	0.53	47.01	-0.403	-0.0886	-0.004		
352	SLU 83	-2.6	0.54	47.73	-0.4118	-0.0906	-0.0041		
352	SLU 84	-2.6	0.54	47.7	-0.4113	-0.0907	-0.0041		
352	SLE RA 1	-1.67	0.34	30.57	-0.259	-0.0584	-0.0026		
352	SLE RA 2	-1.67	0.34	30.53	-0.2584	-0.0585	-0.0025		
352	SLE RA 3	-1.72	0.35	31.18	-0.2667	-0.0602	-0.0026		
352	SLE RA 4	-1.72	0.35	31.16	-0.2664	-0.0603	-0.0026		
352	SLE RA 5	-1.71	0.35	30.98	-0.264	-0.0599	-0.0026		
352	SLE RA 6	-1.75	0.36	31.64	-0.2722	-0.0616	-0.0027		
352	SLE RA 7	-1.76	0.36	31.61	-0.2719	-0.0616	-0.0027		
352	SLE RA 8	-1.74	0.36	31.48	-0.2701	-0.0612	-0.0027		
352	SLE RA 9	-1.74	0.36	31.46	-0.2698	-0.0612	-0.0027		
352	SLE RA 10	-1.81	0.38	33.4	-0.2844	-0.0633	-0.0028		
352	SLE RA 11	-1.86	0.39	34.06	-0.2926	-0.065	-0.0029		
352	SLE RA 12	-1.86	0.39	34.03	-0.2923	-0.065	-0.0029		
352	SLE RA 13	-1.85	0.38	33.86	-0.2899	-0.0646	-0.0029		
352	SLE RA 14	-1.9	0.39	34.51	-0.2982	-0.0663	-0.0029		
352	SLE RA 15	-1.9	0.39	34.49	-0.2978	-0.0664	-0.0029		
352	SLE RA 16	-1.88	0.39	34.36	-0.296	-0.0659	-0.0029		
352	SLE RA 17	-1.88	0.39	34.33	-0.2957	-0.066	-0.0029		
352	SLE RA 18	-1.87	0.39	34.68	-0.296	-0.0652	-0.0029		
352	SLE RA 19	-1.87	0.39	34.65	-0.2957	-0.0653	-0.0029		
352	SLE RA 20	-1.91	0.4	35.14	-0.3016	-0.0666	-0.003		
352	SLE RA 21	-1.91	0.4	35.11	-0.3012	-0.0666	-0.003		
352	SLE FR 1	-1.67	0.34	30.57	-0.259	-0.0584	-0.0026		
352	SLE FR 2	-1.67	0.34	30.56	-0.2589	-0.0584	-0.0026		
352	SLE FR 3	-1.68	0.34	30.75	-0.2612	-0.059	-0.0026		
352	SLE FR 4	-1.73	0.36	31.8	-0.27	-0.0605	-0.0027		
352	SLE FR 5	-1.74	0.36	31.99	-0.2723	-0.061	-0.0027		
352	SLE FR 6	-1.77	0.37	32.63	-0.2775	-0.0618	-0.0027		
352	SLE QP 1	-1.67	0.34	30.57	-0.259	-0.0584	-0.0026		
352	SLE QP 2	-1.73	0.36	31.8	-0.2701	-0.0605	-0.0027		
352	SLD 1	4.32	0.24	29.38	-0.1579	0.2044	-0.0019		
352	SLD 2	4.32	0.24	29.38	-0.1579	0.2044	-0.0019		
352	SLD 3	4.01	0.41	32.35	-0.3265	0.1912	-0.003		
352	SLD 4	4.01	0.41	32.35	-0.3265	0.1912	-0.003		
352	SLD 5	0.56	0.08	26.58	0.0193	0.0389	-0.0007		
352	SLD 6	0.56	0.08	26.58	0.0193	0.0389	-0.0007		
352	SLD 7	-0.48	0.62	36.46	-0.5428	-0.0049	-0.0044		
352	SLD 8	-0.48	0.62	36.46	-0.5428	-0.0049	-0.0044		
352	SLD 9	-2.98	0.1	27.14	0.0025	-0.116	-0.0009		
352	SLD 10	-2.98	0.1	27.14	0.0025	-0.116	-0.0009		
352	SLD 11	-4.02	0.63	37.03	-0.5595	-0.1599	-0.0046		
352	SLD 12	-4.02	0.63	37.03	-0.5595	-0.1599	-0.0046		
352	SLD 13	-7.47	0.31	31.26	-0.2137	-0.3121	-0.0023		
352	SLD 14	-7.47	0.31	31.26	-0.2137	-0.3121	-0.0023		
352	SLD 15	-7.78	0.47	34.23	-0.3824	-0.3253	-0.0035		
352	SLD 16	-7.78	0.47	34.23	-0.3824	-0.3253	-0.0035		
352	SLV 1	12.4	0.09	26.04	0.0014	0.5577	-0.0007		
352	SLV 2	12.4	0.09	26.04	0.0014	0.5577	-0.0007		
352	SLV 3	11.66	0.47	33.12	-0.4055	0.5266	-0.0034		
352	SLV 4	11.66	0.47	33.12	-0.4055	0.5266	-0.0034		
352	SLV 5	3.63	-0.31	19.33	0.4285	0.1721	0.002		
352	SLV 6	3.63	-0.31	19.33	0.4285	0.1721	0.002		
352	SLV 7	1.17	0.98	42.94	-0.9279	0.0686	-0.007		
352	SLV 8	1.17	0.98	42.94	-0.9279	0.0686	-0.007		
352	SLV 9	-4.63	-0.27	20.67	0.3877	-0.1895	0.0016		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
352	SLV 10	-4.63	-0.27	20.67	0.3877	-0.1895	0.0016	
352	SLV 11	-7.09	1.03	44.28	-0.9687	-0.293	-0.0073	
352	SLV 12	-7.09	1.03	44.28	-0.9687	-0.293	-0.0073	
352	SLV 13	-15.12	0.24	30.49	-0.1347	-0.6476	-0.0019	
352	SLV 14	-15.12	0.24	30.49	-0.1347	-0.6476	-0.0019	
352	SLV 15	-15.86	0.63	37.57	-0.5416	-0.6786	-0.0046	
352	SLV 16	-15.86	0.63	37.57	-0.5416	-0.6786	-0.0046	
353	SLU 1	0.01	0.32	28.49	-0.2513	-0.0021	-0.0026	
353	SLU 2	0	0.32	28.42	-0.2505	-0.0025	-0.0026	
353	SLU 3	0.02	0.34	29.38	-0.2632	-0.0018	-0.0027	
353	SLU 4	0.02	0.34	29.34	-0.2627	-0.002	-0.0027	
353	SLU 5	0.02	0.33	29.1	-0.2591	-0.0021	-0.0027	
353	SLU 6	0.04	0.35	30.07	-0.2719	-0.0013	-0.0028	
353	SLU 7	0.04	0.35	30.03	-0.2714	-0.0016	-0.0028	
353	SLU 8	0.04	0.35	29.85	-0.2687	-0.0012	-0.0028	
353	SLU 9	0.04	0.34	29.81	-0.2682	-0.0015	-0.0028	
353	SLU 10	0.03	0.37	32.59	-0.2899	-0.0016	-0.003	
353	SLU 11	0.05	0.39	33.55	-0.3026	-0.0009	-0.0031	
353	SLU 12	0.05	0.39	33.51	-0.3021	-0.0011	-0.0031	
353	SLU 13	0.05	0.38	33.27	-0.2986	-0.0012	-0.0031	
353	SLU 14	0.07	0.4	34.23	-0.3113	-0.0004	-0.0032	
353	SLU 15	0.06	0.4	34.19	-0.3108	-0.0007	-0.0032	
353	SLU 16	0.07	0.4	34.02	-0.3081	-0.0003	-0.0032	
353	SLU 17	0.07	0.4	33.98	-0.3076	-0.0006	-0.0032	
353	SLU 18	0.05	0.39	34.44	-0.3076	-0.0009	-0.0032	
353	SLU 19	0.05	0.39	34.4	-0.3071	-0.0011	-0.0032	
353	SLU 20	0.07	0.41	35.13	-0.3163	-0.0004	-0.0033	
353	SLU 21	0.06	0.41	35.09	-0.3158	-0.0006	-0.0033	
353	SLU 22	0.02	0.37	32.36	-0.2913	-0.002	-0.003	
353	SLU 23	0.01	0.37	32.29	-0.2904	-0.0024	-0.003	
353	SLU 24	0.04	0.39	33.25	-0.3032	-0.0017	-0.0031	
353	SLU 25	0.03	0.39	33.21	-0.3027	-0.0019	-0.0031	
353	SLU 26	0.03	0.38	32.97	-0.2991	-0.002	-0.0031	
353	SLU 27	0.05	0.4	33.93	-0.3119	-0.0012	-0.0032	
353	SLU 28	0.05	0.4	33.89	-0.3113	-0.0015	-0.0032	
353	SLU 29	0.05	0.4	33.72	-0.3086	-0.0011	-0.0032	
353	SLU 30	0.05	0.4	33.68	-0.3081	-0.0014	-0.0032	
353	SLU 31	0.04	0.42	36.46	-0.3298	-0.0015	-0.0034	
353	SLU 32	0.07	0.44	37.42	-0.3426	-0.0008	-0.0036	
353	SLU 33	0.06	0.44	37.38	-0.3421	-0.001	-0.0036	
353	SLU 34	0.06	0.43	37.14	-0.3385	-0.0011	-0.0035	
353	SLU 35	0.08	0.45	38.1	-0.3513	-0.0003	-0.0036	
353	SLU 36	0.08	0.45	38.06	-0.3508	-0.0006	-0.0036	
353	SLU 37	0.08	0.45	37.89	-0.348	-0.0002	-0.0036	
353	SLU 38	0.08	0.45	37.85	-0.3475	-0.0005	-0.0036	
353	SLU 39	0.06	0.45	38.31	-0.3476	-0.0008	-0.0036	
353	SLU 40	0.06	0.45	38.27	-0.347	-0.001	-0.0036	
353	SLU 41	0.08	0.46	38.99	-0.3562	-0.0003	-0.0037	
353	SLU 42	0.07	0.46	38.95	-0.3557	-0.0005	-0.0037	
353	SLU 43	0.01	0.4	35.71	-0.313	-0.0028	-0.0032	
353	SLU 44	0	0.4	35.64	-0.3122	-0.0032	-0.0032	
353	SLU 45	0.02	0.42	36.6	-0.3249	-0.0025	-0.0034	
353	SLU 46	0.02	0.42	36.57	-0.3244	-0.0027	-0.0034	
353	SLU 47	0.02	0.41	36.33	-0.3208	-0.0028	-0.0033	
353	SLU 48	0.04	0.43	37.29	-0.3336	-0.002	-0.0035	
353	SLU 49	0.03	0.43	37.25	-0.3331	-0.0022	-0.0035	
353	SLU 50	0.04	0.42	37.07	-0.3304	-0.0019	-0.0034	
353	SLU 51	0.04	0.42	37.03	-0.3299	-0.0022	-0.0034	
353	SLU 52	0.03	0.45	39.81	-0.3516	-0.0023	-0.0036	
353	SLU 53	0.05	0.47	40.77	-0.3643	-0.0016	-0.0038	
353	SLU 54	0.05	0.47	40.73	-0.3638	-0.0018	-0.0038	
353	SLU 55	0.05	0.46	40.49	-0.3603	-0.0019	-0.0037	
353	SLU 56	0.07	0.48	41.45	-0.373	-0.0011	-0.0039	
353	SLU 57	0.06	0.48	41.42	-0.3725	-0.0013	-0.0039	
353	SLU 58	0.07	0.48	41.24	-0.3698	-0.001	-0.0038	
353	SLU 59	0.07	0.47	41.2	-0.3693	-0.0012	-0.0038	
353	SLU 60	0.05	0.47	41.66	-0.3693	-0.0015	-0.0038	
353	SLU 61	0.05	0.47	41.62	-0.3688	-0.0018	-0.0038	
353	SLU 62	0.07	0.49	42.35	-0.378	-0.0011	-0.0039	
353	SLU 63	0.06	0.48	42.31	-0.3775	-0.0013	-0.0039	
353	SLU 64	0.02	0.45	39.58	-0.353	-0.0027	-0.0037	
353	SLU 65	0.01	0.45	39.51	-0.3521	-0.0031	-0.0037	
353	SLU 66	0.04	0.47	40.47	-0.3649	-0.0024	-0.0038	
353	SLU 67	0.03	0.47	40.43	-0.3644	-0.0026	-0.0038	
353	SLU 68	0.03	0.46	40.19	-0.3608	-0.0027	-0.0037	
353	SLU 69	0.05	0.48	41.15	-0.3736	-0.0019	-0.0039	
353	SLU 70	0.05	0.48	41.11	-0.373	-0.0021	-0.0039	
353	SLU 71	0.05	0.48	40.94	-0.3703	-0.0018	-0.0038	
353	SLU 72	0.05	0.48	40.9	-0.3698	-0.0021	-0.0038	
353	SLU 73	0.04	0.5	43.68	-0.3915	-0.0022	-0.0041	
353	SLU 74	0.06	0.52	44.64	-0.4043	-0.0015	-0.0042	
353	SLU 75	0.06	0.52	44.6	-0.4038	-0.0017	-0.0042	
353	SLU 76	0.06	0.51	44.36	-0.4002	-0.0018	-0.0042	
353	SLU 77	0.08	0.53	45.32	-0.413	-0.001	-0.0043	
353	SLU 78	0.08	0.53	45.28	-0.4125	-0.0012	-0.0043	
353	SLU 79	0.08	0.53	45.11	-0.4097	-0.0009	-0.0043	
353	SLU 80	0.08	0.53	45.07	-0.4092	-0.0012	-0.0043	
353	SLU 81	0.06	0.53	45.53	-0.4093	-0.0014	-0.0042	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
353	SLU 82	0.06	0.52	45.49	-0.4087	-0.0017	-0.0042
353	SLU 83	0.08	0.54	46.21	-0.4179	-0.001	-0.0043
353	SLU 84	0.07	0.54	46.17	-0.4174	-0.0012	-0.0043
353	SLE RA 1	0.01	0.34	29.59	-0.2627	-0.0021	-0.0027
353	SLE RA 2	0.01	0.34	29.55	-0.2622	-0.0024	-0.0027
353	SLE RA 3	0.02	0.35	30.19	-0.2707	-0.0019	-0.0028
353	SLE RA 4	0.02	0.35	30.16	-0.2703	-0.002	-0.0028
353	SLE RA 5	0.02	0.34	30	-0.2679	-0.0021	-0.0028
353	SLE RA 6	0.03	0.36	30.64	-0.2765	-0.0016	-0.0029
353	SLE RA 7	0.03	0.35	30.62	-0.2761	-0.0017	-0.0029
353	SLE RA 8	0.04	0.35	30.5	-0.2743	-0.0015	-0.0028
353	SLE RA 9	0.03	0.35	30.48	-0.274	-0.0017	-0.0028
353	SLE RA 10	0.03	0.37	32.33	-0.2884	-0.0018	-0.003
353	SLE RA 11	0.04	0.38	32.97	-0.2969	-0.0013	-0.0031
353	SLE RA 12	0.04	0.38	32.94	-0.2966	-0.0014	-0.0031
353	SLE RA 13	0.04	0.38	32.78	-0.2942	-0.0015	-0.0031
353	SLE RA 14	0.05	0.39	33.42	-0.3027	-0.001	-0.0031
353	SLE RA 15	0.05	0.39	33.4	-0.3024	-0.0011	-0.0031
353	SLE RA 16	0.05	0.39	33.28	-0.3006	-0.0009	-0.0031
353	SLE RA 17	0.05	0.39	33.25	-0.3002	-0.0011	-0.0031
353	SLE RA 18	0.04	0.39	33.56	-0.3003	-0.0013	-0.0031
353	SLE RA 19	0.04	0.38	33.54	-0.2999	-0.0014	-0.0031
353	SLE RA 20	0.05	0.39	34.02	-0.3061	-0.001	-0.0032
353	SLE RA 21	0.05	0.39	33.99	-0.3057	-0.0011	-0.0032
353	SLE FR 1	0.01	0.34	29.59	-0.2627	-0.0021	-0.0027
353	SLE FR 2	0.01	0.34	29.58	-0.2626	-0.0022	-0.0027
353	SLE FR 3	0.02	0.34	29.78	-0.265	-0.002	-0.0028
353	SLE FR 4	0.02	0.35	30.78	-0.2739	-0.0019	-0.0028
353	SLE FR 5	0.03	0.35	30.97	-0.2763	-0.0017	-0.0029
353	SLE FR 6	0.03	0.36	31.58	-0.2815	-0.0017	-0.0029
353	SLE QP 1	0.01	0.34	29.59	-0.2627	-0.0021	-0.0027
353	SLE QP 2	0.02	0.35	30.78	-0.274	-0.0019	-0.0028
353	SLD 1	5.83	0.24	28.82	-0.1606	0.2472	-0.002
353	SLD 2	5.83	0.24	28.82	-0.1606	0.2472	-0.002
353	SLD 3	6.14	0.41	31.77	-0.3356	0.261	-0.0033
353	SLD 4	6.14	0.41	31.77	-0.3356	0.261	-0.0033
353	SLD 5	1.3	0.06	25.73	0.0255	0.0519	-0.0006
353	SLD 6	1.3	0.06	25.73	0.0255	0.0519	-0.0006
353	SLD 7	2.32	0.63	35.55	-0.5579	0.098	-0.005
353	SLD 8	2.32	0.63	35.55	-0.5579	0.098	-0.005
353	SLD 9	-2.28	0.08	26.02	0.0099	-0.1017	-0.0007
353	SLD 10	-2.28	0.08	26.02	0.0099	-0.1017	-0.0007
353	SLD 11	-1.25	0.64	35.84	-0.5735	-0.0556	-0.0051
353	SLD 12	-1.25	0.64	35.84	-0.5735	-0.0556	-0.0051
353	SLD 13	-6.09	0.29	29.8	-0.2124	-0.2648	-0.0024
353	SLD 14	-6.09	0.29	29.8	-0.2124	-0.2648	-0.0024
353	SLD 15	-5.78	0.46	32.74	-0.3874	-0.2509	-0.0037
353	SLD 16	-5.78	0.46	32.74	-0.3874	-0.2509	-0.0037
353	SLV 1	13.56	0.08	26.11	-0.0002	0.579	-0.0008
353	SLV 2	13.56	0.08	26.11	-0.0002	0.579	-0.0008
353	SLV 3	14.29	0.49	33.14	-0.4226	0.6118	-0.0039
353	SLV 4	14.29	0.49	33.14	-0.4226	0.6118	-0.0039
353	SLV 5	2.98	-0.35	18.71	0.4487	0.1225	0.0025
353	SLV 6	2.98	-0.35	18.71	0.4487	0.1225	0.0025
353	SLV 7	5.41	1.01	42.16	-0.9591	0.2321	-0.0079
353	SLV 8	5.41	1.01	42.16	-0.9591	0.2321	-0.0079
353	SLV 9	-5.37	-0.31	19.4	0.4111	-0.2358	0.0022
353	SLV 10	-5.37	-0.31	19.4	0.4111	-0.2358	0.0022
353	SLV 11	-2.93	1.05	42.86	-0.9967	-0.1263	-0.0082
353	SLV 12	-2.93	1.05	42.86	-0.9967	-0.1263	-0.0082
353	SLV 13	-14.25	0.21	28.43	-0.1254	-0.6155	-0.0018
353	SLV 14	-14.25	0.21	28.43	-0.1254	-0.6155	-0.0018
353	SLV 15	-13.52	0.62	35.46	-0.5478	-0.5827	-0.0049
353	SLV 16	-13.52	0.62	35.46	-0.5478	-0.5827	-0.0049
354	SLU 1	1.76	0.33	29.2	-0.2504	0.0712	-0.0027
354	SLU 2	1.74	0.33	29.13	-0.2495	0.0705	-0.0027
354	SLU 3	1.86	0.35	30.16	-0.2624	0.0755	-0.0029
354	SLU 4	1.85	0.35	30.11	-0.2619	0.0751	-0.0029
354	SLU 5	1.83	0.34	29.87	-0.2583	0.0741	-0.0028
354	SLU 6	1.95	0.36	30.9	-0.2713	0.0791	-0.003
354	SLU 7	1.94	0.36	30.86	-0.2707	0.0787	-0.003
354	SLU 8	1.94	0.36	30.68	-0.2681	0.0784	-0.0029
354	SLU 9	1.93	0.36	30.64	-0.2676	0.078	-0.0029
354	SLU 10	2.03	0.38	33.42	-0.2888	0.0821	-0.0032
354	SLU 11	2.15	0.4	34.45	-0.3017	0.0871	-0.0033
354	SLU 12	2.14	0.4	34.4	-0.3012	0.0867	-0.0033
354	SLU 13	2.12	0.4	34.16	-0.2977	0.0857	-0.0033
354	SLU 14	2.24	0.41	35.19	-0.3106	0.0907	-0.0034
354	SLU 15	2.23	0.41	35.15	-0.3101	0.0902	-0.0034
354	SLU 16	2.23	0.41	34.97	-0.3074	0.0899	-0.0034
354	SLU 17	2.22	0.41	34.93	-0.3069	0.0895	-0.0034
354	SLU 18	2.17	0.41	35.33	-0.3065	0.0877	-0.0034
354	SLU 19	2.16	0.41	35.28	-0.306	0.0873	-0.0034
354	SLU 20	2.26	0.42	36.07	-0.3154	0.0913	-0.0035
354	SLU 21	2.25	0.42	36.03	-0.3149	0.0909	-0.0035
354	SLU 22	2.04	0.39	33.19	-0.2902	0.0826	-0.0032
354	SLU 23	2.02	0.39	33.12	-0.2894	0.0819	-0.0032
354	SLU 24	2.15	0.4	34.15	-0.3023	0.0869	-0.0033



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
354	SLU 25	2.14	0.4	34.11	-0.3018	0.0865	-0.0033	
354	SLU 26	2.11	0.4	33.86	-0.2982	0.0855	-0.0033	
354	SLU 27	2.24	0.41	34.89	-0.3111	0.0905	-0.0034	
354	SLU 28	2.23	0.41	34.85	-0.3106	0.0901	-0.0034	
354	SLU 29	2.22	0.41	34.68	-0.308	0.0897	-0.0034	
354	SLU 30	2.21	0.41	34.63	-0.3074	0.0893	-0.0034	
354	SLU 31	2.31	0.44	37.41	-0.3287	0.0934	-0.0036	
354	SLU 32	2.44	0.46	38.44	-0.3416	0.0984	-0.0037	
354	SLU 33	2.43	0.45	38.4	-0.3411	0.098	-0.0037	
354	SLU 34	2.4	0.45	38.15	-0.3376	0.097	-0.0037	
354	SLU 35	2.53	0.47	39.18	-0.3505	0.102	-0.0038	
354	SLU 36	2.52	0.47	39.14	-0.3499	0.1016	-0.0038	
354	SLU 37	2.51	0.46	38.97	-0.3473	0.1013	-0.0038	
354	SLU 38	2.5	0.46	38.92	-0.3468	0.1009	-0.0038	
354	SLU 39	2.45	0.46	39.32	-0.3464	0.0991	-0.0038	
354	SLU 40	2.44	0.46	39.28	-0.3459	0.0987	-0.0038	
354	SLU 41	2.54	0.47	40.06	-0.3553	0.1027	-0.0039	
354	SLU 42	2.53	0.47	40.02	-0.3548	0.1022	-0.0039	
354	SLU 43	2.18	0.41	36.59	-0.3118	0.0887	-0.0034	
354	SLU 44	2.17	0.41	36.52	-0.3109	0.088	-0.0034	
354	SLU 45	2.29	0.43	37.55	-0.3238	0.093	-0.0035	
354	SLU 46	2.28	0.43	37.5	-0.3233	0.0926	-0.0035	
354	SLU 47	2.26	0.43	37.26	-0.3198	0.0916	-0.0035	
354	SLU 48	2.38	0.44	38.29	-0.3327	0.0966	-0.0036	
354	SLU 49	2.37	0.44	38.25	-0.3322	0.0962	-0.0036	
354	SLU 50	2.37	0.44	38.07	-0.3295	0.0959	-0.0036	
354	SLU 51	2.36	0.44	38.03	-0.329	0.0955	-0.0036	
354	SLU 52	2.46	0.47	40.81	-0.3502	0.0995	-0.0038	
354	SLU 53	2.58	0.48	41.84	-0.3632	0.1045	-0.004	
354	SLU 54	2.57	0.48	41.79	-0.3626	0.1041	-0.004	
354	SLU 55	2.55	0.48	41.55	-0.3591	0.1031	-0.0039	
354	SLU 56	2.67	0.5	42.58	-0.372	0.1081	-0.0041	
354	SLU 57	2.66	0.5	42.54	-0.3715	0.1077	-0.0041	
354	SLU 58	2.66	0.49	42.36	-0.3689	0.1074	-0.004	
354	SLU 59	2.65	0.49	42.32	-0.3683	0.107	-0.004	
354	SLU 60	2.6	0.49	42.72	-0.368	0.1052	-0.004	
354	SLU 61	2.59	0.49	42.67	-0.3675	0.1048	-0.004	
354	SLU 62	2.69	0.5	43.46	-0.3768	0.1088	-0.0041	
354	SLU 63	2.68	0.5	43.42	-0.3763	0.1084	-0.0041	
354	SLU 64	2.47	0.47	40.58	-0.3517	0.1	-0.0039	
354	SLU 65	2.45	0.47	40.51	-0.3508	0.0994	-0.0038	
354	SLU 66	2.58	0.48	41.54	-0.3637	0.1043	-0.004	
354	SLU 67	2.57	0.48	41.5	-0.3632	0.1039	-0.004	
354	SLU 68	2.54	0.48	41.25	-0.3597	0.103	-0.0039	
354	SLU 69	2.67	0.5	42.28	-0.3726	0.1079	-0.0041	
354	SLU 70	2.66	0.5	42.24	-0.3721	0.1075	-0.0041	
354	SLU 71	2.65	0.49	42.07	-0.3694	0.1072	-0.0041	
354	SLU 72	2.64	0.49	42.02	-0.3689	0.1068	-0.004	
354	SLU 73	2.74	0.52	44.8	-0.3901	0.1109	-0.0043	
354	SLU 74	2.86	0.54	45.83	-0.403	0.1159	-0.0044	
354	SLU 75	2.86	0.54	45.79	-0.4025	0.1155	-0.0044	
354	SLU 76	2.83	0.53	45.54	-0.399	0.1145	-0.0044	
354	SLU 77	2.96	0.55	46.57	-0.4119	0.1195	-0.0045	
354	SLU 78	2.95	0.55	46.53	-0.4114	0.1191	-0.0045	
354	SLU 79	2.94	0.54	46.36	-0.4087	0.1188	-0.0045	
354	SLU 80	2.93	0.54	46.31	-0.4082	0.1184	-0.0045	
354	SLU 81	2.88	0.54	46.71	-0.4079	0.1165	-0.0045	
354	SLU 82	2.87	0.54	46.67	-0.4073	0.1161	-0.0045	
354	SLU 83	2.97	0.56	47.45	-0.4167	0.1201	-0.0046	
354	SLU 84	2.96	0.55	47.41	-0.4162	0.1197	-0.0046	
354	SLE RA 1	1.84	0.35	30.34	-0.2618	0.0745	-0.0029	
354	SLE RA 2	1.83	0.35	30.29	-0.2612	0.074	-0.0029	
354	SLE RA 3	1.91	0.36	30.98	-0.2698	0.0773	-0.003	
354	SLE RA 4	1.9	0.36	30.95	-0.2694	0.0771	-0.003	
354	SLE RA 5	1.89	0.36	30.79	-0.2671	0.0764	-0.0029	
354	SLE RA 6	1.97	0.37	31.47	-0.2757	0.0797	-0.003	
354	SLE RA 7	1.96	0.37	31.44	-0.2753	0.0795	-0.003	
354	SLE RA 8	1.96	0.36	31.33	-0.2736	0.0792	-0.003	
354	SLE RA 9	1.95	0.36	31.3	-0.2732	0.079	-0.003	
354	SLE RA 10	2.02	0.38	33.15	-0.2874	0.0817	-0.0032	
354	SLE RA 11	2.1	0.39	33.84	-0.296	0.085	-0.0032	
354	SLE RA 12	2.09	0.39	33.81	-0.2957	0.0848	-0.0032	
354	SLE RA 13	2.08	0.39	33.65	-0.2933	0.0841	-0.0032	
354	SLE RA 14	2.16	0.4	34.33	-0.3019	0.0874	-0.0033	
354	SLE RA 15	2.16	0.4	34.3	-0.3016	0.0871	-0.0033	
354	SLE RA 16	2.15	0.4	34.19	-0.2998	0.0869	-0.0033	
354	SLE RA 17	2.14	0.4	34.16	-0.2994	0.0867	-0.0033	
354	SLE RA 18	2.11	0.4	34.42	-0.2992	0.0855	-0.0033	
354	SLE RA 19	2.1	0.4	34.4	-0.2989	0.0852	-0.0033	
354	SLE RA 20	2.17	0.41	34.92	-0.3051	0.0878	-0.0033	
354	SLE RA 21	2.17	0.41	34.89	-0.3048	0.0876	-0.0033	
354	SLE FR 1	1.84	0.35	30.34	-0.2618	0.0745	-0.0029	
354	SLE FR 2	1.83	0.35	30.33	-0.2616	0.0744	-0.0029	
354	SLE FR 3	1.86	0.35	30.54	-0.2641	0.0754	-0.0029	
354	SLE FR 4	1.92	0.36	31.55	-0.2729	0.0777	-0.003	
354	SLE FR 5	1.94	0.37	31.76	-0.2754	0.0787	-0.003	
354	SLE FR 6	1.97	0.37	32.38	-0.2805	0.08	-0.0031	
354	SLE QP 1	1.84	0.35	30.34	-0.2618	0.0745	-0.0029	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
354	SLE QP 2	1.92	0.36	31.56	-0.273	0.0778	-0.003
354	SLD 1	7.6	0.26	30.68	-0.1635	0.3282	-0.0021
354	SLD 2	7.6	0.26	30.68	-0.1635	0.3282	-0.0021
354	SLD 3	8.02	0.42	33.6	-0.3332	0.3458	-0.0035
354	SLD 4	8.02	0.42	33.6	-0.3332	0.3458	-0.0035
354	SLD 5	2.99	0.08	26.88	0.0172	0.1262	-0.0007
354	SLD 6	2.99	0.08	26.88	0.0172	0.1262	-0.0007
354	SLD 7	4.38	0.63	36.59	-0.5484	0.1848	-0.0052
354	SLD 8	4.38	0.63	36.59	-0.5484	0.1848	-0.0052
354	SLD 9	-0.54	0.1	26.54	0.0025	-0.0293	-0.0008
354	SLD 10	-0.54	0.1	26.54	0.0025	-0.0293	-0.0008
354	SLD 11	0.84	0.64	36.25	-0.5632	0.0293	-0.0053
354	SLD 12	0.84	0.64	36.25	-0.5632	0.0293	-0.0053
354	SLD 13	-4.18	0.31	29.53	-0.2128	-0.1903	-0.0025
354	SLD 14	-4.18	0.31	29.53	-0.2128	-0.1903	-0.0025
354	SLD 15	-3.76	0.47	32.44	-0.3825	-0.1727	-0.0039
354	SLD 16	-3.76	0.47	32.44	-0.3825	-0.1727	-0.0039
354	SLV 1	15.17	0.11	29.44	-0.009	0.6618	-0.0009
354	SLV 2	15.17	0.11	29.44	-0.009	0.6618	-0.0009
354	SLV 3	16.15	0.5	36.4	-0.4186	0.7035	-0.0041
354	SLV 4	16.15	0.5	36.4	-0.4186	0.7035	-0.0041
354	SLV 5	4.4	-0.31	20.38	0.4275	0.1897	0.0025
354	SLV 6	4.4	-0.31	20.38	0.4275	0.1897	0.0025
354	SLV 7	7.68	1	43.56	-0.9379	0.3287	-0.0082
354	SLV 8	7.68	1	43.56	-0.9379	0.3287	-0.0082
354	SLV 9	-3.84	-0.28	19.56	0.3919	-0.1732	0.0023
354	SLV 10	-3.84	-0.28	19.56	0.3919	-0.1732	0.0023
354	SLV 11	-0.56	1.04	42.75	-0.9734	-0.0342	-0.0085
354	SLV 12	-0.56	1.04	42.75	-0.9734	-0.0342	-0.0085
354	SLV 13	-12.31	0.22	26.73	-0.1274	-0.548	-0.0019
354	SLV 14	-12.31	0.22	26.73	-0.1274	-0.548	-0.0019
354	SLV 15	-11.33	0.62	33.69	-0.537	-0.5063	-0.0051
354	SLV 16	-11.33	0.62	33.69	-0.537	-0.5063	-0.0051
355	SLU 1	2.96	0.34	31.34	-0.2399	0.1111	-0.0026
355	SLU 2	2.94	0.34	31.26	-0.2391	0.1102	-0.0026
355	SLU 3	3.14	0.36	32.43	-0.2516	0.1178	-0.0028
355	SLU 4	3.13	0.36	32.38	-0.2511	0.1173	-0.0028
355	SLU 5	3.09	0.35	32.12	-0.2477	0.1159	-0.0027
355	SLU 6	3.29	0.37	33.3	-0.2601	0.1234	-0.0029
355	SLU 7	3.28	0.37	33.25	-0.2596	0.1229	-0.0029
355	SLU 8	3.26	0.37	33.06	-0.2571	0.1224	-0.0028
355	SLU 9	3.25	0.37	33.02	-0.2566	0.1218	-0.0028
355	SLU 10	3.4	0.4	35.9	-0.2769	0.1273	-0.003
355	SLU 11	3.6	0.41	37.07	-0.2894	0.1349	-0.0032
355	SLU 12	3.58	0.41	37.03	-0.2889	0.1344	-0.0032
355	SLU 13	3.55	0.41	36.76	-0.2855	0.1329	-0.0031
355	SLU 14	3.75	0.43	37.94	-0.298	0.1405	-0.0033
355	SLU 15	3.73	0.43	37.89	-0.2975	0.14	-0.0033
355	SLU 16	3.72	0.42	37.7	-0.2949	0.1394	-0.0032
355	SLU 17	3.71	0.42	37.66	-0.2944	0.1389	-0.0032
355	SLU 18	3.61	0.42	37.96	-0.294	0.1355	-0.0032
355	SLU 19	3.6	0.42	37.92	-0.2935	0.135	-0.0032
355	SLU 20	3.76	0.43	38.83	-0.3026	0.1411	-0.0033
355	SLU 21	3.75	0.43	38.78	-0.3021	0.1406	-0.0033
355	SLU 22	3.43	0.4	35.69	-0.2783	0.1286	-0.0031
355	SLU 23	3.41	0.4	35.61	-0.2774	0.1277	-0.003
355	SLU 24	3.61	0.42	36.78	-0.2899	0.1353	-0.0032
355	SLU 25	3.6	0.41	36.74	-0.2894	0.1348	-0.0032
355	SLU 26	3.56	0.41	36.47	-0.286	0.1333	-0.0031
355	SLU 27	3.76	0.43	37.65	-0.2985	0.1409	-0.0033
355	SLU 28	3.75	0.43	37.6	-0.2979	0.1404	-0.0033
355	SLU 29	3.73	0.42	37.41	-0.2954	0.1398	-0.0033
355	SLU 30	3.72	0.42	37.37	-0.2949	0.1393	-0.0032
355	SLU 31	3.86	0.45	40.25	-0.3152	0.1448	-0.0035
355	SLU 32	4.06	0.47	41.42	-0.3277	0.1524	-0.0036
355	SLU 33	4.05	0.47	41.38	-0.3272	0.1519	-0.0036
355	SLU 34	4.01	0.46	41.11	-0.3238	0.1504	-0.0036
355	SLU 35	4.22	0.48	42.29	-0.3363	0.158	-0.0037
355	SLU 36	4.2	0.48	42.24	-0.3358	0.1575	-0.0037
355	SLU 37	4.19	0.48	42.05	-0.3332	0.1569	-0.0037
355	SLU 38	4.17	0.48	42.01	-0.3327	0.1564	-0.0037
355	SLU 39	4.08	0.48	42.32	-0.3323	0.153	-0.0037
355	SLU 40	4.07	0.47	42.27	-0.3318	0.1525	-0.0036
355	SLU 41	4.23	0.49	43.18	-0.3409	0.1586	-0.0037
355	SLU 42	4.22	0.49	43.13	-0.3404	0.1581	-0.0037
355	SLU 43	3.69	0.43	39.25	-0.2988	0.1384	-0.0033
355	SLU 44	3.67	0.43	39.17	-0.298	0.1376	-0.0033
355	SLU 45	3.87	0.44	40.34	-0.3104	0.1451	-0.0034
355	SLU 46	3.85	0.44	40.29	-0.3099	0.1446	-0.0034
355	SLU 47	3.82	0.44	40.03	-0.3065	0.1432	-0.0034
355	SLU 48	4.02	0.46	41.21	-0.319	0.1508	-0.0035
355	SLU 49	4	0.46	41.16	-0.3185	0.1503	-0.0035
355	SLU 50	3.99	0.45	40.97	-0.316	0.1497	-0.0035
355	SLU 51	3.98	0.45	40.92	-0.3155	0.1492	-0.0035
355	SLU 52	4.12	0.48	43.81	-0.3358	0.1546	-0.0037
355	SLU 53	4.32	0.5	44.98	-0.3482	0.1622	-0.0038
355	SLU 54	4.31	0.5	44.93	-0.3477	0.1617	-0.0038
355	SLU 55	4.27	0.49	44.67	-0.3444	0.1603	-0.0038





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
355	SLU 56	4.47	0.51	45.85	-0.3568	0.1679	-0.0039
355	SLU 57	4.46	0.51	45.8	-0.3563	0.1673	-0.0039
355	SLU 58	4.45	0.51	45.61	-0.3538	0.1668	-0.0039
355	SLU 59	4.43	0.51	45.57	-0.3533	0.1663	-0.0039
355	SLU 60	4.34	0.5	45.87	-0.3528	0.1628	-0.0039
355	SLU 61	4.33	0.5	45.83	-0.3523	0.1623	-0.0039
355	SLU 62	4.49	0.52	46.74	-0.3614	0.1685	-0.004
355	SLU 63	4.48	0.52	46.69	-0.3609	0.1679	-0.004
355	SLU 64	4.16	0.48	43.6	-0.3371	0.1559	-0.0037
355	SLU 65	4.14	0.48	43.52	-0.3363	0.155	-0.0037
355	SLU 66	4.34	0.5	44.69	-0.3487	0.1626	-0.0038
355	SLU 67	4.32	0.5	44.64	-0.3482	0.1621	-0.0038
355	SLU 68	4.29	0.49	44.38	-0.3448	0.1607	-0.0038
355	SLU 69	4.49	0.51	45.56	-0.3573	0.1683	-0.0039
355	SLU 70	4.47	0.51	45.51	-0.3568	0.1677	-0.0039
355	SLU 71	4.46	0.51	45.32	-0.3543	0.1672	-0.0039
355	SLU 72	4.44	0.51	45.28	-0.3538	0.1667	-0.0039
355	SLU 73	4.59	0.54	48.16	-0.3741	0.1721	-0.0041
355	SLU 74	4.79	0.55	49.33	-0.3865	0.1797	-0.0042
355	SLU 75	4.78	0.55	49.28	-0.386	0.1792	-0.0042
355	SLU 76	4.74	0.55	49.02	-0.3827	0.1778	-0.0042
355	SLU 77	4.94	0.57	50.2	-0.3951	0.1853	-0.0043
355	SLU 78	4.93	0.57	50.15	-0.3946	0.1848	-0.0043
355	SLU 79	4.91	0.56	49.96	-0.3921	0.1843	-0.0043
355	SLU 80	4.9	0.56	49.92	-0.3916	0.1837	-0.0043
355	SLU 81	4.81	0.56	50.22	-0.3911	0.1803	-0.0043
355	SLU 82	4.8	0.56	50.18	-0.3906	0.1798	-0.0043
355	SLU 83	4.96	0.57	51.09	-0.3997	0.1859	-0.0044
355	SLU 84	4.95	0.57	51.04	-0.3992	0.1854	-0.0044
355	SLE RA 1	3.09	0.36	32.58	-0.2509	0.1161	-0.0028
355	SLE RA 2	3.08	0.36	32.53	-0.2503	0.1155	-0.0027
355	SLE RA 3	3.21	0.37	33.31	-0.2586	0.1206	-0.0028
355	SLE RA 4	3.21	0.37	33.28	-0.2583	0.1202	-0.0028
355	SLE RA 5	3.18	0.37	33.1	-0.2561	0.1193	-0.0028
355	SLE RA 6	3.31	0.38	33.89	-0.2644	0.1243	-0.0029
355	SLE RA 7	3.31	0.38	33.85	-0.264	0.124	-0.0029
355	SLE RA 8	3.29	0.38	33.73	-0.2623	0.1236	-0.0029
355	SLE RA 9	3.29	0.38	33.7	-0.262	0.1233	-0.0029
355	SLE RA 10	3.39	0.39	35.62	-0.2755	0.1269	-0.003
355	SLE RA 11	3.52	0.41	36.4	-0.2838	0.1319	-0.0031
355	SLE RA 12	3.51	0.41	36.37	-0.2835	0.1316	-0.0031
355	SLE RA 13	3.49	0.4	36.2	-0.2813	0.1307	-0.0031
355	SLE RA 14	3.62	0.41	36.98	-0.2896	0.1357	-0.0032
355	SLE RA 15	3.61	0.41	36.95	-0.2892	0.1354	-0.0032
355	SLE RA 16	3.6	0.41	36.82	-0.2876	0.135	-0.0032
355	SLE RA 17	3.59	0.41	36.79	-0.2872	0.1346	-0.0032
355	SLE RA 18	3.53	0.41	37	-0.2869	0.1324	-0.0032
355	SLE RA 19	3.52	0.41	36.97	-0.2866	0.132	-0.0031
355	SLE RA 20	3.63	0.42	37.57	-0.2926	0.1361	-0.0032
355	SLE RA 21	3.62	0.42	37.54	-0.2923	0.1358	-0.0032
355	SLE FR 1	3.09	0.36	32.58	-0.2509	0.1161	-0.0028
355	SLE FR 2	3.09	0.36	32.57	-0.2508	0.116	-0.0028
355	SLE FR 3	3.13	0.36	32.81	-0.2532	0.1176	-0.0028
355	SLE FR 4	3.22	0.37	33.89	-0.2616	0.1208	-0.0029
355	SLE FR 5	3.27	0.38	34.14	-0.264	0.1225	-0.0029
355	SLE FR 6	3.31	0.38	34.79	-0.2689	0.1242	-0.003
355	SLE QP 1	3.09	0.36	32.58	-0.2509	0.1161	-0.0028
355	SLE QP 2	3.23	0.37	33.9	-0.2617	0.121	-0.0029
355	SLD 1	8.51	0.27	33.3	-0.1608	0.3518	-0.0021
355	SLD 2	8.51	0.27	33.3	-0.1608	0.3518	-0.0021
355	SLD 3	9.05	0.42	36.22	-0.3137	0.3735	-0.0033
355	SLD 4	9.05	0.42	36.22	-0.3137	0.3735	-0.0033
355	SLD 5	3.98	0.12	29.3	0.0006	0.1573	-0.0008
355	SLD 6	3.98	0.12	29.3	0.0006	0.1573	-0.0008
355	SLD 7	5.8	0.61	39.03	-0.5093	0.2296	-0.0048
355	SLD 8	5.8	0.61	39.03	-0.5093	0.2296	-0.0048
355	SLD 9	0.65	0.14	28.78	-0.0141	0.0123	-0.001
355	SLD 10	0.65	0.14	28.78	-0.0141	0.0123	-0.001
355	SLD 11	2.47	0.63	38.51	-0.524	0.0846	-0.0049
355	SLD 12	2.47	0.63	38.51	-0.524	0.0846	-0.0049
355	SLD 13	-2.6	0.33	31.59	-0.2096	-0.1316	-0.0025
355	SLD 14	-2.6	0.33	31.59	-0.2096	-0.1316	-0.0025
355	SLD 15	-2.06	0.47	34.51	-0.3626	-0.1099	-0.0037
355	SLD 16	-2.06	0.47	34.51	-0.3626	-0.1099	-0.0037
355	SLV 1	15.53	0.13	32.43	-0.0184	0.659	-0.0009
355	SLV 2	15.53	0.13	32.43	-0.0184	0.659	-0.0009
355	SLV 3	16.84	0.49	39.39	-0.3878	0.7107	-0.0038
355	SLV 4	16.84	0.49	39.39	-0.3878	0.7107	-0.0038
355	SLV 5	4.94	-0.23	22.91	0.3716	0.204	0.002
355	SLV 6	4.94	-0.23	22.91	0.3716	0.204	0.002
355	SLV 7	9.29	0.94	46.1	-0.8598	0.3762	-0.0075
355	SLV 8	9.29	0.94	46.1	-0.8598	0.3762	-0.0075
355	SLV 9	-2.84	-0.19	21.71	0.3365	-0.1343	0.0017
355	SLV 10	-2.84	-0.19	21.71	0.3365	-0.1343	0.0017
355	SLV 11	1.51	0.98	44.9	-0.895	0.0379	-0.0078
355	SLV 12	1.51	0.98	44.9	-0.895	0.0379	-0.0078
355	SLV 13	-10.38	0.26	28.42	-0.1356	-0.4688	-0.0019
355	SLV 14	-10.38	0.26	28.42	-0.1356	-0.4688	-0.0019



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
355	SLV 15	-9.08	0.61	35.38	-0.505	-0.4171	-0.0048	
355	SLV 16	-9.08	0.61	35.38	-0.505	-0.4171	-0.0048	
356	SLU 1	3.67	0.31	34.5	-0.2094	0.1454	-0.0022	
356	SLU 2	3.64	0.31	34.41	-0.2087	0.1444	-0.0022	
356	SLU 3	3.9	0.33	35.8	-0.2195	0.1544	-0.0023	
356	SLU 4	3.88	0.33	35.75	-0.2191	0.1538	-0.0023	
356	SLU 5	3.83	0.33	35.45	-0.2161	0.1519	-0.0023	
356	SLU 6	4.09	0.34	36.84	-0.2269	0.1619	-0.0024	
356	SLU 7	4.07	0.34	36.78	-0.2265	0.1613	-0.0024	
356	SLU 8	4.05	0.34	36.58	-0.2243	0.1605	-0.0024	
356	SLU 9	4.04	0.34	36.52	-0.2239	0.1598	-0.0024	
356	SLU 10	4.18	0.36	39.55	-0.2418	0.1655	-0.0025	
356	SLU 11	4.43	0.38	40.94	-0.2526	0.1755	-0.0026	
356	SLU 12	4.41	0.38	40.89	-0.2522	0.1749	-0.0026	
356	SLU 13	4.37	0.38	40.59	-0.2492	0.173	-0.0026	
356	SLU 14	4.62	0.39	41.98	-0.2601	0.183	-0.0027	
356	SLU 15	4.61	0.39	41.92	-0.2596	0.1824	-0.0027	
356	SLU 16	4.59	0.39	41.72	-0.2574	0.1815	-0.0027	
356	SLU 17	4.57	0.39	41.66	-0.257	0.1809	-0.0027	
356	SLU 18	4.43	0.39	41.85	-0.2567	0.1756	-0.0027	
356	SLU 19	4.41	0.39	41.79	-0.2563	0.1749	-0.0027	
356	SLU 20	4.62	0.4	42.88	-0.2642	0.1831	-0.0028	
356	SLU 21	4.61	0.4	42.83	-0.2637	0.1824	-0.0028	
356	SLU 22	4.23	0.37	39.37	-0.2429	0.1678	-0.0025	
356	SLU 23	4.21	0.36	39.28	-0.2422	0.1668	-0.0025	
356	SLU 24	4.46	0.38	40.67	-0.253	0.1768	-0.0027	
356	SLU 25	4.45	0.38	40.61	-0.2525	0.1762	-0.0026	
356	SLU 26	4.4	0.38	40.32	-0.2496	0.1743	-0.0026	
356	SLU 27	4.65	0.39	41.71	-0.2604	0.1843	-0.0027	
356	SLU 28	4.64	0.39	41.65	-0.26	0.1837	-0.0027	
356	SLU 29	4.62	0.39	41.45	-0.2577	0.1828	-0.0027	
356	SLU 30	4.6	0.39	41.39	-0.2573	0.1822	-0.0027	
356	SLU 31	4.74	0.41	44.42	-0.2753	0.1878	-0.0029	
356	SLU 32	5	0.43	45.81	-0.2861	0.1979	-0.003	
356	SLU 33	4.98	0.43	45.76	-0.2856	0.1972	-0.003	
356	SLU 34	4.93	0.43	45.46	-0.2827	0.1954	-0.003	
356	SLU 35	5.19	0.44	46.85	-0.2935	0.2054	-0.0031	
356	SLU 36	5.17	0.44	46.79	-0.2931	0.2047	-0.0031	
356	SLU 37	5.15	0.44	46.59	-0.2909	0.2039	-0.0031	
356	SLU 38	5.14	0.44	46.53	-0.2904	0.2033	-0.0031	
356	SLU 39	5	0.44	46.72	-0.2902	0.1979	-0.003	
356	SLU 40	4.98	0.44	46.66	-0.2897	0.1973	-0.003	
356	SLU 41	5.19	0.45	47.75	-0.2976	0.2054	-0.0031	
356	SLU 42	5.17	0.45	47.7	-0.2972	0.2048	-0.0031	
356	SLU 43	4.57	0.39	43.18	-0.2608	0.1814	-0.0027	
356	SLU 44	4.55	0.39	43.09	-0.2601	0.1804	-0.0027	
356	SLU 45	4.8	0.41	44.48	-0.2709	0.1904	-0.0028	
356	SLU 46	4.79	0.41	44.43	-0.2704	0.1898	-0.0028	
356	SLU 47	4.74	0.4	44.13	-0.2675	0.1879	-0.0028	
356	SLU 48	4.99	0.42	45.52	-0.2783	0.1979	-0.0029	
356	SLU 49	4.98	0.42	45.46	-0.2779	0.1973	-0.0029	
356	SLU 50	4.96	0.42	45.26	-0.2756	0.1964	-0.0029	
356	SLU 51	4.94	0.41	45.2	-0.2752	0.1958	-0.0029	
356	SLU 52	5.08	0.44	48.23	-0.2932	0.2014	-0.0031	
356	SLU 53	5.34	0.46	49.62	-0.304	0.2115	-0.0032	
356	SLU 54	5.32	0.46	49.57	-0.3035	0.2108	-0.0032	
356	SLU 55	5.27	0.45	49.27	-0.3006	0.209	-0.0032	
356	SLU 56	5.53	0.47	50.66	-0.3114	0.219	-0.0033	
356	SLU 57	5.51	0.47	50.6	-0.311	0.2183	-0.0033	
356	SLU 58	5.49	0.47	50.4	-0.3088	0.2175	-0.0032	
356	SLU 59	5.48	0.46	50.34	-0.3083	0.2169	-0.0032	
356	SLU 60	5.34	0.46	50.53	-0.3081	0.2115	-0.0032	
356	SLU 61	5.32	0.46	50.47	-0.3076	0.2109	-0.0032	
356	SLU 62	5.53	0.48	51.57	-0.3155	0.219	-0.0033	
356	SLU 63	5.51	0.47	51.51	-0.3151	0.2184	-0.0033	
356	SLU 64	5.14	0.44	48.05	-0.2942	0.2038	-0.0031	
356	SLU 65	5.11	0.44	47.96	-0.2935	0.2027	-0.0031	
356	SLU 66	5.37	0.46	49.35	-0.3043	0.2128	-0.0032	
356	SLU 67	5.35	0.46	49.3	-0.3039	0.2121	-0.0032	
356	SLU 68	5.31	0.45	49	-0.3009	0.2103	-0.0032	
356	SLU 69	5.56	0.47	50.39	-0.3118	0.2203	-0.0033	
356	SLU 70	5.55	0.47	50.33	-0.3113	0.2196	-0.0033	
356	SLU 71	5.52	0.47	50.13	-0.3091	0.2188	-0.0032	
356	SLU 72	5.51	0.47	50.07	-0.3087	0.2182	-0.0032	
356	SLU 73	5.65	0.49	53.1	-0.3266	0.2238	-0.0034	
356	SLU 74	5.9	0.51	54.49	-0.3374	0.2338	-0.0035	
356	SLU 75	5.89	0.51	54.44	-0.337	0.2332	-0.0035	
356	SLU 76	5.84	0.5	54.14	-0.3341	0.2313	-0.0035	
356	SLU 77	6.09	0.52	55.53	-0.3449	0.2413	-0.0036	
356	SLU 78	6.08	0.52	55.47	-0.3444	0.2407	-0.0036	
356	SLU 79	6.06	0.52	55.27	-0.3422	0.2399	-0.0036	
356	SLU 80	6.04	0.52	55.21	-0.3418	0.2393	-0.0036	
356	SLU 81	5.9	0.51	55.4	-0.3415	0.2339	-0.0036	
356	SLU 82	5.89	0.51	55.34	-0.3411	0.2333	-0.0036	
356	SLU 83	6.09	0.53	56.44	-0.349	0.2414	-0.0037	
356	SLU 84	6.08	0.53	56.38	-0.3485	0.2408	-0.0037	
356	SLE RA 1	3.83	0.33	35.89	-0.219	0.1518	-0.0023	
356	SLE RA 2	3.81	0.33	35.83	-0.2185	0.1511	-0.0023	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
356	SLE RA 3	3.98	0.34	36.76	-0.2257	0.1578	-0.0024
356	SLE RA 4	3.97	0.34	36.72	-0.2254	0.1574	-0.0024
356	SLE RA 5	3.94	0.34	36.52	-0.2235	0.1562	-0.0023
356	SLE RA 6	4.11	0.35	37.45	-0.2307	0.1628	-0.0024
356	SLE RA 7	4.1	0.35	37.41	-0.2304	0.1624	-0.0024
356	SLE RA 8	4.09	0.34	37.28	-0.2289	0.1619	-0.0024
356	SLE RA 9	4.08	0.34	37.24	-0.2286	0.1614	-0.0024
356	SLE RA 10	4.17	0.36	39.26	-0.2406	0.1652	-0.0025
356	SLE RA 11	4.34	0.37	40.19	-0.2478	0.1719	-0.0026
356	SLE RA 12	4.33	0.37	40.15	-0.2475	0.1715	-0.0026
356	SLE RA 13	4.3	0.37	39.95	-0.2455	0.1702	-0.0026
356	SLE RA 14	4.47	0.38	40.88	-0.2527	0.1769	-0.0027
356	SLE RA 15	4.46	0.38	40.84	-0.2524	0.1765	-0.0026
356	SLE RA 16	4.44	0.38	40.7	-0.251	0.1759	-0.0026
356	SLE RA 17	4.43	0.38	40.67	-0.2507	0.1755	-0.0026
356	SLE RA 18	4.34	0.38	40.79	-0.2505	0.1719	-0.0026
356	SLE RA 19	4.33	0.38	40.75	-0.2502	0.1715	-0.0026
356	SLE RA 20	4.47	0.38	41.48	-0.2555	0.1769	-0.0027
356	SLE RA 21	4.46	0.38	41.45	-0.2552	0.1765	-0.0027
356	SLE FR 1	3.83	0.33	35.89	-0.219	0.1518	-0.0023
356	SLE FR 2	3.83	0.33	35.88	-0.2189	0.1517	-0.0023
356	SLE FR 3	3.88	0.33	36.17	-0.221	0.1538	-0.0023
356	SLE FR 4	3.98	0.34	37.35	-0.2283	0.1577	-0.0024
356	SLE FR 5	4.03	0.35	37.64	-0.2304	0.1599	-0.0024
356	SLE FR 6	4.08	0.35	38.34	-0.2348	0.1619	-0.0025
356	SLE QP 1	3.83	0.33	35.89	-0.219	0.1518	-0.0023
356	SLE QP 2	3.98	0.34	37.36	-0.2284	0.1579	-0.0024
356	SLD 1	8.93	0.25	36.77	-0.1401	0.3782	-0.0017
356	SLD 2	8.93	0.25	36.77	-0.1401	0.3782	-0.0017
356	SLD 3	9.6	0.37	39.83	-0.2665	0.4058	-0.0026
356	SLD 4	9.6	0.37	39.83	-0.2665	0.4058	-0.0026
356	SLD 5	4.44	0.14	32.54	-0.0103	0.1822	-0.0008
356	SLD 6	4.44	0.14	32.54	-0.0103	0.1822	-0.0008
356	SLD 7	6.69	0.53	42.75	-0.4315	0.274	-0.0038
356	SLD 8	6.69	0.53	42.75	-0.4315	0.274	-0.0038
356	SLD 9	1.27	0.16	31.98	-0.0254	0.0417	-0.0009
356	SLD 10	1.27	0.16	31.98	-0.0254	0.0417	-0.0009
356	SLD 11	3.52	0.55	42.19	-0.4466	0.1335	-0.004
356	SLD 12	3.52	0.55	42.19	-0.4466	0.1335	-0.004
356	SLD 13	-1.64	0.32	34.9	-0.1904	-0.0901	-0.0022
356	SLD 14	-1.64	0.32	34.9	-0.1904	-0.0901	-0.0022
356	SLD 15	-0.97	0.43	37.96	-0.3167	-0.0625	-0.0031
356	SLD 16	-0.97	0.43	37.96	-0.3167	-0.0625	-0.0031
356	SLV 1	15.5	0.13	35.93	-0.0151	0.671	-0.0008
356	SLV 2	15.5	0.13	35.93	-0.0151	0.671	-0.0008
356	SLV 3	17.12	0.4	43.21	-0.3206	0.7372	-0.003
356	SLV 4	17.12	0.4	43.21	-0.3206	0.7372	-0.003
356	SLV 5	4.98	-0.14	25.89	0.2989	0.2114	0.0014
356	SLV 6	4.98	-0.14	25.89	0.2989	0.2114	0.0014
356	SLV 7	10.38	0.78	50.16	-0.7195	0.432	-0.0059
356	SLV 8	10.38	0.78	50.16	-0.7195	0.432	-0.0059
356	SLV 9	-2.41	-0.1	24.57	0.2626	-0.1163	0.0011
356	SLV 10	-2.41	-0.1	24.57	0.2626	-0.1163	0.0011
356	SLV 11	2.98	0.83	48.84	-0.7558	0.1043	-0.0062
356	SLV 12	2.98	0.83	48.84	-0.7558	0.1043	-0.0062
356	SLV 13	-9.15	0.28	31.52	-0.1363	-0.4215	-0.0018
356	SLV 14	-9.15	0.28	31.52	-0.1363	-0.4215	-0.0018
356	SLV 15	-7.54	0.56	38.8	-0.4418	-0.3553	-0.004
356	SLV 16	-7.54	0.56	38.8	-0.4418	-0.3553	-0.004
357	SLU 1	3.45	0.21	38.14	-0.1517	0.1249	-0.0013
357	SLU 2	3.43	0.21	38.04	-0.1512	0.1238	-0.0013
357	SLU 3	3.69	0.22	39.68	-0.1588	0.1334	-0.0014
357	SLU 4	3.67	0.22	39.62	-0.1585	0.1328	-0.0014
357	SLU 5	3.63	0.22	39.28	-0.1563	0.1312	-0.0014
357	SLU 6	3.88	0.23	40.92	-0.164	0.1407	-0.0014
357	SLU 7	3.87	0.23	40.86	-0.1637	0.1401	-0.0014
357	SLU 8	3.85	0.23	40.63	-0.162	0.1395	-0.0014
357	SLU 9	3.84	0.23	40.57	-0.1617	0.1389	-0.0014
357	SLU 10	3.88	0.25	43.73	-0.1752	0.1399	-0.0015
357	SLU 11	4.14	0.26	45.37	-0.1828	0.1494	-0.0016
357	SLU 12	4.13	0.26	45.31	-0.1825	0.1488	-0.0016
357	SLU 13	4.08	0.26	44.97	-0.1803	0.1472	-0.0016
357	SLU 14	4.34	0.27	46.62	-0.188	0.1567	-0.0016
357	SLU 15	4.33	0.27	46.55	-0.1877	0.1561	-0.0016
357	SLU 16	4.31	0.26	46.32	-0.186	0.1555	-0.0016
357	SLU 17	4.29	0.26	46.26	-0.1857	0.1549	-0.0016
357	SLU 18	4.11	0.26	46.28	-0.186	0.1478	-0.0016
357	SLU 19	4.09	0.26	46.21	-0.1857	0.1472	-0.0016
357	SLU 20	4.31	0.27	47.52	-0.1912	0.1551	-0.0017
357	SLU 21	4.29	0.27	47.46	-0.1908	0.1545	-0.0017
357	SLU 22	3.97	0.25	43.6	-0.1759	0.1431	-0.0015
357	SLU 23	3.94	0.25	43.49	-0.1754	0.1421	-0.0015
357	SLU 24	4.2	0.26	45.14	-0.183	0.1516	-0.0016
357	SLU 25	4.18	0.26	45.07	-0.1827	0.151	-0.0016
357	SLU 26	4.14	0.26	44.74	-0.1805	0.1494	-0.0016
357	SLU 27	4.4	0.27	46.38	-0.1881	0.1589	-0.0016
357	SLU 28	4.38	0.27	46.32	-0.1878	0.1583	-0.0016
357	SLU 29	4.36	0.26	46.09	-0.1862	0.1577	-0.0016



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
357	SLU 30	4.35	0.26	46.02	-0.1858	0.1571	-0.0016		
357	SLU 31	4.4	0.28	49.19	-0.1994	0.1581	-0.0017		
357	SLU 32	4.66	0.29	50.83	-0.207	0.1677	-0.0018		
357	SLU 33	4.64	0.29	50.77	-0.2067	0.167	-0.0018		
357	SLU 34	4.6	0.29	50.43	-0.2045	0.1654	-0.0018		
357	SLU 35	4.85	0.3	52.07	-0.2121	0.175	-0.0019		
357	SLU 36	4.84	0.3	52.01	-0.2118	0.1743	-0.0018		
357	SLU 37	4.82	0.3	51.78	-0.2102	0.1738	-0.0018		
357	SLU 38	4.81	0.3	51.72	-0.2099	0.1732	-0.0018		
357	SLU 39	4.62	0.3	51.73	-0.2102	0.166	-0.0018		
357	SLU 40	4.6	0.3	51.67	-0.2099	0.1654	-0.0018		
357	SLU 41	4.82	0.31	52.98	-0.2153	0.1733	-0.0019		
357	SLU 42	4.8	0.31	52.91	-0.215	0.1727	-0.0019		
357	SLU 43	4.31	0.27	47.72	-0.189	0.1561	-0.0016		
357	SLU 44	4.29	0.27	47.61	-0.1884	0.1551	-0.0016		
357	SLU 45	4.55	0.28	49.25	-0.1961	0.1646	-0.0017		
357	SLU 46	4.53	0.28	49.19	-0.1958	0.164	-0.0017		
357	SLU 47	4.49	0.27	48.85	-0.1936	0.1624	-0.0017		
357	SLU 48	4.74	0.29	50.5	-0.2012	0.1719	-0.0018		
357	SLU 49	4.73	0.28	50.43	-0.2009	0.1713	-0.0017		
357	SLU 50	4.71	0.28	50.2	-0.1992	0.1707	-0.0017		
357	SLU 51	4.7	0.28	50.14	-0.1989	0.1701	-0.0017		
357	SLU 52	4.74	0.3	53.3	-0.2124	0.1711	-0.0018		
357	SLU 53	5	0.31	54.95	-0.2201	0.1806	-0.0019		
357	SLU 54	4.99	0.31	54.88	-0.2198	0.18	-0.0019		
357	SLU 55	4.94	0.31	54.55	-0.2176	0.1784	-0.0019		
357	SLU 56	5.2	0.32	56.19	-0.2252	0.188	-0.002		
357	SLU 57	5.19	0.32	56.13	-0.2249	0.1873	-0.002		
357	SLU 58	5.17	0.32	55.9	-0.2232	0.1868	-0.0019		
357	SLU 59	5.15	0.32	55.83	-0.2229	0.1861	-0.0019		
357	SLU 60	4.97	0.32	55.85	-0.2233	0.179	-0.0019		
357	SLU 61	4.95	0.32	55.79	-0.2229	0.1784	-0.0019		
357	SLU 62	5.17	0.32	57.09	-0.2284	0.1863	-0.002		
357	SLU 63	5.15	0.32	57.03	-0.2281	0.1857	-0.002		
357	SLU 64	4.83	0.3	53.17	-0.2131	0.1743	-0.0019		
357	SLU 65	4.8	0.3	53.07	-0.2126	0.1733	-0.0018		
357	SLU 66	5.06	0.31	54.71	-0.2202	0.1828	-0.0019		
357	SLU 67	5.04	0.31	54.65	-0.2199	0.1822	-0.0019		
357	SLU 68	5	0.31	54.31	-0.2177	0.1806	-0.0019		
357	SLU 69	5.26	0.32	55.95	-0.2254	0.1901	-0.002		
357	SLU 70	5.24	0.32	55.89	-0.2251	0.1895	-0.002		
357	SLU 71	5.22	0.32	55.66	-0.2234	0.1889	-0.0019		
357	SLU 72	5.21	0.32	55.6	-0.2231	0.1883	-0.0019		
357	SLU 73	5.26	0.33	58.76	-0.2366	0.1893	-0.0021		
357	SLU 74	5.52	0.35	60.4	-0.2442	0.1989	-0.0021		
357	SLU 75	5.5	0.35	60.34	-0.2439	0.1982	-0.0021		
357	SLU 76	5.46	0.34	60	-0.2417	0.1966	-0.0021		
357	SLU 77	5.71	0.35	61.65	-0.2494	0.2062	-0.0022		
357	SLU 78	5.7	0.35	61.58	-0.2491	0.2056	-0.0022		
357	SLU 79	5.68	0.35	61.35	-0.2474	0.205	-0.0022		
357	SLU 80	5.67	0.35	61.29	-0.2471	0.2044	-0.0022		
357	SLU 81	5.48	0.35	61.31	-0.2474	0.1972	-0.0022		
357	SLU 82	5.46	0.35	61.24	-0.2471	0.1966	-0.0022		
357	SLU 83	5.68	0.36	62.55	-0.2526	0.2045	-0.0022		
357	SLU 84	5.66	0.36	62.49	-0.2522	0.2039	-0.0022		
357	SLE RA 1	3.6	0.22	39.7	-0.1586	0.1301	-0.0014		
357	SLE RA 2	3.58	0.22	39.63	-0.1583	0.1294	-0.0014		
357	SLE RA 3	3.75	0.23	40.73	-0.1634	0.1358	-0.0014		
357	SLE RA 4	3.74	0.23	40.68	-0.1632	0.1353	-0.0014		
357	SLE RA 5	3.71	0.23	40.46	-0.1617	0.1343	-0.0014		
357	SLE RA 6	3.89	0.24	41.56	-0.1668	0.1406	-0.0015		
357	SLE RA 7	3.88	0.24	41.51	-0.1666	0.1402	-0.0015		
357	SLE RA 8	3.87	0.23	41.36	-0.1655	0.1398	-0.0014		
357	SLE RA 9	3.85	0.23	41.32	-0.1653	0.1394	-0.0014		
357	SLE RA 10	3.89	0.25	43.43	-0.1743	0.1401	-0.0015		
357	SLE RA 11	4.06	0.25	44.52	-0.1794	0.1465	-0.0016		
357	SLE RA 12	4.05	0.25	44.48	-0.1792	0.146	-0.0016		
357	SLE RA 13	4.02	0.25	44.26	-0.1777	0.145	-0.0015		
357	SLE RA 14	4.19	0.26	45.35	-0.1828	0.1513	-0.0016		
357	SLE RA 15	4.18	0.26	45.31	-0.1826	0.1509	-0.0016		
357	SLE RA 16	4.17	0.26	45.16	-0.1815	0.1505	-0.0016		
357	SLE RA 17	4.16	0.26	45.11	-0.1813	0.1501	-0.0016		
357	SLE RA 18	4.03	0.26	45.12	-0.1815	0.1454	-0.0016		
357	SLE RA 19	4.02	0.26	45.08	-0.1813	0.1449	-0.0016		
357	SLE RA 20	4.17	0.26	45.95	-0.1849	0.1502	-0.0016		
357	SLE RA 21	4.16	0.26	45.91	-0.1847	0.1498	-0.0016		
357	SLE FR 1	3.6	0.22	39.7	-0.1586	0.1301	-0.0014		
357	SLE FR 2	3.6	0.22	39.69	-0.1586	0.1299	-0.0014		
357	SLE FR 3	3.65	0.23	40.03	-0.16	0.132	-0.0014		
357	SLE FR 4	3.73	0.23	41.32	-0.1654	0.1345	-0.0014		
357	SLE FR 5	3.78	0.24	41.66	-0.1669	0.1366	-0.0015		
357	SLE FR 6	3.82	0.24	42.41	-0.1701	0.1377	-0.0015		
357	SLE QP 1	3.6	0.22	39.7	-0.1586	0.1301	-0.0014		
357	SLE QP 2	3.73	0.23	41.33	-0.1655	0.1347	-0.0014		
357	SLD 1	8.4	0.15	40.64	-0.0933	0.3406	-0.001		
357	SLD 2	8.4	0.15	40.64	-0.0933	0.3406	-0.001		
357	SLD 3	9.15	0.23	44.07	-0.1863	0.3696	-0.0015		
357	SLD 4	9.15	0.23	44.07	-0.1863	0.3696	-0.0015		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
357	SLD 5			3.99	0.1	35.92	-0.0028	0.1525	-0.0005
357	SLD 6			3.99	0.1	35.92	-0.0028	0.1525	-0.0005
357	SLD 7			6.49	0.35	47.35	-0.3128	0.2491	-0.0023
357	SLD 8			6.49	0.35	47.35	-0.3128	0.2491	-0.0023
357	SLD 9			0.97	0.12	35.31	-0.0182	0.0202	-0.0006
357	SLD 10			0.97	0.12	35.31	-0.0182	0.0202	-0.0006
357	SLD 11			3.47	0.37	46.74	-0.3282	0.1169	-0.0024
357	SLD 12			3.47	0.37	46.74	-0.3282	0.1169	-0.0024
357	SLD 13			-1.69	0.24	38.59	-0.1447	-0.1003	-0.0014
357	SLD 14			-1.69	0.24	38.59	-0.1447	-0.1003	-0.0014
357	SLD 15			-0.94	0.31	42.02	-0.2377	-0.0713	-0.0019
357	SLD 16			-0.94	0.31	42.02	-0.2377	-0.0713	-0.0019
357	SLV 1			14.59	0.04	39.68	0.01	0.6139	-0.0003
357	SLV 2			14.59	0.04	39.68	0.01	0.6139	-0.0003
357	SLV 3			16.4	0.22	47.82	-0.2153	0.6838	-0.0016
357	SLV 4			16.4	0.22	47.82	-0.2153	0.6838	-0.0016
357	SLV 5			4.25	-0.1	28.49	0.2288	0.1723	0.0009
357	SLV 6			4.25	-0.1	28.49	0.2288	0.1723	0.0009
357	SLV 7			10.27	0.51	55.62	-0.5221	0.4055	-0.0035
357	SLV 8			10.27	0.51	55.62	-0.5221	0.4055	-0.0035
357	SLV 9			-2.81	-0.04	27.04	0.1911	-0.1362	0.0006
357	SLV 10			-2.81	-0.04	27.04	0.1911	-0.1362	0.0006
357	SLV 11			3.21	0.57	54.16	-0.5598	0.097	-0.0038
357	SLV 12			3.21	0.57	54.16	-0.5598	0.097	-0.0038
357	SLV 13			-8.94	0.25	34.84	-0.1157	-0.4145	-0.0013
357	SLV 14			-8.94	0.25	34.84	-0.1157	-0.4145	-0.0013
357	SLV 15			-7.13	0.43	42.97	-0.341	-0.3445	-0.0026
357	SLV 16			-7.13	0.43	42.97	-0.341	-0.3445	-0.0026
358	SLU 1			2.75	0.03	41.91	-0.0718	0.1	-0.0003
358	SLU 2			2.72	0.03	41.79	-0.0715	0.099	-0.0003
358	SLU 3			2.96	0.04	43.71	-0.0747	0.1075	-0.0003
358	SLU 4			2.94	0.04	43.64	-0.0746	0.1069	-0.0003
358	SLU 5			2.91	0.03	43.27	-0.0734	0.1055	-0.0003
358	SLU 6			3.14	0.04	45.19	-0.0766	0.1141	-0.0003
358	SLU 7			3.12	0.04	45.12	-0.0765	0.1134	-0.0003
358	SLU 8			3.11	0.04	44.86	-0.0756	0.1131	-0.0003
358	SLU 9			3.1	0.04	44.79	-0.0754	0.1125	-0.0003
358	SLU 10			3.03	0.04	48.03	-0.0828	0.1097	-0.0003
358	SLU 11			3.26	0.04	49.95	-0.086	0.1182	-0.0003
358	SLU 12			3.25	0.04	49.88	-0.0859	0.1176	-0.0003
358	SLU 13			3.21	0.04	49.51	-0.0847	0.1162	-0.0003
358	SLU 14			3.45	0.04	51.43	-0.0879	0.1248	-0.0003
358	SLU 15			3.43	0.04	51.36	-0.0878	0.1242	-0.0003
358	SLU 16			3.42	0.04	51.1	-0.0869	0.1238	-0.0003
358	SLU 17			3.41	0.04	51.03	-0.0867	0.1232	-0.0003
358	SLU 18			3.19	0.04	50.82	-0.0879	0.1153	-0.0003
358	SLU 19			3.17	0.04	50.75	-0.0878	0.1147	-0.0003
358	SLU 20			3.37	0.04	52.3	-0.0898	0.1219	-0.0003
358	SLU 21			3.35	0.04	52.23	-0.0897	0.1212	-0.0003
358	SLU 22			3.13	0.04	47.96	-0.083	0.1135	-0.0003
358	SLU 23			3.1	0.04	47.84	-0.0828	0.1125	-0.0003
358	SLU 24			3.34	0.04	49.77	-0.086	0.1211	-0.0003
358	SLU 25			3.32	0.04	49.69	-0.0858	0.1205	-0.0003
358	SLU 26			3.29	0.04	49.32	-0.0847	0.1191	-0.0003
358	SLU 27			3.52	0.04	51.24	-0.0879	0.1276	-0.0003
358	SLU 28			3.51	0.04	51.17	-0.0877	0.127	-0.0003
358	SLU 29			3.5	0.04	50.92	-0.0868	0.1267	-0.0003
358	SLU 30			3.48	0.04	50.85	-0.0867	0.1261	-0.0003
358	SLU 31			3.41	0.04	54.08	-0.0941	0.1233	-0.0004
358	SLU 32			3.64	0.05	56.01	-0.0973	0.1318	-0.0004
358	SLU 33			3.63	0.05	55.93	-0.0971	0.1312	-0.0004
358	SLU 34			3.59	0.05	55.56	-0.096	0.1298	-0.0004
358	SLU 35			3.83	0.05	57.48	-0.0992	0.1384	-0.0004
358	SLU 36			3.81	0.05	57.41	-0.099	0.1377	-0.0004
358	SLU 37			3.8	0.05	57.16	-0.0981	0.1374	-0.0004
358	SLU 38			3.79	0.05	57.09	-0.098	0.1368	-0.0004
358	SLU 39			3.57	0.05	56.88	-0.0992	0.1289	-0.0004
358	SLU 40			3.55	0.05	56.8	-0.099	0.1283	-0.0004
358	SLU 41			3.75	0.05	58.35	-0.1011	0.1354	-0.0004
358	SLU 42			3.73	0.05	58.28	-0.1009	0.1348	-0.0004
358	SLU 43			3.44	0.04	52.4	-0.0894	0.1253	-0.0003
358	SLU 44			3.42	0.04	52.28	-0.0892	0.1243	-0.0003
358	SLU 45			3.65	0.04	54.21	-0.0924	0.1328	-0.0003
358	SLU 46			3.63	0.04	54.14	-0.0922	0.1322	-0.0003
358	SLU 47			3.6	0.04	53.76	-0.0911	0.1309	-0.0003
358	SLU 48			3.83	0.04	55.69	-0.0943	0.1394	-0.0003
358	SLU 49			3.82	0.04	55.61	-0.0941	0.1388	-0.0003
358	SLU 50			3.81	0.04	55.36	-0.0932	0.1384	-0.0003
358	SLU 51			3.79	0.04	55.29	-0.0931	0.1378	-0.0003
358	SLU 52			3.72	0.05	58.52	-0.1005	0.135	-0.0004
358	SLU 53			3.96	0.05	60.45	-0.1037	0.1436	-0.0004
358	SLU 54			3.94	0.05	60.37	-0.1035	0.1429	-0.0004
358	SLU 55			3.91	0.05	60	-0.1024	0.1416	-0.0004
358	SLU 56			4.14	0.05	61.92	-0.1056	0.1501	-0.0004
358	SLU 57			4.12	0.05	61.85	-0.1055	0.1495	-0.0004
358	SLU 58			4.11	0.05	61.6	-0.1045	0.1492	-0.0004
358	SLU 59			4.1	0.05	61.53	-0.1044	0.1486	-0.0004
358	SLU 60			3.88	0.05	61.32	-0.1056	0.1406	-0.0004



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
358	SLU 61	3.86	0.05	61.24	-0.1054	0.14	-0.0004	
358	SLU 62	4.06	0.05	62.8	-0.1075	0.1472	-0.0004	
358	SLU 63	4.05	0.05	62.72	-0.1073	0.1466	-0.0004	
358	SLU 64	3.82	0.05	58.46	-0.1007	0.1389	-0.0004	
358	SLU 65	3.8	0.05	58.34	-0.1005	0.1379	-0.0004	
358	SLU 66	4.03	0.05	60.26	-0.1036	0.1464	-0.0004	
358	SLU 67	4.02	0.05	60.19	-0.1035	0.1458	-0.0004	
358	SLU 68	3.98	0.05	59.82	-0.1024	0.1444	-0.0004	
358	SLU 69	4.21	0.05	61.74	-0.1055	0.153	-0.0004	
358	SLU 70	4.2	0.05	61.67	-0.1054	0.1524	-0.0004	
358	SLU 71	4.19	0.05	61.42	-0.1045	0.152	-0.0004	
358	SLU 72	4.17	0.05	61.34	-0.1044	0.1514	-0.0004	
358	SLU 73	4.1	0.05	64.58	-0.1118	0.1486	-0.0004	
358	SLU 74	4.34	0.05	66.5	-0.1149	0.1571	-0.0004	
358	SLU 75	4.32	0.05	66.43	-0.1148	0.1565	-0.0004	
358	SLU 76	4.29	0.05	66.06	-0.1137	0.1552	-0.0004	
358	SLU 77	4.52	0.05	67.98	-0.1169	0.1637	-0.0004	
358	SLU 78	4.51	0.05	67.91	-0.1167	0.1631	-0.0004	
358	SLU 79	4.5	0.05	67.66	-0.1158	0.1627	-0.0004	
358	SLU 80	4.48	0.05	67.58	-0.1157	0.1621	-0.0004	
358	SLU 81	4.26	0.06	67.37	-0.1168	0.1542	-0.0004	
358	SLU 82	4.24	0.06	67.3	-0.1167	0.1536	-0.0004	
358	SLU 83	4.44	0.06	68.85	-0.1187	0.1608	-0.0004	
358	SLU 84	4.43	0.06	68.78	-0.1186	0.1602	-0.0004	
358	SLE RA 1	2.86	0.04	43.64	-0.075	0.1039	-0.0003	
358	SLE RA 2	2.84	0.04	43.56	-0.0748	0.1032	-0.0003	
358	SLE RA 3	3	0.04	44.84	-0.077	0.1089	-0.0003	
358	SLE RA 4	2.98	0.04	44.79	-0.0769	0.1085	-0.0003	
358	SLE RA 5	2.96	0.04	44.54	-0.0761	0.1075	-0.0003	
358	SLE RA 6	3.12	0.04	45.83	-0.0782	0.1132	-0.0003	
358	SLE RA 7	3.11	0.04	45.78	-0.0781	0.1128	-0.0003	
358	SLE RA 8	3.1	0.04	45.61	-0.0775	0.1126	-0.0003	
358	SLE RA 9	3.09	0.04	45.56	-0.0774	0.1122	-0.0003	
358	SLE RA 10	3.04	0.04	47.72	-0.0824	0.1103	-0.0003	
358	SLE RA 11	3.2	0.04	49	-0.0845	0.116	-0.0003	
358	SLE RA 12	3.19	0.04	48.95	-0.0844	0.1156	-0.0003	
358	SLE RA 13	3.17	0.04	48.7	-0.0836	0.1147	-0.0003	
358	SLE RA 14	3.32	0.04	49.99	-0.0858	0.1204	-0.0003	
358	SLE RA 15	3.31	0.04	49.94	-0.0857	0.12	-0.0003	
358	SLE RA 16	3.31	0.04	49.77	-0.0851	0.1198	-0.0003	
358	SLE RA 17	3.29	0.04	49.72	-0.085	0.1193	-0.0003	
358	SLE RA 18	3.15	0.04	49.58	-0.0857	0.1141	-0.0003	
358	SLE RA 19	3.14	0.04	49.53	-0.0857	0.1137	-0.0003	
358	SLE RA 20	3.27	0.04	50.57	-0.087	0.1184	-0.0003	
358	SLE RA 21	3.26	0.04	50.52	-0.0869	0.118	-0.0003	
358	SLE FR 1	2.86	0.04	43.64	-0.075	0.1039	-0.0003	
358	SLE FR 2	2.85	0.04	43.62	-0.0749	0.1037	-0.0003	
358	SLE FR 3	2.9	0.04	44.03	-0.0755	0.1056	-0.0003	
358	SLE FR 4	2.94	0.04	45.4	-0.0782	0.1068	-0.0003	
358	SLE FR 5	2.99	0.04	45.81	-0.0787	0.1087	-0.0003	
358	SLE FR 6	3	0.04	46.61	-0.0804	0.109	-0.0003	
358	SLE QP 1	2.86	0.04	43.64	-0.075	0.1039	-0.0003	
358	SLE QP 2	2.94	0.04	45.42	-0.0782	0.1069	-0.0003	
358	SLD 1	7.52	0.07	44.82	-0.0253	0.3101	0	
358	SLD 2	7.52	0.07	44.82	-0.0253	0.3101	0	
358	SLD 3	8.34	0.11	48.89	-0.0833	0.3412	-0.0003	
358	SLD 4	8.34	0.11	48.89	-0.0833	0.3412	-0.0003	
358	SLD 5	3.07	-0.01	39.07	0.0257	0.1208	0.0002	
358	SLD 6	3.07	-0.01	39.07	0.0257	0.1208	0.0002	
358	SLD 7	5.81	0.12	52.63	-0.1677	0.2243	-0.0007	
358	SLD 8	5.81	0.12	52.63	-0.1677	0.2243	-0.0007	
358	SLD 9	0.08	-0.04	38.21	0.0113	-0.0105	0.0001	
358	SLD 10	0.08	-0.04	38.21	0.0113	-0.0105	0.0001	
358	SLD 11	2.82	0.09	51.77	-0.1821	0.093	-0.0008	
358	SLD 12	2.82	0.09	51.77	-0.1821	0.093	-0.0008	
358	SLD 13	-2.45	-0.03	41.95	-0.0731	-0.1274	-0.0003	
358	SLD 14	-2.45	-0.03	41.95	-0.0731	-0.1274	-0.0003	
358	SLD 15	-1.63	0.01	46.02	-0.1311	-0.0963	-0.0006	
358	SLD 16	-1.63	0.01	46.02	-0.1311	-0.0963	-0.0006	
358	SLV 1	13.58	0.12	43.97	0.0513	0.5795	0.0004	
358	SLV 2	13.58	0.12	43.97	0.0513	0.5795	0.0004	
358	SLV 3	15.56	0.21	53.62	-0.0898	0.6548	-0.0002	
358	SLV 4	15.56	0.21	53.62	-0.0898	0.6548	-0.0002	
358	SLV 5	3.12	-0.08	30.35	0.1746	0.1345	0.0009	
358	SLV 6	3.12	-0.08	30.35	0.1746	0.1345	0.0009	
358	SLV 7	9.74	0.23	62.52	-0.2956	0.3854	-0.0012	
358	SLV 8	9.74	0.23	62.52	-0.2956	0.3854	-0.0012	
358	SLV 9	-3.85	-0.15	28.32	0.1392	-0.1716	0.0007	
358	SLV 10	-3.85	-0.15	28.32	0.1392	-0.1716	0.0007	
358	SLV 11	2.76	0.15	60.49	-0.331	0.0793	-0.0015	
358	SLV 12	2.76	0.15	60.49	-0.331	0.0793	-0.0015	
358	SLV 13	-9.67	-0.13	37.22	-0.0667	-0.441	-0.0004	
358	SLV 14	-9.67	-0.13	37.22	-0.0667	-0.441	-0.0004	
358	SLV 15	-7.69	-0.04	46.87	-0.2078	-0.3657	-0.001	
358	SLV 16	-7.69	-0.04	46.87	-0.2078	-0.3657	-0.001	
359	SLU 1	1.38	-0.19	46.33	0.006	0.0291	-0.0002	
359	SLU 2	1.35	-0.19	46.19	0.0059	0.0282	-0.0002	
359	SLU 3	1.52	-0.21	48.47	0.0071	0.0331	-0.0002	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
359	SLU 4	1.51	-0.21	48.39	0.0071	0.0326	-0.0002	
359	SLU 5	1.49	-0.2	47.97	0.0072	0.0321	-0.0002	
359	SLU 6	1.66	-0.22	50.25	0.0084	0.0369	-0.0002	
359	SLU 7	1.64	-0.21	50.17	0.0084	0.0364	-0.0002	
359	SLU 8	1.65	-0.21	49.89	0.0086	0.0368	-0.0002	
359	SLU 9	1.63	-0.21	49.81	0.0086	0.0363	-0.0002	
359	SLU 10	1.41	-0.22	53.06	0.0069	0.0262	-0.0002	
359	SLU 11	1.57	-0.24	55.33	0.0081	0.031	-0.0002	
359	SLU 12	1.56	-0.24	55.25	0.0081	0.0305	-0.0002	
359	SLU 13	1.54	-0.23	54.84	0.0082	0.03	-0.0002	
359	SLU 14	1.71	-0.25	57.12	0.0094	0.0348	-0.0002	
359	SLU 15	1.7	-0.25	57.04	0.0094	0.0343	-0.0002	
359	SLU 16	1.7	-0.24	56.76	0.0096	0.0347	-0.0002	
359	SLU 17	1.69	-0.24	56.68	0.0095	0.0342	-0.0002	
359	SLU 18	1.45	-0.24	56.13	0.0074	0.0261	-0.0002	
359	SLU 19	1.44	-0.24	56.05	0.0074	0.0256	-0.0002	
359	SLU 20	1.59	-0.25	57.92	0.0087	0.0299	-0.0002	
359	SLU 21	1.57	-0.25	57.84	0.0087	0.0294	-0.0002	
359	SLU 22	1.52	-0.23	53.08	0.0072	0.0303	-0.0002	
359	SLU 23	1.49	-0.23	52.94	0.0071	0.0294	-0.0002	
359	SLU 24	1.66	-0.24	55.22	0.0083	0.0343	-0.0002	
359	SLU 25	1.65	-0.24	55.14	0.0083	0.0338	-0.0002	
359	SLU 26	1.63	-0.23	54.73	0.0084	0.0333	-0.0002	
359	SLU 27	1.8	-0.25	57.01	0.0096	0.0381	-0.0002	
359	SLU 28	1.78	-0.25	56.93	0.0096	0.0376	-0.0002	
359	SLU 29	1.79	-0.25	56.65	0.0098	0.038	-0.0002	
359	SLU 30	1.77	-0.24	56.57	0.0097	0.0375	-0.0002	
359	SLU 31	1.55	-0.26	59.81	0.0081	0.0273	-0.0002	
359	SLU 32	1.71	-0.27	62.09	0.0093	0.0322	-0.0002	
359	SLU 33	1.7	-0.27	62.01	0.0092	0.0317	-0.0002	
359	SLU 34	1.68	-0.27	61.59	0.0094	0.0312	-0.0002	
359	SLU 35	1.85	-0.28	63.87	0.0106	0.036	-0.0002	
359	SLU 36	1.84	-0.28	63.79	0.0106	0.0355	-0.0002	
359	SLU 37	1.84	-0.28	63.52	0.0107	0.0359	-0.0002	
359	SLU 38	1.83	-0.28	63.43	0.0107	0.0354	-0.0002	
359	SLU 39	1.59	-0.27	62.89	0.0086	0.0273	-0.0002	
359	SLU 40	1.58	-0.27	62.81	0.0085	0.0268	-0.0002	
359	SLU 41	1.73	-0.28	64.67	0.0099	0.0311	-0.0003	
359	SLU 42	1.71	-0.28	64.59	0.0099	0.0306	-0.0003	
359	SLU 43	1.74	-0.24	57.91	0.0073	0.0374	-0.0002	
359	SLU 44	1.72	-0.24	57.77	0.0073	0.0366	-0.0002	
359	SLU 45	1.89	-0.25	60.05	0.0085	0.0414	-0.0002	
359	SLU 46	1.87	-0.25	59.97	0.0085	0.0409	-0.0002	
359	SLU 47	1.86	-0.25	59.56	0.0086	0.0404	-0.0002	
359	SLU 48	2.02	-0.26	61.83	0.0098	0.0452	-0.0002	
359	SLU 49	2.01	-0.26	61.75	0.0098	0.0447	-0.0002	
359	SLU 50	2.01	-0.26	61.48	0.01	0.0451	-0.0002	
359	SLU 51	2	-0.26	61.39	0.0099	0.0446	-0.0002	
359	SLU 52	1.77	-0.27	64.64	0.0083	0.0345	-0.0002	
359	SLU 53	1.94	-0.28	66.92	0.0095	0.0393	-0.0003	
359	SLU 54	1.93	-0.28	66.83	0.0094	0.0388	-0.0003	
359	SLU 55	1.91	-0.28	66.42	0.0096	0.0383	-0.0003	
359	SLU 56	2.08	-0.29	68.7	0.0108	0.0432	-0.0003	
359	SLU 57	2.06	-0.29	68.62	0.0107	0.0427	-0.0003	
359	SLU 58	2.07	-0.29	68.34	0.0109	0.043	-0.0003	
359	SLU 59	2.05	-0.29	68.26	0.0109	0.0425	-0.0003	
359	SLU 60	1.82	-0.29	67.72	0.0088	0.0344	-0.0003	
359	SLU 61	1.81	-0.29	67.63	0.0087	0.0339	-0.0003	
359	SLU 62	1.95	-0.3	69.5	0.0101	0.0382	-0.0003	
359	SLU 63	1.94	-0.3	69.42	0.01	0.0377	-0.0003	
359	SLU 64	1.88	-0.27	64.66	0.0085	0.0386	-0.0002	
359	SLU 65	1.86	-0.27	64.53	0.0085	0.0377	-0.0002	
359	SLU 66	2.03	-0.28	66.8	0.0097	0.0426	-0.0003	
359	SLU 67	2.01	-0.28	66.72	0.0096	0.0421	-0.0003	
359	SLU 68	1.99	-0.28	66.31	0.0098	0.0416	-0.0003	
359	SLU 69	2.16	-0.29	68.59	0.011	0.0464	-0.0003	
359	SLU 70	2.15	-0.29	68.51	0.0109	0.0459	-0.0003	
359	SLU 71	2.15	-0.29	68.23	0.0111	0.0463	-0.0003	
359	SLU 72	2.14	-0.29	68.15	0.0111	0.0458	-0.0003	
359	SLU 73	1.91	-0.3	71.39	0.0095	0.0357	-0.0003	
359	SLU 74	2.08	-0.32	73.67	0.0106	0.0405	-0.0003	
359	SLU 75	2.07	-0.32	73.59	0.0106	0.04	-0.0003	
359	SLU 76	2.05	-0.31	73.18	0.0108	0.0395	-0.0003	
359	SLU 77	2.21	-0.33	75.46	0.0119	0.0444	-0.0003	
359	SLU 78	2.2	-0.33	75.37	0.0119	0.0439	-0.0003	
359	SLU 79	2.2	-0.32	75.1	0.0121	0.0442	-0.0003	
359	SLU 80	2.19	-0.32	75.02	0.0121	0.0437	-0.0003	
359	SLU 81	1.96	-0.32	74.47	0.0099	0.0356	-0.0003	
359	SLU 82	1.94	-0.32	74.39	0.0099	0.0351	-0.0003	
359	SLU 83	2.09	-0.33	76.26	0.0112	0.0394	-0.0003	
359	SLU 84	2.08	-0.33	76.17	0.0112	0.0389	-0.0003	
359	SLE RA 1	1.42	-0.2	48.26	0.0063	0.0294	-0.0002	
359	SLE RA 2	1.4	-0.2	48.16	0.0063	0.0289	-0.0002	
359	SLE RA 3	1.51	-0.21	49.68	0.0071	0.0321	-0.0002	
359	SLE RA 4	1.5	-0.21	49.63	0.007	0.0318	-0.0002	
359	SLE RA 5	1.49	-0.21	49.35	0.0072	0.0314	-0.0002	
359	SLE RA 6	1.6	-0.22	50.87	0.0079	0.0347	-0.0002	
359	SLE RA 7	1.59	-0.22	50.82	0.0079	0.0343	-0.0002	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
359	SLE RA 8	1.6	-0.22	50.63	0.008	0.0345	-0.0002
359	SLE RA 9	1.59	-0.22	50.58	0.008	0.0342	-0.0002
359	SLE RA 10	1.44	-0.22	52.74	0.0069	0.0275	-0.0002
359	SLE RA 11	1.55	-0.23	54.26	0.0077	0.0307	-0.0002
359	SLE RA 12	1.54	-0.23	54.21	0.0077	0.0304	-0.0002
359	SLE RA 13	1.53	-0.23	53.93	0.0078	0.03	-0.0002
359	SLE RA 14	1.64	-0.24	55.45	0.0086	0.0333	-0.0002
359	SLE RA 15	1.63	-0.24	55.4	0.0086	0.0329	-0.0002
359	SLE RA 16	1.63	-0.24	55.21	0.0087	0.0331	-0.0002
359	SLE RA 17	1.62	-0.24	55.16	0.0087	0.0328	-0.0002
359	SLE RA 18	1.47	-0.23	54.8	0.0072	0.0274	-0.0002
359	SLE RA 19	1.46	-0.23	54.74	0.0072	0.0271	-0.0002
359	SLE RA 20	1.56	-0.24	55.98	0.0081	0.03	-0.0002
359	SLE RA 21	1.55	-0.24	55.93	0.0081	0.0297	-0.0002
359	SLE FR 1	1.42	-0.2	48.26	0.0063	0.0294	-0.0002
359	SLE FR 2	1.41	-0.2	48.24	0.0063	0.0293	-0.0002
359	SLE FR 3	1.45	-0.21	48.73	0.0067	0.0304	-0.0002
359	SLE FR 4	1.43	-0.21	50.2	0.0066	0.0287	-0.0002
359	SLE FR 5	1.47	-0.21	50.69	0.0069	0.0298	-0.0002
359	SLE FR 6	1.44	-0.22	51.53	0.0068	0.0284	-0.0002
359	SLE QP 1	1.42	-0.2	48.26	0.0063	0.0294	-0.0002
359	SLE QP 2	1.43	-0.21	50.22	0.0066	0.0288	-0.0002
359	SLD 1	5.99	-0.15	49.75	0.0086	0.2306	0
359	SLD 2	5.99	-0.15	49.75	0.0086	0.2306	0
359	SLD 3	6.87	-0.18	55.06	0.0376	0.2602	-0.0001
359	SLD 4	6.87	-0.18	55.06	0.0376	0.2602	-0.0001
359	SLD 5	1.47	-0.14	42.01	-0.0368	0.0444	0
359	SLD 6	1.47	-0.14	42.01	-0.0368	0.0444	0
359	SLD 7	4.39	-0.25	59.73	0.0599	0.1431	-0.0003
359	SLD 8	4.39	-0.25	59.73	0.0599	0.1431	-0.0003
359	SLD 9	-1.53	-0.17	40.7	-0.0467	-0.0855	-0.0001
359	SLD 10	-1.53	-0.17	40.7	-0.0467	-0.0855	-0.0001
359	SLD 11	1.4	-0.28	58.42	0.05	0.0132	-0.0004
359	SLD 12	1.4	-0.28	58.42	0.05	0.0132	-0.0004
359	SLD 13	-4	-0.24	45.37	-0.0244	-0.2026	-0.0003
359	SLD 14	-4	-0.24	45.37	-0.0244	-0.2026	-0.0003
359	SLD 15	-3.13	-0.27	50.69	0.0046	-0.173	-0.0004
359	SLD 16	-3.13	-0.27	50.69	0.0046	-0.173	-0.0004
359	SLV 1	12.03	-0.06	49.05	0.0119	0.498	0.0002
359	SLV 2	12.03	-0.06	49.05	0.0119	0.498	0.0002
359	SLV 3	14.15	-0.14	61.65	0.0827	0.5699	0
359	SLV 4	14.15	-0.14	61.65	0.0827	0.5699	0
359	SLV 5	1.39	-0.05	30.76	-0.0992	0.0605	0.0003
359	SLV 6	1.39	-0.05	30.76	-0.0992	0.0605	0.0003
359	SLV 7	8.46	-0.31	72.76	0.1368	0.3002	-0.0005
359	SLV 8	8.46	-0.31	72.76	0.1368	0.3002	-0.0005
359	SLV 9	-5.6	-0.11	27.67	-0.1236	-0.2426	0.0001
359	SLV 10	-5.6	-0.11	27.67	-0.1236	-0.2426	0.0001
359	SLV 11	1.47	-0.38	69.68	0.1123	-0.0029	-0.0007
359	SLV 12	1.47	-0.38	69.68	0.1123	-0.0029	-0.0007
359	SLV 13	-11.28	-0.28	38.78	-0.0695	-0.5123	-0.0004
359	SLV 14	-11.28	-0.28	38.78	-0.0695	-0.5123	-0.0004
359	SLV 15	-9.16	-0.36	51.38	0.0012	-0.4404	-0.0006
359	SLV 16	-9.16	-0.36	51.38	0.0012	-0.4404	-0.0006
360	SLU 1	-2.38	-6.89	71.42	0.1109	-0.0953	-0.0002
360	SLU 2	-2.39	-6.87	71.21	0.1107	-0.0958	-0.0002
360	SLU 3	-2.48	-7.31	74.9	0.121	-0.0994	-0.0002
360	SLU 4	-2.49	-7.3	74.77	0.1209	-0.0997	-0.0002
360	SLU 5	-2.47	-7.25	74.13	0.1209	-0.099	-0.0002
360	SLU 6	-2.56	-7.69	77.82	0.1313	-0.1026	-0.0002
360	SLU 7	-2.57	-7.68	77.69	0.1311	-0.1029	-0.0002
360	SLU 8	-2.54	-7.64	77.26	0.1314	-0.1017	-0.0002
360	SLU 9	-2.54	-7.63	77.13	0.1313	-0.102	-0.0002
360	SLU 10	-2.97	-7.93	81.78	0.1268	-0.1186	-0.0003
360	SLU 11	-3.05	-8.37	85.47	0.1371	-0.1221	-0.0003
360	SLU 12	-3.06	-8.36	85.34	0.137	-0.1224	-0.0003
360	SLU 13	-3.04	-8.31	84.7	0.137	-0.1217	-0.0003
360	SLU 14	-3.13	-8.75	88.39	0.1473	-0.1253	-0.0003
360	SLU 15	-3.14	-8.74	88.26	0.1472	-0.1256	-0.0003
360	SLU 16	-3.11	-8.7	87.83	0.1475	-0.1244	-0.0003
360	SLU 17	-3.12	-8.69	87.7	0.1474	-0.1247	-0.0003
360	SLU 18	-3.2	-8.4	86.51	0.1339	-0.1278	-0.0003
360	SLU 19	-3.21	-8.39	86.39	0.1338	-0.1281	-0.0003
360	SLU 20	-3.28	-8.78	89.43	0.1442	-0.131	-0.0003
360	SLU 21	-3.28	-8.77	89.31	0.144	-0.1313	-0.0003
360	SLU 22	-2.88	-7.95	81.9	0.128	-0.1152	-0.0003
360	SLU 23	-2.89	-7.93	81.69	0.1277	-0.1157	-0.0003
360	SLU 24	-2.98	-8.38	85.38	0.138	-0.1192	-0.0003
360	SLU 25	-2.99	-8.36	85.25	0.1379	-0.1195	-0.0003
360	SLU 26	-2.97	-8.31	84.61	0.1379	-0.1188	-0.0003
360	SLU 27	-3.06	-8.75	88.3	0.1483	-0.1224	-0.0003
360	SLU 28	-3.06	-8.74	88.17	0.1481	-0.1227	-0.0003
360	SLU 29	-3.04	-8.71	87.74	0.1484	-0.1215	-0.0003
360	SLU 30	-3.04	-8.7	87.61	0.1483	-0.1218	-0.0003
360	SLU 31	-3.46	-8.99	92.25	0.1438	-0.1384	-0.0003
360	SLU 32	-3.55	-9.44	95.94	0.1541	-0.1419	-0.0003
360	SLU 33	-3.56	-9.42	95.82	0.154	-0.1422	-0.0003
360	SLU 34	-3.54	-9.37	95.17	0.154	-0.1416	-0.0003





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
360	SLU 35	-3.63	-9.81	98.86	0.1644	-0.1451	-0.0003
360	SLU 36	-3.64	-9.8	98.74	0.1642	-0.1454	-0.0003
360	SLU 37	-3.61	-9.77	98.3	0.1645	-0.1443	-0.0003
360	SLU 38	-3.62	-9.76	98.18	0.1644	-0.1446	-0.0003
360	SLU 39	-3.7	-9.47	96.99	0.1509	-0.1476	-0.0003
360	SLU 40	-3.7	-9.46	96.87	0.1508	-0.1479	-0.0003
360	SLU 41	-3.78	-9.84	99.91	0.1612	-0.1508	-0.0003
360	SLU 42	-3.78	-9.83	99.79	0.161	-0.1511	-0.0003
360	SLU 43	-2.93	-8.59	89.25	0.1384	-0.1171	-0.0003
360	SLU 44	-2.94	-8.57	89.04	0.1381	-0.1176	-0.0003
360	SLU 45	-3.02	-9.01	92.73	0.1485	-0.1212	-0.0003
360	SLU 46	-3.03	-9	92.61	0.1483	-0.1215	-0.0003
360	SLU 47	-3.01	-8.95	91.96	0.1484	-0.1208	-0.0003
360	SLU 48	-3.1	-9.39	95.65	0.1587	-0.1244	-0.0003
360	SLU 49	-3.11	-9.38	95.53	0.1586	-0.1247	-0.0003
360	SLU 50	-3.08	-9.35	95.09	0.1589	-0.1235	-0.0003
360	SLU 51	-3.09	-9.33	94.97	0.1587	-0.1238	-0.0003
360	SLU 52	-3.51	-9.63	99.61	0.1542	-0.1404	-0.0003
360	SLU 53	-3.6	-10.07	103.3	0.1646	-0.1439	-0.0003
360	SLU 54	-3.6	-10.06	103.17	0.1644	-0.1442	-0.0003
360	SLU 55	-3.59	-10.01	102.53	0.1645	-0.1435	-0.0003
360	SLU 56	-3.68	-10.45	106.22	0.1748	-0.1471	-0.0003
360	SLU 57	-3.68	-10.44	106.09	0.1747	-0.1474	-0.0003
360	SLU 58	-3.65	-10.41	105.66	0.175	-0.1462	-0.0003
360	SLU 59	-3.66	-10.39	105.53	0.1748	-0.1465	-0.0003
360	SLU 60	-3.74	-10.1	104.35	0.1614	-0.1496	-0.0003
360	SLU 61	-3.75	-10.09	104.22	0.1612	-0.1499	-0.0003
360	SLU 62	-3.82	-10.48	107.27	0.1716	-0.1528	-0.0003
360	SLU 63	-3.83	-10.47	107.14	0.1715	-0.1531	-0.0003
360	SLU 64	-3.42	-9.65	99.73	0.1554	-0.137	-0.0003
360	SLU 65	-3.44	-9.63	99.52	0.1552	-0.1375	-0.0003
360	SLU 66	-3.52	-10.08	103.21	0.1655	-0.141	-0.0003
360	SLU 67	-3.53	-10.07	103.08	0.1653	-0.1413	-0.0003
360	SLU 68	-3.51	-10.01	102.44	0.1654	-0.1406	-0.0003
360	SLU 69	-3.6	-10.46	106.13	0.1757	-0.1442	-0.0003
360	SLU 70	-3.61	-10.44	106	0.1756	-0.1445	-0.0003
360	SLU 71	-3.58	-10.41	105.57	0.1759	-0.1433	-0.0003
360	SLU 72	-3.59	-10.4	105.44	0.1757	-0.1436	-0.0003
360	SLU 73	-4.01	-10.69	110.09	0.1712	-0.1602	-0.0004
360	SLU 74	-4.1	-11.14	113.78	0.1816	-0.1637	-0.0004
360	SLU 75	-4.1	-11.13	113.65	0.1814	-0.164	-0.0004
360	SLU 76	-4.09	-11.07	113.01	0.1815	-0.1634	-0.0004
360	SLU 77	-4.17	-11.52	116.7	0.1918	-0.1669	-0.0004
360	SLU 78	-4.18	-11.5	116.57	0.1917	-0.1672	-0.0004
360	SLU 79	-4.15	-11.47	116.14	0.192	-0.1661	-0.0004
360	SLU 80	-4.16	-11.46	116.01	0.1918	-0.1664	-0.0004
360	SLU 81	-4.24	-11.17	114.83	0.1784	-0.1694	-0.0004
360	SLU 82	-4.25	-11.16	114.7	0.1782	-0.1697	-0.0004
360	SLU 83	-4.32	-11.55	117.75	0.1886	-0.1726	-0.0004
360	SLU 84	-4.33	-11.54	117.62	0.1885	-0.1729	-0.0004
360	SLE RA 1	-2.52	-7.19	74.41	0.1158	-0.101	-0.0002
360	SLE RA 2	-2.53	-7.18	74.27	0.1156	-0.1013	-0.0002
360	SLE RA 3	-2.59	-7.47	76.73	0.1225	-0.1037	-0.0002
360	SLE RA 4	-2.59	-7.47	76.65	0.1224	-0.1039	-0.0002
360	SLE RA 5	-2.58	-7.43	76.22	0.1225	-0.1035	-0.0002
360	SLE RA 6	-2.64	-7.73	78.68	0.1293	-0.1058	-0.0002
360	SLE RA 7	-2.65	-7.72	78.6	0.1292	-0.106	-0.0002
360	SLE RA 8	-2.63	-7.7	78.31	0.1295	-0.1052	-0.0002
360	SLE RA 9	-2.63	-7.69	78.22	0.1294	-0.1054	-0.0002
360	SLE RA 10	-2.91	-7.89	81.32	0.1264	-0.1165	-0.0003
360	SLE RA 11	-2.97	-8.18	83.78	0.1332	-0.1189	-0.0003
360	SLE RA 12	-2.98	-8.17	83.69	0.1331	-0.119	-0.0003
360	SLE RA 13	-2.97	-8.14	83.26	0.1332	-0.1186	-0.0003
360	SLE RA 14	-3.02	-8.43	85.72	0.1401	-0.121	-0.0003
360	SLE RA 15	-3.03	-8.43	85.64	0.14	-0.1212	-0.0003
360	SLE RA 16	-3.01	-8.4	85.35	0.1402	-0.1204	-0.0003
360	SLE RA 17	-3.01	-8.4	85.27	0.1401	-0.1206	-0.0003
360	SLE RA 18	-3.07	-8.2	84.48	0.1311	-0.1226	-0.0003
360	SLE RA 19	-3.07	-8.19	84.39	0.131	-0.1228	-0.0003
360	SLE RA 20	-3.12	-8.45	86.42	0.138	-0.1248	-0.0003
360	SLE RA 21	-3.13	-8.45	86.34	0.1379	-0.125	-0.0003
360	SLE FR 1	-2.52	-7.19	74.41	0.1158	-0.101	-0.0002
360	SLE FR 2	-2.53	-7.19	74.38	0.1158	-0.1011	-0.0002
360	SLE FR 3	-2.54	-7.29	75.19	0.1185	-0.1018	-0.0002
360	SLE FR 4	-2.69	-7.49	77.4	0.1204	-0.1076	-0.0002
360	SLE FR 5	-2.71	-7.6	78.21	0.1231	-0.1083	-0.0002
360	SLE FR 6	-2.8	-7.7	79.44	0.1235	-0.1118	-0.0003
360	SLE QP 1	-2.52	-7.19	74.41	0.1158	-0.101	-0.0002
360	SLE QP 2	-2.69	-7.49	77.43	0.1204	-0.1075	-0.0002
360	SLD 1	2.48	-5.63	68.11	0.0901	0.1149	0.0002
360	SLD 2	2.48	-5.63	68.11	0.0901	0.1149	0.0002
360	SLD 3	2.88	-8.09	78.02	0.1921	0.1342	0.0001
360	SLD 4	2.88	-8.09	78.02	0.1921	0.1342	0.0001
360	SLD 5	-1.75	-3.22	59.61	-0.0434	-0.07	0
360	SLD 6	-1.75	-3.22	59.61	-0.0434	-0.07	0
360	SLD 7	-0.41	-11.39	92.64	0.2966	-0.0057	-0.0003
360	SLD 8	-0.41	-11.39	92.64	0.2966	-0.0057	-0.0003
360	SLD 9	-4.97	-3.6	62.22	-0.0558	-0.2093	-0.0002



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
360	SLD 10	-4.97	-3.6	62.22	-0.0558	-0.2093	-0.0002		
360	SLD 11	-3.63	-11.77	95.26	0.2842	-0.1449	-0.0005		
360	SLD 12	-3.63	-11.77	95.26	0.2842	-0.1449	-0.0005		
360	SLD 13	-8.26	-6.9	76.84	0.0487	-0.3492	-0.0006		
360	SLD 14	-8.26	-6.9	76.84	0.0487	-0.3492	-0.0006		
360	SLD 15	-7.86	-9.35	86.75	0.1507	-0.3299	-0.0007		
360	SLD 16	-7.86	-9.35	86.75	0.1507	-0.3299	-0.0007		
360	SLV 1	9.35	-3.11	55.47	0.0495	0.4106	0.0008		
360	SLV 2	9.35	-3.11	55.47	0.0495	0.4106	0.0008		
360	SLV 3	10.32	-8.89	78.94	0.2895	0.4573	0.0005		
360	SLV 4	10.32	-8.89	78.94	0.2895	0.4573	0.0005		
360	SLV 5	-0.55	2.59	35.25	-0.2648	-0.0229	0.0004		
360	SLV 6	-0.55	2.59	35.25	-0.2648	-0.0229	0.0004		
360	SLV 7	2.69	-16.68	113.48	0.5351	0.1328	-0.0004		
360	SLV 8	2.69	-16.68	113.48	0.5351	0.1328	-0.0004		
360	SLV 9	-8.07	1.7	41.38	-0.2943	-0.3478	-0.0001		
360	SLV 10	-8.07	1.7	41.38	-0.2943	-0.3478	-0.0001		
360	SLV 11	-4.83	-17.58	119.62	0.5056	-0.1921	-0.0009		
360	SLV 12	-4.83	-17.58	119.62	0.5056	-0.1921	-0.0009		
360	SLV 13	-15.7	-6.1	75.92	-0.0487	-0.6723	-0.001		
360	SLV 14	-15.7	-6.1	75.92	-0.0487	-0.6723	-0.001		
360	SLV 15	-14.73	-11.88	99.39	0.1913	-0.6256	-0.0013		
360	SLV 16	-14.73	-11.88	99.39	0.1913	-0.6256	-0.0013		
361	SLU 1	-6.39	-0.19	47.79	0.0011	-0.2378	0.0009		
361	SLU 2	-6.39	-0.19	47.65	0.0012	-0.2379	0.0009		
361	SLU 3	-6.75	-0.2	50.06	0.0016	-0.2509	0.001		
361	SLU 4	-6.75	-0.2	49.97	0.0017	-0.251	0.001		
361	SLU 5	-6.69	-0.2	49.54	0.0018	-0.2489	0.001		
361	SLU 6	-7.05	-0.21	51.95	0.0023	-0.2619	0.001		
361	SLU 7	-7.05	-0.21	51.86	0.0023	-0.262	0.001		
361	SLU 8	-7	-0.21	51.58	0.0024	-0.2598	0.001		
361	SLU 9	-7	-0.21	51.49	0.0024	-0.2599	0.001		
361	SLU 10	-7.62	-0.22	54.5	0.0008	-0.284	0.0011		
361	SLU 11	-7.98	-0.23	56.91	0.0013	-0.2971	0.0011		
361	SLU 12	-7.98	-0.23	56.82	0.0013	-0.2971	0.0011		
361	SLU 13	-7.92	-0.23	56.39	0.0014	-0.295	0.0011		
361	SLU 14	-8.28	-0.24	58.8	0.0019	-0.3081	0.0012		
361	SLU 15	-8.28	-0.24	58.71	0.0019	-0.3081	0.0012		
361	SLU 16	-8.23	-0.24	58.43	0.002	-0.306	0.0012		
361	SLU 17	-8.23	-0.24	58.34	0.0021	-0.306	0.0012		
361	SLU 18	-8.14	-0.24	57.58	0.0007	-0.3037	0.0012		
361	SLU 19	-8.14	-0.24	57.49	0.0007	-0.3038	0.0011		
361	SLU 20	-8.45	-0.24	59.47	0.0013	-0.3147	0.0012		
361	SLU 21	-8.45	-0.24	59.39	0.0013	-0.3148	0.0012		
361	SLU 22	-7.56	-0.22	54.62	0.001	-0.2816	0.0011		
361	SLU 23	-7.56	-0.22	54.48	0.001	-0.2816	0.0011		
361	SLU 24	-7.92	-0.23	56.89	0.0015	-0.2947	0.0011		
361	SLU 25	-7.92	-0.23	56.8	0.0015	-0.2947	0.0011		
361	SLU 26	-7.86	-0.23	56.38	0.0016	-0.2927	0.0011		
361	SLU 27	-8.22	-0.24	58.78	0.0021	-0.3057	0.0012		
361	SLU 28	-8.22	-0.24	58.7	0.0021	-0.3057	0.0012		
361	SLU 29	-8.17	-0.24	58.41	0.0022	-0.3036	0.0012		
361	SLU 30	-8.17	-0.24	58.33	0.0022	-0.3036	0.0012		
361	SLU 31	-8.79	-0.25	61.33	0.0007	-0.3278	0.0012		
361	SLU 32	-9.15	-0.26	63.74	0.0012	-0.3408	0.0013		
361	SLU 33	-9.15	-0.26	63.65	0.0012	-0.3409	0.0013		
361	SLU 34	-9.09	-0.26	63.23	0.0013	-0.3388	0.0013		
361	SLU 35	-9.45	-0.27	65.63	0.0018	-0.3518	0.0013		
361	SLU 36	-9.45	-0.27	65.55	0.0018	-0.3519	0.0013		
361	SLU 37	-9.39	-0.27	65.26	0.0019	-0.3497	0.0013		
361	SLU 38	-9.39	-0.27	65.18	0.0019	-0.3498	0.0013		
361	SLU 39	-9.31	-0.27	64.41	0.0005	-0.3475	0.0013		
361	SLU 40	-9.31	-0.27	64.33	0.0005	-0.3475	0.0013		
361	SLU 41	-9.62	-0.28	66.31	0.0011	-0.3585	0.0013		
361	SLU 42	-9.62	-0.28	66.22	0.0012	-0.3585	0.0013		
361	SLU 43	-7.91	-0.24	59.78	0.0015	-0.2942	0.0012		
361	SLU 44	-7.91	-0.24	59.64	0.0015	-0.2943	0.0012		
361	SLU 45	-8.27	-0.25	62.05	0.002	-0.3073	0.0012		
361	SLU 46	-8.27	-0.25	61.96	0.002	-0.3073	0.0012		
361	SLU 47	-8.21	-0.25	61.54	0.0022	-0.3053	0.0012		
361	SLU 48	-8.57	-0.26	63.94	0.0026	-0.3183	0.0013		
361	SLU 49	-8.57	-0.26	63.86	0.0027	-0.3184	0.0013		
361	SLU 50	-8.51	-0.26	63.57	0.0028	-0.3162	0.0013		
361	SLU 51	-8.51	-0.26	63.49	0.0028	-0.3162	0.0013		
361	SLU 52	-9.13	-0.27	66.49	0.0012	-0.3404	0.0013		
361	SLU 53	-9.49	-0.28	68.9	0.0017	-0.3534	0.0014		
361	SLU 54	-9.49	-0.28	68.81	0.0017	-0.3535	0.0014		
361	SLU 55	-9.44	-0.28	68.39	0.0018	-0.3514	0.0014		
361	SLU 56	-9.8	-0.29	70.79	0.0023	-0.3644	0.0014		
361	SLU 57	-9.8	-0.29	70.71	0.0023	-0.3645	0.0014		
361	SLU 58	-9.74	-0.29	70.42	0.0024	-0.3623	0.0014		
361	SLU 59	-9.74	-0.29	70.34	0.0024	-0.3624	0.0014		
361	SLU 60	-9.66	-0.28	69.57	0.001	-0.3601	0.0014		
361	SLU 61	-9.66	-0.28	69.49	0.0011	-0.3601	0.0014		
361	SLU 62	-9.96	-0.29	71.47	0.0017	-0.3711	0.0014		
361	SLU 63	-9.96	-0.29	71.38	0.0017	-0.3711	0.0014		
361	SLU 64	-9.08	-0.27	66.62	0.0014	-0.3379	0.0013		
361	SLU 65	-9.08	-0.27	66.48	0.0014	-0.338	0.0013		



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
361	SLU 66	-9.44	-0.28	68.88	0.0019	-0.351	0.0014		
361	SLU 67	-9.44	-0.28	68.8	0.0019	-0.3511	0.0014		
361	SLU 68	-9.38	-0.28	68.37	0.002	-0.349	0.0014		
361	SLU 69	-9.74	-0.29	70.78	0.0025	-0.362	0.0014		
361	SLU 70	-9.74	-0.29	70.69	0.0025	-0.3621	0.0014		
361	SLU 71	-9.68	-0.29	70.41	0.0026	-0.3599	0.0014		
361	SLU 72	-9.68	-0.29	70.32	0.0026	-0.36	0.0014		
361	SLU 73	-10.3	-0.3	73.33	0.0011	-0.3841	0.0015		
361	SLU 74	-10.66	-0.31	75.73	0.0016	-0.3972	0.0015		
361	SLU 75	-10.66	-0.31	75.65	0.0016	-0.3972	0.0015		
361	SLU 76	-10.61	-0.31	75.22	0.0017	-0.3951	0.0015		
361	SLU 77	-10.97	-0.32	77.63	0.0022	-0.4082	0.0016		
361	SLU 78	-10.97	-0.32	77.54	0.0022	-0.4082	0.0016		
361	SLU 79	-10.91	-0.32	77.26	0.0023	-0.4061	0.0016		
361	SLU 80	-10.91	-0.32	77.17	0.0023	-0.4061	0.0016		
361	SLU 81	-10.83	-0.31	76.41	0.0009	-0.4038	0.0015		
361	SLU 82	-10.83	-0.31	76.32	0.0009	-0.4039	0.0015		
361	SLU 83	-11.13	-0.32	78.3	0.0015	-0.4148	0.0016		
361	SLU 84	-11.13	-0.32	78.21	0.0015	-0.4149	0.0016		
361	SLE RA 1	-6.73	-0.2	49.74	0.0011	-0.2503	0.001		
361	SLE RA 2	-6.73	-0.2	49.65	0.0011	-0.2504	0.001		
361	SLE RA 3	-6.96	-0.21	51.25	0.0014	-0.2591	0.001		
361	SLE RA 4	-6.96	-0.21	51.2	0.0014	-0.2591	0.001		
361	SLE RA 5	-6.93	-0.21	50.91	0.0015	-0.2577	0.001		
361	SLE RA 6	-7.17	-0.21	52.52	0.0018	-0.2664	0.001		
361	SLE RA 7	-7.17	-0.21	52.46	0.0019	-0.2664	0.001		
361	SLE RA 8	-7.13	-0.21	52.27	0.0019	-0.265	0.001		
361	SLE RA 9	-7.13	-0.21	52.21	0.0019	-0.265	0.001		
361	SLE RA 10	-7.54	-0.22	54.21	0.0009	-0.2811	0.0011		
361	SLE RA 11	-7.78	-0.23	55.82	0.0012	-0.2898	0.0011		
361	SLE RA 12	-7.78	-0.23	55.76	0.0012	-0.2898	0.0011		
361	SLE RA 13	-7.75	-0.23	55.48	0.0013	-0.2885	0.0011		
361	SLE RA 14	-7.98	-0.23	57.08	0.0016	-0.2972	0.0011		
361	SLE RA 15	-7.98	-0.23	57.03	0.0016	-0.2972	0.0011		
361	SLE RA 16	-7.95	-0.23	56.84	0.0017	-0.2957	0.0011		
361	SLE RA 17	-7.95	-0.23	56.78	0.0017	-0.2958	0.0011		
361	SLE RA 18	-7.89	-0.23	56.27	0.0008	-0.2942	0.0011		
361	SLE RA 19	-7.89	-0.23	56.21	0.0008	-0.2943	0.0011		
361	SLE RA 20	-8.1	-0.24	57.53	0.0012	-0.3016	0.0012		
361	SLE RA 21	-8.1	-0.24	57.47	0.0012	-0.3016	0.0012		
361	SLE FR 1	-6.73	-0.2	49.74	0.0011	-0.2503	0.001		
361	SLE FR 2	-6.73	-0.2	49.72	0.0011	-0.2503	0.001		
361	SLE FR 3	-6.81	-0.2	50.25	0.0013	-0.2533	0.001		
361	SLE FR 4	-7.08	-0.21	51.68	0.001	-0.2635	0.001		
361	SLE FR 5	-7.16	-0.21	52.21	0.0012	-0.2664	0.001		
361	SLE FR 6	-7.31	-0.22	53.01	0.0009	-0.2723	0.0011		
361	SLE QP 1	-6.73	-0.2	49.74	0.0011	-0.2503	0.001		
361	SLE QP 2	-7.08	-0.21	51.7	0.001	-0.2635	0.001		
361	SLD 1	-0.79	-0.22	45.55	0.0045	-0.0036	0.001		
361	SLD 2	-0.79	-0.22	45.55	0.0045	-0.0036	0.001		
361	SLD 3	-1.83	-0.27	51.2	0.0321	-0.0399	0.0012		
361	SLD 4	-1.83	-0.27	51.2	0.0321	-0.0399	0.0012		
361	SLD 5	-3.61	-0.12	41.3	-0.0398	-0.1304	0.0007		
361	SLD 6	-3.61	-0.12	41.3	-0.0398	-0.1304	0.0007		
361	SLD 7	-7.08	-0.32	60.11	0.0522	-0.2516	0.0014		
361	SLD 8	-7.08	-0.32	60.11	0.0522	-0.2516	0.0014		
361	SLD 9	-7.08	-0.1	43.29	-0.0502	-0.2754	0.0007		
361	SLD 10	-7.08	-0.1	43.29	-0.0502	-0.2754	0.0007		
361	SLD 11	-10.54	-0.3	62.1	0.0418	-0.3966	0.0013		
361	SLD 12	-10.54	-0.3	62.1	0.0418	-0.3966	0.0013		
361	SLD 13	-12.33	-0.15	52.2	-0.0301	-0.4871	0.0009		
361	SLD 14	-12.33	-0.15	52.2	-0.0301	-0.4871	0.0009		
361	SLD 15	-13.36	-0.2	57.85	-0.0025	-0.5234	0.0011		
361	SLD 16	-13.36	-0.2	57.85	-0.0025	-0.5234	0.0011		
361	SLV 1	7.61	-0.23	37.24	0.0106	0.3435	0.0009		
361	SLV 2	7.61	-0.23	37.24	0.0106	0.3435	0.0009		
361	SLV 3	5.17	-0.37	50.6	0.0767	0.2579	0.0014		
361	SLV 4	5.17	-0.37	50.6	0.0767	0.2579	0.0014		
361	SLV 5	1.04	-0.01	27.09	-0.0964	0.0483	0.0003		
361	SLV 6	1.04	-0.01	27.09	-0.0964	0.0483	0.0003		
361	SLV 7	-7.11	-0.47	71.64	0.1239	-0.2368	0.0018		
361	SLV 8	-7.11	-0.47	71.64	0.1239	-0.2368	0.0018		
361	SLV 9	-7.04	0.05	31.77	-0.122	-0.2902	0.0002		
361	SLV 10	-7.04	0.05	31.77	-0.122	-0.2902	0.0002		
361	SLV 11	-15.19	-0.41	76.31	0.0984	-0.5753	0.0017		
361	SLV 12	-15.19	-0.41	76.31	0.0984	-0.5753	0.0017		
361	SLV 13	-19.32	-0.05	52.8	-0.0747	-0.7849	0.0007		
361	SLV 14	-19.32	-0.05	52.8	-0.0747	-0.7849	0.0007		
361	SLV 15	-21.76	-0.19	66.17	-0.0086	-0.8705	0.0011		
361	SLV 16	-21.76	-0.19	66.17	-0.0086	-0.8705	0.0011		
362	SLU 1	-7.84	0.04	42.08	-0.085	-0.3056	-0.0001		
362	SLU 2	-7.84	0.04	41.95	-0.0847	-0.3056	-0.0001		
362	SLU 3	-8.28	0.05	43.99	-0.0894	-0.3224	-0.0001		
362	SLU 4	-8.28	0.05	43.92	-0.0892	-0.3224	-0.0001		
362	SLU 5	-8.2	0.05	43.54	-0.0881	-0.3195	-0.0001		
362	SLU 6	-8.64	0.05	45.58	-0.0929	-0.3364	-0.0001		
362	SLU 7	-8.64	0.05	45.5	-0.0927	-0.3364	-0.0001		
362	SLU 8	-8.57	0.05	45.25	-0.092	-0.3335	-0.0001		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
362	SLU 9	-8.57	0.05	45.18	-0.0918	-0.3335	-0.0001
362	SLU 10	-9.29	0.05	47.78	-0.0991	-0.3621	-0.0001
362	SLU 11	-9.73	0.06	49.81	-0.1039	-0.379	-0.0001
362	SLU 12	-9.73	0.06	49.74	-0.1037	-0.379	-0.0001
362	SLU 13	-9.65	0.05	49.36	-0.1026	-0.3761	-0.0001
362	SLU 14	-10.09	0.06	51.4	-0.1074	-0.393	-0.0001
362	SLU 15	-10.09	0.06	51.33	-0.1072	-0.3929	-0.0001
362	SLU 16	-10.02	0.06	51.07	-0.1064	-0.3901	-0.0001
362	SLU 17	-10.02	0.06	51	-0.1062	-0.3901	-0.0001
362	SLU 18	-9.92	0.06	50.4	-0.1057	-0.3864	-0.0001
362	SLU 19	-9.91	0.06	50.32	-0.1055	-0.3864	-0.0001
362	SLU 20	-10.28	0.06	51.98	-0.1092	-0.4003	-0.0001
362	SLU 21	-10.28	0.06	51.91	-0.1089	-0.4003	-0.0001
362	SLU 22	-9.24	0.05	47.9	-0.0995	-0.3601	-0.0001
362	SLU 23	-9.24	0.05	47.78	-0.0991	-0.36	-0.0001
362	SLU 24	-9.68	0.06	49.81	-0.1039	-0.3769	-0.0001
362	SLU 25	-9.68	0.05	49.74	-0.1037	-0.3769	-0.0001
362	SLU 26	-9.6	0.05	49.36	-0.1026	-0.374	-0.0001
362	SLU 27	-10.04	0.06	51.4	-0.1074	-0.3909	-0.0001
362	SLU 28	-10.04	0.06	51.33	-0.1072	-0.3909	-0.0001
362	SLU 29	-9.97	0.06	51.07	-0.1064	-0.388	-0.0001
362	SLU 30	-9.96	0.06	51	-0.1062	-0.388	-0.0001
362	SLU 31	-10.69	0.06	53.6	-0.1136	-0.4166	-0.0001
362	SLU 32	-11.13	0.06	55.64	-0.1184	-0.4335	-0.0002
362	SLU 33	-11.13	0.06	55.56	-0.1182	-0.4335	-0.0002
362	SLU 34	-11.05	0.06	55.19	-0.1171	-0.4306	-0.0001
362	SLU 35	-11.49	0.07	57.22	-0.1218	-0.4474	-0.0002
362	SLU 36	-11.49	0.06	57.15	-0.1216	-0.4474	-0.0002
362	SLU 37	-11.42	0.06	56.9	-0.1209	-0.4446	-0.0002
362	SLU 38	-11.41	0.06	56.82	-0.1207	-0.4445	-0.0002
362	SLU 39	-11.31	0.06	56.22	-0.1201	-0.4409	-0.0002
362	SLU 40	-11.31	0.06	56.14	-0.1199	-0.4408	-0.0002
362	SLU 41	-11.68	0.07	57.81	-0.1236	-0.4548	-0.0002
362	SLU 42	-11.67	0.07	57.73	-0.1234	-0.4548	-0.0002
362	SLU 43	-9.72	0.06	52.71	-0.1055	-0.3786	-0.0001
362	SLU 44	-9.72	0.06	52.58	-0.1052	-0.3785	-0.0001
362	SLU 45	-10.15	0.06	54.62	-0.11	-0.3954	-0.0001
362	SLU 46	-10.15	0.06	54.54	-0.1098	-0.3954	-0.0001
362	SLU 47	-10.08	0.06	54.17	-0.1087	-0.3925	-0.0001
362	SLU 48	-10.52	0.06	56.21	-0.1134	-0.4094	-0.0001
362	SLU 49	-10.51	0.06	56.13	-0.1132	-0.4094	-0.0001
362	SLU 50	-10.44	0.06	55.88	-0.1125	-0.4065	-0.0001
362	SLU 51	-10.44	0.06	55.8	-0.1123	-0.4065	-0.0001
362	SLU 52	-11.17	0.06	58.4	-0.1197	-0.4351	-0.0001
362	SLU 53	-11.6	0.07	60.44	-0.1244	-0.452	-0.0002
362	SLU 54	-11.6	0.07	60.37	-0.1242	-0.452	-0.0002
362	SLU 55	-11.53	0.07	59.99	-0.1231	-0.4491	-0.0002
362	SLU 56	-11.97	0.07	62.03	-0.1279	-0.466	-0.0002
362	SLU 57	-11.96	0.07	61.95	-0.1277	-0.4659	-0.0002
362	SLU 58	-11.89	0.07	61.7	-0.127	-0.4631	-0.0002
362	SLU 59	-11.89	0.07	61.63	-0.1268	-0.4631	-0.0002
362	SLU 60	-11.79	0.07	61.02	-0.1262	-0.4594	-0.0002
362	SLU 61	-11.79	0.07	60.95	-0.126	-0.4594	-0.0002
362	SLU 62	-12.15	0.07	62.61	-0.1297	-0.4733	-0.0002
362	SLU 63	-12.15	0.07	62.54	-0.1295	-0.4733	-0.0002
362	SLU 64	-11.12	0.06	58.53	-0.12	-0.4331	-0.0001
362	SLU 65	-11.11	0.06	58.4	-0.1197	-0.433	-0.0001
362	SLU 66	-11.55	0.07	60.44	-0.1244	-0.4499	-0.0002
362	SLU 67	-11.55	0.07	60.37	-0.1242	-0.4499	-0.0002
362	SLU 68	-11.48	0.07	59.99	-0.1232	-0.447	-0.0002
362	SLU 69	-11.91	0.07	62.03	-0.1279	-0.4639	-0.0002
362	SLU 70	-11.91	0.07	61.95	-0.1277	-0.4639	-0.0002
362	SLU 71	-11.84	0.07	61.7	-0.127	-0.461	-0.0002
362	SLU 72	-11.84	0.07	61.63	-0.1268	-0.461	-0.0002
362	SLU 73	-12.56	0.07	64.23	-0.1341	-0.4896	-0.0002
362	SLU 74	-13	0.07	66.26	-0.1389	-0.5065	-0.0002
362	SLU 75	-13	0.07	66.19	-0.1387	-0.5065	-0.0002
362	SLU 76	-12.93	0.07	65.81	-0.1376	-0.5035	-0.0002
362	SLU 77	-13.36	0.08	67.85	-0.1424	-0.5204	-0.0002
362	SLU 78	-13.36	0.08	67.78	-0.1422	-0.5204	-0.0002
362	SLU 79	-13.29	0.08	67.52	-0.1414	-0.5176	-0.0002
362	SLU 80	-13.29	0.08	67.45	-0.1412	-0.5175	-0.0002
362	SLU 81	-13.19	0.07	66.85	-0.1407	-0.5139	-0.0002
362	SLU 82	-13.19	0.07	66.77	-0.1405	-0.5138	-0.0002
362	SLU 83	-13.55	0.08	68.43	-0.1442	-0.5278	-0.0002
362	SLU 84	-13.55	0.08	68.36	-0.144	-0.5278	-0.0002
362	SLE RA 1	-8.24	0.05	43.74	-0.0891	-0.3212	-0.0001
362	SLE RA 2	-8.24	0.05	43.66	-0.0889	-0.3211	-0.0001
362	SLE RA 3	-8.53	0.05	45.02	-0.0921	-0.3324	-0.0001
362	SLE RA 4	-8.53	0.05	44.97	-0.0919	-0.3324	-0.0001
362	SLE RA 5	-8.48	0.05	44.72	-0.0912	-0.3304	-0.0001
362	SLE RA 6	-8.78	0.05	46.08	-0.0944	-0.3417	-0.0001
362	SLE RA 7	-8.77	0.05	46.03	-0.0943	-0.3417	-0.0001
362	SLE RA 8	-8.73	0.05	45.86	-0.0938	-0.3398	-0.0001
362	SLE RA 9	-8.73	0.05	45.81	-0.0936	-0.3398	-0.0001
362	SLE RA 10	-9.21	0.05	47.54	-0.0986	-0.3588	-0.0001
362	SLE RA 11	-9.5	0.05	48.9	-0.1017	-0.3701	-0.0001
362	SLE RA 12	-9.5	0.05	48.85	-0.1016	-0.3701	-0.0001



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
362	SLE RA 13	-9.45	0.05	48.6	-0.1009	-0.3681	-0.0001	
362	SLE RA 14	-9.74	0.06	49.96	-0.104	-0.3794	-0.0001	
362	SLE RA 15	-9.74	0.06	49.91	-0.1039	-0.3794	-0.0001	
362	SLE RA 16	-9.69	0.05	49.74	-0.1034	-0.3775	-0.0001	
362	SLE RA 17	-9.69	0.05	49.69	-0.1033	-0.3775	-0.0001	
362	SLE RA 18	-9.62	0.05	49.29	-0.1029	-0.375	-0.0001	
362	SLE RA 19	-9.62	0.05	49.24	-0.1028	-0.375	-0.0001	
362	SLE RA 20	-9.87	0.06	50.35	-0.1052	-0.3843	-0.0001	
362	SLE RA 21	-9.86	0.06	50.3	-0.1051	-0.3843	-0.0001	
362	SLE FR 1	-8.24	0.05	43.74	-0.0891	-0.3212	-0.0001	
362	SLE FR 2	-8.24	0.05	43.73	-0.0891	-0.3211	-0.0001	
362	SLE FR 3	-8.34	0.05	44.17	-0.0901	-0.3249	-0.0001	
362	SLE FR 4	-8.66	0.05	45.39	-0.0932	-0.3373	-0.0001	
362	SLE FR 5	-8.76	0.05	45.83	-0.0942	-0.341	-0.0001	
362	SLE FR 6	-8.93	0.05	46.52	-0.096	-0.3481	-0.0001	
362	SLE QP 1	-8.24	0.05	43.74	-0.0891	-0.3212	-0.0001	
362	SLE QP 2	-8.66	0.05	45.41	-0.0933	-0.3373	-0.0001	
362	SLD 1	-2.05	-0.04	39.78	-0.0398	-0.0551	0.0003	
362	SLD 2	-2.05	-0.04	39.78	-0.0398	-0.0551	0.0003	
362	SLD 3	-3.06	0.03	44.22	-0.0817	-0.0933	0	
362	SLD 4	-3.06	0.03	44.22	-0.0817	-0.0933	0	
362	SLD 5	-5.15	-0.08	36.99	-0.0137	-0.1948	0.0006	
362	SLD 6	-5.15	-0.08	36.99	-0.0137	-0.1948	0.0006	
362	SLD 7	-8.5	0.15	51.78	-0.1534	-0.322	-0.0006	
362	SLD 8	-8.5	0.15	51.78	-0.1534	-0.322	-0.0006	
362	SLD 9	-8.81	-0.05	39.03	-0.0332	-0.3527	0.0004	
362	SLD 10	-8.81	-0.05	39.03	-0.0332	-0.3527	0.0004	
362	SLD 11	-12.17	0.18	53.82	-0.1729	-0.4798	-0.0008	
362	SLD 12	-12.17	0.18	53.82	-0.1729	-0.4798	-0.0008	
362	SLD 13	-14.26	0.06	46.59	-0.1049	-0.5813	-0.0002	
362	SLD 14	-14.26	0.06	46.59	-0.1049	-0.5813	-0.0002	
362	SLD 15	-15.27	0.13	51.03	-0.1468	-0.6195	-0.0005	
362	SLD 16	-15.27	0.13	51.03	-0.1468	-0.6195	-0.0005	
362	SLV 1	6.78	-0.16	32.19	0.0365	0.3219	0.0009	
362	SLV 2	6.78	-0.16	32.19	0.0365	0.3219	0.0009	
362	SLV 3	4.4	0.01	42.69	-0.065	0.2317	0.0001	
362	SLV 4	4.4	0.01	42.69	-0.065	0.2317	0.0001	
362	SLV 5	-0.43	-0.27	25.52	0.0996	-0.0028	0.0015	
362	SLV 6	-0.43	-0.27	25.52	0.0996	-0.0028	0.0015	
362	SLV 7	-8.34	0.3	60.51	-0.2388	-0.3034	-0.0014	
362	SLV 8	-8.34	0.3	60.51	-0.2388	-0.3034	-0.0014	
362	SLV 9	-8.98	-0.2	30.3	0.0522	-0.3712	0.0012	
362	SLV 10	-8.98	-0.2	30.3	0.0522	-0.3712	0.0012	
362	SLV 11	-16.89	0.37	65.3	-0.2862	-0.6719	-0.0018	
362	SLV 12	-16.89	0.37	65.3	-0.2862	-0.6719	-0.0018	
362	SLV 13	-21.72	0.09	48.13	-0.1216	-0.9063	-0.0003	
362	SLV 14	-21.72	0.09	48.13	-0.1216	-0.9063	-0.0003	
362	SLV 15	-24.1	0.26	58.63	-0.2231	-0.9965	-0.0012	
362	SLV 16	-24.1	0.26	58.63	-0.2231	-0.9965	-0.0012	
363	SLU 1	-8.67	0.21	37.01	-0.1688	-0.3429	-0.0014	
363	SLU 2	-8.67	0.21	36.9	-0.1681	-0.3428	-0.0014	
363	SLU 3	-9.15	0.23	38.63	-0.178	-0.3616	-0.0014	
363	SLU 4	-9.15	0.22	38.57	-0.1776	-0.3616	-0.0014	
363	SLU 5	-9.06	0.22	38.24	-0.1755	-0.3582	-0.0014	
363	SLU 6	-9.54	0.23	39.98	-0.1854	-0.3771	-0.0015	
363	SLU 7	-9.54	0.23	39.91	-0.185	-0.377	-0.0015	
363	SLU 8	-9.46	0.23	39.7	-0.1836	-0.3737	-0.0015	
363	SLU 9	-9.46	0.23	39.63	-0.1832	-0.3737	-0.0015	
363	SLU 10	-10.23	0.25	41.81	-0.1964	-0.4046	-0.0016	
363	SLU 11	-10.71	0.26	43.55	-0.2062	-0.4235	-0.0017	
363	SLU 12	-10.71	0.26	43.48	-0.2058	-0.4235	-0.0017	
363	SLU 13	-10.62	0.26	43.15	-0.2037	-0.4201	-0.0016	
363	SLU 14	-11.1	0.27	44.89	-0.2136	-0.439	-0.0017	
363	SLU 15	-11.1	0.27	44.82	-0.2132	-0.4389	-0.0017	
363	SLU 16	-11.02	0.27	44.61	-0.2118	-0.4356	-0.0017	
363	SLU 17	-11.02	0.27	44.54	-0.2114	-0.4356	-0.0017	
363	SLU 18	-10.91	0.26	44.03	-0.2091	-0.4313	-0.0017	
363	SLU 19	-10.9	0.26	43.96	-0.2087	-0.4312	-0.0017	
363	SLU 20	-11.3	0.27	45.37	-0.2165	-0.4467	-0.0017	
363	SLU 21	-11.3	0.27	45.3	-0.2161	-0.4466	-0.0017	
363	SLU 22	-10.19	0.25	41.94	-0.1973	-0.4028	-0.0016	
363	SLU 23	-10.19	0.25	41.83	-0.1966	-0.4027	-0.0016	
363	SLU 24	-10.67	0.26	43.57	-0.2065	-0.4216	-0.0017	
363	SLU 25	-10.66	0.26	43.5	-0.2061	-0.4215	-0.0017	
363	SLU 26	-10.58	0.26	43.17	-0.204	-0.4182	-0.0016	
363	SLU 27	-11.06	0.27	44.91	-0.2139	-0.437	-0.0017	
363	SLU 28	-11.06	0.27	44.84	-0.2134	-0.437	-0.0017	
363	SLU 29	-10.97	0.27	44.63	-0.2121	-0.4337	-0.0017	
363	SLU 30	-10.97	0.27	44.56	-0.2117	-0.4336	-0.0017	
363	SLU 31	-11.75	0.28	46.74	-0.2249	-0.4646	-0.0018	
363	SLU 32	-12.23	0.3	48.48	-0.2347	-0.4835	-0.0019	
363	SLU 33	-12.23	0.3	48.41	-0.2343	-0.4834	-0.0019	
363	SLU 34	-12.14	0.29	48.09	-0.2322	-0.48	-0.0019	
363	SLU 35	-12.62	0.31	49.82	-0.2421	-0.4989	-0.002	
363	SLU 36	-12.62	0.31	49.76	-0.2417	-0.4989	-0.002	
363	SLU 37	-12.54	0.3	49.54	-0.2403	-0.4956	-0.0019	
363	SLU 38	-12.53	0.3	49.47	-0.2399	-0.4955	-0.0019	
363	SLU 39	-12.42	0.3	48.96	-0.2376	-0.4912	-0.0019	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
363	SLU 40	-12.42	0.3	48.89	-0.2372	-0.4912	-0.0019	
363	SLU 41	-12.81	0.31	50.3	-0.245	-0.5067	-0.002	
363	SLU 42	-12.81	0.31	50.24	-0.2446	-0.5066	-0.002	
363	SLU 43	-10.76	0.27	46.42	-0.2097	-0.4252	-0.0017	
363	SLU 44	-10.75	0.26	46.31	-0.209	-0.4251	-0.0017	
363	SLU 45	-11.23	0.28	48.04	-0.2189	-0.4439	-0.0018	
363	SLU 46	-11.23	0.28	47.98	-0.2184	-0.4439	-0.0018	
363	SLU 47	-11.14	0.27	47.65	-0.2164	-0.4405	-0.0017	
363	SLU 48	-11.62	0.29	49.39	-0.2262	-0.4594	-0.0018	
363	SLU 49	-11.62	0.29	49.32	-0.2258	-0.4593	-0.0018	
363	SLU 50	-11.54	0.28	49.11	-0.2245	-0.456	-0.0018	
363	SLU 51	-11.54	0.28	49.04	-0.2241	-0.456	-0.0018	
363	SLU 52	-12.32	0.3	51.22	-0.2372	-0.4869	-0.0019	
363	SLU 53	-12.79	0.31	52.96	-0.2471	-0.5058	-0.002	
363	SLU 54	-12.79	0.31	52.89	-0.2467	-0.5058	-0.002	
363	SLU 55	-12.71	0.31	52.57	-0.2446	-0.5024	-0.002	
363	SLU 56	-13.19	0.32	54.3	-0.2545	-0.5213	-0.0021	
363	SLU 57	-13.18	0.32	54.23	-0.2541	-0.5212	-0.0021	
363	SLU 58	-13.1	0.32	54.02	-0.2527	-0.5179	-0.002	
363	SLU 59	-13.1	0.32	53.95	-0.2523	-0.5179	-0.002	
363	SLU 60	-12.99	0.32	53.44	-0.25	-0.5136	-0.002	
363	SLU 61	-12.99	0.32	53.37	-0.2496	-0.5135	-0.002	
363	SLU 62	-13.38	0.33	54.78	-0.2574	-0.529	-0.0021	
363	SLU 63	-13.38	0.33	54.71	-0.257	-0.5289	-0.0021	
363	SLU 64	-12.27	0.3	51.35	-0.2382	-0.4851	-0.0019	
363	SLU 65	-12.27	0.3	51.24	-0.2375	-0.485	-0.0019	
363	SLU 66	-12.75	0.31	52.98	-0.2474	-0.5039	-0.002	
363	SLU 67	-12.75	0.31	52.91	-0.2469	-0.5038	-0.002	
363	SLU 68	-12.66	0.31	52.58	-0.2449	-0.5005	-0.002	
363	SLU 69	-13.14	0.32	54.32	-0.2547	-0.5193	-0.0021	
363	SLU 70	-13.14	0.32	54.25	-0.2543	-0.5193	-0.0021	
363	SLU 71	-13.06	0.32	54.04	-0.253	-0.516	-0.002	
363	SLU 72	-13.05	0.32	53.97	-0.2525	-0.5159	-0.002	
363	SLU 73	-13.83	0.34	56.15	-0.2657	-0.5469	-0.0021	
363	SLU 74	-14.31	0.35	57.89	-0.2756	-0.5658	-0.0022	
363	SLU 75	-14.31	0.35	57.82	-0.2752	-0.5657	-0.0022	
363	SLU 76	-14.22	0.35	57.5	-0.2731	-0.5623	-0.0022	
363	SLU 77	-14.7	0.36	59.23	-0.283	-0.5812	-0.0023	
363	SLU 78	-14.7	0.36	59.17	-0.2825	-0.5812	-0.0023	
363	SLU 79	-14.62	0.36	58.95	-0.2812	-0.5779	-0.0023	
363	SLU 80	-14.62	0.36	58.89	-0.2808	-0.5778	-0.0023	
363	SLU 81	-14.5	0.35	58.37	-0.2785	-0.5735	-0.0022	
363	SLU 82	-14.5	0.35	58.3	-0.2781	-0.5735	-0.0022	
363	SLU 83	-14.9	0.36	59.71	-0.2859	-0.589	-0.0023	
363	SLU 84	-14.89	0.36	59.65	-0.2855	-0.5889	-0.0023	
363	SLE RA 1	-9.11	0.22	38.42	-0.177	-0.36	-0.0014	
363	SLE RA 2	-9.1	0.22	38.34	-0.1765	-0.3599	-0.0014	
363	SLE RA 3	-9.42	0.23	39.5	-0.1831	-0.3725	-0.0015	
363	SLE RA 4	-9.42	0.23	39.46	-0.1828	-0.3725	-0.0015	
363	SLE RA 5	-9.37	0.23	39.24	-0.1814	-0.3702	-0.0015	
363	SLE RA 6	-9.69	0.24	40.4	-0.188	-0.3828	-0.0015	
363	SLE RA 7	-9.68	0.24	40.35	-0.1877	-0.3828	-0.0015	
363	SLE RA 8	-9.63	0.24	40.21	-0.1868	-0.3806	-0.0015	
363	SLE RA 9	-9.63	0.24	40.16	-0.1865	-0.3805	-0.0015	
363	SLE RA 10	-10.15	0.25	41.62	-0.1953	-0.4012	-0.0016	
363	SLE RA 11	-10.47	0.26	42.78	-0.2019	-0.4138	-0.0016	
363	SLE RA 12	-10.46	0.25	42.73	-0.2016	-0.4137	-0.0016	
363	SLE RA 13	-10.41	0.25	42.51	-0.2002	-0.4115	-0.0016	
363	SLE RA 14	-10.73	0.26	43.67	-0.2068	-0.4241	-0.0017	
363	SLE RA 15	-10.73	0.26	43.63	-0.2065	-0.424	-0.0017	
363	SLE RA 16	-10.67	0.26	43.48	-0.2056	-0.4218	-0.0017	
363	SLE RA 17	-10.67	0.26	43.44	-0.2053	-0.4218	-0.0017	
363	SLE RA 18	-10.6	0.26	43.1	-0.2038	-0.4189	-0.0016	
363	SLE RA 19	-10.59	0.26	43.05	-0.2036	-0.4189	-0.0016	
363	SLE RA 20	-10.86	0.26	43.99	-0.2088	-0.4292	-0.0017	
363	SLE RA 21	-10.85	0.26	43.95	-0.2085	-0.4292	-0.0017	
363	SLE FR 1	-9.11	0.22	38.42	-0.177	-0.36	-0.0014	
363	SLE FR 2	-9.11	0.22	38.4	-0.1769	-0.36	-0.0014	
363	SLE FR 3	-9.21	0.23	38.78	-0.1789	-0.3641	-0.0014	
363	SLE FR 4	-9.55	0.23	39.81	-0.1849	-0.3777	-0.0015	
363	SLE FR 5	-9.66	0.24	40.18	-0.187	-0.3818	-0.0015	
363	SLE FR 6	-9.85	0.24	40.76	-0.1904	-0.3895	-0.0015	
363	SLE QP 1	-9.11	0.22	38.42	-0.177	-0.36	-0.0014	
363	SLE QP 2	-9.55	0.23	39.82	-0.185	-0.3777	-0.0015	
363	SLD 1	-2.7	0.14	34.52	-0.2034	-0.0929	-0.0008	
363	SLD 2	-2.7	0.14	34.52	-0.2034	-0.0929	-0.0008	
363	SLD 3	-3.7	0.21	38.29	-0.254	-0.1328	-0.0013	
363	SLD 4	-3.7	0.21	38.29	-0.254	-0.1328	-0.0013	
363	SLD 5	-5.98	0.1	32.52	-0.1137	-0.2317	-0.0006	
363	SLD 6	-5.98	0.1	32.52	-0.1137	-0.2317	-0.0006	
363	SLD 7	-9.31	0.33	45.07	-0.2825	-0.3648	-0.0022	
363	SLD 8	-9.31	0.33	45.07	-0.2825	-0.3648	-0.0022	
363	SLD 9	-9.8	0.14	34.57	-0.0875	-0.3906	-0.0008	
363	SLD 10	-9.8	0.14	34.57	-0.0875	-0.3906	-0.0008	
363	SLD 11	-13.13	0.36	47.12	-0.2563	-0.5237	-0.0024	
363	SLD 12	-13.13	0.36	47.12	-0.2563	-0.5237	-0.0024	
363	SLD 13	-15.41	0.26	41.35	-0.1161	-0.6225	-0.0017	
363	SLD 14	-15.41	0.26	41.35	-0.1161	-0.6225	-0.0017	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
Ind.	N.br.	x	y	z	x	y	z		
363	SLD 15	-16.41	0.33	45.12	-0.1667	-0.6625	-0.0021		
363	SLD 16	-16.41	0.33	45.12	-0.1667	-0.6625	-0.0021		
363	SLV 1	6.47	0.01	27.37	-0.2284	0.2877	0.0001		
363	SLV 2	6.47	0.01	27.37	-0.2284	0.2877	0.0001		
363	SLV 3	4.1	0.18	36.28	-0.3509	0.1933	-0.0011		
363	SLV 4	4.1	0.18	36.28	-0.3509	0.1933	-0.0011		
363	SLV 5	-1.16	-0.08	22.58	-0.0122	-0.0348	0.0007		
363	SLV 6	-1.16	-0.08	22.58	-0.0122	-0.0348	0.0007		
363	SLV 7	-9.04	0.47	52.27	-0.4207	-0.3497	-0.0031		
363	SLV 8	-9.04	0.47	52.27	-0.4207	-0.3497	-0.0031		
363	SLV 9	-10.06	0	27.37	0.0506	-0.4057	0.0001		
363	SLV 10	-10.06	0	27.37	0.0506	-0.4057	0.0001		
363	SLV 11	-17.95	0.55	57.06	-0.3579	-0.7205	-0.0037		
363	SLV 12	-17.95	0.55	57.06	-0.3579	-0.7205	-0.0037		
363	SLV 13	-23.21	0.29	43.36	-0.0191	-0.9486	-0.0019		
363	SLV 14	-23.21	0.29	43.36	-0.0191	-0.9486	-0.0019		
363	SLV 15	-25.58	0.46	52.27	-0.1417	-1.0431	-0.0031		
363	SLV 16	-25.58	0.46	52.27	-0.1417	-1.0431	-0.0031		
364	SLU 1	-8.7	0.29	32.2	-0.228	-0.354	-0.0024		
364	SLU 2	-8.7	0.29	32.1	-0.2271	-0.354	-0.0024		
364	SLU 3	-9.17	0.31	33.56	-0.2406	-0.3733	-0.0026		
364	SLU 4	-9.17	0.31	33.5	-0.2401	-0.3734	-0.0026		
364	SLU 5	-9.08	0.31	33.23	-0.2373	-0.3698	-0.0025		
364	SLU 6	-9.56	0.32	34.69	-0.2509	-0.3891	-0.0027		
364	SLU 7	-9.56	0.32	34.63	-0.2503	-0.3891	-0.0027		
364	SLU 8	-9.47	0.32	34.45	-0.2485	-0.3855	-0.0027		
364	SLU 9	-9.47	0.32	34.39	-0.2479	-0.3856	-0.0027		
364	SLU 10	-10.24	0.34	36.17	-0.265	-0.4167	-0.0028		
364	SLU 11	-10.71	0.36	37.63	-0.2786	-0.436	-0.003		
364	SLU 12	-10.71	0.36	37.57	-0.278	-0.436	-0.003		
364	SLU 13	-10.62	0.36	37.29	-0.2752	-0.4325	-0.0029		
364	SLU 14	-11.1	0.37	38.75	-0.2888	-0.4518	-0.0031		
364	SLU 15	-11.1	0.37	38.69	-0.2882	-0.4518	-0.0031		
364	SLU 16	-11.01	0.37	38.52	-0.2864	-0.4482	-0.0031		
364	SLU 17	-11.01	0.37	38.46	-0.2859	-0.4482	-0.0031		
364	SLU 18	-10.9	0.36	38.01	-0.2822	-0.4435	-0.003		
364	SLU 19	-10.9	0.36	37.95	-0.2816	-0.4435	-0.003		
364	SLU 20	-11.29	0.38	39.13	-0.2925	-0.4593	-0.0031		
364	SLU 21	-11.28	0.38	39.07	-0.2919	-0.4593	-0.0031		
364	SLU 22	-10.2	0.34	36.3	-0.2665	-0.415	-0.0029		
364	SLU 23	-10.2	0.34	36.2	-0.2655	-0.415	-0.0028		
364	SLU 24	-10.67	0.36	37.66	-0.2791	-0.4343	-0.003		
364	SLU 25	-10.67	0.36	37.61	-0.2785	-0.4343	-0.003		
364	SLU 26	-10.58	0.36	37.33	-0.2758	-0.4308	-0.003		
364	SLU 27	-11.06	0.37	38.79	-0.2893	-0.4501	-0.0031		
364	SLU 28	-11.06	0.37	38.73	-0.2888	-0.4501	-0.0031		
364	SLU 29	-10.97	0.37	38.55	-0.287	-0.4465	-0.0031		
364	SLU 30	-10.97	0.37	38.49	-0.2864	-0.4466	-0.0031		
364	SLU 31	-11.74	0.39	40.27	-0.3035	-0.4777	-0.0032		
364	SLU 32	-12.21	0.41	41.73	-0.317	-0.497	-0.0034		
364	SLU 33	-12.21	0.41	41.67	-0.3164	-0.497	-0.0034		
364	SLU 34	-12.12	0.4	41.39	-0.3137	-0.4934	-0.0034		
364	SLU 35	-12.6	0.42	42.85	-0.3273	-0.5127	-0.0035		
364	SLU 36	-12.6	0.42	42.79	-0.3267	-0.5128	-0.0035		
364	SLU 37	-12.51	0.42	42.62	-0.3249	-0.5092	-0.0035		
364	SLU 38	-12.51	0.42	42.56	-0.3243	-0.5092	-0.0035		
364	SLU 39	-12.4	0.41	42.11	-0.3207	-0.5045	-0.0034		
364	SLU 40	-12.4	0.41	42.05	-0.3201	-0.5045	-0.0034		
364	SLU 41	-12.78	0.43	43.23	-0.3309	-0.5203	-0.0035		
364	SLU 42	-12.78	0.43	43.17	-0.3303	-0.5203	-0.0035		
364	SLU 43	-10.79	0.37	40.45	-0.2833	-0.4393	-0.003		
364	SLU 44	-10.79	0.36	40.36	-0.2823	-0.4393	-0.003		
364	SLU 45	-11.27	0.38	41.82	-0.2959	-0.4586	-0.0032		
364	SLU 46	-11.27	0.38	41.76	-0.2953	-0.4586	-0.0032		
364	SLU 47	-11.18	0.38	41.48	-0.2925	-0.4551	-0.0031		
364	SLU 48	-11.65	0.4	42.94	-0.3061	-0.4744	-0.0033		
364	SLU 49	-11.65	0.39	42.88	-0.3055	-0.4744	-0.0033		
364	SLU 50	-11.57	0.39	42.71	-0.3038	-0.4708	-0.0033		
364	SLU 51	-11.57	0.39	42.65	-0.3032	-0.4709	-0.0032		
364	SLU 52	-12.33	0.41	44.42	-0.3202	-0.502	-0.0034		
364	SLU 53	-12.81	0.43	45.88	-0.3338	-0.5213	-0.0036		
364	SLU 54	-12.81	0.43	45.82	-0.3332	-0.5213	-0.0036		
364	SLU 55	-12.72	0.43	45.55	-0.3305	-0.5177	-0.0035		
364	SLU 56	-13.19	0.44	47.01	-0.344	-0.537	-0.0037		
364	SLU 57	-13.19	0.44	46.95	-0.3434	-0.5371	-0.0037		
364	SLU 58	-13.11	0.44	46.77	-0.3417	-0.5335	-0.0037		
364	SLU 59	-13.11	0.44	46.71	-0.3411	-0.5335	-0.0037		
364	SLU 60	-12.99	0.44	46.26	-0.3374	-0.5288	-0.0036		
364	SLU 61	-12.99	0.43	46.2	-0.3369	-0.5288	-0.0036		
364	SLU 62	-13.38	0.45	47.39	-0.3477	-0.5446	-0.0037		
364	SLU 63	-13.38	0.45	47.33	-0.3471	-0.5446	-0.0037		
364	SLU 64	-12.29	0.42	44.56	-0.3217	-0.5003	-0.0034		
364	SLU 65	-12.29	0.41	44.46	-0.3208	-0.5003	-0.0034		
364	SLU 66	-12.77	0.43	45.92	-0.3343	-0.5196	-0.0036		
364	SLU 67	-12.77	0.43	45.86	-0.3337	-0.5196	-0.0036		
364	SLU 68	-12.68	0.43	45.58	-0.331	-0.5161	-0.0035		
364	SLU 69	-13.15	0.44	47.04	-0.3446	-0.5354	-0.0037		
364	SLU 70	-13.15	0.44	46.98	-0.344	-0.5354	-0.0037		



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
364	SLU 71	-13.07	0.44	46.81	-0.3422	-0.5318	-0.0037
364	SLU 72	-13.07	0.44	46.75	-0.3416	-0.5318	-0.0037
364	SLU 73	-13.83	0.46	48.52	-0.3587	-0.563	-0.0038
364	SLU 74	-14.31	0.48	49.98	-0.3722	-0.5822	-0.004
364	SLU 75	-14.31	0.48	49.92	-0.3717	-0.5823	-0.004
364	SLU 76	-14.22	0.48	49.65	-0.3689	-0.5787	-0.0039
364	SLU 77	-14.69	0.49	51.11	-0.3825	-0.598	-0.0041
364	SLU 78	-14.69	0.49	51.05	-0.3819	-0.5981	-0.0041
364	SLU 79	-14.61	0.49	50.87	-0.3801	-0.5945	-0.0041
364	SLU 80	-14.61	0.49	50.81	-0.3795	-0.5945	-0.0041
364	SLU 81	-14.49	0.48	50.36	-0.3759	-0.5898	-0.004
364	SLU 82	-14.49	0.48	50.3	-0.3753	-0.5898	-0.004
364	SLU 83	-14.88	0.5	51.49	-0.3861	-0.6055	-0.0041
364	SLU 84	-14.88	0.5	51.43	-0.3856	-0.6056	-0.0041
364	SLE RA 1	-9.13	0.31	33.37	-0.239	-0.3714	-0.0026
364	SLE RA 2	-9.13	0.31	33.31	-0.2384	-0.3714	-0.0026
364	SLE RA 3	-9.44	0.32	34.28	-0.2474	-0.3843	-0.0026
364	SLE RA 4	-9.44	0.32	34.24	-0.247	-0.3843	-0.0026
364	SLE RA 5	-9.38	0.32	34.06	-0.2452	-0.382	-0.0026
364	SLE RA 6	-9.7	0.33	35.03	-0.2543	-0.3948	-0.0027
364	SLE RA 7	-9.7	0.33	34.99	-0.2539	-0.3948	-0.0027
364	SLE RA 8	-9.64	0.33	34.87	-0.2527	-0.3924	-0.0027
364	SLE RA 9	-9.64	0.33	34.83	-0.2523	-0.3925	-0.0027
364	SLE RA 10	-10.15	0.34	36.02	-0.2637	-0.4132	-0.0028
364	SLE RA 11	-10.47	0.35	36.99	-0.2727	-0.4261	-0.0029
364	SLE RA 12	-10.47	0.35	36.95	-0.2723	-0.4261	-0.0029
364	SLE RA 13	-10.41	0.35	36.77	-0.2705	-0.4237	-0.0029
364	SLE RA 14	-10.73	0.36	37.74	-0.2795	-0.4366	-0.003
364	SLE RA 15	-10.73	0.36	37.7	-0.2791	-0.4366	-0.003
364	SLE RA 16	-10.67	0.36	37.58	-0.278	-0.4342	-0.003
364	SLE RA 17	-10.67	0.36	37.54	-0.2776	-0.4342	-0.003
364	SLE RA 18	-10.59	0.35	37.24	-0.2751	-0.4311	-0.0029
364	SLE RA 19	-10.59	0.35	37.2	-0.2748	-0.4311	-0.0029
364	SLE RA 20	-10.85	0.36	37.99	-0.282	-0.4416	-0.003
364	SLE RA 21	-10.85	0.36	37.95	-0.2816	-0.4416	-0.003
364	SLE FR 1	-9.13	0.31	33.37	-0.239	-0.3714	-0.0026
364	SLE FR 2	-9.13	0.31	33.36	-0.2389	-0.3714	-0.0026
364	SLE FR 3	-9.23	0.31	33.67	-0.2418	-0.3756	-0.0026
364	SLE FR 4	-9.57	0.32	34.52	-0.2497	-0.3893	-0.0027
364	SLE FR 5	-9.67	0.33	34.83	-0.2526	-0.3935	-0.0027
364	SLE FR 6	-9.86	0.33	35.31	-0.2571	-0.4012	-0.0027
364	SLE QP 1	-9.13	0.31	33.37	-0.239	-0.3714	-0.0026
364	SLE QP 2	-9.57	0.32	34.53	-0.2499	-0.3893	-0.0027
364	SLD 1	-2.34	0.23	29.83	-0.2728	-0.0745	-0.0019
364	SLD 2	-2.34	0.23	29.83	-0.2728	-0.0745	-0.0019
364	SLD 3	-3.29	0.29	33.07	-0.3286	-0.1125	-0.0024
364	SLD 4	-3.29	0.29	33.07	-0.3286	-0.1125	-0.0024
364	SLD 5	-5.96	0.2	28.21	-0.1722	-0.2372	-0.0017
364	SLD 6	-5.96	0.2	28.21	-0.1722	-0.2372	-0.0017
364	SLD 7	-9.12	0.41	39.01	-0.358	-0.3639	-0.0034
364	SLD 8	-9.12	0.41	39.01	-0.358	-0.3639	-0.0034
364	SLD 9	-10.02	0.24	30.06	-0.1417	-0.4147	-0.002
364	SLD 10	-10.02	0.24	30.06	-0.1417	-0.4147	-0.002
364	SLD 11	-13.17	0.44	40.86	-0.3275	-0.5414	-0.0037
364	SLD 12	-13.17	0.44	40.86	-0.3275	-0.5414	-0.0037
364	SLD 13	-15.85	0.35	36	-0.1712	-0.6661	-0.003
364	SLD 14	-15.85	0.35	36	-0.1712	-0.6661	-0.003
364	SLD 15	-16.79	0.42	39.24	-0.2269	-0.7042	-0.0035
364	SLD 16	-16.79	0.42	39.24	-0.2269	-0.7042	-0.0035
364	SLV 1	7.32	0.1	23.49	-0.3035	0.3464	-0.0008
364	SLV 2	7.32	0.1	23.49	-0.3035	0.3464	-0.0008
364	SLV 3	5.08	0.25	31.14	-0.4377	0.2562	-0.002
364	SLV 4	5.08	0.25	31.14	-0.4377	0.2562	-0.002
364	SLV 5	-1.1	0.03	19.62	-0.0624	-0.0317	-0.0002
364	SLV 6	-1.1	0.03	19.62	-0.0624	-0.0317	-0.0002
364	SLV 7	-8.58	0.53	45.12	-0.5098	-0.3325	-0.0043
364	SLV 8	-8.58	0.53	45.12	-0.5098	-0.3325	-0.0043
364	SLV 9	-10.56	0.12	23.95	0.0101	-0.4461	-0.001
364	SLV 10	-10.56	0.12	23.95	0.0101	-0.4461	-0.001
364	SLV 11	-18.04	0.62	49.45	-0.4374	-0.7469	-0.0051
364	SLV 12	-18.04	0.62	49.45	-0.4374	-0.7469	-0.0051
364	SLV 13	-24.21	0.4	37.93	-0.062	-1.0348	-0.0033
364	SLV 14	-24.21	0.4	37.93	-0.062	-1.0348	-0.0033
364	SLV 15	-26.45	0.55	45.58	-0.1962	-1.125	-0.0046
364	SLV 16	-26.45	0.55	45.58	-0.1962	-1.125	-0.0046
365	SLU 1	-7.87	0.32	28.37	-0.2652	-0.3186	-0.0028
365	SLU 2	-7.88	0.32	28.28	-0.264	-0.3187	-0.0028
365	SLU 3	-8.3	0.34	29.52	-0.2801	-0.3358	-0.003
365	SLU 4	-8.3	0.34	29.47	-0.2794	-0.3359	-0.003
365	SLU 5	-8.22	0.33	29.23	-0.2762	-0.3327	-0.003
365	SLU 6	-8.64	0.35	30.48	-0.2923	-0.3497	-0.0031
365	SLU 7	-8.65	0.35	30.43	-0.2916	-0.3498	-0.0031
365	SLU 8	-8.56	0.35	30.28	-0.2896	-0.3464	-0.0031
365	SLU 9	-8.56	0.35	30.23	-0.2889	-0.3465	-0.0031
365	SLU 10	-9.26	0.37	31.67	-0.308	-0.3748	-0.0033
365	SLU 11	-9.68	0.39	32.91	-0.3241	-0.3918	-0.0035
365	SLU 12	-9.68	0.39	32.86	-0.3234	-0.3919	-0.0035
365	SLU 13	-9.6	0.38	32.62	-0.3202	-0.3887	-0.0034





Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
365	SLU 14	-10.02	0.4	33.87	-0.3363	-0.4057	-0.0036
365	SLU 15	-10.03	0.4	33.81	-0.3356	-0.4058	-0.0036
365	SLU 16	-9.94	0.4	33.67	-0.3336	-0.4025	-0.0036
365	SLU 17	-9.95	0.4	33.61	-0.3329	-0.4025	-0.0036
365	SLU 18	-9.85	0.39	33.21	-0.328	-0.3986	-0.0035
365	SLU 19	-9.85	0.39	33.15	-0.3273	-0.3987	-0.0035
365	SLU 20	-10.19	0.41	34.16	-0.3402	-0.4125	-0.0036
365	SLU 21	-10.19	0.41	34.11	-0.3395	-0.4126	-0.0036
365	SLU 22	-9.22	0.37	31.81	-0.31	-0.373	-0.0033
365	SLU 23	-9.22	0.37	31.72	-0.3088	-0.3732	-0.0033
365	SLU 24	-9.64	0.39	32.96	-0.3249	-0.3903	-0.0035
365	SLU 25	-9.64	0.39	32.91	-0.3242	-0.3903	-0.0035
365	SLU 26	-9.56	0.39	32.68	-0.321	-0.3871	-0.0034
365	SLU 27	-9.99	0.41	33.92	-0.3371	-0.4042	-0.0036
365	SLU 28	-9.99	0.4	33.87	-0.3364	-0.4043	-0.0036
365	SLU 29	-9.91	0.4	33.72	-0.3344	-0.4009	-0.0036
365	SLU 30	-9.91	0.4	33.67	-0.3337	-0.401	-0.0036
365	SLU 31	-10.6	0.42	35.11	-0.3528	-0.4292	-0.0038
365	SLU 32	-11.02	0.44	36.35	-0.3689	-0.4463	-0.004
365	SLU 33	-11.03	0.44	36.3	-0.3682	-0.4464	-0.0039
365	SLU 34	-10.95	0.44	36.06	-0.365	-0.4431	-0.0039
365	SLU 35	-11.37	0.46	37.31	-0.3811	-0.4602	-0.0041
365	SLU 36	-11.37	0.46	37.25	-0.3804	-0.4603	-0.0041
365	SLU 37	-11.29	0.45	37.11	-0.3784	-0.4569	-0.0041
365	SLU 38	-11.29	0.45	37.06	-0.3777	-0.457	-0.004
365	SLU 39	-11.19	0.45	36.65	-0.3728	-0.4531	-0.004
365	SLU 40	-11.19	0.45	36.6	-0.3721	-0.4532	-0.004
365	SLU 41	-11.54	0.46	37.61	-0.385	-0.467	-0.0041
365	SLU 42	-11.54	0.46	37.55	-0.3843	-0.4671	-0.0041
365	SLU 43	-9.77	0.4	35.7	-0.3295	-0.3955	-0.0035
365	SLU 44	-9.78	0.39	35.61	-0.3282	-0.3956	-0.0035
365	SLU 45	-10.2	0.41	36.85	-0.3443	-0.4127	-0.0037
365	SLU 46	-10.2	0.41	36.8	-0.3436	-0.4128	-0.0037
365	SLU 47	-10.12	0.41	36.57	-0.3404	-0.4096	-0.0037
365	SLU 48	-10.54	0.43	37.81	-0.3565	-0.4266	-0.0038
365	SLU 49	-10.55	0.43	37.76	-0.3558	-0.4267	-0.0038
365	SLU 50	-10.46	0.43	37.61	-0.3539	-0.4234	-0.0038
365	SLU 51	-10.47	0.42	37.56	-0.3531	-0.4234	-0.0038
365	SLU 52	-11.16	0.45	39	-0.3722	-0.4517	-0.004
365	SLU 53	-11.58	0.47	40.24	-0.3883	-0.4687	-0.0042
365	SLU 54	-11.58	0.47	40.19	-0.3876	-0.4688	-0.0042
365	SLU 55	-11.5	0.46	39.95	-0.3844	-0.4656	-0.0041
365	SLU 56	-11.93	0.48	41.2	-0.4005	-0.4827	-0.0043
365	SLU 57	-11.93	0.48	41.14	-0.3998	-0.4827	-0.0043
365	SLU 58	-11.84	0.48	41	-0.3978	-0.4794	-0.0043
365	SLU 59	-11.85	0.48	40.95	-0.3971	-0.4795	-0.0043
365	SLU 60	-11.75	0.47	40.54	-0.3922	-0.4755	-0.0042
365	SLU 61	-11.75	0.47	40.49	-0.3915	-0.4756	-0.0042
365	SLU 62	-12.09	0.49	41.5	-0.4044	-0.4895	-0.0043
365	SLU 63	-12.09	0.49	41.44	-0.4037	-0.4895	-0.0043
365	SLU 64	-11.12	0.45	39.14	-0.3743	-0.45	-0.004
365	SLU 65	-11.12	0.45	39.05	-0.373	-0.4501	-0.004
365	SLU 66	-11.54	0.47	40.3	-0.3891	-0.4672	-0.0042
365	SLU 67	-11.55	0.47	40.24	-0.3884	-0.4673	-0.0042
365	SLU 68	-11.47	0.46	40.01	-0.3852	-0.464	-0.0041
365	SLU 69	-11.89	0.48	41.25	-0.4013	-0.4811	-0.0043
365	SLU 70	-11.89	0.48	41.2	-0.4006	-0.4812	-0.0043
365	SLU 71	-11.81	0.48	41.05	-0.3987	-0.4778	-0.0043
365	SLU 72	-11.81	0.48	41	-0.3979	-0.4779	-0.0043
365	SLU 73	-12.5	0.5	42.44	-0.417	-0.5061	-0.0045
365	SLU 74	-12.93	0.52	43.68	-0.4331	-0.5232	-0.0046
365	SLU 75	-12.93	0.52	43.63	-0.4324	-0.5233	-0.0046
365	SLU 76	-12.85	0.52	43.39	-0.4292	-0.52	-0.0046
365	SLU 77	-13.27	0.54	44.64	-0.4453	-0.5371	-0.0048
365	SLU 78	-13.27	0.53	44.59	-0.4446	-0.5372	-0.0048
365	SLU 79	-13.19	0.53	44.44	-0.4426	-0.5338	-0.0047
365	SLU 80	-13.19	0.53	44.39	-0.4419	-0.5339	-0.0047
365	SLU 81	-13.09	0.53	43.98	-0.437	-0.53	-0.0047
365	SLU 82	-13.09	0.52	43.93	-0.4363	-0.5301	-0.0047
365	SLU 83	-13.44	0.54	44.94	-0.4492	-0.5439	-0.0048
365	SLU 84	-13.44	0.54	44.88	-0.4485	-0.544	-0.0048
365	SLE RA 1	-8.26	0.33	29.35	-0.278	-0.3342	-0.003
365	SLE RA 2	-8.26	0.33	29.29	-0.2772	-0.3342	-0.003
365	SLE RA 3	-8.54	0.35	30.12	-0.288	-0.3456	-0.0031
365	SLE RA 4	-8.54	0.35	30.09	-0.2875	-0.3457	-0.0031
365	SLE RA 5	-8.49	0.34	29.93	-0.2854	-0.3435	-0.0031
365	SLE RA 6	-8.77	0.36	30.76	-0.2961	-0.3549	-0.0032
365	SLE RA 7	-8.77	0.36	30.72	-0.2956	-0.355	-0.0032
365	SLE RA 8	-8.72	0.35	30.63	-0.2943	-0.3527	-0.0032
365	SLE RA 9	-8.72	0.35	30.59	-0.2938	-0.3528	-0.0032
365	SLE RA 10	-9.18	0.37	31.55	-0.3065	-0.3716	-0.0033
365	SLE RA 11	-9.46	0.38	32.38	-0.3173	-0.383	-0.0034
365	SLE RA 12	-9.46	0.38	32.34	-0.3168	-0.383	-0.0034
365	SLE RA 13	-9.41	0.38	32.19	-0.3147	-0.3809	-0.0034
365	SLE RA 14	-9.69	0.39	33.02	-0.3254	-0.3923	-0.0035
365	SLE RA 15	-9.69	0.39	32.98	-0.3249	-0.3923	-0.0035
365	SLE RA 16	-9.64	0.39	32.89	-0.3236	-0.3901	-0.0035
365	SLE RA 17	-9.64	0.39	32.85	-0.3231	-0.3901	-0.0035



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
365	SLE RA 18	-9.57	0.38	32.58	-0.3199	-0.3875	-0.0034	
365	SLE RA 19	-9.57	0.38	32.54	-0.3194	-0.3876	-0.0034	
365	SLE RA 20	-9.8	0.39	33.22	-0.328	-0.3968	-0.0035	
365	SLE RA 21	-9.8	0.39	33.18	-0.3275	-0.3968	-0.0035	
365	SLE FR 1	-8.26	0.33	29.35	-0.278	-0.3342	-0.003	
365	SLE FR 2	-8.26	0.33	29.34	-0.2779	-0.3342	-0.003	
365	SLE FR 3	-8.35	0.34	29.61	-0.2813	-0.3379	-0.003	
365	SLE FR 4	-8.65	0.35	30.31	-0.2904	-0.3502	-0.0031	
365	SLE FR 5	-8.74	0.35	30.57	-0.2939	-0.3539	-0.0032	
365	SLE FR 6	-8.91	0.36	30.97	-0.299	-0.3608	-0.0032	
365	SLE QP 1	-8.26	0.33	29.35	-0.278	-0.3342	-0.003	
365	SLE QP 2	-8.65	0.35	30.32	-0.2906	-0.3502	-0.0031	
365	SLD 1	-1.67	0.26	26.22	-0.3159	-0.0599	-0.0023	
365	SLD 2	-1.67	0.26	26.22	-0.3159	-0.0599	-0.0023	
365	SLD 3	-2.53	0.31	29.03	-0.3745	-0.0948	-0.0028	
365	SLD 4	-2.53	0.31	29.03	-0.3745	-0.0948	-0.0028	
365	SLD 5	-5.26	0.23	24.83	-0.2093	-0.2101	-0.0021	
365	SLD 6	-5.26	0.23	24.83	-0.2093	-0.2101	-0.0021	
365	SLD 7	-8.12	0.43	34.19	-0.4047	-0.3265	-0.0038	
365	SLD 8	-8.12	0.43	34.19	-0.4047	-0.3265	-0.0038	
365	SLD 9	-9.19	0.27	26.45	-0.1765	-0.3738	-0.0024	
365	SLD 10	-9.19	0.27	26.45	-0.1765	-0.3738	-0.0024	
365	SLD 11	-12.05	0.47	35.81	-0.3719	-0.4902	-0.0041	
365	SLD 12	-12.05	0.47	35.81	-0.3719	-0.4902	-0.0041	
365	SLD 13	-14.77	0.38	31.61	-0.2066	-0.6055	-0.0034	
365	SLD 14	-14.77	0.38	31.61	-0.2066	-0.6055	-0.0034	
365	SLD 15	-15.63	0.44	34.42	-0.2653	-0.6404	-0.0039	
365	SLD 16	-15.63	0.44	34.42	-0.2653	-0.6404	-0.0039	
365	SLV 1	7.66	0.13	20.7	-0.3495	0.3281	-0.0012	
365	SLV 2	7.66	0.13	20.7	-0.3495	0.3281	-0.0012	
365	SLV 3	5.62	0.27	27.32	-0.4899	0.2453	-0.0024	
365	SLV 4	5.62	0.27	27.32	-0.4899	0.2453	-0.0024	
365	SLV 5	-0.67	0.07	17.39	-0.0954	-0.0211	-0.0007	
365	SLV 6	-0.67	0.07	17.39	-0.0954	-0.0211	-0.0007	
365	SLV 7	-7.46	0.54	39.47	-0.5633	-0.2971	-0.0047	
365	SLV 8	-7.46	0.54	39.47	-0.5633	-0.2971	-0.0047	
365	SLV 9	-9.84	0.16	21.17	-0.0179	-0.4032	-0.0015	
365	SLV 10	-9.84	0.16	21.17	-0.0179	-0.4032	-0.0015	
365	SLV 11	-16.63	0.63	43.25	-0.4858	-0.6792	-0.0055	
365	SLV 12	-16.63	0.63	43.25	-0.4858	-0.6792	-0.0055	
365	SLV 13	-22.92	0.43	33.32	-0.0913	-0.9456	-0.0038	
365	SLV 14	-22.92	0.43	33.32	-0.0913	-0.9456	-0.0038	
365	SLV 15	-24.96	0.57	39.94	-0.2317	-1.0284	-0.005	
365	SLV 16	-24.96	0.57	39.94	-0.2317	-1.0284	-0.005	
366	SLU 1	-6.87	0.33	25.9	-0.2927	-0.2917	-0.0026	
366	SLU 2	-6.87	0.33	25.81	-0.2913	-0.292	-0.0026	
366	SLU 3	-7.24	0.35	26.92	-0.3094	-0.3074	-0.0028	
366	SLU 4	-7.24	0.35	26.87	-0.3086	-0.3076	-0.0028	
366	SLU 5	-7.17	0.34	26.66	-0.3051	-0.3046	-0.0027	
366	SLU 6	-7.53	0.36	27.77	-0.3232	-0.3201	-0.0029	
366	SLU 7	-7.54	0.36	27.72	-0.3224	-0.3202	-0.0029	
366	SLU 8	-7.46	0.36	27.6	-0.3203	-0.317	-0.0029	
366	SLU 9	-7.46	0.36	27.55	-0.3195	-0.3172	-0.0029	
366	SLU 10	-8.06	0.38	28.76	-0.3396	-0.3422	-0.003	
366	SLU 11	-8.42	0.4	29.87	-0.3578	-0.3576	-0.0032	
366	SLU 12	-8.43	0.4	29.82	-0.3569	-0.3578	-0.0032	
366	SLU 13	-8.36	0.4	29.61	-0.3534	-0.3549	-0.0032	
366	SLU 14	-8.72	0.42	30.72	-0.3716	-0.3703	-0.0033	
366	SLU 15	-8.72	0.42	30.67	-0.3707	-0.3704	-0.0033	
366	SLU 16	-8.65	0.42	30.54	-0.3687	-0.3673	-0.0033	
366	SLU 17	-8.65	0.41	30.49	-0.3678	-0.3674	-0.0033	
366	SLU 18	-8.56	0.41	30.11	-0.3618	-0.3635	-0.0032	
366	SLU 19	-8.57	0.41	30.06	-0.3609	-0.3636	-0.0032	
366	SLU 20	-8.86	0.42	30.96	-0.3756	-0.3761	-0.0034	
366	SLU 21	-8.86	0.42	30.91	-0.3747	-0.3763	-0.0033	
366	SLU 22	-8.02	0.39	28.91	-0.3423	-0.3407	-0.0031	
366	SLU 23	-8.03	0.38	28.83	-0.3408	-0.341	-0.003	
366	SLU 24	-8.39	0.41	29.93	-0.359	-0.3564	-0.0032	
366	SLU 25	-8.4	0.4	29.88	-0.3581	-0.3565	-0.0032	
366	SLU 26	-8.33	0.4	29.68	-0.3546	-0.3536	-0.0032	
366	SLU 27	-8.69	0.42	30.78	-0.3728	-0.369	-0.0033	
366	SLU 28	-8.69	0.42	30.73	-0.3719	-0.3692	-0.0033	
366	SLU 29	-8.62	0.42	30.61	-0.3699	-0.366	-0.0033	
366	SLU 30	-8.62	0.42	30.56	-0.369	-0.3662	-0.0033	
366	SLU 31	-9.22	0.44	31.77	-0.3892	-0.3912	-0.0035	
366	SLU 32	-9.58	0.46	32.88	-0.4073	-0.4066	-0.0036	
366	SLU 33	-9.58	0.46	32.83	-0.4065	-0.4068	-0.0036	
366	SLU 34	-9.51	0.45	32.62	-0.403	-0.4038	-0.0036	
366	SLU 35	-9.88	0.48	33.73	-0.4211	-0.4193	-0.0038	
366	SLU 36	-9.88	0.47	33.68	-0.4203	-0.4194	-0.0038	
366	SLU 37	-9.8	0.47	33.56	-0.4182	-0.4162	-0.0037	
366	SLU 38	-9.81	0.47	33.51	-0.4174	-0.4164	-0.0037	
366	SLU 39	-9.72	0.46	33.12	-0.4113	-0.4124	-0.0037	
366	SLU 40	-9.72	0.46	33.07	-0.4105	-0.4126	-0.0037	
366	SLU 41	-10.02	0.48	33.97	-0.4251	-0.4251	-0.0038	
366	SLU 42	-10.02	0.48	33.92	-0.4243	-0.4253	-0.0038	
366	SLU 43	-8.53	0.41	32.64	-0.3635	-0.3625	-0.0032	
366	SLU 44	-8.54	0.41	32.55	-0.3621	-0.3627	-0.0032	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
366	SLU 45	-8.9	0.43	33.66	-0.3803	-0.3781	-0.0034
366	SLU 46	-8.9	0.43	33.61	-0.3794	-0.3783	-0.0034
366	SLU 47	-8.83	0.42	33.4	-0.3759	-0.3754	-0.0034
366	SLU 48	-9.2	0.44	34.51	-0.3941	-0.3908	-0.0035
366	SLU 49	-9.2	0.44	34.46	-0.3932	-0.3909	-0.0035
366	SLU 50	-9.12	0.44	34.33	-0.3912	-0.3878	-0.0035
366	SLU 51	-9.13	0.44	34.28	-0.3903	-0.3879	-0.0035
366	SLU 52	-9.72	0.46	35.5	-0.4105	-0.4129	-0.0037
366	SLU 53	-10.09	0.48	36.61	-0.4286	-0.4283	-0.0038
366	SLU 54	-10.09	0.48	36.55	-0.4277	-0.4285	-0.0038
366	SLU 55	-10.02	0.48	36.35	-0.4243	-0.4256	-0.0038
366	SLU 56	-10.38	0.5	37.45	-0.4424	-0.441	-0.004
366	SLU 57	-10.39	0.5	37.4	-0.4416	-0.4412	-0.0039
366	SLU 58	-10.31	0.5	37.28	-0.4395	-0.438	-0.0039
366	SLU 59	-10.32	0.49	37.23	-0.4386	-0.4381	-0.0039
366	SLU 60	-10.23	0.49	36.85	-0.4326	-0.4342	-0.0039
366	SLU 61	-10.23	0.49	36.79	-0.4318	-0.4344	-0.0039
366	SLU 62	-10.52	0.5	37.69	-0.4464	-0.4469	-0.004
366	SLU 63	-10.53	0.5	37.64	-0.4456	-0.447	-0.004
366	SLU 64	-9.69	0.47	35.65	-0.4131	-0.4114	-0.0037
366	SLU 65	-9.69	0.46	35.56	-0.4116	-0.4117	-0.0037
366	SLU 66	-10.06	0.48	36.67	-0.4298	-0.4271	-0.0038
366	SLU 67	-10.06	0.48	36.62	-0.4289	-0.4273	-0.0038
366	SLU 68	-9.99	0.48	36.41	-0.4255	-0.4244	-0.0038
366	SLU 69	-10.35	0.5	37.52	-0.4436	-0.4398	-0.004
366	SLU 70	-10.36	0.5	37.47	-0.4427	-0.4399	-0.004
366	SLU 71	-10.28	0.5	37.35	-0.4407	-0.4367	-0.0039
366	SLU 72	-10.28	0.5	37.3	-0.4398	-0.4369	-0.0039
366	SLU 73	-10.88	0.52	38.51	-0.46	-0.4619	-0.0041
366	SLU 74	-11.24	0.54	39.62	-0.4781	-0.4773	-0.0043
366	SLU 75	-11.25	0.54	39.57	-0.4773	-0.4775	-0.0043
366	SLU 76	-11.18	0.53	39.36	-0.4738	-0.4746	-0.0042
366	SLU 77	-11.54	0.55	40.47	-0.492	-0.49	-0.0044
366	SLU 78	-11.54	0.55	40.42	-0.4911	-0.4901	-0.0044
366	SLU 79	-11.47	0.55	40.29	-0.489	-0.487	-0.0044
366	SLU 80	-11.47	0.55	40.24	-0.4882	-0.4871	-0.0044
366	SLU 81	-11.38	0.54	39.86	-0.4822	-0.4832	-0.0043
366	SLU 82	-11.39	0.54	39.81	-0.4813	-0.4833	-0.0043
366	SLU 83	-11.68	0.56	40.71	-0.496	-0.4958	-0.0044
366	SLU 84	-11.68	0.56	40.66	-0.4951	-0.496	-0.0044
366	SLE RA 1	-7.2	0.35	26.76	-0.3069	-0.3057	-0.0027
366	SLE RA 2	-7.2	0.35	26.7	-0.3059	-0.3059	-0.0027
366	SLE RA 3	-7.44	0.36	27.44	-0.318	-0.3162	-0.0028
366	SLE RA 4	-7.45	0.36	27.41	-0.3174	-0.3163	-0.0028
366	SLE RA 5	-7.4	0.36	27.27	-0.3151	-0.3143	-0.0028
366	SLE RA 6	-7.64	0.37	28.01	-0.3272	-0.3246	-0.0029
366	SLE RA 7	-7.64	0.37	27.97	-0.3266	-0.3247	-0.0029
366	SLE RA 8	-7.59	0.37	27.89	-0.3253	-0.3226	-0.0029
366	SLE RA 9	-7.6	0.37	27.86	-0.3247	-0.3227	-0.0029
366	SLE RA 10	-7.99	0.38	28.67	-0.3381	-0.3394	-0.003
366	SLE RA 11	-8.24	0.4	29.41	-0.3502	-0.3496	-0.0031
366	SLE RA 12	-8.24	0.39	29.37	-0.3497	-0.3498	-0.0031
366	SLE RA 13	-8.19	0.39	29.23	-0.3473	-0.3478	-0.0031
366	SLE RA 14	-8.43	0.41	29.97	-0.3594	-0.3581	-0.0032
366	SLE RA 15	-8.44	0.4	29.94	-0.3589	-0.3582	-0.0032
366	SLE RA 16	-8.39	0.4	29.86	-0.3575	-0.3561	-0.0032
366	SLE RA 17	-8.39	0.4	29.82	-0.3569	-0.3562	-0.0032
366	SLE RA 18	-8.33	0.4	29.57	-0.3529	-0.3536	-0.0032
366	SLE RA 19	-8.33	0.4	29.53	-0.3523	-0.3537	-0.0031
366	SLE RA 20	-8.53	0.41	30.13	-0.3621	-0.362	-0.0032
366	SLE RA 21	-8.53	0.41	30.1	-0.3615	-0.3621	-0.0032
366	SLE FR 1	-7.2	0.35	26.76	-0.3069	-0.3057	-0.0027
366	SLE FR 2	-7.2	0.35	26.75	-0.3067	-0.3058	-0.0027
366	SLE FR 3	-7.28	0.35	26.99	-0.3105	-0.3091	-0.0028
366	SLE FR 4	-7.54	0.36	27.59	-0.3205	-0.3201	-0.0029
366	SLE FR 5	-7.62	0.37	27.83	-0.3244	-0.3234	-0.0029
366	SLE FR 6	-7.76	0.37	28.16	-0.3299	-0.3296	-0.0029
366	SLE QP 1	-7.2	0.35	26.76	-0.3069	-0.3057	-0.0027
366	SLE QP 2	-7.54	0.36	27.6	-0.3207	-0.3201	-0.0029
366	SLD 1	-0.89	0.27	23.82	-0.3472	-0.0264	-0.0022
366	SLD 2	-0.89	0.27	23.82	-0.3472	-0.0264	-0.0022
366	SLD 3	-1.65	0.33	26.26	-0.4059	-0.0575	-0.0026
366	SLD 4	-1.65	0.33	26.26	-0.4059	-0.0575	-0.0026
366	SLD 5	-4.39	0.24	22.78	-0.2396	-0.1848	-0.002
366	SLD 6	-4.39	0.24	22.78	-0.2396	-0.1848	-0.002
366	SLD 7	-6.93	0.44	30.89	-0.4352	-0.2884	-0.0035
366	SLD 8	-6.93	0.44	30.89	-0.4352	-0.2884	-0.0035
366	SLD 9	-8.15	0.28	24.32	-0.2061	-0.3517	-0.0023
366	SLD 10	-8.15	0.28	24.32	-0.2061	-0.3517	-0.0023
366	SLD 11	-10.69	0.48	32.42	-0.4017	-0.4553	-0.0037
366	SLD 12	-10.69	0.48	32.42	-0.4017	-0.4553	-0.0037
366	SLD 13	-13.42	0.4	28.95	-0.2355	-0.5827	-0.0031
366	SLD 14	-13.42	0.4	28.95	-0.2355	-0.5827	-0.0031
366	SLD 15	-14.18	0.45	31.38	-0.2942	-0.6138	-0.0036
366	SLD 16	-14.18	0.45	31.38	-0.2942	-0.6138	-0.0036
366	SLV 1	7.99	0.14	18.74	-0.3823	0.3661	-0.0012
366	SLV 2	7.99	0.14	18.74	-0.3823	0.3661	-0.0012
366	SLV 3	6.18	0.28	24.47	-0.5222	0.2923	-0.0022



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
366	SLV 4	6.18	0.28	24.47	-0.5222	0.2923	-0.0022	
366	SLV 5	-0.14	0.08	16.25	-0.1269	-0.0023	-0.0008	
366	SLV 6	-0.14	0.08	16.25	-0.1269	-0.0023	-0.0008	
366	SLV 7	-6.16	0.55	35.35	-0.5934	-0.2483	-0.0043	
366	SLV 8	-6.16	0.55	35.35	-0.5934	-0.2483	-0.0043	
366	SLV 9	-8.91	0.17	19.85	-0.048	-0.3919	-0.0014	
366	SLV 10	-8.91	0.17	19.85	-0.048	-0.3919	-0.0014	
366	SLV 11	-14.94	0.64	38.95	-0.5144	-0.6379	-0.005	
366	SLV 12	-14.94	0.64	38.95	-0.5144	-0.6379	-0.005	
366	SLV 13	-21.26	0.44	30.73	-0.1191	-0.9325	-0.0035	
366	SLV 14	-21.26	0.44	30.73	-0.1191	-0.9325	-0.0035	
366	SLV 15	-23.07	0.58	36.46	-0.2591	-1.0063	-0.0045	
366	SLV 16	-23.07	0.58	36.46	-0.2591	-1.0063	-0.0045	
367	SLU 1	-5.78	0.35	24.92	-0.321	-0.2462	-0.0022	
367	SLU 2	-5.79	0.35	24.84	-0.3193	-0.2464	-0.0022	
367	SLU 3	-6.09	0.37	25.9	-0.3396	-0.259	-0.0023	
367	SLU 4	-6.09	0.37	25.85	-0.3386	-0.2592	-0.0023	
367	SLU 5	-6.03	0.37	25.65	-0.3348	-0.2567	-0.0023	
367	SLU 6	-6.33	0.39	26.71	-0.3551	-0.2693	-0.0024	
367	SLU 7	-6.33	0.39	26.66	-0.3541	-0.2694	-0.0024	
367	SLU 8	-6.27	0.39	26.55	-0.352	-0.2667	-0.0024	
367	SLU 9	-6.27	0.38	26.5	-0.351	-0.2668	-0.0024	
367	SLU 10	-6.77	0.41	27.61	-0.3722	-0.288	-0.0025	
367	SLU 11	-7.06	0.43	28.66	-0.3925	-0.3006	-0.0027	
367	SLU 12	-7.07	0.43	28.61	-0.3915	-0.3008	-0.0027	
367	SLU 13	-7.01	0.42	28.42	-0.3877	-0.2983	-0.0026	
367	SLU 14	-7.31	0.45	29.48	-0.408	-0.3109	-0.0028	
367	SLU 15	-7.31	0.45	29.43	-0.407	-0.311	-0.0028	
367	SLU 16	-7.25	0.44	29.31	-0.4049	-0.3083	-0.0028	
367	SLU 17	-7.25	0.44	29.26	-0.4039	-0.3084	-0.0027	
367	SLU 18	-7.18	0.43	28.87	-0.3965	-0.3056	-0.0027	
367	SLU 19	-7.18	0.43	28.82	-0.3955	-0.3058	-0.0027	
367	SLU 20	-7.42	0.45	29.69	-0.4121	-0.3159	-0.0028	
367	SLU 21	-7.43	0.45	29.64	-0.411	-0.316	-0.0028	
367	SLU 22	-6.74	0.41	27.76	-0.3755	-0.2867	-0.0026	
367	SLU 23	-6.74	0.41	27.68	-0.3738	-0.2869	-0.0025	
367	SLU 24	-7.04	0.43	28.74	-0.3941	-0.2995	-0.0027	
367	SLU 25	-7.04	0.43	28.69	-0.3931	-0.2997	-0.0027	
367	SLU 26	-6.98	0.43	28.49	-0.3893	-0.2972	-0.0027	
367	SLU 27	-7.28	0.45	29.55	-0.4096	-0.3098	-0.0028	
367	SLU 28	-7.28	0.45	29.5	-0.4086	-0.3099	-0.0028	
367	SLU 29	-7.22	0.45	29.39	-0.4065	-0.3072	-0.0028	
367	SLU 30	-7.22	0.44	29.34	-0.4054	-0.3073	-0.0028	
367	SLU 31	-7.72	0.47	30.45	-0.4266	-0.3285	-0.0029	
367	SLU 32	-8.02	0.49	31.5	-0.447	-0.3411	-0.003	
367	SLU 33	-8.02	0.49	31.45	-0.4459	-0.3413	-0.003	
367	SLU 34	-7.96	0.48	31.26	-0.4421	-0.3388	-0.003	
367	SLU 35	-8.26	0.51	32.31	-0.4625	-0.3514	-0.0031	
367	SLU 36	-8.26	0.51	32.26	-0.4614	-0.3515	-0.0031	
367	SLU 37	-8.2	0.5	32.15	-0.4593	-0.3488	-0.0031	
367	SLU 38	-8.2	0.5	32.1	-0.4583	-0.349	-0.0031	
367	SLU 39	-8.13	0.49	31.71	-0.451	-0.3461	-0.0031	
367	SLU 40	-8.14	0.49	31.66	-0.45	-0.3463	-0.0031	
367	SLU 41	-8.38	0.51	32.52	-0.4665	-0.3564	-0.0032	
367	SLU 42	-8.38	0.51	32.47	-0.4655	-0.3565	-0.0032	
367	SLU 43	-7.19	0.44	31.43	-0.3987	-0.3062	-0.0027	
367	SLU 44	-7.2	0.44	31.35	-0.397	-0.3064	-0.0027	
367	SLU 45	-7.5	0.46	32.4	-0.4173	-0.319	-0.0028	
367	SLU 46	-7.5	0.46	32.35	-0.4163	-0.3191	-0.0028	
367	SLU 47	-7.44	0.45	32.16	-0.4125	-0.3166	-0.0028	
367	SLU 48	-7.74	0.47	33.22	-0.4328	-0.3292	-0.0029	
367	SLU 49	-7.74	0.47	33.17	-0.4318	-0.3294	-0.0029	
367	SLU 50	-7.68	0.47	33.05	-0.4297	-0.3267	-0.0029	
367	SLU 51	-7.68	0.47	33	-0.4286	-0.3268	-0.0029	
367	SLU 52	-8.18	0.49	34.11	-0.4498	-0.348	-0.0031	
367	SLU 53	-8.47	0.52	35.17	-0.4702	-0.3606	-0.0032	
367	SLU 54	-8.48	0.51	35.12	-0.4691	-0.3607	-0.0032	
367	SLU 55	-8.42	0.51	34.92	-0.4653	-0.3583	-0.0032	
367	SLU 56	-8.72	0.53	35.98	-0.4857	-0.3709	-0.0033	
367	SLU 57	-8.72	0.53	35.93	-0.4846	-0.371	-0.0033	
367	SLU 58	-8.66	0.53	35.82	-0.4825	-0.3683	-0.0033	
367	SLU 59	-8.66	0.53	35.77	-0.4815	-0.3684	-0.0033	
367	SLU 60	-8.59	0.52	35.38	-0.4742	-0.3656	-0.0032	
367	SLU 61	-8.59	0.52	35.33	-0.4732	-0.3658	-0.0032	
367	SLU 62	-8.83	0.54	36.19	-0.4897	-0.3759	-0.0033	
367	SLU 63	-8.84	0.54	36.14	-0.4887	-0.376	-0.0033	
367	SLU 64	-8.15	0.5	34.27	-0.4531	-0.3467	-0.0031	
367	SLU 65	-8.15	0.49	34.19	-0.4514	-0.3469	-0.0031	
367	SLU 66	-8.45	0.52	35.24	-0.4717	-0.3595	-0.0032	
367	SLU 67	-8.45	0.52	35.19	-0.4707	-0.3596	-0.0032	
367	SLU 68	-8.39	0.51	35	-0.4669	-0.3571	-0.0032	
367	SLU 69	-8.69	0.53	36.05	-0.4872	-0.3697	-0.0033	
367	SLU 70	-8.69	0.53	36	-0.4862	-0.3699	-0.0033	
367	SLU 71	-8.63	0.53	35.89	-0.4841	-0.3672	-0.0033	
367	SLU 72	-8.63	0.53	35.84	-0.4831	-0.3673	-0.0033	
367	SLU 73	-9.13	0.55	36.95	-0.5043	-0.3885	-0.0034	
367	SLU 74	-9.43	0.57	38.01	-0.5246	-0.4011	-0.0036	
367	SLU 75	-9.43	0.57	37.96	-0.5236	-0.4012	-0.0036	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
367	SLU 76	-9.37	0.57	37.76	-0.5198	-0.3988	-0.0035
367	SLU 77	-9.67	0.59	38.82	-0.5401	-0.4114	-0.0037
367	SLU 78	-9.67	0.59	38.77	-0.5391	-0.4115	-0.0037
367	SLU 79	-9.61	0.59	38.65	-0.537	-0.4088	-0.0037
367	SLU 80	-9.61	0.59	38.61	-0.536	-0.4089	-0.0036
367	SLU 81	-9.54	0.58	38.22	-0.5286	-0.4061	-0.0036
367	SLU 82	-9.55	0.58	38.17	-0.5276	-0.4063	-0.0036
367	SLU 83	-9.78	0.6	39.03	-0.5441	-0.4164	-0.0037
367	SLU 84	-9.79	0.6	38.98	-0.5431	-0.4165	-0.0037
367	SLE RA 1	-6.06	0.37	25.74	-0.3366	-0.2578	-0.0023
367	SLE RA 2	-6.06	0.37	25.68	-0.3354	-0.2579	-0.0023
367	SLE RA 3	-6.26	0.38	26.39	-0.349	-0.2663	-0.0024
367	SLE RA 4	-6.26	0.38	26.35	-0.3483	-0.2664	-0.0024
367	SLE RA 5	-6.22	0.38	26.22	-0.3458	-0.2648	-0.0024
367	SLE RA 6	-6.42	0.39	26.93	-0.3593	-0.2732	-0.0024
367	SLE RA 7	-6.42	0.39	26.89	-0.3586	-0.2732	-0.0024
367	SLE RA 8	-6.38	0.39	26.82	-0.3572	-0.2714	-0.0024
367	SLE RA 9	-6.38	0.39	26.78	-0.3566	-0.2715	-0.0024
367	SLE RA 10	-6.71	0.41	27.52	-0.3707	-0.2857	-0.0025
367	SLE RA 11	-6.91	0.42	28.23	-0.3842	-0.2941	-0.0026
367	SLE RA 12	-6.91	0.42	28.2	-0.3836	-0.2942	-0.0026
367	SLE RA 13	-6.87	0.42	28.06	-0.381	-0.2925	-0.0026
367	SLE RA 14	-7.07	0.43	28.77	-0.3946	-0.3009	-0.0027
367	SLE RA 15	-7.07	0.43	28.74	-0.3939	-0.301	-0.0027
367	SLE RA 16	-7.03	0.43	28.66	-0.3925	-0.2992	-0.0027
367	SLE RA 17	-7.03	0.43	28.63	-0.3918	-0.2993	-0.0027
367	SLE RA 18	-6.99	0.42	28.37	-0.3869	-0.2974	-0.0026
367	SLE RA 19	-6.99	0.42	28.34	-0.3862	-0.2975	-0.0026
367	SLE RA 20	-7.15	0.44	28.91	-0.3973	-0.3042	-0.0027
367	SLE RA 21	-7.15	0.43	28.88	-0.3966	-0.3043	-0.0027
367	SLE FR 1	-6.06	0.37	25.74	-0.3366	-0.2578	-0.0023
367	SLE FR 2	-6.06	0.37	25.72	-0.3363	-0.2578	-0.0023
367	SLE FR 3	-6.12	0.37	25.95	-0.3407	-0.2605	-0.0023
367	SLE FR 4	-6.34	0.39	26.51	-0.3515	-0.2697	-0.0024
367	SLE FR 5	-6.4	0.39	26.74	-0.3558	-0.2724	-0.0024
367	SLE FR 6	-6.52	0.4	27.05	-0.3617	-0.2776	-0.0025
367	SLE QP 1	-6.06	0.37	25.74	-0.3366	-0.2578	-0.0023
367	SLE QP 2	-6.34	0.39	26.53	-0.3517	-0.2697	-0.0024
367	SLD 1	-0.69	0.42	22.27	-0.379	-0.0282	-0.0018
367	SLD 2	-0.69	0.42	22.27	-0.379	-0.0282	-0.0018
367	SLD 3	-1.37	0.48	24.35	-0.4343	-0.0555	-0.0022
367	SLD 4	-1.37	0.48	24.35	-0.4343	-0.0555	-0.0022
367	SLD 5	-3.61	0.31	22.08	-0.2761	-0.1558	-0.0017
367	SLD 6	-3.61	0.31	22.08	-0.2761	-0.1558	-0.0017
367	SLD 7	-5.87	0.5	29.04	-0.4602	-0.2468	-0.0028
367	SLD 8	-5.87	0.5	29.04	-0.4602	-0.2468	-0.0028
367	SLD 9	-6.8	0.27	24.01	-0.2431	-0.2925	-0.002
367	SLD 10	-6.8	0.27	24.01	-0.2431	-0.2925	-0.002
367	SLD 11	-9.06	0.46	30.97	-0.4272	-0.3835	-0.0031
367	SLD 12	-9.06	0.46	30.97	-0.4272	-0.3835	-0.0031
367	SLD 13	-11.31	0.3	28.7	-0.2691	-0.4838	-0.0026
367	SLD 14	-11.31	0.3	28.7	-0.2691	-0.4838	-0.0026
367	SLD 15	-11.98	0.35	30.78	-0.3243	-0.5111	-0.0029
367	SLD 16	-11.98	0.35	30.78	-0.3243	-0.5111	-0.0029
367	SLV 1	6.86	0.46	16.55	-0.4153	0.2944	-0.0011
367	SLV 2	6.86	0.46	16.55	-0.4153	0.2944	-0.0011
367	SLV 3	5.25	0.6	21.46	-0.5466	0.2296	-0.0019
367	SLV 4	5.25	0.6	21.46	-0.5466	0.2296	-0.0019
367	SLV 5	0.06	0.21	16.09	-0.1716	-0.0021	-0.0008
367	SLV 6	0.06	0.21	16.09	-0.1716	-0.0021	-0.0008
367	SLV 7	-5.3	0.65	32.45	-0.6094	-0.2182	-0.0034
367	SLV 8	-5.3	0.65	32.45	-0.6094	-0.2182	-0.0034
367	SLV 9	-7.37	0.12	20.6	-0.094	-0.3211	-0.0014
367	SLV 10	-7.37	0.12	20.6	-0.094	-0.3211	-0.0014
367	SLV 11	-12.73	0.57	36.96	-0.5318	-0.5372	-0.004
367	SLV 12	-12.73	0.57	36.96	-0.5318	-0.5372	-0.004
367	SLV 13	-17.92	0.17	31.59	-0.1567	-0.7689	-0.0029
367	SLV 14	-17.92	0.17	31.59	-0.1567	-0.7689	-0.0029
367	SLV 15	-19.53	0.31	36.5	-0.2881	-0.8337	-0.0037
367	SLV 16	-19.53	0.31	36.5	-0.2881	-0.8337	-0.0037
368	SLU 1	-5.23	0.39	25.32	-0.3557	-0.2311	-0.0018
368	SLU 2	-5.23	0.38	25.24	-0.3537	-0.2313	-0.0018
368	SLU 3	-5.49	0.41	26.32	-0.3766	-0.2429	-0.0019
368	SLU 4	-5.49	0.41	26.27	-0.3754	-0.243	-0.0019
368	SLU 5	-5.44	0.4	26.07	-0.3712	-0.2408	-0.0019
368	SLU 6	-5.7	0.43	27.16	-0.3942	-0.2524	-0.002
368	SLU 7	-5.7	0.43	27.11	-0.393	-0.2525	-0.002
368	SLU 8	-5.65	0.42	26.99	-0.3908	-0.2501	-0.002
368	SLU 9	-5.65	0.42	26.94	-0.3896	-0.2502	-0.002
368	SLU 10	-6.07	0.45	28.06	-0.4121	-0.2684	-0.0021
368	SLU 11	-6.33	0.47	29.15	-0.4351	-0.28	-0.0022
368	SLU 12	-6.33	0.47	29.1	-0.4339	-0.2801	-0.0022
368	SLU 13	-6.28	0.47	28.9	-0.4297	-0.2779	-0.0022
368	SLU 14	-6.54	0.49	29.98	-0.4526	-0.2895	-0.0023
368	SLU 15	-6.55	0.49	29.93	-0.4514	-0.2896	-0.0023
368	SLU 16	-6.49	0.49	29.81	-0.4492	-0.2872	-0.0023
368	SLU 17	-6.49	0.49	29.77	-0.448	-0.2873	-0.0023
368	SLU 18	-6.43	0.48	29.35	-0.4392	-0.2842	-0.0022



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
368	SLU 19	-6.43	0.47	29.3	-0.438	-0.2843	-0.0022
368	SLU 20	-6.64	0.49	30.19	-0.4567	-0.2937	-0.0023
368	SLU 21	-6.64	0.49	30.14	-0.4555	-0.2938	-0.0023
368	SLU 22	-6.05	0.45	28.22	-0.4162	-0.2676	-0.0021
368	SLU 23	-6.05	0.45	28.14	-0.4141	-0.2678	-0.0021
368	SLU 24	-6.32	0.47	29.22	-0.4371	-0.2794	-0.0022
368	SLU 25	-6.32	0.47	29.18	-0.4359	-0.2795	-0.0022
368	SLU 26	-6.27	0.47	28.98	-0.4317	-0.2772	-0.0022
368	SLU 27	-6.53	0.49	30.06	-0.4546	-0.2888	-0.0023
368	SLU 28	-6.53	0.49	30.01	-0.4534	-0.2889	-0.0023
368	SLU 29	-6.48	0.49	29.89	-0.4512	-0.2865	-0.0023
368	SLU 30	-6.48	0.49	29.84	-0.45	-0.2867	-0.0023
368	SLU 31	-6.9	0.51	30.96	-0.4726	-0.3049	-0.0024
368	SLU 32	-7.16	0.54	32.05	-0.4955	-0.3165	-0.0025
368	SLU 33	-7.16	0.54	32	-0.4943	-0.3166	-0.0025
368	SLU 34	-7.11	0.53	31.8	-0.4901	-0.3144	-0.0025
368	SLU 35	-7.37	0.56	32.88	-0.513	-0.326	-0.0026
368	SLU 36	-7.37	0.55	32.84	-0.5118	-0.3261	-0.0026
368	SLU 37	-7.32	0.55	32.71	-0.5096	-0.3237	-0.0026
368	SLU 38	-7.32	0.55	32.67	-0.5084	-0.3238	-0.0026
368	SLU 39	-7.25	0.54	32.25	-0.4996	-0.3206	-0.0026
368	SLU 40	-7.26	0.54	32.21	-0.4984	-0.3207	-0.0025
368	SLU 41	-7.47	0.56	33.09	-0.5172	-0.3301	-0.0026
368	SLU 42	-7.47	0.56	33.04	-0.5159	-0.3302	-0.0026
368	SLU 43	-6.51	0.48	31.92	-0.4417	-0.288	-0.0023
368	SLU 44	-6.52	0.48	31.84	-0.4397	-0.2882	-0.0022
368	SLU 45	-6.78	0.5	32.92	-0.4626	-0.2998	-0.0024
368	SLU 46	-6.78	0.5	32.87	-0.4614	-0.2999	-0.0024
368	SLU 47	-6.73	0.5	32.67	-0.4572	-0.2977	-0.0023
368	SLU 48	-6.99	0.52	33.76	-0.4802	-0.3092	-0.0025
368	SLU 49	-6.99	0.52	33.71	-0.479	-0.3093	-0.0025
368	SLU 50	-6.94	0.52	33.59	-0.4768	-0.307	-0.0024
368	SLU 51	-6.94	0.52	33.54	-0.4756	-0.3071	-0.0024
368	SLU 52	-7.36	0.54	34.66	-0.4981	-0.3253	-0.0025
368	SLU 53	-7.62	0.56	35.75	-0.5211	-0.3369	-0.0027
368	SLU 54	-7.62	0.56	35.7	-0.5199	-0.337	-0.0027
368	SLU 55	-7.57	0.56	35.5	-0.5156	-0.3348	-0.0026
368	SLU 56	-7.83	0.58	36.58	-0.5386	-0.3464	-0.0028
368	SLU 57	-7.83	0.58	36.53	-0.5374	-0.3465	-0.0027
368	SLU 58	-7.78	0.58	36.41	-0.5352	-0.3441	-0.0027
368	SLU 59	-7.78	0.58	36.37	-0.534	-0.3442	-0.0027
368	SLU 60	-7.71	0.57	35.95	-0.5252	-0.341	-0.0027
368	SLU 61	-7.72	0.57	35.9	-0.524	-0.3411	-0.0027
368	SLU 62	-7.93	0.59	36.79	-0.5427	-0.3505	-0.0028
368	SLU 63	-7.93	0.59	36.74	-0.5415	-0.3506	-0.0028
368	SLU 64	-7.34	0.54	34.82	-0.5022	-0.3244	-0.0026
368	SLU 65	-7.34	0.54	34.74	-0.5001	-0.3246	-0.0026
368	SLU 66	-7.6	0.57	35.82	-0.5231	-0.3362	-0.0027
368	SLU 67	-7.6	0.57	35.78	-0.5219	-0.3363	-0.0027
368	SLU 68	-7.55	0.56	35.58	-0.5177	-0.3341	-0.0026
368	SLU 69	-7.81	0.59	36.66	-0.5406	-0.3457	-0.0028
368	SLU 70	-7.81	0.58	36.61	-0.5394	-0.3458	-0.0028
368	SLU 71	-7.76	0.58	36.49	-0.5372	-0.3434	-0.0027
368	SLU 72	-7.76	0.58	36.44	-0.536	-0.3435	-0.0027
368	SLU 73	-8.18	0.6	37.56	-0.5586	-0.3617	-0.0029
368	SLU 74	-8.44	0.63	38.65	-0.5815	-0.3733	-0.003
368	SLU 75	-8.44	0.63	38.6	-0.5803	-0.3734	-0.003
368	SLU 76	-8.39	0.62	38.4	-0.5761	-0.3712	-0.0029
368	SLU 77	-8.65	0.65	39.48	-0.599	-0.3828	-0.0031
368	SLU 78	-8.66	0.65	39.44	-0.5978	-0.3829	-0.0031
368	SLU 79	-8.6	0.65	39.31	-0.5956	-0.3805	-0.003
368	SLU 80	-8.6	0.64	39.27	-0.5944	-0.3806	-0.003
368	SLU 81	-8.54	0.63	38.85	-0.5856	-0.3775	-0.003
368	SLU 82	-8.54	0.63	38.81	-0.5844	-0.3776	-0.003
368	SLU 83	-8.75	0.65	39.69	-0.6032	-0.3869	-0.0031
368	SLU 84	-8.75	0.65	39.64	-0.6019	-0.3871	-0.0031
368	SLE RA 1	-5.46	0.4	26.15	-0.373	-0.2416	-0.0019
368	SLE RA 2	-5.47	0.4	26.09	-0.3716	-0.2417	-0.0019
368	SLE RA 3	-5.64	0.42	26.82	-0.3869	-0.2494	-0.002
368	SLE RA 4	-5.64	0.42	26.78	-0.3861	-0.2495	-0.002
368	SLE RA 5	-5.61	0.42	26.65	-0.3833	-0.248	-0.002
368	SLE RA 6	-5.78	0.43	27.37	-0.3986	-0.2557	-0.002
368	SLE RA 7	-5.78	0.43	27.34	-0.3978	-0.2558	-0.002
368	SLE RA 8	-5.75	0.43	27.26	-0.3964	-0.2542	-0.002
368	SLE RA 9	-5.75	0.43	27.23	-0.3955	-0.2543	-0.002
368	SLE RA 10	-6.03	0.44	27.98	-0.4106	-0.2664	-0.0021
368	SLE RA 11	-6.2	0.46	28.7	-0.4259	-0.2741	-0.0022
368	SLE RA 12	-6.2	0.46	28.67	-0.4251	-0.2742	-0.0022
368	SLE RA 13	-6.17	0.46	28.53	-0.4223	-0.2727	-0.0022
368	SLE RA 14	-6.34	0.47	29.26	-0.4376	-0.2805	-0.0022
368	SLE RA 15	-6.34	0.47	29.22	-0.4368	-0.2805	-0.0022
368	SLE RA 16	-6.31	0.47	29.14	-0.4353	-0.2789	-0.0022
368	SLE RA 17	-6.31	0.47	29.11	-0.4345	-0.279	-0.0022
368	SLE RA 18	-6.26	0.46	28.84	-0.4286	-0.2769	-0.0022
368	SLE RA 19	-6.27	0.46	28.8	-0.4278	-0.277	-0.0022
368	SLE RA 20	-6.41	0.48	29.39	-0.4403	-0.2832	-0.0023
368	SLE RA 21	-6.41	0.48	29.36	-0.4395	-0.2833	-0.0022
368	SLE FR 1	-5.46	0.4	26.15	-0.373	-0.2416	-0.0019



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
368	SLE FR 2	-5.46	0.4	26.14	-0.3727	-0.2416	-0.0019	
368	SLE FR 3	-5.52	0.41	26.37	-0.3777	-0.2441	-0.0019	
368	SLE FR 4	-5.7	0.42	26.94	-0.3894	-0.2522	-0.002	
368	SLE FR 5	-5.76	0.43	27.18	-0.3944	-0.2547	-0.002	
368	SLE FR 6	-5.86	0.43	27.49	-0.4008	-0.2592	-0.0021	
368	SLE QP 1	-5.46	0.4	26.15	-0.373	-0.2416	-0.0019	
368	SLE QP 2	-5.7	0.42	26.95	-0.3897	-0.2522	-0.002	
368	SLD 1	-0.84	0.46	20.99	-0.4173	-0.0241	-0.0016	
368	SLD 2	-0.84	0.46	20.99	-0.4173	-0.0241	-0.0016	
368	SLD 3	-1.47	0.51	22.79	-0.4666	-0.049	-0.0018	
368	SLD 4	-1.47	0.51	22.79	-0.4666	-0.049	-0.0018	
368	SLD 5	-3.29	0.35	22.43	-0.3232	-0.146	-0.0015	
368	SLD 6	-3.29	0.35	22.43	-0.3232	-0.146	-0.0015	
368	SLD 7	-5.39	0.53	28.44	-0.4875	-0.229	-0.0023	
368	SLD 8	-5.39	0.53	28.44	-0.4875	-0.229	-0.0023	
368	SLD 9	-6.02	0.32	25.47	-0.2918	-0.2754	-0.0017	
368	SLD 10	-6.02	0.32	25.47	-0.2918	-0.2754	-0.0017	
368	SLD 11	-8.11	0.49	31.47	-0.4562	-0.3583	-0.0025	
368	SLD 12	-8.11	0.49	31.47	-0.4562	-0.3583	-0.0025	
368	SLD 13	-9.94	0.34	31.11	-0.3128	-0.4554	-0.0022	
368	SLD 14	-9.94	0.34	31.11	-0.3128	-0.4554	-0.0022	
368	SLD 15	-10.56	0.39	32.91	-0.3621	-0.4803	-0.0024	
368	SLD 16	-10.56	0.39	32.91	-0.3621	-0.4803	-0.0024	
368	SLV 1	5.65	0.5	13.01	-0.4539	0.2807	-0.001	
368	SLV 2	5.65	0.5	13.01	-0.4539	0.2807	-0.001	
368	SLV 3	4.16	0.62	17.25	-0.5709	0.2217	-0.0016	
368	SLV 4	4.16	0.62	17.25	-0.5709	0.2217	-0.0016	
368	SLV 5	-0.04	0.26	16.34	-0.2314	-0.0029	-0.0009	
368	SLV 6	-0.04	0.26	16.34	-0.2314	-0.0029	-0.0009	
368	SLV 7	-5	0.67	30.47	-0.6216	-0.1994	-0.0027	
368	SLV 8	-5	0.67	30.47	-0.6216	-0.1994	-0.0027	
368	SLV 9	-6.41	0.18	23.44	-0.1578	-0.3049	-0.0013	
368	SLV 10	-6.41	0.18	23.44	-0.1578	-0.3049	-0.0013	
368	SLV 11	-11.37	0.58	37.56	-0.548	-0.5014	-0.0031	
368	SLV 12	-11.37	0.58	37.56	-0.548	-0.5014	-0.0031	
368	SLV 13	-15.57	0.22	36.66	-0.2084	-0.726	-0.0024	
368	SLV 14	-15.57	0.22	36.66	-0.2084	-0.726	-0.0024	
368	SLV 15	-17.06	0.34	40.9	-0.3255	-0.785	-0.003	
368	SLV 16	-17.06	0.34	40.9	-0.3255	-0.785	-0.003	
369	SLU 1	-5.19	0.45	26.8	-0.4032	-0.2306	-0.0014	
369	SLU 2	-5.18	0.45	26.73	-0.4008	-0.2305	-0.0014	
369	SLU 3	-5.44	0.47	27.9	-0.4272	-0.2417	-0.0015	
369	SLU 4	-5.43	0.47	27.86	-0.4258	-0.2417	-0.0015	
369	SLU 5	-5.39	0.47	27.65	-0.421	-0.2395	-0.0015	
369	SLU 6	-5.64	0.5	28.81	-0.4474	-0.2507	-0.0016	
369	SLU 7	-5.64	0.5	28.77	-0.4459	-0.2507	-0.0015	
369	SLU 8	-5.59	0.49	28.63	-0.4436	-0.2485	-0.0015	
369	SLU 9	-5.59	0.49	28.59	-0.4421	-0.2484	-0.0015	
369	SLU 10	-5.97	0.52	29.82	-0.4669	-0.2656	-0.0016	
369	SLU 11	-6.22	0.55	30.99	-0.4933	-0.2769	-0.0017	
369	SLU 12	-6.22	0.55	30.95	-0.4918	-0.2768	-0.0017	
369	SLU 13	-6.17	0.54	30.73	-0.4871	-0.2746	-0.0017	
369	SLU 14	-6.42	0.57	31.9	-0.5135	-0.2858	-0.0018	
369	SLU 15	-6.42	0.57	31.86	-0.512	-0.2858	-0.0018	
369	SLU 16	-6.37	0.57	31.71	-0.5097	-0.2836	-0.0018	
369	SLU 17	-6.37	0.56	31.67	-0.5082	-0.2836	-0.0018	
369	SLU 18	-6.3	0.55	31.21	-0.4976	-0.2807	-0.0017	
369	SLU 19	-6.3	0.55	31.17	-0.4962	-0.2807	-0.0017	
369	SLU 20	-6.5	0.58	32.13	-0.5178	-0.2897	-0.0018	
369	SLU 21	-6.5	0.57	32.08	-0.5164	-0.2897	-0.0018	
369	SLU 22	-5.96	0.52	29.96	-0.4719	-0.2652	-0.0016	
369	SLU 23	-5.96	0.52	29.89	-0.4694	-0.2651	-0.0016	
369	SLU 24	-6.21	0.55	31.06	-0.4958	-0.2764	-0.0017	
369	SLU 25	-6.21	0.55	31.02	-0.4944	-0.2763	-0.0017	
369	SLU 26	-6.16	0.54	30.81	-0.4896	-0.2741	-0.0017	
369	SLU 27	-6.41	0.57	31.97	-0.516	-0.2853	-0.0018	
369	SLU 28	-6.41	0.57	31.93	-0.5146	-0.2853	-0.0018	
369	SLU 29	-6.36	0.57	31.79	-0.5122	-0.2831	-0.0018	
369	SLU 30	-6.36	0.57	31.75	-0.5108	-0.2831	-0.0018	
369	SLU 31	-6.74	0.59	32.98	-0.5355	-0.3003	-0.0019	
369	SLU 32	-6.99	0.62	34.15	-0.5619	-0.3115	-0.002	
369	SLU 33	-6.99	0.62	34.11	-0.5605	-0.3115	-0.0019	
369	SLU 34	-6.94	0.62	33.89	-0.5557	-0.3092	-0.0019	
369	SLU 35	-7.19	0.65	35.06	-0.5821	-0.3205	-0.002	
369	SLU 36	-7.19	0.65	35.02	-0.5806	-0.3204	-0.002	
369	SLU 37	-7.14	0.64	34.87	-0.5783	-0.3182	-0.002	
369	SLU 38	-7.14	0.64	34.83	-0.5768	-0.3182	-0.002	
369	SLU 39	-7.07	0.63	34.37	-0.5662	-0.3154	-0.002	
369	SLU 40	-7.07	0.63	34.33	-0.5648	-0.3153	-0.002	
369	SLU 41	-7.27	0.65	35.29	-0.5864	-0.3243	-0.002	
369	SLU 42	-7.27	0.65	35.24	-0.585	-0.3243	-0.002	
369	SLU 43	-6.48	0.56	33.76	-0.5007	-0.2879	-0.0017	
369	SLU 44	-6.48	0.55	33.69	-0.4983	-0.2878	-0.0017	
369	SLU 45	-6.73	0.58	34.86	-0.5247	-0.299	-0.0018	
369	SLU 46	-6.73	0.58	34.82	-0.5232	-0.299	-0.0018	
369	SLU 47	-6.68	0.58	34.6	-0.5184	-0.2967	-0.0018	
369	SLU 48	-6.93	0.61	35.77	-0.5449	-0.308	-0.0019	
369	SLU 49	-6.93	0.6	35.73	-0.5434	-0.3079	-0.0019	



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
	N.br.	x	y	z	x	y	z
369	SLU 50	-6.88	0.6	35.59	-0.541	-0.3058	-0.0019
369	SLU 51	-6.88	0.6	35.54	-0.5396	-0.3057	-0.0019
369	SLU 52	-7.26	0.63	36.78	-0.5643	-0.3229	-0.002
369	SLU 53	-7.51	0.66	37.95	-0.5907	-0.3341	-0.0021
369	SLU 54	-7.51	0.65	37.9	-0.5893	-0.3341	-0.002
369	SLU 55	-7.46	0.65	37.69	-0.5845	-0.3319	-0.002
369	SLU 56	-7.71	0.68	38.86	-0.6109	-0.3431	-0.0021
369	SLU 57	-7.71	0.68	38.82	-0.6095	-0.3431	-0.0021
369	SLU 58	-7.66	0.67	38.67	-0.6071	-0.3409	-0.0021
369	SLU 59	-7.66	0.67	38.63	-0.6057	-0.3408	-0.0021
369	SLU 60	-7.59	0.66	38.17	-0.5951	-0.338	-0.0021
369	SLU 61	-7.59	0.66	38.13	-0.5936	-0.338	-0.0021
369	SLU 62	-7.79	0.68	39.08	-0.6153	-0.347	-0.0021
369	SLU 63	-7.79	0.68	39.04	-0.6138	-0.3469	-0.0021
369	SLU 64	-7.25	0.63	36.92	-0.5693	-0.3225	-0.002
369	SLU 65	-7.25	0.63	36.85	-0.5669	-0.3224	-0.002
369	SLU 66	-7.5	0.66	38.02	-0.5933	-0.3337	-0.0021
369	SLU 67	-7.5	0.66	37.98	-0.5918	-0.3336	-0.0021
369	SLU 68	-7.45	0.65	37.76	-0.587	-0.3314	-0.002
369	SLU 69	-7.7	0.68	38.93	-0.6135	-0.3426	-0.0021
369	SLU 70	-7.7	0.68	38.89	-0.612	-0.3426	-0.0021
369	SLU 71	-7.65	0.68	38.75	-0.6097	-0.3404	-0.0021
369	SLU 72	-7.65	0.68	38.7	-0.6082	-0.3404	-0.0021
369	SLU 73	-8.03	0.7	39.94	-0.6329	-0.3576	-0.0022
369	SLU 74	-8.28	0.73	41.11	-0.6594	-0.3688	-0.0023
369	SLU 75	-8.28	0.73	41.06	-0.6579	-0.3688	-0.0023
369	SLU 76	-8.23	0.73	40.85	-0.6531	-0.3665	-0.0023
369	SLU 77	-8.48	0.76	42.02	-0.6795	-0.3777	-0.0024
369	SLU 78	-8.48	0.75	41.98	-0.6781	-0.3777	-0.0024
369	SLU 79	-8.43	0.75	41.83	-0.6757	-0.3755	-0.0023
369	SLU 80	-8.43	0.75	41.79	-0.6743	-0.3755	-0.0023
369	SLU 81	-8.37	0.74	41.33	-0.6637	-0.3727	-0.0023
369	SLU 82	-8.36	0.74	41.29	-0.6622	-0.3726	-0.0023
369	SLU 83	-8.57	0.76	42.24	-0.6839	-0.3816	-0.0024
369	SLU 84	-8.56	0.76	42.2	-0.6824	-0.3816	-0.0024
369	SLE RA 1	-5.41	0.47	27.71	-0.4228	-0.2405	-0.0015
369	SLE RA 2	-5.41	0.47	27.66	-0.4212	-0.2404	-0.0015
369	SLE RA 3	-5.57	0.49	28.44	-0.4388	-0.2479	-0.0015
369	SLE RA 4	-5.57	0.49	28.41	-0.4379	-0.2479	-0.0015
369	SLE RA 5	-5.54	0.48	28.27	-0.4347	-0.2464	-0.0015
369	SLE RA 6	-5.71	0.5	29.05	-0.4523	-0.2539	-0.0016
369	SLE RA 7	-5.71	0.5	29.02	-0.4513	-0.2539	-0.0016
369	SLE RA 8	-5.67	0.5	28.92	-0.4498	-0.2524	-0.0016
369	SLE RA 9	-5.67	0.5	28.89	-0.4488	-0.2524	-0.0016
369	SLE RA 10	-5.93	0.52	29.72	-0.4653	-0.2638	-0.0016
369	SLE RA 11	-6.09	0.54	30.5	-0.4829	-0.2713	-0.0017
369	SLE RA 12	-6.09	0.54	30.47	-0.4819	-0.2713	-0.0017
369	SLE RA 13	-6.06	0.53	30.33	-0.4787	-0.2698	-0.0017
369	SLE RA 14	-6.23	0.55	31.1	-0.4963	-0.2773	-0.0017
369	SLE RA 15	-6.23	0.55	31.08	-0.4954	-0.2773	-0.0017
369	SLE RA 16	-6.2	0.55	30.98	-0.4938	-0.2758	-0.0017
369	SLE RA 17	-6.19	0.55	30.95	-0.4928	-0.2758	-0.0017
369	SLE RA 18	-6.15	0.54	30.65	-0.4858	-0.2739	-0.0017
369	SLE RA 19	-6.15	0.54	30.62	-0.4848	-0.2739	-0.0017
369	SLE RA 20	-6.28	0.55	31.25	-0.4992	-0.2799	-0.0017
369	SLE RA 21	-6.28	0.55	31.23	-0.4983	-0.2799	-0.0017
369	SLE FR 1	-5.41	0.47	27.71	-0.4228	-0.2405	-0.0015
369	SLE FR 2	-5.41	0.47	27.7	-0.4225	-0.2405	-0.0015
369	SLE FR 3	-5.46	0.48	27.95	-0.4282	-0.2429	-0.0015
369	SLE FR 4	-5.63	0.49	28.58	-0.4414	-0.2505	-0.0015
369	SLE FR 5	-5.68	0.5	28.83	-0.4471	-0.2529	-0.0016
369	SLE FR 6	-5.78	0.5	29.18	-0.4543	-0.2572	-0.0016
369	SLE QP 1	-5.41	0.47	27.71	-0.4228	-0.2405	-0.0015
369	SLE QP 2	-5.63	0.49	28.59	-0.4417	-0.2505	-0.0015
369	SLD 1	-1.68	0.52	19.39	-0.4668	-0.0693	-0.0013
369	SLD 2	-1.68	0.52	19.39	-0.4668	-0.0693	-0.0013
369	SLD 3	-2.28	0.57	21.09	-0.513	-0.0928	-0.0014
369	SLD 4	-2.28	0.57	21.09	-0.513	-0.0928	-0.0014
369	SLD 5	-3.55	0.43	23.25	-0.3792	-0.1604	-0.0012
369	SLD 6	-3.55	0.43	23.25	-0.3792	-0.1604	-0.0012
369	SLD 7	-5.52	0.59	28.92	-0.5332	-0.2389	-0.0017
369	SLD 8	-5.52	0.59	28.92	-0.5332	-0.2389	-0.0017
369	SLD 9	-5.74	0.39	28.26	-0.3503	-0.2621	-0.0013
369	SLD 10	-5.74	0.39	28.26	-0.3503	-0.2621	-0.0013
369	SLD 11	-7.72	0.56	33.93	-0.5042	-0.3405	-0.0018
369	SLD 12	-7.72	0.56	33.93	-0.5042	-0.3405	-0.0018
369	SLD 13	-8.99	0.41	36.09	-0.3704	-0.4082	-0.0016
369	SLD 14	-8.99	0.41	36.09	-0.3704	-0.4082	-0.0016
369	SLD 15	-9.58	0.46	37.79	-0.4166	-0.4317	-0.0018
369	SLD 16	-9.58	0.46	37.79	-0.4166	-0.4317	-0.0018
369	SLV 1	3.59	0.56	7.08	-0.5002	0.1728	-0.0009
369	SLV 2	3.59	0.56	7.08	-0.5002	0.1728	-0.0009
369	SLV 3	2.19	0.68	11.09	-0.6096	0.1172	-0.0013
369	SLV 4	2.19	0.68	11.09	-0.6096	0.1172	-0.0013
369	SLV 5	-0.73	0.34	16.05	-0.2933	-0.0391	-0.0008
369	SLV 6	-0.73	0.34	16.05	-0.2933	-0.0391	-0.0008
369	SLV 7	-5.41	0.72	29.42	-0.658	-0.2246	-0.002
369	SLV 8	-5.41	0.72	29.42	-0.658	-0.2246	-0.002





Nodo	Cont.	Reazione a traslazione				Reazione a rotazione			
		Ind.	N.br.	x	y	z	x	y	z
369	SLV 9			-5.85	0.26	27.76	-0.2254	-0.2764	-0.0011
369	SLV 10			-5.85	0.26	27.76	-0.2254	-0.2764	-0.0011
369	SLV 11			-10.53	0.65	41.13	-0.5901	-0.4619	-0.0022
369	SLV 12			-10.53	0.65	41.13	-0.5901	-0.4619	-0.0022
369	SLV 13			-13.45	0.3	46.09	-0.2738	-0.6182	-0.0018
369	SLV 14			-13.45	0.3	46.09	-0.2738	-0.6182	-0.0018
369	SLV 15			-14.85	0.42	50.1	-0.3833	-0.6738	-0.0021
369	SLV 16			-14.85	0.42	50.1	-0.3833	-0.6738	-0.0021
370	SLU 1			-5.51	0.67	31.2	-0.4609	-0.2781	0.0012
370	SLU 2			-5.5	0.66	31.14	-0.458	-0.2779	0.0012
370	SLU 3			-5.76	0.71	32.54	-0.4886	-0.2912	0.0013
370	SLU 4			-5.76	0.7	32.51	-0.4869	-0.2911	0.0013
370	SLU 5			-5.71	0.7	32.25	-0.4814	-0.2886	0.0013
370	SLU 6			-5.97	0.74	33.65	-0.512	-0.3019	0.0014
370	SLU 7			-5.97	0.74	33.61	-0.5102	-0.3018	0.0014
370	SLU 8			-5.92	0.73	33.42	-0.5077	-0.2995	0.0014
370	SLU 9			-5.92	0.73	33.38	-0.5059	-0.2994	0.0014
370	SLU 10			-6.27	0.77	34.95	-0.5334	-0.3172	0.0014
370	SLU 11			-6.53	0.81	36.35	-0.564	-0.3306	0.0015
370	SLU 12			-6.53	0.81	36.31	-0.5622	-0.3304	0.0015
370	SLU 13			-6.48	0.8	36.06	-0.5567	-0.3279	0.0015
370	SLU 14			-6.74	0.85	37.46	-0.5873	-0.3413	0.0016
370	SLU 15			-6.74	0.85	37.42	-0.5856	-0.3411	0.0016
370	SLU 16			-6.69	0.84	37.22	-0.583	-0.3388	0.0016
370	SLU 17			-6.69	0.84	37.19	-0.5813	-0.3387	0.0016
370	SLU 18			-6.61	0.82	36.64	-0.5686	-0.3343	0.0015
370	SLU 19			-6.6	0.82	36.61	-0.5668	-0.3342	0.0015
370	SLU 20			-6.81	0.85	37.75	-0.592	-0.345	0.0016
370	SLU 21			-6.81	0.85	37.71	-0.5902	-0.3449	0.0016
370	SLU 22			-6.28	0.78	35.08	-0.5395	-0.3174	0.0014
370	SLU 23			-6.27	0.77	35.01	-0.5365	-0.3172	0.0014
370	SLU 24			-6.53	0.82	36.41	-0.5671	-0.3306	0.0015
370	SLU 25			-6.53	0.82	36.38	-0.5654	-0.3304	0.0015
370	SLU 26			-6.48	0.81	36.12	-0.5599	-0.3279	0.0015
370	SLU 27			-6.74	0.85	37.52	-0.5905	-0.3413	0.0016
370	SLU 28			-6.74	0.85	37.48	-0.5888	-0.3411	0.0016
370	SLU 29			-6.69	0.85	37.29	-0.5862	-0.3388	0.0016
370	SLU 30			-6.69	0.84	37.25	-0.5844	-0.3387	0.0016
370	SLU 31			-7.04	0.88	38.82	-0.6119	-0.3566	0.0016
370	SLU 32			-7.3	0.93	40.22	-0.6425	-0.3699	0.0017
370	SLU 33			-7.3	0.93	40.19	-0.6407	-0.3698	0.0017
370	SLU 34			-7.25	0.92	39.93	-0.6353	-0.3673	0.0017
370	SLU 35			-7.51	0.96	41.33	-0.6659	-0.3806	0.0018
370	SLU 36			-7.5	0.96	41.29	-0.6641	-0.3805	0.0018
370	SLU 37			-7.46	0.96	41.1	-0.6615	-0.3782	0.0018
370	SLU 38			-7.46	0.95	41.06	-0.6598	-0.378	0.0018
370	SLU 39			-7.37	0.93	40.52	-0.6471	-0.3736	0.0017
370	SLU 40			-7.37	0.93	40.48	-0.6453	-0.3735	0.0017
370	SLU 41			-7.58	0.97	41.62	-0.6705	-0.3843	0.0018
370	SLU 42			-7.58	0.97	41.58	-0.6687	-0.3842	0.0018
370	SLU 43			-6.9	0.83	39.24	-0.5723	-0.348	0.0015
370	SLU 44			-6.89	0.82	39.18	-0.5694	-0.3478	0.0015
370	SLU 45			-7.15	0.87	40.58	-0.6	-0.3612	0.0016
370	SLU 46			-7.15	0.86	40.54	-0.5982	-0.361	0.0016
370	SLU 47			-7.1	0.86	40.28	-0.5928	-0.3585	0.0016
370	SLU 48			-7.36	0.9	41.68	-0.6234	-0.3719	0.0017
370	SLU 49			-7.36	0.9	41.65	-0.6216	-0.3717	0.0017
370	SLU 50			-7.31	0.89	41.45	-0.619	-0.3694	0.0017
370	SLU 51			-7.31	0.89	41.41	-0.6173	-0.3693	0.0016
370	SLU 52			-7.66	0.93	42.98	-0.6447	-0.3872	0.0017
370	SLU 53			-7.92	0.98	44.38	-0.6753	-0.4005	0.0018
370	SLU 54			-7.92	0.97	44.35	-0.6736	-0.4004	0.0018
370	SLU 55			-7.87	0.96	44.09	-0.6681	-0.3979	0.0018
370	SLU 56			-8.13	1.01	45.49	-0.6987	-0.4112	0.0019
370	SLU 57			-8.12	1.01	45.45	-0.6969	-0.4111	0.0019
370	SLU 58			-8.08	1	45.26	-0.6944	-0.4088	0.0019
370	SLU 59			-8.08	1	45.22	-0.6926	-0.4087	0.0019
370	SLU 60			-7.99	0.98	44.68	-0.68	-0.4042	0.0018
370	SLU 61			-7.99	0.98	44.64	-0.6782	-0.4041	0.0018
370	SLU 62			-8.2	1.02	45.78	-0.7033	-0.4149	0.0019
370	SLU 63			-8.2	1.01	45.75	-0.7016	-0.4148	0.0019
370	SLU 64			-7.67	0.94	43.11	-0.6508	-0.3874	0.0017
370	SLU 65			-7.66	0.94	43.05	-0.6479	-0.3872	0.0017
370	SLU 66			-7.92	0.98	44.45	-0.6785	-0.4005	0.0018
370	SLU 67			-7.92	0.98	44.41	-0.6767	-0.4004	0.0018
370	SLU 68			-7.87	0.97	44.15	-0.6713	-0.3979	0.0018
370	SLU 69			-8.13	1.01	45.55	-0.7019	-0.4112	0.0019
370	SLU 70			-8.12	1.01	45.52	-0.7001	-0.4111	0.0019
370	SLU 71			-8.08	1.01	45.32	-0.6976	-0.4088	0.0019
370	SLU 72			-8.08	1	45.28	-0.6958	-0.4087	0.0019
370	SLU 73			-8.43	1.04	46.86	-0.7232	-0.4265	0.0019
370	SLU 74			-8.69	1.09	48.26	-0.7539	-0.4398	0.002
370	SLU 75			-8.69	1.09	48.22	-0.7521	-0.4397	0.002
370	SLU 76			-8.64	1.08	47.96	-0.7466	-0.4372	0.002
370	SLU 77			-8.9	1.12	49.36	-0.7772	-0.4505	0.0021
370	SLU 78			-8.89	1.12	49.32	-0.7755	-0.4504	0.0021
370	SLU 79			-8.85	1.12	49.13	-0.7729	-0.4481	0.0021
370	SLU 80			-8.85	1.11	49.09	-0.7712	-0.448	0.0021



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z		x	y	z
370	SLU 81	-8.76	1.09	48.55		-0.7585	-0.4436	0.002
370	SLU 82	-8.76	1.09	48.51		-0.7567	-0.4434	0.002
370	SLU 83	-8.97	1.13	49.65		-0.7818	-0.4543	0.0021
370	SLU 84	-8.97	1.13	49.62		-0.7801	-0.4541	0.0021
370	SLE RA 1	-5.73	0.7	32.31		-0.4834	-0.2893	0.0013
370	SLE RA 2	-5.72	0.7	32.27		-0.4814	-0.2892	0.0013
370	SLE RA 3	-5.9	0.72	33.2		-0.5018	-0.2981	0.0013
370	SLE RA 4	-5.89	0.72	33.18		-0.5007	-0.298	0.0013
370	SLE RA 5	-5.86	0.72	33.01		-0.497	-0.2963	0.0013
370	SLE RA 6	-6.04	0.75	33.94		-0.5174	-0.3052	0.0014
370	SLE RA 7	-6.03	0.75	33.92		-0.5162	-0.3051	0.0014
370	SLE RA 8	-6	0.74	33.78		-0.5145	-0.3036	0.0014
370	SLE RA 9	-6	0.74	33.76		-0.5134	-0.3035	0.0014
370	SLE RA 10	-6.24	0.77	34.81		-0.5317	-0.3154	0.0014
370	SLE RA 11	-6.41	0.8	35.74		-0.5521	-0.3243	0.0015
370	SLE RA 12	-6.41	0.8	35.72		-0.5509	-0.3242	0.0015
370	SLE RA 13	-6.37	0.79	35.55		-0.5472	-0.3226	0.0015
370	SLE RA 14	-6.55	0.82	36.48		-0.5676	-0.3314	0.0015
370	SLE RA 15	-6.55	0.82	36.45		-0.5665	-0.3314	0.0015
370	SLE RA 16	-6.52	0.82	36.32		-0.5648	-0.3298	0.0015
370	SLE RA 17	-6.51	0.81	36.3		-0.5636	-0.3297	0.0015
370	SLE RA 18	-6.46	0.8	35.94		-0.5551	-0.3268	0.0015
370	SLE RA 19	-6.46	0.8	35.91		-0.554	-0.3267	0.0015
370	SLE RA 20	-6.6	0.82	36.67		-0.5707	-0.3339	0.0015
370	SLE RA 21	-6.6	0.82	36.65		-0.5695	-0.3338	0.0015
370	SLE FR 1	-5.73	0.7	32.31		-0.4834	-0.2893	0.0013
370	SLE FR 2	-5.73	0.7	32.3		-0.483	-0.2893	0.0013
370	SLE FR 3	-5.78	0.71	32.6		-0.4896	-0.2922	0.0013
370	SLE FR 4	-5.95	0.73	33.39		-0.5045	-0.3005	0.0013
370	SLE FR 5	-6	0.74	33.69		-0.5111	-0.3034	0.0014
370	SLE FR 6	-6.09	0.75	34.12		-0.5193	-0.3081	0.0014
370	SLE QP 1	-5.73	0.7	32.31		-0.4834	-0.2893	0.0013
370	SLE QP 2	-5.95	0.73	33.4		-0.5049	-0.3006	0.0013
370	SLD 1	-2.39	0.74	18.13		-0.5189	-0.0986	0.0013
370	SLD 2	-2.39	0.74	18.13		-0.5189	-0.0986	0.0013
370	SLD 3	-2.89	0.83	20.14		-0.5761	-0.1207	0.0015
370	SLD 4	-2.89	0.83	20.14		-0.5761	-0.1207	0.0015
370	SLD 5	-4.12	0.6	25.77		-0.4224	-0.2064	0.001
370	SLD 6	-4.12	0.6	25.77		-0.4224	-0.2064	0.001
370	SLD 7	-5.79	0.89	32.47		-0.6129	-0.2802	0.0017
370	SLD 8	-5.79	0.89	32.47		-0.6129	-0.2802	0.0017
370	SLD 9	-6.11	0.57	34.32		-0.3969	-0.3209	0.001
370	SLD 10	-6.11	0.57	34.32		-0.3969	-0.3209	0.001
370	SLD 11	-7.77	0.86	41.03		-0.5874	-0.3948	0.0017
370	SLD 12	-7.77	0.86	41.03		-0.5874	-0.3948	0.0017
370	SLD 13	-9	0.63	46.66		-0.4337	-0.4804	0.0012
370	SLD 14	-9	0.63	46.66		-0.4337	-0.4804	0.0012
370	SLD 15	-9.5	0.72	48.67		-0.4909	-0.5026	0.0014
370	SLD 16	-9.5	0.72	48.67		-0.4909	-0.5026	0.0014
370	SLV 1	2.35	0.76	-2.31		-0.5374	0.1712	0.0013
370	SLV 2	2.35	0.76	-2.31		-0.5374	0.1712	0.0013
370	SLV 3	1.18	0.97	2.47		-0.6723	0.119	0.0018
370	SLV 4	1.18	0.97	2.47		-0.6723	0.119	0.0018
370	SLV 5	-1.67	0.43	15.44		-0.31	-0.0798	0.0006
370	SLV 6	-1.67	0.43	15.44		-0.31	-0.0798	0.0006
370	SLV 7	-5.6	1.11	31.36		-0.7598	-0.2539	0.0022
370	SLV 8	-5.6	1.11	31.36		-0.7598	-0.2539	0.0022
370	SLV 9	-6.3	0.34	35.43		-0.25	-0.3472	0.0005
370	SLV 10	-6.3	0.34	35.43		-0.25	-0.3472	0.0005
370	SLV 11	-10.23	1.03	51.35		-0.6998	-0.5213	0.0021
370	SLV 12	-10.23	1.03	51.35		-0.6998	-0.5213	0.0021
370	SLV 13	-13.07	0.49	64.33		-0.3375	-0.7202	0.0009
370	SLV 14	-13.07	0.49	64.33		-0.3375	-0.7202	0.0009
370	SLV 15	-14.25	0.7	69.1		-0.4724	-0.7724	0.0014
370	SLV 16	-14.25	0.7	69.1		-0.4724	-0.7724	0.0014
371	SLU 1	-5.98	0.31	20.84		-0.2408	-0.1723	-0.0361
371	SLU 2	-5.97	0.31	20.81		-0.2392	-0.1721	-0.0358
371	SLU 3	-6.25	0.33	21.76		-0.2554	-0.1803	-0.0383
371	SLU 4	-6.25	0.33	21.75		-0.2544	-0.1801	-0.0381
371	SLU 5	-6.19	0.32	21.57		-0.2515	-0.1786	-0.0377
371	SLU 6	-6.47	0.34	22.53		-0.2677	-0.1867	-0.0401
371	SLU 7	-6.47	0.34	22.51		-0.2667	-0.1866	-0.04
371	SLU 8	-6.42	0.34	22.36		-0.2654	-0.1853	-0.0398
371	SLU 9	-6.42	0.34	22.34		-0.2645	-0.1851	-0.0396
371	SLU 10	-6.77	0.36	23.48		-0.2785	-0.1959	-0.0417
371	SLU 11	-7.05	0.38	24.44		-0.2946	-0.204	-0.0442
371	SLU 12	-7.04	0.38	24.42		-0.2937	-0.2039	-0.044
371	SLU 13	-6.99	0.37	24.24		-0.2908	-0.2023	-0.0436
371	SLU 14	-7.27	0.39	25.2		-0.307	-0.2105	-0.046
371	SLU 15	-7.26	0.39	25.18		-0.306	-0.2104	-0.0459
371	SLU 16	-7.22	0.39	25.03		-0.3047	-0.209	-0.0457
371	SLU 17	-7.22	0.39	25.01		-0.3038	-0.2089	-0.0455
371	SLU 18	-7.12	0.38	24.65		-0.2969	-0.2063	-0.0445
371	SLU 19	-7.11	0.38	24.64		-0.296	-0.2061	-0.0444
371	SLU 20	-7.34	0.4	25.42		-0.3092	-0.2127	-0.0463
371	SLU 21	-7.33	0.4	25.4		-0.3083	-0.2126	-0.0462
371	SLU 22	-6.78	0.36	23.54		-0.2818	-0.1961	-0.0422
371	SLU 23	-6.77	0.36	23.51		-0.2803	-0.1959	-0.042



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
371	SLU 24	-7.05	0.38	24.47	-0.2964	-0.2041	-0.0444	
371	SLU 25	-7.05	0.38	24.45	-0.2954	-0.204	-0.0443	
371	SLU 26	-7	0.38	24.27	-0.2926	-0.2024	-0.0438	
371	SLU 27	-7.28	0.4	25.23	-0.3087	-0.2106	-0.0463	
371	SLU 28	-7.27	0.4	25.21	-0.3078	-0.2104	-0.0461	
371	SLU 29	-7.23	0.39	25.06	-0.3065	-0.2091	-0.0459	
371	SLU 30	-7.22	0.39	25.04	-0.3055	-0.2089	-0.0458	
371	SLU 31	-7.57	0.41	26.18	-0.3195	-0.2197	-0.0479	
371	SLU 32	-7.85	0.43	27.14	-0.3357	-0.2279	-0.0503	
371	SLU 33	-7.84	0.43	27.12	-0.3347	-0.2277	-0.0502	
371	SLU 34	-7.79	0.43	26.94	-0.3319	-0.2262	-0.0497	
371	SLU 35	-8.07	0.45	27.9	-0.348	-0.2343	-0.0522	
371	SLU 36	-8.07	0.45	27.88	-0.347	-0.2342	-0.052	
371	SLU 37	-8.02	0.44	27.73	-0.3458	-0.2329	-0.0518	
371	SLU 38	-8.02	0.44	27.71	-0.3448	-0.2327	-0.0517	
371	SLU 39	-7.92	0.43	27.36	-0.338	-0.2301	-0.0506	
371	SLU 40	-7.91	0.43	27.34	-0.337	-0.23	-0.0505	
371	SLU 41	-8.14	0.45	28.12	-0.3503	-0.2366	-0.0525	
371	SLU 42	-8.14	0.45	28.1	-0.3493	-0.2364	-0.0524	
371	SLU 43	-7.5	0.38	26.16	-0.299	-0.2158	-0.0448	
371	SLU 44	-7.49	0.38	26.13	-0.2974	-0.2156	-0.0446	
371	SLU 45	-7.77	0.4	27.09	-0.3135	-0.2238	-0.047	
371	SLU 46	-7.77	0.4	27.07	-0.3126	-0.2237	-0.0468	
371	SLU 47	-7.71	0.4	26.89	-0.3097	-0.2221	-0.0464	
371	SLU 48	-7.99	0.42	27.85	-0.3258	-0.2303	-0.0488	
371	SLU 49	-7.99	0.42	27.83	-0.3249	-0.2301	-0.0487	
371	SLU 50	-7.94	0.42	27.69	-0.3236	-0.2288	-0.0485	
371	SLU 51	-7.94	0.42	27.67	-0.3226	-0.2286	-0.0484	
371	SLU 52	-8.29	0.43	28.8	-0.3367	-0.2394	-0.0505	
371	SLU 53	-8.57	0.45	29.76	-0.3528	-0.2476	-0.0529	
371	SLU 54	-8.56	0.45	29.74	-0.3519	-0.2474	-0.0527	
371	SLU 55	-8.51	0.45	29.56	-0.349	-0.2459	-0.0523	
371	SLU 56	-8.79	0.47	30.52	-0.3651	-0.254	-0.0547	
371	SLU 57	-8.78	0.47	30.5	-0.3642	-0.2539	-0.0546	
371	SLU 58	-8.74	0.47	30.36	-0.3629	-0.2525	-0.0544	
371	SLU 59	-8.73	0.47	30.34	-0.3619	-0.2524	-0.0542	
371	SLU 60	-8.64	0.46	29.98	-0.3551	-0.2498	-0.0532	
371	SLU 61	-8.63	0.45	29.96	-0.3541	-0.2497	-0.0531	
371	SLU 62	-8.86	0.47	30.74	-0.3674	-0.2563	-0.0551	
371	SLU 63	-8.85	0.47	30.72	-0.3665	-0.2561	-0.0549	
371	SLU 64	-8.3	0.44	28.86	-0.34	-0.2397	-0.051	
371	SLU 65	-8.29	0.43	28.83	-0.3384	-0.2394	-0.0507	
371	SLU 66	-8.57	0.46	29.79	-0.3546	-0.2476	-0.0531	
371	SLU 67	-8.57	0.45	29.77	-0.3536	-0.2475	-0.053	
371	SLU 68	-8.51	0.45	29.59	-0.3507	-0.2459	-0.0526	
371	SLU 69	-8.79	0.47	30.55	-0.3669	-0.2541	-0.055	
371	SLU 70	-8.79	0.47	30.53	-0.3659	-0.254	-0.0548	
371	SLU 71	-8.75	0.47	30.39	-0.3646	-0.2526	-0.0547	
371	SLU 72	-8.74	0.47	30.37	-0.3637	-0.2525	-0.0545	
371	SLU 73	-9.09	0.48	31.5	-0.3777	-0.2632	-0.0566	
371	SLU 74	-9.37	0.51	32.46	-0.3939	-0.2714	-0.059	
371	SLU 75	-9.36	0.5	32.44	-0.3929	-0.2713	-0.0589	
371	SLU 76	-9.31	0.5	32.27	-0.39	-0.2697	-0.0585	
371	SLU 77	-9.59	0.52	33.22	-0.4062	-0.2779	-0.0609	
371	SLU 78	-9.59	0.52	33.2	-0.4052	-0.2777	-0.0607	
371	SLU 79	-9.54	0.52	33.06	-0.4039	-0.2764	-0.0605	
371	SLU 80	-9.54	0.52	33.04	-0.403	-0.2762	-0.0604	
371	SLU 81	-9.44	0.51	32.68	-0.3961	-0.2736	-0.0594	
371	SLU 82	-9.43	0.51	32.66	-0.3952	-0.2735	-0.0592	
371	SLU 83	-9.66	0.52	33.44	-0.4084	-0.2801	-0.0612	
371	SLU 84	-9.66	0.52	33.42	-0.4075	-0.28	-0.0611	
371	SLE RA 1	-6.21	0.32	21.61	-0.2525	-0.1791	-0.0378	
371	SLE RA 2	-6.2	0.32	21.59	-0.2515	-0.179	-0.0377	
371	SLE RA 3	-6.39	0.34	22.23	-0.2622	-0.1844	-0.0393	
371	SLE RA 4	-6.39	0.34	22.21	-0.2616	-0.1843	-0.0392	
371	SLE RA 5	-6.35	0.33	22.1	-0.2597	-0.1833	-0.0389	
371	SLE RA 6	-6.54	0.35	22.73	-0.2704	-0.1887	-0.0405	
371	SLE RA 7	-6.53	0.35	22.72	-0.2698	-0.1886	-0.0404	
371	SLE RA 8	-6.51	0.35	22.62	-0.2689	-0.1877	-0.0403	
371	SLE RA 9	-6.5	0.35	22.61	-0.2683	-0.1877	-0.0402	
371	SLE RA 10	-6.73	0.36	23.37	-0.2777	-0.1948	-0.0416	
371	SLE RA 11	-6.92	0.37	24.01	-0.2884	-0.2003	-0.0432	
371	SLE RA 12	-6.92	0.37	24	-0.2878	-0.2002	-0.0431	
371	SLE RA 13	-6.88	0.37	23.88	-0.2859	-0.1991	-0.0428	
371	SLE RA 14	-7.07	0.38	24.52	-0.2966	-0.2046	-0.0445	
371	SLE RA 15	-7.07	0.38	24.5	-0.296	-0.2045	-0.0444	
371	SLE RA 16	-7.04	0.38	24.41	-0.2951	-0.2036	-0.0442	
371	SLE RA 17	-7.03	0.38	24.39	-0.2945	-0.2035	-0.0441	
371	SLE RA 18	-6.97	0.37	24.15	-0.2899	-0.2018	-0.0435	
371	SLE RA 19	-6.96	0.37	24.14	-0.2893	-0.2017	-0.0434	
371	SLE RA 20	-7.12	0.38	24.66	-0.2982	-0.2061	-0.0447	
371	SLE RA 21	-7.11	0.38	24.65	-0.2975	-0.206	-0.0446	
371	SLE FR 1	-6.21	0.32	21.61	-0.2525	-0.1791	-0.0378	
371	SLE FR 2	-6.21	0.32	21.6	-0.2523	-0.1791	-0.0378	
371	SLE FR 3	-6.27	0.33	21.81	-0.2558	-0.1808	-0.0383	
371	SLE FR 4	-6.44	0.34	22.37	-0.2635	-0.1859	-0.0395	
371	SLE FR 5	-6.5	0.34	22.58	-0.267	-0.1876	-0.04	
371	SLE FR 6	-6.59	0.35	22.88	-0.2712	-0.1904	-0.0406	



Nodo	Cont.	Reazione a traslazione				Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z	
371	SLE QP 1	-6.21	0.32	21.61	-0.2525	-0.1791	-0.0378	
371	SLE QP 2	-6.44	0.34	22.37	-0.2638	-0.1859	-0.0395	
371	SLD 1	-2.87	0.31	10.18	-0.2632	-0.0782	-0.0391	
371	SLD 2	-2.87	0.31	10.18	-0.2632	-0.0782	-0.0391	
371	SLD 3	-3.27	0.44	11.55	-0.3009	-0.0901	-0.0452	
371	SLD 4	-3.27	0.44	11.55	-0.3009	-0.0901	-0.0452	
371	SLD 5	-4.77	0.14	16.65	-0.2063	-0.1355	-0.0301	
371	SLD 6	-4.77	0.14	16.65	-0.2063	-0.1355	-0.0301	
371	SLD 7	-6.08	0.56	21.2	-0.3322	-0.1753	-0.0505	
371	SLD 8	-6.08	0.56	21.2	-0.3322	-0.1753	-0.0505	
371	SLD 9	-6.79	0.12	23.55	-0.1953	-0.1965	-0.0285	
371	SLD 10	-6.79	0.12	23.55	-0.1953	-0.1965	-0.0285	
371	SLD 11	-8.1	0.54	28.1	-0.3212	-0.2363	-0.049	
371	SLD 12	-8.1	0.54	28.1	-0.3212	-0.2363	-0.049	
371	SLD 13	-9.61	0.24	33.2	-0.2266	-0.2817	-0.0338	
371	SLD 14	-9.61	0.24	33.2	-0.2266	-0.2817	-0.0338	
371	SLD 15	-10	0.36	34.56	-0.2644	-0.2936	-0.04	
371	SLD 16	-10	0.36	34.56	-0.2644	-0.2936	-0.04	
371	SLV 1	1.89	0.28	-6.12	-0.2622	0.0657	-0.0385	
371	SLV 2	1.89	0.28	-6.12	-0.2622	0.0657	-0.0385	
371	SLV 3	0.96	0.57	-2.88	-0.3513	0.0376	-0.0529	
371	SLV 4	0.96	0.57	-2.88	-0.3513	0.0376	-0.0529	
371	SLV 5	-2.54	-0.13	8.9	-0.1282	-0.0677	-0.0173	
371	SLV 6	-2.54	-0.13	8.9	-0.1282	-0.0677	-0.0173	
371	SLV 7	-5.62	0.86	19.72	-0.4251	-0.1616	-0.0655	
371	SLV 8	-5.62	0.86	19.72	-0.4251	-0.1616	-0.0655	
371	SLV 9	-7.25	-0.18	25.03	-0.1024	-0.2102	-0.0136	
371	SLV 10	-7.25	-0.18	25.03	-0.1024	-0.2102	-0.0136	
371	SLV 11	-10.34	0.8	35.84	-0.3993	-0.3041	-0.0618	
371	SLV 12	-10.34	0.8	35.84	-0.3993	-0.3041	-0.0618	
371	SLV 13	-13.84	0.1	47.62	-0.1762	-0.4094	-0.0261	
371	SLV 14	-13.84	0.1	47.62	-0.1762	-0.4094	-0.0261	
371	SLV 15	-14.76	0.4	50.87	-0.2653	-0.4375	-0.0406	
371	SLV 16	-14.76	0.4	50.87	-0.2653	-0.4375	-0.0406	
372	SLU 1	-0.02	-11.81	45.03	0.3454	-0.0036	-0.0006	
372	SLU 2	-0.02	-11.68	44.61	0.3415	-0.0037	-0.0006	
372	SLU 3	-0.02	-12.51	47.7	0.3661	-0.0038	-0.0007	
372	SLU 4	-0.02	-12.44	47.45	0.3638	-0.0039	-0.0007	
372	SLU 5	-0.02	-12.29	46.92	0.3592	-0.0039	-0.0007	
372	SLU 6	-0.02	-13.12	50.01	0.3838	-0.004	-0.0007	
372	SLU 7	-0.02	-13.04	49.76	0.3815	-0.0041	-0.0007	
372	SLU 8	-0.02	-13.02	49.65	0.3809	-0.004	-0.0007	
372	SLU 9	-0.02	-12.94	49.4	0.3785	-0.004	-0.0007	
372	SLU 10	-0.02	-13.6	51.75	0.3988	-0.0043	-0.0007	
372	SLU 11	-0.02	-14.43	54.85	0.4234	-0.0044	-0.0008	
372	SLU 12	-0.02	-14.36	54.6	0.4211	-0.0044	-0.0008	
372	SLU 13	-0.02	-14.21	54.06	0.4166	-0.0044	-0.0008	
372	SLU 14	-0.02	-15.04	57.16	0.4412	-0.0046	-0.0008	
372	SLU 15	-0.02	-14.96	56.91	0.4388	-0.0046	-0.0008	
372	SLU 16	-0.02	-14.94	56.8	0.4382	-0.0045	-0.0008	
372	SLU 17	-0.02	-14.87	56.54	0.4358	-0.0046	-0.0008	
372	SLU 18	-0.02	-14.55	55.24	0.4273	-0.0044	-0.0008	
372	SLU 19	-0.02	-14.48	54.99	0.425	-0.0045	-0.0008	
372	SLU 20	-0.02	-15.16	57.55	0.445	-0.0046	-0.0008	
372	SLU 21	-0.02	-15.08	57.3	0.4427	-0.0047	-0.0008	
372	SLU 22	-0.02	-13.81	52.51	0.4048	-0.0042	-0.0007	
372	SLU 23	-0.02	-13.68	52.09	0.4009	-0.0043	-0.0007	
372	SLU 24	-0.02	-14.51	55.18	0.4255	-0.0044	-0.0008	
372	SLU 25	-0.02	-14.44	54.93	0.4232	-0.0045	-0.0008	
372	SLU 26	-0.02	-14.29	54.4	0.4187	-0.0045	-0.0008	
372	SLU 27	-0.02	-15.12	57.49	0.4433	-0.0046	-0.0008	
372	SLU 28	-0.02	-15.04	57.24	0.4409	-0.0047	-0.0008	
372	SLU 29	-0.02	-15.02	57.13	0.4403	-0.0046	-0.0008	
372	SLU 30	-0.02	-14.94	56.88	0.4379	-0.0046	-0.0008	
372	SLU 31	-0.02	-15.61	59.24	0.4582	-0.0049	-0.0009	
372	SLU 32	-0.02	-16.44	62.33	0.4829	-0.005	-0.0009	
372	SLU 33	-0.03	-16.36	62.08	0.4805	-0.0051	-0.0009	
372	SLU 34	-0.02	-16.21	61.54	0.476	-0.0051	-0.0009	
372	SLU 35	-0.03	-17.04	64.64	0.5006	-0.0052	-0.0009	
372	SLU 36	-0.03	-16.97	64.39	0.4982	-0.0053	-0.0009	
372	SLU 37	-0.03	-16.94	64.28	0.4976	-0.0052	-0.0009	
372	SLU 38	-0.03	-16.87	64.02	0.4953	-0.0052	-0.0009	
372	SLU 39	-0.03	-16.56	62.72	0.4867	-0.005	-0.0009	
372	SLU 40	-0.03	-16.48	62.47	0.4844	-0.0051	-0.0009	
372	SLU 41	-0.03	-17.16	65.03	0.5044	-0.0052	-0.0009	
372	SLU 42	-0.03	-17.09	64.78	0.5021	-0.0053	-0.0009	
372	SLU 43	-0.02	-14.66	55.97	0.4287	-0.0044	-0.0008	
372	SLU 44	-0.02	-14.54	55.55	0.4248	-0.0045	-0.0008	
372	SLU 45	-0.02	-15.37	58.65	0.4494	-0.0047	-0.0008	
372	SLU 46	-0.02	-15.29	58.4	0.447	-0.0047	-0.0008	
372	SLU 47	-0.02	-15.14	57.86	0.4425	-0.0047	-0.0008	
372	SLU 48	-0.02	-15.97	60.96	0.4671	-0.0048	-0.0009	
372	SLU 49	-0.02	-15.9	60.71	0.4647	-0.0049	-0.0009	
372	SLU 50	-0.02	-15.87	60.59	0.4641	-0.0048	-0.0008	
372	SLU 51	-0.02	-15.8	60.34	0.4618	-0.0049	-0.0009	
372	SLU 52	-0.03	-16.46	62.7	0.4821	-0.0051	-0.0009	
372	SLU 53	-0.03	-17.29	65.79	0.5067	-0.0052	-0.0009	
372	SLU 54	-0.03	-17.21	65.54	0.5043	-0.0053	-0.0009	



Nodo	Cont. N.br.	Reazione a traslazione			Reazione a rotazione		
		x	y	z	x	y	z
372	SLU 55	-0.03	-17.07	65.01	0.4998	-0.0053	-0.0009
372	SLU 56	-0.03	-17.9	68.1	0.5244	-0.0054	-0.001
372	SLU 57	-0.03	-17.82	67.85	0.5221	-0.0055	-0.001
372	SLU 58	-0.03	-17.8	67.74	0.5214	-0.0054	-0.001
372	SLU 59	-0.03	-17.72	67.49	0.5191	-0.0055	-0.001
372	SLU 60	-0.03	-17.41	66.18	0.5106	-0.0053	-0.0009
372	SLU 61	-0.03	-17.34	65.93	0.5082	-0.0053	-0.0009
372	SLU 62	-0.03	-18.02	68.49	0.5283	-0.0055	-0.001
372	SLU 63	-0.03	-17.94	68.24	0.5259	-0.0055	-0.001
372	SLU 64	-0.03	-16.67	63.45	0.4881	-0.005	-0.0009
372	SLU 65	-0.03	-16.54	63.03	0.4842	-0.0051	-0.0009
372	SLU 66	-0.03	-17.37	66.13	0.5088	-0.0053	-0.0009
372	SLU 67	-0.03	-17.29	65.88	0.5064	-0.0053	-0.0009
372	SLU 68	-0.03	-17.14	65.34	0.5019	-0.0053	-0.0009
372	SLU 69	-0.03	-17.97	68.44	0.5265	-0.0055	-0.001
372	SLU 70	-0.03	-17.9	68.19	0.5242	-0.0055	-0.001
372	SLU 71	-0.03	-17.88	68.07	0.5235	-0.0054	-0.001
372	SLU 72	-0.03	-17.8	67.82	0.5212	-0.0055	-0.001
372	SLU 73	-0.03	-18.46	70.18	0.5415	-0.0057	-0.001
372	SLU 74	-0.03	-19.29	73.27	0.5661	-0.0059	-0.001
372	SLU 75	-0.03	-19.22	73.02	0.5638	-0.0059	-0.001
372	SLU 76	-0.03	-19.07	72.49	0.5592	-0.0059	-0.001
372	SLU 77	-0.03	-19.9	75.58	0.5838	-0.0061	-0.0011
372	SLU 78	-0.03	-19.82	75.33	0.5815	-0.0061	-0.0011
372	SLU 79	-0.03	-19.8	75.22	0.5809	-0.006	-0.0011
372	SLU 80	-0.03	-19.72	74.97	0.5785	-0.0061	-0.0011
372	SLU 81	-0.03	-19.41	73.66	0.57	-0.0059	-0.001
372	SLU 82	-0.03	-19.34	73.41	0.5676	-0.0059	-0.001
372	SLU 83	-0.03	-20.02	75.97	0.5877	-0.0061	-0.0011
372	SLU 84	-0.03	-19.94	75.72	0.5854	-0.0061	-0.0011
372	SLE RA 1	-0.02	-12.38	47.17	0.3624	-0.0037	-0.0007
372	SLE RA 2	-0.02	-12.3	46.89	0.3598	-0.0038	-0.0007
372	SLE RA 3	-0.02	-12.85	48.95	0.3762	-0.0039	-0.0007
372	SLE RA 4	-0.02	-12.8	48.78	0.3746	-0.0039	-0.0007
372	SLE RA 5	-0.02	-12.7	48.43	0.3716	-0.0039	-0.0007
372	SLE RA 6	-0.02	-13.25	50.49	0.388	-0.004	-0.0007
372	SLE RA 7	-0.02	-13.2	50.32	0.3864	-0.0041	-0.0007
372	SLE RA 8	-0.02	-13.19	50.25	0.386	-0.004	-0.0007
372	SLE RA 9	-0.02	-13.14	50.08	0.3845	-0.004	-0.0007
372	SLE RA 10	-0.02	-13.58	51.65	0.398	-0.0042	-0.0007
372	SLE RA 11	-0.02	-14.13	53.71	0.4144	-0.0043	-0.0008
372	SLE RA 12	-0.02	-14.08	53.55	0.4128	-0.0043	-0.0008
372	SLE RA 13	-0.02	-13.98	53.19	0.4098	-0.0043	-0.0008
372	SLE RA 14	-0.02	-14.53	55.25	0.4262	-0.0044	-0.0008
372	SLE RA 15	-0.02	-14.48	55.09	0.4247	-0.0045	-0.0008
372	SLE RA 16	-0.02	-14.47	55.01	0.4242	-0.0044	-0.0008
372	SLE RA 17	-0.02	-14.42	54.84	0.4227	-0.0044	-0.0008
372	SLE RA 18	-0.02	-14.21	53.97	0.417	-0.0043	-0.0008
372	SLE RA 19	-0.02	-14.16	53.8	0.4154	-0.0043	-0.0008
372	SLE RA 20	-0.02	-14.61	55.51	0.4288	-0.0044	-0.0008
372	SLE RA 21	-0.02	-14.56	55.34	0.4272	-0.0045	-0.0008
372	SLE FR 1	-0.02	-12.38	47.17	0.3624	-0.0037	-0.0007
372	SLE FR 2	-0.02	-12.36	47.11	0.3619	-0.0037	-0.0007
372	SLE FR 3	-0.02	-12.54	47.78	0.3671	-0.0038	-0.0007
372	SLE FR 4	-0.02	-12.91	49.15	0.3783	-0.0039	-0.0007
372	SLE FR 5	-0.02	-13.09	49.82	0.3835	-0.004	-0.0007
372	SLE FR 6	-0.02	-13.3	50.57	0.3897	-0.004	-0.0007
372	SLE QP 1	-0.02	-12.38	47.17	0.3624	-0.0037	-0.0007
372	SLE QP 2	-0.02	-12.93	49.21	0.3788	-0.0039	-0.0007
372	SLD 1	-0.13	-12.64	48.84	0.3694	-0.0418	-0.0063
372	SLD 2	-0.13	-12.64	48.84	0.3694	-0.0418	-0.0063
372	SLD 3	-0.16	-15.45	57.72	0.4609	-0.0493	-0.0075
372	SLD 4	-0.16	-15.45	57.72	0.4609	-0.0493	-0.0075
372	SLD 5	-0.01	-8.58	35.64	0.2372	-0.004	-0.0006
372	SLD 6	-0.01	-8.58	35.64	0.2372	-0.004	-0.0006
372	SLD 7	-0.1	-17.95	65.22	0.5422	-0.0288	-0.0045
372	SLD 8	-0.1	-17.95	65.22	0.5422	-0.0288	-0.0045
372	SLD 9	0.06	-7.91	33.19	0.2154	0.021	0.0031
372	SLD 10	0.06	-7.91	33.19	0.2154	0.021	0.0031
372	SLD 11	-0.03	-17.28	62.78	0.5203	-0.0038	-0.0008
372	SLD 12	-0.03	-17.28	62.78	0.5203	-0.0038	-0.0008
372	SLD 13	0.12	-10.41	40.7	0.2966	0.0415	0.0061
372	SLD 14	0.12	-10.41	40.7	0.2966	0.0415	0.0061
372	SLD 15	0.09	-13.22	49.57	0.3881	0.034	0.0049
372	SLD 16	0.09	-13.22	49.57	0.3881	0.034	0.0049
372	SLV 1	-0.29	-12.24	48.3	0.3566	-0.0968	-0.0145
372	SLV 2	-0.29	-12.24	48.3	0.3566	-0.0968	-0.0145
372	SLV 3	-0.36	-18.9	69.33	0.5732	-0.1157	-0.0175
372	SLV 4	-0.36	-18.9	69.33	0.5732	-0.1157	-0.0175
372	SLV 5	0.01	-2.62	17.03	0.0437	-0.003	-0.0003
372	SLV 6	0.01	-2.62	17.03	0.0437	-0.003	-0.0003
372	SLV 7	-0.23	-24.82	87.15	0.7656	-0.0662	-0.0102
372	SLV 8	-0.23	-24.82	87.15	0.7656	-0.0662	-0.0102
372	SLV 9	0.19	-1.04	11.26	-0.008	0.0584	0.0088
372	SLV 10	0.19	-1.04	11.26	-0.008	0.0584	0.0088
372	SLV 11	-0.05	-23.24	81.39	0.7139	-0.0048	-0.001
372	SLV 12	-0.05	-23.24	81.39	0.7139	-0.0048	-0.001
372	SLV 13	0.32	-6.96	29.08	0.1843	0.1079	0.0161



Nodo	Cont.	Reazione a traslazione			Reazione a rotazione		
Ind.	N.br.	x	y	z	x	y	z
372	SLV 14	0.32	-6.96	29.08	0.1843	0.1079	0.0161
372	SLV 15	0.25	-13.62	50.12	0.4009	0.089	0.0131
372	SLV 16	0.25	-13.62	50.12	0.4009	0.089	0.0131

## 1.3 Risposta modale

**Modo:** identificativo del modo di vibrare.

**Periodo:** periodo. [s]

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

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

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

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

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

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

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

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

**Totale masse partecipanti:**

Traslazione X: 0.918455

Traslazione Y: 0.929943

Traslazione Z: 0

Rotazione X: 0.865051

Rotazione Y: 0.913817

Rotazione Z: 0.743298

Modo	Periodo	Massa X	Massa Y	Massa Z	Massa rot. X	Massa rot. Y	Massa rot. Z	Massa sX	Massa sY
1	5.017426837	0.0339203	0.000000474	0	0.000000501	0.042990422	0.001625742	0.0339203	0.000000474
2	2.370303398	0.000021437	0.005577698	0	0.014708299	0.000043356	0.013125652	0.000021437	0.005577698
3	2.148943819	0.005569531	0.000007498	0	0.000006422	0.010172159	0.000490308	0.005569531	0.000007498
4	2.067008812	0.005743426	0.000260513	0	0.000437095	0.010445275	0.000001875	0.005743426	0.000260513
5	2.014350851	0.000008874	0.015122814	0	0.025340317	0.00001332	0.009259626	0.000008874	0.015122814
6	1.982286414	0.000438316	0.010812782	0	0.016589	0.000731473	0.029243173	0.000438316	0.010812782
7	1.952133736	0.000200499	0.011994443	0	0.017991908	0.000334566	0.000237722	0.000200499	0.011994443
8	1.876616589	0.000057676	0.011552063	0	0.009752144	0.000044183	0.024732175	0.000057676	0.011552063
9	1.868592541	0.000004128	0.000606677	0	0.000737462	0.00000398	0.005890367	0.000004128	0.000606677
10	1.837971753	0.000023741	0.012176634	0	0.009483448	0.000019865	0.000558014	0.000023741	0.012176634
11	1.603323406	0.000003485	0.004440104	0	0.008529365	0.000003997	0.003386743	0.000003485	0.004440104
12	1.504000277	0.000141989	0.022106969	0	0.01886951	0.000006399	0.048573287	0.000141989	0.022106969
13	1.488011401	0.0000523	0.036629507	0	0.039852706	0.000000371	0.005566056	0.0000523	0.036629507
14	1.423898241	0.000207	0.009037064	0	0.00973717	0.000065741	0.004248119	0.000207	0.009037064
15	1.378969648	0.000598271	0.003461878	0	0.004570082	0.000011621	0.000003111	0.000598271	0.003461878
16	1.375374355	0.000354745	0.008636214	0	0.003134921	0.000054615	0.012478994	0.000354745	0.008636214
17	1.370620015	0.000654446	0.00805999	0	0.010273108	0.000014721	0.017473451	0.000654446	0.00805999
18	1.354482186	0.002814576	0.008389132	0	0.008430939	0.001852692	0.000954086	0.002814576	0.008389132
19	1.308024927	0.000089011	0.002791518	0	0.000635701	0.000356619	0.006494173	0.000089011	0.002791518
20	1.302938588	0.00687797	0.010122797	0	0.004414588	0.002860021	0.028406943	0.00687797	0.010122797
21	1.284783262	0.003403208	0.001687799	0	0.000089676	0.003657155	0.001856167	0.003403208	0.001687799
22	1.267757728	0.004373792	0.014381137	0	0.007373573	0.00234299	0.000014984	0.004373792	0.014381137
23	1.232913838	0.005479874	0.001889649	0	0.000057516	0.000478298	0.000017353	0.005479874	0.001889649
24	1.213272344	0.002439515	0.002111734	0	0.000665665	0.000919876	0.000405545	0.002439515	0.002111734
25	1.196672995	0.01106896	0.00158411	0	0.001611998	0.016410283	0.000019318	0.01106896	0.00158411
26	1.163889466	0.000563353	0.001984133	0	0.007293796	0.000174654	0.001625432	0.000563353	0.001984133
27	1.117927868	0.001970655	0.000117818	0	0.000281156	0.000000001	0.000768558	0.001970655	0.000117818
28	1.090095806	0.002692478	0.033338009	0	0.034497206	0.003011592	0.031806052	0.002692478	0.033338009
29	1.070670893	0.000810609	0.000003014	0	0.000310773	0.000006705	0.000213361	0.000810609	0.000003014
30	1.028570888	0.00000302	0.046253503	0	0.03692969	0.000000175	0.032811867	0.00000302	0.046253503
31	0.980644334	0.000167783	0.007738134	0	0.000962618	0.000061045	0.004823687	0.000167783	0.007738134
32	0.968932393	0.001417415	0.00115474	0	0.001644873	0.000050351	0.000163847	0.001417415	0.00115474
33	0.913965169	0.008814249	0.000322304	0	0.0004812	0.004055115	0.000341918	0.008814249	0.000322304
34	0.861078289	0.000031158	0.004184559	0	0.002463457	0.000141286	0.00443277	0.000031158	0.004184559
35	0.814469124	0.02124269	0.001386066	0	0.000000256	0.02163449	0.000116146	0.02124269	0.001386066
36	0.801963447	0.003312125	0.013472056	0	0.000683053	0.003539317	0.010688864	0.003312125	0.013472056
37	0.774187775	0.033624166	0.000543034	0	0.00060714	0.029885784	0.000890984	0.033624166	0.000543034
38	0.708447769	0.011917317	0.003311581	0	0.00567413	0.004980495	0.001099227	0.011917317	0.003311581
39	0.68443155	0.000813498	0.023012907	0	0.044863134	0.000011032	0.011764433	0.000813498	0.023012907
40	0.637746023	0.000089294	0.040867522	0	0.030040834	0.000014892	0.033395961	0.000089294	0.040867522
41	0.603137937	0.022378184	0.000030261	0	0.000001246	0.019319947	0.000099303	0.022378184	0.000030261
42	0.531730753	0.002850496	0.015091633	0	0.002229048	0.001473245	0.004398207	0.002850496	0.015091633
43	0.52061904	0.012108241	0.004674052	0	0.000796837	0.003227522	0.001653038	0.012108241	0.004674052
44	0.459986769	0.000346582	0.036025435	0	0.012128454	0.000041966	0.034616061	0.000346582	0.036025435
45	0.43012053	0.009368206	0.000420991	0	0.00014318	0.003955543	0.000317001	0.009368206	0.000420991
46	0.340276381	0.008889039	0.03431693	0	0.032544566	0.006936042	0.029330981	0.008889039	0.03431693
47	0.336010475	0.009456156	0.031533119	0	0.028392677	0.005935694	0.017478669	0.009456156	0.031533119
48	0.256181486	0.002722526	0.118740325	0	0.177821819	0.002624284	0.082410569	0.002722526	0.118740325
49	0.23789518	0.066355695	0.008707086	0	0.012124668	0.071843675	0.01306866	0.066355695	0.008707086
50	0.174594126	0.000286755	0.155321034	0	0.184602341	0.000261611	0.099034548	0.000286755	0.155321034
51	0.161783778	0.472844425	0.0001239	0	0.000085231	0.626915434	0.002285674	0.472844425	0.0001239
52	0.088015416	0.001245334	0.142963053	0	0.033715729	0.000184381	0.103300877	0.001245334	0.142963053
53	0.075194633	0.137547292	0.000825262	0	0.000007671	0.008411957	0.004759982	0.137547292	0.000825262
54	0.008127386	0.000025023	0.000023342	0	0.000423925	0.000786431	0.000074095	0.000025023	0.000023342

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Modo	Periodo	Massa X	Massa Y	Massa Z	Massa rot. X	Massa rot. Y	Massa rot. Z	Massa sX	Massa sY
55	0.006444789	0.000014504	0.000015613	0	0.000006979	0.000498806	0.000464423	0.000014504	0.000015613

## 1.4 Equilibrio globale forze

**Contributo:** Nome attribuito al sistema risultante.

**Fx:** Componente X di forza del sistema risultante. [kN]

**Fy:** Componente Y di forza del sistema risultante. [kN]

**Fz:** Componente Z di forza del sistema risultante. [kN]

**Mx:** Componente di momento attorno l'asse X del sistema risultante. [kN\*m]

**My:** Componente di momento attorno l'asse Y del sistema risultante. [kN\*m]

**Mz:** Componente di momento attorno l'asse Z del sistema risultante. [kN\*m]

**Bilancio in condizione di carico: Pesi strutturali**

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0.44981	-0.03546	-12321.35378	-13002.6226	-152523.4034	-1.6416
Reazioni	-0.44981	0.03546	12321.35378	13002.6226	152523.4034	1.6416
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

**Bilancio in condizione di carico: Permanenti portati**

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	-2737.28114	-4079.911	-33944.5016	0
Reazioni	0	0	2737.28114	4079.911	33944.5016	0
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

**Bilancio in condizione di carico: Variabile A**

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	-2126.12528	-2526.5022	-26358.4145	0
Reazioni	0	0	2126.12528	2526.5022	26358.4145	0
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

**Bilancio in condizione di carico: Neve**

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	-342.29662	-346.5999	-4232.2709	0
Reazioni	0	0	342.29662	346.5999	4232.2709	0
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

**Bilancio in condizione di carico: Variabile H**

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	0	-265.44727	-345.2837	-3286.4643	0
Reazioni	0	0	265.44727	345.2837	3286.4643	0
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

**Bilancio in condizione di carico: Vento**

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	-46.48078	0	376.327	0	576.358
Reazioni	0	46.48078	0	-376.327	0	-576.358
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

**Bilancio in condizione di carico: Sisma X SLV**

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	4664.55031	0	0	0	47824.3318	-5442.1155
Reazioni	-4664.55031	0	0	0	-47824.3318	5442.1155
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

**Bilancio in condizione di carico: Sisma Y SLV**

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	4664.55031	0	-47824.3318	0	-57786.0405
Reazioni	0	-4664.55031	0	47824.3318	0	57786.0405
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

**Bilancio in condizione di carico: Sisma X SLD**

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	1994.5259	0	0	0	20449.3171	-2327.0068
Reazioni	-1994.5259	0	0	0	-20449.3171	2327.0068
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0

**Bilancio in condizione di carico: Sisma Y SLD**

Contributo	Fx	Fy	Fz	Mx	My	Mz
Forze applicate	0	1994.5259	0	-20449.3171	0	-24708.8672
Reazioni	0	-1994.5259	0	20449.3171	0	24708.8672
P-Delta	0	0	0	0	0	0
Totale	0	0	0	0	0	0



#### Bilancio in condizione di carico: Rig Ux

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

#### Bilancio in condizione di carico: Rig Uy

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

#### Bilancio in condizione di carico: Rig Rz

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

## 1.5 Risposta di spettro

**Spettro:** condizione elementare corrispondente allo spettro.

**N.b.:** nome breve della condizione elementare.

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

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

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

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

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

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

**Max X:** massima reazione lungo l'asse X.

**Valore:** valore massimo della reazione. [kN]

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

**Max Y:** massima reazione lungo l'asse Y.

**Valore:** valore massimo della reazione. [kN]

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

**Max Z:** massima reazione lungo l'asse Z.

**Valore:** valore massimo della reazione. [kN]

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

Spettro	Fx	Fy	Fz	Mx	My	Mz	Max X		Max Y		Max Z	
N.b.							Valore	Angolo	Valore	Angolo	Valore	Angolo
SLV X	2748.8582	130.4014	0	1.151E03	2.640E04	3.721E03	2748.8582	179	1500.9829	89	0	0
SLV Y	130.4014	1500.9289	0	1.283E04	1.024E03	1.859E04	2748.8582	179	1500.9829	89	0	0
X SLD	1174.6533	55.7138	0	4.908E02	1.128E04	1.593E03	1174.6533	179	636.8819	89	0	0
Y SLD	55.7138	636.8528	0	5.445E03	436.12843	7.886E03	1174.6533	179	636.8819	89	0	0

## 1.6 Annotazioni solutore

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

Informazioni

## 1.7 Statistiche soluzione

Tipo di equazioni	Lineari
Tecnica di soluzione	Intel MKL PARDISO
Numero equazioni	109938
Elemento min. diagonale	409.62660304
Elemento max diagonale	2273372772.30583
Rapporto max/min	5549866.03765118
Elementi non nulli	4309124





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# TABULATI DI CALCOLO – VERIFICHE CIVICO 47 STATO DI FATTO



## **Sommario**

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# 1 Verifiche

## 1.1 Verifica regolarità strutturale

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

### **Livello:**

**Descr:** descrizione livello.

**Quota:** quota livello. [cm]

**Q:** quota livello. [cm]

**Qinf:** quota livello precedente. [cm]

**Comb:** combinazione.

**A1:** a1 (Distribuzione masse).

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

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

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

**A2:** a2 (Distribuzione rigidezze).

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

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

**A2r:** a2 rapporto (rigidezza max/min).

**A3:** a3 (Forma compatta).

**A3n:** a3 numeratore (area convessa). [cm<sup>2</sup>]

**A3d:** a3 denominatore (area piano). [cm<sup>2</sup>]

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

**B:** b (Rapporto lati).

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

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

**Br:** b rapporto (lato max/min).

**C:** c (Rapporto rigidezze piano).

**Cn:** c numeratore (rigidezza elementi verticali).

**Cd:** c denominatore (rigidezza piano).

**Cr:** c rapporto (rigidezza elementi verticali/rigidezza piano).

**E1:** e1 (Variazione masse).

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

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

**E1r:** e1 rapporto (massa max/min).

**E2:** e2 (Riduzione rigidezze).

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

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

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

**E3:** e3 (Incremento rigidezze).

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

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

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

**F:** f (Rapporto Capacità/Domanda).

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

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

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

**G1:** g1 (Rastremazione di piano).

**G1n:** g1 numeratore (L1). [cm]

**G1d:** g1 denominatore (L2). [cm]

**G1r:** g1 rapporto (L1/L2).

**G2:** g2 (Rastremazione totale).

**G2n:** g2 numeratore (L0). [cm]

**G2d:** g2 denominatore (Li). [cm]

**G2r:** g2 rapporto (L0/Li).

**Capacità/Domanda in X:**

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

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

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

**Capacità/Domanda in Y:**

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

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

### **Verifica regolarità strutturale**

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

### **Avvertenze**

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



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

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

#### Sintesi dei risultati

Orizzontamenti considerati nella valutazione

Nessun livello di fondazione trovato

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

Regolarità in pianta - NO

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

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

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

No - Criterio A3 (Forma compatta) NON rispettato, con rapporto massimo 2820474.5/2639360.8=1.1 (limite=1,05) al livello Sottotetto

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

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

Regolarità in altezza - NO

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

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

No - Criterio E1 (Variazione masse) NON rispettato, con rapporto massimo 164584.9/126547.4=1.3 (limite=1,25) tra il livello Primo ed il precedente

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

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

No - Criterio F (Rapporto Capacità/Domanda) NON rispettato, con rapporto massimo 36.7/4.3=8.5 (limite=1,3) tra il livello Sottotetto ed il precedente

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

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

#### Valori per piano

##### Verifiche di regolarità in pianta

Livello		A1			A2			A3			B			C		
Descr	Quota	A1n	A1d	A1r	A2n	A2d	A2r	A3n	A3d	A3r	Bn	Bd	Br	Cn	Cd	Cr
Rialzato	109							2539472	2505528	1.01	2498	1031	2.42	9999	1	9999
Primo	482							2523182	2494933	1.01	2484	1031	2.41	9999	1	9999
Secondo	834							2522292	2497676	1.01	2484	1030	2.41	9999	1	9999
Terzo	1186							2522292	2463984	1.02	2484	1030	2.41	9999	1	9999
Sottotetto	1502							2820475	2639361	1.07	2504	1187	2.11	9999	1	9999

##### Verifiche di regolarità in elevazione

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

Livello		E1			E2			E3			F			G1			G2			
Descr	Q	Qinf	E1n	E1d	E1r	E2n	E2d	E2r	E3n	E3d	E3r	Fn	Fd	Fr	G1n	G1d	G1r	G2n	G2d	G2r
Primo	482	109	164585	126547	1.3							5.1	2.5	2.01	9	2498	0	9	2498	0
Secondo	834	482	126547	125337	1.01							3.1	2.5	1.22	0	1031	0	8	2498	0
Terzo	1186	834	125337	122779	1.02							10.8	7.6	1.43	0	2484	0	8	2498	0
Sottotetto	1502	1186	122779	99492	1.23							36.7	4.3	8.46	151	1030	0.15	0	1	0

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

Livello			Capacità/Domanda in X				Capacità/Domanda in Y			
Descr	Q	Comb	VrdX	VedX	Rd/Ed		VrdY	VedY	Rd/Ed	
Rialzato	109	SLD 1	350638	-119379	2.9		282493	-26965	10.5	
Rialzato	109	SLD 2	350638	-119379	2.9		282493	-26965	10.5	
Rialzato	109	SLD 3	352870	-124349	2.8		280733	25998	10.8	
Rialzato	109	SLD 4	352870	-124349	2.8		280733	25998	10.8	
Rialzato	109	SLD 5	346382	-28242	12.3		284544	-88420	3.2	
Rialzato	109	SLD 6	346382	-28242	12.3		284544	-88420	3.2	
Rialzato	109	SLD 7	354354	-44809	7.9		277591	88125	3.1	
Rialzato	109	SLD 8	354354	-44809	7.9		277591	88125	3.1	
Rialzato	109	SLD 9	344919	44905	7.7		285037	-88132	3.2	
Rialzato	109	SLD 10	344919	44905	7.7		285037	-88132	3.2	
Rialzato	109	SLD 11	353288	28339	12.5		277884	88413	3.1	
Rialzato	109	SLD 12	353288	28339	12.5		277884	88413	3.1	
Rialzato	109	SLD 13	346554	124445	2.8		284222	-26005	10.9	
Rialzato	109	SLD 14	346554	124445	2.8		284222	-26005	10.9	
Rialzato	109	SLD 15	349198	119475	2.9		282439	26958	10.5	
Rialzato	109	SLD 16	349198	119475	2.9		282439	26958	10.5	
Rialzato	109	SLV 1	342820	-281142	1.2		278379	-64778	4.3	
Rialzato	109	SLV 2	342820	-281142	1.2		278379	-64778	4.3	
Rialzato	109	SLV 3	339496	-293363	1.2		265768	61813	4.3	
Rialzato	109	SLV 4	339496	-293363	1.2		265768	61813	4.3	
Rialzato	109	SLV 5	324921	-65773	4.9		280586	-211431	1.3	
Rialzato	109	SLV 6	324921	-65773	4.9		280586	-211431	1.3	
Rialzato	109	SLV 7	346023	-106511	3.2		259365	210537	1.2	
Rialzato	109	SLV 8	346023	-106511	3.2		259365	210537	1.2	
Rialzato	109	SLV 9	327791	106607	3.1		286885	-210544	1.4	
Rialzato	109	SLV 10	327791	106607	3.1		286885	-210544	1.4	
Rialzato	109	SLV 11	336608	65870	5.1		260562	211424	1.2	
Rialzato	109	SLV 12	336608	65870	5.1		260562	211424	1.2	
Rialzato	109	SLV 13	338967	293460	1.2		280059	-61820	4.5	
Rialzato	109	SLV 14	338967	293460	1.2		280059	-61820	4.5	
Rialzato	109	SLV 15	334770	281238	1.2		273131	64770	4.2	
Rialzato	109	SLV 16	334770	281238	1.2		273131	64770	4.2	
Primo	482	SLD 1	230193	-114475	2		153698	-17704	8.7	
Primo	482	SLD 2	230193	-114475	2		153698	-17704	8.7	



Livello			Capacità/Domanda in X				Capacità/Domanda in Y			
Descr	Q	Comb	VrdX	VedX	[Rd/Ed]		VrdY	VedY	[Rd/Ed]	
Primo	482	SLD 3	230776	-113250		2	153881	17982		8.6
Primo	482	SLD 4	230776	-113250		2	153881	17982		8.6
Primo	482	SLD 5	230112	-36201		6.4	152382	-59437		2.6
Primo	482	SLD 6	230112	-36201		6.4	152382	-59437		2.6
Primo	482	SLD 7	234756	-32116		7.3	153992	59515		2.6
Primo	482	SLD 8	234756	-32116		7.3	153992	59515		2.6
Primo	482	SLD 9	230491	32116		7.2	151710	-59523		2.5
Primo	482	SLD 10	230491	32116		7.2	151710	-59523		2.5
Primo	482	SLD 11	234178	36201		6.5	154029	59430		2.6
Primo	482	SLD 12	234178	36201		6.5	154029	59430		2.6
Primo	482	SLD 13	229679	113250		2	152595	-17989		8.5
Primo	482	SLD 14	229679	113250		2	152595	-17989		8.5
Primo	482	SLD 15	229063	114475		2	153101	17697		8.7
Primo	482	SLD 16	229063	114475		2	153101	17697		8.7
Primo	482	SLV 1	205797	-268253		0.8	148408	-42117		3.5
Primo	482	SLV 2	205797	-268253		0.8	148408	-42117		3.5
Primo	482	SLV 3	208037	-265221		0.8	151249	42867		3.5
Primo	482	SLV 4	208037	-265221		0.8	151249	42867		3.5
Primo	482	SLV 5	215642	-85074		2.5	149149	-141530		1.1
Primo	482	SLV 6	215642	-85074		2.5	149149	-141530		1.1
Primo	482	SLV 7	217640	-74968		2.9	152673	141750		1.1
Primo	482	SLV 8	217640	-74968		2.9	152673	141750		1.1
Primo	482	SLV 9	215050	74968		2.9	149202	-141757		1.1
Primo	482	SLV 10	215050	74968		2.9	149202	-141757		1.1
Primo	482	SLV 11	216492	85074		2.5	151758	141523		1.1
Primo	482	SLV 12	216492	85074		2.5	151758	141523		1.1
Primo	482	SLV 13	202231	265221		0.8	148289	-42874		3.5
Primo	482	SLV 14	202231	265221		0.8	148289	-42874		3.5
Primo	482	SLV 15	203500	268253		0.8	148393	42110		3.5
Primo	482	SLV 16	203500	268253		0.8	148393	42110		3.5
Secondo	834	SLD 1	207635	-94433		2.2	125852	-13335		9.4
Secondo	834	SLD 2	207635	-94433		2.2	125852	-13335		9.4
Secondo	834	SLD 3	204597	-94123		2.2	126733	14516		8.7
Secondo	834	SLD 4	204597	-94123		2.2	126733	14516		8.7
Secondo	834	SLD 5	210823	-28801		7.3	123449	-46244		2.7
Secondo	834	SLD 6	210823	-28801		7.3	123449	-46244		2.7
Secondo	834	SLD 7	206468	-27766		7.4	126500	46593		2.7
Secondo	834	SLD 8	206468	-27766		7.4	126500	46593		2.7
Secondo	834	SLD 9	210770	27766		7.6	123612	-46601		2.7
Secondo	834	SLD 10	210770	27766		7.6	123612	-46601		2.7
Secondo	834	SLD 11	206439	28801		7.2	125363	46237		2.7
Secondo	834	SLD 12	206439	28801		7.2	125363	46237		2.7
Secondo	834	SLD 13	210198	94123		2.2	123006	-14524		8.5
Secondo	834	SLD 14	210198	94123		2.2	123006	-14524		8.5
Secondo	834	SLD 15	208501	94433		2.2	122663	13328		9.2
Secondo	834	SLD 16	208501	94433		2.2	122663	13328		9.2
Secondo	834	SLV 1	188642	-221248		0.9	124031	-31625		3.9
Secondo	834	SLV 2	188642	-221248		0.9	124031	-31625		3.9
Secondo	834	SLV 3	187477	-220498		0.9	126755	34499		3.7
Secondo	834	SLV 4	187477	-220498		0.9	126755	34499		3.7
Secondo	834	SLV 5	208977	-67512		3.1	121184	-109778		1.1
Secondo	834	SLV 6	208977	-67512		3.1	121184	-109778		1.1
Secondo	834	SLV 7	202129	-65012		3.1	125981	110636		1.1
Secondo	834	SLV 8	202129	-65012		3.1	125981	110636		1.1
Secondo	834	SLV 9	209094	65012		3.2	120624	-110643		1.1
Secondo	834	SLV 10	209094	65012		3.2	120624	-110643		1.1
Secondo	834	SLV 11	204248	67512		3	121830	109771		1.1
Secondo	834	SLV 12	204248	67512		3	121830	109771		1.1
Secondo	834	SLV 13	190185	220498		0.9	119737	-34507		3.5
Secondo	834	SLV 14	190185	220498		0.9	119737	-34507		3.5
Secondo	834	SLV 15	187204	221248		0.8	120377	31618		3.8
Secondo	834	SLV 16	187204	221248		0.8	120377	31618		3.8
Terzo	1186	SLD 1	177304	-58079		3.1	104221	-10119		10.3
Terzo	1186	SLD 2	177304	-58079		3.1	104221	-10119		10.3
Terzo	1186	SLD 3	175029	-57632		3	105804	9287		11.4
Terzo	1186	SLD 4	175029	-57632		3	105804	9287		11.4
Terzo	1186	SLD 5	179805	-18101		9.9	103512	-32471		3.2
Terzo	1186	SLD 6	179805	-18101		9.9	103512	-32471		3.2
Terzo	1186	SLD 7	175277	-16612		10.6	105606	32216		3.3
Terzo	1186	SLD 8	175277	-16612		10.6	105606	32216		3.3
Terzo	1186	SLD 9	180204	16612		10.8	103343	-32223		3.2
Terzo	1186	SLD 10	180204	16612		10.8	103343	-32223		3.2
Terzo	1186	SLD 11	177326	18101		9.8	105369	32464		3.2
Terzo	1186	SLD 12	177326	18101		9.8	105369	32464		3.2
Terzo	1186	SLD 13	179114	57632		3.1	104095	-9294		11.2
Terzo	1186	SLD 14	179114	57632		3.1	104095	-9294		11.2
Terzo	1186	SLD 15	179017	58079		3.1	104425	10112		10.3
Terzo	1186	SLD 16	179017	58079		3.1	104425	10112		10.3
Terzo	1186	SLV 1	146889	-136100		1.1	104335	-24084		4.3
Terzo	1186	SLV 2	146889	-136100		1.1	104335	-24084		4.3
Terzo	1186	SLV 3	146478	-135033		1.1	106295	22083		4.8
Terzo	1186	SLV 4	146478	-135033		1.1	106295	22083		4.8
Terzo	1186	SLV 5	176305	-42447		4.2	102737	-77248		1.3
Terzo	1186	SLV 6	176305	-42447		4.2	102737	-77248		1.3
Terzo	1186	SLV 7	168499	-38893		4.3	105302	76643		1.4
Terzo	1186	SLV 8	168499	-38893		4.3	105302	76643		1.4
Terzo	1186	SLV 9	175791	38893		4.5	102336	-76650		1.3
Terzo	1186	SLV 10	175791	38893		4.5	102336	-76650		1.3
Terzo	1186	SLV 11	170429	42448		4	104623	77241		1.4
Terzo	1186	SLV 12	170429	42448		4	104623	77241		1.4



Livello			Capacità/Domanda in X			Capacità/Domanda in Y		
Descr	Q	Comb	VrdX	VedX	[Rd/Ed]	VrdY	VedY	[Rd/Ed]
Terzo	1186	SLV 13	155310	135033	1.2	103035	-22090	4.7
Terzo	1186	SLV 14	155310	135033	1.2	103035	-22090	4.7
Terzo	1186	SLV 15	150959	136100	1.1	104257	24077	4.3
Terzo	1186	SLV 16	150959	136100	1.1	104257	24077	4.3
Sottotetto	1502	SLD 1	88545	-13770	6.4	68499	-816	83.9
Sottotetto	1502	SLD 2	88545	-13770	6.4	68499	-816	83.9
Sottotetto	1502	SLD 3	88856	-13986	6.4	64836	3205	20.2
Sottotetto	1502	SLD 4	88856	-13986	6.4	64836	3205	20.2
Sottotetto	1502	SLD 5	98968	-3802	26	55839	-6322	8.8
Sottotetto	1502	SLD 6	98968	-3802	26	55839	-6322	8.8
Sottotetto	1502	SLD 7	94895	-4523	21	63346	7082	8.9
Sottotetto	1502	SLD 8	94895	-4523	21	63346	7082	8.9
Sottotetto	1502	SLD 9	99749	4525	22	55682	-7020	7.9
Sottotetto	1502	SLD 10	99749	4525	22	55682	-7020	7.9
Sottotetto	1502	SLD 11	95476	3804	25.1	62729	6384	9.8
Sottotetto	1502	SLD 12	95476	3804	25.1	62729	6384	9.8
Sottotetto	1502	SLD 13	99621	13988	7.1	65565	-3143	20.9
Sottotetto	1502	SLD 14	99621	13988	7.1	65565	-3143	20.9
Sottotetto	1502	SLD 15	99014	13772	7.2	67973	878	77.4
Sottotetto	1502	SLD 16	99014	13772	7.2	67973	878	77.4
Sottotetto	1502	SLV 1	72783	-32189	2.3	66411	-1811	36.7
Sottotetto	1502	SLV 2	72783	-32189	2.3	66411	-1811	36.7
Sottotetto	1502	SLV 3	73548	-32652	2.3	61855	7449	8.3
Sottotetto	1502	SLV 4	73548	-32652	2.3	61855	7449	8.3
Sottotetto	1502	SLV 5	86292	-8955	9.6	45469	-14566	3.1
Sottotetto	1502	SLV 6	86292	-8955	9.6	45469	-14566	3.1
Sottotetto	1502	SLV 7	97348	-10496	9.3	44144	16301	2.7
Sottotetto	1502	SLV 8	97348	-10496	9.3	44144	16301	2.7
Sottotetto	1502	SLV 9	94470	10498	9	41127	-16239	2.5
Sottotetto	1502	SLV 10	94470	10498	9	41127	-16239	2.5
Sottotetto	1502	SLV 11	100498	8957	11.2	38121	14628	2.6
Sottotetto	1502	SLV 12	100498	8957	11.2	38121	14628	2.6
Sottotetto	1502	SLV 13	74749	32653	2.3	57920	-7387	7.8
Sottotetto	1502	SLV 14	74749	32653	2.3	57920	-7387	7.8
Sottotetto	1502	SLV 15	81574	32191	2.5	61141	1873	32.6
Sottotetto	1502	SLV 16	81574	32191	2.5	61141	1873	32.6

## 1.2 Verifiche aste in legno

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

**Descrizione:** descrizione della sezione.

**Tipo:** tipo di sezione.

**Base:** base della sezione. [cm]

**Altezza:** altezza della sezione. [cm]

**Area:** area inerziale nel sistema geometrico centrato nel baricentro. [cm<sup>2</sup>]

**Jx:** momento d'inerzia attorno all'asse orizzontale baricentrico di definizione della sezione. [cm<sup>4</sup>]

**Jy:** momento d'inerzia attorno all'asse verticale baricentrico di definizione della sezione. [cm<sup>4</sup>]

**Wx:** modulo di resistenza elastico minimo relativo all'asse x. [cm<sup>3</sup>]

**Wy:** modulo di resistenza elastico minimo relativo all'asse y. [cm<sup>3</sup>]

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

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

#### Dati generali

Lunghezza = 34.8

#### Caratteristiche della sezione

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

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

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

Sezione ad ascissa 0

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

$K_{mod} = 0.8$

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

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

$(7.7/85.3)^2 + 0.7 \cdot 3/74.7 + 33.3/74.7 = 0.48 \leq 1$  [4.4.7b] Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_x = 3953.2$ ;  $M_y = -44367.4$ ;  $N = -3088.5$



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

Sezione ad ascissa 0

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

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

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

$\sqrt{1.49^2 + 0.11^2} = 1.49 \leq 22$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$T_x = -264.9$ ;  $T_y = 20.1$

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

Sezione ad ascissa 0

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

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

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

$0.59 + 0 + 0 \leq 1$  Comb: SLU, 29; Durata minima del carico nella combinazione: media

$T_x = 94$ ;  $T_y = 36.7$ ;  $M_t = 18073.4$

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

Sezione ad ascissa 34.8

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

$K_{mod} = 0.8$

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

$10.85 \leq 18.4$  Comb: SLU, 29; Durata minima del carico nella combinazione: media

$M_t = 18073.4$

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

Sezione ad ascissa 17.4

$K_{def} = 0$

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

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

$U_{inst,tot} = 0$

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

$34.8/0 = 7515.6 > 300$  Comb: SLE rara, 8

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

Sezione ad ascissa 17.4

$K_{def} = 0$

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

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

$U_{inst,var} = 0$

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

$34.8/0 = 10817.2 > 300$  Comb: SLE rara, 8

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

Sezione ad ascissa 17.4

$K_{def} = 0.6$

$U_{fin} \text{ in } x = -0.01$

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

$U_{fin} = 0.01$

$L_{uce}/U_{fin} > \text{limite}$

$34.8/0.01 = 6352.3 > 200$

Coefficienti combinatori impiegati:

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

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

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

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

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

#### Dati generali

Lunghezza = 33.8

#### Caratteristiche della sezione

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

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

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

Sezione ad ascissa 0



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

$K_{mod} = 0.8$

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

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

$(4.6/85.3)^2 + 0.7 \cdot 15/74.7 + 29.6/74.7 = 0.54 \leq 1$  [4.4.7b] Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_x = 20026.9$ ;  $M_y = -39465.2$ ;  $N = -1849.7$

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

Sezione ad ascissa 0

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

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

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

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

$T_x = 444.9$ ;  $T_y = 197$

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

Sezione ad ascissa 0

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

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

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

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

$T_x = 444.9$ ;  $T_y = 197$ ;  $M_t = -2512.8$

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

Sezione ad ascissa 33.8

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

$K_{mod} = 1.1$

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

$2.24 \leq 25.3$  Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo

$M_t = -3730$

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

Sezione ad ascissa 15.8

$K_{def} = 0$

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

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

$U_{inst,tot} = 0$

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

$33.8/0 = 10279.4 > 300$  Comb: SLE rara, 8

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

Sezione ad ascissa 15.8

$K_{def} = 0$

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

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

$U_{inst,var} = 0$

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

$33.8/0 = 15516.4 > 300$  Comb: SLE rara, 8

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

Sezione ad ascissa 15.8

$K_{def} = 0.6$

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

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

$U_{fin} = 0$

$L_{uce}/U_{fin} > \text{limite}$

$33.8/0 = 8548.3 > 200$

Coefficienti combinatori impiegati:

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

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

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

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

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

#### Dati generali

Lunghezza = 33.8

#### Caratteristiche della sezione

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

Materiale: C14 EN 338:2016





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

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

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $S_{m,y,d}/f_{m,y,d} + K_{m,y,d}(S_{m,z,d}/f_{m,z,d}) \leq 1$   
 $K_{m,z,d}(S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$   
 $0.7 \cdot 0.8 / 102.7 + 25.5 / 102.7 = 0.25 \leq 1$  (formula 4.4.5b) Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo  
 $M_x = -1007.3$ ;  $M_y = -3403.7$

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

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{v,d} \leq f_{v,d}$   
 $\sqrt{(3.78^2 + 0.22^2)} = 3.78 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = 671.7$ ;  $T_y = 39.2$

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

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{v,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.37 + 0.05 + 0 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = 666.2$ ;  $T_y = 37.2$ ;  $M_t = 11239.1$

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

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $6.75 \leq 18.4$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $M_t = 11239.1$

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

Sezione ad ascissa 14.6  
 $K_{def} = 0$   
 $U_{inst,tot} \text{ in } x = 0$   
 $U_{inst,tot} \text{ in } y = 0$   
 $U_{inst,tot} = 0$   
Luce/ $U_{inst,tot} > \text{limite}$   
 $33.8/0 = 26488.8 > 300$  Comb: SLE rara, 8

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

Sezione ad ascissa 14.6  
 $K_{def} = 0$   
 $U_{inst,var} \text{ in } x = 0$   
 $U_{inst,var} \text{ in } y = 0$   
 $U_{inst,var} = 0$   
Luce/ $U_{inst,var} > \text{limite}$   
 $33.8/0 = 41249.5 > 300$  Comb: SLE rara, 8

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

Sezione ad ascissa 14.6  
 $K_{def} = 0.6$   
 $U_{fin} \text{ in } x = 0$   
 $U_{fin} \text{ in } y = 0$   
 $U_{fin} = 0$   
Luce/ $U_{fin} > \text{limite}$   
 $33.8/0 = 21806.9 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Neve = 0,500 + 0,500 = 1,000

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

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



## Dati generali

Lunghezza = 33.8

### Caratteristiche della sezione

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

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

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

Sezione ad ascissa 33.8

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

$K_{mod} = 1.1$

$\sigma_{m,y,d}/f_{m,y,d} + K_{m,z,d}/f_{m,z,d} \leq 1$

$K_{m,z,d}/f_{m,z,d} + \sigma_{m,y,d}/f_{m,y,d} \leq 1$

$0.7 \cdot 0/102.7 + 28.5/102.7 = 0.28 \leq 1$  (formula 4.4.5b) Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_x = 59$ ;  $M_y = 38048.8$

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

Sezione ad ascissa 33.8

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

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

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

$\sqrt{1.31^2 + 0.04^2} = 1.31 \leq 22$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$T_x = 233.7$ ;  $T_y = -7.3$

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

Sezione ad ascissa 0

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

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

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

$0.18 + 0 + 0 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 91.5$ ;  $T_y = 24.6$ ;  $M_t = -5641$

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

Sezione ad ascissa 33.8

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

$K_{mod} = 0.8$

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

$3.39 \leq 18.4$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = -5641$

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

Sezione ad ascissa 18

$K_{def} = 0$

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

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

$U_{inst,tot} = 0$

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

$33.8/0 = 94940.8 > 300$  Comb: SLE rara, 13

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

Sezione ad ascissa 16.9

$K_{def} = 0$

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

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

$U_{inst,var} = 0$

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

$33.8/0 = 113544.7 > 300$  Comb: SLE rara, 13

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

Sezione ad ascissa 18

$K_{def} = 0.6$

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

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

$U_{fin} = 0$

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

$33.8/0 = 85914.1 > 200$

Coefficienti combinatori impiegati:

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

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



Variabile A =  $0,700 + 0,180 = 0,880$   
Neve =  $0,500 + 0,000 = 0,500$   
Vento =  $0,600 + 0,400 = 1,000$

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

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

### Dati generali

Lunghezza = 33.8

### Caratteristiche della sezione

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

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

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

Sezione ad ascissa 33.8

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

$K_{mod} = 1.1$

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

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

$(0.9/117.3)^2 + 0.7 \cdot 0.2/102.7 + 36.4/102.7 = 0.36 \leq 1$  [4.4.7b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_x = 330.8$ ;  $M_y = 48578.1$ ;  $N = -372.3$

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

Sezione ad ascissa 0

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

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

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

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

$T_x = 392.4$ ;  $T_y = 30.3$

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

Sezione ad ascissa 0

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

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

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

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

$T_x = 386.9$ ;  $T_y = 29.8$ ;  $M_t = 10005.2$

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

Sezione ad ascissa 33.8

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

$K_{mod} = 0.8$

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

$6.01 \leq 18.4$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 10005.2$

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

Sezione ad ascissa 18

$K_{def} = 0$

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

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

$U_{inst,tot} = 0$

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

$33.8/0 = 27761.2 > 300$  Comb: SLE rara, 9

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

Sezione ad ascissa 18

$K_{def} = 0$

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

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

$U_{inst,var} = 0$

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

$33.8/0 = 42203.1 > 300$  Comb: SLE rara, 9

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

Sezione ad ascissa 18

$K_{def} = 0.6$



Ufin in x = 0  
Ufin in y = 0  
Ufin = 0  
Luce/Ufin > limite  
 $33.8/0=23032.2 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Neve =  $0,500 + 0,500 = 1,000$   
Vento =  $0,600 + 0,000 = 0,600$

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

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

### Dati generali

Lunghezza = 33.8

### Caratteristiche della sezione

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

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

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

Sezione ad ascissa 0

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

Kmod = 1.1

$(Sc_{0,d}/f_{c,0,d})^2 + Sm_{y,d}/f_{m,y,d} + Km \cdot (Sm_{z,d}/f_{m,z,d}) \leq 1$

$(Sc_{0,d}/f_{c,0,d})^2 + Km \cdot (Sm_{y,d}/f_{m,y,d}) + Sm_{z,d}/f_{m,z,d} \leq 1$

$(1/117.3)^2 + 0.7 \cdot 0.9/102.7 + 37.5/102.7 = 0.37 \leq 1$  [4.4.7b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

Mx = -1244.7; My = 49969; N = -394.2

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

Sezione ad ascissa 33.8

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

Kmod = 1.1; kcr = 0.67

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

$\sqrt{5.13^2 + 0.13^2} = 5.13 \leq 22$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

Tx = -911.9; Ty = -23.7

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

Sezione ad ascissa 33.8

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

Kmod = 0.8; kcr = 0.67

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

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

Tx = -423.4; Ty = -8.3; Mt = -6637.6

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

Sezione ad ascissa 33.8

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

Kmod = 0.8

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

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

Mt = -6637.6

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

Sezione ad ascissa 14.6

Kdef = 0

Uinst tot in x = 0

Uinst tot in y = 0

Uinst tot = 0

Luce/Uinst,tot > limite

$33.8/0=29638.4 > 300$  Comb: SLE rara, 9

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

Sezione ad ascissa 14.6

Kdef = 0

Uinst var in x = 0



Uinst var in y = 0  
Uinst var = 0  
Luce/Uinst,var > limite  
 $33.8/0=46656.5 > 300$  Comb: SLE rara, 9

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

Sezione ad ascissa 14.6  
Kdef = 0.6  
Ufin in x = 0  
Ufin in y = 0  
Ufin = 0  
Luce/Ufin > limite  
 $33.8/0=24316.7 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Neve = 0,500 + 0,500 = 1,000  
Vento = 0,600 + 0,000 = 0,600

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

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

#### Dati generali

Lunghezza = 33.8

#### Caratteristiche della sezione

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

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

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

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 1.1  
 $S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$   
 $K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$   
 $0.7 \cdot 0.5/102.7 + 14.4/102.7 = 0.14 \leq 1$  (formula 4.4.5b) Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo  
 $M_x = 729$ ;  $M_y = 19156.5$

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

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 1.1; kcr = 0.67  
 $\tau_{v,d} \leq f_{v,d}$   
 $\sqrt{4.36^2 + 0.04^2} = 4.36 \leq 22$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo  
 $T_x = -774.8$ ;  $T_y = -7.6$

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

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; kcr = 0.67  
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{v,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.32 + 0 + 0 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = -143.1$ ;  $T_y = 14.9$ ;  $M_t = 9666.4$

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

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8  
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $5.8 \leq 18.4$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $M_t = 9666.4$

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

Sezione ad ascissa 23.6  
Kdef = 0  
Uinst tot in x = 0  
Uinst tot in y = 0



Uinst tot = 0  
Luce/Uinst,tot > limite  
 $33.8/0=525584.1 > 300$  Comb: SLE rara, 21

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

Sezione ad ascissa 21.4  
Kdef = 0  
Uinst var in x = 0  
Uinst var in y = 0  
Uinst var = 0  
Luce/Uinst,var > limite  
 $33.8/0=407995.7 > 300$  Comb: SLE rara, 21

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

Sezione ad ascissa 23.6  
Kdef = 0.6  
Ufin in x = 0  
Ufin in y = 0  
Ufin = 0  
Luce/Ufin > limite  
 $33.8/0=522844.8 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Variabile A =  $0,700 + 0,480 = 1,180$   
Neve =  $0,500 + 0,000 = 0,500$   
Vento =  $0,600 + 0,000 = 0,600$

### Asta 18: Trave in legno a falda Falda 1 fili 55-241

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

#### Dati generali

Lunghezza = 33.8

#### Caratteristiche della sezione

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

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

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

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 1.1  
 $(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$   
 $(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$   
 $(1/117.3)^2 + 0.7*0.4/102.7 + 29.1/102.7 = 0.29 \leq 1$  [4.4.7b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo  
Mx = -547.8; My = -38789.9; N = -411.3

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

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 1.1; kcr = 0.67  
 $\tau,d \leq f_{v,d}$   
 $\sqrt{4.63^2 + 0.08^2} = 4.63 \leq 22$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo  
Tx = -823.5; Ty = -14.1

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

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 1.1; kcr = 0.67  
 $\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.17 + 0.03 + 0 \leq 1$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo  
Tx = 697.1; Ty = 10.9; Mt = -7083.6

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

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8



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

3.53  $\leq$  18.4 Comb: SLU, 71; Durata minima del carico nella combinazione: media  
Mt = -5874.9

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

Sezione ad ascissa 19.1

Kdef = 0

Uinst tot in x = 0

Uinst tot in y = 0

Uinst tot = 0

Luce/Uinst,tot > limite

33.8/0=47299.2 > 300 Comb: SLE rara, 17

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

Sezione ad ascissa 18

Kdef = 0

Uinst var in x = 0

Uinst var in y = 0

Uinst var = 0

Luce/Uinst,var > limite

33.8/0=64718 > 300 Comb: SLE rara, 17

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

Sezione ad ascissa 19.1

Kdef = 0.6

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

33.8/0=39982.1 > 200

Coefficienti combinatori impiegati:

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

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

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

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

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

### Asta 19: Trave in legno a falda Falda 1 fili 55-241

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

#### Dati generali

Lunghezza = 33.8

#### Caratteristiche della sezione

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

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

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

Sezione ad ascissa 33.8

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

Kmod = 1.1

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

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

$(1.1/117.3)^2 + 0.7 \cdot 0.7/102.7 + 48/102.7 = 0.47 \leq 1$  [4.4.7b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

Mx = 889.2; My = -63960.7; N = -436.6

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

Sezione ad ascissa 0

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

Kmod = 1.1; kcr = 0.67

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

$\sqrt{(4.19^2 + 0.12^2)} = 4.19 \leq 22$  Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

Tx = 744.2; Ty = 21.1

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

Sezione ad ascissa 0

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



$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.32 + 0 + 0 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = 47.2$ ;  $T_y = 12.5$ ;  $M_t = 9763.9$

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

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $5.86 \leq 18.4$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $M_t = 9763.9$

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

Sezione ad ascissa 16.9  
 $K_{def} = 0$   
 $U_{inst,tot} \text{ in } x = 0$   
 $U_{inst,tot} \text{ in } y = 0$   
 $U_{inst,tot} = 0$   
 $L_{uce}/U_{inst,tot} > \text{limite}$   
 $33.8/0 = 30343.7 > 300$  Comb: SLE rara, 17

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

Sezione ad ascissa 16.9  
 $K_{def} = 0$   
 $U_{inst,var} \text{ in } x = 0$   
 $U_{inst,var} \text{ in } y = 0$   
 $U_{inst,var} = 0$   
 $L_{uce}/U_{inst,var} > \text{limite}$   
 $33.8/0 = 42530.6 > 300$  Comb: SLE rara, 17

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

Sezione ad ascissa 16.9  
 $K_{def} = 0.6$   
 $U_{fin} \text{ in } x = 0$   
 $U_{fin} \text{ in } y = 0$   
 $U_{fin} = 0$   
 $L_{uce}/U_{fin} > \text{limite}$   
 $33.8/0 = 25497.9 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Variabile A =  $0,700 + 0,180 = 0,880$   
Neve =  $0,500 + 0,500 = 1,000$   
Vento =  $0,600 + 0,000 = 0,600$

### Asta 20: Trave in legno a falda Falda 1 fili 55-241

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

#### Dati generali

Lunghezza = 33.8

#### Caratteristiche della sezione

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

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

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

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(1.1/117.3)^2 + 0.7 \cdot 0.3/102.7 + 47.5/102.7 = 0.46 \leq 1$  [4.4.7b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo  
 $M_x = -338.9$ ;  $M_y = -63364.5$ ;  $N = -447$

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

Sezione ad ascissa 33.8





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

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

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

$\sqrt{1.08^2 + 0.05^2} = 1.08 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -191.3$ ;  $T_y = -9.7$

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

Sezione ad ascissa 33.8

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

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

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

$0.2 + 0 + 0 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -191.3$ ;  $T_y = -9.7$ ;  $M_t = -6238.6$

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

Sezione ad ascissa 33.8

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

$K_{mod} = 0.8$

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

$3.75 \leq 18.4$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = -6238.6$

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

Sezione ad ascissa 18

$K_{def} = 0$

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

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

$U_{inst,tot} = 0$

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

$33.8/0 = 26640.9 > 300$  Comb: SLE rara, 17

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

Sezione ad ascissa 18

$K_{def} = 0$

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

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

$U_{inst,var} = 0$

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

$33.8/0 = 37095.8 > 300$  Comb: SLE rara, 17

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

Sezione ad ascissa 18

$K_{def} = 0.6$

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

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

$U_{fin} = 0$

$L_{uce}/U_{fin} > \text{limite}$

$33.8/0 = 22508.1 > 200$

Coefficienti combinatori impiegati:

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

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

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

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

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

### Asta 21: Trave in legno a falda Falda 1 fili 55-241

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

#### Dati generali

Lunghezza = 33.8

#### Caratteristiche della sezione

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

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

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

Sezione ad ascissa 0



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

$K_{mod} = 1.1$

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

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

$(1.2/117.3)^2 + 0.7 \cdot 0.1/102.7 + 45.2/102.7 = 0.44 \leq 1$  [4.4.7b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_x = 147.7$ ;  $M_y = -60261$ ;  $N = -477.8$

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

Sezione ad ascissa 33.8

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

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

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

$\sqrt{1.31^2 + 0.03^2} = 1.31 \leq 22$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$T_x = 232.9$ ;  $T_y = -6$

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

Sezione ad ascissa 0

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

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

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

$0.27 + 0 + 0 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 120.9$ ;  $T_y = 10.9$ ;  $M_t = 8351.6$

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

Sezione ad ascissa 33.8

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

$K_{mod} = 0.8$

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

$5.02 \leq 18.4$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 8351.6$

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

Sezione ad ascissa 16.9

$K_{def} = 0$

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

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

$U_{inst,tot} = 0$

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

$33.8/0 = 25198.7 > 300$  Comb: SLE rara, 17

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

Sezione ad ascissa 16.9

$K_{def} = 0$

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

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

$U_{inst,var} = 0$

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

$33.8/0 = 34891.3 > 300$  Comb: SLE rara, 17

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

Sezione ad ascissa 16.9

$K_{def} = 0.6$

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

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

$U_{fin} = 0$

$L_{uce}/U_{fin} > \text{limite}$

$33.8/0 = 21461.7 > 200$

Coefficienti combinatori impiegati:

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

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

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

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

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

## Asta 22: Trave in legno a falda Falda 1 fili 55-241

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

### Dati generali

Lunghezza = 33.8

### Caratteristiche della sezione

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



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

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

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_{m,z,d}/f_{m,z,d} \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_{m,y,d}/f_{m,y,d} + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(1.2/117.3)^2 + 0.7 \cdot 0.1/102.7 + 41.4/102.7 = 0.4 \leq 1$  [4.4.7b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo  
 $M_x = -191.2$ ;  $M_y = -55138.8$ ;  $N = -486.8$

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

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{2.31^2 + 0.02^2} = 2.31 \leq 22$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo  
 $T_x = -410.8$ ;  $T_y = 3.6$

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

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.26 + 0 + 0 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = -131.2$ ;  $T_y = -6.5$ ;  $M_t = -8017$

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

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $4.81 \leq 18.4$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $M_t = -8017$

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

Sezione ad ascissa 16.9  
 $K_{def} = 0$   
 $U_{inst,tot} \text{ in } x = 0$   
 $U_{inst,tot} \text{ in } y = 0$   
 $U_{inst,tot} = 0$   
 $Luce/U_{inst,tot} > \text{limite}$   
 $33.8/0 = 26449.6 > 300$  Comb: SLE rara, 17

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

Sezione ad ascissa 16.9  
 $K_{def} = 0$   
 $U_{inst,var} \text{ in } x = 0$   
 $U_{inst,var} \text{ in } y = 0$   
 $U_{inst,var} = 0$   
 $Luce/U_{inst,var} > \text{limite}$   
 $33.8/0 = 35687.3 > 300$  Comb: SLE rara, 17

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

Sezione ad ascissa 16.9  
 $K_{def} = 0.6$   
 $U_{fin} \text{ in } x = 0$   
 $U_{fin} \text{ in } y = 0$   
 $U_{fin} = 0$   
 $Luce/U_{fin} > \text{limite}$   
 $33.8/0 = 22876.2 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Variabile A =  $0,700 + 0,180 = 0,880$   
Neve =  $0,500 + 0,500 = 1,000$   
Vento =  $0,600 + 0,000 = 0,600$



## Asta 23: Trave in legno a falda Falda 1 fili 55-241

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

### Dati generali

Lunghezza = 33.8

### Caratteristiche della sezione

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

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

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

Sezione ad ascissa 0

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

$K_{mod} = 1.1$

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

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

$(0.5/117.3)^2 + 0.7 \cdot 0.2/102.7 + 32.6/102.7 = 0.32 \leq 1$  [4.4.7b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_x = 281.2$ ;  $M_y = -43427.8$ ;  $N = -208.9$

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

Sezione ad ascissa 33.8

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

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

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

$\sqrt{2.78^2 + 0.04^2} = 2.78 \leq 22$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$T_x = 494.5$ ;  $T_y = -6.8$

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

Sezione ad ascissa 0

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

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

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

$0.2 + 0 + 0 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 183.7$ ;  $T_y = 10.8$ ;  $M_t = 6220.2$

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

Sezione ad ascissa 33.8

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

$K_{mod} = 0.8$

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

$3.74 \leq 18.4$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 6220.2$

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

Sezione ad ascissa 15.8

$K_{def} = 0$

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

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

$U_{inst,tot} = 0$

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

$33.8/0 = 29502.2 > 300$  Comb: SLE rara, 9

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

Sezione ad ascissa 15.8

$K_{def} = 0$

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

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

$U_{inst,var} = 0$

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

$33.8/0 = 38196.8 > 300$  Comb: SLE rara, 9

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

Sezione ad ascissa 15.8

$K_{def} = 0.6$

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

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

$U_{fin} = 0$

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

$33.8/0 = 25957 > 200$



Coefficienti combinatori impiegati:

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

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

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

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

## Asta 24: Trave in legno a falda Falda 1 fili 55-241

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

### Dati generali

Lunghezza = 33.8

### Caratteristiche della sezione

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

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

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

Sezione ad ascissa 0

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

$K_{mod} = 1.1$

$\sigma_{m,y,d}/f_{m,y,d} + K_{m,z,d}/f_{m,z,d} \leq 1$

$K_{m,y,d}/f_{m,y,d} + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$0.7 \cdot 0.4/102.7 + 22.9/102.7 = 0.23 \leq 1$  (formula 4.4.5b) Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_x = -556.4$ ;  $M_y = -30545.4$

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

Sezione ad ascissa 33.8

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

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

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

$\sqrt{2.8^2 + 0.03^2} = 2.8 \leq 22$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$T_x = -497.7$ ;  $T_y = -6$

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

Sezione ad ascissa 0

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

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

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

$0.33 + 0 + 0 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -119.1$ ;  $T_y = 11$ ;  $M_t = -10003.3$

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

Sezione ad ascissa 33.8

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

$K_{mod} = 0.8$

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

$6.01 \leq 18.4$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = -10003.3$

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

Sezione ad ascissa 16.9

$K_{def} = 0$

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

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

$U_{inst,tot} = 0$

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

$33.8/0 = 32196.3 > 300$  Comb: SLE rara, 8

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

Sezione ad ascissa 16.9

$K_{def} = 0$

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

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

$U_{inst,var} = 0$

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

$33.8/0 = 39125.7 > 300$  Comb: SLE rara, 8



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

Sezione ad ascissa 18

$K_{def} = 0.6$

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

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

$U_{fin} = 0$

$L_{uce}/U_{fin} > \text{limite}$

$33.8/0 = 29102.3 > 200$

Coefficienti combinatori impiegati:

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

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

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

### Asta 25: Trave in legno a falda Falda 1 fili 55-241

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

#### Dati generali

Lunghezza = 33.8

#### Caratteristiche della sezione

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

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

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

Sezione ad ascissa 0

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

$K_{mod} = 1.1$

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

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

$0.7*1.8/102.7+13.6/102.7=0.14 \leq 1$  (formula 4.4.5b) Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_x = 2364.5$ ;  $M_y = -18072.9$

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

Sezione ad ascissa 33.8

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

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

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

$\sqrt{3^2+0.29^2} = 3.01 \leq 22$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$T_x = 533.1$ ;  $T_y = -52$

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

Sezione ad ascissa 33.8

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

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

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

$0.17+0.01+0 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 210.6$ ;  $T_y = -23.4$ ;  $M_t = 5307.3$

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

Sezione ad ascissa 33.8

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

$K_{mod} = 0.8$

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

$3.19 \leq 18.4$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = 5310.2$

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

Sezione ad ascissa 15.8

$K_{def} = 0$

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

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

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

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

$33.8/0 = 36982.5 > 300$  Comb: SLE rara, 8

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

Sezione ad ascissa 15.8



Kdef = 0  
Uinst var in x = 0  
Uinst var in y = 0  
Uinst var = 0  
Luce/Uinst,var > limite  
 $33.8/0=41881.7 > 300$  Comb: SLE rara, 8

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

Sezione ad ascissa 15.8  
Kdef = 0.6  
Ufin in x = 0  
Ufin in y = 0  
Ufin = 0  
Luce/Ufin > limite  
 $33.8/0=34557.1 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Neve =  $0,500 + 0,500 = 1,000$

### Asta 26: Trave in legno a falda Falda 1 fili 55-241

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

#### Dati generali

Lunghezza = 33.8

#### Caratteristiche della sezione

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

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

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

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 1.1  
 $(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$   
 $(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$   
 $(1.6/117.3)^2 + 0.7^2/102.7 + 10/102.7 = 0.11 \leq 1$  [4.4.7b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo  
Mx = -2730.2; My = 13285.2; N = -635.9

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

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 1.1; kcr = 0.67  
 $\tau_d \leq f_{v,d}$   
 $\sqrt{1.59^2 + 0.2^2} = 1.6 \leq 22$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo  
Tx = 283; Ty = -35.3

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

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; kcr = 0.67  
 $\tau_{tor,d}/(ksh*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.28 + 0 + 0 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
Tx = 147.7; Ty = -11.5; Mt = -8463

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

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8  
 $\tau_{tor,d} \leq Ksh * f_{v,d}$   
 $5.08 \leq 18.4$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
Mt = -8463

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

Sezione ad ascissa 16.9  
Kdef = 0  
Uinst tot in x = 0



Uinst tot in y = 0  
Uinst tot = 0  
Luce/Uinst,tot > limite  
33.8/0=100934.3 > 300 Comb: SLE rara, 17

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

Sezione ad ascissa 14.6  
Kdef = 0  
Uinst var in x = 0  
Uinst var in y = 0  
Uinst var = 0  
Luce/Uinst,var > limite  
33.8/0=133420.9 > 300 Comb: SLE rara, 8

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

Sezione ad ascissa 16.9  
Kdef = 0.6  
Ufin in x = 0  
Ufin in y = 0  
Ufin = 0  
Luce/Ufin > limite  
33.8/0=79001.4 > 200  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Variabile A = 0,700 + 0,180 = 0,880  
Neve = 0,500 + 0,500 = 1,000  
Vento = 0,600 + 0,000 = 0,600

### Asta 27: Trave in legno a falda Falda 1 fili 55-241

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

#### Dati generali

Lunghezza = 33.8

#### Caratteristiche della sezione

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

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

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8  
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$   
 $St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$   
 $0.7/38.4 + 0.7*8.3/74.7 + 18.9/74.7 = 0.35 \leq 1$  [4.4.6b] Comb: SLU, 30; Durata minima del carico nella combinazione: media  
Mx = 11055.1; My = 25246.7; N = 293.7

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

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; kcr = 0.67  
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{3.58^2 + 0.75^2} = 3.66 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
Tx = 636.8; Ty = -133.6

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

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; kcr = 0.67  
 $\tau_{tor,d}/(ksh*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.33 + 0.05 + 0 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
Tx = 636.8; Ty = -133.6; Mt = 10198.8

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

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$





$K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $6.12 \leq 18.4$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $M_t = 10198.8$

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

Sezione ad ascissa 19.1  
 $K_{def} = 0$   
 $U_{inst,tot} \text{ in } x = 0$   
 $U_{inst,tot} \text{ in } y = 0$   
 $U_{inst,tot} = 0$   
 $L_{uce}/U_{inst,tot} > \text{limite}$   
 $33.8/0 = 22084.4 > 300$  Comb: SLE rara, 17

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

Sezione ad ascissa 19.1  
 $K_{def} = 0$   
 $U_{inst,var} \text{ in } x = 0$   
 $U_{inst,var} \text{ in } y = 0$   
 $U_{inst,var} = 0$   
 $L_{uce}/U_{inst,var} > \text{limite}$   
 $33.8/0 = 32169.1 > 300$  Comb: SLE rara, 17

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

Sezione ad ascissa 19.1  
 $K_{def} = 0.6$   
 $U_{fin} \text{ in } x = 0$   
 $U_{fin} \text{ in } y = 0$   
 $U_{fin} = 0$   
 $L_{uce}/U_{fin} > \text{limite}$   
 $33.8/0 = 18501.5 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Variabile A =  $0,700 + 0,180 = 0,880$   
Neve =  $0,500 + 0,500 = 1,000$   
Vento =  $0,600 + 0,000 = 0,600$

### Asta 28: Trave in legno a falda Falda 1 fili 55-241

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

#### Dati generali

Lunghezza = 33.8

#### Caratteristiche della sezione

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

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

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

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_{m}(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_{m}(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(1.1/85.3)^2 + 0.7 \cdot 9.2/74.7 + 21/74.7 = 0.37 \leq 1$  [4.4.7b] Comb: SLU, 38; Durata minima del carico nella combinazione: media  
 $M_x = -12267.9$ ;  $M_y = 28059.4$ ;  $N = -446.5$

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

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{(2.25^2 + 0.65^2)} = 2.34 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = -399.8$ ;  $T_y = -115.7$

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

Sezione ad ascissa 33.8



Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.58 + 0.02 + 0 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = -399.8$ ;  $T_y = -115.7$ ;  $M_t = -17768$

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

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $10.67 \leq 18.4$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $M_t = -17768$

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

Sezione ad ascissa 15.8  
 $K_{def} = 0$   
 $U_{inst,tot} \text{ in } x = 0$   
 $U_{inst,tot} \text{ in } y = 0$   
 $U_{inst,tot} = 0$   
 $L_{uce}/U_{inst,tot} > \text{limite}$   
 $33.8/0 = 15602.3 > 300$  Comb: SLE rara, 9

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

Sezione ad ascissa 15.8  
 $K_{def} = 0$   
 $U_{inst,var} \text{ in } x = 0$   
 $U_{inst,var} \text{ in } y = 0$   
 $U_{inst,var} = 0$   
 $L_{uce}/U_{inst,var} > \text{limite}$   
 $33.8/0 = 21699.5 > 300$  Comb: SLE rara, 9

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

Sezione ad ascissa 15.8  
 $K_{def} = 0.6$   
 $U_{fin} \text{ in } x = 0$   
 $U_{fin} \text{ in } y = 0$   
 $U_{fin} = 0$   
 $L_{uce}/U_{fin} > \text{limite}$   
 $33.8/0 = 13351.4 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Neve =  $0,500 + 0,500 = 1,000$   
Vento =  $0,600 + 0,000 = 0,600$

### Asta 29: Trave in legno a falda Falda 1 fili 55-241

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

#### Dati generali

Lunghezza = 33.8

#### Caratteristiche della sezione

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

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

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

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(1.1/117.3)^2 + 0.7 \cdot 0.8/102.7 + 21.3/102.7 = 0.21 \leq 1$  [4.4.7b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo  
 $M_x = 1051.6$ ;  $M_y = 28438.3$ ;  $N = -421.5$

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

Sezione ad ascissa 33.8



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

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

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

$\sqrt{(1.65^2 + 0.06^2)} = 1.65 \leq 22$  Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$T_x = -293.4$ ;  $T_y = -10.4$

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

Sezione ad ascissa 33.8

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

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

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

$0.17 + 0 + 0 \leq 1$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$T_x = -194.9$ ;  $T_y = -12.5$ ;  $M_t = 6995.4$

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

Sezione ad ascissa 33.8

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

$K_{mod} = 1.1$

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

$4.2 \leq 25.3$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_t = 6995.4$

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

Sezione ad ascissa 16.9

$K_{def} = 0$

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

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

$U_{inst,tot} = 0$

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

$33.8/0 = 26171.6 > 300$  Comb: SLE rara, 9

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

Sezione ad ascissa 16.9

$K_{def} = 0$

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

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

$U_{inst,var} = 0$

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

$33.8/0 = 33093 > 300$  Comb: SLE rara, 9

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

Sezione ad ascissa 16.9

$K_{def} = 0.6$

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

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

$U_{fin} = 0$

$L_{uce}/U_{fin} > \text{limite}$

$33.8/0 = 23253.5 > 200$

Coefficienti combinatori impiegati:

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

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

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

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

### Asta 30: Trave in legno a falda Falda 1 fili 55-241

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

#### Dati generali

Lunghezza = 33.8

#### Caratteristiche della sezione

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

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

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

Sezione ad ascissa 33.8

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



$K_{mod} = 1.1$   
 $S_{m,y,d}/f_{m,y,d} + K_{m,z,d}/f_{m,z,d} \leq 1$   
 $K_{m,z,d}/f_{m,z,d} + S_{m,y,d}/f_{m,y,d} \leq 1$   
 $0.7 \cdot 0.1/102.7 + 22.7/102.7 = 0.22 \leq 1$  (formula 4.4.5b) Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo  
 $M_x = 120.1$ ;  $M_y = -30235.5$

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

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{3.87^2 + 0.13^2} = 3.87 \leq 22$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo  
 $T_x = -687.5$ ;  $T_y = -24$

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

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.52 + 0.01 + 0 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = -335.8$ ;  $T_y = -10.1$ ;  $M_t = -15815.5$

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

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $9.5 \leq 18.4$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $M_t = -15815.5$

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

Sezione ad ascissa 12.4  
 $K_{def} = 0$   
 $U_{inst,tot} \text{ in } x = 0$   
 $U_{inst,tot} \text{ in } y = 0$   
 $U_{inst,tot} = 0$   
 $L_{uce}/U_{inst,tot} > \text{limite}$   
 $33.8/0 = 99705.5 > 300$  Comb: SLE rara, 9

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

Sezione ad ascissa 14.6  
 $K_{def} = 0$   
 $U_{inst,var} \text{ in } x = 0$   
 $U_{inst,var} \text{ in } y = 0$   
 $U_{inst,var} = 0$   
 $L_{uce}/U_{inst,var} > \text{limite}$   
 $33.8/0 = 86030.9 > 300$  Comb: SLE rara, 9

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

Sezione ad ascissa 11.3  
 $K_{def} = 0.6$   
 $U_{fin} \text{ in } x = 0$   
 $U_{fin} \text{ in } y = 0$   
 $U_{fin} = 0$   
 $L_{uce}/U_{fin} > \text{limite}$   
 $33.8/0 = 108994.9 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Neve =  $0,500 + 0,500 = 1,000$   
Vento =  $0,600 + 0,000 = 0,600$

### Asta 31: Trave in legno a falda Falda 1 fili 55-241

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

#### Dati generali

Lunghezza = 33.8

#### Caratteristiche della sezione

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

Materiale: C14 EN 338:2016



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

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

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$   
 $(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$   
 $(1.2/117.3)^2 + 0.7*0/102.7 + 27.1/102.7 = 0.26 \leq 1$  [4.4.7b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo  
 $M_x = 43$ ;  $M_y = 36104.6$ ;  $N = -493.9$

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

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{(2.37^2 + 0.02^2)} = 2.37 \leq 22$  Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo  
 $T_x = 422$ ;  $T_y = -4$

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

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.2 + 0.01 + 0 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = 300$ ;  $T_y = 4.1$ ;  $M_t = 6276.6$

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

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$   
 $3.77 \leq 18.4$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $M_t = 6276.6$

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

Sezione ad ascissa 21.4  
 $K_{def} = 0$   
 $U_{inst,tot} \text{ in } x = 0$   
 $U_{inst,tot} \text{ in } y = 0$   
 $U_{inst,tot} = 0$   
 $Luce/U_{inst,tot} > \text{limite}$   
 $33.8/0 = 130899.2 > 300$  Comb: SLE rara, 8

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

Sezione ad ascissa 20.3  
 $K_{def} = 0$   
 $U_{inst,var} \text{ in } x = 0$   
 $U_{inst,var} \text{ in } y = 0$   
 $U_{inst,var} = 0$   
 $Luce/U_{inst,var} > \text{limite}$   
 $33.8/0 = 107545.7 > 300$  Comb: SLE rara, 8

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

Sezione ad ascissa 22.5  
 $K_{def} = 0.6$   
 $U_{fin} \text{ in } x = 0$   
 $U_{fin} \text{ in } y = 0$   
 $U_{fin} = 0$   
 $Luce/U_{fin} > \text{limite}$   
 $33.8/0 = 147431.6 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Neve = 0,500 + 0,500 = 1,000

### Asta 32: Trave in legno a falda Falda 1 fili 55-241

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



## Dati generali

Lunghezza = 33.8

### Caratteristiche della sezione

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

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

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

Sezione ad ascissa 33.8

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

$K_{mod} = 1.1$

$\sigma_{m,y,d}/f_{m,y,d} + K_{m,z,d}/f_{m,z,d} \leq 1$

$K_{m,y,d}/f_{m,y,d} + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$0.7 \cdot 0.1/102.7 + 31.7/102.7 = 0.31 \leq 1$  (formula 4.4.5b) Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$M_x = -73.4$ ;  $M_y = -42241.1$

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

Sezione ad ascissa 33.8

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

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

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

$\sqrt{1.83^2 + 0.04^2} = 1.83 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -325.8$ ;  $T_y = -6.9$

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

Sezione ad ascissa 33.8

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

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

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

$0.44 + 0.01 + 0 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -321.5$ ;  $T_y = -6.9$ ;  $M_t = -13358.5$

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

Sezione ad ascissa 33.8

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

$K_{mod} = 0.8$

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

$8.02 \leq 18.4$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -13358.5$

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

Sezione ad ascissa 11.3

$K_{def} = 0$

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

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

$U_{inst,tot} = 0$

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

$33.8/0 = 172745.2 > 300$  Comb: SLE rara, 8

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

Sezione ad ascissa 13.5

$K_{def} = 0$

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

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

$U_{inst,var} = 0$

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

$33.8/0 = 136551.1 > 300$  Comb: SLE rara, 8

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

Sezione ad ascissa 20.3

$K_{def} = 0.6$

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

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

$U_{fin} = 0$

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

$33.8/0 = 153953 > 200$

Coefficienti combinatori impiegati:

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

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



Variabile A = 0,700 + 0,480 = 1,180  
Vento = 0,600 + 0,000 = 0,600

## Asta 33: Trave in legno a falda Falda 1 fili 55-241

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

### Dati generali

Lunghezza = 33.8

### Caratteristiche della sezione

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

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 25.9

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

$K_{mod} = 1.1$

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_{m} \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_{m} \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$1.4/52.8 + 0.7 \cdot 0.3/102.7 + 29.8/102.7 = 0.32 \leq 1$  [4.4.6b] Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_x = 371.5$ ;  $M_y = -39736.4$ ;  $N = 565.7$

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

Sezione ad ascissa 0

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

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

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

$\sqrt{1.78^2 + 0.04^2} = 1.78 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 316.3$ ;  $T_y = 7.9$

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

Sezione ad ascissa 0

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

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

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

$0.28 + 0.01 + 0 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 314.9$ ;  $T_y = 7.7$ ;  $M_t = 8723.7$

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

Sezione ad ascissa 33.8

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

$K_{mod} = 0.8$

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

$5.24 \leq 18.4$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = 8723.7$

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

Sezione ad ascissa 23.6

$K_{def} = 0$

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

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

$U_{inst,tot} = 0$

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

$33.8/0 = 189849.7 > 300$  Comb: SLE rara, 8

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

Sezione ad ascissa 21.4

$K_{def} = 0$

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

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

$U_{inst,var} = 0$

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

$33.8/0 = 153634.4 > 300$  Comb: SLE rara, 8

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

Sezione ad ascissa 13.5

$K_{def} = 0.6$

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



Ufin in y = 0  
Ufin = 0  
Luce/Ufin > limite  
 $33.8/0=160908 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Variabile A =  $0,700 + 0,180 = 0,880$   
Vento =  $0,600 + 0,400 = 1,000$

## Asta 34: Trave in legno a falda Falda 1 fili 55-241

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

### Dati generali

Lunghezza = 33.8

### Caratteristiche della sezione

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

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

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

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$   
 $(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$   
 $(1.6/117.3)^2 + 0.7*0.4/102.7 + 31.1/102.7 = 0.31 \leq 1$  [4.4.7b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo  
 $M_x = 493$ ;  $M_y = 41512.5$ ;  $N = -650.3$

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

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_d \leq f_{v,d}$   
 $\sqrt{2.43^2 + 0.04^2} = 2.43 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $T_x = -432.5$ ;  $T_y = -6.5$

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

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.35 + 0.02 + 0 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $T_x = -432.5$ ;  $T_y = -6.5$ ;  $M_t = -10857.7$

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

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$   
 $6.52 \leq 18.4$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $M_t = -10858.7$

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

Sezione ad ascissa 20.3  
 $K_{def} = 0$   
Uinst tot in x = 0  
Uinst tot in y = 0  
Uinst tot = 0  
Luce/Uinst,tot > limite  
 $33.8/0=154349.7 > 300$  Comb: SLE rara, 10

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

Sezione ad ascissa 9  
 $K_{def} = 0$   
Uinst var in x = 0  
Uinst var in y = 0





Uinst var = 0  
Luce/Uinst,var > limite  
 $33.8/0=313938.9 > 300$  Comb: SLE rara, 8

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

Sezione ad ascissa 20.3  
Kdef = 0.6  
Ufin in x = 0  
Ufin in y = 0  
Ufin = 0  
Luce/Ufin > limite  
 $33.8/0=108368.7 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Variabile A =  $0,700 + 0,180 = 0,880$   
Vento =  $0,600 + 0,400 = 1,000$

### Asta 35: Trave in legno a falda Falda 1 fili 55-241

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

#### Dati generali

Lunghezza = 33.8

#### Caratteristiche della sezione

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

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

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 1.1  
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$   
 $St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$   
 $1.3/52.8 + 0.7*0.5/102.7 + 26/102.7 = 0.28 \leq 1$  [4.4.6b] Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo  
Mx = 620.4; My = -34630.5; N = 533.2

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

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 1.1; kcr = 0.67  
 $\tau_{d} \leq f_{v,d}$   
 $Sqrt(3.48^2 + 0.06^2) = 3.48 \leq 22$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo  
Tx = 618.4; Ty = 11

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

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; kcr = 0.67  
 $\tau_{tor,d}/(ksh*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.37 + 0.01 + 0 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
Tx = 215.6; Ty = 5.1; Mt = 11378.8

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

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8  
 $\tau_{tor,d} \leq Ksh * f_{v,d}$   
 $6.83 \leq 18.4$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
Mt = 11378.8

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

Sezione ad ascissa 14.6  
Kdef = 0  
Uinst tot in x = 0  
Uinst tot in y = 0  
Uinst tot = 0



Luce/Uinst,tot > limite  
33.8/0=63762.2 > 300 Comb: SLE rara, 17

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

Sezione ad ascissa 14.6  
Kdef = 0  
Uinst var in x = 0  
Uinst var in y = 0  
Uinst var = 0  
Luce/Uinst,var > limite  
33.8/0=130267.7 > 300 Comb: SLE rara, 17

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

Sezione ad ascissa 14.6  
Kdef = 0.6  
Ufin in x = 0  
Ufin in y = 0  
Ufin = 0  
Luce/Ufin > limite  
33.8/0=48190.2 > 200  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Variabile A = 0,700 + 0,180 = 0,880  
Neve = 0,500 + 0,500 = 1,000  
Vento = 0,600 + 0,000 = 0,600

### Asta 36: Trave in legno a falda Falda 1 fili 55-241

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

#### Dati generali

Lunghezza = 33.8

#### Caratteristiche della sezione

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

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

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 1.1  
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$   
 $St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$   
 $1.3/52.8 + 0.7 \cdot 0/102.7 + 22.6/102.7 = 0.24 \leq 1$  [4.4.6b] Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo  
Mx = 25; My = -30077.8; N = 507.8

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

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 1.1; kcr = 0.67  
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{3.26^2 + 0.04^2} = 3.26 \leq 22$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo  
Tx = -579.4; Ty = 7.5

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

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; kcr = 0.67  
 $\tau_{tor,d}/(ksh \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.26 + 0.01 + 0 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
Tx = -279.2; Ty = 14.7; Mt = -8038.2

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

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8  
 $\tau_{tor,d} \leq Ksh \cdot f_{v,d}$



4.83 <= 18.4 Comb: SLU, 71; Durata minima del carico nella combinazione: media  
Mt = -8038.2

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

Sezione ad ascissa 19.1

Kdef = 0

Uinst tot in x = 0

Uinst tot in y = 0

Uinst tot = 0

Luce/Uinst,tot > limite

33.8/0=53907.4 > 300 Comb: SLE rara, 16

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

Sezione ad ascissa 19.1

Kdef = 0

Uinst var in x = 0

Uinst var in y = 0

Uinst var = 0

Luce/Uinst,var > limite

33.8/0=109113.9 > 300 Comb: SLE rara, 16

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

Sezione ad ascissa 19.1

Kdef = 0.6

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

33.8/0=40772.6 > 200

Coefficienti combinatori impiegati:

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

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

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

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

### Asta 37: Trave in legno a falda Falda 1 fili 55-241

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

#### Dati generali

Lunghezza = 33.8

#### Caratteristiche della sezione

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

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 33.8

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

Kmod = 1.1

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$1.1/52.8 + 0.7 \cdot 0/102.7 + 34.6/102.7 = 0.36 \leq 1$  [4.4.6b] Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

Mx = -55.5; My = -46079.5; N = 443.8

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

Sezione ad ascissa 0

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

Kmod = 1.1; kcr = 0.67

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

$\sqrt{(4.52^2 + 0.04^2)} = 4.52 \leq 22$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

Tx = 802.8; Ty = 6.3

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

Sezione ad ascissa 33.8

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

Kmod = 0.8; kcr = 0.67

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



0.5+0.01+0 <= 1 Comb: SLU, 80; Durata minima del carico nella combinazione: media  
Tx = 335; Ty = -61.9; Mt = 15436.5

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

Sezione ad ascissa 33.8

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

Kmod = 0.8

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

9.27 <= 18.4 Comb: SLU, 80; Durata minima del carico nella combinazione: media

Mt = 15436.5

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

Sezione ad ascissa 14.6

Kdef = 0

Uinst tot in x = 0

Uinst tot in y = 0

Uinst tot = 0

Luce/Uinst,tot > limite

33.8/0=63338.2 > 300 Comb: SLE rara, 14

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

Sezione ad ascissa 18

Kdef = 0

Uinst var in x = 0

Uinst var in y = 0

Uinst var = 0

Luce/Uinst,var > limite

33.8/0=99334 > 300 Comb: SLE rara, 17

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

Sezione ad ascissa 14.6

Kdef = 0.6

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

33.8/0=46763.6 > 200

Coefficienti combinatori impiegati:

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

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

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

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

Variabile H = 0,000 + 1,000 = 1,000

### Asta 38: Trave in legno a falda Falda 1 fili 55-241

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

#### Dati generali

Lunghezza = 49.6

#### Caratteristiche della sezione

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

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

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

Sezione ad ascissa 49.6

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

Kmod = 0.8

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

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

$(1.8/85.3)^2 + 0.7 \cdot 8.8/74.7 + 31/74.7 = 0.5 \leq 1$  [4.4.7b] Comb: SLU, 30; Durata minima del carico nella combinazione: media

Mx = -11794.3; My = 41291.5; N = -717.5

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

Sezione ad ascissa 0

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

Kmod = 0.8; kcr = 0.67



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

$\sqrt{4.51^2 + 0.77^2} = 4.58 \leq 16$  Comb: SLU, 38; Durata minima del carico nella combinazione: media

$T_x = 802.4$ ;  $T_y = 136.4$

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

Sezione ad ascissa 0

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

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

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

$0.14 + 0.08 + 0 \leq 1$  Comb: SLU, 38; Durata minima del carico nella combinazione: media

$T_x = 802.4$ ;  $T_y = 136.4$ ;  $M_t = 4385$

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

Sezione ad ascissa 49.6

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

$K_{mod} = 1.1$

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

$3.77 \leq 25.3$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_t = 6284$

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

Sezione ad ascissa 28.1

$K_{def} = 0$

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

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

$U_{inst,tot} = 0$

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

$49.6 / 0 = 10342.1 > 300$  Comb: SLE rara, 9

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

Sezione ad ascissa 28.1

$K_{def} = 0$

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

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

$U_{inst,var} = 0$

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

$49.6 / 0 = 13861.6 > 300$  Comb: SLE rara, 9

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

Sezione ad ascissa 28.1

$K_{def} = 0.6$

$U_{fin} \text{ in } x = 0.01$

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

$U_{fin} = 0.01$

$L_{uce} / U_{fin} > \text{limite}$

$49.6 / 0.01 = 8974.8 > 200$

Coefficienti combinatori impiegati:

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

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

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

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

### Asta 39: Trave in legno a falda Falda 1 fili 55-241

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

#### Dati generali

Lunghezza = 18

#### Caratteristiche della sezione

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

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

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

$K_{mod} = 0.8$

$\sigma_{t,0,d} / f_{t,0,d} + \sigma_{m,y,d} / f_{m,y,d} + K_m \cdot (\sigma_{m,z,d} / f_{m,z,d}) \leq 1$



$St,0,d/ft,0,d + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$   
 $1.3/38.4+0.7*12.5/74.7+30.2/74.7=0.56 \leq 1$  [4.4.6b] Comb: SLU, 30; Durata minima del carico nella combinazione: media  
Mx = 16617.8; My = 40324.8; N = 529.7

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

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; kcr = 0.67  
 $\tau,d \leq f_{v,d}$   
 $\sqrt{(3.77^2+1.02^2)} = 3.91 \leq 16$  Comb: SLU, 29; Durata minima del carico nella combinazione: media  
Tx = -670.4; Ty = 182.2

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

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; kcr = 0.67  
 $\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.25+0.05+0 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
Tx = -658.9; Ty = 186.1; Mt = 7573.1

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

Sezione ad ascissa 18  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8  
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$   
 $4.55 \leq 18.4$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
Mt = 7573.1

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

Sezione ad ascissa 9  
Kdef = 0  
Uinst tot in x = 0  
Uinst tot in y = 0  
Uinst tot = 0  
Luce/Uinst,tot > limite  
 $18/0=18307.3 > 300$  Comb: SLE rara, 17

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

Sezione ad ascissa 9  
Kdef = 0  
Uinst var in x = 0  
Uinst var in y = 0  
Uinst var = 0  
Luce/Uinst,var > limite  
 $18/0=25780.5 > 300$  Comb: SLE rara, 17

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

Sezione ad ascissa 9  
Kdef = 0.6  
Ufin in x = 0  
Ufin in y = 0  
Ufin = 0  
Luce/Ufin > limite  
 $18/0=15594.1 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Variabile A = 0,700 + 0,180 = 0,880  
Neve = 0,500 + 0,500 = 1,000  
Vento = 0,600 + 0,000 = 0,600

### Asta 40: Trave in legno a falda Falda 1 fili 55-241

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

#### Dati generali

Lunghezza = 33.8

#### Caratteristiche della sezione

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

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300



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

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

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $S_{m,y,d}/f_{m,y,d} + K_{m,z,d}/f_{m,z,d} \leq 1$   
 $K_{m,y,d}/f_{m,y,d} + S_{m,z,d}/f_{m,z,d} \leq 1$   
 $0.7 \cdot 1.3/74.7 + 21.2/74.7 = 0.3 \leq 1$  (formula 4.4.5b) Comb: SLU, 38; Durata minima del carico nella combinazione: media  
 $M_x = 1786.4$ ;  $M_y = 28200.7$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{3.69^2 + 0.06^2} = 3.7 \leq 16$  Comb: SLU, 29; Durata minima del carico nella combinazione: media  
 $T_x = -656.8$ ;  $T_y = 9.9$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.38 + 0.05 + 0 \leq 1$  Comb: SLU, 29; Durata minima del carico nella combinazione: media  
 $T_x = -656.8$ ;  $T_y = 9.9$ ;  $M_t = -11562.2$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $6.94 \leq 18.4$  Comb: SLU, 29; Durata minima del carico nella combinazione: media  
 $M_t = -11562.2$

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 15.8  
 $K_{def} = 0$   
 $U_{inst,tot} \text{ in } x = 0$   
 $U_{inst,tot} \text{ in } y = 0$   
 $U_{inst,tot} = 0$   
Luce/ $U_{inst,tot} > \text{limite}$   
 $33.8/0 = 18905.7 > 300$  Comb: SLE rara, 17

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 14.6  
 $K_{def} = 0$   
 $U_{inst,var} \text{ in } x = 0$   
 $U_{inst,var} \text{ in } y = 0$   
 $U_{inst,var} = 0$   
Luce/ $U_{inst,var} > \text{limite}$   
 $33.8/0 = 27474.7 > 300$  Comb: SLE rara, 17

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 15.8  
 $K_{def} = 0.6$   
 $U_{fin} \text{ in } x = 0$   
 $U_{fin} \text{ in } y = 0$   
 $U_{fin} = 0$   
Luce/ $U_{fin} > \text{limite}$   
 $33.8/0 = 15845.6 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Variabile A =  $0,700 + 0,180 = 0,880$   
Neve =  $0,500 + 0,500 = 1,000$   
Vento =  $0,600 + 0,000 = 0,600$

### Asta 41: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



## Dati generali

Lunghezza = 33.8

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2.6/117.3)^2 + 0.7 \cdot 1.5/102.7 + 16.9/102.7 = 0.18 \leq 1$  [4.4.7b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_x = -1995.4$ ;  $M_y = 22598.8$ ;  $N = -1044.1$

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{v,d} \leq f_{v,d}$

$\sqrt{(2.62^2 + 0.18^2)} = 2.63 \leq 22$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$T_x = -465.8$ ;  $T_y = 31.5$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{v,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.28 + 0.01 + 0 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -216.3$ ;  $T_y = 34.4$ ;  $M_t = 8482.6$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$5.09 \leq 18.4$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 8482.6$

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 16.9

$K_{def} = 0$

$U_{inst,tot} \text{ in } x = 0$

$U_{inst,tot} \text{ in } y = 0$

$U_{inst,tot} = 0$

Luce/ $U_{inst,tot} > \text{limite}$

$33.8/0 = 78293.2 > 300$  Comb: SLE rara, 10

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 16.9

$K_{def} = 0$

$U_{inst,var} \text{ in } x = 0$

$U_{inst,var} \text{ in } y = 0$

$U_{inst,var} = 0$

Luce/ $U_{inst,var} > \text{limite}$

$33.8/0 = 155273.6 > 300$  Comb: SLE rara, 10

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 15.8

$K_{def} = 0.6$

$U_{fin} \text{ in } x = 0$

$U_{fin} \text{ in } y = 0$

$U_{fin} = 0$

Luce/ $U_{fin} > \text{limite}$

$33.8/0 = 58035.6 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600





Variabile A =  $0,700 + 0,180 = 0,880$   
Vento =  $0,600 + 0,400 = 1,000$

## Asta 42: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 33.8

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_{m,z,d}/f_{m,z,d} \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_{m,y,d}/f_{m,y,d} + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.3/117.3)^2 + 0.7 \cdot 1.2/102.7 + 13.1/102.7 = 0.14 \leq 1$  [4.4.7b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_x = 1580.9$ ;  $M_y = -17442.2$ ;  $N = -511.7$

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{3.24^2 + 0.25^2} = 3.25 \leq 22$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$T_x = -576$ ;  $T_y = 43.7$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.17 + 0.01 + 0 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -273.5$ ;  $T_y = 31.7$ ;  $M_t = -5278.4$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$3.17 \leq 18.4$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -5278.4$

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 20.3

$K_{def} = 0$

$U_{inst,tot} \text{ in } x = 0$

$U_{inst,tot} \text{ in } y = 0$

$U_{inst,tot} = 0$

Luce/ $U_{inst,tot} > \text{limite}$

$33.8/0 = 99683.2 > 300$  Comb: SLE rara, 8

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 19.1

$K_{def} = 0$

$U_{inst,var} \text{ in } x = 0$

$U_{inst,var} \text{ in } y = 0$

$U_{inst,var} = 0$

Luce/ $U_{inst,var} > \text{limite}$

$33.8/0 = 81079.1 > 300$  Comb: SLE rara, 8

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 14.6

$K_{def} = 0.6$

$U_{fin} \text{ in } x = 0$



Ufin in y = 0  
Ufin = 0  
Luce/Ufin > limite  
 $33.8/0=99918.1 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Variabile A =  $0,700 + 0,480 = 1,180$   
Vento =  $0,600 + 0,000 = 0,600$

## Asta 43: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 33.8

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $0.7/52.8 + 0.7 \cdot 0.1/102.7 + 24/102.7 = 0.25 \leq 1$  [4.4.6b] Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo  
 $M_x = -134.9$ ;  $M_y = 31941.9$ ;  $N = 296.3$

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{2.78^2 + 0.03^2} = 2.78 \leq 22$  Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo  
 $T_x = 494.4$ ;  $T_y = 4.7$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.27 + 0 + 0 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = 69.5$ ;  $T_y = -3.7$ ;  $M_t = 8260.5$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $4.96 \leq 18.4$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $M_t = 8260.5$

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 16.9  
 $K_{def} = 0$   
 $U_{inst,tot} \text{ in } x = 0$   
 $U_{inst,tot} \text{ in } y = 0$   
 $U_{inst,tot} = 0$   
Luce/ $U_{inst,tot}$  > limite  
 $33.8/0 = 51174.3 > 300$  Comb: SLE rara, 9

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 16.9  
 $K_{def} = 0$   
 $U_{inst,var} \text{ in } x = 0$   
 $U_{inst,var} \text{ in } y = 0$



Uinst var = 0  
Luce/Uinst,var > limite  
33.8/0=56955.1 > 300 Comb: SLE rara, 9

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 16.9  
Kdef = 0.6  
Ufin in x = 0  
Ufin in y = 0  
Ufin = 0  
Luce/Ufin > limite  
33.8/0=48236.7 > 200  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Neve = 0,500 + 0,500 = 1,000  
Vento = 0,600 + 0,000 = 0,600

### Asta 44: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 33.8

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 1.1  
 $(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$   
 $(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$   
 $(2.5/117.3)^2 + 0.7*0/102.7 + 34/102.7 = 0.33 \leq 1$  [4.4.7b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo  
Mx = -26.4; My = -45359.9; N = -981.1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 1.1; kcr = 0.67  
 $\tau,d \leq f_{v,d}$   
 $\sqrt{(2.71^2 + 0.03^2)} = 2.71 \leq 22$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo  
Tx = -481.9; Ty = -5.2

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; kcr = 0.67  
 $\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.22 + 0.01 + 0 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
Tx = -209.7; Ty = -10.3; Mt = -6615.2

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8  
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$   
 $3.97 \leq 18.4$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
Mt = -6615.2

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 18  
Kdef = 0  
Uinst tot in x = 0  
Uinst tot in y = 0  
Uinst tot = 0



Luce/Uinst,tot > limite

33.8/0=39893.3 > 300 Comb: SLE rara, 9

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 18

Kdef = 0

Uinst var in x = 0

Uinst var in y = 0

Uinst var = 0

Luce/Uinst,var > limite

33.8/0=50035.5 > 300 Comb: SLE rara, 9

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 18

Kdef = 0.6

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

33.8/0=35567.5 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

### Asta 45: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 33.8

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1

$(Sc_{0,d}/f_{c,0,d})^2 + Sm_{y,d}/f_{m,y,d} + Km*(Sm_{z,d}/f_{m,z,d}) \leq 1$

$(Sc_{0,d}/f_{c,0,d})^2 + Km*(Sm_{y,d}/f_{m,y,d}) + Sm_{z,d}/f_{m,z,d} \leq 1$

$(2.3/117.3)^2 + 0.7*0.2/102.7 + 43.3/102.7 = 0.42 \leq 1$  [4.4.7b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

Mx = -316.2; My = -57707.2; N = -938.8

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{2.21^2 + 0.04^2} = 2.21 \leq 22$  Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

Tx = 393.3; Ty = 7.1

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.19 + 0 + 0 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = 78.1; Ty = 5.2; Mt = 5791.6

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq k_{sh} * f_{v,d}$

$3.48 \leq 18.4$  Comb: SLU, 71; Durata minima del carico nella combinazione: media



Mt = 5791.6

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 16.9

Kdef = 0

Uinst tot in x = 0

Uinst tot in y = 0

Uinst tot = 0

Luce/Uinst,tot > limite

33.8/0=30140.6 > 300 Comb: SLE rara, 17

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 16.9

Kdef = 0

Uinst var in x = 0

Uinst var in y = 0

Uinst var = 0

Luce/Uinst,var > limite

33.8/0=40851.1 > 300 Comb: SLE rara, 17

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 16.9

Kdef = 0.6

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

33.8/0=26019.9 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

### Asta 46: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 33.8

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1

$(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$

$(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$

$(2.3/117.3)^2 + 0.7*0/102.7 + 46.7/102.7 = 0.45 \leq 1$  [4.4.7b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

Mx = 24.4; My = -62210.3; N = -908.9

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_d \leq f_{v,d}$

$\sqrt{(0.83^2 + 0.07^2)} = 0.84 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = -148.3; Ty = -12

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$



0.27+0+0 <= 1 Comb: SLU, 80; Durata minima del carico nella combinazione: media  
Tx = -148.3; Ty = -12; Mt = -8246.9

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

4.95 <= 18.4 Comb: SLU, 80; Durata minima del carico nella combinazione: media

Mt = -8246.9

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 18

Kdef = 0

Uinst tot in x = 0

Uinst tot in y = 0

Uinst tot = 0

Luce/Uinst,tot > limite

33.8/0=26627.5 > 300 Comb: SLE rara, 17

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 16.9

Kdef = 0

Uinst var in x = 0

Uinst var in y = 0

Uinst var = 0

Luce/Uinst,var > limite

33.8/0=37399.8 > 300 Comb: SLE rara, 17

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 18

Kdef = 0.6

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

33.8/0=22570.7 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

### Asta 47: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 33.8

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_{m,z,d}(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_{m,y,d}(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2.1/117.3)^2 + 0.7 \cdot 0.3/102.7 + 48.9/102.7 = 0.48 \leq 1$  [4.4.7b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

Mx = -434.8; My = -65185.2; N = -838

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1; kcr = 0.67



$\tau_{t,d} \leq f_{v,d}$   
 $\text{Sqrt}(1.29^2 + 0.05^2) = 1.29 \leq 22$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo  
 $T_x = 228.6$ ;  $T_y = 9.5$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $k_{cr} = 0.67$   
 $\tau_{t,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.14 + 0 + 0 \leq 1$  Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo  
 $T_x = -144.5$ ;  $T_y = -7.2$ ;  $M_t = 5903.3$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $\tau_{t,d} \leq K_{sh} \cdot f_{v,d}$   
 $3.54 \leq 25.3$  Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo  
 $M_t = 5903.3$

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 16.9  
 $K_{def} = 0$   
 $U_{inst,tot} \text{ in } x = 0$   
 $U_{inst,tot} \text{ in } y = 0$   
 $U_{inst,tot} = 0$   
 $L_{uce}/U_{inst,tot} > \text{limite}$   
 $33.8/0 = 25250.2 > 300$  Comb: SLE rara, 17

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 16.9  
 $K_{def} = 0$   
 $U_{inst,var} \text{ in } x = 0$   
 $U_{inst,var} \text{ in } y = 0$   
 $U_{inst,var} = 0$   
 $L_{uce}/U_{inst,var} > \text{limite}$   
 $33.8/0 = 35991.7 > 300$  Comb: SLE rara, 17

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 16.9  
 $K_{def} = 0.6$   
 $U_{fin} \text{ in } x = 0$   
 $U_{fin} \text{ in } y = 0$   
 $U_{fin} = 0$   
 $L_{uce}/U_{fin} > \text{limite}$   
 $33.8/0 = 21203.6 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Variabile A =  $0,700 + 0,180 = 0,880$   
Neve =  $0,500 + 0,500 = 1,000$   
Vento =  $0,600 + 0,000 = 0,600$

### Asta 48: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 33.8

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$



$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$   
 $(2/117.3)^2 + 0.7 \cdot 0.6/102.7 + 49.1/102.7 = 0.48 \leq 1$  [4.4.7b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo  
 $M_x = 763.2$ ;  $M_y = -65455.9$ ;  $N = -803.4$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{4.14^2 + 0.13^2} = 4.14 \leq 22$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo  
 $T_x = -736.2$ ;  $T_y = -22.2$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.29 + 0 + 0 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = -51.5$ ;  $T_y = -14.2$ ;  $M_t = -8832.6$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $5.3 \leq 18.4$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $M_t = -8832.6$

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 16.9  
 $K_{def} = 0$   
 $U_{inst,tot} \text{ in } x = 0$   
 $U_{inst,tot} \text{ in } y = 0$   
 $U_{inst,tot} = 0$   
 $L_{uce}/U_{inst,tot} > \text{limite}$   
 $33.8/0 = 27661.2 > 300$  Comb: SLE rara, 17

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 16.9  
 $K_{def} = 0$   
 $U_{inst,var} \text{ in } x = 0$   
 $U_{inst,var} \text{ in } y = 0$   
 $U_{inst,var} = 0$   
 $L_{uce}/U_{inst,var} > \text{limite}$   
 $33.8/0 = 40168.6 > 300$  Comb: SLE rara, 17

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 16.9  
 $K_{def} = 0.6$   
 $U_{fin} \text{ in } x = 0$   
 $U_{fin} \text{ in } y = 0$   
 $U_{fin} = 0$   
 $L_{uce}/U_{fin} > \text{limite}$   
 $33.8/0 = 23018.9 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Variabile A =  $0,700 + 0,180 = 0,880$   
Neve =  $0,500 + 0,500 = 1,000$   
Vento =  $0,600 + 0,000 = 0,600$

### Asta 49: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 33.8

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016





Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_{m,z,d}/f_{m,z,d} \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_{m,z,d}/f_{m,z,d} + \sigma_{m,y,d}/f_{m,y,d} \leq 1$

$(1.9/117.3)^2 + 0.7 \cdot 0.5/102.7 + 30.7/102.7 = 0.3 \leq 1$  [4.4.7b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_x = -678.2$ ;  $M_y = -40876.9$ ;  $N = -744.3$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{v,d} \leq f_{v,d}$

$\sqrt{(4.38^2 + 0.06^2)} = 4.38 \leq 22$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$T_x = 778.1$ ;  $T_y = 10.3$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{v,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.17 + 0.02 + 0 \leq 1$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$T_x = -609.5$ ;  $T_y = -12.1$ ;  $M_t = 6980$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$4.19 \leq 25.3$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_t = 6980$

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 15.8

$K_{def} = 0$

$U_{inst,tot} \text{ in } x = 0$

$U_{inst,tot} \text{ in } y = 0$

$U_{inst,tot} = 0$

$Luce/U_{inst,tot} > \text{limite}$

$33.8/0 = 37743.5 > 300$  Comb: SLE rara, 17

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 15.8

$K_{def} = 0$

$U_{inst,var} \text{ in } x = 0$

$U_{inst,var} \text{ in } y = 0$

$U_{inst,var} = 0$

$Luce/U_{inst,var} > \text{limite}$

$33.8/0 = 56090 > 300$  Comb: SLE rara, 17

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 15.8

$K_{def} = 0.6$

$U_{fin} \text{ in } x = 0$

$U_{fin} \text{ in } y = 0$

$U_{fin} = 0$

$Luce/U_{fin} > \text{limite}$

$33.8/0 = 31078.6 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Variabile A =  $0,700 + 0,180 = 0,880$

Neve =  $0,500 + 0,500 = 1,000$

Vento =  $0,600 + 0,000 = 0,600$



## Asta 50: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 33.8

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.7/117.3)^2 + 0.7 \cdot 0.6/102.7 + 13.5/102.7 = 0.14 \leq 1$  [4.4.7b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_x = 759.7$ ;  $M_y = -18004.9$ ;  $N = -660.6$

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{4.25^2 + 0.05^2} = 4.25 \leq 22$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$T_x = 755.7$ ;  $T_y = 9.6$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.26 + 0 + 0 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 100.3$ ;  $T_y = -17.8$ ;  $M_t = -8098.9$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$4.86 \leq 18.4$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -8098.9$

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 15.8

$K_{def} = 0$

$U_{inst,tot} \text{ in } x = 0$

$U_{inst,tot} \text{ in } y = 0$

$U_{inst,tot} = 0$

$Luce/U_{inst,tot} > \text{limite}$

$33.8/0 = 108828.3 > 300$  Comb: SLE rara, 15

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 14.6

$K_{def} = 0$

$U_{inst,var} \text{ in } x = 0$

$U_{inst,var} \text{ in } y = 0$

$U_{inst,var} = 0$

$Luce/U_{inst,var} > \text{limite}$

$33.8/0 = 179654.3 > 300$  Comb: SLE rara, 15

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 15.8

$K_{def} = 0.6$

$U_{fin} \text{ in } x = 0$

$U_{fin} \text{ in } y = 0$

$U_{fin} = 0$

$Luce/U_{fin} > \text{limite}$

$33.8/0 = 84612.7 > 200$



Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Variabile A =  $0,700 + 0,180 = 0,880$

Neve =  $0,500 + 0,000 = 0,500$

Variabile H =  $0,000 + 1,000 = 1,000$

Vento =  $0,600 + 0,000 = 0,600$

## Asta 51: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 33.8

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_{m,z,d}/f_{m,z,d} \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_{m,y,d}/f_{m,y,d} + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(0.6/117.3)^2 + 0.7 \cdot 0.7/102.7 + 31.9/102.7 = 0.32 \leq 1$  [4.4.7b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_x = -984.6$ ;  $M_y = 42480.3$ ;  $N = -222.6$

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{v,d} \leq f_{v,d}$

$\sqrt{4.82^2 + 0.11^2} = 4.82 \leq 22$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$T_x = 857.1$ ;  $T_y = 19.9$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{v,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.16 + 0.02 + 0 \leq 1$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$T_x = -601.3$ ;  $T_y = -18$ ;  $M_t = 6562.9$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.88 \leq 18.4$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = 4794.1$

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 19.1

$K_{def} = 0$

$U_{inst,tot} \text{ in } x = 0$

$U_{inst,tot} \text{ in } y = 0$

$U_{inst,tot} = 0$

Luce/ $U_{inst,tot} > \text{limite}$

$33.8/0 = 50772.2 > 300$  Comb: SLE rara, 9

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 19.1

$K_{def} = 0$

$U_{inst,var} \text{ in } x = 0$

$U_{inst,var} \text{ in } y = 0$

$U_{inst,var} = 0$

Luce/ $U_{inst,var} > \text{limite}$



33.8/0=67954.3 > 300 Comb: SLE rara, 9

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 19.1

Kdef = 0.6

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

33.8/0=44084.3 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

### Asta 52: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 33.8

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1

$(Sc_{0,d}/fc_{0,d})^2 + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$(Sc_{0,d}/fc_{0,d})^2 + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$(1.5/117.3)^2 + 0.7*0.2/102.7 + 30.7/102.7 = 0.3 \leq 1$  [4.4.7b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

Mx = 222.2; My = 40930.7; N = -594.1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{2.06^2 + 0.19^2} = 2.07 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = -366.5; Ty = -32.9

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.26 + 0.02 + 0 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = -359; Ty = -32.3; Mt = -8069.4

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$4.85 \leq 18.4$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

Mt = -8069.4

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 14.6

Kdef = 0

Uinst tot in x = 0

Uinst tot in y = 0

Uinst tot = 0

Luce/Uinst,tot > limite

33.8/0=48954.9 > 300 Comb: SLE rara, 9



#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 14.6

Kdef = 0

Uinst var in x = 0

Uinst var in y = 0

Uinst var = 0

Luce/Uinst,var > limite

33.8/0=61732.5 > 300 Comb: SLE rara, 9

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 14.6

Kdef = 0.6

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

33.8/0=43546.8 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

### Asta 53: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 33.8

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(0.6/117.3)^2 + 0.7 \cdot 0.9/102.7 + 27.3/102.7 = 0.27 \leq 1$  [4.4.7b] Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

Mx = 1189.7; My = -36390.4; N = -253.2

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.96^2 + 0.04^2} = 0.96 \leq 22$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

Tx = -171; Ty = 7.2

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.13 + 0 + 0 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = -101.5; Ty = -41; Mt = 4127.1

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.48 \leq 18.4$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

Mt = 4127.1



#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 18

Kdef = 0

Uinst tot in x = 0

Uinst tot in y = 0

Uinst tot = 0

Luce/Uinst,tot > limite

33.8/0=95061.9 > 300 Comb: SLE rara, 16

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 18

Kdef = 0

Uinst var in x = 0

Uinst var in y = 0

Uinst var = 0

Luce/Uinst,var > limite

33.8/0=145680.7 > 300 Comb: SLE rara, 9

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 18

Kdef = 0.6

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

33.8/0=70852.1 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

### Asta 54: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 33.8

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$

$(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$

$(2/85.3)^2 + 0.7*0.3/74.7 + 21.5/74.7 = 0.29 \leq 1$  [4.4.7b] Comb: SLU, 71; Durata minima del carico nella combinazione: media

Mx = -416.7; My = -28685.6; N = -790.3

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_d \leq f_{v,d}$

$\sqrt{3.91^2 + 0.2^2} = 3.92 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = -695.3; Ty = -36.4

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{tor,d}/(ksh*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.28 + 0.06 + 0 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = -695.3; Ty = -36.4; Mt = -8461.2



#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$5.11 \leq 18.4$  Comb: SLU, 38; Durata minima del carico nella combinazione: media

$M_t = -8504$

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 19.1

$K_{def} = 0$

$U_{inst,tot} \text{ in } x = 0$

$U_{inst,tot} \text{ in } y = 0$

$U_{inst,tot} = 0$

$L_{uce}/U_{inst,tot} > \text{limite}$

$33.8/0 = 18723.3 > 300$  Comb: SLE rara, 8

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 19.1

$K_{def} = 0$

$U_{inst,var} \text{ in } x = 0$

$U_{inst,var} \text{ in } y = 0$

$U_{inst,var} = 0$

$L_{uce}/U_{inst,var} > \text{limite}$

$33.8/0 = 30430.1 > 300$  Comb: SLE rara, 8

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 19.1

$K_{def} = 0.6$

$U_{fin} \text{ in } x = 0$

$U_{fin} \text{ in } y = 0$

$U_{fin} = 0$

$L_{uce}/U_{fin} > \text{limite}$

$33.8/0 = 15212 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Neve =  $0,500 + 0,500 = 1,000$

### Asta 55: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 33.8

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(7.7/85.3)^2 + 0.7 \cdot 10.9/74.7 + 32.9/74.7 = 0.55 \leq 1$  [4.4.7b] Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_x = 14582$ ;  $M_y = -43825.5$ ;  $N = -3094.3$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{2.3^2 + 0.26^2} = 2.31 \leq 16$  Comb: SLU, 30; Durata minima del carico nella combinazione: media

$T_x = -408.5$ ;  $T_y = -46.1$



#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.07 + 0.02 + 0 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = -388.6$ ;  $T_y = -43.4$ ;  $M_t = 2228.1$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 33.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $1.99 \leq 25.3$  Comb: SLV, 2; Durata minima del carico nella combinazione: istantaneo  
 $M_t = 3319.4$

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 16.9  
 $K_{def} = 0$   
 $U_{inst,tot} \text{ in } x = 0$   
 $U_{inst,tot} \text{ in } y = 0$   
 $U_{inst,tot} = 0$   
 $Luce/U_{inst,tot} > \text{limite}$   
 $33.8/0 = 8873.2 > 300$  Comb: SLE rara, 8

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 18  
 $K_{def} = 0$   
 $U_{inst,var} \text{ in } x = 0$   
 $U_{inst,var} \text{ in } y = 0$   
 $U_{inst,var} = 0$   
 $Luce/U_{inst,var} > \text{limite}$   
 $33.8/0 = 13317 > 300$  Comb: SLE rara, 8

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 16.9  
 $K_{def} = 0.6$   
 $U_{fin} \text{ in } x = 0$   
 $U_{fin} \text{ in } y = 0$   
 $U_{fin} = 0$   
 $Luce/U_{fin} > \text{limite}$   
 $33.8/0 = 7392.3 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Neve =  $0,500 + 0,500 = 1,000$

### Asta 56: Trave in legno a falda Falda 1 fili 55-241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 18.9

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 20x20	Rettangolare	20	20	400	13333.33	13333.33	1333.33	1333.33

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 18.9  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(8.7/85.3)^2 + 0.7 \cdot 3.9/74.7 + 42.6/74.7 = 0.62 \leq 1$  [4.4.7b] Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $M_x = 5209.1$ ;  $M_y = -56841.9$ ;  $N = -3481.6$





#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{3.7^2 + 0.29^2} = 3.71 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = -657.3$ ;  $T_y = 50.8$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.58 + 0.05 + 0 \leq 1$  Comb: SLU, 30; Durata minima del carico nella combinazione: media  
 $T_x = -643.7$ ;  $T_y = 48.1$ ;  $M_t = -17674$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 18.9  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $10.68 \leq 18.4$  Comb: SLU, 29; Durata minima del carico nella combinazione: media  
 $M_t = -17782.8$

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 9.5  
 $K_{def} = 0$   
 $U_{inst,tot} \text{ in } x = 0$   
 $U_{inst,tot} \text{ in } y = 0$   
 $U_{inst,tot} = 0$   
 $L_{uce}/U_{inst,tot} > \text{limite}$   
 $18.9/0 = 11632.6 > 300$  Comb: SLE rara, 9

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 9.5  
 $K_{def} = 0$   
 $U_{inst,var} \text{ in } x = 0$   
 $U_{inst,var} \text{ in } y = 0$   
 $U_{inst,var} = 0$   
 $L_{uce}/U_{inst,var} > \text{limite}$   
 $18.9/0 = 16853 > 300$  Comb: SLE rara, 9

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 9.5  
 $K_{def} = 0.6$   
 $U_{fin} \text{ in } x = 0$   
 $U_{fin} \text{ in } y = 0$   
 $U_{fin} = 0$   
 $L_{uce}/U_{fin} > \text{limite}$   
 $18.9/0 = 9809.4 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Neve =  $0,500 + 0,500 = 1,000$   
Vento =  $0,600 + 0,000 = 0,600$

### Asta 57: Trave in legno a falda Falda 5 fili 241-277

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 13.7

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1



#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 13.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_{m} \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_{m} \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$0.7/38.4 + 99.4/74.7 + 0.7 \cdot 84.5/74.7 = 2.14 \leq 1$  [4.4.6a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 157770.1$ ;  $M_y = 104976.2$ ;  $N = 306.3$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 13.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{5.97^2 + 9.67^2} = 11.36 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -1097.7$ ;  $T_y = -1778.7$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 13.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$

$3.94 + 0.15 + 0.35 > 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = -1123.1$ ;  $T_y = -1733.9$ ;  $M_t = 124330.9$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 13.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} > k_{sh} \cdot f_{v,d}$

$75.04 > 19.07$  Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_t = 124330.9$

### Asta 58: Trave in legno a falda Falda 5 fili 241-277

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 57.7

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{1.37^2 + 15.26^2} = 15.32 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 251.2$ ;  $T_y = 2807.3$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_{m} \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_{m} \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(0.8/85.3)^2 + 155.2/74.7 + 0.7 \cdot 20.1/74.67 = 2.27 \leq 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 246280.9$ ;  $M_y = 24951$ ;  $N = -317.2$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$

$0.29 + 0.01 + 0.91 > 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = 251.2$ ;  $T_y = 2807.3$ ;  $M_t = 9041.4$



#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 57.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

5.49  $\leq$  19.07 Comb: SLU, 71; Durata minima del carico nella combinazione: media

Mt = 9093.6

#### Asta 59: Trave in legno a falda Falda 5 fili 241-277

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 12.2

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.96^2 + 12.8^2} = 12.84 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = 176.3; Ty = 2355.4

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1/85.3)^2 + 62.7/74.7 + 0.7 \cdot 32.6/74.67 = 1.15 > 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = 99532.3; My = 40527.8; N = -414.2

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0.27 + 0 + 0.64  $\leq$  1 Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = 176.3; Ty = 2355.4; Mt = 8436.4

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 12.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

5.15  $\leq$  19.07 Comb: SLU, 71; Durata minima del carico nella combinazione: media

Mt = 8528.4

#### Asta 60: Trave in legno a falda Falda 5 fili 241-277

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 87

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{1.04^2 + 10.49^2} = 10.54 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -190.6$ ;  $T_y = 1930.3$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2.4/85.3)^2 + 48.5/74.7 + 0.7 \cdot 27.8/74.67 = 0.91 \leq 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_x = 76962.7$ ;  $M_y = 34533.6$ ;  $N = -992.4$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.23 + 0 + 0.43 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -190.6$ ;  $T_y = 1930.3$ ;  $M_t = 7205.3$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 87

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq k_{sh} \cdot f_{v,d}$

$4.35 \leq 19.07$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = 7205.3$

### Asta 61: Trave in legno a falda Falda 5 fili 241-277

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 99.2

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{1.89^2 + 5.36^2} = 5.69 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -348.6$ ;  $T_y = 986.5$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 99.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(4.8/85.3)^2 + 79.4/74.7 + 0.7 \cdot 16.7/74.67 = 1.22 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -126005.8$ ;  $M_y = -20747.9$ ;  $N = -1982.5$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.06 + 0.01 + 0.11 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -348.6$ ;  $T_y = 986.5$ ;  $M_t = 1812.2$



#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 99.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.61 \leq 26.22$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_t = 2663.6$

#### Asta 62: Trave in legno a falda Falda 5 fili 241-277

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 59

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 59

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{2.31^2 + 1.17^2} = 2.59 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -425.8$ ;  $T_y = -215.4$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 59

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(6.3/85.3)^2 + 68.1/74.7 + 0.7 \cdot 36.8/74.67 = 1.26 ! > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -108140.8$ ;  $M_y = -45655.6$ ;  $N = -2598.7$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.04 + 0 + 0 \leq 1$  Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$T_x = -211.1$ ;  $T_y = 46.8$ ;  $M_t = 1778.6$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 59

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.1 \leq 26.22$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_t = -1820.5$

#### Asta 63: Trave in legno a falda Falda 5 fili 241-277

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 42

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 42  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.37^2 + 2.37^2} = 2.4 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $T_x = 68.5$ ;  $T_y = -435.4$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(5.6/85.3)^2 + 74.7/74.7 + 0.7 \cdot 17.5/74.67 = 1.17 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -118597.8$ ;  $M_y = -21727.5$ ;  $N = -2300.3$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 42  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.39 + 0 + 0.02 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = 138.4$ ;  $T_y = -409$ ;  $M_t = -12273$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 42  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $7.41 \leq 19.07$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $M_t = -12273$

### Asta 64: Trave in legno a falda Falda 5 fili 241-277

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 98.5

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 98.5  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.07^2 + 3.6^2} = 3.6 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $T_x = 13.1$ ;  $T_y = -661.6$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(5.5/85.3)^2 + 59.3/74.7 + 0.7 \cdot 10.1/74.67 = 0.89 \leq 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $M_x = -94146.3$ ;  $M_y = -12567.1$ ;  $N = -2279.4$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 98.5  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.21 + 0 + 0.05 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = 38.8$ ;  $T_y = -654.6$ ;  $M_t = -6615.9$



#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 98.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$3.99 \leq 19.07$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -6615.9$

#### Asta 65: Trave in legno a falda Falda 5 fili 241-277

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 99.4

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 99.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.05^2 + 3.86^2} = 3.86 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 9.8$ ;  $T_y = -710.9$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(5/85.3)^2 + 22/74.7 + 0.7 \cdot 6.7/74.67 = 0.36 \leq 1$  [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_x = -34885.4$ ;  $M_y = -8343.1$ ;  $N = -2066.8$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 99.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.1 + 0 + 0.06 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 11.1$ ;  $T_y = -710.3$ ;  $M_t = -3302.8$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 99.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.99 \leq 19.07$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = -3302.8$

#### Asta 66: Trave in legno a falda Falda 5 fili 241-277

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 110.5

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 110.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.2^2 + 2.07^2} = 2.08 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -36.6$ ;  $T_y = -381.6$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 110.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(4.7/85.3)^2 + 45.3/74.7 + 0.7 \cdot 6.8/74.67 = 0.67 \leq 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_x = 71904.1$ ;  $M_y = -8503.8$ ;  $N = -1947.8$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 110.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.05 + 0 + 0.02 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -34$ ;  $T_y = -381.8$ ;  $M_t = -1710.1$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 110.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.03 \leq 19.07$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = -1710.1$

### Asta 67: Trave in legno a falda Falda 5 fili 241-279

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 74.2

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.85^2 + 15.87^2} = 15.9 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 156.5$ ;  $T_y = 2920.8$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(3.5/85.3)^2 + 163.2/74.7 + 0.7 \cdot 51.5/74.67 = 2.67 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 258958.2$ ;  $M_y = -63917.7$ ;  $N = -1445.1$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$

$0.54 + 0 + 0.98 > 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = 156.5$ ;  $T_y = 2920.8$ ;  $M_t = -17029.6$





#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 74.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$10.29 \leq 19.07$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -17041.7$

#### Asta 68: Trave in legno a falda Falda 5 fili 241-279

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 103.7

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{2.75^2 + 11.23^2} = 11.56 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 505.6$ ;  $T_y = 2067$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 103.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(5.4/85.3)^2 + 68/74.7 + 0.7 \cdot 4.6/74.67 = 0.96 \leq 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_x = -107862.5$ ;  $M_y = 5667.7$ ;  $N = -2237.5$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.2 + 0.03 + 0.49 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 505.6$ ;  $T_y = 2067$ ;  $M_t = -6215.7$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 103.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$3.75 \leq 19.07$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -6215.7$

#### Asta 69: Trave in legno a falda Falda 5 fili 241-279

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 104.3

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{1.35^2 + 6.75^2} = 6.89 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 248.4$ ;  $T_y = 1242.6$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 104.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(5.2/85.3)^2 + 123.4/74.7 + 0.7 \cdot 23.5/74.67 = 1.88 > 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -195764.5$ ;  $M_y = 29131.9$ ;  $N = -2150.4$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.01 + 0.01 + 0.18 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 247.8$ ;  $T_y = 1242.1$ ;  $M_t = 428.2$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 104.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.6 \leq 26.22$  Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$M_t = 987.4$

### Asta 70: Trave in legno a falda Falda 5 fili 241-279

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 116.7

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.62^2 + 2.76^2} = 2.82 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 113.6$ ;  $T_y = 507.2$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 116.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(5/85.3)^2 + 130.8/74.7 + 0.7 \cdot 30.7/74.67 = 2.04 > 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -207542.5$ ;  $M_y = 38134.6$ ;  $N = -2086.4$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.19 + 0 + 0.03 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 109.9$ ;  $T_y = 507.2$ ;  $M_t = 5897.3$



#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 116.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$3.56 \leq 19.07$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = 5898.3$

#### Asta 71: Trave in legno a falda Falda 5 fili 241-279

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 90.8

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 90.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.86^2 + 7.19^2} = 7.24 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -157.9$ ;  $T_y = -1323.1$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(7.1/85.3)^2 + 119.3/74.7 + 0.7 \cdot 35/74.67 = 1.93 > 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -189340.4$ ;  $M_y = 43488$ ;  $N = -2951.7$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 90.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.08 + 0 + 0.2 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -164.2$ ;  $T_y = -1321$ ;  $M_t = 2649.5$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 90.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.61 \leq 19.07$  Comb: SLU, 29; Durata minima del carico nella combinazione: media

$M_t = 2675.1$

#### Asta 72: Trave in legno a falda Falda 5 fili 241-279

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 102.8

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 102.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.41^2 + 6.72^2} = 6.73 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -75.8$ ;  $T_y = -1236.9$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(6.8/85.3)^2 + 39.9/74.7 + 0.7 \cdot 19.7/74.67 = 0.73 \leq 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_x = -63313.5$ ;  $M_y = 24512$ ;  $N = -2814.3$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 102.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.06 + 0 + 0.18 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -80.9$ ;  $T_y = -1235$ ;  $M_t = 1759.3$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 102.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq k_{sh} \cdot f_{v,d}$

$1.08 \leq 19.07$  Comb: SLU, 29; Durata minima del carico nella combinazione: media

$M_t = 1786.8$

### Asta 73: Trave in legno a falda Falda 5 fili 241-279

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 118.2

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 118.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.05^2 + 3.33^2} = 3.33 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -8.7$ ;  $T_y = -613.1$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 118.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(5.9/85.3)^2 + 88.1/74.7 + 0.7 \cdot 10.4/74.67 = 1.28 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 139777.9$ ;  $M_y = 12859.4$ ;  $N = -2435.7$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 118.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.05 + 0 + 0.04 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -15.9$ ;  $T_y = -610.2$ ;  $M_t = 1712.6$



#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 118.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.04 \leq 19.07$  Comb: SLU, 29; Durata minima del carico nella combinazione: media

$M_t = 1716$

#### Asta 74: Trave in legno a falda Falda 6 fili 177-240

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 127.2

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 127.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$2.8/52.8 + 0.7 \cdot 11.1/102.7 + 20.5/102.7 = 0.33 \leq 1$  [4.4.6b] Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$M_x = -17593.3$ ;  $M_y = 25454.2$ ;  $N = 1178.2$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.42^2 + 1.41^2} = 1.47 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 77.6$ ;  $T_y = 259.8$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.02 + 0 + 0.01 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 77.6$ ;  $T_y = 259.8$ ;  $M_t = 607.9$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 127.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.56 \leq 26.22$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_t = 931.4$

#### Asta 75: Trave in legno a falda Falda 6 fili 177-240

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 104.2

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 104.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_{m} \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_{m} \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$2/38.4 + 36/74.7 + 0.7 \cdot 14.6/74.7 = 0.67 \leq 1$  [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_x = -57141.5$ ;  $M_y = 18145.1$ ;  $N = 812.2$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{0.02^2 + 2.36^2} = 2.36 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 4.5$ ;  $T_y = 434.7$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.18 + 0 + 0.02 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 5$ ;  $T_y = 433.9$ ;  $M_t = 5651.2$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 104.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$3.41 \leq 19.07$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = 5651.2$

### Asta 76: Trave in legno a falda Falda 6 fili 177-240

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 104.2

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 104.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_{m} \cdot (\sigma_{m,z,d}/f_{m,z,d}) > 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_{m} \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$2.2/38.4 + 64.3/74.7 + 0.7 \cdot 11.8/74.7 = 1.03 > 1$  [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -102112.3$ ;  $M_y = 14714.3$ ;  $N = 898.1$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{0.37^2 + 2.46^2} = 2.49 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -68.2$ ;  $T_y = 453$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.41 + 0 + 0.02 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -62.5$ ;  $T_y = 453.1$ ;  $M_t = 12863.3$



#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 104.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$7.76 \leq 19.07$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = 12863.3$

#### Asta 77: Trave in legno a falda Falda 6 fili 177-240

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 63.3

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 63.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$2.6/38.4 + 84.1/74.7 + 0.7 \cdot 3/74.7 = 1.22 \leq 1$  [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -133490.3$ ;  $M_y = 3787$ ;  $N = 1090.9$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{1.28^2 + 2.2^2} = 2.55 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -236$ ;  $T_y = 404.5$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.72 + 0.01 + 0.02 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -220.7$ ;  $T_y = 402.3$ ;  $M_t = 22631.7$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 63.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$13.66 \leq 19.07$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = 22631.7$

#### Asta 78: Trave in legno a falda Falda 6 fili 177-240

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 40.9

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$3.8/38.4 + 100.7/74.7 + 0.7 \cdot 13.9/74.7 = 1.58 \leq 1$  [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -159851.8$ ;  $M_y = 17288.4$ ;  $N = 1560.4$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 40.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{0.58^2 + 4.42^2} = 4.46 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 105.9$ ;  $T_y = -813.3$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 40.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.27 + 0 + 0.08 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 105.9$ ;  $T_y = -813.3$ ;  $M_t = -8580.6$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 40.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$5.19 \leq 19.07$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -8594.8$

### Asta 79: Trave in legno a falda Falda 6 fili 177-240

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 104.2

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$4.5/38.4 + 87.3/74.7 + 0.7 \cdot 20.2/74.7 = 1.47 \leq 1$  [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -138484.8$ ;  $M_y = 25128.8$ ;  $N = 1846.5$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 104.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{0.6^2 + 4.09^2} = 4.13 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -110.1$ ;  $T_y = -751.7$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 104.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.06 + 0 + 0.07 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -111$ ;  $T_y = -751.1$ ;  $M_t = 1899.8$





#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 104.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.15 \leq 19.07$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = 1899.8$

#### Asta 80: Trave in legno a falda Falda 6 fili 177-240

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 104.2

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 104.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$4.1/38.4 + 39.4/74.7 + 0.7 \cdot 4.6/74.7 = 0.68 \leq 1$  [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_x = 62538.3$ ;  $M_y = -5689.1$ ;  $N = 1706.8$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 104.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.86^2 + 6.59^2} = 6.65 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -157.9$ ;  $T_y = -1213.4$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 104.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.21 + 0 + 0.17 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -157.2$ ;  $T_y = -1212.8$ ;  $M_t = -6658.7$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 104.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$4.02 \leq 19.07$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -6659.1$

#### Asta 81: Trave in legno a falda Falda 6 fili 177-240

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 71.2

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 71.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_{m}(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_{m}(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$3.9/38.4 + 114.1/74.7 + 0.7 \cdot 22.7/74.7 = 1.84 \leq 1$  [4.4.6a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 181044.6$ ;  $M_y = -28153.5$ ;  $N = 1613.8$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 71.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{1.2^2 + 8.47^2} = 8.55 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -220.8$ ;  $T_y = -1558.5$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 71.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.6 + 0.01 + 0.28 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -220.8$ ;  $T_y = -1558.5$ ;  $M_t = -18818.6$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 71.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$11.37 \leq 19.07$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -18845.6$

### Asta 82: Trave in legno a falda Falda 4 fili 169-233

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 129.7

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{1.28^2 + 11.98^2} = 12.04 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 235.1$ ;  $T_y = 2203.5$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 129.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_{m}(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_{m}(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(6.8/85.3)^2 + 103.3/74.7 + 0.7 \cdot 23/74.67 = 1.61 \leq 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -163985.2$ ;  $M_y = 28618$ ;  $N = -2827.9$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.18 + 0.01 + 0.56 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 235.1$ ;  $T_y = 2203.5$ ;  $M_t = -5834.6$



#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 129.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$3.56 \leq 19.07$  Comb: SLU, 38; Durata minima del carico nella combinazione: media

$M_t = -5902$

#### Asta 83: Trave in legno a falda Falda 4 fili 169-233

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 102.4

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{1.46^2 + 8.15^2} = 8.28 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 268.1$ ;  $T_y = 1499.3$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(7.4/85.3)^2 + 197.4/74.7 + 0.7 \cdot 47.4/74.67 = 3.1 \leq 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -313274$ ;  $M_y = 58902.6$ ;  $N = -3056.1$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.16 + 0.01 + 0.26 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 267.9$ ;  $T_y = 1499.2$ ;  $M_t = 4962.7$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$3 \leq 19.07$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = 4962.7$

#### Asta 84: Trave in legno a falda Falda 4 fili 169-233

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 102.4

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.41^2 + 4.25^2} = 4.27 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 76.2$ ;  $T_y = 781.7$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(7.3/85.3)^2 + 243.8/74.7 + 0.7 \cdot 54.6/74.67 = 3.78 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -386900.8$ ;  $M_y = 67866.5$ ;  $N = -3040.1$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.34 + 0 + 0.07 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 76.1$ ;  $T_y = 781.5$ ;  $M_t = 10820.6$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$6.53 \leq 19.07$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = 10820.6$

### Asta 85: Trave in legno a falda Falda 4 fili 169-233

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 59.9

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 59.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.72^2 + 1.42^2} = 1.59 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -132$ ;  $T_y = -261.1$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(7.3/85.3)^2 + 241.8/74.7 + 0.7 \cdot 53.8/74.67 = 3.75 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -383773.1$ ;  $M_y = 66791.8$ ;  $N = -3021.9$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 59.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.28 + 0 + 0.01 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -132$ ;  $T_y = -261.1$ ;  $M_t = 8958.9$



#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 59.9  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $5.41 \leq 19.07$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $M_t = 8958.9$

#### Asta 86: Trave in legno a falda Falda 4 fili 169-233

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 42.6

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 42.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.51^2 + 5.54^2} = 5.57 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = -94.3$ ;  $T_y = -1020.2$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(7.4/85.3)^2 + 211.6/74.7 + 0.7 \cdot 42.2/74.67 = 3.24 > 1$  [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -335731$ ;  $M_y = 52445$ ;  $N = -3079.6$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 42.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$   
 $1.27 + 0 + 0.12 > 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $T_x = -94.3$ ;  $T_y = -1020.2$ ;  $M_t = 40079.2$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 42.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} > K_{sh} \cdot f_{v,d}$   
 $24.19 > 19.07$  Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_t = 40079.2$

#### Asta 87: Trave in legno a falda Falda 4 fili 169-233

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 102.4

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1



#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_d \leq f_{v,d}$

$\sqrt{0.6^2 + 7.92^2} = 7.95 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -111.1$ ;  $T_y = -1458$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(7.5/85.3)^2 + 174.6/74.7 + 0.7 \cdot 33.6/74.67 = 2.66 > 1$  [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -277145.2$ ;  $M_y = 41687.4$ ;  $N = -3098.4$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.64 + 0 + 0.25 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -109.1$ ;  $T_y = -1457.9$ ;  $M_t = 20125.5$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$12.15 \leq 19.07$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = 20125.5$

### Asta 88: Trave in legno a falda Falda 4 fili 169-233

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 102.5

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_d \leq f_{v,d}$

$\sqrt{0.76^2 + 9.51^2} = 9.54 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -139.5$ ;  $T_y = -1749.8$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(7.5/85.3)^2 + 89.7/74.7 + 0.7 \cdot 19.8/74.67 = 1.39 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -142317.6$ ;  $M_y = 24574.7$ ;  $N = -3099.9$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.18 + 0 + 0.35 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -137.8$ ;  $T_y = -1749.4$ ;  $M_t = 5530.8$



#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$3.34 \leq 19.07$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = 5530.8$

#### Asta 89: Trave in legno a falda Falda 4 fili 169-233

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 102.5

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.84^2 + 10.02^2} = 10.06 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -154.5$ ;  $T_y = -1844.6$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(8/85.3)^2 + 126.3/74.7 + 0.7 \cdot 8.9/74.67 = 1.78 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 200364.4$ ;  $M_y = -11029.4$ ;  $N = -3311.2$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.23 + 0 + 0.39 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -154.2$ ;  $T_y = -1844.5$ ;  $M_t = -7158.8$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$4.32 \leq 19.07$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = -7159.8$

#### Asta 90: Trave in legno a falda Falda 4 fili 169-233

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 60.5

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 60.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.79^2 + 6.11^2} = 6.16 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -145.9$ ;  $T_y = -1123.4$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 60.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_{m,z,d}/f_{m,z,d} \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_{m,y,d}/f_{m,y,d} + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(7.1/85.3)^2 + 181.7/74.7 + 0.7 \cdot 23.3/74.67 = 2.66 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 288350.9$ ;  $M_y = -28959.1$ ;  $N = -2946.3$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 60.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$

$1 + 0.14 > 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = -145.1$ ;  $T_y = -1118.1$ ;  $M_t = -31440.7$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 60.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$18.98 \leq 19.07$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = -31440.7$

### Asta 91: Trave in legno a falda Falda 4 fili 169-233

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 18.9

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_{m,z,d}/f_{m,z,d} > 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_{m,y,d}/f_{m,y,d} + \sigma_{m,z,d}/f_{m,z,d} > 1$

$1.3/38.4 + 100.5/74.7 + 0.7 \cdot 37.1/74.7 = 1.73 > 1$  [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 159523.5$ ;  $M_y = 46105.8$ ;  $N = 554.7$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} > f_{v,d}$

$\sqrt{6.37^2 + 26.29^2} = 27.06 > 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = -1172.5$ ;  $T_y = 4838.3$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$

$3.75 + 0.16 + 2.7 > 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = -1172.5$ ;  $T_y = 4838.3$ ;  $M_t = 118601.9$





#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 18.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} > K_{sh} * f_{v,d}$

$71.58 > 19.07$  Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_t = 118601.9$

#### Asta 92: Trave in legno a falda Falda 4 fili 169-233

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 10.9

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\sigma_{t,0,d} \leq f_{t,0,d}$

$0.01 \leq 52.8$  Comb: SLD, 16; Durata minima del carico nella combinazione: istantaneo

$N = 5$

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\sigma_{m,y,d}/f_{m,y,d} + K_m * (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m * (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$0.1/74.7 + 0.7*0/74.7 = 0 \leq 1$  (formula 4.4.5a) Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_x = 88.6$ ;  $M_y = 0$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0^2 + 0.09^2} = 0.09 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 0$ ;  $T_y = 16.6$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} * f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0 + 0 + 0 \leq 1$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$T_x = 1.5$ ;  $T_y = 6.6$ ;  $M_t = -1.1$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 10.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$0 \leq 26.22$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_t = 1.1$

#### Asta 93: Trave in legno a falda Falda 4 fili 126-61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 123.8



#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{1.17^2 + 12.09^2} = 12.15 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -215.7$ ;  $T_y = 2225$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 123.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(5.3/85.3)^2 + 114.3/74.7 + 0.7 \cdot 19.9/74.67 = 1.72 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -181447.4$ ;  $M_y = -24698.1$ ;  $N = -2197.8$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.07 + 0.01 + 0.57 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -215.7$ ;  $T_y = 2225$ ;  $M_t = 2351.6$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 123.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.46 \leq 19.07$  Comb: SLU, 38; Durata minima del carico nella combinazione: media

$M_t = 2427$

### Asta 94: Trave in legno a falda Falda 4 fili 126-61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 102.4

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{1.69^2 + 8.32^2} = 8.49 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -311.5$ ;  $T_y = 1530.3$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$



$(6.1/85.3)^2 + 209.6/74.7 + 0.7 \cdot 47.9/74.67 = 3.26 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
Mx = -332663.7; My = -59548.2; N = -2509.7

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; kcr = 0.67  
 $\tau_{tor,d}/(ksh \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.23 + 0.01 + 0.27 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
Tx = -311.4; Ty = 1530.2; Mt = -7221.7

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 102.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8  
 $\tau_{tor,d} \leq ksh \cdot f_{v,d}$   
 $4.36 \leq 19.07$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
Mt = -7221.7

### Asta 95: Trave in legno a falda Falda 4 fili 126-61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 102.4

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; kcr = 0.67  
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.52^2 + 4.45^2} = 4.48 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
Tx = -96.2; Ty = 819.2

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 102.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8  
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(6/85.3)^2 + 256.8/74.7 + 0.7 \cdot 56.9/74.67 = 3.98 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
Mx = -407561.1; My = -70627.5; N = -2479.7

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; kcr = 0.67  
 $\tau_{tor,d}/(ksh \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.39 + 0 + 0.08 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
Tx = -96.2; Ty = 819; Mt = -12307

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 102.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8  
 $\tau_{tor,d} \leq ksh \cdot f_{v,d}$   
 $7.43 \leq 19.07$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
Mt = -12307

### Asta 96: Trave in legno a falda Falda 4 fili 126-61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



## Dati generali

Lunghezza = 65.7

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 65.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_d \leq f_{v,d}$

$\sqrt{0.63^2 + 1.46^2} = 1.59 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 115.2$ ;  $T_y = -268$

### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(6/85.3)^2 + 254.8/74.7 + 0.7 \cdot 56.1/74.67 = 3.94 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -404436$ ;  $M_y = -69725.3$ ;  $N = -2466.9$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 65.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.33 + 0 + 0.01 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 115.2$ ;  $T_y = -268$ ;  $M_t = -10478.9$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 65.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$6.32 \leq 19.07$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = -10478.9$

## Asta 97: Trave in legno a falda Falda 4 fili 126-61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

## Dati generali

Lunghezza = 36.7

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 36.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_d \leq f_{v,d}$

$\sqrt{0.42^2 + 5.78^2} = 5.8 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 77.3$ ;  $T_y = -1063.6$

### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$



$(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$   
 $(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$   
 $(5.9/85.3)^2 + 224.7/74.7 + 0.7*43.3/74.67 = 3.42 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $Mx = -356677.7$ ;  $My = -53734.1$ ;  $N = -2459.2$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 36.7  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$   
 $1.32 + 0 + 0.13 > 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $T_x = 75.4$ ;  $T_y = -1063.6$ ;  $M_t = -41554.7$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 36.7  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} > k_{sh} * f_{v,d}$   
 $25.08 > 19.07$  Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_t = -41554.7$

### Asta 98: Trave in legno a falda Falda 4 fili 126-61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 102.4

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 102.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.55^2 + 8.28^2} = 8.3 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $T_x = 102$ ;  $T_y = -1523.5$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$   
 $(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$   
 $(5.9/85.3)^2 + 189.5/74.7 + 0.7*35.6/74.67 = 2.88 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $Mx = -300672.1$ ;  $My = -44225.2$ ;  $N = -2456.5$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 102.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.67 + 0 + 0.27 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = 100.7$ ;  $T_y = -1523.2$ ;  $M_t = -21231.8$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 102.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq k_{sh} * f_{v,d}$   
 $12.81 \leq 19.07$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $M_t = -21231.8$



## Asta 99: Trave in legno a falda Falda 4 fili 126-61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 102.4

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_d \leq f_{v,d}$

$\sqrt{0.68^2 + 9.98^2} = 10 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 125.4$ ;  $T_y = -1836.4$

### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_{m,z,d}/f_{m,z,d} \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_{m,y,d}/f_{m,y,d} + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(6.2/85.3)^2 + 100.9/74.7 + 0.7 \cdot 22.5/74.67 = 1.57 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -160120.3$ ;  $M_y = -27953.1$ ;  $N = -2548.8$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.21 + 0 + 0.39 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 124.3$ ;  $T_y = -1835.8$ ;  $M_t = -6562$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$3.96 \leq 19.07$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = -6562$

## Asta 100: Trave in legno a falda Falda 4 fili 126-61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 102.5

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_d \leq f_{v,d}$

$\sqrt{0.81^2 + 10.59^2} = 10.62 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 149$ ;  $T_y = -1949.1$



#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(6.8/85.3)^2 + 125.6/74.7 + 0.7 \cdot 4.9/74.67 = 1.73 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 199386.2$ ;  $M_y = 6033.8$ ;  $N = -2803.1$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.17 + 0 + 0.44 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 149$ ;  $T_y = -1949.1$ ;  $M_t = 5344$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 102.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$3.23 \leq 19.07$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = 5344$

### Asta 101: Trave in legno a falda Falda 4 fili 126-61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 66.4

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 66.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.47^2 + 8.47^2} = 8.48 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 86.3$ ;  $T_y = -1558.6$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 66.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(6.4/85.3)^2 + 197.5/74.7 + 0.7 \cdot 15.2/74.67 = 2.79 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 313429.5$ ;  $M_y = 18873.3$ ;  $N = -2635.1$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 66.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.69 + 0 + 0.28 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 86.1$ ;  $T_y = -1558$ ;  $M_t = 21923.4$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 66.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$13.24 \leq 19.07$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = 21928$



## Asta 102: Trave in legno a falda Falda 4 fili 126-61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 18.9

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_{m} \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_{m} \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$2.8/38.4 + 123.3/74.7 + 0.7 \cdot 40.6/74.7 = 2.1 \leq 1$  [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 195643$ ;  $M_y = -50429.1$ ;  $N = 1151.6$

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{v,d} > f_{v,d}$

$\sqrt{5.22^2 + 34.98^2} = 35.37 > 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = 960.4$ ;  $T_y = 6436$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{v,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$

$4.31 + 0.11 + 4.78 > 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = 960.4$ ;  $T_y = 6436$ ;  $M_t = -136173.8$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 18.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} > K_{sh} \cdot f_{v,d}$

$82.2 > 19.07$  Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_t = -136184.3$

## Asta 103: Trave in legno a falda Falda 4 fili 126-61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 10.8

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 9.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\sigma_{t,0,d} \leq f_{t,0,d}$

$0 \leq 38.4$  Comb: SLU, 79; Durata minima del carico nella combinazione: media





N = 0.5

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\sigma_{m,y,d}/f_{m,y,d} + K_{m,z,d}/f_{m,z,d} \leq 1$

$K_{m,y,d}/f_{m,y,d} + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$0.7 \cdot 0/102.7 + 0.1/102.7 = 0 \leq 1$  (formula 4.4.5b) Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_x = 63.9$ ;  $M_y = 95.6$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0^2 + 0.09^2} = 0.09 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 0$ ;  $T_y = 16.6$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0 + 0 + 0 \leq 1$  Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$T_x = -9.7$ ;  $T_y = 5.8$ ;  $M_t = 4.7$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 10.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0 \leq 26.22$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_t = -4.7$

### Asta 104: Trave in legno a falda Falda 3 fili 16-55

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 25.3

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 25.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.65^2 + 4.52^2} = 4.56 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 118.7$ ;  $T_y = -831.1$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 25.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_{m,z,d}/f_{m,z,d} \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_{m,y,d}/f_{m,y,d} + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(5.5/85.3)^2 + 88.4/74.7 + 0.7 \cdot 9.4/74.67 = 1.28 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 140212.6$ ;  $M_y = 11655.9$ ;  $N = -2295.4$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 25.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.2 + 0 + 0.08 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media



Tx = 118.7; Ty = -831.1; Mt = 6358.8

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 25.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

3.84  $\leq$  19.07 Comb: SLU, 72; Durata minima del carico nella combinazione: media

Mt = 6358.8

### Asta 105: Trave in legno a falda Falda 3 fili 16-55

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 105.8

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.1^2 + 4.6^2} = 4.61 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = 18.9; Ty = 847.2

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(8.2/85.3)^2 + 82.5/74.7 + 0.7 \cdot 7.8/74.67 = 1.19 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = 130998.6; My = 9636.9; N = -3393.2

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0.08 + 0 + 0.08  $\leq$  1 Comb: SLU, 79; Durata minima del carico nella combinazione: media

Tx = 19.6; Ty = 846.4; Mt = -2413.2

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 105.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

1.46  $\leq$  19.07 Comb: SLU, 71; Durata minima del carico nella combinazione: media

Mt = -2414.9

### Asta 106: Trave in legno a falda Falda 3 fili 16-55

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 105.8

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200



Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.65^2 + 7.67^2} = 7.7 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 118.8$ ;  $T_y = 1411.2$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 105.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(8.8/85.3)^2 + 60.4/74.7 + 0.7 \cdot 20.4/74.67 = 1.01 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -95889.9$ ;  $M_y = 25314.2$ ;  $N = -3662.1$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.03 + 0 + 0.23 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 118.8$ ;  $T_y = 1411.2$ ;  $M_t = -829.2$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 105.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.24 \leq 26.22$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_t = -2059.2$

### Asta 107: Trave in legno a falda Falda 3 fili 16-55

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 80

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{1.15^2 + 6.9^2} = 6.99 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 210.8$ ;  $T_y = 1269.3$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 80

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(9/85.3)^2 + 125.5/74.7 + 0.7 \cdot 36.6/74.67 = 2.03 > 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -199104.6$ ;  $M_y = 45443.7$ ;  $N = -3712.4$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

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0+0.01+0.19 <= 1 Comb: SLU, 80; Durata minima del carico nella combinazione: media  
Tx = 210.8; Ty = 1269.3; Mt = 111.4

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 80

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

1.09 <= 26.22 Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo

Mt = -1805.3

### Asta 108: Trave in legno a falda Falda 3 fili 16-55

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 25.8

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 25.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{(1.97^2 + 1.9^2)} = 2.74 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = -363; Ty = -349

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(6.8/85.3)^2 + 123.4/74.7 + 0.7 \cdot 35.1/74.67 = 1.99 > 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = -195900.1; My = 43649.9; N = -2806.2

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 25.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0.18+0.01+0.01 <= 1 Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = -353.9; Ty = -351.2; Mt = -5803.6

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 25.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

3.5 <= 19.07 Comb: SLU, 38; Durata minima del carico nella combinazione: media

Mt = -5806.2

### Asta 109: Trave in legno a falda Falda 3 fili 16-55

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 106.1

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300



Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 106.1  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{1.02^2 + 3.87^2} = 4 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $T_x = -188$ ;  $T_y = -711.3$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(7.1/85.3)^2 + 134/74.7 + 0.7 \cdot 33/74.67 = 2.11 > 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -212633.1$ ;  $M_y = 40926.5$ ;  $N = -2946.2$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 106.1  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.17 + 0 + 0.06 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = -184.3$ ;  $T_y = -711.9$ ;  $M_t = -5497.4$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 106.1  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq k_{sh} \cdot f_{v,d}$   
 $3.32 \leq 19.07$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $M_t = -5499.2$

### Asta 110: Trave in legno a falda Falda 3 fili 16-55

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 105.7

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 105.7  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{1.47^2 + 8.54^2} = 8.67 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $T_x = -270.6$ ;  $T_y = -1572.1$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(7/85.3)^2 + 114.9/74.7 + 0.7 \cdot 20.1/74.67 = 1.73 > 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -182315.4$ ;  $M_y = 24965.7$ ;  $N = -2895.5$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 105.7  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$



$\tau_{tor,d}/(ksh \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
0.02+0.01+0.29  $\leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
Tx = -270.6; Ty = -1572.1; Mt = 733.4

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 105.7  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 1.1  
 $\tau_{tor,d} \leq Ksh \cdot f_{v,d}$   
0.79  $\leq 26.22$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo  
Mt = 1311.7

### Asta 111: Trave in legno a falda Falda 3 fili 16-55

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 105.7

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 105.7  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; kcr = 0.67  
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{(2.75^2 + 14.32^2)} = 14.58 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
Tx = -506.4; Ty = -2634.5

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 105.7  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8  
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(6.4/85.3)^2 + 100.2/74.7 + 0.7 \cdot 44.1/74.67 = 1.76 > 1$  [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
Mx = 159063.9; My = -54755.3; N = -2664.6

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 105.7  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; kcr = 0.67  
 $\tau_{tor,d}/(ksh \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$   
0.24+0.03+0.8 > 1 Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
Tx = -500.8; Ty = -2635.4; Mt = 7725.2

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 105.7  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8  
 $\tau_{tor,d} \leq Ksh \cdot f_{v,d}$   
4.66  $\leq 19.07$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
Mt = 7725.2

### Asta 112: Trave in legno a falda Falda 3 fili 16-55

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 51.1

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016



Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 51.1  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} > f_{v,d}$   
 $\sqrt{0.7^2 + 19^2} = 19.02 > 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $T_x = -129.4$ ;  $T_y = -3496.5$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 51.1  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(4.1/85.3)^2 + 207.2/74.7 + 0.7 \cdot 54/74.67 = 3.28 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = 328837.2$ ;  $M_y = -67008.5$ ;  $N = -1683.3$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 51.1  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$   
 $0.58 + 0 + 1.41 > 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $T_x = -129.4$ ;  $T_y = -3496.5$ ;  $M_t = 18204.5$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 51.1  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $11 \leq 19.07$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $M_t = 18232$

### Asta 113: Trave in legno a falda Falda 2 fili 55-1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 13.7

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{1.99^2 + 1.51^2} = 2.5 \leq 22$  Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo  
 $T_x = -367.1$ ;  $T_y = 278.5$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 13.7  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(6.2/85.3)^2 + 145.4/74.7 + 0.7 \cdot 87.9/74.67 = 2.78 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = 230715.7$ ;  $M_y = -109200.6$ ;  $N = -2560.7$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 13.7  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$



$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$

$3.35 + 0 + 0 > 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = -158.2$ ;  $T_y = -128.5$ ;  $M_t = -105895.6$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 13.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} > K_{sh} \cdot f_{v,d}$

$63.92 > 19.07$  Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_t = -105895.6$

### Asta 114: Trave in legno a falda Falda 2 fili 55-1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 35

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} > f_{v,d}$

$\sqrt{1.41^2 + 18.49^2} = 18.54 > 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = -258.9$ ;  $T_y = 3402$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(4.6/85.3)^2 + 184.8/74.7 + 0.7 \cdot 20.9/74.67 = 2.67 > 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 293340.1$ ;  $M_y = -25984$ ;  $N = -1906.9$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$

$0.49 + 0.01 + 1.34 > 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = -258.9$ ;  $T_y = 3402$ ;  $M_t = -15553.6$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 35

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$9.48 \leq 19.07$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -15707$

### Asta 115: Trave in legno a falda Falda 2 fili 55-1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 12.9

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242





Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} > f_{v,d}$   
 $\sqrt{1.67^2 + 16.77^2} = 16.85 > 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $T_x = -307.7$ ;  $T_y = 3085.7$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(5/85.3)^2 + 112.9/74.7 + 0.7 \cdot 29.4/74.67 = 1.79 > 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = 179172.8$ ;  $M_y = -36510.6$ ;  $N = -2089$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$   
 $0.52 + 0.01 + 1.1 > 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $T_x = -307.7$ ;  $T_y = 3085.7$ ;  $M_t = -16578$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 12.9  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $10.13 \leq 19.07$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $M_t = -16775.5$

### Asta 116: Trave in legno a falda Falda 2 fili 55-1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 87.9

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.32^2 + 14^2} = 14.01 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = 59.2$ ;  $T_y = 2576.5$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(6.5/85.3)^2 + 89/74.7 + 0.7 \cdot 24.4/74.67 = 1.43 > 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = 141260.2$ ;  $M_y = -30287.2$ ;  $N = -2704.6$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0



Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$   
 $0.33 + 0 + 0.77 > 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $T_x = 59.2$ ;  $T_y = 2576.5$ ;  $M_t = -10289.1$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 87.9  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $6.21 \leq 19.07$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $M_t = -10289.1$

### Asta 117: Trave in legno a falda Falda 2 fili 55-1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 100.8

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{2.05^2 + 7.73^2} = 8 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = 377$ ;  $T_y = 1422.2$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 100.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(9.8/85.3)^2 + 102.3/74.7 + 0.7 \cdot 14.5/74.67 = 1.52 \nless 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -162408.2$ ;  $M_y = 17949$ ;  $N = -4055.3$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.16 + 0.02 + 0.23 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = 377$ ;  $T_y = 1422.2$ ;  $M_t = -4980.1$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 100.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $3.01 \leq 19.07$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $M_t = -4980.1$

### Asta 118: Trave in legno a falda Falda 2 fili 55-1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 73.7

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242



Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_d \leq f_{v,d}$   
 $\sqrt{2.77^2 + 1.57^2} = 3.18 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = 510.1$ ;  $T_y = 288.1$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 73.7  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(11.9/85.3)^2 + 96.4/74.7 + 0.7 \cdot 46/74.67 = 1.74 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -152960.5$ ;  $M_y = 57145$ ;  $N = -4928$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.08 + 0.03 + 0.01 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = 510.1$ ;  $T_y = 288.1$ ;  $M_t = -2385.1$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 73.7  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq k_{sh} \cdot f_{v,d}$   
 $1.44 \leq 19.07$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $M_t = -2385.1$

### Asta 119: Trave in legno a falda Falda 2 fili 55-1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 29.2

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 29.2  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_d \leq f_{v,d}$   
 $\sqrt{0.62^2 + 3.7^2} = 3.75 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $T_x = -113.8$ ;  $T_y = -680.7$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(10.7/85.3)^2 + 101.9/74.7 + 0.7 \cdot 20.4/74.67 = 1.57 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -161755.8$ ;  $M_y = 25388.7$ ;  $N = -4429.1$



#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 29.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.69 + 0 + 0.05 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -193.8$ ;  $T_y = -651.9$ ;  $M_t = 21709.9$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 29.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$13.1 \leq 19.07$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 21709.9$

### Asta 120: Trave in legno a falda Falda 2 fili 55-1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 100.3

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 100.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.13^2 + 4.89^2} = 4.89 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -24.5$ ;  $T_y = -899.1$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(10.6/85.3)^2 + 82.4/74.7 + 0.7 \cdot 11.9/74.67 = 1.23 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -130728.7$ ;  $M_y = 14826.7$ ;  $N = -4386.2$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 100.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.37 + 0 + 0.09 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -56.2$ ;  $T_y = -891.1$ ;  $M_t = 11578.7$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 100.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$6.99 \leq 19.07$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 11578.7$

### Asta 121: Trave in legno a falda Falda 2 fili 55-1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 100.3



#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 100.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.22^2 + 4.94^2} = 4.94 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -40.1$ ;  $T_y = -908.9$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(9.6/85.3)^2 + 29.3/74.7 + 0.7 \cdot 6.9/74.67 = 0.47 \leq 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_x = -46513.3$ ;  $M_y = 8520$ ;  $N = -3976.3$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 100.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.2 + 0 + 0.1 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -40.1$ ;  $T_y = -908.9$ ;  $M_t = 6162.4$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 100.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$3.72 \leq 19.07$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 6162.4$

### Asta 122: Trave in legno a falda Falda 2 fili 55-1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 101.1

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 101.1

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.11^2 + 2.92^2} = 2.92 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 20.8$ ;  $T_y = -536.9$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 101.1

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$



$(9.6/85.3)^2 + 59.3/74.7 + 0.7 \cdot 3/74.67 = 0.83 \leq 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media  
Mx = 94054.1; My = 3696.5; N = -3981.6

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 101.1

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{\text{tor,d}} / (k_{\text{sh}} \cdot f_{v,d}) + (\tau_{y,d} / f_{v,d})^2 + (\tau_{z,d} / f_{v,d})^2 \leq 1$

0.09 + 0 + 0.03  $\leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = 20.8; Ty = -536.9; Mt = 2991.2

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 101.1

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{\text{tor,d}} \leq k_{\text{sh}} \cdot f_{v,d}$

1.81  $\leq 19.07$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

Mt = 2991.2

### Asta 123: Trave in legno a falda Falda 2 fili 55-1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 20.4

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{\text{d}} \leq f_{v,d}$

$\sqrt{0.19^2 + 3.63^2} = 3.63 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = -34.1; Ty = 667.7

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$(\sigma_{c,0,d} / f_{c,0,d})^2 + \sigma_{m,y,d} / f_{m,y,d} + k_{m,z,d} (\sigma_{m,z,d} / f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d} / f_{c,0,d})^2 + k_{m,y,d} (\sigma_{m,y,d} / f_{m,y,d}) + \sigma_{m,z,d} / f_{m,z,d} \leq 1$

$(7/85.3)^2 + 60.2/74.7 + 0.7 \cdot 4.9/74.67 = 0.86 \leq 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media

Mx = 95589.6; My = 6069.4; N = -2887.9

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{\text{tor,d}} / (k_{\text{sh}} \cdot f_{v,d}) + (\tau_{y,d} / f_{v,d})^2 + (\tau_{z,d} / f_{v,d})^2 \leq 1$

0.11 + 0 + 0.05  $\leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = -34.1; Ty = 667.7; Mt = -3452.3

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 20.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{\text{tor,d}} \leq k_{\text{sh}} \cdot f_{v,d}$

2.08  $\leq 19.07$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

Mt = -3452.3

### Asta 124: Trave in legno a falda Falda 1 fili 158-161

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



## Dati generali

Lunghezza = 37.2

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$5.1/57.3 + 0.7 \cdot 0.5/111.3 + 41.1/111.3 = 0.46 \leq 1$  [4.4.6b] Comb: SLV, 4; Durata minima del carico nella combinazione: istantaneo

$M_x = 68.9$ ;  $M_y = -4383.7$ ;  $N = 406.6$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 37.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{2.3^2 + 0.31^2} = 2.32 \leq 22$  Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo

$T_x = -81.9$ ;  $T_y = -11$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 37.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{t,y,d}/f_{v,d})^2 + (\tau_{t,z,d}/f_{v,d})^2 \leq 1$

$0.05 + 0.01 + 0 \leq 1$  Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$T_x = -68.6$ ;  $T_y = -13.7$ ;  $M_t = 201.7$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 37.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.42 \leq 26.13$  Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$M_t = 201.7$

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 21.1

$K_{def} = 0$

$U_{inst,tot} \text{ in } x = 0$

$U_{inst,tot} \text{ in } y = 0$

$U_{inst,tot} = 0$

Luce/ $U_{inst,tot} > \text{limite}$

$37.2/0 = 28579.1 > 300$  Comb: SLE rara, 9

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 21.1

$K_{def} = 0$

$U_{inst,var} \text{ in } x = 0$

$U_{inst,var} \text{ in } y = 0$

$U_{inst,var} = 0$

Luce/ $U_{inst,var} > \text{limite}$

$37.2/0 = 51572.6 > 300$  Comb: SLE rara, 9

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 21.1

$K_{def} = 0.6$

$U_{fin} \text{ in } x = 0$

$U_{fin} \text{ in } y = 0$

$U_{fin} = 0$

Luce/ $U_{fin} > \text{limite}$

$37.2/0 = 22547.5 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600



Neve = 0,500 + 0,500 = 1,000  
Vento = 0,600 + 0,000 = 0,600

## Asta 125: Trave in legno a falda Falda 1 fili 158-161

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 37.2

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 8.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_{m} \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_{m} \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$4.9/57.3 + 0.7 \cdot 0.6/111.3 + 20.2/111.3 = 0.27 \leq 1$  [4.4.6b] Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo

$M_x = 81.1$ ;  $M_y = -2159$ ;  $N = 392.3$

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 37.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{(2.01^2 + 0.14^2)} = 2.01 \leq 22$  Comb: SLV, 4; Durata minima del carico nella combinazione: istantaneo

$T_x = 71.4$ ;  $T_y = -5.1$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.02 + 0 + 0 \leq 1$  Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo

$T_x = -46.1$ ;  $T_y = 2.9$ ;  $M_t = -74.2$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 37.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.52 \leq 26.13$  Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo

$M_t = -74.2$

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 18.6

$K_{def} = 0$

$U_{inst,tot} \text{ in } x = 0$

$U_{inst,tot} \text{ in } y = 0$

$U_{inst,tot} = 0$

Luce/ $U_{inst,tot} > \text{limite}$

$37.2/0 = 14633.9 > 300$  Comb: SLE rara, 8

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 18.6

$K_{def} = 0$

$U_{inst,var} \text{ in } x = 0$

$U_{inst,var} \text{ in } y = 0$

$U_{inst,var} = 0$

Luce/ $U_{inst,var} > \text{limite}$

$37.2/0 = 22911.9 > 300$  Comb: SLE rara, 8

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 18.6

$K_{def} = 0.6$

$U_{fin} \text{ in } x = 0$





Ufin in y = 0  
Ufin = 0  
Luce/Ufin > limite  
 $37.2/0=12026.8 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Neve = 0,500 + 0,500 = 1,000

## Asta 126: Trave in legno a falda Falda 1 fili 158-161

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 37.2

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 37.2  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_{m}(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $\sigma_{t,0,d}/f_{t,0,d} + K_{m}(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $6.3/57.3 + 0.7 \cdot 2/111.3 + 29.2/111.3 = 0.39 \leq 1$  [4.4.6b] Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo  
 $M_x = -268.9$ ;  $M_y = -3109.9$ ;  $N = 506.7$

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 37.2  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $k_{cr} = 0.67$   
 $\tau_{t,d} \leq f_{v,d}$   
 $\sqrt{1.77^2 + 0.1^2} = 1.77 \leq 22$  Comb: SLV, 2; Durata minima del carico nella combinazione: istantaneo  
 $T_x = 62.8$ ;  $T_y = -3.5$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.03 + 0 + 0 \leq 1$  Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo  
 $T_x = -35.8$ ;  $T_y = 10.4$ ;  $M_t = -129.4$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 37.2  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $0.91 \leq 26.13$  Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo  
 $M_t = -129.4$

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 18.6  
 $K_{def} = 0$   
 $U_{inst,tot} \text{ in } x = 0$   
 $U_{inst,tot} \text{ in } y = 0$   
 $U_{inst,tot} = 0$   
Luce/ $U_{inst,tot}$  > limite  
 $37.2/0 = 14682.8 > 300$  Comb: SLE rara, 8

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 18.6  
 $K_{def} = 0$   
 $U_{inst,var} \text{ in } x = 0$   
 $U_{inst,var} \text{ in } y = 0$   
 $U_{inst,var} = 0$



Luce/Uinst,var > limite

$37.2/0=21482.1 > 300$  Comb: SLE rara, 8

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 18.6

Kdef = 0.6

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

$37.2/0=12339.5 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

### Asta 127: Trave in legno a falda Falda 1 fili 158-161

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 38.9

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 38.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1; Kh = 1.084 (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$8.2/57.3+0.7*0.8/111.3+26.2/111.3=0.38 \leq 1$  [4.4.6b] Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo

Mx = 108.3; My = -2797.2; N = 656.5

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{1.87^2+0.59^2} = 1.96 \leq 22$  Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

Tx = 66.6; Ty = 21

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(ksh*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.07+0.01+0 \leq 1$  Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo

Tx = 59.8; Ty = 16; Mt = -247.5

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 38.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1

$\tau_{tor,d} \leq Ksh * f_{v,d}$

$1.75 \leq 26.13$  Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo

Mt = -247.5

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 20.7

Kdef = 0

Uinst tot in x = 0

Uinst tot in y = 0

Uinst tot = 0

Luce/Uinst,tot > limite

$38.9/0=25268.8 > 300$  Comb: SLE rara, 9



#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 20.7

Kdef = 0

Uinst var in x = 0

Uinst var in y = 0

Uinst var = 0

Luce/Uinst,var > limite

38.9/0=38711.2 > 300 Comb: SLE rara, 9

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 20.7

Kdef = 0.6

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

38.9/0=20911.9 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

### Asta 128: Trave in legno a falda Falda 1 fili 158-161

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 277.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 277.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$

$(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$

$(27.9/85.3)^2 + 306.9/81 + 0.7*4.7/80.97 = 3.94 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = -40919.4; My = -496.1; N = -2233.8

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau,d \leq f_{v,d}$

$\sqrt{0.12^2 + 7.99^2} = 7.99 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = -4.3; Ty = 284.2

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.02 + 0 + 0.25 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

Tx = -4; Ty = 284.2; Mt = -52.1

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 277.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$0.37 \leq 19$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

Mt = -52.1



#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 212.9

Kdef = 0

Uinst tot in x = 0.03

Uinst tot in y = -0.92

Uinst tot = 0.92

Luce/Uinst,tot > limite

$277.6/0.92=301.7 > 300$  Comb: SLE rara, 16

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 212.9

Kdef = 0

Uinst var in x = 0.02

Uinst var in y = -0.59

Uinst var = 0.59

Luce/Uinst,var > limite

$277.6/0.59=468.7 > 300$  Comb: SLE rara, 16

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 212.9

Kdef = 0.6

Ufin in x = 0.04

Ufin in y = -1.12

Ufin = 1.12

Luce/Ufin > limite

$277.6/1.12=248.5 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Variabile A =  $0,700 + 0,180 = 0,880$

Neve =  $0,500 + 0,500 = 1,000$

### Asta 129: Trave in legno a falda Falda 1 fili 170-171

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 165.2

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_d \leq f_{v,d}$

$\sqrt{0.17^2 + 2.91^2} = 2.91 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = -6.2; Ty = -103.4

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_{m,z,d}(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_{m,y,d}(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.2/85.3)^2 + 114.7/81 + 0.7 \cdot 5.5/80.97 = 1.46 > 1$  [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = 15291.9; My = -587.1; N = -97.8

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0+0+0.03 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = -6.7; Ty = -103.2; Mt = 3.1



#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.2 \leq 26.13$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_t = 28.9$

#### Asta 130: Trave in legno a falda Falda 1 fili 170-171

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 262.7

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.09^2 + 6.76^2} = 6.76 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -3.2$ ;  $T_y = 240.2$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(6.7/85.3)^2 + 267.9/81 + 0.7 \cdot 2.9/80.97 = 3.34 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -35720.7$ ;  $M_y = -311.5$ ;  $N = -536.1$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.02 + 0 + 0.18 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -3.1$ ;  $T_y = 240$ ;  $M_t = -66$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.47 \leq 19$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -66$

#### Asta 131: Trave in legno a falda Falda 6 fili 209-265

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 94.1

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(1.85^2 + 4.55^2)} = 4.91 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 340.4$ ;  $T_y = 836.9$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.8/85.3)^2 + 22.9/74.7 + 0.7 \cdot 18.6/74.67 = 0.48 \leq 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_x = 36306$ ;  $M_y = -23040.6$ ;  $N = -756.4$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.07 + 0.01 + 0.08 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 340.4$ ;  $T_y = 833.6$ ;  $M_t = -2085.9$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 94.1

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.28 \leq 19.07$  Comb: SLU, 37; Durata minima del carico nella combinazione: media

$M_t = -2117.9$

### Asta 132: Trave in legno a falda Falda 6 fili 209-265

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(1.23^2 + 4.87^2)} = 5.02 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 226.5$ ;  $T_y = 895.3$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.8/85.3)^2 + 43.1/74.7 + 0.7 \cdot 19/74.67 = 0.76 \leq 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_x = -68384.2$ ;  $M_y = 23628.4$ ;  $N = -760.4$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.1 + 0.01 + 0.09 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 226.5$ ;  $T_y = 895.3$ ;  $M_t = -3284.4$



#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $1.99 \leq 19.07$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $M_t = -3302.4$

### Asta 133: Trave in legno a falda Falda 6 fili 209-265

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{1.95^2 + 4.22^2} = 4.65 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = 359.2$ ;  $T_y = 775.9$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(1.8/85.3)^2 + 65.3/74.7 + 0.7 \cdot 38.3/74.67 = 1.23 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -103662.3$ ;  $M_y = 47612.5$ ;  $N = -764.5$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.12 + 0.01 + 0.07 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = 359.2$ ;  $T_y = 775.9$ ;  $M_t = -3689.9$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $2.23 \leq 19.07$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $M_t = -3689.9$

### Asta 134: Trave in legno a falda Falda 6 fili 209-265

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1



#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.7^2 + 4.47^2} = 4.53 \leq 16$  Comb: SLU, 29; Durata minima del carico nella combinazione: media  
 $T_x = -128.6$ ;  $T_y = 823.2$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 56.3  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(1.9/85.3)^2 + 80.9/74.7 + 0.7 \cdot 35/74.67 = 1.41 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -128354.4$ ;  $M_y = 43430.7$ ;  $N = -787.6$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.2 + 0 + 0.08 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = -98$ ;  $T_y = 809.7$ ;  $M_t = -6347.7$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $3.85 \leq 19.07$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $M_t = -6381$

### Asta 135: Trave in legno a falda Falda 6 fili 209-265

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{2.9^2 + 2.31^2} = 3.71 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = -534$ ;  $T_y = -424.5$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(1.9/85.3)^2 + 80/74.7 + 0.7 \cdot 36.2/74.67 = 1.41 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -126941.8$ ;  $M_y = 44949.7$ ;  $N = -777.5$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.11 + 0.03 + 0.02 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = -534$ ;  $T_y = -424.5$ ;  $M_t = -3504.7$





#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$   
 $2.12 \leq 19.07$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $M_t = -3519.5$

#### Asta 136: Trave in legno a falda Falda 6 fili 209-265

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 67.6

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.81^2 + 5.49^2} = 5.55 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = -149.7$ ;  $T_y = -1009.3$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(1.8/85.3)^2 + 79/74.7 + 0.7 * 8.3/74.67 = 1.14 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -125441.4$ ;  $M_y = 10320.5$ ;  $N = -758.1$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} * f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.08 + 0 + 0.12 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = -149.7$ ;  $T_y = -1009.3$ ;  $M_t = -2466$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$   
 $1.49 \leq 19.07$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $M_t = -2466$

#### Asta 137: Trave in legno a falda Falda 6 fili 209-265

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 75.8

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1



#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 75.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.78^2 + 7.69^2} = 7.73 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 143.4$ ;  $T_y = -1415.7$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.8/85.3)^2 + 51.2/74.7 + 0.7 \cdot 1.5/74.67 = 0.7 \leq 1$  [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_x = -81326.8$ ;  $M_y = -1923$ ;  $N = -751.6$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 75.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.05 + 0 + 0.23 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 143.4$ ;  $T_y = -1415.7$ ;  $M_t = -1435.6$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 75.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.87 \leq 19.07$  Comb: SLU, 29; Durata minima del carico nella combinazione: media

$M_t = -1444.6$

### Asta 138: Trave in legno a falda Falda 1 fili 36-74

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 49.3

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$0.7 \cdot 0.8/74.7 + 33.1/74.7 = 0.45 \leq 1$  (formula 4.4.5b) Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_x = 1198.2$ ;  $M_y = 41148.3$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 49.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{5.32^2 + 1.17^2} = 5.44 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -978.2$ ;  $T_y = -215.4$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 49.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.02 + 0.11 + 0.01 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -978.2$ ;  $T_y = -215.4$ ;  $M_t = -560.3$



#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 49.3  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $1.04 \leq 26.22$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo  
 $M_t = -1727.8$

### Asta 139: Trave in legno a falda Falda 1 fili 36-74

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{3.27^2 + 3.71^2} = 4.95 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = -602.3$ ;  $T_y = 683.4$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(1/85.3)^2 + 0.7 \cdot 18.9/74.7 + 30.7/74.7 = 0.59 \leq 1$  [4.4.7b] Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $M_x = -30049.9$ ;  $M_y = -38185.7$ ;  $N = -413.7$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.01 + 0.04 + 0.05 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = -602.3$ ;  $T_y = 683.4$ ;  $M_t = 389.5$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $0.67 \leq 26.22$  Comb: SLV, 2; Durata minima del carico nella combinazione: istantaneo  
 $M_t = 1102.6$

### Asta 140: Trave in legno a falda Falda 1 fili 36-74

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1



#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.5^2 + 4.64^2} = 4.67 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $T_x = -92$ ;  $T_y = 853.5$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(1.3/85.3)^2 + 40.3/74.7 + 0.7 \cdot 31.1/74.67 = 0.83 \leq 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $M_x = -63925.5$ ;  $M_y = -38588.3$ ;  $N = -529.1$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.09 + 0 + 0.08 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = -96.7$ ;  $T_y = 849$ ;  $M_t = -2850.3$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq k_{sh} \cdot f_{v,d}$   
 $1.72 \leq 19.07$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $M_t = -2850.3$

### Asta 141: Trave in legno a falda Falda 1 fili 36-74

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{2.3^2 + 4.33^2} = 4.9 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $T_x = 422.4$ ;  $T_y = 796.8$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 31.5  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(1.4/85.3)^2 + 51.7/74.7 + 0.7 \cdot 19.7/74.67 = 0.88 \leq 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $M_x = -82097.3$ ;  $M_y = -24418.7$ ;  $N = -561.9$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.12 + 0.02 + 0.07 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = 411.5$ ;  $T_y = 779.3$ ;  $M_t = -3815.5$



#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.3 \leq 19.07$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -3815.5$

#### Asta 142: Trave in legno a falda Falda 1 fili 36-74

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 67.6

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{1.02^2 + 2.84^2} = 3.01 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -186.9$ ;  $T_y = -522.2$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 33.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.4/85.3)^2 + 55.7/74.7 + 0.7 \cdot 13/74.67 = 0.87 \leq 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_x = -88352.4$ ;  $M_y = -16087.3$ ;  $N = -571.2$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.1 + 0 + 0.03 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -186.9$ ;  $T_y = -522.2$ ;  $M_t = -3016.4$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.82 \leq 19.07$  Comb: SLU, 38; Durata minima del carico nella combinazione: media

$M_t = -3018.9$

#### Asta 143: Trave in legno a falda Falda 1 fili 36-74

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 67.6

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{2.07^2 + 2.45^2} = 3.2 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = 380.7$ ;  $T_y = -450.2$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(1.4/85.3)^2 + 48.2/74.7 + 0.7 \cdot 17.9/74.67 = 0.81 \leq 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $M_x = -76495.5$ ;  $M_y = -22170.7$ ;  $N = -571.1$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.13 + 0.02 + 0.02 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = 375.1$ ;  $T_y = -452.3$ ;  $M_t = -4225.7$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $2.55 \leq 19.07$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $M_t = -4225.7$

### Asta 144: Trave in legno a falda Falda 3 fili 31-87

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 84

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.09^2 + 6.32^2} = 6.32 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = -16.5$ ;  $T_y = 1163.4$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 84  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(1.9/85.3)^2 + 48.7/74.7 + 0.7 \cdot 2.4/74.67 = 0.67 \leq 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $M_x = -77284.7$ ;  $M_y = 2944$ ;  $N = -774.7$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.03 + 0 + 0.16 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = -16.5$ ;  $T_y = 1163.4$ ;  $M_t = 1007.6$



#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 84  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $1.14 \leq 26.22$  Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo  
 $M_t = 1892.8$

#### Asta 145: Trave in legno a falda Falda 3 fili 31-87

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 67.6

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.92^2 + 3.99^2} = 4.1 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = 169.9$ ;  $T_y = 735$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(1.9/85.3)^2 + 67.2/74.7 + 0.7 \cdot 12/74.67 = 1.01 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -106596$ ;  $M_y = 14961.8$ ;  $N = -802.9$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.05 + 0 + 0.06 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = 169.9$ ;  $T_y = 735$ ;  $M_t = 1470.2$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $0.89 \leq 19.07$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $M_t = 1470.2$

#### Asta 146: Trave in legno a falda Falda 3 fili 31-87

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 67.6

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1



#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(2.62^2 + 2.25^2)} = 3.46 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 482.5$ ;  $T_y = -414.3$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_{m,z,d}/f_{m,z,d} \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_{m,y,d}/f_{m,y,d} + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2/85.3)^2 + 64.5/74.7 + 0.7 \cdot 36.8/74.67 = 1.21 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -102387.4$ ;  $M_y = 45650.7$ ;  $N = -817.2$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.07 + 0.03 + 0.02 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 482.5$ ;  $T_y = -414.3$ ;  $M_t = 2130.8$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq k_{sh} \cdot f_{v,d}$

$1.29 \leq 19.07$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = 2138.2$

### Asta 147: Trave in legno a falda Falda 3 fili 31-87

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.65^2 + 3.16^2)} = 3.22 \leq 16$  Comb: SLU, 29; Durata minima del carico nella combinazione: media

$T_x = -119.3$ ;  $T_y = -581.1$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_{m,z,d}/f_{m,z,d} \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_{m,y,d}/f_{m,y,d} + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2/85.3)^2 + 65/74.7 + 0.7 \cdot 35.4/74.67 = 1.2 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -103232.7$ ;  $M_y = 43909.7$ ;  $N = -822.1$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.15 + 0.01 + 0.03 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -218.1$ ;  $T_y = -533.5$ ;  $M_t = 4767.3$





#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $2.88 \leq 19.07$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $M_t = 4767.3$

#### Asta 148: Trave in legno a falda Falda 3 fili 31-87

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 67.6

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.38^2 + 4.44^2} = 4.46 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = -69.2$ ;  $T_y = -817.7$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(2/85.3)^2 + 57.7/74.7 + 0.7 \cdot 24.3/74.67 = 1.1 > 1$  [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -91528.8$ ;  $M_y = 30194.9$ ;  $N = -833.1$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.12 + 0 + 0.08 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = -69.2$ ;  $T_y = -817.7$ ;  $M_t = 3894.7$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $2.35 \leq 19.07$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $M_t = 3894.7$

#### Asta 149: Trave in legno a falda Falda 3 fili 31-87

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 67.6

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1



#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{1.21^2 + 4.47^2} = 4.63 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -222.7$ ;  $T_y = -822.9$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2/85.3)^2 + 34.2/74.7 + 0.7 \cdot 19.1/74.67 = 0.64 \leq 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_x = -54229.8$ ;  $M_y = 23766.2$ ;  $N = -808.3$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.11 + 0.01 + 0.08 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -222.7$ ;  $T_y = -822.9$ ;  $M_t = 3590.8$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.19 \leq 19.07$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = 3620.8$

### Asta 150: Trave in legno a falda Falda 3 fili 31-87

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 81.9

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 81.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{1.93^2 + 3.93^2} = 4.38 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -355.4$ ;  $T_y = -723.6$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 81.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2/85.3)^2 + 19.7/74.7 + 0.7 \cdot 16.4/74.67 = 0.42 \leq 1$  [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_x = 31192.2$ ;  $M_y = -20346.8$ ;  $N = -821.6$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 81.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.08 + 0.01 + 0.06 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -354.1$ ;  $T_y = -720.4$ ;  $M_t = 2645.4$



#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 81.9  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $1.62 \leq 19.07$  Comb: SLU, 37; Durata minima del carico nella combinazione: media  
 $M_t = 2676$

### Asta 151: Trave in legno a falda Falda 4 fili 95-198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 43.4

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$   
 $K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$   
 $27.2/74.7 + 0.7 \cdot 14/74.7 = 0.5 \leq 1$  (formula 4.4.5a) Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $M_x = 43214.7$ ;  $M_y = -17341.3$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.62^2 + 2.76^2} = 2.83 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = 114$ ;  $T_y = 507.2$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.19 + 0 + 0.03 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $T_x = 114.1$ ;  $T_y = 506.9$ ;  $M_t = 5939.5$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 43.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $3.59 \leq 19.07$  Comb: SLU, 37; Durata minima del carico nella combinazione: media  
 $M_t = 5944.1$

### Asta 152: Trave in legno a falda Falda 4 fili 95-198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1



#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$S_{m,y,d}/f_{m,y,d} + K_{m,z,d}/f_{m,z,d} \leq 1$

$K_{m,y,d}/f_{m,y,d} + S_{m,z,d}/f_{m,z,d} \leq 1$

$19.6/74.7 + 0.7 \cdot 10/74.7 = 0.36 \leq 1$  (formula 4.4.5a) Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_x = 31099.7$ ;  $M_y = -12390.3$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{1.66^2 + 5.66^2} = 5.89 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 305$ ;  $T_y = 1040.6$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.16 + 0.01 + 0.12 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 305$ ;  $T_y = 1040.6$ ;  $M_t = 4992.9$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$3.01 \leq 19.07$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = 4992.9$

### Asta 153: Trave in legno a falda Falda 4 fili 95-198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$S_{m,y,d}/f_{m,y,d} + K_{m,z,d}/f_{m,z,d} \leq 1$

$K_{m,y,d}/f_{m,y,d} + S_{m,z,d}/f_{m,z,d} \leq 1$

$47.1/74.7 + 0.7 \cdot 8.1/74.7 = 0.71 \leq 1$  (formula 4.4.5a) Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_x = -74789.3$ ;  $M_y = 10105.8$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.11^2 + 6.78^2} = 6.78 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 19.6$ ;  $T_y = 1247.9$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.23 + 0 + 0.18 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 19.6$ ;  $T_y = 1247.9$ ;  $M_t = 7279$



#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $4.39 \leq 19.07$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $M_t = 7280.2$

### Asta 154: Trave in legno a falda Falda 4 fili 95-198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$   
 $K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$   
 $70/74.7 + 0.7 \cdot 48.4/74.7 = 1.39 \leq 1$  (formula 4.4.5a) Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -111015.8$ ;  $M_y = 60129.4$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{4.11^2 + 5.12^2} = 6.57 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = 757.1$ ;  $T_y = 942.8$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.06 + 0.07 + 0.1 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = 757.1$ ;  $T_y = 942.8$ ;  $M_t = -1821.7$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $1.1 \leq 19.07$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $M_t = -1821.7$

### Asta 155: Trave in legno a falda Falda 4 fili 95-198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1



#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$S_{m,y,d}/f_{m,y,d} + K_{m,y,d} \cdot (S_{m,z,d}/f_{m,z,d}) \geq 1$

$K_{m,y,d} \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \geq 1$

$96.6/74.7 + 0.7 \cdot 39/74.7 = 1.66 \geq 1$  (formula 4.4.5a) Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -153325.8$ ;  $M_y = 48391.7$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{1.01^2 + 5.82^2} = 5.91 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -185.2$ ;  $T_y = 1071.8$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.21 + 0 + 0.13 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -185.2$ ;  $T_y = 1071.8$ ;  $M_t = -6605$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$3.99 \leq 19.07$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -6605$

### Asta 156: Trave in legno a falda Falda 4 fili 95-198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 51.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$S_{m,y,d}/f_{m,y,d} + K_{m,y,d} \cdot (S_{m,z,d}/f_{m,z,d}) \geq 1$

$K_{m,y,d} \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \geq 1$

$113/74.7 + 0.7 \cdot 31.5/74.7 = 1.81 \geq 1$  (formula 4.4.5a) Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -179354.6$ ;  $M_y = 39143.8$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{1.17^2 + 4.67^2} = 4.81 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -216.1$ ;  $T_y = 859$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.14 + 0.01 + 0.09 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -216.1$ ;  $T_y = 859$ ;  $M_t = -4531.3$



#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $2.74 \leq 19.07$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $M_t = -4532.9$

### Asta 157: Trave in legno a falda Falda 4 fili 95-198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 38.3  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$   
 $K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$   
 $120.5/74.7 + 0.7 \cdot 28.6/74.7 = 1.88 \leq 1$  (formula 4.4.5a) Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -191302.5$ ;  $M_y = 35487.5$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.32^2 + 2.97^2} = 2.99 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = -58.8$ ;  $T_y = 546.4$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.05 + 0 + 0.03 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = -55.5$ ;  $T_y = 545.1$ ;  $M_t = -1561.2$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $0.94 \leq 19.07$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $M_t = -1561.2$

### Asta 158: Trave in legno a falda Falda 4 fili 95-198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1



#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 22.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$S_{m,y,d}/f_{m,y,d} + K_{m,z,d}/f_{m,z,d} > 1$

$K_{m,y,d}/f_{m,y,d} + S_{m,z,d}/f_{m,z,d} > 1$

$119.8/74.7 + 0.7 \cdot 27.9/74.7 = 1.87 > 1$  (formula 4.4.5a) Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -190144.6$ ;  $M_y = 34631.8$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.04^2 + 3.21^2} = 3.21 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 7.2$ ;  $T_y = -590.7$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.01 + 0 + 0.04 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 7.2$ ;  $T_y = -590.7$ ;  $M_t = 190$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.41 \leq 26.22$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_t = 683.4$

### Asta 159: Trave in legno a falda Falda 4 fili 95-198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 4.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$S_{m,y,d}/f_{m,y,d} + K_{m,z,d}/f_{m,z,d} > 1$

$K_{m,y,d}/f_{m,y,d} + S_{m,z,d}/f_{m,z,d} > 1$

$111.5/74.7 + 0.7 \cdot 27.9/74.7 = 1.75 > 1$  (formula 4.4.5a) Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -176895.7$ ;  $M_y = 34679.5$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.35^2 + 4.72^2} = 4.73 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 64.7$ ;  $T_y = -867.7$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.05 + 0 + 0.09 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 64.7$ ;  $T_y = -867.7$ ;  $M_t = 1488.3$





#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.9 \leq 19.07$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = 1491.5$

### Asta 160: Trave in legno a falda Falda 4 fili 95-198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$93.5/74.7 + 0.7 \cdot 30.7/74.7 = 1.54 \leq 1$  (formula 4.4.5a) Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -148396.3$ ;  $M_y = 38153.8$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.72^2 + 5.88^2} = 5.92 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 133$ ;  $T_y = -1081.1$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.15 + 0 + 0.13 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 133$ ;  $T_y = -1081.1$ ;  $M_t = 4839.2$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.92 \leq 19.07$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 4839.2$

### Asta 161: Trave in legno a falda Falda 4 fili 95-198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$66.8/74.7 + 0.7 \cdot 36.5/74.7 = 1.24 \leq 1$  (formula 4.4.5a) Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_x = -105955.1$ ;  $M_y = 45342.2$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{2.6^2 + 5.6^2} = 6.17 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -478.5$ ;  $T_y = -1030.1$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.09 + 0.03 + 0.12 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -482.9$ ;  $T_y = -1027.9$ ;  $M_t = 2893.8$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.75 \leq 19.07$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 2893.8$

### Asta 162: Trave in legno a falda Falda 4 fili 95-198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$40.5/74.7 + 0.7 \cdot 10.6/74.7 = 0.64 \leq 1$  (formula 4.4.5a) Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_x = -64216.3$ ;  $M_y = 13166.6$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.21^2 + 6.49^2} = 6.5 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -38.9$ ;  $T_y = -1194.5$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.23 + 0 + 0.16 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -38.9$ ;  $T_y = -1194.5$ ;  $M_t = -7226.7$



#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $4.36 \leq 19.07$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $M_t = -7228.1$

### Asta 163: Trave in legno a falda Falda 4 fili 95-198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $22.2/74.7 + 0.7 \cdot 9.3/74.7 = 0.38 \leq 1$  (formula 4.4.5a) Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $M_x = 35212$ ;  $M_y = -11541.7$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{1.73^2 + 5.41^2} = 5.68 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = -318.5$ ;  $T_y = -994.7$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.15 + 0.01 + 0.11 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $T_x = -318.6$ ;  $T_y = -994.6$ ;  $M_t = -4612.9$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $2.78 \leq 19.07$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $M_t = -4612.9$

### Asta 164: Trave in legno a falda Falda 4 fili 95-198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 39.5

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1



#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 39.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\sigma_{m,y,d}/f_{m,y,d} + K_{m,z,d}/f_{m,z,d} \leq 1$

$K_{m,y,d}/f_{m,y,d} + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$27.8/74.7 + 0.7 \cdot 12.8/74.7 = 0.49 \leq 1$  (formula 4.4.5a) Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_x = 44115.6$ ;  $M_y = -15944.2$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 39.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.58^2 + 2.39^2} = 2.46 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -107.2$ ;  $T_y = -440.6$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 39.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.2 + 0 + 0.02 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -107.5$ ;  $T_y = -440.3$ ;  $M_t = -6175.6$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 39.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$3.73 \leq 19.07$  Comb: SLU, 29; Durata minima del carico nella combinazione: media

$M_t = -6187.2$

### Asta 165: Trave in legno a falda Falda 1 fili 178-179

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 165.2

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_{m,z,d}/f_{m,z,d} \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_{m,y,d}/f_{m,y,d} + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$0.7/41.6 + 120.3/81 + 0.7 \cdot 7.3/81 = 1.57 \leq 1$  [4.4.6a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 16034.5$ ;  $M_y = 783.7$ ;  $N = 54.9$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.28^2 + 3.04^2} = 3.05 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 10$ ;  $T_y = -108.1$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0 + 0 + 0.04 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 10$ ;  $T_y = -108.1$ ;  $M_t = -1.2$



#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.15 \leq 26.13$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_t = 21.1$

### Asta 166: Trave in legno a falda Falda 1 fili 178-179

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 262.7

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.07^2 + 6.2^2} = 6.2 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 2.4$ ;  $T_y = 220.6$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.7/85.3)^2 + 247.8/81 + 0.7 \cdot 4/80.97 = 3.1 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -33041.4$ ;  $M_y = 425.3$ ;  $N = -132.2$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.03 + 0 + 0.15 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 2.4$ ;  $T_y = 220.4$ ;  $M_t = -69.5$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.49 \leq 19$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -69.5$

### Asta 167: Trave in legno a falda Falda 1 fili 184-185

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 165.2

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$0.6/41.6 + 117.6/81 + 0.7 \cdot 7.5/81 = 1.53 > 1$  [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 15678.5$ ;  $M_y = 800.3$ ;  $N = 50.3$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{0.29^2 + 3.05^2} = 3.06 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 10.1$ ;  $T_y = -108.5$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0 + 0 + 0.04 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 10.1$ ;  $T_y = -108.5$ ;  $M_t = -3.3$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.13 \leq 26.13$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_t = 18.8$

### Asta 168: Trave in legno a falda Falda 1 fili 184-185

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 262.7

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{0.07^2 + 5.86^2} = 5.87 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 2.5$ ;  $T_y = 208.5$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.2/85.3)^2 + 233.9/81 + 0.7 \cdot 4.2/80.97 = 2.93 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -31188.6$ ;  $M_y = 450.6$ ;  $N = -98.6$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.02 + 0 + 0.13 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 2.5$ ;  $T_y = 208.2$ ;  $M_t = -63.8$



#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.45 \leq 19$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -63.8$

### Asta 169: Trave in legno a falda Falda 1 fili 191-192

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 165.2

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$1.4/41.6 + 105.4/81 + 0.7 \cdot 7.7/81 = 1.4 \leq 1$  [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 14057.5$ ;  $M_y = 818.2$ ;  $N = 108.1$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.23^2 + 2.92^2} = 2.93 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 8.1$ ;  $T_y = -103.9$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0 + 0 + 0.03 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 6.8$ ;  $T_y = -103.9$ ;  $M_t = 1.6$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.13 \leq 26.13$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_t = 18.7$

### Asta 170: Trave in legno a falda Falda 1 fili 191-192

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 262.7

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.05^2 + 5.78^2} = 5.78 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 1.8$ ;  $T_y = 205.6$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2.4/85.3)^2 + 227/81 + 0.7 \cdot 2.3/80.97 = 2.82 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -30264.6$ ;  $M_y = 241.9$ ;  $N = -190.6$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.02 + 0 + 0.13 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 1.8$ ;  $T_y = 205.6$ ;  $M_t = -59.4$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.43 \leq 19$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -61.3$

### Asta 171: Trave in legno a falda Falda 1 fili 201-202

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 41.5

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$4.8/57.3 + 0.7 \cdot 12/111.3 + 30.3/111.3 = 0.43 \leq 1$  [4.4.6b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_x = 1601$ ;  $M_y = 3236.8$ ;  $N = 382.1$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 41.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{4.27^2 + 1.43^2} = 4.5 \leq 22$  Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$T_x = 151.7$ ;  $T_y = -51$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 41.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.02 + 0.04 + 0 \leq 1$  Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$T_x = 151.7$ ;  $T_y = -51$ ;  $M_t = -84.9$





#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 41.5  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $0.6 \leq 26.13$  Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo  
 $M_t = -84.9$

### Asta 172: Trave in legno a falda Falda 1 fili 201-202

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 41.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 41.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $16.3/57.3 + 0.7 \cdot 4.7/111.3 + 30.3/111.3 = 0.59 \leq 1$  [4.4.6b] Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo  
 $M_x = 624.4$ ;  $M_y = 3232.6$ ;  $N = 1301.2$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 41.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{4.21^2 + 0.23^2} = 4.21 \leq 22$  Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo  
 $T_x = 149.6$ ;  $T_y = -8.2$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.01 + 0.04 + 0 \leq 1$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo  
 $T_x = -148.8$ ;  $T_y = 6.4$ ;  $M_t = 27.9$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 41.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $0.2 \leq 26.13$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo  
 $M_t = 27.9$

### Asta 173: Trave in legno a falda Falda 1 fili 201-202

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 41.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1



#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 41.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$19.5/57.3 + 0.7 \cdot 3.3/111.3 + 30.7/111.3 = 0.64 \leq 1$  [4.4.6b] Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_x = -442.7$ ;  $M_y = 3274.9$ ;  $N = 1557.2$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 41.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{3.5^2 + 0.54^2} = 3.54 \leq 22$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$T_x = -124.5$ ;  $T_y = -19.2$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 41.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.02 + 0.03 + 0 \leq 1$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$T_x = -124.5$ ;  $T_y = -19.2$ ;  $M_t = -78$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 41.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.75 \leq 26.13$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_t = -106.4$

### Asta 174: Trave in legno a falda Falda 1 fili 201-202

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 41.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 41.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$30.9/57.3 + 0.7 \cdot 0.5/111.3 + 26.7/111.3 = 0.78 \leq 1$  [4.4.6b] Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_x = -61.6$ ;  $M_y = 2842.8$ ;  $N = 2470.3$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 41.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{1.92^2 + 1.34^2} = 2.34 \leq 22$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$T_x = -68.1$ ;  $T_y = -47.8$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 41.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.04 + 0 + 0.01 \leq 1$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$T_x = -39.1$ ;  $T_y = -63.6$ ;  $M_t = -166.1$



#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 41.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $1.17 \leq 26.13$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo  
 $M_t = -166.1$

### Asta 175: Trave in legno a falda Falda 1 fili 201-202

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 278.2

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 278.2  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$   
 $St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$   
 $2.2/41.6 + 227.1/81 + 0.7 \cdot 2/81 = 2.87 \leq 1$  [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -30274.2$ ;  $M_y = -214.9$ ;  $N = 174.9$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.08^2 + 6.06^2} = 6.06 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = -2.7$ ;  $T_y = 215.3$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.02 + 0 + 0.14 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = -2.7$ ;  $T_y = 215.3$ ;  $M_t = -42.8$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 278.2  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $0.32 \leq 19$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $M_t = -45.7$

### Asta 176: Trave in legno a falda Falda 1 fili 210-211

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 262.7

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1



#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.16^2 + 4.61^2} = 4.62 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -5.6$ ;  $T_y = 164$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(5.5/85.3)^2 + 195.1/81 + 0.7 \cdot 7.3/80.97 = 2.48 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -26018.2$ ;  $M_y = -781.3$ ;  $N = -436.7$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.02 + 0 + 0.08 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -5.6$ ;  $T_y = 164$ ;  $M_t = -60.7$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.45 \leq 19$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -63.5$

### Asta 177: Trave in legno a falda Falda 1 fili 216-217

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 262.7

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) > 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} > 1$

$17.1/41.6 + 230.8/81 + 0.7 \cdot 9.6/81 = 3.34 > 1$  [4.4.6a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -30775$ ;  $M_y = -1018.9$ ;  $N = 1368$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.26^2 + 6.35^2} = 6.36 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -9.3$ ;  $T_y = 225.9$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.02 + 0 + 0.16 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -9.3$ ;  $T_y = 225.9$ ;  $M_t = -66.5$



#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.5 \leq 19$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -70.8$

#### Asta 178: Trave in legno a falda Falda 1 fili 225-226

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 262.7

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.11^2 + 3.77^2} = 3.77 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -3.8$ ;  $T_y = 134.1$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2.1/85.3)^2 + 171.3/81 + 0.7 \cdot 4.4/80.97 = 2.15 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -22839.5$ ;  $M_y = -467.2$ ;  $N = -171.7$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.04 + 0 + 0.06 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -3.8$ ;  $T_y = 134.1$ ;  $M_t = -98.6$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.7 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -99$

#### Asta 179: Trave in legno a falda Falda 1 fili 236-237

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 262.7

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.03^2 + 3.29^2} = 3.29 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 0.9$ ;  $T_y = 116.9$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.6/85.3)^2 + 156.6/81 + 0.7 \cdot 1.1/80.97 = 1.94 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -20880.4$ ;  $M_y = 120$ ;  $N = -131.5$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.05 + 0 + 0.04 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 0.9$ ;  $T_y = 116.9$ ;  $M_t = -133.8$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.95 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -134$

### Asta 180: Trave in legno a falda Falda 1 fili 242-243

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 262.7

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.01^2 + 2.92^2} = 2.92 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 0.4$ ;  $T_y = 103.7$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(0.7/85.3)^2 + 144.9/81 + 0.7 \cdot 0.4/80.97 = 1.79 > 1$  [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -19315.3$ ;  $M_y = 41.4$ ;  $N = -56.5$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.06 + 0 + 0.03 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 0.4$ ;  $T_y = 103.7$ ;  $M_t = -160$



#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.15 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -163$

### Asta 181: Trave in legno a falda Falda 1 fili 248-249

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 262.7

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$128/81 + 0.7 \cdot 4.7/81 = 1.62 \leq 1$  (formula 4.4.5a) Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -17068.6$ ;  $M_y = -498.5$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.09^2 + 2.48^2} = 2.48 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -3.2$ ;  $T_y = 88$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.07 + 0 + 0.02 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -3.2$ ;  $T_y = 88$ ;  $M_t = -177.7$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.29 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -183.1$

### Asta 182: Trave in legno a falda Falda 1 fili 254-255

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 262.7

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$S_{m,y,d}/f_{m,y,d} + K_{m,y,d} \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$K_{m,z,d} \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$106.7/81 + 0.7 \cdot 7.1/81 = 1.38 > 1$  (formula 4.4.5a) Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -14232.1$ ;  $M_y = -752.1$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{v,d} \leq f_{v,d}$

$\sqrt{0.16^2 + 1.99^2} = 2 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -5.8$ ;  $T_y = 70.9$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{v,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.07 + 0 + 0.02 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -5.8$ ;  $T_y = 70.9$ ;  $M_t = -175.4$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.29 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -183$

### Asta 183: Trave in legno a falda Falda 1 fili 261-262

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 230.8

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{v,d} \leq f_{v,d}$

$\sqrt{0.1^2 + 2.04^2} = 2.04 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -3.6$ ;  $T_y = 72.4$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 230.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_{m,y,d} \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_{m,z,d} \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(0.7/85.3)^2 + 92.2/81 + 0.7 \cdot 2.5/80.97 = 1.16 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -12290.3$ ;  $M_y = -268.7$ ;  $N = -58$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{v,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.06 + 0 + 0.02 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -3.6$ ;  $T_y = 72.4$ ;  $M_t = -173.4$





#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 230.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.29 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -182$

#### Asta 184: Trave in legno a falda Falda 1 fili 266-267

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 158.9

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.22^2 + 2.94^2} = 2.95 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 7.7$ ;  $T_y = 104.6$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 158.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.5/85.3)^2 + 84.6/81 + 0.7 \cdot 7.3/80.97 = 1.11 > 1$  [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -11280.4$ ;  $M_y = 776.2$ ;  $N = -119.5$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.09 + 0 + 0.03 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 7.7$ ;  $T_y = 104.6$ ;  $M_t = -240.2$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 158.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.77 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -250.9$

#### Asta 185: Trave in legno a falda Falda 1 fili 270-271

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 87

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{1.09^2 + 5.8^2} = 5.9 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $T_x = 38.6$ ;  $T_y = 206.1$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 87  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(3/85.3)^2 + 87.8/81 + 0.7 \cdot 16.3/80.97 = 1.23 > 1$  [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -11703.8$ ;  $M_y = 1733.8$ ;  $N = -241.1$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.12 + 0 + 0.13 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $T_x = 38.6$ ;  $T_y = 206.1$ ;  $M_t = -330.2$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 87  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $2.42 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $M_t = -342.3$

### Asta 186: Trave in legno a falda Falda 1 fili 277-275

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 30

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 13  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $\sigma_{t,0,d} \leq f_{t,0,d}$   
 $0.22 \leq 57.26$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo  
 $N = 18$

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 30  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.6$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $\sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $0.1/60.7 + 0.7 \cdot 0/60.7 = 0 \leq 1$  (formula 4.4.5a) Comb: SLU, 43; Durata minima del carico nella combinazione: permanente  
 $M_x = 14.9$ ;  $M_y = 0$

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 9  
 $K_{def} = 0$   
 $U_{inst,tot} \text{ in } x = 0$   
 $U_{inst,tot} \text{ in } y = 0$   
 $U_{inst,tot} = 0$   
Luce/ $U_{inst,tot} > \text{limite}$



30/0=10651384.2 > 300 Comb: SLE rara, 17

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 26

Kdef = 0

Uinst var in x = 0

Uinst var in y = 0

Uinst var = 0

Luce/Uinst,var > limite

30/0=11727329070.1 > 300 Comb: SLE rara, 17

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 9

Kdef = 0.6

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

30/0=6657932.5 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

### Asta 187: Trave in legno a falda Falda 5 fili 275-280

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 24.2

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 11.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1; Kh = 1.084 (formula 11.7.1)

St,0,d <= ft,0,d

0.01 <= 57.26 Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo

N = 0.5

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1; Kh = 1.084 (formula 11.7.1)

Sm,y,d/fm,y,d + Km\*(Sm,z,d/fm,z,d) <= 1

Km\*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d <= 1

0.7\*0.1/111.3+0.1/111.3=0 <= 1 (formula 4.4.5b) Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

Mx = 8.5; My = 9.5

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 15.3

Kdef = 0

Uinst tot in x = 0

Uinst tot in y = 0

Uinst tot = 0

Luce/Uinst,tot > limite

24.2/0=7827373.4 > 300 Comb: SLE rara, 15

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 17

Kdef = 0

Uinst var in x = 0

Uinst var in y = 0



Uinst var = 0  
Luce/Uinst,var > limite  
24.2/0=7964702057.1 > 300 Comb: SLE rara, 17

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 15.3  
Kdef = 0.6  
Ufin in x = 0  
Ufin in y = 0  
Ufin = 0  
Luce/Ufin > limite  
24.2/0=4892250.1 > 200  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Variabile A = 0,700 + 0,180 = 0,880  
Neve = 0,500 + 0,000 = 0,500  
Variabile H = 0,000 + 1,000 = 1,000  
Vento = 0,600 + 0,000 = 0,600

### Asta 188: Trave in legno a falda Falda 1 fili 132-133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 49.9

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 1.1; Kh = 1.084 (formula 11.7.1)  
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$   
 $St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$   
 $5/57.3 + 0.7 \cdot 2.1/111.3 + 27.9/111.3 = 0.35 \leq 1$  [4.4.6b] Comb: SLV, 2; Durata minima del carico nella combinazione: istantaneo  
Mx = -275.8; My = -2970.8; N = 396.4

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 49.9  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 1.1; kcr = 0.67  
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{2.18^2 + 0.34^2} = 2.21 \leq 22$  Comb: SLV, 2; Durata minima del carico nella combinazione: istantaneo  
Tx = 77.7; Ty = -12.1

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 49.9  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 1.1; Kh = 1.084 (formula 11.7.1); kcr = 0.67  
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.04 + 0.01 + 0 \leq 1$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo  
Tx = 72.6; Ty = -17.1; Mt = -160.1

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 49.9  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 1.1  
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $1.13 \leq 26.13$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo  
Mt = -160.1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 26.6  
Kdef = 0  
Uinst tot in x = 0



Uinst tot in y = 0  
Uinst tot = 0  
Luce/Uinst,tot > limite  
49.9/0=21395.3 > 300 Comb: SLE rara, 8

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 25  
Kdef = 0  
Uinst var in x = 0  
Uinst var in y = 0  
Uinst var = 0  
Luce/Uinst,var > limite  
49.9/0=25581 > 300 Comb: SLE rara, 8

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 26.6  
Kdef = 0.6  
Ufin in x = 0  
Ufin in y = 0  
Ufin = 0  
Luce/Ufin > limite  
49.9/0=19477.3 > 200  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Neve = 0,500 + 0,500 = 1,000

### Asta 189: Trave in legno a falda Falda 1 fili 132-133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 49.9

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 49.9  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 1.1; Kh = 1.084 (formula 11.7.1)  
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$   
 $St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$   
4.6/57.3+0.7\*1.7/111.3+25/111.3=0.32 <= 1 [4.4.6b] Comb: SLV, 2; Durata minima del carico nella combinazione: istantaneo  
Mx = -227.8; My = 2662.4; N = 370.1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 49.9  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 1.1; kcr = 0.67  
 $\tau_{d} \leq f_{v,d}$   
 $Sqrt(2.14^2+0.12^2) = 2.14 \leq 22$  Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo  
Tx = -76; Ty = -4.2

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 49.9  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 1.1; Kh = 1.084 (formula 11.7.1); kcr = 0.67  
 $\tau_{tor,d}/(ksh \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
0.02+0+0 <= 1 Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo  
Tx = -49.1; Ty = -7; Mt = -61

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 49.9  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 1.1  
 $\tau_{tor,d} \leq Ksh \cdot f_{v,d}$



0.43 <= 26.13 Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo  
Mt = -61

#### Verifica della freccia istantanea totale D.M. 17-01-18 §4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 23.3

Kdef = 0

Uinst tot in x = 0

Uinst tot in y = 0

Uinst tot = 0

Luce/Uinst,tot > limite

49.9/0=19381.6 > 300 Comb: SLE rara, 8

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 23.3

Kdef = 0

Uinst var in x = 0

Uinst var in y = 0

Uinst var = 0

Luce/Uinst,var > limite

49.9/0=28651.6 > 300 Comb: SLE rara, 8

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 23.3

Kdef = 0.6

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

49.9/0=16230.8 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

### Asta 190: Trave in legno a falda Falda 1 fili 132-133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 51.3

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 51.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1; Kh = 1.084 (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

13.1/57.3+0.7\*5.8/111.3+18.6/111.3=0.43 <= 1 [4.4.6b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

Mx = 770.8; My = 1984.2; N = 1047.4

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 51.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{(1.97^2+0.3^2)} = 1.99 \leq 22$  Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo

Tx = -69.9; Ty = -10.8

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(ksh*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0.06+0+0 <= 1 Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo



$T_x = -37.7$ ;  $T_y = 22.2$ ;  $M_t = 220.9$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 51.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.56 \leq 26.13$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_t = 220.9$

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 27.4

$K_{def} = 0$

$U_{inst,tot} \text{ in } x = 0$

$U_{inst,tot} \text{ in } y = 0$

$U_{inst,tot} = 0$

$L_{uce}/U_{inst,tot} > \text{limite}$

$51.3/0 = 15329 > 300$  Comb: SLE rara, 17

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 27.4

$K_{def} = 0$

$U_{inst,var} \text{ in } x = 0$

$U_{inst,var} \text{ in } y = 0$

$U_{inst,var} = 0$

$L_{uce}/U_{inst,var} > \text{limite}$

$51.3/0 = 23279.4 > 300$  Comb: SLE rara, 17

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 27.4

$K_{def} = 0.6$

$U_{fin} \text{ in } x = 0$

$U_{fin} \text{ in } y = 0$

$U_{fin} = 0$

$L_{uce}/U_{fin} > \text{limite}$

$51.3/0 = 12721.7 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Variabile A =  $0,700 + 0,180 = 0,880$

Neve =  $0,500 + 0,500 = 1,000$

Vento =  $0,600 + 0,000 = 0,600$

### Asta 191: Trave in legno a falda Falda 1 fili 132-133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 276.8

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 276.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(17/85.3)^2 + 319.2/81 + 0.7^2/80.97 = 4.1 > 1$  [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -42560.1$ ;  $M_y = -210.8$ ;  $N = -1360.9$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$



$\text{Sqrt}(0.02^2 + 8.34^2) = 8.34 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = -0.8$ ;  $T_y = 296.6$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0 + 0 + 0.27 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -1$ ;  $T_y = 296.5$ ;  $M_t = 4.9$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 276.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.2 \leq 26.13$  Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo

$M_t = 28.6$

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 212.2

$K_{def} = 0$

$U_{inst,tot} \text{ in } x = -0.02$

$U_{inst,tot} \text{ in } y = -0.95$

$U_{inst,tot} = 0.95$

$L_{uce}/U_{inst,tot} < \text{limite}$

$276.8/0.95 = 292.6 < 300$  Comb: SLE rara, 16 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 212.2

$K_{def} = 0$

$U_{inst,var} \text{ in } x = -0.02$

$U_{inst,var} \text{ in } y = -0.61$

$U_{inst,var} = 0.61$

$L_{uce}/U_{inst,var} > \text{limite}$

$276.8/0.61 = 452.9 > 300$  Comb: SLE rara, 16

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 212.2

$K_{def} = 0.6$

$U_{fin} \text{ in } x = -0.02$

$U_{fin} \text{ in } y = -1.15$

$U_{fin} = 1.15$

$L_{uce}/U_{fin} > \text{limite}$

$276.8/1.15 = 241.3 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Variabile A =  $0,700 + 0,180 = 0,880$

Neve =  $0,500 + 0,500 = 1,000$

### Asta 192: Trave in legno a falda Falda 1 fili 121-122

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 165.2

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$





126.8/81+0.7\*0.9/81=1.57 !> 1 (formula 4.4.5a) Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
Mx = 16906.2; My = -99.4

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.08^2 + 3.32^2} = 3.33 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = -2.8; Ty = -118.2

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0+0+0.04 <= 1 Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = -2.8; Ty = -118.2; Mt = 9.1

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

0.2 <= 26.13 Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

Mt = 28.2

### Asta 193: Trave in legno a falda Falda 1 fili 121-122

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 262.8

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.04^2 + 7.17^2} = 7.17 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = -1.6; Ty = 255.1

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(5.4/85.3)^2 + 284.5/81 + 0.7 \cdot 3.4/80.97 = 3.55 !> 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = -37934.2; My = -367.4; N = -434.5

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0+0+0.2 <= 1 Comb: SLU, 79; Durata minima del carico nella combinazione: media

Tx = -1.6; Ty = 254.8; Mt = 2.5

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

0.14 <= 26.13 Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo



Mt = 19.6

## Asta 194: Trave in legno a falda Falda 1 fili 113-114

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 165.2

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$0.8/41.6 + 136.4/81 + 0.7 \cdot 8.6/81 = 1.78 > 1$  [4.4.6a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 18187.2$ ;  $M_y = -919.6$ ;  $N = 65.1$

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.34^2 + 3.48^2} = 3.5 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -12.1$ ;  $T_y = -123.9$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0 + 0 + 0.05 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -12.1$ ;  $T_y = -123.9$ ;  $M_t = 7$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.19 \leq 26.13$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_t = 26.4$

## Asta 195: Trave in legno a falda Falda 1 fili 113-114

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 262.8

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$



$\text{Sqrt}(0.15^2 + 6.82^2) = 6.82 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
Tx = -5.5; Ty = 242.5

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$(Sc_{0,d}/f_{c,0,d})^2 + Sm_{y,d}/f_{m,y,d} + Km \cdot (Sm_{z,d}/f_{m,z,d}) \leq 1$

$(Sc_{0,d}/f_{c,0,d})^2 + Km \cdot (Sm_{y,d}/f_{m,y,d}) + Sm_{z,d}/f_{m,z,d} \leq 1$

$(1.6/85.3)^2 + 273/81 + 0.7 \cdot 7.9/80.97 = 3.44 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = -36404; My = -843; N = -127.1

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{\text{tor},d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0 + 0 + 0.18 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = -5.5; Ty = 242.5; Mt = -7.2

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1

$\tau_{\text{tor},d} \leq K_{sh} \cdot f_{v,d}$

$0.12 \leq 26.13$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

Mt = 17.3

### Asta 196: Trave in legno a falda Falda 1 fili 104-105

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 165.2

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$St_{0,d}/f_{t,0,d} + Sm_{y,d}/f_{m,y,d} + Km \cdot (Sm_{z,d}/f_{m,z,d}) > 1$

$St_{0,d}/f_{t,0,d} + Km \cdot (Sm_{y,d}/f_{m,y,d}) + Sm_{z,d}/f_{m,z,d} > 1$

$0.8/41.6 + 137.7/81 + 0.7 \cdot 6.6/81 = 1.78 > 1$  [4.4.6a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = 18365.2; My = -707; N = 61

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\text{Sqrt}(0.27^2 + 3.55^2) = 3.56 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = -9.6; Ty = -126.2

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{\text{tor},d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0 + 0 + 0.05 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = -9.6; Ty = -126.2; Mt = 8.3

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1

$\tau_{\text{tor},d} \leq K_{sh} \cdot f_{v,d}$



0.18 <= 26.13 Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo  
Mt = 26.1

## Asta 197: Trave in legno a falda Falda 1 fili 104-105

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 262.8

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.12^2 + 6.76^2} = 6.76 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = -4.3$ ;  $T_y = 240.2$

### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(1.4/85.3)^2 + 270.2/81 + 0.7 \cdot 6.4/80.97 = 3.39 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -36021$ ;  $M_y = -678.1$ ;  $N = -113.4$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.01 + 0 + 0.18 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = -4.3$ ;  $T_y = 240.2$ ;  $M_t = -22.9$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $0.17 \leq 19$  Comb: SLU, 30; Durata minima del carico nella combinazione: media  
 $M_t = -24.4$

## Asta 198: Trave in legno a falda Falda 1 fili 97-98

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 165.2

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 165.2  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)



$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \geq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \geq 1$

$1.7/41.6 + 129.4/81 + 0.7 \cdot 6.1/81 = 1.69 \geq 1$  [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 17257.7$ ;  $M_y = -653.1$ ;  $N = 132.9$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.16^2 + 3.52^2} = 3.52 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -5.8$ ;  $T_y = -125.2$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0 + 0 + 0.02 \leq 1$  Comb: SLU, 74; Durata minima del carico nella combinazione: media

$T_x = -2.9$ ;  $T_y = -78$ ;  $M_t = -1$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 165.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.13 \leq 26.13$  Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$M_t = -18.8$

### Asta 199: Trave in legno a falda Falda 1 fili 97-98

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 262.8

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.09^2 + 6.99^2} = 6.99 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -3.2$ ;  $T_y = 248.6$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(Sc_{0,d}/fc_{0,d})^2 + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$

$(Sc_{0,d}/fc_{0,d})^2 + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$(2.7/85.3)^2 + 275.6/81 + 0.7 \cdot 3.8/80.97 = 3.44 \geq 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -36746.2$ ;  $M_y = -404.8$ ;  $N = -217.9$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.01 + 0 + 0.19 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -3.2$ ;  $T_y = 248.6$ ;  $M_t = -29$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$



$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $0.22 \leq 19$  Comb: SLU, 30; Durata minima del carico nella combinazione: media  
 $M_t = -30.6$

## Asta 200: Trave in legno a falda Falda 1 fili 89-90

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 41.6

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$4.7/57.3 + 0.7 \cdot 10.3/111.3 + 22.5/111.3 = 0.35 \leq 1$  [4.4.6b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_x = 1369.8$ ;  $M_y = -2399.2$ ;  $N = 379.9$

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{2.77^2 + 1.12^2} = 2.99 \leq 22$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$T_x = 98.4$ ;  $T_y = 39.8$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 41.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{t,y,d}/f_{v,d})^2 + (\tau_{t,z,d}/f_{v,d})^2 \leq 1$

$0.03 + 0.01 + 0 \leq 1$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$T_x = -91.1$ ;  $T_y = -34.8$ ;  $M_t = 99.1$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 41.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.7 \leq 26.13$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_t = 99.1$

## Asta 201: Trave in legno a falda Falda 1 fili 89-90

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 41.6

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 41.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$



$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$   
 $St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$   
 $16/57.3 + 0.7 \cdot 4.6/111.3 + 20.1/111.3 = 0.49 \leq 1$  [4.4.6b] Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo  
 $M_x = 619.3$ ;  $M_y = -2138.7$ ;  $N = 1283.6$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{2.68^2 + 0.11^2} = 2.68 \leq 22$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo  
 $T_x = 95.3$ ;  $T_y = 3.9$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.01 + 0.01 + 0 \leq 1$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo  
 $T_x = 95.3$ ;  $T_y = 3.9$ ;  $M_t = -26.8$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 41.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $0.29 \leq 26.13$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo  
 $M_t = -41$

## Asta 202: Trave in legno a falda Falda 1 fili 89-90

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 41.6

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 41.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$   
 $St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$   
 $22.8/57.3 + 0.7 \cdot 5.1/111.3 + 23/111.3 = 0.64 \leq 1$  [4.4.6b] Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo  
 $M_x = -681.8$ ;  $M_y = -2448.8$ ;  $N = 1823.3$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 41.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{2.03^2 + 0.36^2} = 2.06 \leq 22$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo  
 $T_x = 72.2$ ;  $T_y = -12.7$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 41.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.04 + 0 + 0 \leq 1$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo  
 $T_x = 41.5$ ;  $T_y = -18.2$ ;  $M_t = 144.4$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 41.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$



$K_{mod} = 1.1$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $1.02 \leq 26.13$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo  
 $M_t = 144.4$

## Asta 203: Trave in legno a falda Falda 1 fili 89-90

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 41.6

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 15.3  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $26.3/57.3 + 0.7 \cdot 5.3/111.3 + 17.7/111.3 = 0.65 \leq 1$  [4.4.6b] Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo  
 $M_x = 705$ ;  $M_y = -1888.8$ ;  $N = 2104$

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 41.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.42^2 + 1.42^2} = 1.48 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = -15.1$ ;  $T_y = -50.5$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 41.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.04 + 0 + 0 \leq 1$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo  
 $T_x = -36.9$ ;  $T_y = -40.6$ ;  $M_t = 164.6$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 41.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $1.16 \leq 26.13$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo  
 $M_t = 164.6$

## Asta 204: Trave in legno a falda Falda 1 fili 89-90

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 278.2

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 278.2





Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_{m,d}(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_{m,d}(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$3.8/41.6 + 291.3/81 + 0.7 \cdot 1.3/81 = 3.7 \leq 1$  [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -38845.2$ ;  $M_y = 143.1$ ;  $N = 300.5$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{0.07^2 + 7.75^2} = 7.75 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 2.5$ ;  $T_y = 275.5$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.01 + 0 + 0.23 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 2.5$ ;  $T_y = 275.5$ ;  $M_t = -35.5$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 278.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.26 \leq 19$  Comb: SLU, 30; Durata minima del carico nella combinazione: media

$M_t = -36.7$

### Asta 205: Trave in legno a falda Falda 1 fili 81-82

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 262.8

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{0.15^2 + 6.38^2} = 6.38 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 5.2$ ;  $T_y = 226.8$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_{m,d}(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_{m,d}(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(8.4/85.3)^2 + 266.7/81 + 0.7 \cdot 6.5/80.97 = 3.36 \leq 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -35560.7$ ;  $M_y = 697.3$ ;  $N = -675.2$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0 + 0 + 0.16 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 5.2$ ;  $T_y = 226.8$ ;  $M_t = -4.3$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.8



Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $0.21 \leq 26.13$  Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo  
 $M_t = 30$

## Asta 206: Trave in legno a falda Falda 1 fili 72-74

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 262.8

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 262.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $20.5/41.6 + 311/81 + 0.7 \cdot 3.4/81 = 4.36 \leq 1$  [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -41460.7$ ;  $M_y = 362.9$ ;  $N = 1643.2$

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.07^2 + 8.31^2} = 8.31 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = 2.6$ ;  $T_y = 295.3$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.02 + 0 + 0.27 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = 2.6$ ;  $T_y = 295.3$ ;  $M_t = 48.4$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $0.37 \leq 19$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $M_t = 51.8$

## Asta 207: Trave in legno a falda Falda 1 fili 65-66

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 262.8

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1



#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.02^2 + 5.28^2} = 5.28 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 0.7$ ;  $T_y = 187.6$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(3.7/85.3)^2 + 243/81 + 0.7 \cdot 0.4/80.97 = 3.01 > 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -32402$ ;  $M_y = -48$ ;  $N = -294.6$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.04 + 0 + 0.11 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 0.7$ ;  $T_y = 187.6$ ;  $M_t = 105.9$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.75 \leq 19$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = 105.9$

### Asta 208: Trave in legno a falda Falda 1 fili 56-57

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 262.8

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.14^2 + 4.83^2} = 4.83 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -5$ ;  $T_y = 171.7$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2.5/85.3)^2 + 229.3/81 + 0.7 \cdot 6.6/80.97 = 2.89 > 1$  [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -30568.3$ ;  $M_y = -706.4$ ;  $N = -201.8$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.07 + 0 + 0.09 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -5$ ;  $T_y = 171.7$ ;  $M_t = 182.1$



#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.29 \leq 19$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = 182.1$

### Asta 209: Trave in legno a falda Falda 1 fili 49-50

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 262.8

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.17^2 + 4.15^2} = 4.16 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -6.1$ ;  $T_y = 147.6$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(0.9/85.3)^2 + 209.4/81 + 0.7 \cdot 7.3/80.97 = 2.65 > 1$  [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -27918.7$ ;  $M_y = -782.2$ ;  $N = -75.4$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.09 + 0 + 0.07 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -6.1$ ;  $T_y = 147.6$ ;  $M_t = 250.1$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.78 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 252.6$

### Asta 210: Trave in legno a falda Falda 1 fili 43-44

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 262.8

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.03^2 + 3.56^2} = 3.56 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 1$ ;  $T_y = 126.5$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 262.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(0.6/85.3)^2 + 187.4/81 + 0.7 \cdot 1.9/80.97 = 2.33 > 1$  [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -24987.7$ ;  $M_y = 203.4$ ;  $N = -50.9$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.11 + 0 + 0.05 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 1$ ;  $T_y = 126.5$ ;  $M_t = 294.6$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.12 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 299.9$

### Asta 211: Trave in legno a falda Falda 1 fili 37-38

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 262.8

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 262.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) > 1$

$K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} > 1$

$155.6/81 + 0.7 \cdot 8.6/81 = 1.99 > 1$  (formula 4.4.5a) Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -20740.1$ ;  $M_y = 912.1$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.18^2 + 2.82^2} = 2.82 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 6.4$ ;  $T_y = 100.1$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.11 + 0 + 0.03 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 6.4$ ;  $T_y = 100.1$ ;  $M_t = 307.1$



#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 262.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.22 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 315$

### Asta 212: Trave in legno a falda Falda 1 fili 32-33

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 239.9

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.19^2 + 2.61^2} = 2.62 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 6.7$ ;  $T_y = 92.9$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 239.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(0.5/85.3)^2 + 128.6/81 + 0.7 \cdot 5.3/80.97 = 1.63 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -17148.3$ ;  $M_y = 562.2$ ;  $N = -42.2$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.11 + 0 + 0.03 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 6.6$ ;  $T_y = 92.8$ ;  $M_t = 292.9$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 239.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.14 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 302.9$

### Asta 213: Trave in legno a falda Falda 1 fili 27-28

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 165.7

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.07^2 + 3.77^2} = 3.77 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -2.3$ ;  $T_y = 134$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 165.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2.2/85.3)^2 + 113.5/81 + 0.7 \cdot 5.1/80.97 = 1.45 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -15135.4$ ;  $M_y = -543.1$ ;  $N = -174.4$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.14 + 0 + 0.06 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -2.3$ ;  $T_y = 134$ ;  $M_t = 374.1$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 165.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.73 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 386.3$

### Asta 214: Trave in legno a falda Falda 1 fili 23-24

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 91.3

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.85^2 + 6.9^2} = 6.95 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -30.1$ ;  $T_y = 245.2$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 91.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(3.1/85.3)^2 + 109.5/81 + 0.7 \cdot 15.7/80.97 = 1.49 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -14594.8$ ;  $M_y = -1678.1$ ;  $N = -249.6$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.21 + 0 + 0.19 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -30.1$ ;  $T_y = 245.2$ ;  $M_t = 562.7$



#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 91.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

4.07  $\leq$  19 Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = 576.4$

### Asta 215: Trave in legno a falda Falda 1 fili 18-19

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 17

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 17

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(10.2/85.3)^2 + 71.9/81 + 0.7 \cdot 32.1/80.97 = 1.18 > 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -9588.8$ ;  $M_y = 3424$ ;  $N = -819.2$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} > f_{v,d}$

$\sqrt{7.39^2 + 24.42^2} = 25.52 > 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = 262.6$ ;  $T_y = 868.4$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$

$0.81 + 0.21 + 2.33 > 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = 262.6$ ;  $T_y = 868.4$ ;  $M_t = 2176.8$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 17

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

15.37  $\leq$  19 Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = 2176.8$

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 11.4

$K_{def} = 0$

$U_{inst,tot} \text{ in } x = 0$

$U_{inst,tot} \text{ in } y = 0$

$U_{inst,tot} = 0$

$Luce/U_{inst,tot} > \text{limite}$

17/0 = 12163.3 > 300 Comb: SLE rara, 9

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 11.4

$K_{def} = 0$

$U_{inst,var} \text{ in } x = 0$

$U_{inst,var} \text{ in } y = 0$

$U_{inst,var} = 0$

$Luce/U_{inst,var} > \text{limite}$





17/0=17849.1 > 300 Comb: SLE rara, 9

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 11.4

Kdef = 0.6

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

17/0=10211.6 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

### Asta 216: Trave in legno a falda Falda 3 fili 60-115

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 79.8

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

4.3/38.4+97.4/74.7+0.7\*10.6/74.7=1.52 > 1 [4.4.6a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = 154527.3; My = -13157.7; N = 1795.3

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.46^2 + 7.8^2} = 7.82 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = 84; Ty = 1435.8

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0.41+0+0.24 <= 1 Comb: SLU, 79; Durata minima del carico nella combinazione: media

Tx = 84.3; Ty = 1434.5; Mt = 13079.7

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 79.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

7.89 <= 19.07 Comb: SLU, 79; Durata minima del carico nella combinazione: media

Mt = 13079.7

### Asta 217: Trave in legno a falda Falda 3 fili 60-115

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 106.5



#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 106.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_{m} \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_{m} \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$5.1/38.4 + 43.5/74.7 + 0.7 \cdot 12/74.7 = 0.83 \leq 1$  [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_x = -69039.3$ ;  $M_y = 14844$ ;  $N = 2118$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{v,d} \leq f_{v,d}$

$\sqrt{0.82^2 + 5.78^2} = 5.84 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 151.2$ ;  $T_y = 1064.4$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{v,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.12 + 0 + 0.13 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 150.3$ ;  $T_y = 1063.6$ ;  $M_t = 3905.7$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 106.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.36 \leq 19.07$  Comb: SLU, 38; Durata minima del carico nella combinazione: media

$M_t = 3911.1$

### Asta 218: Trave in legno a falda Falda 3 fili 60-115

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 106.5

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 106.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_{m} \cdot (\sigma_{m,z,d}/f_{m,z,d}) > 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_{m} \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} > 1$

$5.2/38.4 + 88.6/74.7 + 0.7 \cdot 18.8/74.7 = 1.5 > 1$  [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -140563.3$ ;  $M_y = 23381.7$ ;  $N = 2134.2$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{v,d} \leq f_{v,d}$



$\sqrt{0.34^2 + 3.53^2} = 3.54 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
Tx = 62.2; Ty = 649.1

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; kcr = 0.67  
 $\tau_{\text{tor},d}/(k_{\text{sh}} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.07 + 0 + 0.05 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
Tx = 63.2; Ty = 648.9; Mt = -2126

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 106.5  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8  
 $\tau_{\text{tor},d} \leq k_{\text{sh}} \cdot f_{v,d}$   
 $1.28 \leq 19.07$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
Mt = -2126

### Asta 219: Trave in legno a falda Falda 3 fili 60-115

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 22.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 22.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8  
 $\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $4.3/38.4 + 91.6/74.7 + 0.7 \cdot 12.6/74.7 = 1.46 \leq 1$  [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
Mx = -145383.4; My = 15617.2; N = 1789.1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; kcr = 0.67  
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{1.02^2 + 4.01^2} = 4.13 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
Tx = -187.6; Ty = 736.9

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; kcr = 0.67  
 $\tau_{\text{tor},d}/(k_{\text{sh}} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.26 + 0 + 0.06 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
Tx = -187.2; Ty = 736.8; Mt = 8134.7

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 22.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8  
 $\tau_{\text{tor},d} \leq k_{\text{sh}} \cdot f_{v,d}$   
 $4.92 \leq 19.07$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
Mt = 8150.9

### Asta 220: Trave in legno a falda Falda 3 fili 60-115

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



## Dati generali

Lunghezza = 83.9

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_{m,z,d}/f_{m,z,d} \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_{m,z,d}/f_{m,z,d} + \sigma_{m,y,d}/f_{m,y,d} \leq 1$

$3/38.4 + 77.1/74.7 + 0.7 \cdot 3.1/74.7 = 1.14 > 1$  [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -122357.1$ ;  $M_y = 3882.9$ ;  $N = 1260.5$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 83.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{1.03^2 + 2.29^2} = 2.51 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 190.1$ ;  $T_y = -420.8$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 83.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{t,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.6 + 0 + 0.02 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 174.3$ ;  $T_y = -419.5$ ;  $M_t = -18877.4$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 83.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$11.39 \leq 19.07$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = -18877.4$

## Asta 221: Trave in legno a falda Falda 3 fili 60-115

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

## Dati generali

Lunghezza = 106.5

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_{m,z,d}/f_{m,z,d} \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_{m,z,d}/f_{m,z,d} + \sigma_{m,y,d}/f_{m,y,d} \leq 1$

$2.6/38.4 + 53.7/74.7 + 0.7 \cdot 13/74.7 = 0.91 \leq 1$  [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_x = -85187.6$ ;  $M_y = 16201.2$ ;  $N = 1067.7$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 106.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$



$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.06^2 + 2.45^2} = 2.45 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 11.6$ ;  $T_y = -450.4$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 106.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.32 + 0 + 0.02 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 13$ ;  $T_y = -449.5$ ;  $M_t = -10249.2$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 106.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$6.19 \leq 19.07$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = -10249.2$

### Asta 222: Trave in legno a falda Falda 3 fili 60-115

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 106.5

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$2.4/38.4 + 24.9/74.7 + 0.7 \cdot 12.1/74.7 = 0.51 \leq 1$  [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_x = -39551.6$ ;  $M_y = 15059.2$ ;  $N = 973.7$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 106.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.27^2 + 2.15^2} = 2.17 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -48.9$ ;  $T_y = -396.5$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 106.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.12 + 0 + 0.02 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -50.5$ ;  $T_y = -395.2$ ;  $M_t = -3869$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 106.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.34 \leq 19.07$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = -3869$



## Asta 223: Trave in legno a falda Falda 3 fili 60-115

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 95.6

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$4.2/52.8 + 0.7 \cdot 14.5/102.7 + 18.4/102.7 = 0.36 \leq 1$  [4.4.6b] Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_x = -23086.2$ ;  $M_y = 22864.1$ ;  $N = 1746.3$

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 95.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{1.52^2 + 0.44^2} = 1.58 \leq 22$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$T_x = -279.4$ ;  $T_y = -80.1$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 95.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.03 + 0 + 0 \leq 1$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$T_x = 212.1$ ;  $T_y = -12.2$ ;  $M_t = 1298$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 95.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq k_{sh} \cdot f_{v,d}$

$0.78 \leq 26.22$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_t = 1298$

## Asta 224: Trave in legno a falda Falda 5 fili 271-281

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 85.3

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 85.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.75^2 + 5.93^2} = 5.97 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -26.6$ ;  $T_y = -210.7$



#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 85.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(4/85.3)^2 + 67.1/81 + 0.7 \cdot 13/80.97 = 0.94 \leq 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_x = 8943.8$ ;  $M_y = -1386.8$ ;  $N = -322$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 85.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.08 + 0 + 0.14 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -26.6$ ;  $T_y = -210.7$ ;  $M_t = 214$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 85.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.58 \leq 19$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = 223.5$

### Asta 225: Trave in legno a falda Falda 5 fili 271-281

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 23.1

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 12.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d} \leq f_{t,0,d}$

$0 \leq 57.26$  Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo

$N = 0.3$

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$0.7 \cdot 0.1/111.3 + 0.2/111.3 = 0 \leq 1$  (formula 4.4.5b) Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_x = 10.3$ ;  $M_y = 17.3$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.04^2 + 0.03^2} = 0.04 \leq 22$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$T_x = -1.3$ ;  $T_y = 0.9$

### Asta 226: Trave in legno a falda Falda 5 fili 267-282

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 163.2



#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 163.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.12^2 + 2.34^2} = 2.34 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 4.2$ ;  $T_y = -83.2$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 163.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.5/85.3)^2 + 55.1/81 + 0.7 \cdot 2.1/80.97 = 0.7 \leq 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_x = 7347.9$ ;  $M_y = 220.4$ ;  $N = -123.9$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 163.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.03 + 0 + 0.02 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 5.9$ ;  $T_y = -78.7$ ;  $M_t = 67.8$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 163.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.48 \leq 19$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = 67.8$

### Asta 227: Trave in legno a falda Falda 5 fili 267-282

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 23.2

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 10

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d} \leq f_{t,0,d}$

$0.05 \leq 57.26$  Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo

$N = 4.3$

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$





$0.7 \cdot 0.1 / 111.3 + 0.2 / 111.3 = 0 \leq 1$  (formula 4.4.5b) Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo  
Mx = 11.5; My = 18.5

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.05^2 + 0.02^2} = 0.05 \leq 22$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

Tx = -1.7; Ty = 0.9

### Asta 228: Trave in legno a falda Falda 5 fili 262-283

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 239.5

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 239.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.42^2 + 1.31^2} = 1.38 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = 15; Ty = -46.6

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 239.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$(Sc_{0,d}/f_{c,0,d})^2 + Sm_{y,d}/f_{m,y,d} + Km \cdot (Sm_{z,d}/f_{m,z,d}) \leq 1$

$(Sc_{0,d}/f_{c,0,d})^2 + Km \cdot (Sm_{y,d}/f_{m,y,d}) + Sm_{z,d}/f_{m,z,d} \leq 1$

$(1.8/85.3)^2 + 48.5/81 + 0.7 \cdot 15.4/80.97 = 0.73 \leq 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media

Mx = 6464.3; My = 1644.1; N = -144.2

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 239.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.04 + 0 + 0.01 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = 14.9; Ty = -46.5; Mt = -101.8

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 239.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.72 \leq 19$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

Mt = -101.8

### Asta 229: Trave in legno a falda Falda 5 fili 262-283

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 23.2

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300



Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 7.7  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $\sigma_{t,d} \leq f_{t,d}$   
 $0.04 \leq 57.26 \text{ Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo}$   
 $N = 3.5$

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $\sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $0.1/111.3 + 0.7 \cdot 0.1/111.3 = 0 \leq 1$  (formula 4.4.5a) Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo  
 $M_x = 12.9$ ;  $M_y = -9.5$

### Asta 230: Trave in legno a falda Falda 5 fili 256-284

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 315.7

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 315.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.61^2 + 0.79^2} = 1 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = 21.7$ ;  $T_y = -28.1$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 315.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $(\sigma_{c,d}/f_{c,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,d}/f_{c,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(1.7/85.3)^2 + 36.8/81 + 0.7 \cdot 29.4/80.97 = 0.71 \leq 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $M_x = 4904.8$ ;  $M_y = 3133.5$ ;  $N = -138.4$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 315.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.07 + 0 + 0 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = 21.7$ ;  $T_y = -28.1$ ;  $M_t = -201.1$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 315.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $1.42 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $M_t = -201.1$



## Asta 231: Trave in legno a falda Falda 5 fili 256-284

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 23.2

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 10.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$St_{0,d} \leq f_{t,0,d}$

$0.17 \leq 57.26$  Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo

$N = 13.6$

### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$Sm_{y,d}/f_{m,y,d} + K_m \cdot (Sm_{z,d}/f_{m,z,d}) \leq 1$

$K_m \cdot (Sm_{y,d}/f_{m,y,d}) + Sm_{z,d}/f_{m,z,d} \leq 1$

$0.1/111.3 + 0.7 \cdot 0.1/111.3 = 0 \leq 1$  (formula 4.4.5a) Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_x = 12.7$ ;  $M_y = 7.2$

## Asta 232: Trave in legno a falda Falda 5 fili 250-285

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 392

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 392

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$Sm_{y,d}/f_{m,y,d} + K_m \cdot (Sm_{z,d}/f_{m,z,d}) \leq 1$

$K_m \cdot (Sm_{y,d}/f_{m,y,d}) + Sm_{z,d}/f_{m,z,d} \leq 1$

$0.7 \cdot 21.9/81 + 28.3/81 = 0.54 \leq 1$  (formula 4.4.5b) Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_x = 2917.2$ ;  $M_y = 3018.7$

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 392

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.46^2 + 0.52^2} = 0.7 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 16.5$ ;  $T_y = -18.6$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 392

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.08 + 0 + 0 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 16.5$ ;  $T_y = -18.6$ ;  $M_t = -205.3$



### Verifica compressione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.3

Sezione ad ascissa 209.1

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$Sc_{0,d} \leq f_{c,0,d}$

$|-0.2| \leq 85.33$  Comb: SLU, 68; Durata minima del carico nella combinazione: media

$N = -15.6$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 392

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.45 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -205.3$

## Asta 233: Trave in legno a falda Falda 5 fili 250-285

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 23.2

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 11.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$St_{0,d} \leq f_{t,0,d}$

$0.03 \leq 57.26$  Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo

$N = 2.4$

### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$Sm_{y,d}/f_{m,y,d} + K_m \cdot (Sm_{z,d}/f_{m,z,d}) \leq 1$

$K_m \cdot (Sm_{y,d}/f_{m,y,d}) + Sm_{z,d}/f_{m,z,d} \leq 1$

$0.7 \cdot 0.1/111.3 + 0.1/111.3 = 0 \leq 1$  (formula 4.4.5b) Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_x = 8.6$ ;  $M_y = 15.5$

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.04^2 + 0.02^2} = 0.04 \leq 22$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$T_x = -1.4$ ;  $T_y = 0.7$

## Asta 234: Trave in legno a falda Falda 5 fili 244-286

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 468.2

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 468.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.18^2 + 0.38^2} = 0.42 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 6.5$ ;  $T_y = -13.4$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 468.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.6/85.3)^2 + 0.7 \cdot 11.9/81 + 15.1/81 = 0.29 \leq 1$  [4.4.7b] Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_x = 1592.1$ ;  $M_y = 1613$ ;  $N = -128.7$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 468.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.05 + 0 + 0 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 6.7$ ;  $T_y = -13.2$ ;  $M_t = -127$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 468.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.9 \leq 19$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -127$

### Asta 235: Trave in legno a falda Falda 5 fili 244-286

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 23.2

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 10.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d} \leq f_{t,0,d}$

$0.02 \leq 57.26$  Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo

$N = 1.9$

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$0.7 \cdot 0.1/111.3 + 0.4/111.3 = 0 \leq 1$  (formula 4.4.5b) Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_x = 7$ ;  $M_y = 40.6$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.1^2 + 0.02^2} = 0.1 \leq 22$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$T_x = -3.6$ ;  $T_y = 0.6$



## Asta 236: Trave in legno a falda Falda 2 fili 19-1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 15.1

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(9.5/85.3)^2 + 12.7/81 + 0.7 \cdot 10/80.97 = 0.26 \leq 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_x = 1698.1$ ;  $M_y = -1071.1$ ;  $N = -763.2$

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 15.1

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(1.67^2 + 0.74^2)} = 1.83 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 59.4$ ;  $T_y = -26.5$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 15.1

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.13 + 0.01 + 0 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 59.4$ ;  $T_y = -26.5$ ;  $M_t = -348.3$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 15.1

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.47 \leq 19$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -350.1$

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 7.6

$K_{def} = 0$

$U_{inst,tot} \text{ in } x = 0$

$U_{inst,tot} \text{ in } y = 0$

$U_{inst,tot} = 0$

Luce/ $U_{inst,tot} > \text{limite}$

$15.1/0 = 19425.7 > 300$  Comb: SLE rara, 17

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 7.6

$K_{def} = 0$

$U_{inst,var} \text{ in } x = 0$

$U_{inst,var} \text{ in } y = 0$

$U_{inst,var} = 0$

Luce/ $U_{inst,var} > \text{limite}$

$15.1/0 = 29656.7 > 300$  Comb: SLE rara, 17

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 7.6

$K_{def} = 0.6$

$U_{fin} \text{ in } x = 0$

$U_{fin} \text{ in } y = 0$

$U_{fin} = 0$



Luce/Ufin > limite

15.1/0=16035.6 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

## Asta 237: Trave in legno a falda Falda 2 fili 24-2

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 92.5

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 92.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{1.03^2 + 5.88^2} = 5.97 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 36.6$ ;  $T_y = -209$

### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 92.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(4.3/85.3)^2 + 79.6/81 + 0.7 \cdot 17.5/80.97 = 1.14 > 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 10610.7$ ;  $M_y = 1868$ ;  $N = -344.5$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 92.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.09 + 0 + 0.14 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 36.6$ ;  $T_y = -209$ ;  $M_t = -250$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 92.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.83 \leq 19$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = -258.9$

## Asta 238: Trave in legno a falda Falda 2 fili 28-3

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 169.7

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno



Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 169.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.05^2 + 2.4^2} = 2.41 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -1.9$ ;  $T_y = -85.5$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 169.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.9/85.3)^2 + 66/81 + 0.7 \cdot 0.9/80.97 = 0.82 \leq 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_x = 8798.1$ ;  $M_y = -94.1$ ;  $N = -152.1$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 169.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.02 + 0 + 0.02 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -3.9$ ;  $T_y = -80.6$ ;  $M_t = -41.2$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 169.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.57 \leq 26.13$  Comb: SLV, 4; Durata minima del carico nella combinazione: istantaneo

$M_t = -81.3$

### Asta 239: Trave in legno a falda Falda 2 fili 33-4

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 246.1

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 246.1

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.5^2 + 1.2^2} = 1.3 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -17.6$ ;  $T_y = -42.7$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 246.1

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2.1/85.3)^2 + 55.2/81 + 0.7 \cdot 18.9/80.97 = 0.85 \leq 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_x = 7363.5$ ;  $M_y = -2020.7$ ;  $N = -170.7$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 246.1

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.07 + 0 + 0.01 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media





Tx = -17.6; Ty = -42.7; Mt = 198.8

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 246.1

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

1.4  $\leq$  19 Comb: SLU, 72; Durata minima del carico nella combinazione: media

Mt = 198.8

### Asta 240: Trave in legno a falda Falda 2 fili 39-5

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 322.5

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 322.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.74^2 + 0.69^2} = 1.01 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = -26.4; Ty = -24.6

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 322.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_{m}(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_{m}(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.7/85.3)^2 + 36.9/81 + 0.7 \cdot 36.2/80.97 = 0.77 \leq 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media

Mx = 4924.4; My = -3860.2; N = -136.2

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 322.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0.11 + 0 + 0  $\leq$  1 Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = -26.4; Ty = -24.5; Mt = 297.1

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 322.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

2.1  $\leq$  19 Comb: SLU, 80; Durata minima del carico nella combinazione: media

Mt = 297.1

### Asta 241: Trave in legno a falda Falda 2 fili 45-6

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 399

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200



Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$0.7 \cdot 7.8/81 + 37.5/81 = 0.53 \leq 1$  (formula 4.4.5b) Comb: SLU, 30; Durata minima del carico nella combinazione: media

$M_x = -1045.8$ ;  $M_y = 4004.2$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 399

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.53^2 + 0.36^2} = 0.64 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -18.9$ ;  $T_y = -12.7$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 399

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.1 + 0 + 0 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -18.9$ ;  $T_y = -12.7$ ;  $M_t = 270.9$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 399

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.91 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 270.9$

### Asta 242: Trave in legno a falda Falda 2 fili 51-7

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 475.4

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 475.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$St_{0,d}/f_{t,0,d} + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$St_{0,d}/f_{t,0,d} + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$1.4/57.3 + 29.5/111.3 + 0.7 \cdot 15.9/111.3 = 0.39 \leq 1$  [4.4.6a] Comb: SLV, 4; Durata minima del carico nella combinazione: istantaneo

$M_x = -3934.7$ ;  $M_y = -1694.3$ ;  $N = 111.9$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.12^2 + 0.58^2} = 0.59 \leq 22$  Comb: SLV, 2; Durata minima del carico nella combinazione: istantaneo

$T_x = -4.3$ ;  $T_y = 20.5$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$



0.05+0+0 <= 1 Comb: SLU, 79; Durata minima del carico nella combinazione: media  
Tx = -5.5; Ty = 12.2; Mt = 135.3

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 475.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq Ksh \cdot f_{v,d}$

0.96 <= 19 Comb: SLU, 79; Durata minima del carico nella combinazione: media

Mt = 135.3

### Asta 243: Trave in legno a falda Falda 6 fili 238-239

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 303.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 303.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

17.6/41.6+170.8/81+0.7\*18/81=2.69 > 1 [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = -22772.2; My = -1918.6; N = 1408.8

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.46^2 + 3.58^2} = 3.61 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = -16.5; Ty = 127.2

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(ksh \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0.03+0+0.05 <= 1 Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = -16.5; Ty = 127.2; Mt = 80.7

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 303.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq Ksh \cdot f_{v,d}$

0.59 <= 19 Comb: SLU, 37; Durata minima del carico nella combinazione: media

Mt = 83.2

### Asta 244: Trave in legno a falda Falda 6 fili 276-279

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 17.5

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300



Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 17.5  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$   
 $K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$   
 $0.7 \cdot 0.1/111.3 + 0.1/111.3 = 0 \leq 1$  (formula 4.4.5b) Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo  
 $M_x = 12.7$ ;  $M_y = -10.4$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 17.5  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.02^2 + 0.04^2} = 0.05 \leq 22$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo  
 $T_x = -0.8$ ;  $T_y = -1.5$

#### Verifica compressione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.3

Sezione ad ascissa 17.5  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $Sc_{0,d} \leq fc_{0,d}$   
 $|-0.14| \leq 117.33$  Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo  
 $N = -11.4$

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 7.6  
 $K_{def} = 0$   
 $U_{inst\ tot\ in\ x} = 0$   
 $U_{inst\ tot\ in\ y} = 0$   
 $U_{inst\ tot} = 0$   
Luce/ $U_{inst,tot} > \limite$   
 $17.5/0 = 7345661.2 > 300$  Comb: SLE rara, 16

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 1.2  
 $K_{def} = 0$   
 $U_{inst\ var\ in\ x} = 0$   
 $U_{inst\ var\ in\ y} = 0$   
 $U_{inst\ var} = 0$   
Luce/ $U_{inst,var} > \limite$   
 $17.5/0 = 2810966492.2 > 300$  Comb: SLE rara, 16

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 7.6  
 $K_{def} = 0.6$   
 $U_{fin\ in\ x} = 0$   
 $U_{fin\ in\ y} = 0$   
 $U_{fin} = 0$   
Luce/ $U_{fin} > \limite$   
 $17.5/0 = 4593692.6 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Variabile A =  $0,700 + 0,180 = 0,880$   
Neve =  $0,500 + 0,500 = 1,000$

### Asta 245: Trave in legno a falda Falda 6 fili 272-273

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 96.3

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300



Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 96.3  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{(2.03^2 + 7.99^2)} = 8.24 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = -72$ ;  $T_y = -284.1$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(4.7/85.3)^2 + 126.6/81 + 0.7 \cdot 31.9/80.97 = 1.84 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -16876.5$ ;  $M_y = 3403.7$ ;  $N = -378.9$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 96.3  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.21 + 0.02 + 0.25 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = -72$ ;  $T_y = -284.1$ ;  $M_t = 559.5$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 96.3  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $3.95 \leq 19$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $M_t = 559.7$

### Asta 246: Trave in legno a falda Falda 6 fili 268-269

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 175.1

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 175.1  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{(0.8^2 + 3.88^2)} = 3.96 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = -28.4$ ;  $T_y = -137.9$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(1.7/85.3)^2 + 117.7/81 + 0.7 \cdot 24/80.97 = 1.66 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -15692.2$ ;  $M_y = 2564.8$ ;  $N = -134.9$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 175.1  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$



$\tau_{\text{tor,d}} / (k_{\text{sh}} \cdot f_{\text{v,d}}) + (\tau_{\text{y,d}} / f_{\text{v,d}})^2 + (\tau_{\text{z,d}} / f_{\text{v,d}})^2 \leq 1$   
 $0.14 + 0 + 0.06 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = -28.4$ ;  $T_y = -137.9$ ;  $M_t = 366.9$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 175.1  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{\text{mod}} = 0.8$   
 $\tau_{\text{tor,d}} \leq K_{\text{sh}} \cdot f_{\text{v,d}}$   
 $2.59 \leq 19$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $M_t = 367.1$

### Asta 247: Trave in legno a falda Falda 6 fili 263-264

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 253.8

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{\text{mod}} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $S_{m,y,d} / f_{m,y,d} + K_{m^*} (S_{m,z,d} / f_{m,z,d}) \leq 1$   
 $K_{m^*} (S_{m,y,d} / f_{m,y,d}) + S_{m,z,d} / f_{m,z,d} \leq 1$   
 $115.2 / 81 + 0.7 \cdot 16.4 / 81 = 1.56 \leq 1$  (formula 4.4.5a) Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -15353.7$ ;  $M_y = 1753.7$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 253.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{\text{mod}} = 0.8$ ;  $k_{\text{cr}} = 0.67$   
 $\tau_{\text{d}} \leq f_{\text{v,d}}$   
 $\sqrt{0.36^2 + 2.41^2} = 2.44 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = -12.8$ ;  $T_y = -85.6$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 253.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{\text{mod}} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{\text{cr}} = 0.67$   
 $\tau_{\text{tor,d}} / (k_{\text{sh}} \cdot f_{\text{v,d}}) + (\tau_{\text{y,d}} / f_{\text{v,d}})^2 + (\tau_{\text{z,d}} / f_{\text{v,d}})^2 \leq 1$   
 $0.07 + 0 + 0.02 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = -13.3$ ;  $T_y = -85.3$ ;  $M_t = 193.6$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 253.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{\text{mod}} = 0.8$   
 $\tau_{\text{tor,d}} \leq K_{\text{sh}} \cdot f_{\text{v,d}}$   
 $1.37 \leq 19$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $M_t = 193.6$

### Asta 248: Trave in legno a falda Falda 6 fili 257-258

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 88.7

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016



Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_d \leq f_{v,d}$   
 $\sqrt{0.31^2 + 6.23^2} = 6.24 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = 11.2$ ;  $T_y = 221.6$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 88.7  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(3.4/85.3)^2 + 152/81 + 0.7 \cdot 3.3/80.97 = 1.91 > 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -20264.5$ ;  $M_y = 351.9$ ;  $N = -273.8$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.07 + 0 + 0.15 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = 11.2$ ;  $T_y = 221.6$ ;  $M_t = -197.6$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 88.7  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $1.4 \leq 19$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $M_t = -198$

### Asta 249: Trave in legno a falda Falda 6 fili 251-252

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 167.5

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_d \leq f_{v,d}$   
 $\sqrt{0.53^2 + 4.52^2} = 4.55 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = 18.8$ ;  $T_y = 160.6$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 167.5  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(5.2/85.3)^2 + 164.5/81 + 0.7 \cdot 14.6/80.97 = 2.16 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -21931.7$ ;  $M_y = 1561$ ;  $N = -412.2$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$



$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.06 + 0 + 0.08 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = 18.8$ ;  $T_y = 160.6$ ;  $M_t = -164.7$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 167.5  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $1.16 \leq 19$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $M_t = -164.9$

### Asta 250: Trave in legno a falda Falda 6 fili 245-246

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 246.2

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 246.2  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$   
 $St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$   
 $6.4/41.6 + 174.4/81 + 0.7 \cdot 14.8/81 = 2.44 \leq 1$  [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -23259.6$ ;  $M_y = 1580$ ;  $N = 510.9$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.45^2 + 4.14^2} = 4.16 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = 15.8$ ;  $T_y = 147.2$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.03 + 0 + 0.07 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = 15.8$ ;  $T_y = 147.2$ ;  $M_t = -90.8$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 246.2  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $0.64 \leq 19$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $M_t = -90.8$

### Asta 251: Trave in legno a falda Falda 5 fili 241-287

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 523.1

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67





Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 523.1  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.12^2 + 0.56^2} = 0.57 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = -4.3$ ;  $T_y = -19.7$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(8.8/85.3)^2 + 25.1/81 + 0.7 \cdot 10.8/80.97 = 0.41 \leq 1$  [4.4.7a] Comb: SLU, 38; Durata minima del carico nella combinazione: media  
 $M_x = -3346.4$ ;  $M_y = 1157.1$ ;  $N = -706.1$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 523.1  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.03 + 0 + 0 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = -4.4$ ;  $T_y = -19.7$ ;  $M_t = 72.8$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 523.1  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $0.51 \leq 19$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $M_t = 72.8$

### Asta 252: Trave in legno a falda Falda 5 fili 241-287

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 23.2

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 9.3  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $\sigma_{t,0,d} \leq f_{t,0,d}$   
 $0.03 \leq 57.26$  Comb: SLV, 14; Durata minima del carico nella combinazione: istantaneo  
 $N = 2.1$

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $\sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $0.7 \cdot 0.1/111.3 + 0.1/111.3 = 0 \leq 1$  (formula 4.4.5b) Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo  
 $M_x = 9.3$ ;  $M_y = 8.7$



## Asta 253: Trave in legno a falda Falda 5 fili 245-288

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 468.6

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 468.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.54^2 + 0.63^2} = 0.83 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -19.3$ ;  $T_y = -22.2$

### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.5/85.3)^2 + 0.7 \cdot 30.3/81 + 43.1/81 = 0.79 \leq 1$  [4.4.7b] Comb: SLU, 30; Durata minima del carico nella combinazione: media

$M_x = -4042$ ;  $M_y = 4593.4$ ;  $N = -123.2$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 468.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.08 + 0 + 0 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -19.4$ ;  $T_y = -22.1$ ;  $M_t = 225$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 468.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.59 \leq 19$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = 225$

## Asta 254: Trave in legno a falda Falda 5 fili 245-288

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 23.2

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 14.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d} \leq f_{t,0,d}$

$0.22 \leq 57.26$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$N = 17.7$



#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$0.1/111.3 + 0.7 \cdot 0/111.3 = 0 \leq 1$  (formula 4.4.5a) Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_x = 15.1$ ;  $M_y = -4$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.01^2 + 0.03^2} = 0.03 \leq 22$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$T_x = 0.2$ ;  $T_y = 1.2$

### Asta 255: Trave in legno a falda Falda 5 fili 251-289

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 392.4

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 392.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.96^2 + 1.05^2} = 1.42 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -34.2$ ;  $T_y = -37.2$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(0.9/85.3)^2 + 0.7 \cdot 48.8/81 + 66.6/81 = 1.24 > 1$  [4.4.7b] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -6505.1$ ;  $M_y = 7098.9$ ;  $N = -70.9$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 392.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.11 + 0 + 0 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -34.2$ ;  $T_y = -37$ ;  $M_t = 285.8$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 392.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.02 \leq 19$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = 285.8$

### Asta 256: Trave in legno a falda Falda 5 fili 251-289

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 23.2



#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 10.9  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $St,0,d \leq f_t,0,d$   
 $0.01 \leq 57.26 \text{ Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo}$   
 $N = 0.9$

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $Sm,y,d/f_{m,y,d} + K_m \cdot (Sm,z,d/f_{m,z,d}) \leq 1$   
 $K_m \cdot (Sm,y,d/f_{m,y,d}) + Sm,z,d/f_{m,z,d} \leq 1$   
 $0.1/111.3 + 0.7 \cdot 0.1/111.3 = 0 \leq 1$  (formula 4.4.5a) Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo  
 $M_x = 10.4$ ;  $M_y = -7.7$

### Asta 257: Trave in legno a falda Falda 5 fili 257-290

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 316.8

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 316.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau, d \leq f_{v,d}$   
 $\sqrt{1.21^2 + 1.8^2} = 2.17 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = -42.9$ ;  $T_y = -64.2$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $(Sc,0,d/f_{c,0,d})^2 + Sm,y,d/f_{m,y,d} + K_m \cdot (Sm,z,d/f_{m,z,d}) \leq 1$   
 $(Sc,0,d/f_{c,0,d})^2 + K_m \cdot (Sm,y,d/f_{m,y,d}) + Sm,z,d/f_{m,z,d} \leq 1$   
 $(1.9/85.3)^2 + 72.1/81 + 0.7 \cdot 68.3/80.97 = 1.48 > 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -9617.5$ ;  $M_y = 7282$ ;  $N = -152.4$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 316.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.08 + 0.01 + 0.01 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = -42.9$ ;  $T_y = -64.2$ ;  $M_t = 225.7$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 316.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$



1.59 <= 19 Comb: SLU, 71; Durata minima del carico nella combinazione: media  
Mt = 225.7

## Asta 258: Trave in legno a falda Falda 5 fili 257-290

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 23.2

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1; Kh = 1.084 (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$0.6/57.3 + 0.1/111.3 + 0.7*0.1/111.3 = 0.01 \leq 1$  [4.4.6a] Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

Mx = 16.4; My = -6.1; N = 48.9

### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 12.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1; Kh = 1.084 (formula 11.7.1)

$St_{0,d} \leq ft_{0,d}$

$0.25 \leq 57.26$  Comb: SLD, 12; Durata minima del carico nella combinazione: istantaneo

N = 19.6

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.01^2 + 0.04^2)} = 0.04 \leq 22$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

Tx = 0.4; Ty = 1.5

## Asta 259: Trave in legno a falda Falda 5 fili 263-291

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 240.7

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 240.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{(1.04^2 + 3.09^2)} = 3.26 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = -36.9; Ty = -109.8

### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)



$(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$   
 $(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$   
 $(3.3/85.3)^2 + 97/81 + 0.7*44.9/80.97 = 1.59 > 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $Mx = -12934.4$ ;  $My = 4788.3$ ;  $N = -260.4$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 240.7  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0 + 0 + 0.04 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = -36.5$ ;  $T_y = -109.7$ ;  $M_t = -10.2$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 240.7  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$   
 $0.37 \leq 26.13$  Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo  
 $M_t = -52.4$

### Asta 260: Trave in legno a falda Falda 5 fili 263-291

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 23.3

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $St,0,d/ft,0,d + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$   
 $St,0,d/ft,0,d + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$   
 $0.8/57.3 + 0.7*0/111.3 + 0.2/111.3 = 0.02 \leq 1$  [4.4.6b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo  
 $M_x = -5.3$ ;  $M_y = 19.1$ ;  $N = 61.6$

#### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 11.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $St,0,d \leq ft,0,d$   
 $0.31 \leq 57.26$  Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo  
 $N = 25.2$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.04^2 + 0.04^2} = 0.06 \leq 22$  Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo  
 $T_x = 1.5$ ;  $T_y = 1.5$

### Asta 261: Trave in legno a falda Falda 5 fili 268-292

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 164.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67



Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 164.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.47^2 + 4.86^2} = 4.88 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $T_x = -16.7$ ;  $T_y = -172.8$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(2.9/85.3)^2 + 108.3/81 + 0.7 \cdot 15.7/80.97 = 1.47 \ngtr 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -14445.4$ ;  $M_y = 1673.6$ ;  $N = -233.6$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 164.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.09 + 0 + 0.09 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = -16.5$ ;  $T_y = -172.8$ ;  $M_t = -231.2$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 164.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $1.63 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $M_t = -231.2$

### Asta 262: Trave in legno a falda Falda 5 fili 268-292

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 23.3

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 10.9  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $\sigma_{t,0,d} \leq f_{t,0,d}$   
 $0.1 \leq 57.26$  Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo  
 $N = 8.2$

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $\sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $0.7 \cdot 0.1/111.3 + 0.1/111.3 = 0 \leq 1$  (formula 4.4.5b) Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo  
 $M_x = 8$ ;  $M_y = -12.6$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0



Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.03^2 + 0.02^2} = 0.04 \leq 22$  Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$T_x = 1.2$ ;  $T_y = 0.6$

## Asta 263: Trave in legno a falda Falda 5 fili 272-293

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 88.5

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 88.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{1.05^2 + 10.57^2} = 10.62 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 37.3$ ;  $T_y = -375.6$

### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(6.1/85.3)^2 + 134/81 + 0.7 \cdot 11.3/80.97 = 1.76 > 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -17872.2$ ;  $M_y = -1205.8$ ;  $N = -490.1$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 88.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.18 + 0 + 0.44 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 37.3$ ;  $T_y = -375.6$ ;  $M_t = -471.3$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 88.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$3.33 \leq 19$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = -471.5$

## Asta 264: Trave in legno a falda Falda 5 fili 272-293

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 23.3

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1





#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$0.5/57.3 + 0.7 \cdot 0.1/111.3 + 0.1/111.3 = 0.01 \leq 1$  [4.4.6b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_x = -7.4$ ;  $M_y = 9.9$ ;  $N = 41.2$

#### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 12.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d} \leq f_{t,0,d}$

$0.21 \leq 57.26$  Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo

$N = 16.9$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.02^2 + 0.05^2} = 0.05 \leq 22$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$T_x = 0.7$ ;  $T_y = 1.6$

### Asta 265: Trave in legno a falda Falda 5 fili 276-294

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 24.2

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 13.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d} \leq f_{t,0,d}$

$0.05 \leq 57.26$  Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo

$N = 3.8$

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.6$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$0.1/60.7 + 0.7 \cdot 0/60.7 = 0 \leq 1$  (formula 4.4.5a) Comb: SLU, 43; Durata minima del carico nella combinazione: permanente

$M_x = 9.5$ ;  $M_y = 0$

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 14.5

$K_{def} = 0$

$U_{inst,tot} \text{ in } x = 0$

$U_{inst,tot} \text{ in } y = 0$

$U_{inst,tot} = 0$

Luce/ $U_{inst,tot} > \text{limite}$

$24.2/0 = 7820243.3 > 300$  Comb: SLE rara, 8

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 20.2

$K_{def} = 0$

$U_{inst,var} \text{ in } x = 0$

$U_{inst,var} \text{ in } y = 0$

$U_{inst,var} = 0$



Luce/Uinst,var > limite

$24.2/0=4930784672.3 > 300$  Comb: SLE rara, 17

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 14.5

Kdef = 0.6

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

$24.2/0=4888313.6 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Neve =  $0,500 + 0,500 = 1,000$

### Asta 266: Trave in legno a falda Falda 6 fili 227-228

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 303.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 303.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$1.1/41.6+166.3/81+0.7*2.8/81=2.1 \leq 1$  [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = -22173.1; My = -298.2; N = 84.8

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.02^2+3.41^2} = 3.41 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = -0.6; Ty = 121.4

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(ksh*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.07+0+0.05 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

Tx = -1; Ty = 121.3; Mt = 176.3

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 303.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq Ksh * f_{v,d}$

$1.25 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

Mt = 177.4

### Asta 267: Trave in legno a falda Falda 6 fili 218-219

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 303.6



#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 303.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \geq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \geq 1$

$3.2/41.6 + 156.3/81 + 0.7*4.5/81 = 2.05 \geq 1$  [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -20838.9$ ;  $M_y = -476.3$ ;  $N = 259.4$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.07^2 + 3.14^2)} = 3.14 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -2.6$ ;  $T_y = 111.6$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.08 + 0 + 0.04 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -2.6$ ;  $T_y = 111.6$ ;  $M_t = 202.9$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 303.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$1.44 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 204$

### Asta 268: Trave in legno a falda Falda 6 fili 212-213

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 334.7

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 334.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \geq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \geq 1$

$4.8/41.6 + 120.1/81 + 0.7*2.3/81 = 1.62 \geq 1$  [4.4.6a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -16018.4$ ;  $M_y = -250.1$ ;  $N = 381.1$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$



$\text{Sqrt}(0.04^2 + 2.18^2) = 2.18 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
Tx = -1.5; Ty = 77.4

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{\text{tor},d}/(k_{\text{sh}} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0.04+0+0.02 ≤ 1 Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = -1.5; Ty = 77.4; Mt = 115.3

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 334.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{\text{tor},d} \leq K_{\text{sh}} \cdot f_{v,d}$

0.81 ≤ 19 Comb: SLU, 80; Durata minima del carico nella combinazione: media

Mt = 115.3

### Asta 269: Trave in legno a falda Falda 6 fili 203-204

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 255.4

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 255.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

4/41.6+111.3/81+0.7\*5.6/81=1.52 > 1 [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = -14844.5; My = 599.2; N = 321.9

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{t,d} \leq f_{v,d}$

$\text{Sqrt}(0.09^2 + 2.83^2) = 2.84 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = 3.2; Ty = 100.7

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{\text{tor},d}/(k_{\text{sh}} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0.05+0+0.03 ≤ 1 Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = 3.2; Ty = 100.7; Mt = 137.3

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 255.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{\text{tor},d} \leq K_{\text{sh}} \cdot f_{v,d}$

0.97 ≤ 19 Comb: SLU, 80; Durata minima del carico nella combinazione: media

Mt = 137.3

### Asta 270: Trave in legno a falda Falda 6 fili 193-194

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



## Dati generali

Lunghezza = 176.1

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_{m^*}(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_{m^*}(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$2.3/41.6 + 84.8/81 + 0.7 \cdot 8.3/81 = 1.17 \leq 1$  [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 11307.9$ ;  $M_y = -887$ ;  $N = 182$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{0.31^2 + 3.65^2} = 3.66 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 11.1$ ;  $T_y = 129.7$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.03 + 0 + 0.05 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 11.1$ ;  $T_y = 129.7$ ;  $M_t = 81.5$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 176.1

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.58 \leq 19$  Comb: SLU, 38; Durata minima del carico nella combinazione: media

$M_t = 81.6$

## Asta 271: Trave in legno a falda Falda 6 fili 186-187

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

## Dati generali

Lunghezza = 96.9

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_{m^*}(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_{m^*}(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$2.9/41.6 + 98.3/81 + 0.7 \cdot 9/81 = 1.36 \leq 1$  [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = 13111.6$ ;  $M_y = -961$ ;  $N = 230.5$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$



$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.61^2 + 6.11^2} = 6.14 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 21.8$ ;  $T_y = 217.3$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.02 + 0 + 0.15 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 21.8$ ;  $T_y = 217.3$ ;  $M_t = 47$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 96.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.33 \leq 19$  Comb: SLU, 38; Durata minima del carico nella combinazione: media

$M_t = 47.1$

### Asta 272: Trave in legno a falda Falda 4 fili 172-173

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 296.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 296.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_{m} \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_{m} \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$2.7/41.6 + 381.7/81 + 0.7 \cdot 11.1/81 = 4.87 \leq 1$  [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -50887.1$ ;  $M_y = -1185.8$ ;  $N = 213.8$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.3^2 + 8.2^2} = 8.2 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -10.8$ ;  $T_y = 291.5$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.15 + 0 + 0.26 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -11$ ;  $T_y = 291.4$ ;  $M_t = -391.1$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 296.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.76 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -391.1$



## Asta 273: Trave in legno a falda Falda 4 fili 163-164

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 296.6

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_d \leq f_{v,d}$

$\sqrt{0.11^2 + 10.25^2} = 10.25 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 4$ ;  $T_y = 364.6$

### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 296.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2.3/85.3)^2 + 441.9/81 + 0.7 \cdot 1.9/80.97 = 5.47 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -58926.6$ ;  $M_y = 201.4$ ;  $N = -186.6$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.09 + 0 + 0.41 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 4$ ;  $T_y = 364.6$ ;  $M_t = -246.5$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 296.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.74 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -246.5$

## Asta 274: Trave in legno a falda Falda 4 fili 155-156

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 296.6

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 296.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) > 1$

$K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} > 1$

$420.6/81 + 0.7 \cdot 2.5/81 = 5.22 > 1$  (formula 4.4.5a) Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -56074.8$ ;  $M_y = -270.2$



#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.05^2 + 9.16^2} = 9.16 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -1.7$ ;  $T_y = 325.6$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.06 + 0 + 0.33 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -1.7$ ;  $T_y = 325.6$ ;  $M_t = -155.2$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 296.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.1 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -155.2$

### Asta 275: Trave in legno a falda Falda 4 fili 150-151

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 296.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 296.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$427.9/81 + 0.7 \cdot 3.9/81 = 5.32 \leq 1$  (formula 4.4.5a) Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -57053.7$ ;  $M_y = 410.9$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.07^2 + 9.3^2} = 9.3 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 2.6$ ;  $T_y = 330.7$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.01 + 0 + 0.34 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 2.6$ ;  $T_y = 330.7$ ;  $M_t = -22.4$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 296.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.16 \leq 19$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = -22.4$





## Asta 276: Trave in legno a falda Falda 4 fili 141-142

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 296.6

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.17^2 + 9.41^2} = 9.41 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 6.2$ ;  $T_y = 334.7$

### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 296.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.1/85.3)^2 + 431.2/81 + 0.7 \cdot 9.4/80.97 = 5.41 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -57497$ ;  $M_y = 1000.7$ ;  $N = -84.7$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.04 + 0 + 0.35 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 6.2$ ;  $T_y = 334.7$ ;  $M_t = 111.3$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 296.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.79 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 111.3$

## Asta 277: Trave in legno a falda Falda 4 fili 134-135

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 296.6

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.3^2 + 9.26^2} = 9.27 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media



Tx = 10.6; Ty = 329.3

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 296.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$(Sc_{0,d}/f_{c,0,d})^2 + Sm_{y,d}/f_{m,y,d} + Km*(Sm_{z,d}/f_{m,z,d}) \leq 1$

$(Sc_{0,d}/f_{c,0,d})^2 + Km*(Sm_{y,d}/f_{m,y,d}) + Sm_{z,d}/f_{m,z,d} \leq 1$

$(0.6/85.3)^2 + 426.7/81 + 0.7*13.9/80.97 = 5.39 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = -56894.5; My = 1478.3; N = -46.4

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(ksh*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.09 + 0 + 0.34 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = 10.6; Ty = 329.3; Mt = 246.8

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 296.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq Ksh * f_{v,d}$

$1.74 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

Mt = 246.8

### Asta 278: Trave in legno a falda Falda 4 fili 123-124

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 296.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 296.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$St_{0,d}/f_{t,0,d} + Sm_{y,d}/f_{m,y,d} + Km*(Sm_{z,d}/f_{m,z,d}) > 1$

$St_{0,d}/f_{t,0,d} + Km*(Sm_{y,d}/f_{m,y,d}) + Sm_{z,d}/f_{m,z,d} > 1$

$6.6/41.6 + 355.2/81 + 0.7*2.6/81 = 4.57 > 1$  [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = -47357.3; My = 279.2; N = 531.4

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.05^2 + 6.61^2} = 6.61 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = 1.7; Ty = 235.2

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(ksh*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.13 + 0 + 0.17 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = 1.7; Ty = 235.2; Mt = 349.8

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 296.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq Ksh * f_{v,d}$

$2.47 \leq 19$  Comb: SLU, 71; Durata minima del carico nella combinazione: media



Mt = 349.8

## Asta 279: Trave in legno a falda Falda 4 fili 230-231

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 53.4

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 53.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} > f_{v,d}$

$\sqrt{2.73^2 + 23.33^2} = 23.49 > 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = -97.2$ ;  $T_y = -829.5$

### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(5.7/85.3)^2 + 264.1/81 + 0.7 \cdot 20.3/80.97 = 3.44 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -35207.8$ ;  $M_y = 2164.9$ ;  $N = -458.9$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 53.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$

$0.53 + 0.03 + 2.13 > 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = -97.2$ ;  $T_y = -829.5$ ;  $M_t = 1415.4$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 53.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$10.02 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 1418.3$

## Asta 280: Trave in legno a falda Falda 4 fili 230-231

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 14.4

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 1

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d} \leq f_{t,0,d}$



0.03 <= 57.26 Comb: SLV, 16; Durata minima del carico nella combinazione: istantaneo  
N = 2.3

**Verifica flessione D.M. 17-01-18 §4.4.8.1.6**

Sezione ad ascissa 14.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$   
 $K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$   
 $0.7 \cdot 0.1/111.3 + 0.1/111.3 = 0 \leq 1$  (formula 4.4.5b) Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo  
 $M_x = -9.1$ ;  $M_y = 7.4$

**Asta 281: Trave in legno a falda Falda 4 fili 221-222**

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

**Dati generali**

Lunghezza = 130.4

**Caratteristiche della sezione**

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

**Verifica taglio D.M. 17-01-18 §4.4.8.1.9**

Sezione ad ascissa 130.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.86^2 + 6.39^2} = 6.45 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = -30.6$ ;  $T_y = -227.2$

**Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8**

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$   
 $(1.9/85.3)^2 + 138.7/81 + 0.7 \cdot 18.6/80.97 = 1.87 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -18496.1$ ;  $M_y = 1980.4$ ;  $N = -155$

**Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11**

Sezione ad ascissa 130.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.24 + 0 + 0.16 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = -30.6$ ;  $T_y = -227.2$ ;  $M_t = 656.9$

**Verifica torsione D.M. 17-01-18 §4.4.8.1.10**

Sezione ad ascissa 130.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $4.65 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $M_t = 658.7$

**Asta 282: Trave in legno a falda Falda 4 fili 221-222**

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

**Dati generali**

Lunghezza = 14.4

**Caratteristiche della sezione**

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016



Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 5.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $St_{0,d} \leq f_{t,0,d}$   
 $0.44 \leq 57.26$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo  
 $N = 35.1$

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $Sm_{y,d}/f_{m,y,d} + K_m \cdot (Sm_{z,d}/f_{m,z,d}) \leq 1$   
 $K_m \cdot (Sm_{y,d}/f_{m,y,d}) + Sm_{z,d}/f_{m,z,d} \leq 1$   
 $0.1/111.3 + 0.7 \cdot 0/111.3 = 0 \leq 1$  (formula 4.4.5a) Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo  
 $M_x = 13.7$ ;  $M_y = -3.8$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.01^2 + 0.06^2} = 0.06 \leq 22$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo  
 $T_x = 0.4$ ;  $T_y = 2.1$

### Asta 283: Trave in legno a falda Falda 4 fili 214-215

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 207.4

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 207.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.33^2 + 4.57^2} = 4.58 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = -11.8$ ;  $T_y = -162.3$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $(Sc_{0,d}/f_{c,0,d})^2 + Sm_{y,d}/f_{m,y,d} + K_m \cdot (Sm_{z,d}/f_{m,z,d}) \leq 1$   
 $(Sc_{0,d}/f_{c,0,d})^2 + K_m \cdot (Sm_{y,d}/f_{m,y,d}) + Sm_{z,d}/f_{m,z,d} \leq 1$   
 $(1.6/85.3)^2 + 162.2/81 + 0.7 \cdot 11.4/80.97 = 2.1 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -21628.1$ ;  $M_y = 1214.8$ ;  $N = -126.2$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 207.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.16 + 0 + 0.08 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = -11.9$ ;  $T_y = -162$ ;  $M_t = 443.7$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 207.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$



$K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $3.13 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $M_t = 443.7$

Asta 284: Trave in legno a falda Falda 4 fili 214-215

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 14.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

**Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7**

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_{m} \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $\sigma_{t,0,d}/f_{t,0,d} + K_{m} \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $0.6/57.3 + 0.1/111.3 + 0.7 \cdot 0/111.3 = 0.01 \leq 1$  [4.4.6a] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo  
 $M_x = -9$ ;  $M_y = 1.3$ ;  $N = 44.1$

**Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1**

Sezione ad ascissa 7.2  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $\sigma_{t,0,d} \leq f_{t,0,d}$   
 $0.51 \leq 57.26$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo  
 $N = 40.8$

**Verifica taglio D.M. 17-01-18 §4.4.8.1.9**

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0^2 + 0.05^2} = 0.05 \leq 22$  Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo  
 $T_x = 0.1$ ;  $T_y = 1.7$

Asta 285: Trave in legno a falda Falda 4 fili 205-206

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 284.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

**Verifica taglio D.M. 17-01-18 §4.4.8.1.9**

Sezione ad ascissa 284.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.12^2 + 4.33^2} = 4.34 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = -4.2$ ;  $T_y = -154.1$

**Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8**

Sezione ad ascissa 0



Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$   
 $(1.1/85.3)^2 + 223.7/81 + 0.7 \cdot 4.9/80.97 = 2.81 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -29825.6$ ;  $M_y = 524.5$ ;  $N = -91$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 284.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.14 + 0 + 0.07 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $T_x = -4.4$ ;  $T_y = -153.9$ ;  $M_t = 381.1$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 284.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $2.69 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $M_t = 381.2$

### Asta 286: Trave in legno a falda Falda 4 fili 205-206

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 14.4

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 4.3  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $St_{0,d} \leq f_{t,0,d}$   
 $0.29 \leq 57.26$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo  
 $N = 22.9$

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 14.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$   
 $K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$   
 $0.1/111.3 + 0.7 \cdot 0/111.3 = 0 \leq 1$  (formula 4.4.5a) Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo  
 $M_x = 9.9$ ;  $M_y = 3.5$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.01^2 + 0.04^2} = 0.05 \leq 22$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo  
 $T_x = -0.5$ ;  $T_y = 1.5$

### Asta 287: Trave in legno a falda Falda 4 fili 195-196

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 45



#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 45

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$279.8/81 + 0.7 \cdot 2.7/81 = 3.48 \leq 1$  (formula 4.4.5a) Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -37309.5$ ;  $M_y = -291.8$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} > f_{v,d}$

$\sqrt{0.29^2 + 21.02^2} = 21.02 > 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = -10.3$ ;  $T_y = 747.2$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$

$0.29 + 0 + 1.73 > 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = -10.3$ ;  $T_y = 747.2$ ;  $M_t = -778.3$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 45

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$5.5 \leq 19$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = -778.3$

### Asta 288: Trave in legno a falda Falda 4 fili 188-189

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 122

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.19^2 + 13.06^2} = 13.06 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -6.9$ ;  $T_y = 464.2$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 122

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$





$(1.4/85.3)^2 + 361.9/81 + 0.7 \cdot 4/80.97 = 4.5 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
Mx = -48250.5; My = -428.2; N = -110.6

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{\text{tor,d}} / (k_{\text{sh}} \cdot f_{\text{v,d}}) + (\tau_{\text{y,d}} / f_{\text{v,d}})^2 + (\tau_{\text{z,d}} / f_{\text{v,d}})^2 \leq 1$

$0.24 + 0 + 0.67 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = -6.9; Ty = 464.2; Mt = -643.1

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 122

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{\text{tor,d}} \leq K_{\text{sh}} \cdot f_{\text{v,d}}$

4.54 ≤ 19 Comb: SLU, 71; Durata minima del carico nella combinazione: media

Mt = -643.1

### Asta 289: Trave in legno a falda Falda 4 fili 181-182

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 199

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 199

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$\sigma_{\text{t,0,d}} / f_{\text{t,0,d}} + \sigma_{\text{m,y,d}} / f_{\text{m,y,d}} + K_{\text{m}} \cdot (\sigma_{\text{m,z,d}} / f_{\text{m,z,d}}) > 1$

$\sigma_{\text{t,0,d}} / f_{\text{t,0,d}} + K_{\text{m}} \cdot (\sigma_{\text{m,y,d}} / f_{\text{m,y,d}}) + \sigma_{\text{m,z,d}} / f_{\text{m,z,d}} > 1$

$2.3/41.6 + 384.5/81 + 0.7 \cdot 2.7/81 = 4.83 > 1$  [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = -51267.6; My = -288.4; N = 182.4

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{\text{d}} \leq f_{\text{v,d}}$

$\sqrt{0.09^2 + 9.56^2} = 9.56 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = -3.1; Ty = 339.8

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{\text{tor,d}} / (k_{\text{sh}} \cdot f_{\text{v,d}}) + (\tau_{\text{y,d}} / f_{\text{v,d}})^2 + (\tau_{\text{z,d}} / f_{\text{v,d}})^2 \leq 1$

$0.2 + 0 + 0.36 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = -3.1; Ty = 339.8; Mt = -533.1

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 199

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{\text{tor,d}} \leq K_{\text{sh}} \cdot f_{\text{v,d}}$

3.76 ≤ 19 Comb: SLU, 71; Durata minima del carico nella combinazione: media

Mt = -533.1

### Asta 290: Trave in legno a falda Falda 4 fili 116-117

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



## Dati generali

Lunghezza = 203.5

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 203.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$3.8/41.6 + 393.3/81 + 0.7 \cdot 2.1/81 = 4.97 \leq 1$  [4.4.6a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -52437.1$ ;  $M_y = -227.4$ ;  $N = 300.6$

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{(0.05^2 + 9.27^2)} = 9.27 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -1.6$ ;  $T_y = 329.5$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.19 + 0 + 0.34 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -1.6$ ;  $T_y = 329.5$ ;  $M_t = 508.2$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 203.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$3.59 \leq 19$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = 508.2$

## Asta 291: Trave in legno a falda Falda 4 fili 108-109

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

## Dati generali

Lunghezza = 126.4

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{(0.05^2 + 12.72^2)} = 12.72 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 1.8$ ;  $T_y = 452.3$

### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 126.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)



$(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$   
 $(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$   
 $(1.8/85.3)^2 + 374.5/81 + 0.7*1.1/80.97 = 4.63 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $Mx = -49937.7$ ;  $My = 112.3$ ;  $N = -146.8$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.24 + 0 + 0.63 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = 1.8$ ;  $T_y = 452.3$ ;  $M_t = 635.2$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 126.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$   
 $4.49 \leq 19$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $M_t = 635.2$

### Asta 292: Trave in legno a falda Falda 4 fili 101-102

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 49.4

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 49.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) > 1$   
 $Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d > 1$   
 $299.7/81 + 0.7*0.6/81 = 3.71 > 1$  (formula 4.4.5a) Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -39953.8$ ;  $M_y = 68.3$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} > f_{v,d}$   
 $\sqrt{0.04^2 + 20.68^2} = 20.68 > 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $T_x = 1.5$ ;  $T_y = 735.4$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$   
 $0.29 + 0 + 1.67 > 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $T_x = 1.5$ ;  $T_y = 735.4$ ;  $M_t = 770.7$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 49.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$   
 $5.44 \leq 19$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $M_t = 770.7$



## Asta 293: Trave in legno a falda Falda 4 fili 93-94

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 288.8

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 288.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.1^2 + 4.34^2} = 4.34 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 3.5$ ;  $T_y = -154.3$

### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.3/85.3)^2 + 228/81 + 0.7 \cdot 5/80.97 = 2.86 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -30393.4$ ;  $M_y = -534.5$ ;  $N = -106.8$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 288.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.14 + 0 + 0.07 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 3.6$ ;  $T_y = -154.1$ ;  $M_t = -374.3$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 288.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.64 \leq 19$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -374.3$

## Asta 294: Trave in legno a falda Falda 4 fili 93-94

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 14.4

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 7.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d} \leq f_{t,0,d}$

$0.25 \leq 57.26$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$N = 19.8$



#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$S_{m,y,d}/f_{m,y,d} + K_{m,y,d}(S_{m,z,d}/f_{m,z,d}) \leq 1$

$K_{m,z,d}(S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$0.7 \cdot 0/111.3 + 0.1/111.3 = 0 \leq 1$  (formula 4.4.5b) Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$M_x = 3.6$ ;  $M_y = -6.6$

#### Asta 295: Trave in legno a falda Falda 4 fili 85-86

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 211.8

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 211.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.42^2 + 4.58^2} = 4.6 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 15$ ;  $T_y = -162.7$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_{m,y,d}(S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_{m,z,d}(S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(1.5/85.3)^2 + 162.9/81 + 0.7 \cdot 15/80.97 = 2.14 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -21723.5$ ;  $M_y = -1598.8$ ;  $N = -121.9$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 211.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.17 + 0 + 0.08 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 15.1$ ;  $T_y = -162.5$ ;  $M_t = -459.9$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 211.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$3.25 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -459.9$

#### Asta 296: Trave in legno a falda Falda 4 fili 85-86

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 14.4

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno



Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$1.7/57.3 + 0.2/111.3 + 0.7 \cdot 0/111.3 = 0.03 \leq 1$  [4.4.6a] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_x = -26$ ;  $M_y = 0.9$ ;  $N = 138.6$

#### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 8.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d} \leq f_{t,0,d}$

$1.73 \leq 57.26$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$N = 138.5$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{v,d} \leq f_{v,d}$

$\sqrt{0^2 + 0.1^2} = 0.1 \leq 22$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$T_x = 0.2$ ;  $T_y = 3.6$

### Asta 297: Trave in legno a falda Falda 4 fili 79-80

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 134.8

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 134.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{v,d} \leq f_{v,d}$

$\sqrt{1.06^2 + 6.24^2} = 6.33 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 37.6$ ;  $T_y = -221.8$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2.2/85.3)^2 + 129.3/81 + 0.7 \cdot 24.2/80.97 = 1.81 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -17235.3$ ;  $M_y = -2579.6$ ;  $N = -174.6$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 134.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.26 + 0 + 0.15 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 37.9$ ;  $T_y = -221.5$ ;  $M_t = -698.4$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 134.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq k_{sh} \cdot f_{v,d}$

$4.93 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media



Mt = -698.4

## Asta 298: Trave in legno a falda Falda 4 fili 79-80

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 14.4

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 7.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$St_{0,d} \leq f_{t,0,d}$

$0.21 \leq 57.26 \text{ Comb: SLV, 4; Durata minima del carico nella combinazione: istantaneo}$

$N = 16.4$

### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$0.7 \cdot 0/111.3 + 0.1/111.3 = 0 \leq 1$  (formula 4.4.5b) Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$M_x = 3.6$ ;  $M_y = -6.8$

## Asta 299: Trave in legno a falda Falda 4 fili 70-71

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 57.8

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 57.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(2.09^2 + 15.25^2)} = 15.39 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 74.4$ ;  $T_y = -542.1$

### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(2.8/85.3)^2 + 176.4/81 + 0.7 \cdot 24.2/80.97 = 2.39 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -23519.7$ ;  $M_y = -2578.1$ ;  $N = -222.7$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 57.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$



$$\tau_{\text{tor,d}}/(\text{ksh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$$

0.54+0.02+0.91 > 1 Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Tx = 74.4; Ty = -542.1; Mt = -1451.8

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 57.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$$\tau_{\text{tor,d}} \leq \text{Ksh} \cdot f_{v,d}$$

10.27 <= 19 Comb: SLU, 79; Durata minima del carico nella combinazione: media

Mt = -1454.3

### Asta 300: Trave in legno a falda Falda 4 fili 70-71

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 14.4

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1; Kh = 1.084 (formula 11.7.1)

$$\sigma_{t,0,d} \leq f_{t,0,d}$$

0.31 <= 57.26 Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

N = 24.8

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1; Kh = 1.084 (formula 11.7.1)

$$\sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$$

$$K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$$

0/111.3+0.7\*0/111.3=0 <= 1 (formula 4.4.5a) Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

Mx = 4.7; My = -2

### Asta 301: Trave in legno a falda Falda 3 fili 106-107

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 74

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) > 1$$

$$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$$

3/41.6+99.7/81+0.7\*5.2/81=1.35 > 1 [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = 13294.6; My = 556.9; N = 238.9

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0





Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.44^2 + 7.37^2} = 7.38 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -15.6$ ;  $T_y = 262.1$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.02 + 0 + 0.21 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -15.6$ ;  $T_y = 262.1$ ;  $M_t = -44.2$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 74

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.31 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -44.2$

### Asta 302: Trave in legno a falda Falda 3 fili 58-59

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 303.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 303.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$3/41.6 + 160.6/81 + 0.7 \cdot 2.6/81 = 2.08 \leq 1$  [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -21412.8$ ;  $M_y = 278.3$ ;  $N = 236.3$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.03^2 + 3.61^2} = 3.61 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 1.2$ ;  $T_y = 128.3$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.04 + 0 + 0.05 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 1.6$ ;  $T_y = 128.1$ ;  $M_t = -119.6$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 303.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.85 \leq 19$  Comb: SLU, 37; Durata minima del carico nella combinazione: media

$M_t = -120.5$



## Asta 303: Trave in legno a falda Falda 3 fili 67-68

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 303.6

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 303.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \geq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \geq 1$

$1.6/41.6 + 152.3/81 + 0.7 \cdot 0.7/81 = 1.92 \geq 1$  [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -20301.9$ ;  $M_y = -77.4$ ;  $N = 127.4$

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.02^2 + 3.26^2} = 3.26 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -0.9$ ;  $T_y = 116.1$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.06 + 0 + 0.04 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -0.5$ ;  $T_y = 116$ ;  $M_t = -172.3$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 303.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.22 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -173.4$

## Asta 304: Trave in legno a falda Falda 3 fili 76-77

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 303.6

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 303.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \geq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \geq 1$

$4.4/41.6 + 141.7/81 + 0.7 \cdot 3.2/81 = 1.88 \geq 1$  [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -18894.2$ ;  $M_y = 343.4$ ;  $N = 351.2$



#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.05^2 + 2.97^2} = 2.97 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 1.7$ ;  $T_y = 105.8$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.07 + 0 + 0.03 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 1.7$ ;  $T_y = 105.8$ ;  $M_t = -194.1$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 303.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.38 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -195.2$

### Asta 305: Trave in legno a falda Falda 3 fili 83-84

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 321.1

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 321

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$5.5/41.6 + 119.9/81 + 0.7 \cdot 2.4/81 = 1.63 \leq 1$  [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -15982.5$ ;  $M_y = 258.6$ ;  $N = 438.8$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.04^2 + 2.36^2} = 2.36 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 1.5$ ;  $T_y = 84$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.05 + 0 + 0.02 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 1.5$ ;  $T_y = 84$ ;  $M_t = -142.4$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 321

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.01 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -142.4$



## Asta 306: Trave in legno a falda Falda 3 fili 91-92

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 238.7

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 238.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$4.2/41.6 + 100.5/81 + 0.7 \cdot 5.4/81 = 1.39 \leq 1$  [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -13400.2$ ;  $M_y = -579.9$ ;  $N = 337.1$

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{0.08^2 + 2.98^2} = 2.98 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -3$ ;  $T_y = 105.9$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{t,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.05 + 0 + 0.03 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -3$ ;  $T_y = 105.9$ ;  $M_t = -121.9$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 238.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{t,d} \leq K_{sh} \cdot f_{v,d}$

$0.86 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = -121.9$

## Asta 307: Trave in legno a falda Falda 3 fili 99-100

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 156.3

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$



$2.3/41.6+95.4/81+0.7*5.5/81=1.28 > 1$  [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
Mx = 12718; My = 586.9; N = 183.5

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.23^2+4.15^2} = 4.16 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = -8.3; Ty = 147.7

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.03+0+0.07 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = -8.3; Ty = 147.7; Mt = -72.5

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 156.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$0.51 \leq 19$  Comb: SLU, 38; Durata minima del carico nella combinazione: media

Mt = -72.6

### Asta 308: Trave in legno a falda Falda 3 fili 46-47

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 182.9

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.51^2+3.97^2} = 4 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = -18.2; Ty = 141.1

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 182.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m * (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m * (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(4.1/85.3)^2+152.1/81+0.7*15.4/80.97=2.01 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = -20273.7; My = -1642.4; N = -326.3

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.06+0+0.06 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = -18.2; Ty = 141.1; Mt = 150.1

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 182.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$1.06 \leq 19$  Comb: SLU, 72; Durata minima del carico nella combinazione: media



Mt = 150.4

## Asta 309: Trave in legno a falda Falda 3 fili 52-53

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 264.2

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 264.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$9.4/41.6 + 162.4/81 + 0.7 \cdot 11.5/81 = 2.33 \leq 1$  [4.4.6a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -21648.8$ ;  $M_y = -1222.7$ ;  $N = 752.4$

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.33^2 + 3.89^2} = 3.91 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -11.9$ ;  $T_y = 138.4$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.03 + 0 + 0.06 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -11.9$ ;  $T_y = 138.4$ ;  $M_t = 67.6$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 264.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.48 \leq 19$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = 67.6$

## Asta 310: Trave in legno a falda Falda 3 fili 40-41

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 101.5

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$



$\sqrt{0.65^2 + 4.99^2} = 5.04 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
Tx = -23.2; Ty = 177.6

**Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8**

Sezione ad ascissa 101.5  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; Kh = 1.084 (formula 11.7.1)  
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$   
 $(2.2/85.3)^2 + 141.6/81 + 0.7 \cdot 11.3/80.97 = 1.85 > 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
Mx = -18878; My = -1209.3; N = -172.6

**Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11**

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67  
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.07 + 0 + 0.1 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
Tx = -23; Ty = 177.5; Mt = 177.5

**Verifica torsione D.M. 17-01-18 §4.4.8.1.10**

Sezione ad ascissa 101.5  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8  
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $1.25 \leq 19$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
Mt = 177.5

**Asta 311: Trave in legno a falda Falda 3 fili 34-35**

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

**Dati generali**

Lunghezza = 263.8

**Caratteristiche della sezione**

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

**Verifica flessione D.M. 17-01-18 §4.4.8.1.6**

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; Kh = 1.084 (formula 11.7.1)  
 $S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) > 1$   
 $K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} > 1$   
 $122/81 + 0.7 \cdot 9.8/81 = 1.59 > 1$  (formula 4.4.5a) Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
Mx = -16264.7; My = -1043.6

**Verifica taglio D.M. 17-01-18 §4.4.8.1.9**

Sezione ad ascissa 263.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; kcr = 0.67  
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.19^2 + 2.41^2} = 2.42 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
Tx = 6.7; Ty = -85.7

**Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11**

Sezione ad ascissa 263.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67  
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.06 + 0 + 0.02 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
Tx = 7; Ty = -85.4; Mt = -153.4

**Verifica torsione D.M. 17-01-18 §4.4.8.1.10**

Sezione ad ascissa 263.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8  
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$



1.08 <= 19 Comb: SLU, 71; Durata minima del carico nella combinazione: media  
Mt = -153.4

## Asta 312: Trave in legno a falda Falda 3 fili 29-30

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 182.3

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 182.3  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.42^2 + 4.1^2} = 4.13 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = 15$ ;  $T_y = -145.9$

### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(1.9/85.3)^2 + 128.4/81 + 0.7 \cdot 14.5/80.97 = 1.71 > 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -17122.5$ ;  $M_y = -1547.5$ ;  $N = -150.3$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 182.3  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.15 + 0 + 0.07 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = 15$ ;  $T_y = -145.9$ ;  $M_t = -405.4$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 182.3  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $2.86 \leq 19$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $M_t = -405.4$

## Asta 313: Trave in legno a falda Falda 3 fili 25-26

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 100.9

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 100.9  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$





$\tau_{d} \leq f_{v,d}$

$\sqrt{1.04^2 + 8.58^2} = 8.64 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 36.9$ ;  $T_y = -305.1$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(4.3/85.3)^2 + 145.7/81 + 0.7 \cdot 20.3/80.97 = 1.98 > 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -19424.4$ ;  $M_y = -2168.9$ ;  $N = -344.4$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 100.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.3 + 0.29 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 36.9$ ;  $T_y = -305.1$ ;  $M_t = -808.2$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 100.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$5.71 \leq 19$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = -808.2$

### Asta 314: Trave in legno a falda Falda 3 fili 21-22

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 20.5

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(13.3/85.3)^2 + 104.5/81 + 0.7 \cdot 41.7/80.97 = 1.68 > 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -13939.3$ ;  $M_y = 4444.1$ ;  $N = -1065.6$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 20.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} > f_{v,d}$

$\sqrt{10.11^2 + 29.56^2} = 31.24 > 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = -359.3$ ;  $T_y = -1051.1$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 20.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$

$1.17 + 0.4 + 3.41 > 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = -359.3$ ;  $T_y = -1051.1$ ;  $M_t = -3154.7$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 20.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$



$\tau_{tor,d} > Ksh \cdot f_{v,d}$

22.28 > 19 Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mt = -3154.7

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 6.8

Kdef = 0

Uinst tot in x = 0

Uinst tot in y = 0

Uinst tot = 0

Luce/Uinst,tot > limite

20.5/0=6990.1 > 300 Comb: SLE rara, 9

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 6.8

Kdef = 0

Uinst var in x = 0

Uinst var in y = 0

Uinst var = 0

Luce/Uinst,var > limite

20.5/0=10492.2 > 300 Comb: SLE rara, 9

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 6.8

Kdef = 0.6

Ufin in x = 0

Ufin in y = 0

Ufin = 0

Luce/Ufin > limite

20.5/0=5823.7 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

### Asta 315: Trave in legno a falda Falda 2 fili 55-8

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 512.3

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 512.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1; Kh = 1.084 (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

1.9/57.3+28.4/111.3+0.7\*7.9/111.3=0.34 <= 1 [4.4.6a] Comb: SLV, 4; Durata minima del carico nella combinazione: istantaneo

Mx = -3792.4; My = -842.4; N = 152.9

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.02^2 + 0.53^2} = 0.53 \leq 22$  Comb: SLV, 2; Durata minima del carico nella combinazione: istantaneo

Tx = -0.6; Ty = 18.9

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67



$\tau_{tor,d}/(ksh \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
0.01+0+0 ≤ 1 Comb: SLU, 72; Durata minima del carico nella combinazione: media  
Tx = 3; Ty = 8.8; Mt = -39.2

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 512.3  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8  
 $\tau_{tor,d} \leq Ksh \cdot f_{v,d}$   
0.28 ≤ 19 Comb: SLU, 72; Durata minima del carico nella combinazione: media  
Mt = -39.2

### Asta 316: Trave in legno a falda Falda 2 fili 52-9

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 475.2

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; Kh = 1.084 (formula 11.7.1)  
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$   
 $St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$   
0.9/41.6+0.7\*15.9/81+31.5/81=0.55 ≤ 1 [4.4.6b] Comb: SLU, 30; Durata minima del carico nella combinazione: media  
Mx = -2115.2; My = -3363; N = 75.2

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 475.2  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; kcr = 0.67  
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.38^2 + 0.31^2} = 0.49 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
Tx = 13.6; Ty = -10.9

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 475.2  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67  
 $\tau_{tor,d}/(ksh \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
0.06+0+0 ≤ 1 Comb: SLU, 72; Durata minima del carico nella combinazione: media  
Tx = 13.6; Ty = -10.9; Mt = -161.1

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 475.2  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8  
 $\tau_{tor,d} \leq Ksh \cdot f_{v,d}$   
1.14 ≤ 19 Comb: SLU, 72; Durata minima del carico nella combinazione: media  
Mt = -161.1

### Asta 317: Trave in legno a falda Falda 2 fili 46-10

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 398.7

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016



Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$0.7 \cdot 41.9/81 + 63.4/81 = 1.14 \leq 1$  (formula 4.4.5b) Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -5582.8$ ;  $M_y = -6758.9$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 398.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.89^2 + 0.81^2} = 1.2 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 31.6$ ;  $T_y = -28.8$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 398.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.1 + 0 + 0 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 31.6$ ;  $T_y = -28.8$ ;  $M_t = -267$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 398.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.89 \leq 19$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = -267$

### Asta 318: Trave in legno a falda Falda 2 fili 40-11

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 322

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 322

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{1.24^2 + 1.69^2} = 2.1 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 44$ ;  $T_y = -60.3$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$

$(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$

$(1.5/85.3)^2 + 73.4/81 + 0.7 \cdot 71.7/80.97 = 1.53 \leq 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -9787.7$ ;  $M_y = -7650.6$ ;  $N = -118$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 322

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$



$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.09 + 0.01 + 0.01 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = 44$ ;  $T_y = -60.3$ ;  $M_t = -234.1$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 322  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $1.65 \leq 19$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $M_t = -234.1$

### Asta 319: Trave in legno a falda Falda 2 fili 34-12

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 245.4

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 245.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{1.25^2 + 3.34^2} = 3.57 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = 44.6$ ;  $T_y = -118.8$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$   
 $(3.2/85.3)^2 + 114.1/81 + 0.7 \cdot 57/80.97 = 1.9 \ngtr 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -15207.8$ ;  $M_y = -6077.3$ ;  $N = -258.3$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 245.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.01 + 0.01 + 0.04 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = 44.6$ ;  $T_y = -118.8$ ;  $M_t = -34.1$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 245.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $0.42 \leq 26.13$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo  
 $M_t = -59$

### Asta 320: Trave in legno a falda Falda 2 fili 29-13

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 168.8

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67



Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 168.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.66^2 + 5.38^2} = 5.42 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = 23.6$ ;  $T_y = -191.2$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(3.5/85.3)^2 + 126.4/81 + 0.7 \cdot 22/80.97 = 1.75 > 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -16850.1$ ;  $M_y = -2341.4$ ;  $N = -276.1$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 168.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.08 + 0 + 0.11 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = 23.4$ ;  $T_y = -191.2$ ;  $M_t = 212.8$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 168.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $1.5 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $M_t = 212.9$

### Asta 321: Trave in legno a falda Falda 2 fili 25-14

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 92.2

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 92.2  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.88^2 + 11.27^2} = 11.3 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = -31.5$ ;  $T_y = -400.7$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(6.7/85.3)^2 + 146/81 + 0.7 \cdot 8.8/80.97 = 1.88 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -19463$ ;  $M_y = 935.8$ ;  $N = -537.4$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 92.2



Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.18 + 0 + 0.5 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = -31.5$ ;  $T_y = -400.7$ ;  $M_t = 496.8$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 92.2  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $3.51 \leq 19$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $M_t = 496.8$

### Asta 322: Trave in legno a falda Falda 2 fili 21-15

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 15.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 15.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$   
 $(9.7/85.3)^2 + 27.6/81 + 0.7 \cdot 16.7/80.97 = 0.5 \leq 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $M_x = 3676.7$ ;  $M_y = 1781.5$ ;  $N = -778.1$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 15.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{2.54^2 + 5.51^2} = 6.06 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = 90.2$ ;  $T_y = -195.8$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 15.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.26 + 0.03 + 0.12 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = 90.2$ ;  $T_y = -195.8$ ;  $M_t = 694$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 15.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $4.9 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $M_t = 694$

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 8.8  
 $K_{def} = 0$   
 $U_{inst,tot} \text{ in } x = 0$   
 $U_{inst,tot} \text{ in } y = 0$   
 $U_{inst,tot} = 0$   
Luce/ $U_{inst,tot} > \text{limite}$   
 $15.6/0 = 16259.1 > 300$  Comb: SLE rara, 16

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 8.8



Kdef = 0  
Uinst var in x = 0  
Uinst var in y = 0  
Uinst var = 0  
Luce/Uinst,var > limite  
15.6/0=26623.5 > 300 Comb: SLE rara, 16

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 8.8  
Kdef = 0.6  
Ufin in x = 0  
Ufin in y = 0  
Ufin = 0  
Luce/Ufin > limite  
15.6/0=13142.9 > 200  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Variabile A = 0,700 + 0,180 = 0,880  
Neve = 0,500 + 0,500 = 1,000

### Asta 323: Trave in legno a falda Falda 1 fili 148-149

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 428

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; kcr = 0.67  
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.01^2 + 2.45^2} = 2.45 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
Tx = -0.3; Ty = 87

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 428  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; Kh = 1.084 (formula 11.7.1)  
 $(Sc_{0,d}/f_{c,0,d})^2 + Sm_{y,d}/f_{m,y,d} + Km \cdot (Sm_{z,d}/f_{m,z,d}) \leq 1$   
 $(Sc_{0,d}/f_{c,0,d})^2 + Km \cdot (Sm_{y,d}/f_{m,y,d}) + Sm_{z,d}/f_{m,z,d} \leq 1$   
 $(1.4/85.3)^2 + 157.8/81 + 0.7 \cdot 0.7/80.97 = 1.96 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
Mx = -21045.4; My = -74.4; N = -115

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67  
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0 + 0 + 0.02 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
Tx = -0.3; Ty = 87; Mt = -12.5

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 428  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8  
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $0.09 \leq 19$  Comb: SLU, 38; Durata minima del carico nella combinazione: media  
Mt = -12.5





## Asta 324: Trave in legno a falda Falda 1 fili 153-154

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 428

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_d \leq f_{v,d}$

$\sqrt{0.07^2 + 2.43^2} = 2.43 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 2.3$ ;  $T_y = 86.3$

### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 428

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(4.2/85.3)^2 + 152.4/81 + 0.7 \cdot 3.1/80.97 = 1.91 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -20325.3$ ;  $M_y = 331.1$ ;  $N = -338.6$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.01 + 0 + 0.02 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 2.3$ ;  $T_y = 86.3$ ;  $M_t = -37.9$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 428

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.27 \leq 19$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -38.3$

## Asta 325: Trave in legno a falda Falda 1 fili 139-140

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 428

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_d \leq f_{v,d}$

$\sqrt{0.04^2 + 2.45^2} = 2.45 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -1.3$ ;  $T_y = 87.2$



#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 428

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(3.5/85.3)^2 + 154.2/81 + 0.7 \cdot 2.4/80.97 = 1.93 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -20554.6$ ;  $M_y = -259.6$ ;  $N = -283.3$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0 + 0 + 0.02 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -1.3$ ;  $T_y = 87.2$ ;  $M_t = 3.5$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 428

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.15 \leq 26.13$  Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$M_t = 21.3$

### Asta 326: Trave in legno a falda Falda 1 fili 217-260

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$2.5/52.8 + 0.7 \cdot 16/102.7 + 36/102.7 = 0.51 \leq 1$  [4.4.6b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_x = -25379$ ;  $M_y = 44660.7$ ;  $N = 1019.9$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(1.64^2 + 1.45^2)} = 2.19 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -301.7$ ;  $T_y = 266.6$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.1 + 0.01 + 0.01 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -301.7$ ;  $T_y = 266.6$ ;  $M_t = 3009.6$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.82 \leq 19.07$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 3022.2$



## Asta 327: Trave in legno a falda Falda 1 fili 217-260

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 67.6

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(1.12^2 + 2.29^2)} = 2.55 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 205.3$ ;  $T_y = 421.8$

### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_{m,z,d}(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_{m,y,d}(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.5/85.3)^2 + 26.2/74.7 + 0.7 \cdot 1.6/74.67 = 0.37 \leq 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_x = -41527.6$ ;  $M_y = 2046$ ;  $N = -638$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.07 + 0 + 0.02 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 205.3$ ;  $T_y = 421.8$ ;  $M_t = 2188.6$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.32 \leq 19.07$  Comb: SLU, 38; Durata minima del carico nella combinazione: media

$M_t = 2192.3$

## Asta 328: Trave in legno a falda Falda 1 fili 217-260

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 67.6

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(1.92^2 + 2.86^2)} = 3.44 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media



Tx = -353.1; Ty = -525.5

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 42.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_{m,z,d}/f_{m,z,d} \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_{m,z,d}/f_{m,z,d} + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(1.5/85.3)^2 + 23.1/74.7 + 0.7 \cdot 10.7/74.67 = 0.41 \leq 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $M_x = -36597.1$ ;  $M_y = -13339.7$ ;  $N = -627.6$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.08 + 0.01 + 0.03 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = -339.8$ ;  $T_y = -508.6$ ;  $M_t = 2443.1$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $1.48 \leq 19.07$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $M_t = 2445.1$

Asta 329: Trave in legno a falda Falda 1 fili 217-260

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 67.6

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{(0.87^2 + 2.31^2)} = 2.47 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = 160$ ;  $T_y = -425.9$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_{m,z,d}/f_{m,z,d} \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_{m,z,d}/f_{m,z,d} + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(1.4/85.3)^2 + 0.7 \cdot 16.4/74.7 + 19.2/74.7 = 0.41 \leq 1$  [4.4.7b] Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $M_x = -26070.2$ ;  $M_y = -23851.4$ ;  $N = -595.1$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.03 + 0 + 0.02 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = 159.9$ ;  $T_y = -424.5$ ;  $M_t = 921.5$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $0.56 \leq 19.07$  Comb: SLU, 80; Durata minima del carico nella combinazione: media



Mt = 921.5

### Asta 330: Trave in legno a falda Falda 1 fili 217-260

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{2.27^2 + 1.44^2} = 2.69 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 417.3$ ;  $T_y = -264.9$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.2/85.3)^2 + 0.7 \cdot 7.2/74.7 + 14.8/74.7 = 0.26 \leq 1$  [4.4.7b] Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_x = -11363.7$ ;  $M_y = -18323.2$ ;  $N = -494.3$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{t,y,d}/f_{v,d})^2 + (\tau_{t,z,d}/f_{v,d})^2 \leq 1$

$0.03 + 0.02 + 0.01 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 401.7$ ;  $T_y = -283$ ;  $M_t = -1067.7$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.64 \leq 19.07$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = -1067.7$

### Asta 331: Trave in legno a falda Falda 1 fili 217-260

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 40.1

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 40.1

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$



$K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$   
 $0.7 \cdot 4.9/74.7 + 22.9/74.7 = 0.35 \leq 1$  (formula 4.4.5b) Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $M_x = -7814.3$ ;  $M_y = 28423.6$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{3.53^2 + 1.69^2} = 3.92 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = 650.2$ ;  $T_y = 311.2$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.03 + 0.05 + 0.01 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = 650.2$ ;  $T_y = 311.2$ ;  $M_t = 841$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 40.1  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $1.09 \leq 26.22$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo  
 $M_t = 1810.8$

### Asta 332: Trave in legno a falda Falda 1 fili 161-217

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{2.59^2 + 1.28^2} = 2.89 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = 476.6$ ;  $T_y = 234.9$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$   
 $(2.6/117.3)^2 + 0.7 \cdot 12.9/102.7 + 43.4/102.7 = 0.51 \leq 1$  [4.4.7b] Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo  
 $M_x = 20449.5$ ;  $M_y = -53877.5$ ;  $N = -1075.7$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.16 + 0.03 + 0.01 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = 476.6$ ;  $T_y = 234.9$ ;  $M_t = -4972.2$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$



3.01 <= 19.07 Comb: SLU, 79; Durata minima del carico nella combinazione: media  
Mt = -4979

### Asta 333: Trave in legno a falda Falda 1 fili 161-217

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$2/52.8 + 0.7 \cdot 8/102.7 + 21.1/102.7 = 0.3 \leq 1$  [4.4.6b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

Mx = -12651; My = 26159.9; N = 841.9

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{1.09^2 + 2.24^2} = 2.49 \leq 16$  Comb: SLU, 30; Durata minima del carico nella combinazione: media

Tx = -200.3; Ty = -411.7

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.07 + 0 + 0.02 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = -197; Ty = -412.3; Mt = -2068

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.26 \leq 19.07$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

Mt = -2094.6

### Asta 334: Trave in legno a falda Falda 1 fili 161-217

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1



$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$   
 $St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$   
 $2.4/52.8 + 0.7 \cdot 7.1/102.7 + 21.5/102.7 = 0.3 \leq 1$  [4.4.6b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo  
 $M_x = 11338.5$ ;  $M_y = -26729.5$ ;  $N = 1006.8$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.96^2 + 1.69^2} = 1.94 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = -177.3$ ;  $T_y = -310.8$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.04 + 0 + 0.01 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = -163.6$ ;  $T_y = -305.4$ ;  $M_t = -1416$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $0.85 \leq 19.07$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $M_t = -1416$

### Asta 335: Trave in legno a falda Falda 1 fili 161-217

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$   
 $St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$   
 $2.4/52.8 + 0.7 \cdot 10/102.7 + 34.2/102.7 = 0.45 \leq 1$  [4.4.6b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo  
 $M_x = 15854.8$ ;  $M_y = -42423.4$ ;  $N = 1014.2$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{1.82^2 + 0.99^2} = 2.07 \leq 22$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo  
 $T_x = -334.1$ ;  $T_y = -182.8$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.03 + 0 + 0.01 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = -89.8$ ;  $T_y = 230.6$ ;  $M_t = -1011.9$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$





$\tau_{tor,d} \leq K_{sh} * f_{v,d}$   
0.61 <= 19.07 Comb: SLU, 29; Durata minima del carico nella combinazione: media  
Mt = -1013.3

## Asta 336: Trave in legno a falda Falda 1 fili 161-217

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 67.6

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km * (Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km * (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

2.5/52.8+0.7\*15.1/102.7+51.5/102.7=0.65 <= 1 [4.4.6b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

Mx = 23884.8; My = -63902.7; N = 1017.3

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{2.21^2 + 1.21^2} = 2.52 \leq 22$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

Tx = -407.5; Ty = 221.9

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1; kcr = 0.67

$\tau_{tor,d}/(k_{sh} * f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0.02+0.01+0 <= 1 Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

Tx = -329; Ty = 252.9; Mt = -1008.2

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

0.61 <= 26.22 Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

Mt = -1008.2

## Asta 337: Trave in legno a falda Falda 1 fili 161-217

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 67.6

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$



$K_{mod} = 1.1$   
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$   
 $St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$   
 $2.5/52.8 + 0.7 \cdot 16/102.7 + 54.3/102.7 = 0.69 \leq 1$  [4.4.6b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo  
 $M_x = 25406.1$ ;  $M_y = -67476$ ;  $N = 1028.9$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{4.67^2 + 2.05^2} = 5.1 \leq 22$  Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo  
 $T_x = -859.8$ ;  $T_y = -377.9$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.03 + 0.04 + 0.01 \leq 1$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo  
 $T_x = 832.7$ ;  $T_y = 427.7$ ;  $M_t = 1377.9$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $0.83 \leq 26.22$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo  
 $M_t = 1377.9$

### Asta 338: Trave in legno a falda Falda 1 fili 161-217

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$   
 $St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$   
 $2.4/52.8 + 0.7 \cdot 17.8/102.7 + 40.9/102.7 = 0.57 \leq 1$  [4.4.6b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo  
 $M_x = -28199$ ;  $M_y = 50843.7$ ;  $N = 1013.2$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{5.53^2 + 2.76^2} = 6.18 \leq 22$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo  
 $T_x = 1017.9$ ;  $T_y = 507.5$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.02 + 0.06 + 0.02 \leq 1$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo  
 $T_x = 1017.9$ ;  $T_y = 507.5$ ;  $M_t = 843$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$



$K_{mod} = 1.1$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $0.97 \leq 26.22$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo  
 $M_t = -1599.5$

## Asta 339: Trave in legno a falda Falda 1 fili 133-161

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 67.6

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_{m} \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $\sigma_{t,0,d}/f_{t,0,d} + K_{m} \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $2.4/52.8 + 0.7 \cdot 7.3/102.7 + 26.2/102.7 = 0.35 \leq 1$  [4.4.6b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo  
 $M_x = -11620$ ;  $M_y = 32499.4$ ;  $N = 984.3$

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0^2 + 3.54^2} = 3.54 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $T_x = -0.3$ ;  $T_y = 651.6$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.4 + 0 + 0.05 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $T_x = -0.3$ ;  $T_y = 651.6$ ;  $M_t = 12598.4$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $7.6 \leq 19.07$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $M_t = 12598.4$

## Asta 340: Trave in legno a falda Falda 1 fili 133-161

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 67.6

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0



Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.21^2 + 2.36^2} = 2.37 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -39.4$ ;  $T_y = 434.3$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2.6/117.3)^2 + 0.7 \cdot 9.4/102.7 + 32.1/102.7 = 0.38 \leq 1$  [4.4.7b] Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_x = -14890.2$ ;  $M_y = -39924.5$ ;  $N = -1075.1$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.11 + 0 + 0.02 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -39.4$ ;  $T_y = 434.3$ ;  $M_t = 3554.9$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq k_{sh} \cdot f_{v,d}$

$2.15 \leq 19.07$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = 3554.9$

### Asta 341: Trave in legno a falda Falda 1 fili 133-161

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.2^2 + 1.95^2} = 1.96 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -36.3$ ;  $T_y = -359.1$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 6.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2.9/117.3)^2 + 0.7 \cdot 9.8/102.7 + 31.7/102.7 = 0.38 \leq 1$  [4.4.7b] Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$M_x = -15482.7$ ;  $M_y = -39399.1$ ;  $N = -1189.6$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.11 + 0 + 0.01 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -36.3$ ;  $T_y = -359.1$ ;  $M_t = -3597.1$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6



Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $2.17 \leq 19.07$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $M_t = -3597.1$

## Asta 342: Trave in legno a falda Falda 1 fili 133-161

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 67.5

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.5  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{(4.95^2 + 2.66^2)} = 5.62 \leq 22$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo  
 $T_x = -911.4$ ;  $T_y = -489.8$

### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 67.5  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(2.5/117.3)^2 + 0.7 \cdot 13.1/102.7 + 44/102.7 = 0.52 \leq 1$  [4.4.7b] Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo  
 $M_x = 20828.9$ ;  $M_y = -54619.5$ ;  $N = -1051.7$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.5  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.39 + 0 + 0.05 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $T_x = -91.1$ ;  $T_y = -660.5$ ;  $M_t = -12464.2$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.5  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $7.52 \leq 19.07$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $M_t = -12464.2$

## Asta 343: Trave in legno a falda Falda 1 fili 74-133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 67.5

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1



#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$2.2/52.8 + 0.7 \cdot 26.7/102.7 + 44.6/102.7 = 0.66 \leq 1$  [4.4.6b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_x = -42327.4$ ;  $M_y = 55408.6$ ;  $N = 917.6$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{2.34^2 + 4.71^2} = 5.26 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -430.9$ ;  $T_y = -867.4$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.04 + 0.07 + 0.02 \leq 1$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$T_x = -1077.1$ ;  $T_y = -599.1$ ;  $M_t = 1553.6$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.94 \leq 26.22$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_t = 1553.6$

### Asta 344: Trave in legno a falda Falda 1 fili 74-133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.5

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 67.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$2.2/52.8 + 0.7 \cdot 12.3/102.7 + 55.3/102.7 = 0.66 \leq 1$  [4.4.6b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_x = 19505.5$ ;  $M_y = -68692.9$ ;  $N = 915.1$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{4.57^2 + 2.75^2} = 5.33 \leq 22$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$T_x = -840.1$ ;  $T_y = -505.7$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.5

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.06 + 0 + 0.05 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = 142.6$ ;  $T_y = -681.8$ ;  $M_t = -1799.2$



#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.5  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $1.09 \leq 19.07$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $M_t = -1799.2$

### Asta 345: Trave in legno a falda Falda 1 fili 74-133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $2.2/52.8 + 0.7 \cdot 11.2/102.7 + 52.2/102.7 = 0.63 \leq 1$  [4.4.6b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo  
 $M_x = 17705.8$ ;  $M_y = -64817.8$ ;  $N = 897.5$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.04^2 + 3.06^2} = 3.06 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = -7.6$ ;  $T_y = -563$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.03 + 0.01 + 0.01 \leq 1$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo  
 $T_x = -413.6$ ;  $T_y = -319.7$ ;  $M_t = 1275.3$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $0.81 \leq 26.22$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo  
 $M_t = -1349.3$

### Asta 346: Trave in legno a falda Falda 1 fili 74-133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1



#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$2.2/52.8 + 0.7 \cdot 5.3/102.7 + 32.9/102.7 = 0.4 \leq 1$  [4.4.6b] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_x = 8473.5$ ;  $M_y = -40844.7$ ;  $N = 896.9$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{0.51^2 + 2.02^2} = 2.08 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 93.3$ ;  $T_y = -371.8$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.02 + 0 + 0.02 \leq 1$  Comb: SLU, 29; Durata minima del carico nella combinazione: media

$T_x = 93.2$ ;  $T_y = -370.6$ ;  $M_t = 579.1$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.6 \leq 26.22$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_t = 1002.3$

### Asta 347: Trave in legno a falda Falda 1 fili 74-133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 67.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$2.4/52.8 + 0.7 \cdot 0.7/102.7 + 21.1/102.7 = 0.26 \leq 1$  [4.4.6b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_x = 1054.3$ ;  $M_y = -26179.9$ ;  $N = 1013.6$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{2.05^2 + 1^2} = 2.28 \leq 22$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$T_x = 377$ ;  $T_y = 184.3$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.03 + 0 + 0.01 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 145.5$ ;  $T_y = 228.2$ ;  $M_t = 937.7$





#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $0.57 \leq 19.07$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $M_t = 937.7$

#### Asta 348: Trave in legno a falda Falda 1 fili 74-133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 67.6

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{1.04^2 + 2.11^2} = 2.35 \leq 16$  Comb: SLU, 29; Durata minima del carico nella combinazione: media  
 $T_x = 191.3$ ;  $T_y = 388.1$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(1.4/85.3)^2 + 0.7 \cdot 5.9/74.7 + 14/74.7 = 0.24 \leq 1$  [4.4.7b] Comb: SLU, 30; Durata minima del carico nella combinazione: media  
 $M_x = 9379.2$ ;  $M_y = 17387$ ;  $N = -568.2$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.05 + 0 + 0.02 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = 188.5$ ;  $T_y = 389.3$ ;  $M_t = 1625$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $0.99 \leq 19.07$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $M_t = 1638.9$

#### Asta 349: Trave in legno a falda Falda 1 fili 74-133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 67.6

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1



#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_{m}(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_{m}(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$2.4/52.8 + 0.7 \cdot 12.5/102.7 + 22.3/102.7 = 0.35 \leq 1$  [4.4.6b] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_x = -19855.8$ ;  $M_y = 27749$ ;  $N = 991.3$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(1.46^2 + 1.76^2)} = 2.29 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$T_x = -268.7$ ;  $T_y = 323.7$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.15 + 0.01 + 0.01 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = -265$ ;  $T_y = 326.4$ ;  $M_t = 4752.8$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 67.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.87 \leq 19.07$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = 4752.8$

### Asta 350: Trave in legno a falda Falda 4 fili 173-174

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 316.4

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.26^2 + 7.75^2)} = 7.76 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -9.3$ ;  $T_y = -275.7$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_{m}(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_{m}(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(8.8/85.3)^2 + 396.6/81 + 0.7 \cdot 10.4/80.97 = 5.1 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -52873.5$ ;  $M_y = 1112.4$ ;  $N = -705$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.14 + 0 + 0.23 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -9.3$ ;  $T_y = -275.7$ ;  $M_t = 369.8$



#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.61 \leq 19$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = 369.8$

#### Asta 351: Trave in legno a falda Falda 4 fili 173-174

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 14.4

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 6.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d} \leq f_{t,0,d}$

$0.18 \leq 57.26$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$N = 14.6$

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$0.1/111.3 + 0.7 \cdot 0/111.3 = 0 \leq 1$  (formula 4.4.5a) Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$M_x = 7.1$ ;  $M_y = -3.5$

#### Asta 352: Trave in legno a falda Falda 4 fili 164-165

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 316.4

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.08^2 + 7.77^2} = 7.77 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -2.8$ ;  $T_y = -276.3$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(4.8/85.3)^2 + 416.8/81 + 0.7 \cdot 5.3/80.97 = 5.2 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA



$M_x = -55579.6$ ;  $M_y = 560.6$ ;  $N = -382.2$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.1 + 0 + 0.24 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -2.8$ ;  $T_y = -276.3$ ;  $M_t = 255.6$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.81 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 255.8$

### Asta 353: Trave in legno a falda Falda 4 fili 164-165

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 14.4

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 14.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_{m} \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_{m} \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$0.6/57.3 + 0.1/111.3 + 0.7 \cdot 0/111.3 = 0.01 \leq 1$  [4.4.6a] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_x = -15.3$ ;  $M_y = -0.3$ ;  $N = 45$

#### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d} \leq f_{t,0,d}$

$0.56 \leq 57.26$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$N = 45.2$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0^2 + 0.05^2} = 0.05 \leq 22$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$T_x = 0$ ;  $T_y = 1.6$

### Asta 354: Trave in legno a falda Falda 4 fili 156-157

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 316.4

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200



Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.03^2 + 7.17^2} = 7.17 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -1.2$ ;  $T_y = -254.8$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2/85.3)^2 + 410.8/81 + 0.7 \cdot 2.5/80.97 = 5.1 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -54773.8$ ;  $M_y = 263.9$ ;  $N = -158.5$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.05 + 0 + 0.2 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -1.2$ ;  $T_y = -254.8$ ;  $M_t = 143.8$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.02 \leq 19$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = 143.9$

### Asta 355: Trave in legno a falda Falda 4 fili 156-157

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 14.4

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 14

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$0.5/57.3 + 0.1/111.3 + 0.7 \cdot 0/111.3 = 0.01 \leq 1$  [4.4.6a] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_x = -9.5$ ;  $M_y = 2$ ;  $N = 42.5$

#### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 5.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d} \leq f_{t,0,d}$

$0.53 \leq 57.26$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$N = 42.6$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$



$\text{Sqrt}(0.01^2 + 0.04^2) = 0.04 \leq 22$  Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo  
 $T_x = 0.4$ ;  $T_y = 1.4$

## Asta 356: Trave in legno a falda Falda 4 fili 151-152

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 316.4

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 316.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_d \leq f_{v,d}$   
 $\text{Sqrt}(0.06^2 + 7.17^2) = 7.18 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = 2.1$ ;  $T_y = -255.1$

### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(2.2/85.3)^2 + 414.8/81 + 0.7 \cdot 3.2/80.97 = 5.15 > 1$  [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -55308.9$ ;  $M_y = -338.1$ ;  $N = -179.5$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 316.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.01 + 0 + 0.2 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = 2.1$ ;  $T_y = -255.1$ ;  $M_t = 20.1$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 316.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $0.14 \leq 19$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $M_t = 20.1$

## Asta 357: Trave in legno a falda Falda 4 fili 151-152

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 14.4

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 14.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)



$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$   
 $St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$   
 $0.5/57.3+0.1/111.3+0.7*0/111.3=0.01 \leq 1$  [4.4.6a] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo  
 $Mx = 14.5$ ;  $My = -0.7$ ;  $N = 41.3$

#### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 4.8  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $St_{0,d} \leq ft_{0,d}$   
 $0.52 \leq 57.26$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo  
 $N = 41.4$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{\tau_{d}^2 + 0.06^2} = 0.06 \leq 22$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo  
 $T_x = 0.1$ ;  $T_y = 2.1$

### Asta 358: Trave in legno a falda Falda 4 fili 142-143

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 316.4

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 316.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{\tau_{d}^2 + 7.11^2} = 7.11 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = 4.2$ ;  $T_y = -252.9$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $(Sc_{0,d}/fc_{0,d})^2 + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$   
 $(Sc_{0,d}/fc_{0,d})^2 + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$   
 $(2/85.3)^2 + 408.9/81 + 0.7*7.5/80.97 = 5.11 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $Mx = -54520.4$ ;  $My = -794.9$ ;  $N = -159.6$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 316.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.04+0+0.2 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $T_x = 4.3$ ;  $T_y = -252.8$ ;  $M_t = -101.7$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 316.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$   
 $0.72 \leq 19$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $M_t = -101.7$



## Asta 359: Trave in legno a falda Falda 4 fili 142-143

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 14.4

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 14.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$1.6/57.3 + 0.2/111.3 + 0.7 \cdot 0/111.3 = 0.03 \leq 1$  [4.4.6a] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_x = -21.8$ ;  $M_y = 2.3$ ;  $N = 130.1$

### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 5.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d} \leq f_{t,0,d}$

$1.63 \leq 57.26$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$N = 130.2$

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.01^2 + 0.09^2)} = 0.09 \leq 22$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$T_x = -0.4$ ;  $T_y = 3.3$

## Asta 360: Trave in legno a falda Falda 4 fili 135-136

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 316.4

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{(0.08^2 + 7.69^2)} = 7.69 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 2.9$ ;  $T_y = -273.4$

### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(4.2/85.3)^2 + 411.2/81 + 0.7 \cdot 6.6/80.97 = 5.14 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -54820.7$ ;  $M_y = -702.1$ ;  $N = -333.1$





#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.08 + 0 + 0.23 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 2.9$ ;  $T_y = -273.4$ ;  $M_t = -211.8$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.5 \leq 19$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -212.1$

### Asta 361: Trave in legno a falda Falda 4 fili 135-136

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 14.4

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 3.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d} \leq f_{t,0,d}$

$0.47 \leq 57.26$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$N = 37.4$

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 14.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$0.1/111.3 + 0.7 \cdot 0/111.3 = 0 \leq 1$  (formula 4.4.5a) Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_x = 8.2$ ;  $M_y = -2.2$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0^2 + 0.03^2} = 0.03 \leq 22$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$T_x = 0.2$ ;  $T_y = 1$

### Asta 362: Trave in legno a falda Falda 4 fili 124-125

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 316.4

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.19^2 + 7.74^2} = 7.74 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 6.7$ ;  $T_y = -275.1$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(9/85.3)^2 + 391.4/81 + 0.7 \cdot 7.6/80.97 = 4.91 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -52186.2$ ;  $M_y = -807.5$ ;  $N = -716.6$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.12 + 0 + 0.23 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 6.7$ ;  $T_y = -275.1$ ;  $M_t = -330$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.33 \leq 19$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$M_t = -330$

### Asta 363: Trave in legno a falda Falda 4 fili 124-125

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 14.4

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 14

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$0.8/57.3 + 0.1/111.3 + 0.7 \cdot 0/111.3 = 0.02 \leq 1$  [4.4.6a] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_x = -13.3$ ;  $M_y = 0.4$ ;  $N = 65.6$

#### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 5.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d} \leq f_{t,0,d}$

$0.82 \leq 57.26$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$N = 65.7$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.01^2 + 0.06^2} = 0.06 \leq 22$  Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$T_x = 0.2$ ;  $T_y = 2.2$



## Asta 364: Trave in legno a falda Falda 4 fili 196-197

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 316.4

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.02^2 + 5.32^2} = 5.32 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -0.7$ ;  $T_y = -189.3$

### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2.3/85.3)^2 + 291.4/81 + 0.7 \cdot 1.2/80.97 = 3.61 > 1$  [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -38850.8$ ;  $M_y = 126$ ;  $N = -187.7$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.16 + 0 + 0.11 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -0.7$ ;  $T_y = -189.3$ ;  $M_t = 427.5$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$3.02 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 427.9$

## Asta 365: Trave in legno a falda Falda 4 fili 196-197

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 14.4

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 1

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d} \leq f_{t,0,d}$

$0.57 \leq 57.26$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo



N = 45.3

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 14

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$0.6/57.3 + 0.1/111.3 + 0.7 \cdot 0/111.3 = 0.01 \leq 1$  [4.4.6a] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_x = -7.1$ ;  $M_y = -1.3$ ;  $N = 48.7$

### Asta 366: Trave in legno a falda Falda 4 fili 189-190

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 316.4

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{0.12^2 + 6.76^2} = 6.76 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 4.2$ ;  $T_y = -240.3$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(8.9/85.3)^2 + 342.3/81 + 0.7 \cdot 3.7/80.97 = 4.27 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -45633.8$ ;  $M_y = -399$ ;  $N = -715.4$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.16 + 0 + 0.18 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 4.2$ ;  $T_y = -240.3$ ;  $M_t = 420.8$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.97 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

$M_t = 421.2$

### Asta 367: Trave in legno a falda Falda 4 fili 189-190

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 14.4

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300



Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 7.7  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $St_{0,d} \leq f_{t,0,d}$   
 $0.47 \leq 57.26$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo  
 $N = 37.6$

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $Sm_{y,d}/f_{m,y,d} + K_m \cdot (Sm_{z,d}/f_{m,z,d}) \leq 1$   
 $K_m \cdot (Sm_{y,d}/f_{m,y,d}) + Sm_{z,d}/f_{m,z,d} \leq 1$   
 $0.1/111.3 + 0.7 \cdot 0/111.3 = 0 \leq 1$  (formula 4.4.5a) Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo  
 $M_x = 14$ ;  $M_y = -3.2$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.01^2 + 0.05^2} = 0.05 \leq 22$  Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo  
 $T_x = 0.3$ ;  $T_y = 1.6$

### Asta 368: Trave in legno a falda Falda 4 fili 182-183

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 316.4

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $St_{0,d}/f_{t,0,d} + Sm_{y,d}/f_{m,y,d} + K_m \cdot (Sm_{z,d}/f_{m,z,d}) \leq 1$   
 $St_{0,d}/f_{t,0,d} + K_m \cdot (Sm_{y,d}/f_{m,y,d}) + Sm_{z,d}/f_{m,z,d} \leq 1$   
 $4.7/41.6 + 460/81 + 0.7 \cdot 6/81 = 5.85 \leq 1$  [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -61338.5$ ;  $M_y = 642.8$ ;  $N = 376.7$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 316.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.15^2 + 10.76^2} = 10.76 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = -5.2$ ;  $T_y = -382.5$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 316.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.16 + 0 + 0.45 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $T_x = -5.6$ ;  $T_y = -382.4$ ;  $M_t = 423.4$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 316.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$



$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
2.99  $\leq$  19 Comb: SLU, 80; Durata minima del carico nella combinazione: media  
Mt = 423.5

## Asta 369: Trave in legno a falda Falda 4 fili 182-183

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 14.4

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 14.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1; Kh = 1.084 (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$0.6/57.3 + 0.1/111.3 + 0.7 \cdot 0/111.3 = 0.01 \leq 1$  [4.4.6a] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

Mx = 10.8; My = -1.9; N = 49.3

### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 6.3

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1; Kh = 1.084 (formula 11.7.1)

$St_{0,d} \leq ft_{0,d}$

$0.62 \leq 57.26$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

N = 49.4

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 1.1; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.01^2 + 0.06^2} = 0.06 \leq 22$  Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

Tx = 0.4; Ty = 2

## Asta 370: Trave in legno a falda Falda 4 fili 117-118

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 316.4

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) > 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} > 1$

$10/41.6 + 461.5/81 + 0.7 \cdot 4.5/81 = 5.98 > 1$  [4.4.6a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = -61533.7; My = -481.2; N = 799.8

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 316.4



Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.14^2 + 10.87^2} = 10.87 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 4.9$ ;  $T_y = -386.5$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.15 + 0 + 0.46 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 4.9$ ;  $T_y = -386.5$ ;  $M_t = -397.6$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.81 \leq 19$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -398.1$

### Asta 371: Trave in legno a falda Falda 4 fili 117-118

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 14.4

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 14.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$0.8/57.3 + 0.1/111.3 + 0.7 \cdot 0/111.3 = 0.02 \leq 1$  [4.4.6a] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$M_x = -10.5$ ;  $M_y = -1.6$ ;  $N = 65.5$

#### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 6.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d} \leq f_{t,0,d}$

$0.82 \leq 57.26$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo

$N = 65.6$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.01^2 + 0.05^2} = 0.05 \leq 22$  Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$T_x = 0.3$ ;  $T_y = 1.9$

### Asta 372: Trave in legno a falda Falda 4 fili 109-110

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 316.4

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67



Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 316.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.05^2 + 7.33^2} = 7.33 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = -1.6$ ;  $T_y = -260.5$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(9.5/85.3)^2 + 357.4/81 + 0.7 \cdot 1.2/80.97 = 4.44 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -47647.1$ ;  $M_y = 127.4$ ;  $N = -763.4$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 316.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.15 + 0 + 0.21 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = -1.6$ ;  $T_y = -260.5$ ;  $M_t = -408.8$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 316.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $2.89 \leq 19$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $M_t = -409.4$

### Asta 373: Trave in legno a falda Falda 4 fili 109-110

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 14.4

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $\sigma_{t,0,d}/f_{t,0,d} + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $1/57.3 + 0.1/111.3 + 0.7 \cdot 0/111.3 = 0.02 \leq 1$  [4.4.6a] Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo  
 $M_x = -10.9$ ;  $M_y = 1.3$ ;  $N = 76.7$

#### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 6.7  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $\sigma_{t,0,d} \leq f_{t,0,d}$   
 $0.96 \leq 57.26$  Comb: SLV, 8; Durata minima del carico nella combinazione: istantaneo  
 $N = 76.6$





#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0^2 + 0.06^2} = 0.06 \leq 22$  Comb: SLV, 10; Durata minima del carico nella combinazione: istantaneo

$T_x = 0.1$ ;  $T_y = 2.1$

#### Asta 374: Trave in legno a falda Falda 4 fili 102-103

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 316.4

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0^2 + 5.85^2} = 5.85 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -0.1$ ;  $T_y = -207.9$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2.7/85.3)^2 + 306.6/81 + 0.7 \cdot 0.8/80.97 = 3.79 > 1$  [4.4.7a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -40874.3$ ;  $M_y = -82.3$ ;  $N = -213.8$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.15 + 0 + 0.13 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$T_x = 0.1$ ;  $T_y = -207.7$ ;  $M_t = -410.6$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 316.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$2.9 \leq 19$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = -410.6$

#### Asta 375: Trave in legno a falda Falda 4 fili 102-103

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati generali

Lunghezza = 14.4

##### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 14.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$1/57.3 + 0.1/111.3 + 0.7*0/111.3 = 0.02 \leq 1$  [4.4.6a] Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_x = -9.5$ ;  $M_y = 2.2$ ;  $N = 76.7$

#### Verifica trazione parallela alla fibratura D.M. 17-01-18 §4.4.8.1.1

Sezione ad ascissa 6.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $K_h = 1.084$  (formula 11.7.1)

$St_{0,d} \leq ft_{0,d}$

$0.96 \leq 57.26$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$N = 76.8$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.01^2 + 0.05^2} = 0.05 \leq 22$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$T_x = 0.3$ ;  $T_y = 1.9$

### Asta 376: Trave in legno a falda Falda 3 fili 77-78

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 99.8

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica flessione D.M. 17-01-18 §4.4.8.1.6

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$

$Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

$149.7/81 + 0.7*2.5/81 = 1.87 \leq 1$  (formula 4.4.5a) Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -19954.3$ ;  $M_y = 263.8$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 99.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.15^2 + 8.23^2} = 8.24 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -5.2$ ;  $T_y = -292.8$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 99.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.11 + 0 + 0.26 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -5.2$ ;  $T_y = -292.8$ ;  $M_t = 294.4$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 99.8

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$2.08 \leq 19$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = 294.6$



## Asta 377: Trave in legno a falda Falda 3 fili 59-60

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 243.9

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$3/41.6 + 167.4/81 + 0.7 \cdot 5.9/81 = 2.19 \leq 1$  [4.4.6a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -22318.6$ ;  $M_y = 627.6$ ;  $N = 243.1$

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 243.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.19^2 + 5.13^2} = 5.13 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -6.7$ ;  $T_y = -182.4$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 243.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.05 + 0 + 0.1 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -6.7$ ;  $T_y = -182.4$ ;  $M_t = 143.4$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 243.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$1.01 \leq 19$  Comb: SLU, 29; Durata minima del carico nella combinazione: media

$M_t = 143.6$

## Asta 378: Trave in legno a falda Falda 3 fili 68-69

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 182.2

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 182.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.16^2 + 5.45^2} = 5.45 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media



Tx = -5.7; Ty = -193.8

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$

$(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$

$(2.5/85.3)^2 + 154.3/81 + 0.7*4.9/80.97 = 1.95 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = -20569.1; My = 521.6; N = -197.5

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 182.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(ksh*fv,d) + (\tau_{y,d}/fv,d)^2 + (\tau_{z,d}/fv,d)^2 \leq 1$

$0.07 + 0 + 0.12 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = -5.7; Ty = -193.8; Mt = 201.6

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 182.2

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq Ksh * fv,d$

$1.42 \leq 19$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

Mt = 201.7

### Asta 379: Trave in legno a falda Falda 3 fili 47-48

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 243.9

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 243.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq fv,d$

$\sqrt{(0.08^2 + 3.33^2)} = 3.33 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = -2.7; Ty = -118.5

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$

$(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$

$(1.6/85.3)^2 + 147/81 + 0.7*3.7/80.97 = 1.85 > 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = -19600.2; My = 393.2; N = -125.4

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 243.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(ksh*fv,d) + (\tau_{y,d}/fv,d)^2 + (\tau_{z,d}/fv,d)^2 \leq 1$

$0.02 + 0 + 0.04 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = -2.7; Ty = -118.5; Mt = -51.4

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 243.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq Ksh * fv,d$

$0.36 \leq 19$  Comb: SLU, 71; Durata minima del carico nella combinazione: media



Mt = -51.4

## Asta 380: Trave in legno a falda Falda 3 fili 53-54

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 243.9

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 243.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.19^2 + 3.33^2} = 3.34 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -6.8$ ;  $T_y = -118.4$

### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_{m,z,d}/f_{m,z,d} \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_{m,y,d}/f_{m,y,d} + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(1.8/85.3)^2 + 143/81 + 0.7 \cdot 7.6/80.97 = 1.83 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -19065.7$ ;  $M_y = 810$ ;  $N = -140.4$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 243.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.02 + 0 + 0.04 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -6.8$ ;  $T_y = -118.4$ ;  $M_t = 52.9$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 243.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.38 \leq 19$  Comb: SLU, 38; Durata minima del carico nella combinazione: media

$M_t = 54.2$

## Asta 381: Trave in legno a falda Falda 3 fili 41-42

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 243.9

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 243.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$



$\sqrt{0.17^2 + 3.03^2} = 3.03 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
Tx = 5.9; Ty = -107.6

**Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8**

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; Kh = 1.084 (formula 11.7.1)  
 $(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$   
 $(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$   
 $(1.2/85.3)^2 + 138/81 + 0.7*7.1/80.97 = 1.77 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
Mx = -18406.4; My = -760; N = -94.7

**Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11**

Sezione ad ascissa 243.9  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67  
 $\tau_{tor,d}/(ksh*fv,d) + (\tau_{y,d}/fv,d)^2 + (\tau_{z,d}/fv,d)^2 \leq 1$   
 $0.05 + 0 + 0.04 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
Tx = 6.4; Ty = -107.4; Mt = -138.6

**Verifica torsione D.M. 17-01-18 §4.4.8.1.10**

Sezione ad ascissa 243.9  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8  
 $\tau_{tor,d} \leq Ksh * fv,d$   
 $0.98 \leq 19$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
Mt = -138.6

**Asta 382: Trave in legno a falda Falda 1 fili 161-163**

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

**Dati generali**

Lunghezza = 222.6

**Caratteristiche della sezione**

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

**Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8**

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; Kh = 1.084 (formula 11.7.1)  
 $(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$   
 $(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$   
 $(16.6/85.3)^2 + 253.8/81 + 0.7*0.9/80.97 = 3.18 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
Mx = 33842.8; My = -92.7; N = -1331.4

**Verifica taglio D.M. 17-01-18 §4.4.8.1.9**

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; kcr = 0.67  
 $\tau_{d} \leq fv,d$   
 $\sqrt{0.02^2 + 8.6^2} = 8.6 \leq 16$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
Tx = -0.6; Ty = -305.7

**Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11**

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67  
 $\tau_{tor,d}/(ksh*fv,d) + (\tau_{y,d}/fv,d)^2 + (\tau_{z,d}/fv,d)^2 \leq 1$   
 $0.03 + 0 + 0.29 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
Tx = -0.6; Ty = -305.7; Mt = 74.6

**Verifica torsione D.M. 17-01-18 §4.4.8.1.10**

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8  
 $\tau_{tor,d} \leq Ksh * fv,d$



0.53 <= 19 Comb: SLU, 71; Durata minima del carico nella combinazione: media  
Mt = 74.7

#### Verifica della freccia istantanea totale D.M. 17-01-18 §4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 178.1  
Kdef = 0  
Uinst tot in x = -0.01  
Uinst tot in y = 0.39  
Uinst tot = 0.39  
Luce/Uinst,tot > limite  
222.6/0.39=573.7 > 300 Comb: SLE rara, 8

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 178.1  
Kdef = 0  
Uinst var in x = -0.01  
Uinst var in y = 0.25  
Uinst var = 0.25  
Luce/Uinst,var > limite  
222.6/0.25=880 > 300 Comb: SLE rara, 8

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 178.1  
Kdef = 0.6  
Ufin in x = -0.01  
Ufin in y = 0.47  
Ufin = 0.47  
Luce/Ufin > limite  
222.6/0.47=474.6 > 200  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Neve = 0,500 + 0,500 = 1,000

### Asta 383: Trave in legno a falda Falda 1 fili 171-172

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 222.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; kcr = 0.67  
 $\tau_d \leq f_{v,d}$   
 $\sqrt{0.2^2 + 8.06^2} = 8.06 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
Tx = 7; Ty = -286.6

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; Kh = 1.084 (formula 11.7.1)  
 $(Sc,0,d/fc,0,d)^2 + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \leq 1$   
 $(Sc,0,d/fc,0,d)^2 + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \leq 1$   
 $(12.9/85.3)^2 + 246.3/81 + 0.7*6.2/80.97 = 3.12 \ngtr 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
Mx = -32835.8; My = -664.9; N = -1033.5

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67  
 $\tau_{tor,d}/(ksh*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
0.03+0+0.25 <= 1 Comb: SLU, 71; Durata minima del carico nella combinazione: media



Tx = 7; Ty = -286.6; Mt = 90.5

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

0.64  $\leq$  19 Comb: SLU, 71; Durata minima del carico nella combinazione: media

Mt = 90.5

### Asta 384: Trave in legno a falda Falda 1 fili 179-180

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 222.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

1.5/41.6+242.4/81+0.7\*13.6/81=3.15  $\leq$  1 [4.4.6a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = -32325; My = -1445.6; N = 120.2

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.36^2 + 7.94^2} = 7.94 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = 12.7; Ty = -282.2

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0.03+0+0.25  $\leq$  1 Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = 12.7; Ty = -282.2; Mt = 89.8

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

0.63  $\leq$  19 Comb: SLU, 79; Durata minima del carico nella combinazione: media

Mt = 89.9

### Asta 385: Trave in legno a falda Falda 1 fili 185-186

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 222.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200





Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$2.3/41.6 + 230.7/81 + 0.7 \cdot 12.9/81 = 3.02 \leq 1$  [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -30766.6$ ;  $M_y = -1378.3$ ;  $N = 181.8$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{0.32^2 + 7.42^2} = 7.42 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 11.5$ ;  $T_y = -263.7$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.03 + 0 + 0.21 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 11.5$ ;  $T_y = -263.7$ ;  $M_t = 83$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.59 \leq 19$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = 83.5$

### Asta 386: Trave in legno a falda Falda 1 fili 192-193

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 222.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$1.4/41.6 + 223/81 + 0.7 \cdot 8.3/81 = 2.86 \leq 1$  [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -29731.7$ ;  $M_y = -885.1$ ;  $N = 114.3$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{t,d} \leq f_{v,d}$

$\sqrt{0.22^2 + 7.13^2} = 7.13 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 7.8$ ;  $T_y = -253.5$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$



0.03+0+0.2 <= 1 Comb: SLU, 71; Durata minima del carico nella combinazione: media  
Tx = 7.4; Ty = -253.3; Mt = 76.5

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{\text{tor,d}} \leq K_{\text{sh}} \cdot f_{v,d}$

0.54 <= 19 Comb: SLU, 79; Durata minima del carico nella combinazione: media

Mt = 77.1

### Asta 387: Trave in legno a falda Falda 1 fili 202-203

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 222.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_{\text{m}} \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_{\text{m}} \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

3.3/41.6+216.8/81+0.7\*3.1/81=2.78 > 1 [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = -28912.9; My = -325.4; N = 265.4

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.06^2 + 7.03^2} = 7.03 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = 2.1; Ty = -250

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{\text{tor,d}}/(k_{\text{sh}} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0.03+0+0.19 <= 1 Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = 2.1; Ty = -250; Mt = 70.2

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{\text{tor,d}} \leq K_{\text{sh}} \cdot f_{v,d}$

0.52 <= 19 Comb: SLU, 79; Durata minima del carico nella combinazione: media

Mt = 74.2

### Asta 388: Trave in legno a falda Falda 1 fili 211-212

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 222.7

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300



Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \geq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \geq 1$

$2.3/41.6 + 208.3/81 + 0.7 \cdot 3.8/81 = 2.66 \geq 1$  [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -27773.4$ ;  $M_y = 404$ ;  $N = 187.9$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.08^2 + 6.84^2} = 6.84 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -3$ ;  $T_y = -243.3$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.03 + 0 + 0.18 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -3$ ;  $T_y = -243.3$ ;  $M_t = 75.1$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.56 \leq 19$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

$M_t = 79.4$

### Asta 389: Trave in legno a falda Falda 1 fili 217-218

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 222.5

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \geq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \geq 1$

$10.4/41.6 + 202.4/81 + 0.7 \cdot 2.6/81 = 2.77 \geq 1$  [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -26992.8$ ;  $M_y = 278.7$ ;  $N = 834.8$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.05^2 + 6.68^2} = 6.68 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -1.8$ ;  $T_y = -237.7$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$



$\tau_{tor,d}/(ksh \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
0.03+0+0.17  $\leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
Tx = -2.4; Ty = -237.6; Mt = 91.8

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8  
 $\tau_{tor,d} \leq Ksh \cdot f_{v,d}$   
0.67  $\leq 19$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
Mt = 95.4

### Asta 390: Trave in legno a falda Falda 1 fili 226-227

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 222.5

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; Kh = 1.084 (formula 11.7.1)  
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$   
 $St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$   
6.7/41.6+177.2/81+0.7\*1/81=2.36  $\leq 1$  [4.4.6a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
Mx = -23631.6; My = -106.7; N = 532.4

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; kcr = 0.67  
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{t(0.01^2 + 6.04^2)} = 6.04 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
Tx = -0.3; Ty = -214.6

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67  
 $\tau_{tor,d}/(ksh \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
0.04+0+0.14  $\leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
Tx = -0.3; Ty = -214.6; Mt = 118.7

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
Kmod = 0.8  
 $\tau_{tor,d} \leq Ksh \cdot f_{v,d}$   
0.85  $\leq 19$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
Mt = 120.8

### Asta 391: Trave in legno a falda Falda 1 fili 237-238

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 222.5

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016



Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.16^2 + 5.45^2} = 5.45 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = -5.6$ ;  $T_y = -193.6$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(7.1/85.3)^2 + 163.2/81 + 0.7 \cdot 9.3/80.97 = 2.1 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = 21754.6$ ;  $M_y = -987.6$ ;  $N = -566.3$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.05 + 0 + 0.12 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = -5.6$ ;  $T_y = -193.6$ ;  $M_t = 145.2$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $1.03 \leq 19$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $M_t = 145.3$

### Asta 392: Trave in legno a falda Falda 1 fili 243-244

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 172.3

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) > 1$   
 $\sigma_{t,0,d}/f_{t,0,d} + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} > 1$   
 $8.6/41.6 + 153.2/81 + 0.7 \cdot 20.1/81 = 2.27 > 1$  [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -20432.8$ ;  $M_y = 2144.4$ ;  $N = 688.2$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 172.3  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.9^2 + 6.51^2} = 6.57 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = -32.1$ ;  $T_y = -231.5$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 172.3  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$



$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.1 + 0 + 0.17 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = -32.1$ ;  $T_y = -231.5$ ;  $M_t = 261.2$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 172.3  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $1.84 \leq 19$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $M_t = 261.2$

### Asta 393: Trave in legno a falda Falda 1 fili 249-250

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 102.4

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $5.2/41.6 + 140.6/81 + 0.7 \cdot 47.5/81 = 2.27 \leq 1$  [4.4.6a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -18741.3$ ;  $M_y = 5069.5$ ;  $N = 417.8$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 102.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{2.93^2 + 8.3^2} = 8.81 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = -104.2$ ;  $T_y = -295.2$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 102.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.13 + 0.03 + 0.27 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = -104.2$ ;  $T_y = -295.2$ ;  $M_t = 357.9$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 102.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $2.53 \leq 19$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $M_t = 357.9$

### Asta 394: Trave in legno a falda Falda 1 fili 255-256

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 40

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67



Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$   
 $St_{0,d}/ft_{0,d} + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$   
 $5.6/41.6 + 94.3/81 + 0.7*69.5/81 = 1.9 \leq 1$  [4.4.6a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -12572.2$ ;  $M_y = 7409.9$ ;  $N = 450.8$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 40  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{9.07^2 + 10.2^2} = 13.65 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = -322.5$ ;  $T_y = -362.6$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 40  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.14 + 0.32 + 0.41 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = -322.5$ ;  $T_y = -362.6$ ;  $M_t = 380.2$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 40  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} * f_{v,d}$   
 $2.69 \leq 19$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $M_t = 380.2$

### Asta 395: Trave in legno a falda Falda 1 fili 133-134

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 222.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $(Sc_{0,d}/fc_{0,d})^2 + Sm_{y,d}/fm_{y,d} + Km*(Sm_{z,d}/fm_{z,d}) \leq 1$   
 $(Sc_{0,d}/fc_{0,d})^2 + Km*(Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$   
 $(9.9/85.3)^2 + 260.6/81 + 0.7*0.6/80.97 = 3.24 \leq 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -34744.6$ ;  $M_y = 60.3$ ;  $N = -794.8$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.02^2 + 8.79^2} = 8.79 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = -0.8$ ;  $T_y = -312.7$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6



Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.01 + 0 + 0.3 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = -0.8$ ;  $T_y = -312.7$ ;  $M_t = -15.6$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $0.17 \leq 26.13$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo  
 $M_t = -23.6$

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 51.9  
 $K_{def} = 0$   
 $U_{inst,tot} \text{ in } x = 0$   
 $U_{inst,tot} \text{ in } y = -0.42$   
 $U_{inst,tot} = 0.42$   
 $L_{uce}/U_{inst,tot} > \text{limite}$   
 $222.6/0.42 = 524.7 > 300$  Comb: SLE rara, 17

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 51.9  
 $K_{def} = 0$   
 $U_{inst,var} \text{ in } x = 0$   
 $U_{inst,var} \text{ in } y = -0.27$   
 $U_{inst,var} = 0.27$   
 $L_{uce}/U_{inst,var} > \text{limite}$   
 $222.6/0.27 = 811 > 300$  Comb: SLE rara, 17

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 51.9  
 $K_{def} = 0.6$   
 $U_{fin} \text{ in } x = 0$   
 $U_{fin} \text{ in } y = -0.52$   
 $U_{fin} = 0.52$   
 $L_{uce}/U_{fin} > \text{limite}$   
 $222.6/0.52 = 432 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Variabile A =  $0,700 + 0,180 = 0,880$   
Neve =  $0,500 + 0,500 = 1,000$   
Vento =  $0,600 + 0,000 = 0,600$

### Asta 396: Trave in legno a falda Falda 1 fili 122-123

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 222.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{(0.19^2 + 8.37^2)} = 8.37 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = -6.7$ ;  $T_y = -297.5$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0





Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $(S_{c,0,d}/f_{c,0,d})^2 + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(S_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} \leq 1$   
 $(8.3/85.3)^2 + 260.9/81 + 0.7 \cdot 6.6/80.97 = 3.29 > 1$  [4.4.7a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -34789.5$ ;  $M_y = 701.4$ ;  $N = -663.9$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0 + 0 + 0.27 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = -6.7$ ;  $T_y = -297.5$ ;  $M_t = -13.1$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $0.15 \leq 26.13$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo  
 $M_t = -21.4$

### Asta 397: Trave in legno a falda Falda 1 fili 114-115

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 222.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $St_{0,d}/f_{t,0,d} + S_{m,y,d}/f_{m,y,d} + K_m \cdot (S_{m,z,d}/f_{m,z,d}) > 1$   
 $St_{0,d}/f_{t,0,d} + K_m \cdot (S_{m,y,d}/f_{m,y,d}) + S_{m,z,d}/f_{m,z,d} > 1$   
 $2/41.6 + 267.4/81 + 0.7 \cdot 10.3/81 = 3.44 > 1$  [4.4.6a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -35653.8$ ;  $M_y = 1100.8$ ;  $N = 157.2$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.27^2 + 8.57^2} = 8.57 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = -9.6$ ;  $T_y = -304.7$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0 + 0 + 0.29 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = -9.6$ ;  $T_y = -304.7$ ;  $M_t = -3.4$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $0.17 \leq 26.13$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo  
 $M_t = -24.7$



## Asta 398: Trave in legno a falda Falda 1 fili 105-106

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 222.6

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \geq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \geq 1$

$2.1/41.6 + 267.3/81 + 0.7 \cdot 7.3/81 = 3.42 \geq 1$  [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -35636.3$ ;  $M_y = 781.1$ ;  $N = 170.9$

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.17^2 + 8.42^2} = 8.42 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = -6.1$ ;  $T_y = -299.3$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.01 + 0 + 0.28 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -6.9$ ;  $T_y = -299.1$ ;  $M_t = 17.1$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.21 \leq 26.13$  Comb: SLV, 6; Durata minima del carico nella combinazione: istantaneo

$M_t = 29.9$

## Asta 399: Trave in legno a falda Falda 1 fili 98-99

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 222.6

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \geq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \geq 1$

$1.5/41.6 + 271.7/81 + 0.7 \cdot 1.6/81 = 3.4 \geq 1$  [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -36222.2$ ;  $M_y = 166.6$ ;  $N = 117.9$



#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.04^2 + 8.5^2} = 8.5 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -1.3$ ;  $T_y = -302.2$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.01 + 0 + 0.28 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = -1.3$ ;  $T_y = -302.2$ ;  $M_t = 29.2$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.21 \leq 19$  Comb: SLU, 30; Durata minima del carico nella combinazione: media

$M_t = 29.9$

### Asta 400: Trave in legno a falda Falda 1 fili 90-91

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 222.6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$4.2/41.6 + 278.2/81 + 0.7 \cdot 3.4/81 = 3.57 \leq 1$  [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -37091.2$ ;  $M_y = -363.8$ ;  $N = 336.4$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.12^2 + 8.81^2} = 8.81 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 4.2$ ;  $T_y = -313.3$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.01 + 0 + 0.3 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 4.2$ ;  $T_y = -313.3$ ;  $M_t = 26.1$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.19 \leq 19$  Comb: SLU, 30; Durata minima del carico nella combinazione: media

$M_t = 26.8$



## Asta 401: Trave in legno a falda Falda 1 fili 82-83

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 222.5

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$2.5/41.6 + 279.9/81 + 0.7 \cdot 10/81 = 3.6 \leq 1$  [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -37318.5$ ;  $M_y = -1065$ ;  $N = 201.2$

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.25^2 + 8.97^2} = 8.97 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 8.9$ ;  $T_y = -318.9$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0 + 0 + 0.31 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$T_x = 8.9$ ;  $T_y = -318.9$ ;  $M_t = -2.6$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 1.1$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.19 \leq 26.13$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo

$M_t = -27.2$

## Asta 402: Trave in legno a falda Falda 1 fili 74-76

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 222.5

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$



$12.9/41.6+279.6/81+0.7*6.9/81=3.82 > 1$  [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
Mx = -37274.5; My = -732; N = 1032.4

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.17^2+9.02^2} = 9.03 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = 5.9; Ty = -320.8

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.02+0+0.32 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = 6.5; Ty = -320.8; Mt = -57.5

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$0.44 \leq 19$  Comb: SLU, 79; Durata minima del carico nella combinazione: media

Mt = -61.6

### Asta 403: Trave in legno a falda Falda 1 fili 66-67

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 222.5

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m * (\sigma_{m,z,d}/f_{m,z,d}) > 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m * (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} > 1$

$6.7/41.6+252.3/81+0.7*0.9/81=3.28 > 1$  [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = -33637.5; My = -91.5; N = 539.1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.04^2+8.35^2} = 8.35 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = 1.4; Ty = -296.7

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(k_{sh}*f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.05+0+0.27 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media

Tx = 1.4; Ty = -296.7; Mt = -129.8

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} * f_{v,d}$

$0.93 \leq 19$  Comb: SLU, 79; Durata minima del carico nella combinazione: media



Mt = -132.3

Asta 404: Trave in legno a falda Falda 1 fili 57-58

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 222.5

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.13^2 + 7.62^2} = 7.62 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = 4.7$ ;  $T_y = -271$

Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_{m,z,d}/f_{m,z,d} \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_{m,z,d}/f_{m,z,d} + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(7.9/85.3)^2 + 224/81 + 0.7 \cdot 8.4/80.97 = 2.85 > 1$  [4.4.7a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = 29861.1$ ;  $M_y = 897.8$ ;  $N = -633.5$

Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.08 + 0 + 0.23 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = 4.7$ ;  $T_y = -271$ ;  $M_t = -207.1$

Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $1.46 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $M_t = -207.1$

Asta 405: Trave in legno a falda Falda 1 fili 50-51

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati generali

Lunghezza = 187.4

Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 187.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_{m,z,d}/f_{m,z,d} > 1$



$St,0,d/ft,0,d + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \geq 1$   
 $9.2/41.6+209.2/81+0.7*31.8/81=3.08 \geq 1$  [4.4.6a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $Mx = 27899.4$ ;  $My = 3396.7$ ;  $N = 734$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 187.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau, d \leq f_{v,d}$   
 $Sqrt(0.78^2+8.55^2) = 8.58 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = 27.6$ ;  $T_y = -303.9$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 187.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau, tor, d / (k_{sh} * f_{v,d}) + (\tau, y, d / f_{v,d})^2 + (\tau, z, d / f_{v,d})^2 \leq 1$   
 $0.12+0+0.29 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = 27.6$ ;  $T_y = -303.9$ ;  $M_t = -326.9$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 187.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau, tor, d \leq K_{sh} * f_{v,d}$   
 $2.31 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $M_t = -326.9$

### Asta 406: Trave in legno a falda Falda 1 fili 44-45

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 115

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $St,0,d/ft,0,d + Sm,y,d/fm,y,d + Km*(Sm,z,d/fm,z,d) \geq 1$   
 $St,0,d/ft,0,d + Km*(Sm,y,d/fm,y,d) + Sm,z,d/fm,z,d \geq 1$   
 $9.6/41.6+209.1/81+0.7*57.4/81=3.31 \geq 1$  [4.4.6a] Comb: SLU, 79; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -27886.6$ ;  $M_y = -6118.2$ ;  $N = 771.8$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 115  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau, d \leq f_{v,d}$   
 $Sqrt(3.29^2+11.91^2) = 12.36 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = 116.8$ ;  $T_y = -423.5$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 115  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau, tor, d / (k_{sh} * f_{v,d}) + (\tau, y, d / f_{v,d})^2 + (\tau, z, d / f_{v,d})^2 \leq 1$   
 $0.19+0.04+0.55 \leq 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = 116.8$ ;  $T_y = -423.5$ ;  $M_t = -509.9$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 115  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau, tor, d \leq K_{sh} * f_{v,d}$



3.6 <= 19 Comb: SLU, 72; Durata minima del carico nella combinazione: media  
Mt = -509.9

## Asta 407: Trave in legno a falda Falda 1 fili 38-39

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 51.4

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$8.7/41.6 + 150.2/81 + 0.7 \cdot 98.8/81 = 2.92 \leq 1$  [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -20025.9$ ;  $M_y = -10536.6$ ;  $N = 694.3$

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 51.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{t,d} > f_{v,d}$

$\sqrt{10.6^2 + 15.66^2} = 18.9 > 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = 376.8$ ;  $T_y = -556.7$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 51.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{t,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 > 1$

$0.21 + 0.44 + 0.96 > 1$  Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$T_x = 376.8$ ;  $T_y = -556.7$ ;  $M_t = -575.3$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 51.4

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$4.06 \leq 19$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

$M_t = -575.3$

## Asta 408: Trave in legno a falda Falda 1 fili 149-150

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 222.5

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 222.6

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)





$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \geq 1$   
 $St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \geq 1$   
 $1/41.6 + 257.6/81 + 0.7 \cdot 2.1/81 = 3.22 \geq 1$  [4.4.6a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = 34348.9$ ;  $M_y = 219.3$ ;  $N = 76.8$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.05^2 + 7.99^2} = 7.99 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = 1.9$ ;  $T_y = -284.2$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.01 + 0 + 0.25 \leq 1$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = 1.9$ ;  $T_y = -284.2$ ;  $M_t = 24.4$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $0.17 \leq 19$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $M_t = 24.4$

### Asta 409: Trave in legno a falda Falda 1 fili 154-155

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 222.5

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.05^2 + 8.11^2} = 8.11 \leq 16$  Comb: SLU, 80; Durata minima del carico nella combinazione: media  
 $T_x = 1.9$ ;  $T_y = -288.5$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $(Sc_{0,d}/fc_{0,d})^2 + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$   
 $(Sc_{0,d}/fc_{0,d})^2 + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$   
 $(2.6/85.3)^2 + 257/81 + 0.7 \cdot 1.8/80.97 = 3.19 \geq 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = 34270.8$ ;  $M_y = 187.3$ ;  $N = -211.7$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.02 + 0 + 0.26 \leq 1$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $T_x = 2$ ;  $T_y = -288.4$ ;  $M_t = 52.8$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$



$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $0.37 \leq 19$  Comb: SLU, 79; Durata minima del carico nella combinazione: media  
 $M_t = 52.8$

## Asta 410: Trave in legno a falda Falda 1 fili 140-141

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 222.5

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.01^2 + 8.13^2} = 8.13 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = 0.4$ ;  $T_y = -289.1$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(1.7/85.3)^2 + 255.2/81 + 0.7 \cdot 0.7/80.97 = 3.16 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = 34032.9$ ;  $M_y = 72.3$ ;  $N = -134.8$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0 + 0 + 0.26 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = 0.4$ ;  $T_y = -289.1$ ;  $M_t = -2.8$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 222.6  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 1.1$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $0.16 \leq 26.13$  Comb: SLV, 12; Durata minima del carico nella combinazione: istantaneo  
 $M_t = -23.2$

## Asta 411: Trave in legno a falda Falda 6 fili 239-240

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 243.9

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 243.9  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$



Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$St_{0,d}/ft_{0,d} + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \geq 1$

$St_{0,d}/ft_{0,d} + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \geq 1$

9.8/41.6+202.2/81+0.7\*5.3/81=2.78 > 1 [4.4.6a] Comb: SLU, 80; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = 26961.6; My = 564.2; N = 786

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 243.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.15^2 + 6.16^2} = 6.17 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = 5.4; Ty = -219.2

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 243.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0.07+0+0.15 <= 1 Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = 5.4; Ty = -219.2; Mt = -195.8

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 243.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

1.38 <= 19 Comb: SLU, 71; Durata minima del carico nella combinazione: media

Mt = -195.8

### Asta 412: Trave in legno a falda Falda 6 fili 258-259

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 243.9

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 243.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; kcr = 0.67

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.39^2 + 3.17^2} = 3.19 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media

Tx = -13.8; Ty = -112.6

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1)

$(Sc_{0,d}/fc_{0,d})^2 + Sm_{y,d}/fm_{y,d} + Km \cdot (Sm_{z,d}/fm_{z,d}) \leq 1$

$(Sc_{0,d}/fc_{0,d})^2 + Km \cdot (Sm_{y,d}/fm_{y,d}) + Sm_{z,d}/fm_{z,d} \leq 1$

(1.3/85.3)^2+144.2/81+0.7\*15.3/80.97=1.91 > 1 [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

Mx = -19225.7; My = 1637.1; N = -102.7

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 243.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

Kmod = 0.8; Kh = 1.084 (formula 11.7.1); kcr = 0.67

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

0.06+0+0.04 <= 1 Comb: SLU, 71; Durata minima del carico nella combinazione: media

Tx = -14.2; Ty = -112.4; Mt = 172.9

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 243.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$



$K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $1.22 \leq 19$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $M_t = 172.9$

## Asta 413: Trave in legno a falda Falda 6 fili 252-253

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 243.9

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 243.9  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.04^2 + 3.58^2} = 3.58 \leq 16$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $T_x = -1.3$ ;  $T_y = -127.3$

### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(1.8/85.3)^2 + 156.6/81 + 0.7 \cdot 0.8/80.97 = 1.94 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -20878.2$ ;  $M_y = 88.2$ ;  $N = -147.5$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 243.9  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.03 + 0 + 0.05 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = -1.6$ ;  $T_y = -127.3$ ;  $M_t = 75.6$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 243.9  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $0.53 \leq 19$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $M_t = 75.6$

## Asta 414: Trave in legno a falda Falda 6 fili 246-247

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 243.9

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 243.9



Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.16^2 + 3.65^2} = 3.66 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 5.5$ ;  $T_y = -129.9$

#### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) \leq 1$

$(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$

$(2.1/85.3)^2 + 153.5/81 + 0.7 \cdot 7.2/80.97 = 1.96 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -20461.6$ ;  $M_y = -766.8$ ;  $N = -166.7$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 243.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.02 + 0 + 0.05 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 5.5$ ;  $T_y = -129.9$ ;  $M_t = -53.8$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 243.9

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$

$\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$

$0.39 \leq 19$  Comb: SLU, 38; Durata minima del carico nella combinazione: media

$M_t = -54.8$

### Asta 415: Trave in legno a falda Falda 6 fili 228-229

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Lunghezza = 189.7

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica tensoflessione D.M. 17-01-18 §4.4.8.1.7

Sezione ad ascissa 0

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)

$\sigma_{t,0,d}/f_{t,0,d} + \sigma_{m,y,d}/f_{m,y,d} + K_m(\sigma_{m,z,d}/f_{m,z,d}) > 1$

$\sigma_{t,0,d}/f_{t,0,d} + K_m(\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} > 1$

$0.7/41.6 + 169.6/81 + 0.7 \cdot 2.1/81 = 2.13 > 1$  [4.4.6a] Comb: SLU, 72; Durata minima del carico nella combinazione: media - NON SODDISFATTA

$M_x = -22609.5$ ;  $M_y = -229$ ;  $N = 58$

#### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 189.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $k_{cr} = 0.67$

$\tau_{d} \leq f_{v,d}$

$\sqrt{0.09^2 + 6.19^2} = 6.19 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 3.1$ ;  $T_y = -219.9$

#### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 189.7

Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$

$K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$

$\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$

$0.09 + 0 + 0.15 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media

$T_x = 3.1$ ;  $T_y = -219.9$ ;  $M_t = -252.8$

#### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 189.7



Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $1.79 \leq 19$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $M_t = -252.8$

## Asta 416: Trave in legno a falda Falda 6 fili 219-220

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Lunghezza = 110.4

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

### Verifica taglio D.M. 17-01-18 §4.4.8.1.9

Sezione ad ascissa 110.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $k_{cr} = 0.67$   
 $\tau_{d} \leq f_{v,d}$   
 $\sqrt{0.03^2 + 8.93^2} = 8.93 \leq 16$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = 1.2$ ;  $T_y = -317.7$

### Verifica pressoflessione D.M. 17-01-18 §4.4.8.1.8

Sezione ad ascissa 0  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1)  
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + \sigma_{m,y,d}/f_{m,y,d} + K_m \cdot (\sigma_{m,z,d}/f_{m,z,d}) \leq 1$   
 $(\sigma_{c,0,d}/f_{c,0,d})^2 + K_m \cdot (\sigma_{m,y,d}/f_{m,y,d}) + \sigma_{m,z,d}/f_{m,z,d} \leq 1$   
 $(1/85.3)^2 + 165.9/81 + 0.7 \cdot 0.4/80.97 = 2.05 > 1$  [4.4.7a] Comb: SLU, 71; Durata minima del carico nella combinazione: media - NON SODDISFATTA  
 $M_x = -22126.5$ ;  $M_y = -39.7$ ;  $N = -78.4$

### Verifica taglio+torsione D.M. 17-01-18 §4.4.8.1.11

Sezione ad ascissa 110.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$ ;  $K_h = 1.084$  (formula 11.7.1);  $k_{cr} = 0.67$   
 $\tau_{tor,d}/(k_{sh} \cdot f_{v,d}) + (\tau_{y,d}/f_{v,d})^2 + (\tau_{z,d}/f_{v,d})^2 \leq 1$   
 $0.13 + 0 + 0.31 \leq 1$  Comb: SLU, 71; Durata minima del carico nella combinazione: media  
 $T_x = 1.2$ ;  $T_y = -317.7$ ;  $M_t = -353.6$

### Verifica torsione D.M. 17-01-18 §4.4.8.1.10

Sezione ad ascissa 110.4  
Coefficiente parziale di sicurezza del materiale  $\gamma = 1.5$   
 $K_{mod} = 0.8$   
 $\tau_{tor,d} \leq K_{sh} \cdot f_{v,d}$   
 $2.5 \leq 19$  Comb: SLU, 72; Durata minima del carico nella combinazione: media  
 $M_t = -353.7$

## 1.3 Verifiche superelementi in legno

Le unità di misura elencate nel capitolo sono in [cm] ove non espressamente specificato.

**Descrizione:** descrizione della sezione.

**Tipo:** tipo di sezione.

**Base:** base della sezione. [cm]

**Altezza:** altezza della sezione. [cm]

**Area:** area inerziale nel sistema geometrico centrato nel baricentro. [cm<sup>2</sup>]

**Jx:** momento d'inerzia attorno all'asse orizzontale baricentrico di definizione della sezione. [cm<sup>4</sup>]

**Jy:** momento d'inerzia attorno all'asse verticale baricentrico di definizione della sezione. [cm<sup>4</sup>]

**Wx:** modulo di resistenza elastico minimo relativo all'asse x. [cm<sup>3</sup>]

**Wy:** modulo di resistenza elastico minimo relativo all'asse y. [cm<sup>3</sup>]



## Superelemento in legno a "Falda 1" 73-76

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 485.3 composto da:

asta 206: Trave in legno a falda Falda 1 fili 72-74 (L = 262.8)

asta 402: Trave in legno a falda Falda 1 fili 74-76 (L = 222.5)

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 254.1

Kdef = 0

Uinst tot in x = -0.04

Uinst tot in y = -6.54

Uinst tot = 6.54

Luce/Uinst,tot < limite

485.3/6.54=74.2 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 254.1

Kdef = 0

Uinst var in x = -0.02

Uinst var in y = -4.33

Uinst var = 4.33

Luce/Uinst,var < limite

485.3/4.33=112 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 254.1

Kdef = 0.6

Ufin in x = -0.04

Ufin in y = -7.87

Ufin = 7.87

Luce/Ufin < limite

485.3/7.87=61.7 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

## Superelemento in legno a "Falda 1" 74-(-967; -97)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 472.8 composto da:

asta 343: Trave in legno a falda Falda 1 fili 74-133 (L = 67.5)

asta 344: Trave in legno a falda Falda 1 fili 74-133 (L = 67.5)

asta 345: Trave in legno a falda Falda 1 fili 74-133 (L = 67.6)

asta 346: Trave in legno a falda Falda 1 fili 74-133 (L = 67.6)

asta 347: Trave in legno a falda Falda 1 fili 74-133 (L = 67.6)

asta 348: Trave in legno a falda Falda 1 fili 74-133 (L = 67.6)

asta 349: Trave in legno a falda Falda 1 fili 74-133 (L = 67.6)

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200



Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 146.3

Kdef = 0

Uinst tot in x = -0.16

Uinst tot in y = 0.09

Uinst tot = 0.16

Luce/Uinst,tot > limite

472.8/0.16=2950.4 > 300 Comb: SLE rara, 17

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 150.8

Kdef = 0

Uinst var in x = -0.12

Uinst var in y = 0.07

Uinst var = 0.12

Luce/Uinst,var > limite

472.8/0.12=4049.3 > 300 Comb: SLE rara, 17

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 148.6

Kdef = 0.6

Ufin in x = -0.19

Ufin in y = 0.1

Ufin = 0.19

Luce/Ufin > limite

472.8/0.19=2509.4 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

## Superelemento in legno a "Falda 1" 89-91

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 667.1 composto da:

asta 200: Trave in legno a falda Falda 1 fili 89-90 (L = 41.6)

asta 201: Trave in legno a falda Falda 1 fili 89-90 (L = 41.6)

asta 202: Trave in legno a falda Falda 1 fili 89-90 (L = 41.6)

asta 203: Trave in legno a falda Falda 1 fili 89-90 (L = 41.6)

asta 204: Trave in legno a falda Falda 1 fili 89-90 (L = 278.2)

asta 400: Trave in legno a falda Falda 1 fili 90-91 (L = 222.6)

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 435.2

Kdef = 0

Uinst tot in x = -0.05

Uinst tot in y = -6.54

Uinst tot = 6.54

Luce/Uinst,tot < limite

667.1/6.54=101.9 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 435.2

Kdef = 0

Uinst var in x = -0.04

Uinst var in y = -4.31





Uinst var = 4.31  
Luce/Uinst,var < limite  
667.1/4.31=154.9 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 440.8  
Kdef = 0.6  
Ufin in x = -0.05  
Ufin in y = -7.89  
Ufin = 7.89  
Luce/Ufin < limite  
667.1/7.89=84.6 < 200 - NON SODDISFATTA  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Variabile A = 0,700 + 0,180 = 0,880  
Neve = 0,500 + 0,500 = 1,000  
Vento = 0,600 + 0,000 = 0,600

### Superelemento in legno a "Falda 1" 133-(-896; -97)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 270.2 composto da:  
asta 339: Trave in legno a falda Falda 1 fili 133-161 (L = 67.6)  
asta 340: Trave in legno a falda Falda 1 fili 133-161 (L = 67.6)  
asta 341: Trave in legno a falda Falda 1 fili 133-161 (L = 67.6)  
asta 342: Trave in legno a falda Falda 1 fili 133-161 (L = 67.5)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 141.9  
Kdef = 0  
Uinst tot in x = -0.04  
Uinst tot in y = -0.15  
Uinst tot = 0.15  
Luce/Uinst,tot > limite  
270.2/0.15=1793.8 > 300 Comb: SLE rara, 8

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 141.9  
Kdef = 0  
Uinst var in x = -0.02  
Uinst var in y = -0.1  
Uinst var = 0.1  
Luce/Uinst,var > limite  
270.2/0.1=2770.8 > 300 Comb: SLE rara, 8

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 146.4  
Kdef = 0.6  
Ufin in x = -0.06  
Ufin in y = -0.19  
Ufin = 0.19  
Luce/Ufin > limite  
270.2/0.19=1441 > 200  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Neve = 0,500 + 0,500 = 1,000



## Superelemento in legno a "Falda 1" 161-(-225; -97)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 472.9 composto da:

asta 332: Trave in legno a falda Falda 1 fili 161-217 (L = 67.6)

asta 333: Trave in legno a falda Falda 1 fili 161-217 (L = 67.6)

asta 334: Trave in legno a falda Falda 1 fili 161-217 (L = 67.6)

asta 335: Trave in legno a falda Falda 1 fili 161-217 (L = 67.6)

asta 336: Trave in legno a falda Falda 1 fili 161-217 (L = 67.6)

asta 337: Trave in legno a falda Falda 1 fili 161-217 (L = 67.6)

asta 338: Trave in legno a falda Falda 1 fili 161-217 (L = 67.6)

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 326.5

Kdef = 0

Uinst tot in x = -0.11

Uinst tot in y = 0.04

Uinst tot = 0.11

Luce/Uinst,tot > limite

472.9/0.11=4380.9 > 300 Comb: SLE rara, 17

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 317.5

Kdef = 0

Uinst var in x = -0.08

Uinst var in y = 0.03

Uinst var = 0.08

Luce/Uinst,var > limite

472.9/0.08=5935.7 > 300 Comb: SLE rara, 17

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 349

Kdef = 0.6

Ufin in x = -0.14

Ufin in y = -0.05

Ufin = 0.14

Luce/Ufin > limite

472.9/0.14=3354.8 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

## Superelemento in legno a "Falda 1" 201-203

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 666.9 composto da:

asta 171: Trave in legno a falda Falda 1 fili 201-202 (L = 41.5)

asta 172: Trave in legno a falda Falda 1 fili 201-202 (L = 41.6)

asta 173: Trave in legno a falda Falda 1 fili 201-202 (L = 41.6)

asta 174: Trave in legno a falda Falda 1 fili 201-202 (L = 41.6)

asta 175: Trave in legno a falda Falda 1 fili 201-202 (L = 278.2)

asta 387: Trave in legno a falda Falda 1 fili 202-203 (L = 222.6)

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67



Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 435

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = -0.04$

$U_{inst\ tot\ in\ y} = -5.07$

$U_{inst\ tot} = 5.07$

Luce/ $U_{inst,tot}$  < limite

$666.9/5.07=131.5 < 300$  Comb: SLE rara, 17 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 435

$K_{def} = 0$

$U_{inst\ var\ in\ x} = -0.04$

$U_{inst\ var\ in\ y} = -3.3$

$U_{inst\ var} = 3.3$

Luce/ $U_{inst,var}$  < limite

$666.9/3.3=202 < 300$  Comb: SLE rara, 17 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 440.7

$K_{def} = 0.6$

$U_{fin\ in\ x} = -0.05$

$U_{fin\ in\ y} = -6.14$

$U_{fin} = 6.14$

Luce/ $U_{fin}$  < limite

$666.9/6.14=108.6 < 200$  - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Variabile A =  $0,700 + 0,180 = 0,880$

Neve =  $0,500 + 0,500 = 1,000$

Vento =  $0,600 + 0,000 = 0,600$

### Superelemento in legno a "Falda 1" 217-(85; -97)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva  $L = 377.9$  composto da:

asta 326: Trave in legno a falda Falda 1 fili 217-260 ( $L = 67.6$ )

asta 327: Trave in legno a falda Falda 1 fili 217-260 ( $L = 67.6$ )

asta 328: Trave in legno a falda Falda 1 fili 217-260 ( $L = 67.6$ )

asta 329: Trave in legno a falda Falda 1 fili 217-260 ( $L = 67.6$ )

asta 330: Trave in legno a falda Falda 1 fili 217-260 ( $L = 67.6$ )

asta 331: Trave in legno a falda Falda 1 fili 217-260 ( $L = 40.1$ )

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 164.4

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = -0.18$

$U_{inst\ tot\ in\ y} = -0.28$

$U_{inst\ tot} = 0.28$

Luce/ $U_{inst,tot}$  > limite

$377.9/0.28=1342.9 > 300$  Comb: SLE rara, 17



#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 164.4

Kdef = 0

Uinst var in x = -0.12

Uinst var in y = -0.19

Uinst var = 0.19

Luce/Uinst,var > limite

$377.9/0.19=1966.8 > 300$  Comb: SLE rara, 17

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 166.6

Kdef = 0.6

Ufin in x = -0.23

Ufin in y = -0.37

Ufin = 0.37

Luce/Ufin > limite

$377.9/0.37=1021.6 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Variabile A =  $0,700 + 0,180 = 0,880$

Neve =  $0,500 + 0,500 = 1,000$

Vento =  $0,600 + 0,000 = 0,600$

### Superelemento in legno a "Falda 1" 223-218

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 485.3 composto da:

asta 177: Trave in legno a falda Falda 1 fili 216-217 (L = 262.7)

asta 389: Trave in legno a falda Falda 1 fili 217-218 (L = 222.5)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 254

Kdef = 0

Uinst tot in x = -0.06

Uinst tot in y = -4.67

Uinst tot = 4.67

Luce/Uinst,tot < limite

$485.3/4.67=103.9 < 300$  Comb: SLE rara, 17 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 254

Kdef = 0

Uinst var in x = -0.04

Uinst var in y = -3.05

Uinst var = 3.05

Luce/Uinst,var < limite

$485.3/3.05=159.2 < 300$  Comb: SLE rara, 17 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 254

Kdef = 0.6

Ufin in x = -0.08

Ufin in y = -5.65

Ufin = 5.65

Luce/Ufin < limite

$485.3/5.65=86 < 200$  - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Variabile A =  $0,700 + 0,180 = 0,880$



Neve =  $0,500 + 0,500 = 1,000$   
Vento =  $0,600 + 0,000 = 0,600$

## Superelemento in legno a "Falda 1" (-88; -322)-(-88; -243)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva  $L = 87$  composto da:  
Asta 185: Trave in legno a falda Falda 1 fili 270-271

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 55.1

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = 0.01$

$U_{inst\ tot\ in\ y} = -0.05$

$U_{inst\ tot} = 0.05$

Luce/ $U_{inst,tot} >$  limite

$87/0.05 = 1658.3 > 300$  Comb: SLE rara, 17

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 55.1

$K_{def} = 0$

$U_{inst\ var\ in\ x} = 0$

$U_{inst\ var\ in\ y} = -0.04$

$U_{inst\ var} = 0.04$

Luce/ $U_{inst,var} >$  limite

$87/0.04 = 2447 > 300$  Comb: SLE rara, 17

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 58

$K_{def} = 0.6$

$U_{fin\ in\ x} = 0.01$

$U_{fin\ in\ y} = -0.06$

$U_{fin} = 0.06$

Luce/ $U_{fin} >$  limite

$87/0.06 = 1387.6 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Variabile A =  $0,700 + 0,180 = 0,880$

Neve =  $0,500 + 0,500 = 1,000$

Vento =  $0,600 + 0,000 = 0,600$

## Superelemento in legno a "Falda 1" (-156; -322)-(-156; -178)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva  $L = 158.9$  composto da:  
Asta 184: Trave in legno a falda Falda 1 fili 266-267

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 100.6

Kdef = 0

Uinst tot in x = 0.01

Uinst tot in y = -0.19

Uinst tot = 0.19

Luce/Uinst,tot > limite

158.9/0.19=815.9 > 300 Comb: SLE rara, 17

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 95.3

Kdef = 0

Uinst var in x = 0.01

Uinst var in y = -0.13

Uinst var = 0.13

Luce/Uinst,var > limite

158.9/0.13=1189.6 > 300 Comb: SLE rara, 17

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 100.6

Kdef = 0.6

Ufin in x = 0.02

Ufin in y = -0.23

Ufin = 0.23

Luce/Ufin > limite

158.9/0.23=685.2 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

### Superelemento in legno a "Falda 1" (-223; -322)-(-223; -112)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 230.8 composto da:

Asta 183: Trave in legno a falda Falda 1 fili 261-262

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 138.5

Kdef = 0

Uinst tot in x = 0.03

Uinst tot in y = -0.54

Uinst tot = 0.54

Luce/Uinst,tot > limite

230.8/0.54=431 > 300 Comb: SLE rara, 17

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 130.8

Kdef = 0

Uinst var in x = 0.02

Uinst var in y = -0.36

Uinst var = 0.36

Luce/Uinst,var > limite

230.8/0.36=633 > 300 Comb: SLE rara, 17

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 138.5

Kdef = 0.6

Ufin in x = 0.03



Ufin in y = -0.64  
Ufin = 0.64  
Luce/Ufin > limite  
 $230.8/0.64=361.3 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Variabile A =  $0,700 + 0,180 = 0,880$   
Neve =  $0,500 + 0,500 = 1,000$   
Vento =  $0,600 + 0,000 = 0,600$

## Superelemento in legno a "Falda 1" (-291; -322)-256

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 302.8 composto da:  
asta 182: Trave in legno a falda Falda 1 fili 254-255 (L = 262.7)  
asta 394: Trave in legno a falda Falda 1 fili 255-256 (L = 40)

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 175.2  
Kdef = 0  
Uinst tot in x = 0.05  
Uinst tot in y = -1.28  
Uinst tot = 1.28  
Luce/Uinst,tot < limite  
 $302.8/1.28=235.6 < 300$  Comb: SLE rara, 17 - NON SODDISFATTA

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 175.2  
Kdef = 0  
Uinst var in x = 0.03  
Uinst var in y = -0.86  
Uinst var = 0.86  
Luce/Uinst,var > limite  
 $302.8/0.86=353.4 > 300$  Comb: SLE rara, 17

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 175.2  
Kdef = 0.6  
Ufin in x = 0.07  
Ufin in y = -1.54  
Ufin = 1.54  
Luce/Ufin < limite  
 $302.8/1.54=196.3 < 200$  - NON SODDISFATTA  
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Variabile A =  $0,700 + 0,180 = 0,880$   
Neve =  $0,500 + 0,500 = 1,000$   
Vento =  $0,600 + 0,000 = 0,600$

## Superelemento in legno a "Falda 1" (-359; -322)-250

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 365.1 composto da:  
asta 181: Trave in legno a falda Falda 1 fili 248-249 (L = 262.7)  
asta 393: Trave in legno a falda Falda 1 fili 249-250 (L = 102.4)



#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 201.4

Kdef = 0

Uinst tot in x = 0.11

Uinst tot in y = -2.3

Uinst tot = 2.3

Luce/Uinst,tot < limite

$365.1/2.3=158.4 < 300$  Comb: SLE rara, 17 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 201.4

Kdef = 0

Uinst var in x = 0.07

Uinst var in y = -1.52

Uinst var = 1.52

Luce/Uinst,var < limite

$365.1/1.52=240.3 < 300$  Comb: SLE rara, 17 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 201.4

Kdef = 0.6

Ufin in x = 0.14

Ufin in y = -2.78

Ufin = 2.78

Luce/Ufin < limite

$365.1/2.78=131.5 < 200$  - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Variabile A =  $0,700 + 0,180 = 0,880$

Neve =  $0,500 + 0,500 = 1,000$

Vento =  $0,600 + 0,000 = 0,600$

### Superelemento in legno a "Falda 1" (-426; -322)-244

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 435 composto da:

asta 180: Trave in legno a falda Falda 1 fili 242-243 (L = 262.7)

asta 392: Trave in legno a falda Falda 1 fili 243-244 (L = 172.3)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 227.7

Kdef = 0

Uinst tot in x = 0.06

Uinst tot in y = -3.4

Uinst tot = 3.4

Luce/Uinst,tot < limite

$435/3.4=127.9 < 300$  Comb: SLE rara, 17 - NON SODDISFATTA





#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 227.7

Kdef = 0

Uinst var in x = -0.04

Uinst var in y = -2.23

Uinst var = 2.23

Luce/Uinst,var < limite

435/2.23=195.1 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 227.7

Kdef = 0.6

Ufin in x = 0.08

Ufin in y = -4.11

Ufin = 4.11

Luce/Ufin < limite

435/4.11=105.9 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

### Superelemento in legno a "Falda 1" (-494; -322)-238

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 485.3 composto da:

asta 179: Trave in legno a falda Falda 1 fili 236-237 (L = 262.7)

asta 391: Trave in legno a falda Falda 1 fili 237-238 (L = 222.5)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 236.5

Kdef = 0

Uinst tot in x = -0.08

Uinst tot in y = -4.08

Uinst tot = 4.08

Luce/Uinst,tot < limite

485.3/4.08=119.1 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 236.5

Kdef = 0

Uinst var in x = -0.05

Uinst var in y = -2.66

Uinst var = 2.66

Luce/Uinst,var < limite

485.3/2.66=182.1 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 236.5

Kdef = 0.6

Ufin in x = -0.1

Ufin in y = -4.93

Ufin = 4.93

Luce/Ufin < limite

485.3/4.93=98.5 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880



Neve =  $0,500 + 0,500 = 1,000$   
Vento =  $0,600 + 0,000 = 0,600$

## Superelemento in legno a "Falda 1" (-561; -322)-227

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva  $L = 485.3$  composto da:

asta 178: Trave in legno a falda Falda 1 fili 225-226 ( $L = 262.7$ )

asta 390: Trave in legno a falda Falda 1 fili 226-227 ( $L = 222.5$ )

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 245.2

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = -0.06$

$U_{inst\ tot\ in\ y} = -4.41$

$U_{inst\ tot} = 4.41$

$Luce/U_{inst,tot} < \text{limite}$

$485.3/4.41 = 110.1 < 300$  Comb: SLE rara, 17 - NON SODDISFATTA

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 245.2

$K_{def} = 0$

$U_{inst\ var\ in\ x} = -0.04$

$U_{inst\ var\ in\ y} = -2.88$

$U_{inst\ var} = 2.88$

$Luce/U_{inst,var} < \text{limite}$

$485.3/2.88 = 168.4 < 300$  Comb: SLE rara, 17 - NON SODDISFATTA

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 245.2

$K_{def} = 0.6$

$U_{fin\ in\ x} = -0.07$

$U_{fin\ in\ y} = -5.33$

$U_{fin} = 5.33$

$Luce/U_{fin} < \text{limite}$

$485.3/5.33 = 91.1 < 200$  - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Variabile A =  $0,700 + 0,180 = 0,880$

Neve =  $0,500 + 0,500 = 1,000$

Vento =  $0,600 + 0,000 = 0,600$

## Superelemento in legno a "Falda 1" (-696; -322)-212

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva  $L = 485.4$  composto da:

asta 176: Trave in legno a falda Falda 1 fili 210-211 ( $L = 262.7$ )

asta 388: Trave in legno a falda Falda 1 fili 211-212 ( $L = 222.7$ )

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno



Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 254

Kdef = 0

Uinst tot in x = -0.07

Uinst tot in y = -4.88

Uinst tot = 4.88

Luce/Uinst,tot < limite

485.4/4.88=99.5 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 254

Kdef = 0

Uinst var in x = -0.05

Uinst var in y = -3.18

Uinst var = 3.18

Luce/Uinst,var < limite

485.4/3.18=152.7 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 245.2

Kdef = 0.6

Ufin in x = -0.09

Ufin in y = -5.9

Ufin = 5.9

Luce/Ufin < limite

485.4/5.9=82.3 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

### Superelemento in legno a "Falda 1" (-832; -471)-193

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 650.5 composto da:

asta 169: Trave in legno a falda Falda 1 fili 191-192 (L = 165.2)

asta 170: Trave in legno a falda Falda 1 fili 191-192 (L = 262.7)

asta 386: Trave in legno a falda Falda 1 fili 192-193 (L = 222.6)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 419.2

Kdef = 0

Uinst tot in x = -0.05

Uinst tot in y = -5.27

Uinst tot = 5.27

Luce/Uinst,tot < limite

650.5/5.27=123.5 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 419.2

Kdef = 0

Uinst var in x = -0.04

Uinst var in y = -3.42

Uinst var = 3.42

Luce/Uinst,var < limite

650.5/3.42=190 < 300 Comb: SLE rara, 17 - NON SODDISFATTA



### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 424.7

Kdef = 0.6

Ufin in x = -0.06

Ufin in y = -6.38

Ufin = 6.38

Luce/Ufin < limite

650.5/6.38=102 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

### Superelemento in legno a "Falda 1" (-899; -471)-186

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 650.5 composto da:

asta 167: Trave in legno a falda Falda 1 fili 184-185 (L = 165.2)

asta 168: Trave in legno a falda Falda 1 fili 184-185 (L = 262.7)

asta 385: Trave in legno a falda Falda 1 fili 185-186 (L = 222.6)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 419.2

Kdef = 0

Uinst tot in x = -0.06

Uinst tot in y = -5.48

Uinst tot = 5.48

Luce/Uinst,tot < limite

650.5/5.48=118.7 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 419.2

Kdef = 0

Uinst var in x = -0.05

Uinst var in y = -3.56

Uinst var = 3.56

Luce/Uinst,var < limite

650.5/3.56=182.7 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 424.7

Kdef = 0.6

Ufin in x = -0.07

Ufin in y = -6.64

Ufin = 6.64

Luce/Ufin < limite

650.5/6.64=98 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

### Superelemento in legno a "Falda 1" (-967; -471)-180

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



## Dati generali

Superelemento di lunghezza complessiva  $L = 650.5$  composto da:  
asta 165: Trave in legno a falda Falda 1 fili 178-179 ( $L = 165.2$ )  
asta 166: Trave in legno a falda Falda 1 fili 178-179 ( $L = 262.7$ )  
asta 384: Trave in legno a falda Falda 1 fili 179-180 ( $L = 222.6$ )

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 419.2

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = -0.06$

$U_{inst\ tot\ in\ y} = -5.72$

$U_{inst\ tot} = 5.72$

$Luce/U_{inst,tot} < \text{limite}$

$650.5/5.72 = 113.8 < 300$  Comb: SLE rara, 17 - NON SODDISFATTA

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 419.2

$K_{def} = 0$

$U_{inst\ var\ in\ x} = -0.05$

$U_{inst\ var\ in\ y} = -3.71$

$U_{inst\ var} = 3.71$

$Luce/U_{inst,var} < \text{limite}$

$650.5/3.71 = 175.3 < 300$  Comb: SLE rara, 17 - NON SODDISFATTA

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 424.7

$K_{def} = 0.6$

$U_{fin\ in\ x} = -0.07$

$U_{fin\ in\ y} = -6.92$

$U_{fin} = 6.92$

$Luce/U_{fin} < \text{limite}$

$650.5/6.92 = 94 < 200$  - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Variabile A =  $0,700 + 0,180 = 0,880$

Neve =  $0,500 + 0,500 = 1,000$

Vento =  $0,600 + 0,000 = 0,600$

## Superelemento in legno a "Falda 1" (-1034; -471)-172

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva  $L = 650.6$  composto da:  
asta 129: Trave in legno a falda Falda 1 fili 170-171 ( $L = 165.2$ )  
asta 130: Trave in legno a falda Falda 1 fili 170-171 ( $L = 262.7$ )  
asta 383: Trave in legno a falda Falda 1 fili 171-172 ( $L = 222.6$ )

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 419.2

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = -0.05$



Uinst tot in y = -5.97  
Uinst tot = 5.97  
Luce/Uinst,tot < limite  
650.6/5.97=109 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 419.2  
Kdef = 0  
Uinst var in x = -0.04  
Uinst var in y = -3.88  
Uinst var = 3.88  
Luce/Uinst,var < limite  
650.6/3.88=167.8 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 424.7  
Kdef = 0.6  
Ufin in x = 0.06  
Ufin in y = -7.23  
Ufin = 7.23  
Luce/Ufin < limite  
650.6/7.23=90 < 200 - NON SODDISFATTA  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Variabile A = 0,700 + 0,180 = 0,880  
Neve = 0,500 + 0,500 = 1,000  
Vento = 0,600 + 0,000 = 0,600

### Superelemento in legno a "Falda 1" (-1169; -471)-155

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 650.5 composto da:  
asta 324: Trave in legno a falda Falda 1 fili 153-154 (L = 428)  
asta 409: Trave in legno a falda Falda 1 fili 154-155 (L = 222.5)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 370.9  
Kdef = 0  
Uinst tot in x = -0.12  
Uinst tot in y = -6.72  
Uinst tot = 6.72  
Luce/Uinst,tot < limite  
650.5/6.72=96.8 < 300 Comb: SLE rara, 16 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 370.9  
Kdef = 0  
Uinst var in x = -0.08  
Uinst var in y = -4.35  
Uinst var = 4.35  
Luce/Uinst,var < limite  
650.5/4.35=149.4 < 300 Comb: SLE rara, 16 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 370.9  
Kdef = 0.6  
Ufin in x = -0.14  
Ufin in y = -8.15  
Ufin = 8.15  
Luce/Ufin < limite



650.5/8.15=79.8 < 200 - NON SODDISFATTA  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Variabile A = 0,700 + 0,180 = 0,880  
Neve = 0,500 + 0,500 = 1,000

## Superelemento in legno a "Falda 1" (-1237; -471)-150

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 650.5 composto da:  
asta 323: Trave in legno a falda Falda 1 fili 148-149 (L = 428)  
asta 408: Trave in legno a falda Falda 1 fili 149-150 (L = 222.5)

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 370.9  
Kdef = 0  
Uinst tot in x = -0.04  
Uinst tot in y = -6.91  
Uinst tot = 6.91  
Luce/Uinst,tot < limite  
650.5/6.91=94.1 < 300 Comb: SLE rara, 16 - NON SODDISFATTA

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 370.9  
Kdef = 0  
Uinst var in x = -0.03  
Uinst var in y = -4.48  
Uinst var = 4.48  
Luce/Uinst,var < limite  
650.5/4.48=145.3 < 300 Comb: SLE rara, 16 - NON SODDISFATTA

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 370.9  
Kdef = 0.6  
Ufin in x = -0.05  
Ufin in y = -8.38  
Ufin = 8.38  
Luce/Ufin < limite  
650.5/8.38=77.7 < 200 - NON SODDISFATTA  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Variabile A = 0,700 + 0,180 = 0,880  
Neve = 0,500 + 0,500 = 1,000

## Superelemento in legno a "Falda 1" (-1304; -471)-141

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 650.5 composto da:  
asta 325: Trave in legno a falda Falda 1 fili 139-140 (L = 428)  
asta 410: Trave in legno a falda Falda 1 fili 140-141 (L = 222.5)

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$



Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 370.9

Kdef = 0

Uinst tot in x = -0.05

Uinst tot in y = -6.85

Uinst tot = 6.85

Luce/Uinst,tot < limite

650.5/6.85=95 < 300 Comb: SLE rara, 16 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 370.9

Kdef = 0

Uinst var in x = -0.04

Uinst var in y = -4.44

Uinst var = 4.44

Luce/Uinst,var < limite

650.5/4.44=146.5 < 300 Comb: SLE rara, 16 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 370.9

Kdef = 0.6

Ufin in x = -0.05

Ufin in y = -8.3

Ufin = 8.3

Luce/Ufin < limite

650.5/8.3=78.4 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

## Superelemento in legno a "Falda 1" (-1440; -471)-123

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 650.6 composto da:

asta 192: Trave in legno a falda Falda 1 fili 121-122 (L = 165.2)

asta 193: Trave in legno a falda Falda 1 fili 121-122 (L = 262.8)

asta 396: Trave in legno a falda Falda 1 fili 122-123 (L = 222.6)

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 419.2

Kdef = 0

Uinst tot in x = -0.07

Uinst tot in y = -6.41

Uinst tot = 6.41

Luce/Uinst,tot < limite

650.6/6.41=101.4 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 419.2

Kdef = 0

Uinst var in x = -0.06

Uinst var in y = -4.18

Uinst var = 4.18

Luce/Uinst,var < limite





650.6/4.18=155.8 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 424.7

Kdef = 0.6

Ufin in x = -0.08

Ufin in y = -7.76

Ufin = 7.76

Luce/Ufin < limite

650.6/7.76=83.8 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

## Superelemento in legno a "Falda 1" (-1507; -471)-115

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 650.6 composto da:

asta 194: Trave in legno a falda Falda 1 fili 113-114 (L = 165.2)

asta 195: Trave in legno a falda Falda 1 fili 113-114 (L = 262.8)

asta 397: Trave in legno a falda Falda 1 fili 114-115 (L = 222.6)

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 419.2

Kdef = 0

Uinst tot in x = -0.07

Uinst tot in y = -6.38

Uinst tot = 6.38

Luce/Uinst,tot < limite

650.6/6.38=102 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 419.2

Kdef = 0

Uinst var in x = -0.06

Uinst var in y = -4.16

Uinst var = 4.16

Luce/Uinst,var < limite

650.6/4.16=156.4 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 424.7

Kdef = 0.6

Ufin in x = -0.08

Ufin in y = -7.71

Ufin = 7.71

Luce/Ufin < limite

650.6/7.71=84.4 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600



## Superelemento in legno a "Falda 1" (-1575; -471)-106

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 650.6 composto da:

asta 196: Trave in legno a falda Falda 1 fili 104-105 (L = 165.2)

asta 197: Trave in legno a falda Falda 1 fili 104-105 (L = 262.8)

asta 398: Trave in legno a falda Falda 1 fili 105-106 (L = 222.6)

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 419.2

Kdef = 0

Uinst tot in x = -0.07

Uinst tot in y = -6.39

Uinst tot = 6.39

Luce/Uinst,tot < limite

650.6/6.39=101.7 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 419.2

Kdef = 0

Uinst var in x = -0.05

Uinst var in y = -4.18

Uinst var = 4.18

Luce/Uinst,var < limite

650.6/4.18=155.6 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 424.7

Kdef = 0.6

Ufin in x = -0.08

Ufin in y = -7.73

Ufin = 7.73

Luce/Ufin < limite

650.6/7.73=84.2 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

## Superelemento in legno a "Falda 1" (-1642; -471)-99

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 650.5 composto da:

asta 198: Trave in legno a falda Falda 1 fili 97-98 (L = 165.2)

asta 199: Trave in legno a falda Falda 1 fili 97-98 (L = 262.8)

asta 399: Trave in legno a falda Falda 1 fili 98-99 (L = 222.6)

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 419.2

Kdef = 0

Uinst tot in x = -0.05

Uinst tot in y = -6.46

Uinst tot = 6.46

Luce/Uinst,tot < limite

650.5/6.46=100.7 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 419.2

Kdef = 0

Uinst var in x = -0.04

Uinst var in y = -4.24

Uinst var = 4.24

Luce/Uinst,var < limite

650.5/4.24=153.5 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 424.7

Kdef = 0.6

Ufin in x = -0.05

Ufin in y = -7.79

Ufin = 7.79

Luce/Ufin < limite

650.5/7.79=83.5 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

### Superelemento in legno a "Falda 1" (-1777; -322)-83

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 485.3 composto da:

asta 205: Trave in legno a falda Falda 1 fili 81-82 (L = 262.8)

asta 401: Trave in legno a falda Falda 1 fili 82-83 (L = 222.5)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 254.1

Kdef = 0

Uinst tot in x = -0.04

Uinst tot in y = -6.59

Uinst tot = 6.59

Luce/Uinst,tot < limite

485.3/6.59=73.7 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 254.1

Kdef = 0

Uinst var in x = -0.03

Uinst var in y = -4.35

Uinst var = 4.35

Luce/Uinst,var < limite

485.3/4.35=111.5 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 254.1

Kdef = 0.6



Ufin in x = -0.05

Ufin in y = -7.93

Ufin = 7.93

Luce/Ufin < limite

485.3/7.93=61.2 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

## Superelemento in legno a "Falda 1" (-1912; -322)-67

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 485.3 composto da:

asta 207: Trave in legno a falda Falda 1 fili 65-66 (L = 262.8)

asta 403: Trave in legno a falda Falda 1 fili 66-67 (L = 222.5)

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 245.3

Kdef = 0

Uinst tot in x = -0.04

Uinst tot in y = -6.32

Uinst tot = 6.32

Luce/Uinst,tot < limite

485.3/6.32=76.8 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 245.3

Kdef = 0

Uinst var in x = -0.02

Uinst var in y = -4.19

Uinst var = 4.19

Luce/Uinst,var < limite

485.3/4.19=115.8 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 245.3

Kdef = 0.6

Ufin in x = -0.04

Ufin in y = -7.6

Ufin = 7.6

Luce/Ufin < limite

485.3/7.6=63.9 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

## Superelemento in legno a "Falda 1" (-1980; -322)-58

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 485.3 composto da:

asta 208: Trave in legno a falda Falda 1 fili 56-57 (L = 262.8)

asta 404: Trave in legno a falda Falda 1 fili 57-58 (L = 222.5)



#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 236.5

Kdef = 0

Uinst tot in x = 0.04

Uinst tot in y = -5.89

Uinst tot = 5.89

Luce/Uinst,tot < limite

485.3/5.89=82.4 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 236.5

Kdef = 0

Uinst var in x = 0.03

Uinst var in y = -3.91

Uinst var = 3.91

Luce/Uinst,var < limite

485.3/3.91=124 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 236.5

Kdef = 0.6

Ufin in x = 0.05

Ufin in y = -7.08

Ufin = 7.08

Luce/Ufin < limite

485.3/7.08=68.6 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

### Superelemento in legno a "Falda 1" (-2048; -322)-51

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 450.2 composto da:

asta 209: Trave in legno a falda Falda 1 fili 49-50 (L = 262.8)

asta 405: Trave in legno a falda Falda 1 fili 50-51 (L = 187.4)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 227.8

Kdef = 0

Uinst tot in x = -0.1

Uinst tot in y = -5.05

Uinst tot = 5.05

Luce/Uinst,tot < limite

450.2/5.05=89.1 < 300 Comb: SLE rara, 17 - NON SODDISFATTA



#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 227.8

Kdef = 0

Uinst var in x = -0.06

Uinst var in y = -3.36

Uinst var = 3.36

Luce/Uinst,var < limite

450.2/3.36=133.9 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 227.8

Kdef = 0.6

Ufin in x = -0.12

Ufin in y = -6.07

Ufin = 6.07

Luce/Ufin < limite

450.2/6.07=74.2 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

### Superelemento in legno a "Falda 1" (-2115; -322)-45

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 377.8 composto da:

asta 210: Trave in legno a falda Falda 1 fili 43-44 (L = 262.8)

asta 406: Trave in legno a falda Falda 1 fili 44-45 (L = 115)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 210.3

Kdef = 0

Uinst tot in x = -0.18

Uinst tot in y = -3.53

Uinst tot = 3.53

Luce/Uinst,tot < limite

377.8/3.53=106.9 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 210.3

Kdef = 0

Uinst var in x = -0.12

Uinst var in y = -2.36

Uinst var = 2.36

Luce/Uinst,var < limite

377.8/2.36=160.1 < 300 Comb: SLE rara, 17 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 210.3

Kdef = 0.6

Ufin in x = -0.22

Ufin in y = -4.24

Ufin = 4.24

Luce/Ufin < limite

377.8/4.24=89.2 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880



Neve =  $0,500 + 0,500 = 1,000$   
Vento =  $0,600 + 0,000 = 0,600$

## Superelemento in legno a "Falda 1" (-2183; -322)-39

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva  $L = 314.2$  composto da:

asta 211: Trave in legno a falda Falda 1 fili 37-38 ( $L = 262.8$ )

asta 407: Trave in legno a falda Falda 1 fili 38-39 ( $L = 51.4$ )

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 184

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = -0.1$

$U_{inst\ tot\ in\ y} = -2.02$

$U_{inst\ tot} = 2.02$

$Luce/U_{inst,tot} < \text{limite}$

$314.2/2.02 = 155.5 < 300$  Comb: SLE rara, 17 - NON SODDISFATTA

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 175.2

$K_{def} = 0$

$U_{inst\ var\ in\ x} = -0.06$

$U_{inst\ var\ in\ y} = -1.36$

$U_{inst\ var} = 1.36$

$Luce/U_{inst,var} < \text{limite}$

$314.2/1.36 = 231 < 300$  Comb: SLE rara, 17 - NON SODDISFATTA

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 184

$K_{def} = 0.6$

$U_{fin\ in\ x} = -0.13$

$U_{fin\ in\ y} = -2.42$

$U_{fin} = 2.42$

$Luce/U_{fin} < \text{limite}$

$314.2/2.42 = 129.9 < 200$  - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Variabile A =  $0,700 + 0,180 = 0,880$

Neve =  $0,500 + 0,500 = 1,000$

Vento =  $0,600 + 0,000 = 0,600$

## Superelemento in legno a "Falda 1" (-2242; -97)-74

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva  $L = 387.1$  composto da:

asta 138: Trave in legno a falda Falda 1 fili 36-74 ( $L = 49.3$ )

asta 139: Trave in legno a falda Falda 1 fili 36-74 ( $L = 67.6$ )

asta 140: Trave in legno a falda Falda 1 fili 36-74 ( $L = 67.6$ )

asta 141: Trave in legno a falda Falda 1 fili 36-74 ( $L = 67.6$ )

asta 142: Trave in legno a falda Falda 1 fili 36-74 ( $L = 67.6$ )

asta 143: Trave in legno a falda Falda 1 fili 36-74 ( $L = 67.6$ )

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016



$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 220.5

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = -0.41$

$U_{inst\ tot\ in\ y} = -0.65$

$U_{inst\ tot} = 0.65$

Luce/ $U_{inst,tot}$  > limite

$387.1/0.65=596.5 > 300$  Comb: SLE rara, 17

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 220.5

$K_{def} = 0$

$U_{inst\ var\ in\ x} = -0.28$

$U_{inst\ var\ in\ y} = -0.45$

$U_{inst\ var} = 0.45$

Luce/ $U_{inst,var}$  > limite

$387.1/0.45=866.9 > 300$  Comb: SLE rara, 17

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 226.6

$K_{def} = 0.6$

$U_{fin\ in\ x} = -0.46$

$U_{fin\ in\ y} = -0.7$

$U_{fin} = 0.7$

Luce/ $U_{fin}$  > limite

$387.1/0.7=552.1 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Variabile A =  $0,700 + 0,180 = 0,880$

Neve =  $0,500 + 0,500 = 1,000$

Vento =  $0,600 + 0,000 = 0,600$

### Superelemento in legno a "Falda 1" (-2250; -322)-(-2250; -104)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva  $L = 239.9$  composto da:

Asta 212: Trave in legno a falda Falda 1 fili 32-33

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 144

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = -0.05$

$U_{inst\ tot\ in\ y} = -0.81$

$U_{inst\ tot} = 0.81$

Luce/ $U_{inst,tot}$  < limite

$239.9/0.81=296.2 < 300$  Comb: SLE rara, 9 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 136

$K_{def} = 0$

$U_{inst\ var\ in\ x} = -0.03$

$U_{inst\ var\ in\ y} = -0.56$

$U_{inst\ var} = 0.56$

Luce/ $U_{inst,var}$  > limite





$239.9/0.56=432.1 > 300$  Comb: SLE rara, 9

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 144

$K_{def} = 0.6$

$U_{fin} \text{ in } x = -0.06$

$U_{fin} \text{ in } y = -0.96$

$U_{fin} = 0.96$

Luce/ $U_{fin} > \text{limite}$

$239.9/0.96=249 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Neve =  $0,500 + 0,500 = 1,000$

Vento =  $0,600 + 0,000 = 0,600$

### Superelemento in legno a "Falda 1" (-2318; -322)-(-2318; -172)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva  $L = 165.7$  composto da:

Asta 213: Trave in legno a falda Falda 1 fili 27-28

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 104.9

$K_{def} = 0$

$U_{inst} \text{ tot in } x = -0.03$

$U_{inst} \text{ tot in } y = -0.27$

$U_{inst} \text{ tot} = 0.27$

Luce/ $U_{inst,tot} > \text{limite}$

$165.7/0.27=604.8 > 300$  Comb: SLE rara, 9

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 99.4

$K_{def} = 0$

$U_{inst} \text{ var in } x = -0.02$

$U_{inst} \text{ var in } y = -0.19$

$U_{inst} \text{ var} = 0.19$

Luce/ $U_{inst,var} > \text{limite}$

$165.7/0.19=875.3 > 300$  Comb: SLE rara, 9

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 104.9

$K_{def} = 0.6$

$U_{fin} \text{ in } x = -0.03$

$U_{fin} \text{ in } y = -0.32$

$U_{fin} = 0.32$

Luce/ $U_{fin} > \text{limite}$

$165.7/0.32=509.9 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Neve =  $0,500 + 0,500 = 1,000$

Vento =  $0,600 + 0,000 = 0,600$

### Superelemento in legno a "Falda 1" (-2385; -322)-(-2385; -239)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva  $L = 91.3$  composto da:



Asta 214: Trave in legno a falda Falda 1 fili 23-24

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 60.9

Kdef = 0

Uinst tot in x = -0.01

Uinst tot in y = -0.07

Uinst tot = 0.07

Luce/Uinst,tot > limite

91.3/0.07=1306.8 > 300 Comb: SLE rara, 9

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 57.8

Kdef = 0

Uinst var in x = -0.01

Uinst var in y = -0.05

Uinst var = 0.05

Luce/Uinst,var > limite

91.3/0.05=1896.2 > 300 Comb: SLE rara, 9

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 60.9

Kdef = 0.6

Ufin in x = -0.01

Ufin in y = -0.08

Ufin = 0.08

Luce/Ufin > limite

91.3/0.08=1100.3 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

### Superelemento in legno a "Falda 2" 24-(-2468; -256)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 92.5 composto da:

Asta 237: Trave in legno a falda Falda 2 fili 24-2

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 67.9

Kdef = 0

Uinst tot in x = 0.01

Uinst tot in y = 0.03

Uinst tot = 0.03

Luce/Uinst,tot > limite

92.5/0.03=3114.1 > 300 Comb: SLE rara, 17

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 67.9



Kdef = 0  
Uinst var in x = 0.01  
Uinst var in y = 0.02  
Uinst var = 0.02  
Luce/Uinst,var > limite  
92.5/0.02=4300.2 > 300 Comb: SLE rara, 17

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 67.9  
Kdef = 0.6  
Ufin in x = 0.01  
Ufin in y = 0.03  
Ufin = 0.03  
Luce/Ufin > limite  
92.5/0.03=2671.5 > 200  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Variabile A = 0,700 + 0,180 = 0,880  
Neve = 0,500 + 0,500 = 1,000  
Vento = 0,600 + 0,000 = 0,600

### Superelemento in legno a "Falda 2" 25-(-2469; 505)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 92.2 composto da:  
Asta 321: Trave in legno a falda Falda 2 fili 25-14

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 21.5  
Kdef = 0  
Uinst tot in x = -0.01  
Uinst tot in y = -0.05  
Uinst tot = 0.05  
Luce/Uinst,tot > limite  
92.2/0.05=1927.4 > 300 Comb: SLE rara, 9

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 21.5  
Kdef = 0  
Uinst var in x = -0.01  
Uinst var in y = -0.03  
Uinst var = 0.03  
Luce/Uinst,var > limite  
92.2/0.03=2897.9 > 300 Comb: SLE rara, 9

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 21.5  
Kdef = 0.6  
Ufin in x = -0.02  
Ufin in y = -0.06  
Ufin = 0.06  
Luce/Ufin > limite  
92.2/0.06=1604.9 > 200  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Neve = 0,500 + 0,500 = 1,000  
Vento = 0,600 + 0,000 = 0,600



## Superelemento in legno a "Falda 2" 28-(-2468; -190)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 169.7 composto da:  
Asta 238: Trave in legno a falda Falda 2 fili 28-3

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 118.8

Kdef = 0

Uinst tot in x = 0.01

Uinst tot in y = 0.11

Uinst tot = 0.11

Luce/Uinst,tot > limite

169.7/0.11=1497.6 > 300 Comb: SLE rara, 17

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 118.8

Kdef = 0

Uinst var in x = 0

Uinst var in y = 0.08

Uinst var = 0.08

Luce/Uinst,var > limite

169.7/0.08=2063.5 > 300 Comb: SLE rara, 17

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 118.8

Kdef = 0.6

Ufin in x = 0.01

Ufin in y = 0.13

Ufin = 0.13

Luce/Ufin > limite

169.7/0.13=1285.1 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

## Superelemento in legno a "Falda 2" 29-(-2469; 432)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 168.8 composto da:  
Asta 320: Trave in legno a falda Falda 2 fili 29-13

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 39.4

Kdef = 0

Uinst tot in x = -0.04



Uinst tot in y = -0.14  
Uinst tot = 0.14  
Luce/Uinst,tot > limite  
 $168.8/0.14=1191.4 > 300$  Comb: SLE rara, 17

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 39.4  
Kdef = 0  
Uinst var in x = -0.03  
Uinst var in y = -0.09  
Uinst var = 0.09  
Luce/Uinst,var > limite  
 $168.8/0.09=1800.4 > 300$  Comb: SLE rara, 17

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 39.4  
Kdef = 0.6  
Ufin in x = -0.05  
Ufin in y = -0.17  
Ufin = 0.17  
Luce/Ufin > limite  
 $168.8/0.17=990.1 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Variabile A =  $0,700 + 0,180 = 0,880$   
Neve =  $0,500 + 0,500 = 1,000$   
Vento =  $0,600 + 0,000 = 0,600$

### Superelemento in legno a "Falda 2" 33-(-2468; -125)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 246.1 composto da:  
Asta 239: Trave in legno a falda Falda 2 fili 33-4

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 155.9  
Kdef = 0  
Uinst tot in x = 0.07  
Uinst tot in y = 0.28  
Uinst tot = 0.28  
Luce/Uinst,tot > limite  
 $246.1/0.28=868.5 > 300$  Comb: SLE rara, 17

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 155.9  
Kdef = 0  
Uinst var in x = 0.04  
Uinst var in y = 0.21  
Uinst var = 0.21  
Luce/Uinst,var > limite  
 $246.1/0.21=1192 > 300$  Comb: SLE rara, 17

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 155.9  
Kdef = 0.6  
Ufin in x = 0.08  
Ufin in y = 0.33  
Ufin = 0.33  
Luce/Ufin > limite  
 $246.1/0.33=746.3 > 200$



Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Variabile A =  $0,700 + 0,180 = 0,880$

Neve =  $0,500 + 0,500 = 1,000$

Vento =  $0,600 + 0,000 = 0,600$

## Superelemento in legno a "Falda 2" 34-(-2468; 359)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 245.4 composto da:

Asta 319: Trave in legno a falda Falda 2 fili 34-12

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 65.4

Kdef = 0

Uinst tot in x = -0.19

Uinst tot in y = -0.3

Uinst tot = 0.3

Luce/Uinst,tot > limite

$245.4/0.3=822.4 > 300$  Comb: SLE rara, 17

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 65.4

Kdef = 0

Uinst var in x = -0.13

Uinst var in y = -0.2

Uinst var = 0.2

Luce/Uinst,var > limite

$245.4/0.2=1257.8 > 300$  Comb: SLE rara, 17

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 65.4

Kdef = 0.6

Ufin in x = -0.23

Ufin in y = -0.36

Ufin = 0.36

Luce/Ufin > limite

$245.4/0.36=680.6 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Variabile A =  $0,700 + 0,180 = 0,880$

Neve =  $0,500 + 0,500 = 1,000$

Vento =  $0,600 + 0,000 = 0,600$

## Superelemento in legno a "Falda 2" 39-(-2468; -59)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 322.5 composto da:

Asta 240: Trave in legno a falda Falda 2 fili 39-5

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300



Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 204.3  
Kdef = 0  
Uinst tot in x = 0.24  
Uinst tot in y = 0.3  
Uinst tot = 0.3  
Luce/Uinst,tot > limite  
 $322.5/0.3=1090.5 > 300$  Comb: SLE rara, 17

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 204.3  
Kdef = 0  
Uinst var in x = 0.16  
Uinst var in y = 0.23  
Uinst var = 0.23  
Luce/Uinst,var > limite  
 $322.5/0.23=1413 > 300$  Comb: SLE rara, 17

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 204.3  
Kdef = 0.6  
Ufin in x = 0.29  
Ufin in y = 0.34  
Ufin = 0.34  
Luce/Ufin > limite  
 $322.5/0.34=958 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Variabile A =  $0,700 + 0,180 = 0,880$   
Neve =  $0,500 + 0,500 = 1,000$   
Vento =  $0,600 + 0,000 = 0,600$

### Superelemento in legno a "Falda 2" 40-(-2468; 286)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 322 composto da:  
Asta 318: Trave in legno a falda Falda 2 fili 40-11

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 85.9  
Kdef = 0  
Uinst tot in x = -0.38  
Uinst tot in y = -0.39  
Uinst tot = 0.39  
Luce/Uinst,tot > limite  
 $322/0.39=826.1 > 300$  Comb: SLE rara, 17

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 75.1  
Kdef = 0  
Uinst var in x = -0.25  
Uinst var in y = -0.24  
Uinst var = 0.25  
Luce/Uinst,var > limite  
 $322/0.25=1278.4 > 300$  Comb: SLE rara, 8



### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 85.9

Kdef = 0.6

Ufin in x = -0.46

Ufin in y = -0.48

Ufin = 0.48

Luce/Ufin > limite

$322/0.48=676.5 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Variabile A =  $0,700 + 0,180 = 0,880$

Neve =  $0,500 + 0,500 = 1,000$

Vento =  $0,600 + 0,000 = 0,600$

### Superelemento in legno a "Falda 2" 45-(-2468; 7)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 399 composto da:

Asta 241: Trave in legno a falda Falda 2 fili 45-6

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 93.1

Kdef = 0

Uinst tot in x = 0.3

Uinst tot in y = -0.11

Uinst tot = 0.3

Luce/Uinst,tot > limite

$399/0.3=1312 > 300$  Comb: SLE rara, 16

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 93.1

Kdef = 0

Uinst var in x = 0.2

Uinst var in y = -0.04

Uinst var = 0.2

Luce/Uinst,var > limite

$399/0.2=2017.4 > 300$  Comb: SLE rara, 16

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 93.1

Kdef = 0.6

Ufin in x = 0.37

Ufin in y = -0.15

Ufin = 0.37

Luce/Ufin > limite

$399/0.37=1084.4 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Variabile A =  $0,700 + 0,180 = 0,880$

Neve =  $0,500 + 0,500 = 1,000$

### Superelemento in legno a "Falda 2" 51-(-2468; 73)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 475.4 composto da:

Asta 242: Trave in legno a falda Falda 2 fili 51-7





#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 269.4  
Kdef = 0  
Uinst tot in x = 0.14  
Uinst tot in y = -0.45  
Uinst tot = 0.45  
Luce/Uinst,tot > limite  
 $475.4/0.45=1058 > 300$  Comb: SLE rara, 8

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 269.4  
Kdef = 0  
Uinst var in x = 0.09  
Uinst var in y = -0.22  
Uinst var = 0.22  
Luce/Uinst,var > limite  
 $475.4/0.22=2166.6 > 300$  Comb: SLE rara, 8

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 269.4  
Kdef = 0.6  
Ufin in x = 0.17  
Ufin in y = -0.59  
Ufin = 0.59  
Luce/Ufin > limite  
 $475.4/0.59=809.5 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Neve =  $0,500 + 0,500 = 1,000$

### Superelemento in legno a "Falda 2" 52-(-2468; 140)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 475.2 composto da:  
Asta 316: Trave in legno a falda Falda 2 fili 52-9

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 221.8  
Kdef = 0  
Uinst tot in x = -0.33  
Uinst tot in y = -0.81  
Uinst tot = 0.81  
Luce/Uinst,tot > limite  
 $475.2/0.81=588.1 > 300$  Comb: SLE rara, 9

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 221.8  
Kdef = 0  
Uinst var in x = -0.22



Uinst var in y = -0.45  
Uinst var = 0.45  
Luce/Uinst,var > limite  
 $475.2/0.45=1047.3 > 300$  Comb: SLE rara, 9

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 221.8  
Kdef = 0.6  
Ufin in x = -0.39  
Ufin in y = -1.02  
Ufin = 1.02  
Luce/Ufin > limite  
 $475.2/1.02=465.6 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Neve = 0,500 + 0,500 = 1,000  
Vento = 0,600 + 0,000 = 0,600

### Superelemento in legno a "Falda 2" 55-(-2906; -763)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 675.4 composto da:

asta 113: Trave in legno a falda Falda 2 fili 55-1 (L = 13.7)  
asta 114: Trave in legno a falda Falda 2 fili 55-1 (L = 35)  
asta 115: Trave in legno a falda Falda 2 fili 55-1 (L = 12.9)  
asta 116: Trave in legno a falda Falda 2 fili 55-1 (L = 87.9)  
asta 117: Trave in legno a falda Falda 2 fili 55-1 (L = 100.8)  
asta 118: Trave in legno a falda Falda 2 fili 55-1 (L = 73.7)  
asta 119: Trave in legno a falda Falda 2 fili 55-1 (L = 29.2)  
asta 120: Trave in legno a falda Falda 2 fili 55-1 (L = 100.3)  
asta 121: Trave in legno a falda Falda 2 fili 55-1 (L = 100.3)  
asta 122: Trave in legno a falda Falda 2 fili 55-1 (L = 101.1)  
asta 123: Trave in legno a falda Falda 2 fili 55-1 (L = 20.4)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 311.8  
Kdef = 0  
Uinst tot in x = 0.52  
Uinst tot in y = -2.53  
Uinst tot = 2.53  
Luce/Uinst,tot < limite  
 $675.4/2.53=267.4 < 300$  Comb: SLE rara, 9 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 311.8  
Kdef = 0  
Uinst var in x = 0.32  
Uinst var in y = -1.66  
Uinst var = 1.66  
Luce/Uinst,var > limite  
 $675.4/1.66=407.9 > 300$  Comb: SLE rara, 9

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 320.2  
Kdef = 0.6  
Ufin in x = 0.63  
Ufin in y = -3.05  
Ufin = 3.05  
Luce/Ufin > limite  
 $675.4/3.05=221.6 > 200$



Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Neve =  $0,500 + 0,500 = 1,000$

Vento =  $0,600 + 0,000 = 0,600$

## Superelemento in legno a "Falda 3" 21-(-1581; -365)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva  $L = 711.3$  composto da:

asta 104: Trave in legno a falda Falda 3 fili 16-55 ( $L = 25.3$ )

asta 105: Trave in legno a falda Falda 3 fili 16-55 ( $L = 105.8$ )

asta 106: Trave in legno a falda Falda 3 fili 16-55 ( $L = 105.8$ )

asta 107: Trave in legno a falda Falda 3 fili 16-55 ( $L = 80$ )

asta 108: Trave in legno a falda Falda 3 fili 16-55 ( $L = 25.8$ )

asta 109: Trave in legno a falda Falda 3 fili 16-55 ( $L = 106.1$ )

asta 110: Trave in legno a falda Falda 3 fili 16-55 ( $L = 105.7$ )

asta 111: Trave in legno a falda Falda 3 fili 16-55 ( $L = 105.7$ )

asta 112: Trave in legno a falda Falda 3 fili 16-55 ( $L = 51.1$ )

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 367.4

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = 1.17$

$U_{inst\ tot\ in\ y} = -4.01$

$U_{inst\ tot} = 4.01$

Luce/ $U_{inst,tot}$  < limite

$711.3/4.01 = 177.5 < 300$  Comb: SLE rara, 9 - NON SODDISFATTA

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 367.4

$K_{def} = 0$

$U_{inst\ var\ in\ x} = 0.77$

$U_{inst\ var\ in\ y} = -2.64$

$U_{inst\ var} = 2.64$

Luce/ $U_{inst,var}$  < limite

$711.3/2.64 = 269.3 < 300$  Comb: SLE rara, 9 - NON SODDISFATTA

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 378.8

$K_{def} = 0.6$

$U_{fin\ in\ x} = 1.41$

$U_{fin\ in\ y} = -4.82$

$U_{fin} = 4.82$

Luce/ $U_{fin}$  < limite

$711.3/4.82 = 147.4 < 200$  - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Neve =  $0,500 + 0,500 = 1,000$

Vento =  $0,600 + 0,000 = 0,600$

## Superelemento in legno a "Falda 3" 25-(-2385; 595)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva  $L = 100.9$  composto da:

Asta 313: Trave in legno a falda Falda 3 fili 25-26



#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 33.6  
Kdef = 0  
Uinst tot in x = -0.01  
Uinst tot in y = -0.1  
Uinst tot = 0.1  
Luce/Uinst,tot > limite  
 $100.9/0.1=1060.1 > 300$  Comb: SLE rara, 8

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 33.6  
Kdef = 0  
Uinst var in x = -0.01  
Uinst var in y = -0.06  
Uinst var = 0.06  
Luce/Uinst,var > limite  
 $100.9/0.06=1610.2 > 300$  Comb: SLE rara, 8

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 33.6  
Kdef = 0.6  
Ufin in x = -0.02  
Ufin in y = -0.11  
Ufin = 0.11  
Luce/Ufin > limite  
 $100.9/0.11=879.7 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Neve = 0,500 + 0,500 = 1,000

### Superelemento in legno a "Falda 3" 29-(-2318; 595)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 182.3 composto da:  
Asta 312: Trave in legno a falda Falda 3 fili 29-30

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 60.8  
Kdef = 0  
Uinst tot in x = -0.03  
Uinst tot in y = -0.3  
Uinst tot = 0.3  
Luce/Uinst,tot > limite  
 $182.3/0.3=605.8 > 300$  Comb: SLE rara, 8

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 60.8  
Kdef = 0  
Uinst var in x = -0.02



Uinst var in y = -0.2  
Uinst var = 0.2  
Luce/Uinst,var > limite  
182.3/0.2=928.3 > 300 Comb: SLE rara, 8

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 60.8  
Kdef = 0.6  
Ufin in x = -0.04  
Ufin in y = -0.36  
Ufin = 0.36  
Luce/Ufin > limite  
182.3/0.36=501.3 > 200  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Neve = 0,500 + 0,500 = 1,000

### Superelemento in legno a "Falda 3" 31-(-1341; 377)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 503.6 composto da:  
asta 144: Trave in legno a falda Falda 3 fili 31-87 (L = 84)  
asta 145: Trave in legno a falda Falda 3 fili 31-87 (L = 67.6)  
asta 146: Trave in legno a falda Falda 3 fili 31-87 (L = 67.6)  
asta 147: Trave in legno a falda Falda 3 fili 31-87 (L = 67.6)  
asta 148: Trave in legno a falda Falda 3 fili 31-87 (L = 67.6)  
asta 149: Trave in legno a falda Falda 3 fili 31-87 (L = 67.6)  
asta 150: Trave in legno a falda Falda 3 fili 31-87 (L = 81.9)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 232.6  
Kdef = 0  
Uinst tot in x = 0.66  
Uinst tot in y = -1.43  
Uinst tot = 1.43  
Luce/Uinst,tot > limite  
503.6/1.43=353.1 > 300 Comb: SLE rara, 17

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 230.4  
Kdef = 0  
Uinst var in x = 0.44  
Uinst var in y = -0.94  
Uinst var = 0.94  
Luce/Uinst,var > limite  
503.6/0.94=534.7 > 300 Comb: SLE rara, 17

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 239.9  
Kdef = 0.6  
Ufin in x = 0.81  
Ufin in y = -1.74  
Ufin = 1.74  
Luce/Ufin > limite  
503.6/1.74=289.6 > 200  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Variabile A = 0,700 + 0,180 = 0,880  
Neve = 0,500 + 0,500 = 1,000



Vento = 0,600 + 0,000 = 0,600

## Superelemento in legno a "Falda 3" 34-(-2250; 595)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 263.8 composto da:

Asta 311: Trave in legno a falda Falda 3 fili 34-35

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 96.7

Kdef = 0

Uinst tot in x = -0.04

Uinst tot in y = -0.79

Uinst tot = 0.79

Luce/Uinst,tot > limite

263.8/0.79=335.9 > 300 Comb: SLE rara, 8

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 96.7

Kdef = 0

Uinst var in x = -0.03

Uinst var in y = -0.51

Uinst var = 0.51

Luce/Uinst,var > limite

263.8/0.51=517.4 > 300 Comb: SLE rara, 8

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 96.7

Kdef = 0.6

Ufin in x = -0.05

Ufin in y = -0.95

Ufin = 0.95

Luce/Ufin > limite

263.8/0.95=277.5 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

## Superelemento in legno a "Falda 3" 40-(-2183; 595)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 345.4 composto da:

asta 310: Trave in legno a falda Falda 3 fili 40-41 (L = 101.5)

asta 381: Trave in legno a falda Falda 3 fili 41-42 (L = 243.9)

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 142.2



Kdef = 0  
Uinst tot in x = -0.09  
Uinst tot in y = -2.19  
Uinst tot = 2.19  
Luce/Uinst,tot < limite  
345.4/2.19=157.9 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 142.2  
Kdef = 0  
Uinst var in x = -0.06  
Uinst var in y = -1.43  
Uinst var = 1.43  
Luce/Uinst,var < limite  
345.4/1.43=241.2 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 145.6  
Kdef = 0.6  
Ufin in x = -0.11  
Ufin in y = -2.69  
Ufin = 2.69  
Luce/Ufin < limite  
345.4/2.69=128.6 < 200 - NON SODDISFATTA  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Neve = 0,500 + 0,500 = 1,000  
Vento = 0,600 + 0,000 = 0,600

### Superelemento in legno a "Falda 3" 46-(-2115; 595)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 426.8 composto da:  
asta 308: Trave in legno a falda Falda 3 fili 46-47 (L = 182.9)  
asta 379: Trave in legno a falda Falda 3 fili 47-48 (L = 243.9)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 199.2  
Kdef = 0  
Uinst tot in x = -0.08  
Uinst tot in y = -3.64  
Uinst tot = 3.64  
Luce/Uinst,tot < limite  
426.8/3.64=117.2 < 300 Comb: SLE rara, 9 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 199.2  
Kdef = 0  
Uinst var in x = -0.05  
Uinst var in y = -2.38  
Uinst var = 2.38  
Luce/Uinst,var < limite  
426.8/2.38=179 < 300 Comb: SLE rara, 9 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 205.3  
Kdef = 0.6  
Ufin in x = -0.1  
Ufin in y = -4.44  
Ufin = 4.44



Luce/Ufin < limite

$426.8/4.44=96.2 < 200$  - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Neve =  $0,500 + 0,500 = 1,000$

Vento =  $0,600 + 0,000 = 0,600$

## Superelemento in legno a "Falda 3" 52-(-2048; 595)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 508.1 composto da:

asta 309: Trave in legno a falda Falda 3 fili 52-53 (L = 264.2)

asta 380: Trave in legno a falda Falda 3 fili 53-54 (L = 243.9)

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 264.3

Kdef = 0

Uinst tot in x = 0.08

Uinst tot in y = -4.7

Uinst tot = 4.7

Luce/Uinst,tot < limite

$508.1/4.7=108.2 < 300$  Comb: SLE rara, 9 - NON SODDISFATTA

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 264.3

Kdef = 0

Uinst var in x = 0.05

Uinst var in y = -3.07

Uinst var = 3.07

Luce/Uinst,var < limite

$508.1/3.07=165.4 < 300$  Comb: SLE rara, 9 - NON SODDISFATTA

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 273.1

Kdef = 0.6

Ufin in x = 0.1

Ufin in y = -5.68

Ufin = 5.68

Luce/Ufin < limite

$508.1/5.68=89.4 < 200$  - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Neve =  $0,500 + 0,500 = 1,000$

Vento =  $0,600 + 0,000 = 0,600$

## Superelemento in legno a "Falda 3" 58-(-1980; 595)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 547.5 composto da:

asta 302: Trave in legno a falda Falda 3 fili 58-59 (L = 303.6)

asta 377: Trave in legno a falda Falda 3 fili 59-60 (L = 243.9)

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016





$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 283.3

Kdef = 0

Uinst tot in x = 0.05

Uinst tot in y = -4.78

Uinst tot = 4.78

Luce/Uinst,tot < limite

547.5/4.78=114.4 < 300 Comb: SLE rara, 9 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 283.3

Kdef = 0

Uinst var in x = 0.04

Uinst var in y = -3.11

Uinst var = 3.11

Luce/Uinst,var < limite

547.5/3.11=176 < 300 Comb: SLE rara, 9 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 283.3

Kdef = 0.6

Ufin in x = 0.06

Ufin in y = -5.79

Ufin = 5.79

Luce/Ufin < limite

547.5/5.79=94.6 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

### Superelemento in legno a "Falda 3" 63-(-1113; -333)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 708.1 composto da:

asta 216: Trave in legno a falda Falda 3 fili 60-115 (L = 79.8)

asta 217: Trave in legno a falda Falda 3 fili 60-115 (L = 106.5)

asta 218: Trave in legno a falda Falda 3 fili 60-115 (L = 106.5)

asta 219: Trave in legno a falda Falda 3 fili 60-115 (L = 22.6)

asta 220: Trave in legno a falda Falda 3 fili 60-115 (L = 83.9)

asta 221: Trave in legno a falda Falda 3 fili 60-115 (L = 106.5)

asta 222: Trave in legno a falda Falda 3 fili 60-115 (L = 106.5)

asta 223: Trave in legno a falda Falda 3 fili 60-115 (L = 95.6)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 332.2

Kdef = 0

Uinst tot in x = 0.76

Uinst tot in y = -2.53

Uinst tot = 2.53

Luce/Uinst,tot < limite

708.1/2.53=280.2 < 300 Comb: SLE rara, 8 - NON SODDISFATTA



#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 329.4

Kdef = 0

Uinst var in x = 0.48

Uinst var in y = -1.6

Uinst var = 1.6

Luce/Uinst,var > limite

$708.1/1.6=441.9 > 300$  Comb: SLE rara, 8

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 342.7

Kdef = 0.6

Ufin in x = 0.93

Ufin in y = -3.08

Ufin = 3.08

Luce/Ufin > limite

$708.1/3.08=229.9 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Neve =  $0,500 + 0,500 = 1,000$

### Superelemento in legno a "Falda 3" 67-69

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 485.8 composto da:

asta 303: Trave in legno a falda Falda 3 fili 67-68 (L = 303.6)

asta 378: Trave in legno a falda Falda 3 fili 68-69 (L = 182.2)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 273.2

Kdef = 0

Uinst tot in x = 0.05

Uinst tot in y = -3.87

Uinst tot = 3.87

Luce/Uinst,tot < limite

$485.8/3.87=125.4 < 300$  Comb: SLE rara, 9 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 273.2

Kdef = 0

Uinst var in x = 0.04

Uinst var in y = -2.5

Uinst var = 2.5

Luce/Uinst,var < limite

$485.8/2.5=194.3 < 300$  Comb: SLE rara, 9 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 273.2

Kdef = 0.6

Ufin in x = 0.06

Ufin in y = -4.7

Ufin = 4.7

Luce/Ufin < limite

$485.8/4.7=103.4 < 200$  - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Neve =  $0,500 + 0,500 = 1,000$

Vento =  $0,600 + 0,000 = 0,600$



## Superelemento in legno a "Falda 3" 76-78

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva  $L = 403.4$  composto da:

asta 304: Trave in legno a falda Falda 3 fili 76-77 ( $L = 303.6$ )

asta 376: Trave in legno a falda Falda 3 fili 77-78 ( $L = 99.8$ )

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 253

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = 0.04$

$U_{inst\ tot\ in\ y} = -2.44$

$U_{inst\ tot} = 2.44$

$Luce/U_{inst,tot} < \text{limite}$

$403.4/2.44 = 165.3 < 300$  Comb: SLE rara, 9 - NON SODDISFATTA

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 253

$K_{def} = 0$

$U_{inst\ var\ in\ x} = 0.03$

$U_{inst\ var\ in\ y} = -1.56$

$U_{inst\ var} = 1.56$

$Luce/U_{inst,var} < \text{limite}$

$403.4/1.56 = 257.9 < 300$  Comb: SLE rara, 9 - NON SODDISFATTA

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 253

$K_{def} = 0.6$

$U_{fin\ in\ x} = 0.05$

$U_{fin\ in\ y} = -2.97$

$U_{fin} = 2.97$

$Luce/U_{fin} < \text{limite}$

$403.4/2.97 = 136 < 200$  - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Neve =  $0,500 + 0,500 = 1,000$

Vento =  $0,600 + 0,000 = 0,600$

## Superelemento in legno a "Falda 3" 83-84

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva  $L = 321.1$  composto da:

Asta 305: Trave in legno a falda Falda 3 fili 83-84

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 214



Kdef = 0  
Uinst tot in x = 0.01  
Uinst tot in y = -0.85  
Uinst tot = 0.85  
Luce/Uinst,tot > limite  
 $321.1/0.85=377.1 > 300$  Comb: SLE rara, 8

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 214  
Kdef = 0  
Uinst var in x = 0.01  
Uinst var in y = -0.53  
Uinst var = 0.53  
Luce/Uinst,var > limite  
 $321.1/0.53=606.6 > 300$  Comb: SLE rara, 8

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 214  
Kdef = 0.6  
Ufin in x = 0.01  
Ufin in y = -1.04  
Ufin = 1.04  
Luce/Ufin > limite  
 $321.1/1.04=307.3 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Neve = 0,500 + 0,500 = 1,000

## Superelemento in legno a "Falda 3" 91-92

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 238.7 composto da:  
Asta 306: Trave in legno a falda Falda 3 fili 91-92

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 175  
Kdef = 0  
Uinst tot in x = -0.02  
Uinst tot in y = -0.28  
Uinst tot = 0.28  
Luce/Uinst,tot > limite  
 $238.7/0.28=860.5 > 300$  Comb: SLE rara, 8

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 175  
Kdef = 0  
Uinst var in x = -0.01  
Uinst var in y = -0.17  
Uinst var = 0.17  
Luce/Uinst,var > limite  
 $238.7/0.17=1375.2 > 300$  Comb: SLE rara, 8

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 175  
Kdef = 0.6  
Ufin in x = -0.02  
Ufin in y = -0.34  
Ufin = 0.34  
Luce/Ufin > limite  
 $238.7/0.34=702.7 > 200$



Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Neve =  $0,500 + 0,500 = 1,000$

## Superelemento in legno a "Falda 3" 99-100

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva  $L = 156.3$  composto da:

Asta 307: Trave in legno a falda Falda 3 fili 99-100

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 41.7

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = -0.01$

$U_{inst\ tot\ in\ y} = 0.1$

$U_{inst\ tot} = 0.1$

$Luce/U_{inst,tot} > \text{limite}$

$156.3/0.1 = 1495.6 > 300$  Comb: SLE rara, 17

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 41.7

$K_{def} = 0$

$U_{inst\ var\ in\ x} = -0.01$

$U_{inst\ var\ in\ y} = 0.07$

$U_{inst\ var} = 0.07$

$Luce/U_{inst,var} > \text{limite}$

$156.3/0.07 = 2262.3 > 300$  Comb: SLE rara, 17

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 41.7

$K_{def} = 0.6$

$U_{fin\ in\ x} = -0.01$

$U_{fin\ in\ y} = 0.13$

$U_{fin} = 0.13$

$Luce/U_{fin} > \text{limite}$

$156.3/0.13 = 1238.6 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Variabile A =  $0,700 + 0,180 = 0,880$

Neve =  $0,500 + 0,500 = 1,000$

Vento =  $0,600 + 0,000 = 0,600$

## Superelemento in legno a "Falda 3" 106-107

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva  $L = 74$  composto da:

Asta 301: Trave in legno a falda Falda 3 fili 106-107

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno



Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 24.7

Kdef = 0

Uinst tot in x = 0

Uinst tot in y = 0.04

Uinst tot = 0.04

Luce/Uinst,tot > limite

74/0.04=1801.1 > 300 Comb: SLE rara, 17

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 24.7

Kdef = 0

Uinst var in x = 0

Uinst var in y = 0.03

Uinst var = 0.03

Luce/Uinst,var > limite

74/0.03=2857.3 > 300 Comb: SLE rara, 17

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 24.7

Kdef = 0.6

Ufin in x = 0

Ufin in y = 0.05

Ufin = 0.05

Luce/Ufin > limite

74/0.05=1481.7 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

### Superelemento in legno a "Falda 3"- "Falda 2" 46-(-2468; 213)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 398.7 composto da:

Asta 317: Trave in legno a falda 2 fili 46-10

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 146.2

Kdef = 0

Uinst tot in x = -0.5

Uinst tot in y = -0.56

Uinst tot = 0.56

Luce/Uinst,tot > limite

398.7/0.56=710.2 > 300 Comb: SLE rara, 17

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 132.9

Kdef = 0

Uinst var in x = -0.33

Uinst var in y = -0.34

Uinst var = 0.34

Luce/Uinst,var > limite

398.7/0.34=1180 > 300 Comb: SLE rara, 17

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 146.2



Kdef = 0.6  
Ufin in x = -0.61  
Ufin in y = -0.7  
Ufin = 0.7  
Luce/Ufin > limite  
 $398.7/0.7=571.8 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Variabile A =  $0,700 + 0,180 = 0,880$   
Neve =  $0,500 + 0,500 = 1,000$   
Vento =  $0,600 + 0,000 = 0,600$

## Superelemento in legno a "Falda 3"- "Falda 2" 55-(-2468; 105)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 512.3 composto da:

Asta 315: Trave in legno a falda Falda 2 fili 55-8

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 256.2

Kdef = 0

Uinst tot in x = 0.07

Uinst tot in y = -0.92

Uinst tot = 0.92

Luce/Uinst,tot > limite

$512.3/0.92=557.6 > 300$  Comb: SLE rara, 8

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 256.2

Kdef = 0

Uinst var in x = 0.05

Uinst var in y = -0.51

Uinst var = 0.51

Luce/Uinst,var > limite

$512.3/0.51=1002.7 > 300$  Comb: SLE rara, 8

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 256.2

Kdef = 0.6

Ufin in x = 0.08

Ufin in y = -1.16

Ufin = 1.16

Luce/Ufin > limite

$512.3/1.16=440.3 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Neve =  $0,500 + 0,500 = 1,000$

## Superelemento in legno a "Falda 4" 70-71

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 72.2 composto da:

asta 299: Trave in legno a falda Falda 4 fili 70-71 (L = 57.8)

asta 300: Trave in legno a falda Falda 4 fili 70-71 (L = 14.4)



#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 21.2  
Kdef = 0  
Uinst tot in x = 0  
Uinst tot in y = -0.05  
Uinst tot = 0.05  
Luce/Uinst,tot > limite  
 $72.2/0.05=1405.4 > 300$  Comb: SLE rara, 16

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 21.2  
Kdef = 0  
Uinst var in x = 0  
Uinst var in y = -0.03  
Uinst var = 0.03  
Luce/Uinst,var > limite  
 $72.2/0.03=2156.2 > 300$  Comb: SLE rara, 16

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 74.2  
Kdef = 0.6  
Ufin in x = -0.01  
Ufin in y = -0.07  
Ufin = 0.07  
Luce/Ufin > limite  
 $72.2/0.07=1060.9 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Neve = 0,500 + 0,500 = 1,000

### Superelemento in legno a "Falda 4" 79-80

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 149.3 composto da:  
asta 297: Trave in legno a falda Falda 4 fili 79-80 (L = 134.8)  
asta 298: Trave in legno a falda Falda 4 fili 79-80 (L = 14.4)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 35.9  
Kdef = 0  
Uinst tot in x = 0.03  
Uinst tot in y = -0.11  
Uinst tot = 0.11  
Luce/Uinst,tot > limite  
 $149.3/0.11=1322.7 > 300$  Comb: SLE rara, 16

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 35.9  
Kdef = 0





Uinst var in x = 0.02  
Uinst var in y = -0.07  
Uinst var = 0.07  
Luce/Uinst,var > limite  
149.3/0.07=2034.2 > 300 Comb: SLE rara, 16

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 153.7  
Kdef = 0.6  
Ufin in x = 0.04  
Ufin in y = -0.2  
Ufin = 0.2  
Luce/Ufin > limite  
149.3/0.2=753.4 > 200  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Neve = 0,500 + 0,500 = 1,000

### Superelemento in legno a "Falda 4" 85-86

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 226.3 composto da:  
asta 295: Trave in legno a falda Falda 4 fili 85-86 (L = 211.8)  
asta 296: Trave in legno a falda Falda 4 fili 85-86 (L = 14.4)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 70.6  
Kdef = 0  
Uinst tot in x = 0.04  
Uinst tot in y = -0.49  
Uinst tot = 0.49  
Luce/Uinst,tot > limite  
226.3/0.49=463.2 > 300 Comb: SLE rara, 8

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 70.6  
Kdef = 0  
Uinst var in x = 0.02  
Uinst var in y = -0.32  
Uinst var = 0.32  
Luce/Uinst,var > limite  
226.3/0.32=711 > 300 Comb: SLE rara, 8

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 70.6  
Kdef = 0.6  
Ufin in x = 0.05  
Ufin in y = -0.59  
Ufin = 0.59  
Luce/Ufin > limite  
226.3/0.59=383 > 200  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Neve = 0,500 + 0,500 = 1,000

### Superelemento in legno a "Falda 4" 93-94

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



## Dati generali

Superelemento di lunghezza complessiva  $L = 303.3$  composto da:

asta 293: Trave in legno a falda Falda 4 fili 93-94 ( $L = 288.8$ )

asta 294: Trave in legno a falda Falda 4 fili 93-94 ( $L = 14.4$ )

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 105.9

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = -0.02$

$U_{inst\ tot\ in\ y} = -1.55$

$U_{inst\ tot} = 1.55$

Luce/ $U_{inst,tot}$  < limite

$303.3/1.55=195.5 < 300$  Comb: SLE rara, 8 - NON SODDISFATTA

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 105.9

$K_{def} = 0$

$U_{inst\ var\ in\ x} = -0.01$

$U_{inst\ var\ in\ y} = -1.01$

$U_{inst\ var} = 1.01$

Luce/ $U_{inst,var}$  < limite

$303.3/1.01=299.4 < 300$  Comb: SLE rara, 8 - NON SODDISFATTA

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 105.9

$K_{def} = 0.6$

$U_{fin\ in\ x} = -0.03$

$U_{fin\ in\ y} = -1.87$

$U_{fin} = 1.87$

Luce/ $U_{fin}$  < limite

$303.3/1.87=161.8 < 200$  - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Neve =  $0,500 + 0,500 = 1,000$

## Superelemento in legno a "Falda 4" 95-198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

## Dati generali

Superelemento di lunghezza complessiva  $L = 893.5$  composto da:

asta 151: Trave in legno a falda Falda 4 fili 95-198 ( $L = 43.4$ )

asta 152: Trave in legno a falda Falda 4 fili 95-198 ( $L = 67.6$ )

asta 153: Trave in legno a falda Falda 4 fili 95-198 ( $L = 67.6$ )

asta 154: Trave in legno a falda Falda 4 fili 95-198 ( $L = 67.6$ )

asta 155: Trave in legno a falda Falda 4 fili 95-198 ( $L = 67.6$ )

asta 156: Trave in legno a falda Falda 4 fili 95-198 ( $L = 67.6$ )

asta 157: Trave in legno a falda Falda 4 fili 95-198 ( $L = 67.6$ )

asta 158: Trave in legno a falda Falda 4 fili 95-198 ( $L = 67.6$ )

asta 159: Trave in legno a falda Falda 4 fili 95-198 ( $L = 67.6$ )

asta 160: Trave in legno a falda Falda 4 fili 95-198 ( $L = 67.6$ )

asta 161: Trave in legno a falda Falda 4 fili 95-198 ( $L = 67.6$ )

asta 162: Trave in legno a falda Falda 4 fili 95-198 ( $L = 67.6$ )

asta 163: Trave in legno a falda Falda 4 fili 95-198 ( $L = 67.6$ )

asta 164: Trave in legno a falda Falda 4 fili 95-198 ( $L = 39.5$ )

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300



Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 444.2  
Kdef = 0  
Uinst tot in x = 2.89  
Uinst tot in y = -7.18  
Uinst tot = 7.18  
Luce/Uinst,tot < limite  
 $893.5/7.18=124.5 < 300$  Comb: SLE rara, 17 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 444.2  
Kdef = 0  
Uinst var in x = 1.92  
Uinst var in y = -4.78  
Uinst var = 4.78  
Luce/Uinst,var < limite  
 $893.5/4.78=187 < 300$  Comb: SLE rara, 17 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 463.6  
Kdef = 0.6  
Ufin in x = 3.47  
Ufin in y = -8.63  
Ufin = 8.63  
Luce/Ufin < limite  
 $893.5/8.63=103.6 < 200$  - NON SODDISFATTA  
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Variabile A =  $0,700 + 0,180 = 0,880$   
Neve =  $0,500 + 0,500 = 1,000$   
Vento =  $0,600 + 0,000 = 0,600$

### Superelemento in legno a "Falda 4" 101-103

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 380.3 composto da:  
asta 292: Trave in legno a falda Falda 4 fili 101-102 (L = 49.4)  
asta 374: Trave in legno a falda Falda 4 fili 102-103 (L = 316.4)  
asta 375: Trave in legno a falda Falda 4 fili 102-103 (L = 14.4)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 123.3  
Kdef = 0  
Uinst tot in x = -0.02  
Uinst tot in y = -3.8  
Uinst tot = 3.8  
Luce/Uinst,tot < limite  
 $380.3/3.8=100.1 < 300$  Comb: SLE rara, 8 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 123.3  
Kdef = 0  
Uinst var in x = -0.01  
Uinst var in y = -2.5  
Uinst var = 2.5  
Luce/Uinst,var < limite



380.3/2.5=152 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 135.5

Kdef = 0.6

Ufin in x = -0.03

Ufin in y = -4.64

Ufin = 4.64

Luce/Ufin < limite

380.3/4.64=81.9 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

## Superelemento in legno a "Falda 4" 108-110

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 457.3 composto da:

asta 291: Trave in legno a falda Falda 4 fili 108-109 (L = 126.4)

asta 372: Trave in legno a falda Falda 4 fili 109-110 (L = 316.4)

asta 373: Trave in legno a falda Falda 4 fili 109-110 (L = 14.4)

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 168.6

Kdef = 0

Uinst tot in x = -0.05

Uinst tot in y = -7.56

Uinst tot = 7.56

Luce/Uinst,tot < limite

457.3/7.56=60.5 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 168.6

Kdef = 0

Uinst var in x = -0.03

Uinst var in y = -4.99

Uinst var = 4.99

Luce/Uinst,var < limite

457.3/4.99=91.7 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 172.8

Kdef = 0.6

Ufin in x = -0.06

Ufin in y = -9.21

Ufin = 9.21

Luce/Ufin < limite

457.3/9.21=49.6 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

## Superelemento in legno a "Falda 4" 116-118

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 534.3 composto da:



asta 290: Trave in legno a falda Falda 4 fili 116-117 (L = 203.5)  
asta 370: Trave in legno a falda Falda 4 fili 117-118 (L = 316.4)  
asta 371: Trave in legno a falda Falda 4 fili 117-118 (L = 14.4)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 214

Kdef = 0

Uinst tot in x = 0.11

Uinst tot in y = -11.84

Uinst tot = 11.84

Luce/Uinst,tot < limite

534.3/11.84=45.1 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 214

Kdef = 0

Uinst var in x = 0.07

Uinst var in y = -7.81

Uinst var = 7.81

Luce/Uinst,var < limite

534.3/7.81=68.4 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 220.8

Kdef = 0.6

Ufin in x = 0.13

Ufin in y = -14.35

Ufin = 14.35

Luce/Ufin < limite

534.3/14.35=37.2 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

## Superelemento in legno a "Falda 4" 123-125

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 627.5 composto da:

asta 278: Trave in legno a falda Falda 4 fili 123-124 (L = 296.6)

asta 362: Trave in legno a falda Falda 4 fili 124-125 (L = 316.4)

asta 363: Trave in legno a falda Falda 4 fili 124-125 (L = 14.4)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 296.6

Kdef = 0

Uinst tot in x = 0.12

Uinst tot in y = -16.93

Uinst tot = 16.93

Luce/Uinst,tot < limite

627.5/16.93=37.1 < 300 Comb: SLE rara, 8 - NON SODDISFATTA



#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 296.6

Kdef = 0

Uinst var in x = 0.09

Uinst var in y = -11.17

Uinst var = 11.17

Luce/Uinst,var < limite

627.5/11.17=56.2 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 306.4

Kdef = 0.6

Ufin in x = 0.14

Ufin in y = -20.39

Ufin = 20.39

Luce/Ufin < limite

627.5/20.39=30.8 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

### Superelemento in legno a "Falda 4" 126-61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 834.6 composto da:

asta 93: Trave in legno a falda Falda 4 fili 126-61 (L = 123.8)

asta 94: Trave in legno a falda Falda 4 fili 126-61 (L = 102.4)

asta 95: Trave in legno a falda Falda 4 fili 126-61 (L = 102.4)

asta 96: Trave in legno a falda Falda 4 fili 126-61 (L = 65.7)

asta 97: Trave in legno a falda Falda 4 fili 126-61 (L = 36.7)

asta 98: Trave in legno a falda Falda 4 fili 126-61 (L = 102.4)

asta 99: Trave in legno a falda Falda 4 fili 126-61 (L = 102.4)

asta 100: Trave in legno a falda Falda 4 fili 126-61 (L = 102.5)

asta 101: Trave in legno a falda Falda 4 fili 126-61 (L = 66.4)

asta 102: Trave in legno a falda Falda 4 fili 126-61 (L = 18.9)

asta 103: Trave in legno a falda Falda 4 fili 126-61 (L = 10.8)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 357.2

Kdef = 0

Uinst tot in x = -3.16

Uinst tot in y = -10.93

Uinst tot = 10.93

Luce/Uinst,tot < limite

834.6/10.93=76.4 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 357.2

Kdef = 0

Uinst var in x = -2.08

Uinst var in y = -7.19

Uinst var = 7.19

Luce/Uinst,var < limite

834.6/7.19=116.2 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 368.1

Kdef = 0.6

Ufin in x = -3.8

Ufin in y = -13.18



Ufin = 13.18  
Luce/Ufin < limite  
834.6/13.18=63.3 < 200 - NON SODDISFATTA  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Neve = 0,500 + 0,500 = 1,000

## Superelemento in legno a "Falda 4" 134-136

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 627.5 composto da:  
asta 277: Trave in legno a falda Falda 4 fili 134-135 (L = 296.6)  
asta 360: Trave in legno a falda Falda 4 fili 135-136 (L = 316.4)  
asta 361: Trave in legno a falda Falda 4 fili 135-136 (L = 14.4)

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 307.1  
Kdef = 0  
Uinst tot in x = -0.06  
Uinst tot in y = -18.1  
Uinst tot = 18.1  
Luce/Uinst,tot < limite  
627.5/18.1=34.7 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 307.1  
Kdef = 0  
Uinst var in x = -0.04  
Uinst var in y = -11.95  
Uinst var = 11.95  
Luce/Uinst,var < limite  
627.5/11.95=52.5 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 317  
Kdef = 0.6  
Ufin in x = -0.08  
Ufin in y = -21.81  
Ufin = 21.81  
Luce/Ufin < limite  
627.5/21.81=28.8 < 200 - NON SODDISFATTA  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Neve = 0,500 + 0,500 = 1,000

## Superelemento in legno a "Falda 4" 141-143

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 627.5 composto da:  
asta 276: Trave in legno a falda Falda 4 fili 141-142 (L = 296.6)  
asta 358: Trave in legno a falda Falda 4 fili 142-143 (L = 316.4)  
asta 359: Trave in legno a falda Falda 4 fili 142-143 (L = 14.4)

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67



Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 307.1  
 $K_{def} = 0$   
 $U_{inst\ tot\ in\ x} = 0.05$   
 $U_{inst\ tot\ in\ y} = -18.87$   
 $U_{inst\ tot} = 18.87$   
 $Luce/U_{inst,tot} < \text{limite}$   
 $627.5/18.87 = 33.3 < 300$  Comb: SLE rara, 8 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 307.1  
 $K_{def} = 0$   
 $U_{inst\ var\ in\ x} = 0.03$   
 $U_{inst\ var\ in\ y} = -12.46$   
 $U_{inst\ var} = 12.46$   
 $Luce/U_{inst,var} < \text{limite}$   
 $627.5/12.46 = 50.4 < 300$  Comb: SLE rara, 8 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 316.9  
 $K_{def} = 0.6$   
 $U_{fin\ in\ x} = 0.07$   
 $U_{fin\ in\ y} = -22.73$   
 $U_{fin} = 22.73$   
 $Luce/U_{fin} < \text{limite}$   
 $627.5/22.73 = 27.6 < 200$  - NON SODDISFATTA  
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Neve =  $0,500 + 0,500 = 1,000$

## Superelemento in legno a "Falda 4" 150-152

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva  $L = 627.5$  composto da:  
asta 275: Trave in legno a falda Falda 4 fili 150-151 ( $L = 296.6$ )  
asta 356: Trave in legno a falda Falda 4 fili 151-152 ( $L = 316.4$ )  
asta 357: Trave in legno a falda Falda 4 fili 151-152 ( $L = 14.4$ )

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 307.1  
 $K_{def} = 0$   
 $U_{inst\ tot\ in\ x} = 0.03$   
 $U_{inst\ tot\ in\ y} = -19.05$   
 $U_{inst\ tot} = 19.05$   
 $Luce/U_{inst,tot} < \text{limite}$   
 $627.5/19.05 = 32.9 < 300$  Comb: SLE rara, 8 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 307.1  
 $K_{def} = 0$   
 $U_{inst\ var\ in\ x} = 0.02$   
 $U_{inst\ var\ in\ y} = -12.58$   
 $U_{inst\ var} = 12.58$





Luce/Uinst,var < limite  
 $627.5/12.58=49.9 < 300$  Comb: SLE rara, 8 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 316.9  
Kdef = 0.6  
Ufin in x = 0.04  
Ufin in y = -22.96  
Ufin = 22.96  
Luce/Ufin < limite  
 $627.5/22.96=27.3 < 200$  - NON SODDISFATTA  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Neve = 0,500 + 0,500 = 1,000

### Superelemento in legno a "Falda 4" 155-157

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 627.5 composto da:  
asta 274: Trave in legno a falda Falda 4 fili 155-156 (L = 296.6)  
asta 354: Trave in legno a falda Falda 4 fili 156-157 (L = 316.4)  
asta 355: Trave in legno a falda Falda 4 fili 156-157 (L = 14.4)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 307.1  
Kdef = 0  
Uinst tot in x = 0.03  
Uinst tot in y = -18.71  
Uinst tot = 18.71  
Luce/Uinst,tot < limite  
 $627.5/18.71=33.5 < 300$  Comb: SLE rara, 8 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 307.1  
Kdef = 0  
Uinst var in x = 0.02  
Uinst var in y = -12.35  
Uinst var = 12.35  
Luce/Uinst,var < limite  
 $627.5/12.35=50.8 < 300$  Comb: SLE rara, 8 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 316.9  
Kdef = 0.6  
Ufin in x = 0.03  
Ufin in y = -22.54  
Ufin = 22.54  
Luce/Ufin < limite  
 $627.5/22.54=27.8 < 200$  - NON SODDISFATTA  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Neve = 0,500 + 0,500 = 1,000

### Superelemento in legno a "Falda 4" 163-165

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



## Dati generali

Superelemento di lunghezza complessiva  $L = 627.5$  composto da:  
asta 273: Trave in legno a falda Falda 4 fili 163-164 ( $L = 296.6$ )  
asta 352: Trave in legno a falda Falda 4 fili 164-165 ( $L = 316.4$ )  
asta 353: Trave in legno a falda Falda 4 fili 164-165 ( $L = 14.4$ )

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 307.1

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = -0.11$

$U_{inst\ tot\ in\ y} = -17.82$

$U_{inst\ tot} = 17.82$

$Luce/U_{inst,tot} < \text{limite}$

$627.5/17.82 = 35.2 < 300$  Comb: SLE rara, 8 - NON SODDISFATTA

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 307.1

$K_{def} = 0$

$U_{inst\ var\ in\ x} = -0.07$

$U_{inst\ var\ in\ y} = -11.75$

$U_{inst\ var} = 11.75$

$Luce/U_{inst,var} < \text{limite}$

$627.5/11.75 = 53.4 < 300$  Comb: SLE rara, 8 - NON SODDISFATTA

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 316.9

$K_{def} = 0.6$

$U_{fin\ in\ x} = -0.13$

$U_{fin\ in\ y} = -21.47$

$U_{fin} = 21.47$

$Luce/U_{fin} < \text{limite}$

$627.5/21.47 = 29.2 < 200$  - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Neve =  $0,500 + 0,500 = 1,000$

## Superelemento in legno a "Falda 4" 169-233

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva  $L = 834.6$  composto da:

asta 82: Trave in legno a falda Falda 4 fili 169-233 ( $L = 129.7$ )

asta 83: Trave in legno a falda Falda 4 fili 169-233 ( $L = 102.4$ )

asta 84: Trave in legno a falda Falda 4 fili 169-233 ( $L = 102.4$ )

asta 85: Trave in legno a falda Falda 4 fili 169-233 ( $L = 59.9$ )

asta 86: Trave in legno a falda Falda 4 fili 169-233 ( $L = 42.6$ )

asta 87: Trave in legno a falda Falda 4 fili 169-233 ( $L = 102.4$ )

asta 88: Trave in legno a falda Falda 4 fili 169-233 ( $L = 102.5$ )

asta 89: Trave in legno a falda Falda 4 fili 169-233 ( $L = 102.5$ )

asta 90: Trave in legno a falda Falda 4 fili 169-233 ( $L = 60.5$ )

asta 91: Trave in legno a falda Falda 4 fili 169-233 ( $L = 18.9$ )

asta 92: Trave in legno a falda Falda 4 fili 169-233 ( $L = 10.9$ )

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno



Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 358.5

Kdef = 0

Uinst tot in x = 3

Uinst tot in y = -10.22

Uinst tot = 10.22

Luce/Uinst,tot < limite

834.6/10.22=81.7 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 360.5

Kdef = 0

Uinst var in x = 1.98

Uinst var in y = -6.7

Uinst var = 6.7

Luce/Uinst,var < limite

834.6/6.7=124.6 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 369.7

Kdef = 0.6

Ufin in x = 3.62

Ufin in y = -12.33

Ufin = 12.33

Luce/Ufin < limite

834.6/12.33=67.7 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

## Superelemento in legno a "Falda 4" 172-174

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 627.5 composto da:

asta 272: Trave in legno a falda Falda 4 fili 172-173 (L = 296.6)

asta 350: Trave in legno a falda Falda 4 fili 173-174 (L = 316.4)

asta 351: Trave in legno a falda Falda 4 fili 173-174 (L = 14.4)

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 307.1

Kdef = 0

Uinst tot in x = -0.16

Uinst tot in y = -16.52

Uinst tot = 16.52

Luce/Uinst,tot < limite

627.5/16.52=38 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 307.1

Kdef = 0

Uinst var in x = -0.12

Uinst var in y = -10.88

Uinst var = 10.88

Luce/Uinst,var < limite

627.5/10.88=57.7 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 316.9



Kdef = 0.6  
Ufin in x = -0.19  
Ufin in y = -19.91  
Ufin = 19.91  
Luce/Ufin < limite  
627.5/19.91=31.5 < 200 - NON SODDISFATTA  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Neve = 0,500 + 0,500 = 1,000

## Superelemento in legno a "Falda 4" 181-183

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 529.9 composto da:  
asta 289: Trave in legno a falda Falda 4 fili 181-182 (L = 199)  
asta 368: Trave in legno a falda Falda 4 fili 182-183 (L = 316.4)  
asta 369: Trave in legno a falda Falda 4 fili 182-183 (L = 14.4)

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 220.1  
Kdef = 0  
Uinst tot in x = -0.1  
Uinst tot in y = -11.41  
Uinst tot = 11.41  
Luce/Uinst,tot < limite  
529.9/11.41=46.4 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 220.1  
Kdef = 0  
Uinst var in x = -0.04  
Uinst var in y = -7.52  
Uinst var = 7.52  
Luce/Uinst,var < limite  
529.9/7.52=70.4 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 226.8  
Kdef = 0.6  
Ufin in x = -0.14  
Ufin in y = -13.83  
Ufin = 13.83  
Luce/Ufin < limite  
529.9/13.83=38.3 < 200 - NON SODDISFATTA  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Neve = 0,500 + 0,500 = 1,000

## Superelemento in legno a "Falda 4" 188-190

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 452.9 composto da:  
asta 288: Trave in legno a falda Falda 4 fili 188-189 (L = 122)  
asta 366: Trave in legno a falda Falda 4 fili 189-190 (L = 316.4)  
asta 367: Trave in legno a falda Falda 4 fili 189-190 (L = 14.4)



#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 174.8  
Kdef = 0  
Uinst tot in x = 0.1  
Uinst tot in y = -7.31  
Uinst tot = 7.31  
Luce/Uinst,tot < limite  
452.9/7.31=62 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 164.2  
Kdef = 0  
Uinst var in x = 0.07  
Uinst var in y = -4.81  
Uinst var = 4.81  
Luce/Uinst,var < limite  
452.9/4.81=94.1 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 178.8  
Kdef = 0.6  
Ufin in x = 0.13  
Ufin in y = -8.9  
Ufin = 8.9  
Luce/Ufin < limite  
452.9/8.9=50.9 < 200 - NON SODDISFATTA  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Neve = 0,500 + 0,500 = 1,000

### Superelemento in legno a "Falda 4" 195-197

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 375.9 composto da:  
asta 287: Trave in legno a falda Falda 4 fili 195-196 (L = 45)  
asta 364: Trave in legno a falda Falda 4 fili 196-197 (L = 316.4)  
asta 365: Trave in legno a falda Falda 4 fili 196-197 (L = 14.4)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 129.4  
Kdef = 0  
Uinst tot in x = -0.01  
Uinst tot in y = -3.7  
Uinst tot = 3.7  
Luce/Uinst,tot < limite  
375.9/3.7=101.7 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 129.4



Kdef = 0  
Uinst var in x = -0.01  
Uinst var in y = -2.43  
Uinst var = 2.43  
Luce/Uinst,var < limite  
375.9/2.43=154.7 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 130.9  
Kdef = 0.6  
Ufin in x = -0.01  
Ufin in y = -4.51  
Ufin = 4.51  
Luce/Ufin < limite  
375.9/4.51=83.4 < 200 - NON SODDISFATTA  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Neve = 0,500 + 0,500 = 1,000

### Superelemento in legno a "Falda 4" 205-206

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 298.9 composto da:  
asta 285: Trave in legno a falda Falda 4 fili 205-206 (L = 284.4)  
asta 286: Trave in legno a falda Falda 4 fili 205-206 (L = 14.4)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 104.3  
Kdef = 0  
Uinst tot in x = -0.04  
Uinst tot in y = -1.47  
Uinst tot = 1.47  
Luce/Uinst,tot < limite  
298.9/1.47=203.5 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 104.3  
Kdef = 0  
Uinst var in x = -0.02  
Uinst var in y = -0.96  
Uinst var = 0.96  
Luce/Uinst,var > limite  
298.9/0.96=311.7 > 300 Comb: SLE rara, 8

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 104.3  
Kdef = 0.6  
Ufin in x = -0.05  
Ufin in y = -1.77  
Ufin = 1.77  
Luce/Ufin < limite  
298.9/1.77=168.4 < 200 - NON SODDISFATTA  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Neve = 0,500 + 0,500 = 1,000



## Superelemento in legno a "Falda 4" 214-215

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva  $L = 221.9$  composto da:

asta 283: Trave in legno a falda Falda 4 fili 214-215 ( $L = 207.4$ )

asta 284: Trave in legno a falda Falda 4 fili 214-215 ( $L = 14.4$ )

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 69.1

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = -0.03$

$U_{inst\ tot\ in\ y} = -0.49$

$U_{inst\ tot} = 0.49$

$Luce/U_{inst,tot} > \text{limite}$

$221.9/0.49 = 455.3 > 300$  Comb: SLE rara, 8

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 69.1

$K_{def} = 0$

$U_{inst\ var\ in\ x} = -0.02$

$U_{inst\ var\ in\ y} = -0.32$

$U_{inst\ var} = 0.32$

$Luce/U_{inst,var} > \text{limite}$

$221.9/0.32 = 697.5 > 300$  Comb: SLE rara, 8

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 69.1

$K_{def} = 0.6$

$U_{fin\ in\ x} = -0.04$

$U_{fin\ in\ y} = -0.59$

$U_{fin} = 0.59$

$Luce/U_{fin} > \text{limite}$

$221.9/0.59 = 376.8 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Neve =  $0,500 + 0,500 = 1,000$

## Superelemento in legno a "Falda 4" 221-222

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva  $L = 144.8$  composto da:

asta 281: Trave in legno a falda Falda 4 fili 221-222 ( $L = 130.4$ )

asta 282: Trave in legno a falda Falda 4 fili 221-222 ( $L = 14.4$ )

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 39.1

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = -0.02$



Uinst tot in y = -0.14  
Uinst tot = 0.14  
Luce/Uinst,tot > limite  
 $144.8/0.14=1004.4 > 300$  Comb: SLE rara, 8

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 39.1  
Kdef = 0  
Uinst var in x = -0.02  
Uinst var in y = -0.09  
Uinst var = 0.09  
Luce/Uinst,var > limite  
 $144.8/0.09=1534.6 > 300$  Comb: SLE rara, 8

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 149.2  
Kdef = 0.6  
Ufin in x = -0.03  
Ufin in y = -0.18  
Ufin = 0.18  
Luce/Ufin > limite  
 $144.8/0.18=800.9 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Neve =  $0,500 + 0,500 = 1,000$

### Superelemento in legno a "Falda 4" 230-231

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 67.8 composto da:  
asta 279: Trave in legno a falda Falda 4 fili 230-231 (L = 53.4)  
asta 280: Trave in legno a falda Falda 4 fili 230-231 (L = 14.4)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 21.4  
Kdef = 0  
Uinst tot in x = -0.01  
Uinst tot in y = -0.07  
Uinst tot = 0.07  
Luce/Uinst,tot > limite  
 $67.8/0.07=929 > 300$  Comb: SLE rara, 8

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 21.4  
Kdef = 0  
Uinst var in x = -0.01  
Uinst var in y = -0.05  
Uinst var = 0.05  
Luce/Uinst,var > limite  
 $67.8/0.05=1413.5 > 300$  Comb: SLE rara, 8

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 21.4  
Kdef = 0.6  
Ufin in x = -0.02  
Ufin in y = -0.09  
Ufin = 0.09  
Luce/Ufin > limite  
 $67.8/0.09=770.6 > 200$   
Coefficienti combinatori impiegati:





Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Neve = 0,500 + 0,500 = 1,000

## Superelemento in legno a "Falda 5" 241-287

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 546.4 composto da:  
asta 251: Trave in legno a falda Falda 5 fili 241-287 (L = 523.1)  
asta 252: Trave in legno a falda Falda 5 fili 241-287 (L = 23.2)

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 191.8  
Kdef = 0  
Uinst tot in x = -0.13  
Uinst tot in y = -0.67  
Uinst tot = 0.67  
Luce/Uinst,tot > limite  
546.4/0.67=820 > 300 Comb: SLE rara, 17

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 174.4  
Kdef = 0  
Uinst var in x = -0.09  
Uinst var in y = -0.37  
Uinst var = 0.37  
Luce/Uinst,var > limite  
546.4/0.37=1464.5 > 300 Comb: SLE rara, 17

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 191.8  
Kdef = 0.6  
Ufin in x = -0.16  
Ufin in y = -0.84  
Ufin = 0.84  
Luce/Ufin > limite  
546.4/0.84=647.2 > 200  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Variabile A = 0,700 + 0,180 = 0,880  
Neve = 0,500 + 0,500 = 1,000  
Vento = 0,600 + 0,000 = 0,600

## Superelemento in legno a "Falda 5" 241-(373; 989)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 710.7 composto da:  
asta 67: Trave in legno a falda Falda 5 fili 241-279 (L = 74.2)  
asta 68: Trave in legno a falda Falda 5 fili 241-279 (L = 103.7)  
asta 69: Trave in legno a falda Falda 5 fili 241-279 (L = 104.3)  
asta 70: Trave in legno a falda Falda 5 fili 241-279 (L = 116.7)  
asta 71: Trave in legno a falda Falda 5 fili 241-279 (L = 90.8)  
asta 72: Trave in legno a falda Falda 5 fili 241-279 (L = 102.8)  
asta 73: Trave in legno a falda Falda 5 fili 241-279 (L = 118.2)

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242



Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 336.6  
 $K_{def} = 0$   
 $U_{inst\ tot\ in\ x} = 1.16$   
 $U_{inst\ tot\ in\ y} = -4.05$   
 $U_{inst\ tot} = 4.05$   
Luce/ $U_{inst\ tot} < \text{limite}$   
 $710.7/4.05 = 175.7 < 300$  Comb: SLE rara, 9 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 336.6  
 $K_{def} = 0$   
 $U_{inst\ var\ in\ x} = 0.76$   
 $U_{inst\ var\ in\ y} = -2.65$   
 $U_{inst\ var} = 2.65$   
Luce/ $U_{inst\ var} < \text{limite}$   
 $710.7/2.65 = 268.1 < 300$  Comb: SLE rara, 9 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 346.1  
 $K_{def} = 0.6$   
 $U_{fin\ in\ x} = 1.41$   
 $U_{fin\ in\ y} = -4.88$   
 $U_{fin} = 4.88$   
Luce/ $U_{fin} < \text{limite}$   
 $710.7/4.88 = 145.6 < 200$  - NON SODDISFATTA  
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Neve =  $0,500 + 0,500 = 1,000$   
Vento =  $0,600 + 0,000 = 0,600$

### Superelemento in legno a "Falda 5" 241-(375; -693)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva  $L = 679.2$  composto da:

asta 57: Trave in legno a falda Falda 5 fili 241-277 ( $L = 13.7$ )  
asta 58: Trave in legno a falda Falda 5 fili 241-277 ( $L = 57.7$ )  
asta 59: Trave in legno a falda Falda 5 fili 241-277 ( $L = 12.2$ )  
asta 60: Trave in legno a falda Falda 5 fili 241-277 ( $L = 87$ )  
asta 61: Trave in legno a falda Falda 5 fili 241-277 ( $L = 99.2$ )  
asta 62: Trave in legno a falda Falda 5 fili 241-277 ( $L = 59$ )  
asta 63: Trave in legno a falda Falda 5 fili 241-277 ( $L = 42$ )  
asta 64: Trave in legno a falda Falda 5 fili 241-277 ( $L = 98.5$ )  
asta 65: Trave in legno a falda Falda 5 fili 241-277 ( $L = 99.4$ )  
asta 66: Trave in legno a falda Falda 5 fili 241-277 ( $L = 110.5$ )

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 320.9  
 $K_{def} = 0$   
 $U_{inst\ tot\ in\ x} = -0.43$   
 $U_{inst\ tot\ in\ y} = -1.99$   
 $U_{inst\ tot} = 1.99$



Luce/Uinst,tot > limite  
 $679.2/1.99=340.7 > 300$  Comb: SLE rara, 17

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 320.9  
Kdef = 0  
Uinst var in x = -0.26  
Uinst var in y = -1.28  
Uinst var = 1.28  
Luce/Uinst,var > limite  
 $679.2/1.28=530.2 > 300$  Comb: SLE rara, 17

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 329.9  
Kdef = 0.6  
Ufin in x = -0.53  
Ufin in y = -2.42  
Ufin = 2.42  
Luce/Ufin > limite  
 $679.2/2.42=280.3 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Variabile A =  $0,700 + 0,180 = 0,880$   
Neve =  $0,500 + 0,500 = 1,000$   
Vento =  $0,600 + 0,000 = 0,600$

### Superelemento in legno a "Falda 5" 244-286

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 491.5 composto da:  
asta 234: Trave in legno a falda Falda 5 fili 244-286 (L = 468.2)  
asta 235: Trave in legno a falda Falda 5 fili 244-286 (L = 23.2)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 171.7  
Kdef = 0  
Uinst tot in x = 0.19  
Uinst tot in y = -0.22  
Uinst tot = 0.22  
Luce/Uinst,tot > limite  
 $491.5/0.22=2228.1 > 300$  Comb: SLE rara, 9

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 374.6  
Kdef = 0  
Uinst var in x = 0.12  
Uinst var in y = -0.09  
Uinst var = 0.12  
Luce/Uinst,var > limite  
 $491.5/0.12=3987 > 300$  Comb: SLE rara, 16

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 171.7  
Kdef = 0.6  
Ufin in x = 0.23  
Ufin in y = -0.3  
Ufin = 0.3  
Luce/Ufin > limite  
 $491.5/0.3=1655.7 > 200$   
Coefficienti combinatori impiegati:



Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Neve =  $0,500 + 0,500 = 1,000$   
Vento =  $0,600 + 0,000 = 0,600$

## Superelemento in legno a "Falda 5" 245-288

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva  $L = 491.8$  composto da:

asta 253: Trave in legno a falda Falda 5 fili 245-288 ( $L = 468.6$ )

asta 254: Trave in legno a falda Falda 5 fili 245-288 ( $L = 23.2$ )

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 171.8

$K_{def} = 0$

$U_{inst\ tot\ in\ x} = -0.46$

$U_{inst\ tot\ in\ y} = -0.58$

$U_{inst\ tot} = 0.58$

$Luce/U_{inst,tot} > \text{limite}$

$491.8/0.58=842.5 > 300$  Comb: SLE rara, 17

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 156.2

$K_{def} = 0$

$U_{inst\ var\ in\ x} = -0.3$

$U_{inst\ var\ in\ y} = -0.32$

$U_{inst\ var} = 0.32$

$Luce/U_{inst,var} > \text{limite}$

$491.8/0.32=1519.7 > 300$  Comb: SLE rara, 17

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 171.8

$K_{def} = 0.6$

$U_{fin\ in\ x} = -0.55$

$U_{fin\ in\ y} = -0.74$

$U_{fin} = 0.74$

$Luce/U_{fin} > \text{limite}$

$491.8/0.74=662.2 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Variabile A =  $0,700 + 0,180 = 0,880$

Neve =  $0,500 + 0,500 = 1,000$

Vento =  $0,600 + 0,000 = 0,600$

## Superelemento in legno a "Falda 5" 250-285

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva  $L = 415.2$  composto da:

asta 232: Trave in legno a falda Falda 5 fili 250-285 ( $L = 392$ )

asta 233: Trave in legno a falda Falda 5 fili 250-285 ( $L = 23.2$ )

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300



Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 91.5  
Kdef = 0  
Uinst tot in x = -0.23  
Uinst tot in y = 0.11  
Uinst tot = 0.23  
Luce/Uinst,tot > limite  
415.2/0.23=1821.9 > 300 Comb: SLE rara, 16

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 91.5  
Kdef = 0  
Uinst var in x = -0.15  
Uinst var in y = 0.1  
Uinst var = 0.15  
Luce/Uinst,var > limite  
415.2/0.15=2857.7 > 300 Comb: SLE rara, 16

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 91.5  
Kdef = 0.6  
Ufin in x = -0.28  
Ufin in y = 0.13  
Ufin = 0.28  
Luce/Ufin > limite  
415.2/0.28=1495.5 > 200  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Variabile A = 0,700 + 0,180 = 0,880  
Neve = 0,500 + 0,500 = 1,000

## Superelemento in legno a "Falda 5" 251-289

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 415.6 composto da:  
asta 255: Trave in legno a falda Falda 5 fili 251-289 (L = 392.4)  
asta 256: Trave in legno a falda Falda 5 fili 251-289 (L = 23.2)

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 91.6  
Kdef = 0  
Uinst tot in x = 0.45  
Uinst tot in y = -0.4  
Uinst tot = 0.45  
Luce/Uinst,tot > limite  
415.6/0.45=927.7 > 300 Comb: SLE rara, 9

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 91.6  
Kdef = 0  
Uinst var in x = 0.29  
Uinst var in y = -0.24  
Uinst var = 0.29  
Luce/Uinst,var > limite  
415.6/0.29=1420.2 > 300 Comb: SLE rara, 9



### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 91.6

$K_{def} = 0.6$

$U_{fin} \text{ in } x = 0.54$

$U_{fin} \text{ in } y = -0.5$

$U_{fin} = 0.54$

Luce/ $U_{fin} >$  limite

$415.6/0.54=767.9 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Neve =  $0,500 + 0,500 = 1,000$

Vento =  $0,600 + 0,000 = 0,600$

### Superelemento in legno a "Falda 5" 256-284

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva  $L = 338.9$  composto da:

asta 230: Trave in legno a falda Falda 5 fili 256-284 ( $L = 315.7$ )

asta 231: Trave in legno a falda Falda 5 fili 256-284 ( $L = 23.2$ )

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 231.6

$K_{def} = 0$

$U_{inst} \text{ tot in } x = -0.17$

$U_{inst} \text{ tot in } y = 0.29$

$U_{inst} \text{ tot} = 0.29$

Luce/ $U_{inst,tot} >$  limite

$338.9/0.29=1171.3 > 300$  Comb: SLE rara, 17

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 221

$K_{def} = 0$

$U_{inst} \text{ var in } x = -0.11$

$U_{inst} \text{ var in } y = 0.22$

$U_{inst} \text{ var} = 0.22$

Luce/ $U_{inst,var} >$  limite

$338.9/0.22=1570.6 > 300$  Comb: SLE rara, 17

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 231.6

$K_{def} = 0.6$

$U_{fin} \text{ in } x = -0.2$

$U_{fin} \text{ in } y = 0.33$

$U_{fin} = 0.33$

Luce/ $U_{fin} >$  limite

$338.9/0.33=1013.5 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Variabile A =  $0,700 + 0,180 = 0,880$

Neve =  $0,500 + 0,500 = 1,000$

Vento =  $0,600 + 0,000 = 0,600$

### Superelemento in legno a "Falda 5" 257-290

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva  $L = 340$  composto da:

Sismicad 12.19 - Licenza assegnata a Sidel ingegneria Srl - Via Isonzo, 13 - Villanova di Castenaso (BO)



asta 257: Trave in legno a falda Falda 5 fili 257-290 (L = 316.8)

asta 258: Trave in legno a falda Falda 5 fili 257-290 (L = 23.2)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 73.9

Kdef = 0

Uinst tot in x = 0.31

Uinst tot in y = 0.26

Uinst tot = 0.31

Luce/Uinst,tot > limite

$340/0.31=1094.4 > 300$  Comb: SLE rara, 8

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 73.9

Kdef = 0

Uinst var in x = 0.2

Uinst var in y = 0.18

Uinst var = 0.2

Luce/Uinst,var > limite

$340/0.2=1677.2 > 300$  Comb: SLE rara, 8

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 73.9

Kdef = 0.6

Ufin in x = 0.38

Ufin in y = -0.32

Ufin = 0.38

Luce/Ufin > limite

$340/0.38=905.4 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

## Superelemento in legno a "Falda 5" 262-283

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 262.6 composto da:

asta 228: Trave in legno a falda Falda 5 fili 262-283 (L = 239.5)

asta 229: Trave in legno a falda Falda 5 fili 262-283 (L = 23.2)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 175.6

Kdef = 0

Uinst tot in x = -0.05

Uinst tot in y = 0.24

Uinst tot = 0.24

Luce/Uinst,tot > limite

$262.6/0.24=1117 > 300$  Comb: SLE rara, 17



#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 175.6

Kdef = 0

Uinst var in x = -0.03

Uinst var in y = 0.17

Uinst var = 0.17

Luce/Uinst,var > limite

262.6/0.17=1547.3 > 300 Comb: SLE rara, 17

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 175.6

Kdef = 0.6

Ufin in x = -0.06

Ufin in y = 0.27

Ufin = 0.27

Luce/Ufin > limite

262.6/0.27=956.7 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

### Superelemento in legno a "Falda 5" 263-291

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 264 composto da:

asta 259: Trave in legno a falda Falda 5 fili 263-291 (L = 240.7)

asta 260: Trave in legno a falda Falda 5 fili 263-291 (L = 23.3)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 200.6

Kdef = 0

Uinst tot in x = 0.12

Uinst tot in y = 0.27

Uinst tot = 0.27

Luce/Uinst,tot > limite

264/0.27=983.6 > 300 Comb: SLE rara, 8

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 200.6

Kdef = 0

Uinst var in x = 0.08

Uinst var in y = 0.18

Uinst var = 0.18

Luce/Uinst,var > limite

264/0.18=1449 > 300 Comb: SLE rara, 8

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 200.6

Kdef = 0.6

Ufin in x = 0.15

Ufin in y = 0.32

Ufin = 0.32

Luce/Ufin > limite

264/0.32=824.7 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000





## Superelemento in legno a "Falda 5" 267-282

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 186.4 composto da:

asta 226: Trave in legno a falda Falda 5 fili 267-282 (L = 163.2)

asta 227: Trave in legno a falda Falda 5 fili 267-282 (L = 23.2)

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 130.6

Kdef = 0

Uinst tot in x = -0.01

Uinst tot in y = 0.12

Uinst tot = 0.12

Luce/Uinst,tot > limite

186.4/0.12=1566.4 > 300 Comb: SLE rara, 17

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 125.2

Kdef = 0

Uinst var in x = -0.01

Uinst var in y = 0.08

Uinst var = 0.08

Luce/Uinst,var > limite

186.4/0.08=2193.1 > 300 Comb: SLE rara, 17

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 130.6

Kdef = 0.6

Ufin in x = -0.02

Ufin in y = 0.14

Ufin = 0.14

Luce/Ufin > limite

186.4/0.14=1335 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

## Superelemento in legno a "Falda 5" 268-292

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 187.9 composto da:

asta 261: Trave in legno a falda Falda 5 fili 268-292 (L = 164.6)

asta 262: Trave in legno a falda Falda 5 fili 268-292 (L = 23.3)

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1



#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 137.2

Kdef = 0

Uinst tot in x = 0.03

Uinst tot in y = 0.16

Uinst tot = 0.16

Luce/Uinst,tot > limite

187.9/0.16=1157.8 > 300 Comb: SLE rara, 8

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 137.2

Kdef = 0

Uinst var in x = 0.02

Uinst var in y = 0.11

Uinst var = 0.11

Luce/Uinst,var > limite

187.9/0.11=1757.1 > 300 Comb: SLE rara, 8

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 137.2

Kdef = 0.6

Ufin in x = 0.06

Ufin in y = 0.2

Ufin = 0.2

Luce/Ufin > limite

187.9/0.2=961.1 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

### Superelemento in legno a "Falda 5" 271-281

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 108.5 composto da:

asta 224: Trave in legno a falda Falda 5 fili 271-281 (L = 85.3)

asta 225: Trave in legno a falda Falda 5 fili 271-281 (L = 23.1)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 74

Kdef = 0

Uinst tot in x = -0.02

Uinst tot in y = 0.05

Uinst tot = 0.05

Luce/Uinst,tot > limite

108.5/0.05=2192 > 300 Comb: SLE rara, 17

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 71.1

Kdef = 0

Uinst var in x = -0.01

Uinst var in y = 0.03

Uinst var = 0.03

Luce/Uinst,var > limite

108.5/0.03=3157.2 > 300 Comb: SLE rara, 17

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 74

Kdef = 0.6

Ufin in x = -0.03

Ufin in y = 0.06



Ufin = 0.06  
Luce/Ufin > limite  
 $108.5/0.06=1850.5 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Variabile A =  $0,700 + 0,180 = 0,880$   
Neve =  $0,500 + 0,500 = 1,000$   
Vento =  $0,600 + 0,000 = 0,600$

## Superelemento in legno a "Falda 5" 272-293

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 111.8 composto da:

asta 263: Trave in legno a falda Falda 5 fili 272-293 (L = 88.5)

asta 264: Trave in legno a falda Falda 5 fili 272-293 (L = 23.3)

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 79.7

Kdef = 0

Uinst tot in x = 0.03

Uinst tot in y = 0.07

Uinst tot = 0.07

Luce/Uinst,tot > limite

$111.8/0.07=1495.6 > 300$  Comb: SLE rara, 16

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 79.7

Kdef = 0

Uinst var in x = 0.02

Uinst var in y = 0.05

Uinst var = 0.05

Luce/Uinst,var > limite

$111.8/0.05=2348 > 300$  Comb: SLE rara, 16

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 79.7

Kdef = 0.6

Ufin in x = 0.06

Ufin in y = 0.09

Ufin = 0.09

Luce/Ufin > limite

$111.8/0.09=1227.4 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Variabile A =  $0,700 + 0,180 = 0,880$

Neve =  $0,500 + 0,500 = 1,000$

## Superelemento in legno a "Falda 6" 177-(-95; 1037)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 719.2 composto da:

asta 74: Trave in legno a falda Falda 6 fili 177-240 (L = 127.2)

asta 75: Trave in legno a falda Falda 6 fili 177-240 (L = 104.2)

asta 76: Trave in legno a falda Falda 6 fili 177-240 (L = 104.2)

asta 77: Trave in legno a falda Falda 6 fili 177-240 (L = 63.3)

asta 78: Trave in legno a falda Falda 6 fili 177-240 (L = 40.9)



asta 79: Trave in legno a falda Falda 6 fili 177-240 (L = 104.2)  
asta 80: Trave in legno a falda Falda 6 fili 177-240 (L = 104.2)  
asta 81: Trave in legno a falda Falda 6 fili 177-240 (L = 71.2)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 379.8  
Kdef = 0  
Uinst tot in x = 0.85  
Uinst tot in y = -2.77  
Uinst tot = 2.77  
Luce/Uinst,tot < limite  
719.2/2.77=259.7 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 381.9  
Kdef = 0  
Uinst var in x = 0.54  
Uinst var in y = -1.77  
Uinst var = 1.77  
Luce/Uinst,var > limite  
719.2/1.77=406.8 > 300 Comb: SLE rara, 8

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 388.9  
Kdef = 0.6  
Ufin in x = 1.03  
Ufin in y = -3.37  
Ufin = 3.37  
Luce/Ufin > limite  
719.2/3.37=213.4 > 200  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Neve = 0,500 + 0,500 = 1,000

### Superelemento in legno a "Falda 6" 186-187

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 96.9 composto da:  
Asta 271: Trave in legno a falda Falda 6 fili 186-187

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 29  
Kdef = 0  
Uinst tot in x = 0.01  
Uinst tot in y = 0.06  
Uinst tot = 0.06  
Luce/Uinst,tot > limite  
96.9/0.06=1694.2 > 300 Comb: SLE rara, 17



#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 29

Kdef = 0

Uinst var in x = 0

Uinst var in y = 0.04

Uinst var = 0.04

Luce/Uinst,var > limite

$96.9/0.04=2725.5 > 300$  Comb: SLE rara, 17

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 29

Kdef = 0.6

Ufin in x = 0.01

Ufin in y = 0.07

Ufin = 0.07

Luce/Ufin > limite

$96.9/0.07=1381.6 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Variabile A =  $0,700 + 0,180 = 0,880$

Neve =  $0,500 + 0,500 = 1,000$

Vento =  $0,600 + 0,000 = 0,600$

### Superelemento in legno a "Falda 6" 193-194

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 176.1 composto da:

Asta 270: Trave in legno a falda Falda 6 fili 193-194

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 140.9

Kdef = 0

Uinst tot in x = 0.02

Uinst tot in y = -0.08

Uinst tot = 0.08

Luce/Uinst,tot > limite

$176.1/0.08=2177.9 > 300$  Comb: SLE rara, 8

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 35.2

Kdef = 0

Uinst var in x = 0.01

Uinst var in y = 0.05

Uinst var = 0.05

Luce/Uinst,var > limite

$176.1/0.05=3342.8 > 300$  Comb: SLE rara, 17

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 140.9

Kdef = 0.6

Ufin in x = 0.02

Ufin in y = -0.1

Ufin = 0.1

Luce/Ufin > limite

$176.1/0.1=1783.2 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Neve =  $0,500 + 0,500 = 1,000$



## Superelemento in legno a "Falda 6" 203-204

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 255.4 composto da:

Asta 269: Trave in legno a falda Falda 6 fili 203-204

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 178.8

Kdef = 0

Uinst tot in x = 0.02

Uinst tot in y = -0.44

Uinst tot = 0.44

Luce/Uinst,tot > limite

255.4/0.44=574.2 > 300 Comb: SLE rara, 8

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 178.8

Kdef = 0

Uinst var in x = 0.01

Uinst var in y = -0.28

Uinst var = 0.28

Luce/Uinst,var > limite

255.4/0.28=904.9 > 300 Comb: SLE rara, 8

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 178.8

Kdef = 0.6

Ufin in x = 0.03

Ufin in y = -0.54

Ufin = 0.54

Luce/Ufin > limite

255.4/0.54=470.7 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

## Superelemento in legno a "Falda 6" 209-(217; 377)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 507.7 composto da:

asta 131: Trave in legno a falda Falda 6 fili 209-265 (L = 94.1)

asta 132: Trave in legno a falda Falda 6 fili 209-265 (L = 67.6)

asta 133: Trave in legno a falda Falda 6 fili 209-265 (L = 67.6)

asta 134: Trave in legno a falda Falda 6 fili 209-265 (L = 67.6)

asta 135: Trave in legno a falda Falda 6 fili 209-265 (L = 67.6)

asta 136: Trave in legno a falda Falda 6 fili 209-265 (L = 67.6)

asta 137: Trave in legno a falda Falda 6 fili 209-265 (L = 75.8)

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 18x23	Rettangolare	18	23	414	18250.5	11178	1587	1242

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno



Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 278.7

Kdef = 0

Uinst tot in x = 0.75

Uinst tot in y = -1.68

Uinst tot = 1.68

Luce/Uinst,tot > limite

507.7/1.68=301.4 > 300 Comb: SLE rara, 17

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 278.7

Kdef = 0

Uinst var in x = 0.51

Uinst var in y = -1.12

Uinst var = 1.12

Luce/Uinst,var > limite

507.7/1.12=453.8 > 300 Comb: SLE rara, 17

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 284.1

Kdef = 0.6

Ufin in x = 0.88

Ufin in y = -2.01

Ufin = 2.01

Luce/Ufin > limite

507.7/2.01=253.1 > 200

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Variabile A = 0,700 + 0,180 = 0,880

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

## Superelemento in legno a "Falda 6" 212-213

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 334.7 composto da:

Asta 268: Trave in legno a falda Falda 6 fili 212-213

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 223.1

Kdef = 0

Uinst tot in x = -0.01

Uinst tot in y = -1.03

Uinst tot = 1.03

Luce/Uinst,tot > limite

334.7/1.03=324.3 > 300 Comb: SLE rara, 9

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 223.1

Kdef = 0

Uinst var in x = -0.01

Uinst var in y = -0.65

Uinst var = 0.65

Luce/Uinst,var > limite

334.7/0.65=517.7 > 300 Comb: SLE rara, 9

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 223.1



Kdef = 0.6  
Ufin in x = -0.01  
Ufin in y = -1.26  
Ufin = 1.26  
Luce/Ufin > limite  
 $334.7/1.26=264.9 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Neve =  $0,500 + 0,500 = 1,000$   
Vento =  $0,600 + 0,000 = 0,600$

## Superelemento in legno a "Falda 6" 218-220

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 414 composto da:  
asta 267: Trave in legno a falda Falda 6 fili 218-219 (L = 303.6)  
asta 416: Trave in legno a falda Falda 6 fili 219-220 (L = 110.4)

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 253  
Kdef = 0  
Uinst tot in x = -0.05  
Uinst tot in y = -2.96  
Uinst tot = 2.96  
Luce/Uinst,tot < limite  
 $414/2.96=139.9 < 300$  Comb: SLE rara, 9 - NON SODDISFATTA

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 253  
Kdef = 0  
Uinst var in x = -0.04  
Uinst var in y = -1.91  
Uinst var = 1.91  
Luce/Uinst,var < limite  
 $414/1.91=217.2 < 300$  Comb: SLE rara, 9 - NON SODDISFATTA

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 253  
Kdef = 0.6  
Ufin in x = -0.06  
Ufin in y = -3.59  
Ufin = 3.59  
Luce/Ufin < limite  
 $414/3.59=115.2 < 200$  - NON SODDISFATTA  
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Neve =  $0,500 + 0,500 = 1,000$   
Vento =  $0,600 + 0,000 = 0,600$

## Superelemento in legno a "Falda 6" 227-229

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 493.3 composto da:  
asta 266: Trave in legno a falda Falda 6 fili 227-228 (L = 303.6)  
asta 415: Trave in legno a falda Falda 6 fili 228-229 (L = 189.7)





#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 273.2

Kdef = 0

Uinst tot in x = -0.07

Uinst tot in y = -4.42

Uinst tot = 4.42

Luce/Uinst,tot < limite

493.3/4.42=111.5 < 300 Comb: SLE rara, 9 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 273.2

Kdef = 0

Uinst var in x = -0.05

Uinst var in y = -2.86

Uinst var = 2.86

Luce/Uinst,var < limite

493.3/2.86=172.2 < 300 Comb: SLE rara, 9 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 273.2

Kdef = 0.6

Ufin in x = -0.08

Ufin in y = -5.36

Ufin = 5.36

Luce/Ufin < limite

493.3/5.36=92 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

## Superelemento in legno a "Falda 6" 238-235

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 547.5 composto da:

asta 243: Trave in legno a falda Falda 6 fili 238-239 (L = 303.6)

asta 411: Trave in legno a falda Falda 6 fili 239-240 (L = 243.9)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 283.3

Kdef = 0

Uinst tot in x = 0.26

Uinst tot in y = -5.28

Uinst tot = 5.28

Luce/Uinst,tot < limite

547.5/5.28=103.7 < 300 Comb: SLE rara, 9 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 283.3



Kdef = 0  
Uinst var in x = 0.12  
Uinst var in y = -3.44  
Uinst var = 3.44  
Luce/Uinst,var < limite  
547.5/3.44=159 < 300 Comb: SLE rara, 9 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 283.3  
Kdef = 0.6  
Ufin in x = 0.35  
Ufin in y = -6.38  
Ufin = 6.38  
Luce/Ufin < limite  
547.5/6.38=85.8 < 200 - NON SODDISFATTA  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Neve = 0,500 + 0,500 = 1,000  
Vento = 0,600 + 0,000 = 0,600

### Superelemento in legno a "Falda 6" 245-(-426; 595)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 490.1 composto da:  
asta 250: Trave in legno a falda Falda 6 fili 245-246 (L = 246.2)  
asta 414: Trave in legno a falda Falda 6 fili 246-247 (L = 243.9)

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 246.2  
Kdef = 0  
Uinst tot in x = -0.07  
Uinst tot in y = -4.85  
Uinst tot = 4.85  
Luce/Uinst,tot < limite  
490.1/4.85=101.1 < 300 Comb: SLE rara, 9 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 246.2  
Kdef = 0  
Uinst var in x = -0.04  
Uinst var in y = -3.18  
Uinst var = 3.18  
Luce/Uinst,var < limite  
490.1/3.18=154.3 < 300 Comb: SLE rara, 9 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 254.4  
Kdef = 0.6  
Ufin in x = -0.09  
Ufin in y = -5.87  
Ufin = 5.87  
Luce/Ufin < limite  
490.1/5.87=83.5 < 200 - NON SODDISFATTA  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Neve = 0,500 + 0,500 = 1,000  
Vento = 0,600 + 0,000 = 0,600



## Superelemento in legno a "Falda 6" 251-(-359; 595)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 411.4 composto da:

asta 249: Trave in legno a falda Falda 6 fili 251-252 (L = 167.5)

asta 413: Trave in legno a falda Falda 6 fili 252-253 (L = 243.9)

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 183.7

Kdef = 0

Uinst tot in x = 0.09

Uinst tot in y = -3.6

Uinst tot = 3.6

Luce/Uinst,tot < limite

411.4/3.6=114.4 < 300 Comb: SLE rara, 9 - NON SODDISFATTA

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 183.7

Kdef = 0

Uinst var in x = 0.05

Uinst var in y = -2.36

Uinst var = 2.36

Luce/Uinst,var < limite

411.4/2.36=174.4 < 300 Comb: SLE rara, 9 - NON SODDISFATTA

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 189.3

Kdef = 0.6

Ufin in x = 0.11

Ufin in y = -4.39

Ufin = 4.39

Luce/Ufin < limite

411.4/4.39=93.7 < 200 - NON SODDISFATTA

Coefficienti combinatori impiegati:

Pesi strutturali = 1,000 + 0,600 = 1,600

Permanenti portati = 1,000 + 0,600 = 1,600

Neve = 0,500 + 0,500 = 1,000

Vento = 0,600 + 0,000 = 0,600

## Superelemento in legno a "Falda 6" 257-(-291; 595)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva L= 332.6 composto da:

asta 248: Trave in legno a falda Falda 6 fili 257-258 (L = 88.7)

asta 412: Trave in legno a falda Falda 6 fili 258-259 (L = 243.9)

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016

$\beta_x = 0$ ;  $\beta_y = 0$

Rapporto luce/freccia elastica limite = 300

Rapporto luce/freccia elastica differita = 200

Mensola Y: Nessuno; Mensola X: Nessuno

Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 137.5

Kdef = 0



Uinst tot in x = 0.11  
Uinst tot in y = -2.07  
Uinst tot = 2.07  
Luce/Uinst,tot < limite  
332.6/2.07=161.1 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 137.5  
Kdef = 0  
Uinst var in x = 0.06  
Uinst var in y = -1.35  
Uinst var = 1.35  
Luce/Uinst,var < limite  
332.6/1.35=246 < 300 Comb: SLE rara, 8 - NON SODDISFATTA

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 140.4  
Kdef = 0.6  
Ufin in x = 0.13  
Ufin in y = -2.54  
Ufin = 2.54  
Luce/Ufin < limite  
332.6/2.54=131.1 < 200 - NON SODDISFATTA  
Coefficienti combinatori impiegati:  
Pesi strutturali = 1,000 + 0,600 = 1,600  
Permanenti portati = 1,000 + 0,600 = 1,600  
Neve = 0,500 + 0,500 = 1,000

### Superelemento in legno a "Falda 6" 263-(-223; 596)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati generali

Superelemento di lunghezza complessiva L= 253.8 composto da:  
Asta 247: Trave in legno a falda Falda 6 fili 263-264

#### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 93.1  
Kdef = 0  
Uinst tot in x = 0.05  
Uinst tot in y = -0.67  
Uinst tot = 0.67  
Luce/Uinst,tot > limite  
253.8/0.67=380.7 > 300 Comb: SLE rara, 8

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 93.1  
Kdef = 0  
Uinst var in x = 0.03  
Uinst var in y = -0.43  
Uinst var = 0.43  
Luce/Uinst,var > limite  
253.8/0.43=587.7 > 300 Comb: SLE rara, 8

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 93.1  
Kdef = 0.6  
Ufin in x = 0.06  
Ufin in y = -0.81  
Ufin = 0.81  
Luce/Ufin > limite  
253.8/0.81=314.3 > 200  
Coefficienti combinatori impiegati:



Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Neve =  $0,500 + 0,500 = 1,000$

## Superelemento in legno a "Falda 6" 268-(-156; 596)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva  $L = 175.1$  composto da:  
Asta 246: Trave in legno a falda Falda 6 fili 268-269

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1

### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 58.4  
 $K_{def} = 0$   
 $U_{inst\ tot\ in\ x} = 0.03$   
 $U_{inst\ tot\ in\ y} = -0.26$   
 $U_{inst\ tot} = 0.26$   
Luce/ $U_{inst,tot} > \text{limite}$   
 $175.1/0.26 = 672.8 > 300$  Comb: SLE rara, 8

### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 58.4  
 $K_{def} = 0$   
 $U_{inst\ var\ in\ x} = 0.02$   
 $U_{inst\ var\ in\ y} = -0.17$   
 $U_{inst\ var} = 0.17$   
Luce/ $U_{inst,var} > \text{limite}$   
 $175.1/0.17 = 1041.7 > 300$  Comb: SLE rara, 8

### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 58.4  
 $K_{def} = 0.6$   
 $U_{fin\ in\ x} = 0.04$   
 $U_{fin\ in\ y} = -0.32$   
 $U_{fin} = 0.32$   
Luce/ $U_{fin} > \text{limite}$   
 $175.1/0.32 = 554.9 > 200$   
Coefficienti combinatori impiegati:  
Pesi strutturali =  $1,000 + 0,600 = 1,600$   
Permanenti portati =  $1,000 + 0,600 = 1,600$   
Neve =  $0,500 + 0,500 = 1,000$

## Superelemento in legno a "Falda 6" 272-(-88; 597)

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati generali

Superelemento di lunghezza complessiva  $L = 96.3$  composto da:  
Asta 245: Trave in legno a falda Falda 6 fili 272-273

### Caratteristiche della sezione

Descrizione	Tipo	Base	Altezza	Area	Jx	Jy	Wx	Wy
R 8x10	Rettangolare	8	10	80	666.67	426.67	133.33	106.67

Materiale: C14 EN 338:2016  
 $\beta_x = 0$ ;  $\beta_y = 0$   
Rapporto luce/freccia elastica limite = 300  
Rapporto luce/freccia elastica differita = 200  
Mensola Y: Nessuno; Mensola X: Nessuno  
Classe di servizio 1



#### Verifica della freccia istantanea totale D.M. 17-01-18 §C4.4.7 Circolare 7 21-01-19

Sezione ad ascissa 28.9

Kdef = 0

Uinst tot in x = -0.01

Uinst tot in y = -0.07

Uinst tot = 0.07

Luce/Uinst,tot > limite

$96.3/0.07=1337.5 > 300$  Comb: SLE rara, 16

#### Verifica della freccia istantanea variabile D.M. 17-01-18 §4.4.7

Sezione ad ascissa 28.9

Kdef = 0

Uinst var in x = -0.01

Uinst var in y = -0.05

Uinst var = 0.05

Luce/Uinst,var > limite

$96.3/0.05=2087.9 > 300$  Comb: SLE rara, 16

#### Verifica della freccia finale EC5 §4.4.7 - EC5 2.2.3 (3)

Sezione ad ascissa 28.9

Kdef = 0.6

Ufin in x = -0.02

Ufin in y = -0.09

Ufin = 0.09

Luce/Ufin > limite

$96.3/0.09=1100 > 200$

Coefficienti combinatori impiegati:

Pesi strutturali =  $1,000 + 0,600 = 1,600$

Permanenti portati =  $1,000 + 0,600 = 1,600$

Variabile A =  $0,700 + 0,180 = 0,880$

Neve =  $0,500 + 0,500 = 1,000$

## 1.4 Verifica sismica globale

**Desc.:** descrizione.

**Stato limite:** (muratura) V=Taglio; PF=Pressoflessione; PFFP=Pressoflessione fuori piano; R=Ribaltamento.

**Molt.:** moltiplicatore minimo della azione sismica che produce lo stato limite.

**Comb.:** combinazione.

**PGA:** accelerazione al suolo.

**iPGA (ZE):** indicatore di rischio sismico in termini di PGA ovvero rapporto tra l'azione sismica massima sopportabile dall'elemento e l'azione sismica massima che si utilizzerebbe nel progetto nuovo (§C8.3).

**TR:** tempo di ritorno.

**(TR/TRrif)^.41:** indicatore di rischio sismico in termini di periodo di ritorno.

**fa:** fattore di accelerazione.

**Stato limite:** (muratura) V=Taglio; PF=Presso flessione; PFFP=Pressoflessione fuori piano; R=Ribaltamento.

**Coeff.s.:** coefficiente minimo prodotto dallo stato limite.

**Verifica:** stato di verifica.

**Maschio:** maschio.

**Stato limite:** (maschio muratura) V=Taglio; PF=Presso flessione; PFFP=Presso flessione fuori piano; R=Ribaltamento.

**Trave:** trave di collegamento in muratura.

**Stato limite:** (trave muratura) V=Taglio; F=Flessione.

**S. L.:** stato limite di riferimento.

**TR,C:** periodo di ritorno di capacità.

**PGA,C:** accelerazione di aggancio di capacità.

**TR,Rif:** periodo di ritorno di riferimento.

**PGA,Rif:** accelerazione di aggancio di riferimento.

**Tipo rottura:** tipo di rottura che fornisce il valore minimo degli elementi considerati.

**PAM:** perdita media annua attesa.

**Classe PAM:** classe di rischio PAM.

**IS-V:** indice di sicurezza.

**Classe IS-V:** classe di rischio IS-V.

### Verifica di elementi dotati di indicatori di rischio sismico mediante analisi con fattore q

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.) § C8.7.1

#### Accelerazioni e tempi di ritorno

Accelerazione di aggancio SLO (ag/g\_SLO\*S\*ST) PGA,SLOrif = 0.081

Accelerazione di aggancio SLD (ag/g\_SLD\*S\*ST) PGA,SLDrif = 0.101

Accelerazione di aggancio SLV (ag/g\_SLV\*S\*ST) PGA,SLVrif = 0.244



Tr,SLOrif = 30 anni  
Tr,SLDrif = 50 anni  
Tr,SLVrif = 475 anni

Moltiplicatori minimi delle condizioni sismiche

(Il valore di ζE corrisponde al valore di I.R. PGA secondo quanto riportato nella Circolare 7 21-01-19 §C8.3)

Rottura a taglio

Moltiplicatore: 0  
Maschio 19  
Lunghezza: 30.4; altezza: 269; spessore: 30; sezione a quota: 109  
Combinazione SLV 1 N= 17 V par.= 14 l'= 0 fvd= 0.83 Vt scorrimento= 0 Vt fess. diag.= 0  
Tempo di ritorno 0 anni  
Indicatore iTr=(Tr/Tr,SLVrif)^.41 = 0  
PGA 0  
Indicatore iPGA=PGA/PGA,SLVrif = 0  
Fattore di accelerazione fa = 0

Rottura a flessione

Moltiplicatore: 0  
Maschio 19  
Lunghezza: 30.4; altezza: 269; spessore: 30 sezione a quota 109  
Combinazione SLV 1 N = 17 M = -488 σ0 = 0 fd = 14.38 Mu = 0  
Tempo di ritorno 0 anni  
Indicatore iTr=(Tr/Tr,SLVrif)^.41 = 0  
PGA 0  
Indicatore iPGA=PGA/PGA,SLVrif = 0  
Fattore di accelerazione fa = 0

Rottura a pressoflessione nel piano ortogonale

Moltiplicatore: 0  
Maschio 155  
Lunghezza: 12.6; altezza: 352; spessore: 28; sezione a quota: 1010  
Combinazione SLV 1 fd= 14.38 Ta= 0.07 Wa= 0.05 N= 0 M= 0 Mc= 0  
Tempo di ritorno 0 anni  
Indicatore iTr=(Tr/Tr,SLVrif)^.41 = 0  
PGA 0  
Indicatore iPGA=PGA/PGA,SLVrif = 0  
Fattore di accelerazione fa = 0

Rottura per meccanismi locali di collasso

Moltiplicatore: 0  
Maschio 19  
Lunghezza: 30.4; altezza: 269; spessore: 30 f.agg.= 0 a.lim.= 0  
Combinazione SLV 1 N top= 17 N base= -242 T orto= -2 α0= 0 M\*= 0 e\*= 0 a0\*= 0  
Tempo di ritorno 0 anni  
Indicatore iTr=(Tr/Tr,SLVrif)^.41 = 0  
PGA 0  
Indicatore iPGA=PGA/PGA,SLVrif = 0  
Fattore di accelerazione fa = 0

Indicatori minimi riferiti al solo materiale muratura

Desc.	Stato limite	Molt.	Comb.	PGA	iPGA (ζE)	TR	(TR/TRrif)^.41	fa
Maschio 19	PF	0	SLV 1	0	0	0	0	0
Maschio 19	V	0	SLV 1	0	0	0	0	0
Maschio 155	PFFP	0	SLV 1	0	0	0	0	0
Maschio 19	R	0	SLV 1	0	0	0	0	0
Trave di accoppiamento 83	PF	0	SLV 1	0	0	0	0	0
Trave di accoppiamento 1	V	0	SLV 1	0	0	0	0	0

Coefficienti di sicurezza riferiti al solo materiale muratura

Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 1	PF SLU	6.632	SLU 76	Si
Maschio 1	V SLU	4.631	SLU 76	Si
Maschio 1	PF	2.754	SLV 11	Si
Maschio 1	V	1.698	SLV 11	Si
Maschio 1	PFFP	12.006	SLV 15	Si
Maschio 1	R	0.327	SLV 1	No
Maschio 2	PF SLU	12.719	SLU 81	Si
Maschio 2	V SLU	4.537	SLU 81	Si
Maschio 2	PF	2.139	SLV 9	Si
Maschio 2	V	1.704	SLV 11	Si
Maschio 2	PFFP	10.449	SLV 13	Si
Maschio 2	R	0.335	SLV 11	No
Maschio 3	PF SLU	10.606	SLU 48	Si
Maschio 3	V SLU	3.678	SLU 43	Si
Maschio 3	PF	0	SLV 10	No
Maschio 3	V	0	SLV 5	No
Maschio 3	PFFP	8.284	SLV 9	Si
Maschio 3	R	0	SLV 10	No
Maschio 4	PF SLU	4.339	SLU 78	Si



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 4	V SLU	2.392	SLU 77	Si
Maschio 4	PF	3.375	SLV 13	Si
Maschio 4	V	0.686	SLV 7	No
Maschio 4	PFFP	19.269	SLV 9	Si
Maschio 4	R	0.193	SLV 9	No
Maschio 5	PF SLU	11.077	SLU 83	Si
Maschio 5	V SLU	2.959	SLU 83	Si
Maschio 5	PF	1.621	SLV 5	Si
Maschio 5	V	0.823	SLV 15	No
Maschio 5	PFFP	28.848	SLV 9	Si
Maschio 5	R	0	SLV 5	No
Maschio 6	PF SLU	19.693	SLU 76	Si
Maschio 6	V SLU	12.988	SLU 51	Si
Maschio 6	PF	1.533	SLV 9	Si
Maschio 6	V	0.824	SLV 9	No
Maschio 6	PFFP	29.672	SLV 9	Si
Maschio 6	R	0.211	SLV 3	No
Maschio 7	PF SLU	0	SLU 83	No
Maschio 7	V SLU	1.273	SLU 83	Si
Maschio 7	PF	0.852	SLV 11	No
Maschio 7	V	1.073	SLV 7	Si
Maschio 7	PFFP	24.052	SLV 5	Si
Maschio 7	R	0.168	SLV 3	No
Maschio 8	PF SLU	4.015	SLU 5	Si
Maschio 8	V SLU	2.316	SLU 44	Si
Maschio 8	PF	0	SLV 11	No
Maschio 8	V	0	SLV 11	No
Maschio 8	PFFP	11.701	SLV 11	Si
Maschio 8	R	0.237	SLV 7	No
Maschio 9	PF SLU	2.142	SLU 73	Si
Maschio 9	V SLU	1.495	SLU 68	Si
Maschio 9	PF	1.915	SLV 15	Si
Maschio 9	V	0.611	SLV 5	No
Maschio 9	PFFP	15.524	SLV 11	Si
Maschio 9	R	0.186	SLV 11	No
Maschio 10	PF SLU	0.656	SLU 84	No
Maschio 10	V SLU	1.992	SLU 73	Si
Maschio 10	PF	1.273	SLV 13	Si
Maschio 10	V	0.579	SLV 13	No
Maschio 10	PFFP	34.046	SLV 7	Si
Maschio 10	R	0.02	SLV 11	No
Maschio 11	PF SLU	1.152	SLU 84	Si
Maschio 11	V SLU	1.256	SLU 82	Si
Maschio 11	PF	0	SLV 15	No
Maschio 11	V	0	SLV 15	No
Maschio 11	PFFP	40.243	SLV 3	Si
Maschio 11	R	0.186	SLV 7	No
Maschio 12	PF SLU	4.562	SLU 77	Si
Maschio 12	V SLU	2.246	SLU 52	Si
Maschio 12	PF	2.159	SLV 7	Si
Maschio 12	V	0.743	SLV 5	No
Maschio 12	PFFP	16.373	SLV 11	Si
Maschio 12	R	0.092	SLV 9	No
Maschio 13	PF SLU	0.93	SLU 84	No
Maschio 13	V SLU	1.528	SLU 81	Si
Maschio 13	PF	0	SLV 12	No
Maschio 13	V	0	SLV 7	No
Maschio 13	PFFP	3.341	SLV 11	Si
Maschio 13	R	0	SLV 12	No
Maschio 14	PF SLU	4.504	SLU 84	Si
Maschio 14	V SLU	2.29	SLU 84	Si
Maschio 14	PF	0	SLV 11	No
Maschio 14	V	0	SLV 11	No
Maschio 14	PFFP	4.068	SLV 11	Si
Maschio 14	R	0.193	SLV 1	No
Maschio 15	PF SLU	3.753	SLU 79	Si
Maschio 15	V SLU	9.938	SLU 29	Si
Maschio 15	PF	1.232	SLV 11	Si
Maschio 15	V	0.632	SLV 11	No
Maschio 15	PFFP	20.156	SLV 11	Si
Maschio 15	R	0.147	SLV 7	No
Maschio 16	PF SLU	1.582	SLU 84	Si
Maschio 16	V SLU	0.79	SLU 83	No
Maschio 16	PF	2.036	SLV 11	Si
Maschio 16	V	0.685	SLV 5	No
Maschio 16	PFFP	18.439	SLV 11	Si
Maschio 16	R	0.194	SLV 15	No
Maschio 18	PF SLU	3.527	SLU 84	Si
Maschio 18	V SLU	5.911	SLU 52	Si
Maschio 18	PF	3.087	SLV 1	Si
Maschio 18	V	1.055	SLV 5	Si
Maschio 18	PFFP	54.855	SLV 1	Si
Maschio 18	R	0.388	SLV 1	No
Maschio 19	PF SLU	0	SLU 84	No
Maschio 19	V SLU	0	SLU 1	No
Maschio 19	PF	0	SLV 16	No
Maschio 19	V	0	SLD 1	No
Maschio 19	PFFP	0	SLV 12	No
Maschio 19	R	0	SLV 16	No
Maschio 21	PF SLU	0	SLU 84	No
Maschio 21	V SLU	0	SLU 1	No





Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 21	PF	0	SLV 16	No
Maschio 21	V	0	SLD 1	No
Maschio 21	PFFP	6.055	SLV 11	Si
Maschio 21	R	0	SLV 16	No
Maschio 23	PF SLU	4.318	SLU 28	Si
Maschio 23	V SLU	1.43	SLU 70	Si
Maschio 23	PF	0	SLV 3	No
Maschio 23	V	0	SLV 3	No
Maschio 23	PFFP	0	SLV 8	No
Maschio 23	R	0.394	SLV 3	No
Maschio 25	PF SLU	1.186	SLU 48	Si
Maschio 25	V SLU	1.325	SLU 45	Si
Maschio 25	PF	1.07	SLV 9	Si
Maschio 25	V	0.249	SLV 9	No
Maschio 25	PFFP	17.646	SLV 1	Si
Maschio 25	R	0.059	SLV 3	No
Maschio 26	PF SLU	8.349	SLU 84	Si
Maschio 26	V SLU	1.598	SLU 83	Si
Maschio 26	PF	2.409	SLV 3	Si
Maschio 26	V	0.942	SLV 3	No
Maschio 26	PFFP	34.594	SLV 13	Si
Maschio 26	R	0.382	SLV 9	No
Maschio 27	PF SLU	6.159	SLU 84	Si
Maschio 27	V SLU	4.429	SLU 82	Si
Maschio 27	PF	1.846	SLV 13	Si
Maschio 27	V	0.953	SLV 3	No
Maschio 27	PFFP	42.95	SLV 5	Si
Maschio 27	R	0.348	SLV 11	No
Maschio 28	PF SLU	0	SLU 73	No
Maschio 28	V SLU	4.861	SLU 83	Si
Maschio 28	PF	1.272	SLV 15	Si
Maschio 28	V	3.293	SLV 13	Si
Maschio 28	PFFP	39.993	SLV 1	Si
Maschio 28	R	0.376	SLV 13	No
Maschio 29	PF SLU	0	SLU 73	No
Maschio 29	V SLU	10.44	SLU 78	Si
Maschio 29	PF	1.365	SLV 15	Si
Maschio 29	V	4.886	SLV 15	Si
Maschio 29	PFFP	36.997	SLV 1	Si
Maschio 29	R	0	SLV 3	No
Maschio 30	PF SLU	0	SLU 81	No
Maschio 30	V SLU	3.671	SLU 84	Si
Maschio 30	PF	1.23	SLV 13	Si
Maschio 30	V	2.152	SLV 1	Si
Maschio 30	PFFP	34.797	SLV 9	Si
Maschio 30	R	0	SLV 9	No
Maschio 31	PF SLU	4.699	SLU 84	Si
Maschio 31	V SLU	4.771	SLU 82	Si
Maschio 31	PF	1.235	SLV 13	Si
Maschio 31	V	0.644	SLV 13	No
Maschio 31	PFFP	40.547	SLV 9	Si
Maschio 31	R	0.391	SLV 3	No
Maschio 32	PF SLU	0.839	SLU 83	No
Maschio 32	V SLU	16.881	SLU 84	Si
Maschio 32	PF	1.669	SLV 15	Si
Maschio 32	V	3.796	SLV 15	Si
Maschio 32	PFFP	44.922	SLV 9	Si
Maschio 32	R	0.399	SLV 1	No
Maschio 33	PF SLU	8.965	SLU 83	Si
Maschio 33	V SLU	1.427	SLU 83	Si
Maschio 33	PF	2.4	SLV 15	Si
Maschio 33	V	0.82	SLV 15	No
Maschio 33	PFFP	37.818	SLV 1	Si
Maschio 33	R	0.373	SLV 5	No
Maschio 34	PF SLU	3.958	SLU 44	Si
Maschio 34	V SLU	8.709	SLU 44	Si
Maschio 34	PF	0	SLV 11	No
Maschio 34	V	0	SLV 11	No
Maschio 34	PFFP	10.808	SLV 11	Si
Maschio 34	R	0.132	SLV 7	No
Maschio 35	PF SLU	7.542	SLU 79	Si
Maschio 35	V SLU	20.026	SLU 82	Si
Maschio 35	PF	2.058	SLV 13	Si
Maschio 35	V	1.414	SLV 13	Si
Maschio 35	PFFP	12.473	SLV 15	Si
Maschio 35	R	0.085	SLV 9	No
Maschio 36	PF SLU	2.859	SLU 83	Si
Maschio 36	V SLU	7.928	SLU 79	Si
Maschio 36	PF	2.24	SLV 1	Si
Maschio 36	V	1.23	SLV 15	Si
Maschio 36	PFFP	16.919	SLV 9	Si
Maschio 36	R	0.153	SLV 1	No
Maschio 37	PF SLU	14.257	SLU 48	Si
Maschio 37	V SLU	4.625	SLU 82	Si
Maschio 37	PF	4.865	SLV 1	Si
Maschio 37	V	1.067	SLV 1	Si
Maschio 37	PFFP	22.859	SLV 9	Si
Maschio 37	R	0.189	SLV 5	No
Maschio 38	PF SLU	19.565	SLU 48	Si
Maschio 38	V SLU	7.209	SLU 84	Si
Maschio 38	PF	5.15	SLV 13	Si



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 38	V	1.063	SLV 13	Si
Maschio 38	PFFP	21.645	SLV 5	Si
Maschio 38	R	0.077	SLV 9	No
Maschio 39	PF SLU	5.286	SLU 84	Si
Maschio 39	V SLU	5.17	SLU 84	Si
Maschio 39	PF	1.576	SLV 1	Si
Maschio 39	V	1.09	SLV 13	Si
Maschio 39	PFFP	8.797	SLV 1	Si
Maschio 39	R	0.368	SLV 15	No
Maschio 40	PF SLU	5.159	SLU 82	Si
Maschio 40	V SLU	1.348	SLU 79	Si
Maschio 40	PF	2.844	SLV 11	Si
Maschio 40	V	0.94	SLV 5	No
Maschio 40	PFFP	33.702	SLV 11	Si
Maschio 40	R	0.363	SLV 1	No
Maschio 41	PF SLU	3.878	SLU 79	Si
Maschio 41	V SLU	3.563	SLU 79	Si
Maschio 41	PF	2.974	SLV 9	Si
Maschio 41	V	1.137	SLV 9	Si
Maschio 41	PFFP	282.877	SLV 11	Si
Maschio 41	R	1.136	SLV 5	Si
Maschio 42	PF SLU	11.823	SLU 82	Si
Maschio 42	V SLU	3.169	SLU 52	Si
Maschio 42	PF	4.976	SLV 11	Si
Maschio 42	V	1.083	SLV 7	Si
Maschio 42	PFFP	35.879	SLV 13	Si
Maschio 42	R	0.265	SLV 1	No
Maschio 44	PF SLU	1.754	SLU 82	Si
Maschio 44	V SLU	1.181	SLU 82	Si
Maschio 44	PF	3.419	SLV 7	Si
Maschio 44	V	0.961	SLV 7	No
Maschio 44	PFFP	23.655	SLV 9	Si
Maschio 44	R	0.181	SLV 11	No
Maschio 45	PF SLU	2.052	SLU 79	Si
Maschio 45	V SLU	8.19	SLU 29	Si
Maschio 45	PF	1.287	SLV 7	Si
Maschio 45	V	0.753	SLV 7	No
Maschio 45	PFFP	21.297	SLV 7	Si
Maschio 45	R	0.184	SLV 3	No
Maschio 46	PF SLU	5.345	SLU 38	Si
Maschio 46	V SLU	2.455	SLU 84	Si
Maschio 46	PF	0	SLV 3	No
Maschio 46	V	0	SLV 3	No
Maschio 46	PFFP	3.848	SLV 7	Si
Maschio 46	R	0.167	SLV 13	No
Maschio 47	PF SLU	3.187	SLU 41	Si
Maschio 47	V SLU	3.828	SLU 83	Si
Maschio 47	PF	0	SLV 12	No
Maschio 47	V	0	SLV 3	No
Maschio 47	PFFP	11.607	SLV 7	Si
Maschio 47	R	0	SLV 12	No
Maschio 48	PF SLU	3.572	SLU 83	Si
Maschio 48	V SLU	3.381	SLU 2	Si
Maschio 48	PF	2.516	SLV 11	Si
Maschio 48	V	1.285	SLV 11	Si
Maschio 48	PFFP	23.385	SLV 11	Si
Maschio 48	R	0.215	SLV 1	No
Maschio 49	PF SLU	1.285	SLU 84	Si
Maschio 49	V SLU	1.393	SLU 84	Si
Maschio 49	PF	0	SLV 3	No
Maschio 49	V	0	SLV 3	No
Maschio 49	PFFP	36.608	SLV 15	Si
Maschio 49	R	0.171	SLV 11	No
Maschio 50	PF SLU	1.016	SLU 84	Si
Maschio 50	V SLU	1.641	SLU 73	Si
Maschio 50	PF	1.336	SLV 3	Si
Maschio 50	V	0.941	SLV 1	No
Maschio 50	PFFP	27.592	SLV 11	Si
Maschio 50	R	0	SLV 7	No
Maschio 51	PF SLU	2.459	SLU 47	Si
Maschio 51	V SLU	1.612	SLU 76	Si
Maschio 51	PF	1.93	SLV 3	Si
Maschio 51	V	0.644	SLV 13	No
Maschio 51	PFFP	14.203	SLV 7	Si
Maschio 51	R	0.181	SLV 7	No
Maschio 52	PF SLU	3.886	SLU 5	Si
Maschio 52	V SLU	2.26	SLU 47	Si
Maschio 52	PF	1.613	SLV 3	Si
Maschio 52	V	0.628	SLV 11	No
Maschio 52	PFFP	8.759	SLV 7	Si
Maschio 52	R	0.258	SLV 7	No
Maschio 53	PF SLU	0.472	SLU 83	No
Maschio 53	V SLU	41.638	SLU 41	Si
Maschio 53	PF	1.677	SLV 7	Si
Maschio 53	V	1.379	SLV 5	Si
Maschio 53	PFFP	27.573	SLV 9	Si
Maschio 53	R	0.21	SLV 15	No
Maschio 54	PF SLU	4.484	SLU 81	Si
Maschio 54	V SLU	3.757	SLU 81	Si
Maschio 54	PF	1.931	SLV 15	Si
Maschio 54	V	0.467	SLV 11	No



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 54	PFFP	15.764	SLV 15	Si
Maschio 54	R	0.338	SLV 3	No
Maschio 55	PF SLU	11.417	SLU 43	Si
Maschio 55	V SLU	7.421	SLU 50	Si
Maschio 55	PF	0	SLV 6	No
Maschio 55	V	0	SLV 5	No
Maschio 55	PFFP	7.745	SLV 5	Si
Maschio 55	R	0	SLV 10	No
Maschio 56	PF SLU	6.85	SLU 76	Si
Maschio 56	V SLU	26.161	SLU 5	Si
Maschio 56	PF	2.202	SLV 5	Si
Maschio 56	V	1.933	SLV 5	Si
Maschio 56	PFFP	14.554	SLV 1	Si
Maschio 56	R	0.379	SLV 13	No
Maschio 57	PF SLU	3.433	SLU 76	Si
Maschio 57	V SLU	15.3	SLU 26	Si
Maschio 57	PF	1.817	SLV 9	Si
Maschio 57	V	1.457	SLV 9	Si
Maschio 57	PFFP	4.379	SLV 15	Si
Maschio 57	R	0.048	SLV 15	No
Maschio 58	PF SLU	2.568	SLU 83	Si
Maschio 58	V SLU	0.93	SLU 84	No
Maschio 58	PF	0	SLV 9	No
Maschio 58	V	0	SLV 9	No
Maschio 58	PFFP	0	SLV 10	No
Maschio 58	R	0	SLV 10	No
Maschio 59	PF SLU	1.87	SLU 83	Si
Maschio 59	V SLU	1.575	SLU 81	Si
Maschio 59	PF	0	SLV 9	No
Maschio 59	V	0	SLV 9	No
Maschio 59	PFFP	3.916	SLV 5	Si
Maschio 59	R	0.061	SLV 5	No
Maschio 60	PF SLU	1.433	SLU 76	Si
Maschio 60	V SLU	0.6	SLU 76	No
Maschio 60	PF	0	SLV 15	No
Maschio 60	V	0	SLV 15	No
Maschio 60	PFFP	1.662	SLV 11	Si
Maschio 60	R	0.063	SLV 3	No
Maschio 61	PF SLU	1.783	SLU 2	Si
Maschio 61	V SLU	1.368	SLU 44	Si
Maschio 61	PF	0	SLV 3	No
Maschio 61	V	0	SLV 3	No
Maschio 61	PFFP	6.418	SLV 7	Si
Maschio 61	R	0.061	SLV 7	No
Maschio 62	PF SLU	0.706	SLU 84	No
Maschio 62	V SLU	1.958	SLU 73	Si
Maschio 62	PF	0	SLV 13	No
Maschio 62	V	0	SLV 13	No
Maschio 62	PFFP	7.702	SLV 11	Si
Maschio 62	R	0.064	SLV 1	No
Maschio 63	PF SLU	0.025	SLU 83	No
Maschio 63	V SLU	2.042	SLU 81	Si
Maschio 63	PF	2.076	SLV 15	Si
Maschio 63	V	0.619	SLV 7	No
Maschio 63	PFFP	5.065	SLV 9	Si
Maschio 63	R	0.02	SLV 7	No
Maschio 64	PF SLU	0	SLU 74	No
Maschio 64	V SLU	0.787	SLU 83	No
Maschio 64	PF	1.08	SLV 1	Si
Maschio 64	V	0.166	SLV 1	No
Maschio 64	PFFP	7.017	SLV 9	Si
Maschio 64	R	0	SLV 5	No
Maschio 65	PF SLU	0.318	SLU 84	No
Maschio 65	V SLU	1.115	SLU 80	Si
Maschio 65	PF	0	SLV 8	No
Maschio 65	V	0	SLV 7	No
Maschio 65	PFFP	6.527	SLV 11	Si
Maschio 65	R	0.065	SLV 13	No
Maschio 66	PF SLU	3.864	SLU 52	Si
Maschio 66	V SLU	2.487	SLU 2	Si
Maschio 66	PF	2.327	SLV 9	Si
Maschio 66	V	0.481	SLV 7	No
Maschio 66	PFFP	3.298	SLV 15	Si
Maschio 66	R	0.02	SLV 1	No
Maschio 67	PF SLU	1.294	SLU 82	Si
Maschio 67	V SLU	0.708	SLU 82	No
Maschio 67	PF	0	SLV 1	No
Maschio 67	V	0	SLV 1	No
Maschio 67	PFFP	2.249	SLV 3	Si
Maschio 67	R	0.046	SLV 11	No
Maschio 68	PF SLU	0	SLU 52	No
Maschio 68	V SLU	3.917	SLU 79	Si
Maschio 68	PF	0.906	SLV 11	No
Maschio 68	V	0.561	SLV 11	No
Maschio 68	PFFP	5.354	SLV 15	Si
Maschio 68	R	0.015	SLV 15	No
Maschio 69	PF SLU	1.922	SLU 83	Si
Maschio 69	V SLU	1.997	SLU 83	Si
Maschio 69	PF	1.994	SLV 1	Si
Maschio 69	V	1.054	SLV 9	Si
Maschio 69	PFFP	20.708	SLV 11	Si



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 69	R	0.19	SLV 11	No
Maschio 70	PF SLU	0.529	SLU 83	No
Maschio 70	V SLU	0.184	SLU 50	No
Maschio 70	PF	0	SLD 1	No
Maschio 70	V	0	SLD 1	No
Maschio 70	PFFP	36.61	SLV 11	Si
Maschio 70	R	0.306	SLV 11	No
Maschio 72	PF SLU	3.148	SLU 83	Si
Maschio 72	V SLU	5.987	SLU 82	Si
Maschio 72	PF	3.61	SLV 15	Si
Maschio 72	V	0.949	SLV 11	No
Maschio 72	PFFP	15.91	SLV 1	Si
Maschio 72	R	0.147	SLV 1	No
Maschio 73	PF SLU	0	SLU 1	No
Maschio 73	V SLU	0	SLU 1	No
Maschio 73	PF	0	SLV 6	No
Maschio 73	V	0	SLD 1	No
Maschio 73	PFFP	8.274	SLV 3	Si
Maschio 73	R	0	SLV 10	No
Maschio 74	PF SLU	0	SLU 62	No
Maschio 74	V SLU	2.284	SLU 77	Si
Maschio 74	PF	0	SLV 6	No
Maschio 74	V	0	SLV 1	No
Maschio 74	PFFP	0	SLV 6	No
Maschio 74	R	0.065	SLV 13	No
Maschio 75	PF SLU	2.185	SLU 83	Si
Maschio 75	V SLU	1.901	SLU 83	Si
Maschio 75	PF	1.535	SLV 13	Si
Maschio 75	V	0.812	SLV 3	No
Maschio 75	PFFP	8.717	SLV 13	Si
Maschio 75	R	0.063	SLV 3	No
Maschio 76	PF SLU	1.211	SLU 83	Si
Maschio 76	V SLU	2.939	SLU 82	Si
Maschio 76	PF	2.498	SLV 1	Si
Maschio 76	V	0.786	SLV 3	No
Maschio 76	PFFP	10.738	SLV 5	Si
Maschio 76	R	0.059	SLV 9	No
Maschio 77	PF SLU	10.39	SLU 82	Si
Maschio 77	V SLU	3.261	SLU 82	Si
Maschio 77	PF	4.351	SLV 15	Si
Maschio 77	V	0.793	SLV 15	No
Maschio 77	PFFP	9.462	SLV 9	Si
Maschio 77	R	0.059	SLV 9	No
Maschio 78	PF SLU	3.019	SLU 83	Si
Maschio 78	V SLU	1.375	SLU 83	Si
Maschio 78	PF	2.204	SLV 3	Si
Maschio 78	V	0.792	SLV 15	No
Maschio 78	PFFP	9.243	SLV 1	Si
Maschio 78	R	0.059	SLV 7	No
Maschio 79	PF SLU	0.846	SLU 82	No
Maschio 79	V SLU	18.34	SLU 60	Si
Maschio 79	PF	0.676	SLV 7	No
Maschio 79	V	0.149	SLV 7	No
Maschio 79	PFFP	5.43	SLV 11	Si
Maschio 79	R	0.013	SLV 13	No
Maschio 80	PF SLU	2.755	SLU 83	Si
Maschio 80	V SLU	1.243	SLU 82	Si
Maschio 80	PF	0	SLV 13	No
Maschio 80	V	0	SLV 13	No
Maschio 80	PFFP	5.542	SLV 13	Si
Maschio 80	R	0.064	SLV 3	No
Maschio 81	PF SLU	7.379	SLU 84	Si
Maschio 81	V SLU	6.468	SLU 84	Si
Maschio 81	PF	2.316	SLV 13	Si
Maschio 81	V	0.87	SLV 1	No
Maschio 81	PFFP	6.646	SLV 9	Si
Maschio 81	R	0.064	SLV 9	No
Maschio 82	PF SLU	8.12	SLU 83	Si
Maschio 82	V SLU	10.067	SLU 84	Si
Maschio 82	PF	2.266	SLV 1	Si
Maschio 82	V	0.872	SLV 13	No
Maschio 82	PFFP	6.499	SLV 5	Si
Maschio 82	R	0.064	SLV 5	No
Maschio 83	PF SLU	2.729	SLU 77	Si
Maschio 83	V SLU	1.054	SLU 84	Si
Maschio 83	PF	1.003	SLV 1	Si
Maschio 83	V	0.231	SLV 1	No
Maschio 83	PFFP	6.5	SLV 5	Si
Maschio 83	R	0.064	SLV 13	No
Maschio 84	PF SLU	1.353	SLU 83	Si
Maschio 84	V SLU	2.029	SLU 79	Si
Maschio 84	PF	1.699	SLV 13	Si
Maschio 84	V	1.317	SLV 9	Si
Maschio 84	PFFP	22.143	SLV 7	Si
Maschio 84	R	0.206	SLV 7	No
Maschio 85	PF SLU	5.028	SLU 84	Si
Maschio 85	V SLU	8.014	SLU 52	Si
Maschio 85	PF	4.723	SLV 11	Si
Maschio 85	V	1.064	SLV 7	Si
Maschio 85	PFFP	17.837	SLV 11	Si
Maschio 85	R	0.124	SLV 3	No



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 86	PF SLU	0	SLU 52	No
Maschio 86	V SLU	2.945	SLU 79	Si
Maschio 86	PF	0.821	SLV 11	No
Maschio 86	V	0.475	SLV 7	No
Maschio 86	PFFP	5.523	SLV 3	Si
Maschio 86	R	0.017	SLV 3	No
Maschio 87	PF SLU	1.195	SLU 82	Si
Maschio 87	V SLU	0.758	SLU 82	No
Maschio 87	PF	0	SLV 16	No
Maschio 87	V	0	SLV 3	No
Maschio 87	PFFP	0	SLV 16	No
Maschio 87	R	0.044	SLV 7	No
Maschio 88	PF SLU	0	SLU 61	No
Maschio 88	V SLU	2.829	SLU 52	Si
Maschio 88	PF	1.905	SLV 5	Si
Maschio 88	V	0.823	SLV 11	No
Maschio 88	PFFP	4.956	SLV 11	Si
Maschio 88	R	0.021	SLV 3	No
Maschio 89	PF SLU	0.68	SLU 84	No
Maschio 89	V SLU	0.94	SLU 84	No
Maschio 89	PF	0	SLV 12	No
Maschio 89	V	0	SLV 7	No
Maschio 89	PFFP	4.128	SLV 7	Si
Maschio 89	R	0.062	SLV 11	No
Maschio 90	PF SLU	0	SLU 74	No
Maschio 90	V SLU	3.039	SLU 83	Si
Maschio 90	PF	1.87	SLV 7	Si
Maschio 90	V	0.781	SLV 11	No
Maschio 90	PFFP	4.936	SLV 9	Si
Maschio 90	R	0.02	SLV 11	No
Maschio 91	PF SLU	0	SLU 1	No
Maschio 91	V SLU	0	SLU 1	No
Maschio 91	PF	0	SLD 5	No
Maschio 91	V	0	SLD 5	No
Maschio 91	PFFP	1.714	SLV 13	Si
Maschio 91	R	0.065	SLV 1	No
Maschio 92	PF SLU	0	SLU 31	No
Maschio 92	V SLU	1.055	SLU 82	Si
Maschio 92	PF	0	SLD 13	No
Maschio 92	V	0	SLD 9	No
Maschio 92	PFFP	6.037	SLV 1	Si
Maschio 92	R	0	SLV 13	No
Maschio 93	PF SLU	0	SLU 63	No
Maschio 93	V SLU	1.838	SLU 73	Si
Maschio 93	PF	0	SLV 3	No
Maschio 93	V	0	SLV 3	No
Maschio 93	PFFP	6.741	SLV 7	Si
Maschio 93	R	0.068	SLV 15	No
Maschio 94	PF SLU	1.538	SLU 2	Si
Maschio 94	V SLU	0.927	SLU 47	No
Maschio 94	PF	0	SLV 11	No
Maschio 94	V	0	SLV 11	No
Maschio 94	PFFP	5.516	SLV 11	Si
Maschio 94	R	0.062	SLV 11	No
Maschio 95	PF SLU	1.305	SLU 2	Si
Maschio 95	V SLU	0.517	SLU 73	No
Maschio 95	PF	0	SLV 3	No
Maschio 95	V	0	SLV 3	No
Maschio 95	PFFP	0	SLV 7	No
Maschio 95	R	0	SLV 8	No
Maschio 96	PF SLU	2.246	SLU 77	Si
Maschio 96	V SLU	1.354	SLU 83	Si
Maschio 96	PF	0	SLV 1	No
Maschio 96	V	0	SLV 1	No
Maschio 96	PFFP	2.992	SLV 9	Si
Maschio 96	R	0	SLV 10	No
Maschio 97	PF SLU	2.178	SLU 81	Si
Maschio 97	V SLU	0.801	SLU 84	No
Maschio 97	PF	0	SLV 1	No
Maschio 97	V	0	SLV 1	No
Maschio 97	PFFP	0	SLV 6	No
Maschio 97	R	0	SLV 10	No
Maschio 98	PF SLU	2.881	SLU 76	Si
Maschio 98	V SLU	21.381	SLU 5	Si
Maschio 98	PF	1.855	SLV 5	Si
Maschio 98	V	1.673	SLV 5	Si
Maschio 98	PFFP	5.437	SLV 1	Si
Maschio 98	R	0.063	SLV 15	No
Maschio 99	PF SLU	12.9	SLU 81	Si
Maschio 99	V SLU	3.327	SLU 81	Si
Maschio 99	PF	3.085	SLV 11	Si
Maschio 99	V	1.357	SLV 7	Si
Maschio 99	PFFP	4.064	SLV 15	Si
Maschio 99	R	0.069	SLV 3	No
Maschio 100	PF SLU	5.61	SLU 76	Si
Maschio 100	V SLU	2.188	SLU 76	Si
Maschio 100	PF	2.016	SLV 9	Si
Maschio 100	V	1.239	SLV 9	Si
Maschio 100	PFFP	2.541	SLV 13	Si
Maschio 100	R	0.069	SLV 1	No
Maschio 101	PF SLU	6.932	SLU 82	Si



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 101	V SLU	2.276	SLU 82	Si
Maschio 101	PF	1.542	SLV 13	Si
Maschio 101	V	0.962	SLV 1	No
Maschio 101	PFFP	2.605	SLV 9	Si
Maschio 101	R	0.066	SLV 1	No
Maschio 102	PF SLU	13.486	SLU 30	Si
Maschio 102	V SLU	5.807	SLU 61	Si
Maschio 102	PF	2	SLV 1	Si
Maschio 102	V	0.79	SLV 13	No
Maschio 102	PFFP	4.313	SLV 5	Si
Maschio 102	R	0.019	SLV 5	No
Maschio 103	PF SLU	4.242	SLU 76	Si
Maschio 103	V SLU	1.007	SLU 73	Si
Maschio 103	PF	1.676	SLV 15	Si
Maschio 103	V	0.701	SLV 3	No
Maschio 103	PFFP	2.922	SLV 11	Si
Maschio 103	R	0.062	SLV 7	No
Maschio 104	PF SLU	6.311	SLU 73	Si
Maschio 104	V SLU	8.033	SLU 52	Si
Maschio 104	PF	1.914	SLV 3	Si
Maschio 104	V	0.713	SLV 15	No
Maschio 104	PFFP	3.637	SLV 7	Si
Maschio 104	R	0.065	SLV 1	No
Maschio 105	PF SLU	2.525	SLU 73	Si
Maschio 105	V SLU	5.465	SLU 52	Si
Maschio 105	PF	0	SLV 13	No
Maschio 105	V	0	SLV 13	No
Maschio 105	PFFP	3.561	SLV 11	Si
Maschio 105	R	0.072	SLV 3	No
Maschio 106	PF SLU	5.877	SLU 29	Si
Maschio 106	V SLU	7.601	SLU 81	Si
Maschio 106	PF	6.28	SLV 5	Si
Maschio 106	V	0.753	SLV 9	No
Maschio 106	PFFP	3.351	SLV 9	Si
Maschio 106	R	0.018	SLV 1	No
Maschio 107	PF SLU	2.959	SLU 82	Si
Maschio 107	V SLU	2.258	SLU 82	Si
Maschio 107	PF	0	SLV 14	No
Maschio 107	V	0	SLD 1	No
Maschio 107	PFFP	4.401	SLV 5	Si
Maschio 107	R	0	SLV 14	No
Maschio 108	PF SLU	2.37	SLU 82	Si
Maschio 108	V SLU	2.68	SLU 73	Si
Maschio 108	PF	0	SLV 8	No
Maschio 108	V	0	SLV 3	No
Maschio 108	PFFP	2.277	SLV 11	Si
Maschio 108	R	0	SLV 8	No
Maschio 109	PF SLU	5.163	SLU 76	Si
Maschio 109	V SLU	4.218	SLU 2	Si
Maschio 109	PF	4.205	SLV 13	Si
Maschio 109	V	0.742	SLV 11	No
Maschio 109	PFFP	2.794	SLV 15	Si
Maschio 109	R	0.019	SLV 1	No
Maschio 110	PF SLU	4.089	SLU 73	Si
Maschio 110	V SLU	1.699	SLU 82	Si
Maschio 110	PF	1.072	SLV 15	Si
Maschio 110	V	0.257	SLV 15	No
Maschio 110	PFFP	4.497	SLV 1	Si
Maschio 110	R	0	SLV 5	No
Maschio 111	PF SLU	4.127	SLU 82	Si
Maschio 111	V SLU	6.445	SLU 29	Si
Maschio 111	PF	3.379	SLV 5	Si
Maschio 111	V	1.274	SLV 11	Si
Maschio 111	PFFP	3.486	SLV 15	Si
Maschio 111	R	0.02	SLV 5	No
Maschio 113	PF SLU	0	SLU 1	No
Maschio 113	V SLU	0	SLU 1	No
Maschio 113	PF	0	SLV 16	No
Maschio 113	V	0	SLD 1	No
Maschio 113	PFFP	0	SLV 12	No
Maschio 113	R	0	SLV 12	No
Maschio 114	PF SLU	1.051	SLU 77	Si
Maschio 114	V SLU	3.189	SLU 29	Si
Maschio 114	PF	0	SLV 6	No
Maschio 114	V	0	SLV 1	No
Maschio 114	PFFP	1.26	SLV 5	Si
Maschio 114	R	0.061	SLV 1	No
Maschio 115	PF SLU	3.979	SLU 71	Si
Maschio 115	V SLU	22.656	SLU 43	Si
Maschio 115	PF	1.299	SLV 7	Si
Maschio 115	V	0.376	SLV 7	No
Maschio 115	PFFP	2.908	SLV 11	Si
Maschio 115	R	0.02	SLV 9	No
Maschio 116	PF SLU	1.209	SLU 51	Si
Maschio 116	V SLU	1000	SLU 1	Si
Maschio 116	PF	0	SLV 12	No
Maschio 116	V	0	SLD 3	No
Maschio 116	PFFP	0	SLV 12	No
Maschio 116	R	0	SLV 7	No
Maschio 117	PF SLU	0	SLU 1	No
Maschio 117	V SLU	0	SLU 1	No



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 117	PF	0	SLV 8	No
Maschio 117	V	0	SLD 1	No
Maschio 117	PFFP	0	SLV 6	No
Maschio 117	R	0	SLV 12	No
Maschio 118	PF SLU	5.534	SLU 82	Si
Maschio 118	V SLU	5.427	SLU 82	Si
Maschio 118	PF	0	SLV 13	No
Maschio 118	V	0	SLV 13	No
Maschio 118	PFFP	2.872	SLV 13	Si
Maschio 118	R	0.019	SLV 9	No
Maschio 119	PF SLU	23.196	SLU 82	Si
Maschio 119	V SLU	10.575	SLU 51	Si
Maschio 119	PF	2.465	SLV 13	Si
Maschio 119	V	0.85	SLV 13	No
Maschio 119	PFFP	5.487	SLV 9	Si
Maschio 119	R	0.069	SLV 3	No
Maschio 120	PF SLU	15.315	SLU 80	Si
Maschio 120	V SLU	9.065	SLU 72	Si
Maschio 120	PF	2.399	SLV 1	Si
Maschio 120	V	0.829	SLV 1	No
Maschio 120	PFFP	5.561	SLV 5	Si
Maschio 120	R	0.066	SLV 15	No
Maschio 121	PF SLU	5.125	SLU 82	Si
Maschio 121	V SLU	6.415	SLU 82	Si
Maschio 121	PF	0	SLV 1	No
Maschio 121	V	0	SLV 1	No
Maschio 121	PFFP	2.815	SLV 1	Si
Maschio 121	R	0	SLV 5	No
Maschio 122	PF SLU	5.135	SLU 77	Si
Maschio 122	V SLU	3.415	SLU 41	Si
Maschio 122	PF	2.848	SLV 13	Si
Maschio 122	V	0.965	SLV 15	No
Maschio 122	PFFP	5.975	SLV 13	Si
Maschio 122	R	0.044	SLV 11	No
Maschio 123	PF SLU	10.605	SLU 77	Si
Maschio 123	V SLU	6.635	SLU 61	Si
Maschio 123	PF	2.689	SLV 1	Si
Maschio 123	V	0.682	SLV 3	No
Maschio 123	PFFP	8.095	SLV 5	Si
Maschio 123	R	0.056	SLV 9	No
Maschio 124	PF SLU	6.222	SLU 49	Si
Maschio 124	V SLU	12.889	SLU 44	Si
Maschio 124	PF	0	SLV 1	No
Maschio 124	V	0	SLV 1	No
Maschio 124	PFFP	9.203	SLV 9	Si
Maschio 124	R	0	SLV 9	No
Maschio 125	PF SLU	3.403	SLU 84	Si
Maschio 125	V SLU	8.123	SLU 52	Si
Maschio 125	PF	1.229	SLV 15	Si
Maschio 125	V	0.591	SLV 15	No
Maschio 125	PFFP	8.489	SLV 13	Si
Maschio 125	R	0.048	SLV 9	No
Maschio 126	PF SLU	4.322	SLU 78	Si
Maschio 126	V SLU	4.383	SLU 77	Si
Maschio 126	PF	1.053	SLV 15	Si
Maschio 126	V	0.341	SLV 15	No
Maschio 126	PFFP	9.042	SLV 9	Si
Maschio 126	R	0.055	SLV 9	No
Maschio 127	PF SLU	5.232	SLU 77	Si
Maschio 127	V SLU	2.096	SLU 83	Si
Maschio 127	PF	2.366	SLV 3	Si
Maschio 127	V	0.823	SLV 15	No
Maschio 127	PFFP	5.994	SLV 1	Si
Maschio 127	R	0.047	SLV 7	No
Maschio 129	PF SLU	6.46	SLU 82	Si
Maschio 129	V SLU	4.567	SLU 29	Si
Maschio 129	PF	3.709	SLV 5	Si
Maschio 129	V	1.289	SLV 7	Si
Maschio 129	PFFP	4.015	SLV 15	Si
Maschio 129	R	0.016	SLV 15	No
Maschio 130	PF SLU	4.016	SLU 82	Si
Maschio 130	V SLU	1.812	SLU 82	Si
Maschio 130	PF	0	SLV 3	No
Maschio 130	V	0	SLV 3	No
Maschio 130	PFFP	3.459	SLV 15	Si
Maschio 130	R	0.011	SLV 7	No
Maschio 131	PF SLU	5.992	SLU 76	Si
Maschio 131	V SLU	4.435	SLU 2	Si
Maschio 131	PF	4.636	SLV 1	Si
Maschio 131	V	0.848	SLV 11	No
Maschio 131	PFFP	3.618	SLV 7	Si
Maschio 131	R	0.02	SLV 1	No
Maschio 132	PF SLU	2.951	SLU 73	Si
Maschio 132	V SLU	4.155	SLU 65	Si
Maschio 132	PF	0	SLV 12	No
Maschio 132	V	0	SLV 3	No
Maschio 132	PFFP	1.352	SLV 7	Si
Maschio 132	R	0	SLV 12	No
Maschio 133	PF SLU	9.4	SLU 29	Si
Maschio 133	V SLU	7.356	SLU 81	Si
Maschio 133	PF	6.92	SLV 5	Si



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 133	V	0.786	SLV 5	No
Maschio 133	PFFP	3.204	SLV 9	Si
Maschio 133	R	0.017	SLV 9	No
Maschio 134	PF SLU	0.262	SLU 79	No
Maschio 134	V SLU	0.372	SLU 82	No
Maschio 134	PF	0	SLV 14	No
Maschio 134	V	0	SLD 5	No
Maschio 134	PFFP	0	SLV 14	No
Maschio 134	R	0	SLV 10	No
Maschio 135	PF SLU	2.115	SLU 79	Si
Maschio 135	V SLU	20.265	SLU 82	Si
Maschio 135	PF	0	SLV 1	No
Maschio 135	V	0	SLV 1	No
Maschio 135	PFFP	4.068	SLV 5	Si
Maschio 135	R	0	SLV 16	No
Maschio 136	PF SLU	2.055	SLU 84	Si
Maschio 136	V SLU	6.16	SLU 79	Si
Maschio 136	PF	0	SLV 1	No
Maschio 136	V	0	SLV 1	No
Maschio 136	PFFP	3.549	SLV 7	Si
Maschio 136	R	0.07	SLV 15	No
Maschio 137	PF SLU	5.581	SLU 73	Si
Maschio 137	V SLU	4.4	SLU 84	Si
Maschio 137	PF	1.904	SLV 15	Si
Maschio 137	V	0.675	SLV 3	No
Maschio 137	PFFP	3.73	SLV 11	Si
Maschio 137	R	0.068	SLV 13	No
Maschio 138	PF SLU	5.553	SLU 31	Si
Maschio 138	V SLU	1.054	SLU 73	Si
Maschio 138	PF	1.516	SLV 3	Si
Maschio 138	V	0.645	SLV 15	No
Maschio 138	PFFP	2.688	SLV 7	Si
Maschio 138	R	0.058	SLV 11	No
Maschio 139	PF SLU	10.955	SLU 30	Si
Maschio 139	V SLU	5.667	SLU 82	Si
Maschio 139	PF	1.344	SLV 13	Si
Maschio 139	V	0.523	SLV 13	No
Maschio 139	PFFP	3.712	SLV 13	Si
Maschio 139	R	0	SLV 13	No
Maschio 140	PF SLU	7.494	SLU 82	Si
Maschio 140	V SLU	1.954	SLU 82	Si
Maschio 140	PF	1.54	SLV 1	Si
Maschio 140	V	0.873	SLV 13	No
Maschio 140	PFFP	2.375	SLV 5	Si
Maschio 140	R	0.068	SLV 13	No
Maschio 141	PF SLU	10.811	SLU 76	Si
Maschio 141	V SLU	25.036	SLU 5	Si
Maschio 141	PF	2.788	SLV 5	Si
Maschio 141	V	1.949	SLV 7	Si
Maschio 141	PFFP	4.224	SLV 1	Si
Maschio 141	R	0.07	SLV 15	No
Maschio 142	PF SLU	17.965	SLU 81	Si
Maschio 142	V SLU	3.526	SLU 80	Si
Maschio 142	PF	3.791	SLV 11	Si
Maschio 142	V	1.494	SLV 7	Si
Maschio 142	PFFP	2.596	SLV 11	Si
Maschio 142	R	0.065	SLV 1	No
Maschio 143	PF SLU	11.225	SLU 44	Si
Maschio 143	V SLU	2.419	SLU 76	Si
Maschio 143	PF	2.602	SLV 9	Si
Maschio 143	V	1.534	SLV 5	Si
Maschio 143	PFFP	1.889	SLV 13	Si
Maschio 143	R	0.061	SLV 3	No
Maschio 144	PF SLU	9.833	SLU 61	Si
Maschio 144	V SLU	2.792	SLU 82	Si
Maschio 144	PF	1.132	SLV 13	Si
Maschio 144	V	0.482	SLV 13	No
Maschio 144	PFFP	1.944	SLV 9	Si
Maschio 144	R	0.034	SLV 9	No
Maschio 145	PF SLU	0	SLU 8	No
Maschio 145	V SLU	0	SLU 8	No
Maschio 145	PF	0	SLV 4	No
Maschio 145	V	0	SLV 1	No
Maschio 145	PFFP	0	SLV 3	No
Maschio 145	R	0	SLV 4	No
Maschio 146	PF SLU	4.914	SLU 82	Si
Maschio 146	V SLU	1.351	SLU 82	Si
Maschio 146	PF	2.578	SLV 3	Si
Maschio 146	V	1.023	SLV 3	Si
Maschio 146	PFFP	2.061	SLV 11	Si
Maschio 146	R	0.067	SLV 5	No
Maschio 147	PF SLU	7.256	SLU 72	Si
Maschio 147	V SLU	4.738	SLU 30	Si
Maschio 147	PF	1.839	SLV 1	Si
Maschio 147	V	0.913	SLV 1	No
Maschio 147	PFFP	2.429	SLV 7	Si
Maschio 147	R	0.023	SLV 3	No
Maschio 148	PF SLU	3.816	SLU 52	Si
Maschio 148	V SLU	4.378	SLU 29	Si
Maschio 148	PF	0	SLV 9	No
Maschio 148	V	0	SLV 9	No





Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 148	PFFP	1.282	SLV 15	Si
Maschio 148	R	0	SLV 13	No
Maschio 149	PF SLU	3.928	SLU 29	Si
Maschio 149	V SLU	7.285	SLU 51	Si
Maschio 149	PF	3.312	SLV 9	Si
Maschio 149	V	0.87	SLV 9	No
Maschio 149	PFFP	1.77	SLV 9	Si
Maschio 149	R	0.019	SLV 11	No
Maschio 150	PF SLU	3.149	SLU 71	Si
Maschio 150	V SLU	5.086	SLU 29	Si
Maschio 150	PF	0	SLV 10	No
Maschio 150	V	0	SLV 5	No
Maschio 150	PFFP	1.747	SLV 9	Si
Maschio 150	R	0	SLV 10	No
Maschio 151	PF SLU	2.818	SLU 52	Si
Maschio 151	V SLU	3.926	SLU 73	Si
Maschio 151	PF	0	SLV 3	No
Maschio 151	V	0	SLV 3	No
Maschio 151	PFFP	1.191	SLV 15	Si
Maschio 151	R	0	SLV 8	No
Maschio 152	PF SLU	4.739	SLU 26	Si
Maschio 152	V SLU	3.658	SLU 71	Si
Maschio 152	PF	3.052	SLV 13	Si
Maschio 152	V	0.863	SLV 11	No
Maschio 152	PFFP	1.668	SLV 15	Si
Maschio 152	R	0.019	SLV 3	No
Maschio 153	PF SLU	5.095	SLU 82	Si
Maschio 153	V SLU	1.653	SLU 82	Si
Maschio 153	PF	0	SLV 10	No
Maschio 153	V	0	SLV 1	No
Maschio 153	PFFP	0	SLV 6	No
Maschio 153	R	0	SLV 10	No
Maschio 154	PF SLU	13.022	SLU 82	Si
Maschio 154	V SLU	5.239	SLU 29	Si
Maschio 154	PF	5.647	SLV 5	Si
Maschio 154	V	1.46	SLV 11	Si
Maschio 154	PFFP	1.605	SLV 13	Si
Maschio 154	R	0.019	SLV 7	No
Maschio 155	PF SLU	0	SLU 1	No
Maschio 155	V SLU	0	SLU 1	No
Maschio 155	PF	0	SLV 16	No
Maschio 155	V	0	SLD 3	No
Maschio 155	PFFP	0	SLV 1	No
Maschio 155	R	0	SLV 16	No
Maschio 156	PF SLU	1.497	SLU 29	Si
Maschio 156	V SLU	1.511	SLU 29	Si
Maschio 156	PF	0	SLV 12	No
Maschio 156	V	0	SLD 1	No
Maschio 156	PFFP	0	SLV 10	No
Maschio 156	R	0	SLV 12	No
Maschio 157	PF SLU	3.34	SLU 79	Si
Maschio 157	V SLU	24.944	SLU 43	Si
Maschio 157	PF	1.667	SLV 7	Si
Maschio 157	V	0.71	SLV 7	No
Maschio 157	PFFP	1.705	SLV 15	Si
Maschio 157	R	0.018	SLV 9	No
Maschio 158	PF SLU	2.065	SLU 37	Si
Maschio 158	V SLU	14.146	SLU 84	Si
Maschio 158	PF	0	SLV 3	No
Maschio 158	V	0	SLV 3	No
Maschio 158	PFFP	0	SLV 3	No
Maschio 158	R	0	SLV 5	No
Maschio 159	PF SLU	0	SLU 84	No
Maschio 159	V SLU	0	SLU 1	No
Maschio 159	PF	0	SLV 16	No
Maschio 159	V	0	SLD 1	No
Maschio 159	PFFP	0	SLV 9	No
Maschio 159	R	0	SLV 16	No
Maschio 160	PF SLU	2.283	SLU 9	Si
Maschio 160	V SLU	4.613	SLU 30	Si
Maschio 160	PF	0	SLV 15	No
Maschio 160	V	0	SLV 15	No
Maschio 160	PFFP	1.579	SLV 13	Si
Maschio 160	R	0.059	SLV 3	No
Maschio 161	PF SLU	12.681	SLU 9	Si
Maschio 161	V SLU	16.938	SLU 39	Si
Maschio 161	PF	1.954	SLV 13	Si
Maschio 161	V	0.857	SLV 13	No
Maschio 161	PFFP	3.42	SLV 9	Si
Maschio 161	R	0.043	SLV 9	No
Maschio 162	PF SLU	17.997	SLU 9	Si
Maschio 162	V SLU	11.312	SLU 9	Si
Maschio 162	PF	1.948	SLV 3	Si
Maschio 162	V	0.837	SLV 3	No
Maschio 162	PFFP	3.363	SLV 1	Si
Maschio 162	R	0.005	SLV 5	No
Maschio 163	PF SLU	4.484	SLU 9	Si
Maschio 163	V SLU	5.716	SLU 38	Si
Maschio 163	PF	0	SLV 3	No
Maschio 163	V	0	SLV 3	No
Maschio 163	PFFP	1.645	SLV 3	Si



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 163	R	0.058	SLV 15	No
Maschio 164	PF SLU	5.908	SLU 77	Si
Maschio 164	V SLU	2.454	SLU 41	Si
Maschio 164	PF	3.029	SLV 13	Si
Maschio 164	V	1.103	SLV 1	Si
Maschio 164	PFFP	2.87	SLV 15	Si
Maschio 164	R	0.023	SLV 9	No
Maschio 165	PF SLU	18.04	SLU 69	Si
Maschio 165	V SLU	12.86	SLU 61	Si
Maschio 165	PF	5.016	SLV 15	Si
Maschio 165	V	0.767	SLV 13	No
Maschio 165	PFFP	5.253	SLV 13	Si
Maschio 165	R	0.054	SLV 1	No
Maschio 166	PF SLU	3.037	SLU 41	Si
Maschio 166	V SLU	3.802	SLU 41	Si
Maschio 166	PF	0	SLV 1	No
Maschio 166	V	0	SLV 1	No
Maschio 166	PFFP	5.337	SLV 11	Si
Maschio 166	R	0	SLV 3	No
Maschio 167	PF SLU	7.306	SLU 61	Si
Maschio 167	V SLU	12.552	SLU 52	Si
Maschio 167	PF	1.543	SLV 1	Si
Maschio 167	V	0.945	SLV 1	No
Maschio 167	PFFP	5.661	SLV 1	Si
Maschio 167	R	0	SLV 5	No
Maschio 168	PF SLU	5.823	SLU 77	Si
Maschio 168	V SLU	4.442	SLU 77	Si
Maschio 168	PF	1.023	SLV 15	Si
Maschio 168	V	0.298	SLV 15	No
Maschio 168	PFFP	5.738	SLV 1	Si
Maschio 168	R	0.041	SLV 5	No
Maschio 169	PF SLU	5.196	SLU 77	Si
Maschio 169	V SLU	2.078	SLU 41	Si
Maschio 169	PF	2.952	SLV 15	Si
Maschio 169	V	0.973	SLV 15	No
Maschio 169	PFFP	2.951	SLV 1	Si
Maschio 169	R	0.024	SLV 7	No
Maschio 170	PF SLU	0.923	SLU 79	No
Maschio 170	V SLU	2.233	SLU 75	Si
Maschio 170	PF	0	SLD 1	No
Maschio 170	V	0	SLD 1	No
Maschio 170	PFFP	1.204	SLV 3	Si
Maschio 170	R	0.049	SLV 11	No
Maschio 171	PF SLU	12.615	SLU 66	Si
Maschio 171	V SLU	8.831	SLU 61	Si
Maschio 171	PF	7.257	SLV 7	Si
Maschio 171	V	1.153	SLV 7	Si
Maschio 171	PFFP	7.078	SLV 3	Si
Maschio 171	R	0.089	SLV 3	No
Maschio 173	PF SLU	14.143	SLU 27	Si
Maschio 173	V SLU	1.781	SLU 71	Si
Maschio 173	PF	4.776	SLV 13	Si
Maschio 173	V	1.257	SLV 9	Si
Maschio 173	PFFP	3.292	SLV 3	Si
Maschio 173	R	0.031	SLV 13	No
Maschio 174	PF SLU	9.39	SLU 61	Si
Maschio 174	V SLU	3.688	SLU 29	Si
Maschio 174	PF	4.944	SLV 9	Si
Maschio 174	V	1.439	SLV 7	Si
Maschio 174	PFFP	1.923	SLV 5	Si
Maschio 174	R	0.019	SLV 15	No
Maschio 175	PF SLU	3.062	SLU 40	Si
Maschio 175	V SLU	1.684	SLU 82	Si
Maschio 175	PF	0	SLV 3	No
Maschio 175	V	0	SLV 3	No
Maschio 175	PFFP	1.53	SLV 15	Si
Maschio 175	R	0	SLV 7	No
Maschio 176	PF SLU	5.255	SLU 26	Si
Maschio 176	V SLU	4.391	SLU 71	Si
Maschio 176	PF	4.153	SLV 7	Si
Maschio 176	V	0.921	SLV 7	No
Maschio 176	PFFP	1.721	SLV 3	Si
Maschio 176	R	0.013	SLV 5	No
Maschio 177	PF SLU	3.116	SLU 44	Si
Maschio 177	V SLU	4.274	SLU 73	Si
Maschio 177	PF	0	SLV 12	No
Maschio 177	V	0	SLV 3	No
Maschio 177	PFFP	0	SLV 8	No
Maschio 177	R	0	SLV 12	No
Maschio 178	PF SLU	4.118	SLU 29	Si
Maschio 178	V SLU	7.333	SLU 37	Si
Maschio 178	PF	3.349	SLV 5	Si
Maschio 178	V	0.912	SLV 5	No
Maschio 178	PFFP	1.761	SLV 9	Si
Maschio 178	R	0.018	SLV 7	No
Maschio 179	PF SLU	0	SLU 29	No
Maschio 179	V SLU	1.022	SLU 79	Si
Maschio 179	PF	1.182	SLV 5	Si
Maschio 179	V	1.819	SLV 5	Si
Maschio 179	PFFP	0	SLV 5	No
Maschio 179	R	0	SLV 6	No



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 180	PF SLU	0	SLU 3	No
Maschio 180	V SLU	563.011	SLU 80	Si
Maschio 180	PF	0	SLV 5	No
Maschio 180	V	0	SLV 5	No
Maschio 180	PFFP	0	SLV 1	No
Maschio 180	R	0	SLV 16	No
Maschio 181	PF SLU	3.256	SLU 73	Si
Maschio 181	V SLU	6.778	SLU 71	Si
Maschio 181	PF	0	SLV 1	No
Maschio 181	V	0	SLV 1	No
Maschio 181	PFFP	1.062	SLV 7	Si
Maschio 181	R	0.067	SLV 15	No
Maschio 182	PF SLU	11.558	SLU 65	Si
Maschio 182	V SLU	23.876	SLU 26	Si
Maschio 182	PF	1.756	SLV 13	Si
Maschio 182	V	0.925	SLV 13	No
Maschio 182	PFFP	2.623	SLV 11	Si
Maschio 182	R	0.022	SLV 15	No
Maschio 183	PF SLU	5.222	SLU 82	Si
Maschio 183	V SLU	1.508	SLU 82	Si
Maschio 183	PF	2.461	SLV 15	Si
Maschio 183	V	0.994	SLV 15	No
Maschio 183	PFFP	2.208	SLV 7	Si
Maschio 183	R	0.066	SLV 15	No
Maschio 184	PF SLU	2.049	SLU 9	Si
Maschio 184	V SLU	22.387	SLU 40	Si
Maschio 184	PF	0	SLV 16	No
Maschio 184	V	0	SLV 13	No
Maschio 184	PFFP	0	SLV 15	No
Maschio 184	R	0	SLV 16	No
Maschio 185	PF SLU	8.698	SLU 61	Si
Maschio 185	V SLU	2.644	SLU 82	Si
Maschio 185	PF	1.127	SLV 1	Si
Maschio 185	V	0.434	SLV 1	No
Maschio 185	PFFP	1.907	SLV 5	Si
Maschio 185	R	0.034	SLV 5	No
Maschio 186	PF SLU	32.919	SLU 34	Si
Maschio 186	V SLU	25.608	SLU 81	Si
Maschio 186	PF	3.685	SLV 5	Si
Maschio 186	V	2.019	SLV 7	Si
Maschio 186	PFFP	2.817	SLV 1	Si
Maschio 186	R	0.064	SLV 15	No
Maschio 187	PF SLU	2.594	SLU 35	Si
Maschio 187	V SLU	4.723	SLU 78	Si
Maschio 187	PF	1.853	SLV 7	Si
Maschio 187	V	2.32	SLV 7	Si
Maschio 187	PFFP	0	SLV 3	No
Maschio 187	R	0	SLV 12	No
Maschio 188	PF SLU	4.39	SLU 30	Si
Maschio 188	V SLU	3.247	SLU 80	Si
Maschio 188	PF	2.068	SLV 9	Si
Maschio 188	V	2.41	SLV 5	Si
Maschio 188	PFFP	0	SLV 9	No
Maschio 188	R	0	SLV 10	No
Maschio 189	PF SLU	1.318	SLU 38	Si
Maschio 189	V SLU	0.686	SLU 38	No
Maschio 189	PF	0	SLV 1	No
Maschio 189	V	0	SLV 1	No
Maschio 189	PFFP	1.374	SLV 1	Si
Maschio 189	R	0.016	SLV 5	No
Maschio 190	PF SLU	0	SLU 84	No
Maschio 190	V SLU	0	SLU 1	No
Maschio 190	PF	0	SLV 16	No
Maschio 190	V	0	SLD 1	No
Maschio 190	PFFP	0	SLV 10	No
Maschio 190	R	0	SLV 16	No
Maschio 191	PF SLU	1.451	SLU 38	Si
Maschio 191	V SLU	1.033	SLU 38	Si
Maschio 191	PF	1.135	SLV 5	Si
Maschio 191	V	0.804	SLV 5	No
Maschio 191	PFFP	1.264	SLV 11	Si
Maschio 191	R	0	SLV 1	No
Maschio 192	PF SLU	3.933	SLU 31	Si
Maschio 192	V SLU	3.82	SLU 38	Si
Maschio 192	PF	1.466	SLV 5	Si
Maschio 192	V	1.308	SLV 5	Si
Maschio 192	PFFP	1.023	SLV 11	Si
Maschio 192	R	0	SLV 5	No
Maschio 193	PF SLU	0	SLU 84	No
Maschio 193	V SLU	0	SLU 1	No
Maschio 193	PF	0	SLV 16	No
Maschio 193	V	0	SLD 1	No
Maschio 193	PFFP	0	SLV 12	No
Maschio 193	R	0	SLV 16	No
Maschio 194	PF SLU	0	SLU 29	No
Maschio 194	V SLU	0	SLU 29	No
Maschio 194	PF	0	SLV 16	No
Maschio 194	V	0	SLD 1	No
Maschio 194	PFFP	0	SLV 16	No
Maschio 194	R	0	SLV 16	No
Maschio 195	PF SLU	1.22	SLU 38	Si



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 195	V SLU	5.384	SLU 51	Si
Maschio 195	PF	0	SLV 1	No
Maschio 195	V	0	SLV 1	No
Maschio 195	PFFP	0	SLV 1	No
Maschio 195	R	0.024	SLV 9	No
Maschio 196	PF SLU	1.707	SLU 80	Si
Maschio 196	V SLU	4.351	SLU 80	Si
Maschio 196	PF	1.875	SLV 13	Si
Maschio 196	V	0.586	SLV 13	No
Maschio 196	PFFP	2.729	SLV 9	Si
Maschio 196	R	0	SLV 13	No
Maschio 197	PF SLU	1.043	SLU 38	Si
Maschio 197	V SLU	0.293	SLU 38	No
Maschio 197	PF	0	SLV 6	No
Maschio 197	V	0	SLD 7	No
Maschio 197	PFFP	0	SLV 1	No
Maschio 197	R	0	SLV 6	No
Maschio 198	PF SLU	1.18	SLU 29	Si
Maschio 198	V SLU	1.075	SLU 80	Si
Maschio 198	PF	1.223	SLV 1	Si
Maschio 198	V	1.393	SLV 3	Si
Maschio 198	PFFP	0	SLV 1	No
Maschio 198	R	0.012	SLV 15	No
Maschio 199	PF SLU	0	SLU 1	No
Maschio 199	V SLU	0	SLU 1	No
Maschio 199	PFFP	0	SLV 12	No
Maschio 199	R	0	SLV 14	No
Maschio 200	PF SLU	4.498	SLU 27	Si
Maschio 200	V SLU	1000	SLU 1	Si
Maschio 200	PFFP	0	SLV 10	No
Maschio 200	R	0.093	SLV 3	No
Maschio 201	PF SLU	1.123	SLU 42	Si
Maschio 201	V SLU	3.571	SLU 38	Si
Maschio 201	PF	0	SLV 16	No
Maschio 201	V	0	SLD 5	No
Maschio 201	PFFP	0	SLV 9	No
Maschio 201	R	0	SLV 16	No
Maschio 202	PF SLU	0	SLU 16	No
Maschio 202	V SLU	0	SLU 16	No
Maschio 202	PF	0	SLV 8	No
Maschio 202	V	0	SLD 3	No
Maschio 202	PFFP	0	SLV 8	No
Maschio 202	R	0.006	SLV 9	No
Maschio 203	PF SLU	0	SLU 84	No
Maschio 203	V SLU	0	SLU 1	No
Maschio 203	PF	0	SLV 16	No
Maschio 203	V	0	SLD 1	No
Maschio 203	PFFP	0	SLV 10	No
Maschio 203	R	0	SLV 16	No
Maschio 204	PF SLU	0	SLU 84	No
Maschio 204	V SLU	0	SLU 1	No
Maschio 204	PF	0	SLV 14	No
Maschio 204	V	0	SLD 1	No
Maschio 204	PFFP	0	SLV 10	No
Maschio 204	R	0	SLV 14	No
Maschio 205	PF SLU	8.485	SLU 37	Si
Maschio 205	V SLU	6.24	SLV 77	Si
Maschio 205	PF	0	SLV 3	No
Maschio 205	V	0	SLV 3	No
Maschio 205	PFFP	1.141	SLV 7	Si
Maschio 205	R	0	SLV 12	No
Maschio 206	PF SLU	10.605	SLU 43	Si
Maschio 206	V SLU	12.848	SLU 81	Si
Maschio 206	PF	1.527	SLV 15	Si
Maschio 206	V	1.703	SLV 1	Si
Maschio 206	PFFP	1.159	SLV 7	Si
Maschio 206	R	0	SLV 16	No
Maschio 207	PF SLU	0	SLU 84	No
Maschio 207	V SLU	0	SLU 1	No
Maschio 207	PF	0	SLV 14	No
Maschio 207	V	0	SLD 1	No
Maschio 207	PFFP	0	SLV 1	No
Maschio 207	R	0	SLV 16	No
Maschio 208	PF SLU	2.88	SLU 9	Si
Maschio 208	V SLU	2.418	SLU 41	Si
Maschio 208	PF	1.097	SLV 13	Si
Maschio 208	V	1.392	SLV 13	Si
Maschio 208	PFFP	0	SLV 13	No
Maschio 208	R	0.117	SLV 3	No
Maschio 209	PF SLU	8.169	SLU 39	Si
Maschio 209	V SLU	11.099	SLU 30	Si
Maschio 209	PF	1.722	SLV 13	Si
Maschio 209	V	1.118	SLV 13	Si
Maschio 209	PFFP	2.546	SLV 13	Si
Maschio 209	R	0.014	SLV 11	No
Maschio 210	PF SLU	1.768	SLU 39	Si
Maschio 210	V SLU	2.416	SLU 41	Si
Maschio 210	PF	0	SLD 1	No
Maschio 210	V	0	SLD 1	No
Maschio 210	PFFP	1.689	SLV 7	Si
Maschio 210	R	0	SLV 3	No



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 211	PF SLU	9.057	SLU 44	Si
Maschio 211	V SLU	5.526	SLU 29	Si
Maschio 211	PF	0	SLV 4	No
Maschio 211	V	0	SLD 1	No
Maschio 211	PFFP	0	SLV 1	No
Maschio 211	R	0	SLV 2	No
Maschio 212	PF SLU	7.028	SLU 60	Si
Maschio 212	V SLU	4.026	SLU 79	Si
Maschio 212	PF	1.004	SLV 1	Si
Maschio 212	V	0.292	SLV 1	No
Maschio 212	PFFP	2.859	SLV 5	Si
Maschio 212	R	0.053	SLV 11	No
Maschio 213	PF SLU	2.311	SLU 37	Si
Maschio 213	V SLU	1.793	SLU 37	Si
Maschio 213	PF	2.041	SLV 15	Si
Maschio 213	V	1.902	SLV 15	Si
Maschio 213	PFFP	1.114	SLV 1	Si
Maschio 213	R	0.103	SLV 5	No
Maschio 214	PF SLU	0.996	SLU 48	No
Maschio 214	V SLU	0.615	SLU 51	No
Maschio 214	PF	0	SLV 12	No
Maschio 214	V	0	SLD 11	No
Maschio 214	PFFP	1.071	SLV 7	Si
Maschio 214	R	0	SLV 12	No
Maschio 215	PF SLU	1.309	SLU 30	Si
Maschio 215	V SLU	2.64	SLU 80	Si
Maschio 215	PF	0	SLV 5	No
Maschio 215	V	0	SLV 5	No
Maschio 215	PFFP	0	SLV 1	No
Maschio 215	R	0.005	SLV 3	No
Maschio 216	PF SLU	1.686	SLU 30	Si
Maschio 216	V SLU	1.343	SLU 30	Si
Maschio 216	PF	0	SLD 9	No
Maschio 216	V	0	SLD 9	No
Maschio 216	PFFP	0	SLV 1	No
Maschio 216	R	0.029	SLV 15	No
Maschio 217	PF SLU	1.213	SLU 29	Si
Maschio 217	V SLU	1.908	SLU 37	Si
Maschio 217	PF	0	SLV 5	No
Maschio 217	V	0	SLV 5	No
Maschio 217	PFFP	0.975	SLV 13	No
Maschio 217	R	0.024	SLV 3	No
Maschio 218	PF SLU	0	SLU 6	No
Maschio 218	V SLU	0.488	SLU 80	No
Maschio 218	PF	0.671	SLV 15	No
Maschio 218	V	0.177	SLV 13	No
Maschio 218	PFFP	2.367	SLV 5	Si
Maschio 218	R	0	SLV 8	No
Maschio 219	PF SLU	0	SLU 1	No
Maschio 219	V SLU	26.468	SLU 80	Si
Maschio 219	PF	0	SLD 11	No
Maschio 219	V	0	SLV 1	No
Maschio 219	PFFP	0	SLV 1	No
Maschio 219	R	0	SLV 8	No
Maschio 220	PF SLU	0	SLU 84	No
Maschio 220	V SLU	0	SLU 1	No
Maschio 220	PF	0	SLV 14	No
Maschio 220	V	0	SLD 1	No
Maschio 220	PFFP	0	SLV 10	No
Maschio 220	R	0	SLV 14	No
Maschio 221	PF SLU	1.714	SLU 30	Si
Maschio 221	V SLU	1.275	SLU 38	Si
Maschio 221	PF	0	SLV 15	No
Maschio 221	V	0	SLV 15	No
Maschio 221	PFFP	1.29	SLV 9	Si
Maschio 221	R	0.021	SLV 9	No
Maschio 222	PF SLU	5.82	SLU 43	Si
Maschio 222	V SLU	21.591	SLU 81	Si
Maschio 222	PF	1.126	SLV 11	Si
Maschio 222	V	1.137	SLV 11	Si
Maschio 222	PFFP	1.237	SLV 1	Si
Maschio 222	R	0	SLV 1	No
Maschio 223	PF SLU	0	SLU 80	No
Maschio 223	V SLU	0	SLU 2	No
Maschio 223	PF	0	SLV 12	No
Maschio 223	V	0	SLD 1	No
Maschio 223	PFFP	0	SLV 10	No
Maschio 223	R	0	SLV 12	No
Maschio 224	PF SLU	2.394	SLU 40	Si
Maschio 224	V SLU	2.236	SLU 81	Si
Maschio 224	PF	0	SLV 16	No
Maschio 224	V	0	SLD 9	No
Maschio 224	PFFP	0	SLV 16	No
Maschio 224	R	0	SLV 12	No
Maschio 225	PF SLU	2.508	SLU 19	Si
Maschio 225	V SLU	2.446	SLU 81	Si
Maschio 225	PF	0	SLV 10	No
Maschio 225	V	0	SLV 1	No
Maschio 225	PFFP	0	SLV 1	No
Maschio 225	R	0	SLV 10	No
Maschio 226	PF SLU	2.966	SLU 19	Si



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 226	V SLU	2.044	SLU 82	Si
Maschio 226	PF	0	SLV 3	No
Maschio 226	V	0	SLV 3	No
Maschio 226	PFFP	0	SLV 15	No
Maschio 226	R	0	SLV 1	No
Maschio 227	PF SLU	4.213	SLU 52	Si
Maschio 227	V SLU	6.388	SLU 29	Si
Maschio 227	PF	0	SLV 12	No
Maschio 227	V	0	SLD 11	No
Maschio 227	PFFP	0	SLV 12	No
Maschio 227	R	0	SLV 12	No
Maschio 228	PF SLU	1.557	SLU 31	Si
Maschio 228	V SLU	2.088	SLU 31	Si
Maschio 228	PF	0	SLV 12	No
Maschio 228	V	0	SLD 7	No
Maschio 228	PFFP	0	SLV 16	No
Maschio 228	R	0	SLV 16	No
Maschio 229	PF SLU	6.929	SLU 10	Si
Maschio 229	V SLU	26.263	SLU 34	Si
Maschio 229	PF	2.029	SLV 9	Si
Maschio 229	V	2.742	SLV 13	Si
Maschio 229	PFFP	1.142	SLV 7	Si
Maschio 229	R	0	SLV 5	No
Maschio 230	PF SLU	2.405	SLU 31	Si
Maschio 230	V SLU	1.901	SLU 78	Si
Maschio 230	PF	1.163	SLV 11	Si
Maschio 230	V	0.979	SLV 11	No
Maschio 230	PFFP	1.174	SLV 11	Si
Maschio 230	R	0.021	SLV 11	No
Maschio 233	PF SLU	1.14	SLU 84	Si
Maschio 233	V SLU	1.122	SLU 84	Si
Maschio 233	PF	0	SLV 16	No
Maschio 233	V	0	SLV 3	No
Maschio 233	PFFP	4.578	SLV 11	Si
Maschio 233	R	0	SLV 16	No
Maschio 234	PF SLU	3.176	SLU 84	Si
Maschio 234	V SLU	1.88	SLU 84	Si
Maschio 234	PF	0	SLV 8	No
Maschio 234	V	0	SLV 1	No
Maschio 234	PFFP	5.353	SLV 7	Si
Maschio 234	R	0.176	SLV 13	No
Maschio 235	PF SLU	5.342	SLU 80	Si
Maschio 235	V SLU	5.878	SLU 80	Si
Maschio 235	PF	0	SLV 16	No
Maschio 235	V	0	SLV 3	No
Maschio 235	PFFP	3.527	SLV 11	Si
Maschio 235	R	0	SLV 16	No
Maschio 236	PF SLU	6.003	SLU 81	Si
Maschio 236	V SLU	10.097	SLU 83	Si
Maschio 236	PF	0	SLV 4	No
Maschio 236	V	0	SLV 1	No
Maschio 236	PFFP	3.896	SLV 11	Si
Maschio 236	R	0.09	SLV 13	No
Maschio 237	PF SLU	6.293	SLU 82	Si
Maschio 237	V SLU	11.968	SLU 81	Si
Maschio 237	PF	0	SLV 16	No
Maschio 237	V	0	SLD 15	No
Maschio 237	PFFP	0	SLV 12	No
Maschio 237	R	0	SLV 16	No
Maschio 238	PF SLU	6.124	SLU 83	Si
Maschio 238	V SLU	9.677	SLV 72	Si
Maschio 238	PF	0	SLV 16	No
Maschio 238	V	0	SLV 1	No
Maschio 238	PFFP	1.273	SLV 11	Si
Maschio 238	R	0.077	SLV 13	No
Maschio 239	PF SLU	25.094	SLU 38	Si
Maschio 239	V SLU	17.174	SLU 60	Si
Maschio 239	PF	3.596	SLV 11	Si
Maschio 239	V	2.76	SLV 15	Si
Maschio 239	PFFP	10.005	SLV 11	Si
Maschio 239	R	0.431	SLV 9	No
Maschio 240	PF SLU	6.026	SLU 37	Si
Maschio 240	V SLU	14.152	SLU 44	Si
Maschio 240	PF	0	SLV 16	No
Maschio 240	V	0	SLD 7	No
Maschio 240	PFFP	0	SLV 12	No
Maschio 240	R	0	SLV 16	No
Maschio 241	PF SLU	4.659	SLU 37	Si
Maschio 241	V SLU	11.797	SLU 80	Si
Maschio 241	PF	0	SLV 16	No
Maschio 241	V	0	SLV 1	No
Maschio 241	PFFP	0	SLV 12	No
Maschio 241	R	0	SLV 8	No
Maschio 242	PF SLU	1.892	SLU 40	Si
Maschio 242	V SLU	1.226	SLU 31	Si
Maschio 242	PF	0	SLV 16	No
Maschio 242	V	0	SLD 5	No
Maschio 242	PFFP	0	SLV 5	No
Maschio 242	R	0	SLV 16	No
Maschio 243	PF SLU	0	SLU 84	No
Maschio 243	V SLU	0	SLU 2	No



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 243	PF	0	SLV 14	No
Maschio 243	V	0	SLD 1	No
Maschio 243	PFFP	0	SLV 1	No
Maschio 243	R	0	SLV 16	No
Maschio 244	PF SLU	0	SLU 1	No
Maschio 244	V SLU	0	SLU 1	No
Maschio 244	PF	0	SLV 10	No
Maschio 244	V	0	SLD 1	No
Maschio 244	PFFP	0	SLV 10	No
Maschio 244	R	0	SLV 10	No
Maschio 245	PF SLU	2.311	SLU 2	Si
Maschio 245	V SLU	6.653	SLU 38	Si
Maschio 245	PF	0	SLV 12	No
Maschio 245	V	0	SLD 7	No
Maschio 245	PFFP	0	SLV 1	No
Maschio 245	R	0	SLV 16	No
Maschio 246	PF SLU	1.469	SLU 2	Si
Maschio 246	V SLU	4.098	SLU 44	Si
Maschio 246	PF	0	SLV 12	No
Maschio 246	V	0	SLD 1	No
Maschio 246	PFFP	0	SLV 12	No
Maschio 246	R	0	SLV 16	No
Maschio 247	PF SLU	0	SLU 1	No
Maschio 247	V SLU	0	SLU 1	No
Maschio 247	PF	0	SLV 12	No
Maschio 247	V	0	SLD 1	No
Maschio 247	PFFP	0	SLV 1	No
Maschio 247	R	0	SLV 12	No
Maschio 248	PF SLU	3.3	SLU 43	Si
Maschio 248	V SLU	1.993	SLU 80	Si
Maschio 248	PF	0	SLV 12	No
Maschio 248	V	0	SLD 1	No
Maschio 248	PFFP	0	SLV 1	No
Maschio 248	R	0	SLV 12	No
Maschio 249	PF SLU	0	SLU 1	No
Maschio 249	V SLU	0	SLU 1	No
Maschio 249	PFFP	0	SLV 10	No
Maschio 249	R	0.166	SLV 1	No
Maschio 250	PF SLU	5.126	SLU 83	Si
Maschio 250	V SLU	7.29	SLU 52	Si
Maschio 250	PF	1.439	SLV 5	Si
Maschio 250	V	0.487	SLV 5	No
Maschio 250	PFFP	4.847	SLV 5	Si
Maschio 250	R	0.061	SLV 9	No
Maschio 251	PF SLU	0	SLU 84	No
Maschio 251	V SLU	0	SLU 1	No
Maschio 251	PFFP	0	SLV 1	No
Maschio 251	R	0	SLV 10	No
Maschio 252	PF SLU	0	SLU 1	No
Maschio 252	V SLU	0	SLU 1	No
Maschio 252	PF	0	SLV 2	No
Maschio 252	V	0	SLD 1	No
Maschio 252	PFFP	0	SLV 1	No
Maschio 252	R	0	SLV 2	No
Maschio 253	PF SLU	2.141	SLU 43	Si
Maschio 253	V SLU	2.511	SLU 80	Si
Maschio 253	PF	0	SLV 16	No
Maschio 253	V	0	SLD 7	No
Maschio 253	PFFP	0	SLV 1	No
Maschio 253	R	0	SLV 16	No
Maschio 254	PF SLU	1.219	SLU 83	Si
Maschio 254	V SLU	3.129	SLU 41	Si
Maschio 254	PF	0.981	SLV 11	No
Maschio 254	V	0.214	SLV 11	No
Maschio 254	PFFP	2.588	SLV 11	Si
Maschio 254	R	0.008	SLV 11	No
Maschio 255	PF SLU	20.633	SLU 69	Si
Maschio 255	V SLU	8.745	SLU 52	Si
Maschio 255	PF	5.041	SLV 11	Si
Maschio 255	V	1.035	SLV 7	Si
Maschio 255	PFFP	7.892	SLV 7	Si
Maschio 255	R	0.06	SLV 3	No
Maschio 256	PF SLU	3.395	SLU 82	Si
Maschio 256	V SLU	3.86	SLU 29	Si
Maschio 256	PF	3.311	SLV 7	Si
Maschio 256	V	1.245	SLV 9	Si
Maschio 256	PFFP	2.099	SLV 5	Si
Maschio 256	R	0.002	SLV 3	No
Maschio 257	PF SLU	1.641	SLU 44	Si
Maschio 257	V SLU	3.565	SLU 44	Si
Maschio 257	PF	0	SLV 16	No
Maschio 257	V	0	SLD 1	No
Maschio 257	PFFP	0	SLV 1	No
Maschio 257	R	0	SLV 8	No
Maschio 258	PF SLU	2.428	SLU 2	Si
Maschio 258	V SLU	7.561	SLU 34	Si
Maschio 258	PF	0	SLV 10	No
Maschio 258	V	0	SLD 1	No
Maschio 258	PFFP	0	SLV 1	No
Maschio 258	R	0	SLV 10	No
Maschio 259	PF SLU	0	SLU 71	No



Desc.	Stato limite	Coeff.s.	Comb.	Verifica
Maschio 259	V SLU	0	SLU 6	No
Maschio 259	PF	0	SLV 14	No
Maschio 259	V	0	SLD 1	No
Maschio 259	PFFP	0	SLV 10	No
Maschio 259	R	0	SLV 14	No
Maschio 260	PF SLU	0	SLU 84	No
Maschio 260	V SLU	0	SLU 2	No
Maschio 260	PF	0	SLV 14	No
Maschio 260	V	0	SLD 1	No
Maschio 260	PFFP	0	SLV 1	No
Maschio 260	R	0	SLV 16	No

#### Verifica maschi in muratura

Maschio	Stato limite	Molt.	Comb.	PGA	IPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
1	PF	1.228	SLV 15	0.296	1.211	841	1.264	Si
	V	1.221	SLV 15	0.294	1.204	828	1.256	Si
	PFFP	1.276	SLV 15	0.307	1.255	938	1.322	Si
	R	0.333	SLV 1	0.078	0.318	28	0.313	No
2	PF	1.188	SLV 13	0.287	1.174	768	1.218	Si
	V	1.187	SLV 13	0.287	1.173	765	1.216	Si
	PFFP	1.253	SLV 13	0.302	1.234	891	1.294	Si
	R	0.349	SLV 3	0.082	0.337	33	0.335	No
3	PF	0.757	SLV 9	0.183	0.748	220	0.729	No
	V	0.677	SLV 9	0.162	0.661	164	0.647	No
	PFFP	1.295	SLV 9	0.311	1.273	978	1.345	Si
	R	0.234	SLV 9	0.053	0.218	11	0.214	No
4	PF	1.695	SLV 9	0.362	1.483	1618	1.653	Si
	V	0.61	SLV 7	0.145	0.593	127	0.582	No
	PFFP	2.188	SLV 9	0.362	1.483	1618	1.653	Si
	R	0.257	SLV 9	0.061	0.249	16	0.249	No
5	PF	1.337	SLV 5	0.321	1.312	1080	1.4	Si
	V	0.789	SLV 15	0.191	0.782	247	0.765	No
	PFFP	2.104	SLV 9	0.362	1.483	1618	1.653	Si
	R	0.108	SLV 11	0.02	0.08	1	0.08	No
6	PF	1.468	SLV 9	0.35	1.432	1442	1.577	Si
	V	0.898	SLV 9	0.218	0.894	352	0.884	No
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.217	SLV 1	0.051	0.21	10	0.205	No
7	PF	0.843	SLV 11	0.205	0.837	296	0.824	No
	V	1.098	SLV 7	0.267	1.091	616	1.112	Si
	PFFP	2.162	SLV 5	0.362	1.483	1618	1.653	Si
	R	0.184	SLV 3	0.041	0.169	6	0.167	No
8	PF	0.939	SLV 11	0.229	0.936	398	0.93	No
	V	0.65	SLV 7	0.155	0.633	148	0.62	No
	PFFP	1.443	SLV 11	0.344	1.409	1367	1.542	Si
	R	0.26	SLV 3	0.061	0.249	16	0.249	No
9	PF	1.748	SLV 11	0.362	1.483	1618	1.653	Si
	V	0.538	SLV 5	0.127	0.52	94	0.515	No
	PFFP	1.998	SLV 11	0.362	1.483	1618	1.653	Si
	R	0.231	SLV 15	0.053	0.218	11	0.214	No
10	PF	1.696	SLV 11	0.362	1.483	1618	1.653	Si
	V	0.532	SLV 13	0.125	0.513	90	0.506	No
	PFFP	2.857	SLV 7	0.362	1.483	1618	1.653	Si
	R	0.215	SLV 7	0.049	0.201	9	0.197	No
11	PF	0.648	SLV 15	0.154	0.631	147	0.618	No
	V	0.522	SLV 15	0.123	0.503	86	0.496	No
	PFFP	2.738	SLV 3	0.362	1.483	1618	1.653	Si
	R	0.275	SLV 11	0.064	0.262	18	0.261	No
12	PF	2.668	SLV 7	0.362	1.483	1618	1.653	Si
	V	0.715	SLV 5	0.172	0.703	188	0.684	No
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.114	SLV 13	0.026	0.107	2	0.106	No
13	PF	0.355	SLV 7	0.083	0.342	34	0.339	No
	V	0.403	SLV 7	0.095	0.388	45	0.381	No
	PFFP	1.089	SLV 11	0.265	1.083	602	1.102	Si
	R	0.358	SLV 13	0.085	0.346	35	0.343	No
14	PF	0.82	SLV 15	0.199	0.814	275	0.799	No
	V	0.789	SLV 15	0.191	0.782	247	0.765	No
	PFFP	1.148	SLV 11	0.278	1.137	697	1.17	Si
	R	0.254	SLV 1	0.059	0.242	14	0.236	No
15	PF	1.161	SLV 11	0.281	1.15	720	1.186	Si
	V	0.835	SLV 11	0.202	0.828	288	0.815	No
	PFFP	2.756	SLV 11	0.362	1.483	1618	1.653	Si
	R	0.213	SLV 3	0.049	0.201	9	0.197	No
16	PF	1.347	SLV 11	0.323	1.321	1105	1.414	Si
	V	0.496	SLV 5	0.116	0.477	75	0.469	No
	PFFP	1.696	SLV 11	0.362	1.483	1618	1.653	Si
	R	0.206	SLV 1	0.047	0.191	8	0.187	No
18	PF	2.437	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.047	SLV 5	0.255	1.044	540	1.054	Si
	PFFP	3.821	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.412	SLV 1	0.097	0.395	47	0.387	No
19	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	0.617	SLV 11	0.147	0.6	131	0.59	No
	R	0	SLV 1	0	0	0	0	No
21	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	2.304	SLV 11	0.362	1.483	1618	1.653	Si
	R	0	SLV 1	0	0	0	0	No





Maschio	Stato limite	Molt.	Comb.	PGA	IPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
23	PF	0.656	SLV 7	0.156	0.639	151	0.625	No
	V	0.412	SLV 7	0.097	0.395	47	0.387	No
	PFFP	0.817	SLV 7	0.198	0.81	272	0.796	No
	R	0.608	SLV 3	0.144	0.591	126	0.58	No
25	PF	1.186	SLV 7	0.286	1.172	763	1.214	Si
	V	0.258	SLV 9	0.061	0.249	16	0.249	No
	PFFP	2.36	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.276	SLV 13	0.064	0.262	18	0.261	No
26	PF	1.834	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.923	SLV 3	0.225	0.92	380	0.913	No
	PFFP	3.374	SLV 13	0.362	1.483	1618	1.653	Si
	R	0.394	SLV 1	0.093	0.38	43	0.373	No
27	PF	1.86	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.948	SLV 3	0.231	0.946	409	0.941	No
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.372	SLV 15	0.088	0.359	38	0.355	No
28	PF	1.522	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.476	SLV 1	0.354	1.448	1493	1.599	Si
	PFFP	2.163	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.387	SLV 13	0.091	0.372	41	0.366	No
29	PF	1.24	SLV 15	0.299	1.222	865	1.279	Si
	V	1.33	SLV 1	0.319	1.307	1068	1.394	Si
	PFFP	2.007	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.243	SLV 9	0.057	0.234	13	0.229	No
30	PF	1.149	SLV 13	0.278	1.138	699	1.172	Si
	V	1.17	SLV 13	0.283	1.158	736	1.197	Si
	PFFP	2.12	SLV 9	0.362	1.483	1618	1.653	Si
	R	0.324	SLV 9	0.077	0.313	27	0.309	No
31	PF	1.21	SLV 13	0.292	1.194	808	1.243	Si
	V	0.808	SLV 13	0.196	0.802	264	0.786	No
	PFFP	3.81	SLV 9	0.362	1.483	1618	1.653	Si
	R	0.395	SLV 3	0.093	0.38	43	0.373	No
32	PF	1.701	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.817	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.399	SLV 1	0.094	0.384	44	0.377	No
33	PF	2.465	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.76	SLV 15	0.184	0.751	222	0.732	No
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.397	SLV 15	0.094	0.384	44	0.377	No
34	PF	0.941	SLV 11	0.229	0.938	401	0.933	No
	V	0.932	SLV 11	0.227	0.929	390	0.922	No
	PFFP	1.542	SLV 11	0.362	1.483	1618	1.653	Si
	R	0.229	SLV 3	0.053	0.218	11	0.214	No
35	PF	1.593	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.177	SLV 13	0.284	1.164	747	1.204	Si
	PFFP	2.891	SLV 15	0.362	1.483	1618	1.653	Si
	R	0.224	SLV 11	0.051	0.21	10	0.205	No
36	PF	1.897	SLV 5	0.362	1.483	1618	1.653	Si
	V	1.192	SLV 1	0.288	1.178	774	1.222	Si
	PFFP	1.951	SLV 9	0.362	1.483	1618	1.653	Si
	R	0.204	SLV 1	0.047	0.191	8	0.187	No
37	PF	1.793	SLV 9	0.362	1.483	1618	1.653	Si
	V	1.071	SLV 1	0.261	1.066	575	1.081	Si
	PFFP	2.425	SLV 9	0.362	1.483	1618	1.653	Si
	R	0.238	SLV 1	0.055	0.226	12	0.221	No
38	PF	1.644	SLV 5	0.362	1.483	1618	1.653	Si
	V	1.065	SLV 13	0.259	1.061	566	1.075	Si
	PFFP	2.424	SLV 5	0.362	1.483	1618	1.653	Si
	R	0.181	SLV 9	0.041	0.169	6	0.167	No
39	PF	1.393	SLV 1	0.334	1.368	1239	1.482	Si
	V	1.032	SLV 1	0.252	1.03	518	1.036	Si
	PFFP	1.586	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.375	SLV 15	0.088	0.359	38	0.355	No
40	PF	1.587	SLV 11	0.362	1.483	1618	1.653	Si
	V	0.917	SLV 5	0.223	0.914	374	0.907	No
	PFFP	1.912	SLV 11	0.362	1.483	1618	1.653	Si
	R	0.371	SLV 1	0.087	0.355	37	0.351	No
41	PF	1.634	SLV 11	0.362	1.483	1618	1.653	Si
	V	1.131	SLV 7	0.274	1.122	669	1.151	Si
	PFFP	2.131	SLV 11	0.362	1.483	1618	1.653	Si
	R	1.133	SLV 5	0.275	1.124	673	1.154	Si
42	PF	3.955	SLV 15	0.362	1.483	1618	1.653	Si
	V	1.092	SLV 7	0.265	1.085	607	1.106	Si
	PFFP	4.027	SLV 13	0.362	1.483	1618	1.653	Si
	R	0.278	SLV 1	0.066	0.269	19	0.267	No
44	PF	1.839	SLV 9	0.362	1.483	1618	1.653	Si
	V	0.94	SLV 7	0.229	0.937	400	0.932	No
	PFFP	2.423	SLV 9	0.362	1.483	1618	1.653	Si
	R	0.193	SLV 3	0.044	0.181	7	0.177	No
45	PF	1.228	SLV 7	0.296	1.211	841	1.264	Si
	V	0.873	SLV 7	0.212	0.868	326	0.857	No
	PFFP	3.958	SLV 7	0.362	1.483	1618	1.653	Si
	R	0.211	SLV 13	0.049	0.201	9	0.197	No
46	PF	0.86	SLV 3	0.209	0.855	313	0.843	No
	V	0.808	SLV 3	0.196	0.802	264	0.786	No
	PFFP	1.139	SLV 7	0.276	1.129	682	1.16	Si
	R	0.217	SLV 13	0.051	0.21	10	0.205	No
47	PF	0.582	SLV 7	0.138	0.565	113	0.555	No
	V	0.582	SLV 7	0.138	0.565	113	0.555	No
	PFFP	1.484	SLV 7	0.354	1.447	1491	1.598	Si



Maschio	Stato limite	Molt.	Comb.	PGA	IPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
48	R	0.395	SLV 5	0.093	0.38	43	0.373	No
	PF	2.633	SLV 11	0.362	1.483	1618	1.653	Si
	V	1.229	SLV 11	0.296	1.212	843	1.265	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
49	R	0.219	SLV 1	0.051	0.21	10	0.205	No
	PF	0.699	SLV 3	0.168	0.687	178	0.669	No
	V	0.586	SLV 3	0.139	0.567	115	0.559	No
	PFFP	2.46	SLV 15	0.362	1.483	1618	1.653	Si
50	R	0.275	SLV 7	0.064	0.262	18	0.261	No
	PF	1.698	SLV 7	0.362	1.483	1618	1.653	Si
	V	0.918	SLV 1	0.224	0.915	375	0.908	No
	PFFP	2.642	SLV 11	0.362	1.483	1618	1.653	Si
51	R	0.238	SLV 11	0.055	0.226	12	0.221	No
	PF	1.589	SLV 7	0.362	1.483	1618	1.653	Si
	V	0.585	SLV 13	0.139	0.567	115	0.559	No
	PFFP	1.968	SLV 7	0.362	1.483	1618	1.653	Si
52	R	0.236	SLV 3	0.055	0.226	12	0.221	No
	PF	1.086	SLV 7	0.264	1.08	597	1.098	Si
	V	0.713	SLV 1	0.171	0.701	187	0.682	No
	PFFP	1.326	SLV 7	0.318	1.302	1052	1.385	Si
53	R	0.296	SLV 15	0.07	0.286	22	0.284	No
	PF	1.852	SLV 7	0.362	1.483	1618	1.653	Si
	V	1.309	SLV 5	0.314	1.286	1011	1.363	Si
	PFFP	3.18	SLV 9	0.362	1.483	1618	1.653	Si
54	R	0.213	SLV 1	0.049	0.201	9	0.197	No
	PF	2.001	SLV 5	0.362	1.483	1618	1.653	Si
	V	0.423	SLV 11	0.099	0.407	51	0.401	No
	PFFP	3.004	SLV 15	0.362	1.483	1618	1.653	Si
55	R	0.361	SLV 3	0.085	0.346	35	0.343	No
	PF	0.784	SLV 5	0.19	0.776	243	0.76	No
	V	0.723	SLV 5	0.174	0.711	193	0.691	No
	PFFP	1.294	SLV 5	0.311	1.272	975	1.343	Si
56	R	0.297	SLV 5	0.07	0.286	22	0.284	No
	PF	1.31	SLV 1	0.315	1.288	1017	1.366	Si
	V	1.293	SLV 1	0.311	1.272	975	1.343	Si
	PFFP	1.414	SLV 1	0.339	1.388	1300	1.511	Si
57	R	0.389	SLV 13	0.092	0.376	42	0.37	No
	PF	1.352	SLV 13	0.325	1.329	1126	1.425	Si
	V	1.236	SLV 9	0.298	1.218	857	1.274	Si
	PFFP	1.382	SLV 15	0.332	1.357	1208	1.466	Si
58	R	0.065	SLV 1	0	0	0	0	No
	PF	0.85	SLV 13	0.206	0.844	303	0.832	No
	V	0.401	SLV 3	0.095	0.388	45	0.381	No
	PFFP	0.834	SLV 9	0.202	0.827	287	0.813	No
59	R	0.07	SLV 1	0	0	0	0	No
	PF	0.694	SLV 9	0.166	0.68	174	0.662	No
	V	0.485	SLV 13	0.114	0.466	71	0.459	No
	PFFP	1.363	SLV 5	0.326	1.336	1146	1.435	Si
60	R	0.068	SLV 15	0	0	0	0	No
	PF	0.864	SLV 15	0.21	0.858	316	0.846	No
	V	0.242	SLV 1	0.057	0.234	13	0.229	No
	PFFP	1.064	SLV 11	0.259	1.06	564	1.073	Si
61	R	0.069	SLV 1	0	0	0	0	No
	PF	0.776	SLV 7	0.188	0.769	236	0.751	No
	V	0.429	SLV 13	0.101	0.414	53	0.407	No
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
62	R	0.072	SLV 1	0	0	0	0	No
	PF	0.588	SLV 13	0.139	0.569	116	0.561	No
	V	0.438	SLV 13	0.103	0.42	55	0.413	No
	PFFP	1.856	SLV 11	0.362	1.483	1618	1.653	Si
63	R	0.07	SLV 1	0	0	0	0	No
	PF	2.958	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.563	SLV 7	0.133	0.546	105	0.539	No
	PFFP	2.937	SLV 9	0.362	1.483	1618	1.653	Si
64	R	0.022	SLV 1	0	0	0	0	No
	PF	1.028	SLV 1	0.251	1.026	513	1.032	Si
	V	0.426	SLV 3	0.1	0.41	52	0.404	No
	PFFP	1.744	SLV 9	0.362	1.483	1618	1.653	Si
65	R	0.066	SLV 1	0	0	0	0	No
	PF	0.754	SLV 7	0.182	0.746	218	0.727	No
	V	0.467	SLV 3	0.11	0.451	66	0.445	No
	PFFP	1.458	SLV 11	0.348	1.423	1412	1.563	Si
66	R	0.066	SLV 13	0	0	0	0	No
	PF	2.229	SLV 11	0.362	1.483	1618	1.653	Si
	V	0.497	SLV 7	0.117	0.479	77	0.474	No
	PFFP	1.975	SLV 15	0.362	1.483	1618	1.653	Si
67	R	0.022	SLV 1	0	0	0	0	No
	PF	0.526	SLV 11	0.124	0.508	88	0.501	No
	V	0.114	SLV 15	0.026	0.107	2	0.106	No
	PFFP	1.177	SLV 3	0.284	1.164	747	1.204	Si
68	R	0.068	SLV 1	0	0	0	0	No
	PF	0.857	SLV 11	0.208	0.852	310	0.839	No
	V	0.734	SLV 11	0.177	0.725	202	0.704	No
	PFFP	3.056	SLV 15	0.362	1.483	1618	1.653	Si
69	R	0.021	SLV 1	0	0	0	0	No
	PF	1.228	SLV 11	0.296	1.211	841	1.264	Si
	V	1.067	SLV 9	0.26	1.062	569	1.077	Si
	PFFP	1.608	SLV 11	0.362	1.483	1618	1.653	Si
70	R	0.267	SLV 15	0.062	0.256	17	0.255	No
	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No



Maschio	Stato limite	Molt.	Comb.	PGA	IPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
72	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.337	SLV 1	0.079	0.323	30	0.322	No
	PF	3.734	SLV 3	0.362	1.483	1618	1.653	Si
	V	0.946	SLV 11	0.23	0.943	406	0.938	No
73	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.151	SLV 1	0.035	0.143	4	0.141	No
	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
74	PFFP	1.745	SLV 3	0.362	1.483	1618	1.653	Si
	R	0.03	SLV 1	0	0	0	0	No
	PF	0.512	SLV 5	0.12	0.493	82	0.487	No
	V	0.48	SLV 5	0.113	0.463	70	0.456	No
75	PFFP	0.909	SLV 5	0.221	0.905	364	0.897	No
	R	0.066	SLV 1	0	0	0	0	No
	PF	1.308	SLV 13	0.314	1.286	1012	1.364	Si
	V	0.776	SLV 3	0.188	0.769	236	0.751	No
76	PFFP	2.126	SLV 13	0.362	1.483	1618	1.653	Si
	R	0.065	SLV 1	0	0	0	0	No
	PF	2.705	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.762	SLV 3	0.184	0.754	224	0.735	No
77	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.065	SLV 1	0	0	0	0	No
	PF	3.01	SLV 9	0.362	1.483	1618	1.653	Si
	V	0.772	SLV 15	0.187	0.765	233	0.747	No
78	PFFP	3.866	SLV 9	0.362	1.483	1618	1.653	Si
	R	0.066	SLV 1	0	0	0	0	No
	PF	2.058	SLV 3	0.362	1.483	1618	1.653	Si
	V	0.735	SLV 15	0.177	0.727	203	0.706	No
79	PFFP	2.881	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.065	SLV 13	0	0	0	0	No
	PF	0.444	SLV 7	0.104	0.427	57	0.419	No
	V	0.367	SLV 7	0.086	0.351	36	0.347	No
80	PFFP	3.215	SLV 11	0.362	1.483	1618	1.653	Si
	R	0.019	SLV 9	0	0	0	0	No
	PF	0.959	SLV 13	0.234	0.957	422	0.953	No
	V	0.467	SLV 1	0.11	0.451	66	0.445	No
81	PFFP	1.691	SLV 13	0.362	1.483	1618	1.653	Si
	R	0.067	SLV 1	0	0	0	0	No
	PF	1.475	SLV 5	0.351	1.439	1463	1.586	Si
	V	0.866	SLV 1	0.21	0.86	318	0.848	No
82	PFFP	1.892	SLV 9	0.362	1.483	1618	1.653	Si
	R	0.067	SLV 3	0	0	0	0	No
	PF	1.564	SLV 9	0.362	1.483	1618	1.653	Si
	V	0.868	SLV 13	0.211	0.863	321	0.852	No
83	PFFP	1.857	SLV 5	0.362	1.483	1618	1.653	Si
	R	0.067	SLV 3	0	0	0	0	No
	PF	1	SLV 1	0.244	1	475	1	Si
	V	0.419	SLV 13	0.098	0.403	50	0.397	No
84	PFFP	1.954	SLV 5	0.362	1.483	1618	1.653	Si
	R	0.067	SLV 3	0	0	0	0	No
	PF	1.333	SLV 7	0.32	1.308	1070	1.395	Si
	V	1.199	SLV 7	0.289	1.184	787	1.23	Si
85	PFFP	1.704	SLV 7	0.362	1.483	1618	1.653	Si
	R	0.269	SLV 3	0.062	0.256	17	0.255	No
	PF	2.609	SLV 15	0.362	1.483	1618	1.653	Si
	V	1.066	SLV 7	0.259	1.062	567	1.075	Si
86	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.142	SLV 1	0.031	0.127	3	0.125	No
	PF	0.679	SLV 11	0.162	0.663	165	0.648	No
	V	0.681	SLV 7	0.163	0.667	167	0.651	No
87	PFFP	2.839	SLV 3	0.362	1.483	1618	1.653	Si
	R	0.021	SLV 9	0	0	0	0	No
	PF	0.417	SLV 3	0.098	0.403	50	0.397	No
	V	0.113	SLV 3	0.026	0.107	2	0.106	No
88	PFFP	0.888	SLV 15	0.216	0.884	342	0.874	No
	R	0.068	SLV 13	0	0	0	0	No
	PF	1.879	SLV 5	0.362	1.483	1618	1.653	Si
	V	0.83	SLV 11	0.201	0.823	283	0.809	No
89	PFFP	2.711	SLV 11	0.362	1.483	1618	1.653	Si
	R	0.022	SLV 1	0	0	0	0	No
	PF	0.623	SLV 11	0.148	0.606	134	0.595	No
	V	0.336	SLV 15	0.079	0.323	30	0.322	No
90	PFFP	1.261	SLV 7	0.303	1.242	907	1.304	Si
	R	0.068	SLV 1	0	0	0	0	No
	PF	2.144	SLV 7	0.362	1.483	1618	1.653	Si
	V	0.756	SLV 11	0.183	0.748	220	0.729	No
91	PFFP	2.615	SLV 9	0.362	1.483	1618	1.653	Si
	R	0.022	SLV 1	0	0	0	0	No
	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
92	PFFP	1.066	SLV 13	0.259	1.062	567	1.075	Si
	R	0.069	SLV 1	0	0	0	0	No
	PF	0.082	SLV 15	0	0	0	0	No
	V	0.143	SLV 13	0.031	0.127	3	0.125	No
93	PFFP	1.41	SLV 1	0.338	1.384	1289	1.506	Si
	R	0.067	SLV 15	0	0	0	0	No
	PF	0.606	SLV 1	0.144	0.589	125	0.578	No
	V	0.497	SLV 3	0.117	0.479	77	0.474	No
94	PFFP	1.627	SLV 7	0.362	1.483	1618	1.653	Si
	R	0.069	SLV 1	0	0	0	0	No
	PF	0.805	SLV 11	0.195	0.798	261	0.782	No



Maschio	Stato limite	Molt.	Comb.	PGA	IPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
95	V	0.332	SLV 1	0.078	0.318	28	0.313	No
	PFFP	3.166	SLV 11	0.362	1.483	1618	1.653	Si
	R	0.071	SLV 1	0	0	0	0	No
	PF	0.81	SLV 3	0.196	0.803	265	0.787	No
96	V	0.158	SLV 13	0.035	0.143	4	0.141	No
	PFFP	0.933	SLV 7	0.227	0.93	392	0.924	No
	R	0.068	SLV 13	0	0	0	0	No
	PF	0.679	SLV 5	0.162	0.663	165	0.648	No
97	V	0.407	SLV 1	0.096	0.392	46	0.384	No
	PFFP	1.233	SLV 9	0.297	1.216	851	1.27	Si
	R	0.068	SLV 1	0	0	0	0	No
	PF	0.836	SLV 1	0.203	0.829	289	0.816	No
98	V	0.238	SLV 15	0.055	0.226	12	0.221	No
	PFFP	0.809	SLV 5	0.196	0.803	265	0.787	No
	R	0.07	SLV 13	0	0	0	0	No
	PF	1.331	SLV 1	0.32	1.309	1070	1.395	Si
99	V	1.299	SLV 5	0.312	1.277	987	1.35	Si
	PFFP	1.496	SLV 1	0.358	1.467	1559	1.628	Si
	R	0.066	SLV 15	0	0	0	0	No
	PF	1.397	SLV 15	0.335	1.372	1251	1.487	Si
100	V	1.278	SLV 11	0.307	1.257	941	1.324	Si
	PFFP	1.592	SLV 15	0.362	1.483	1618	1.653	Si
	R	0.073	SLV 1	0	0	0	0	No
	PF	1.343	SLV 13	0.323	1.32	1102	1.412	Si
101	V	1.118	SLV 9	0.271	1.11	648	1.136	Si
	PFFP	1.246	SLV 13	0.3	1.228	877	1.286	Si
	R	0.074	SLV 1	0	0	0	0	No
	PF	1.168	SLV 13	0.282	1.156	732	1.194	Si
102	V	0.953	SLV 1	0.232	0.951	415	0.946	No
	PFFP	1.296	SLV 9	0.311	1.274	980	1.346	Si
	R	0.074	SLV 1	0	0	0	0	No
	PF	1.262	SLV 1	0.304	1.242	909	1.305	Si
103	V	0.795	SLV 13	0.193	0.788	252	0.771	No
	PFFP	1.839	SLV 5	0.362	1.483	1618	1.653	Si
	R	0.072	SLV 15	0	0	0	0	No
	PF	1.151	SLV 15	0.279	1.14	702	1.174	Si
104	V	0.614	SLV 1	0.146	0.596	128	0.584	No
	PFFP	1.349	SLV 11	0.323	1.323	1110	1.416	Si
	R	0.073	SLV 3	0	0	0	0	No
	PF	1.983	SLV 7	0.362	1.483	1618	1.653	Si
105	V	0.706	SLV 15	0.17	0.694	183	0.676	No
	PFFP	1.743	SLV 7	0.362	1.483	1618	1.653	Si
	R	0.075	SLV 1	0	0	0	0	No
	PF	0.68	SLV 15	0.163	0.665	166	0.65	No
106	V	0.509	SLV 15	0.12	0.49	81	0.484	No
	PFFP	1.538	SLV 11	0.362	1.483	1618	1.653	Si
	R	0.078	SLV 3	0	0	0	0	No
	PF	2.595	SLV 9	0.362	1.483	1618	1.653	Si
107	V	0.776	SLV 9	0.188	0.769	236	0.751	No
	PFFP	2.336	SLV 9	0.362	1.483	1618	1.653	Si
	R	0.02	SLV 1	0	0	0	0	No
	PF	0.349	SLV 1	0.082	0.337	33	0.335	No
108	V	0.28	SLV 1	0.066	0.269	19	0.267	No
	PFFP	1.859	SLV 5	0.362	1.483	1618	1.653	Si
	R	0.066	SLV 13	0	0	0	0	No
	PF	0.699	SLV 13	0.167	0.685	177	0.667	No
109	V	0.437	SLV 13	0.103	0.42	55	0.413	No
	PFFP	1.158	SLV 11	0.28	1.146	714	1.182	Si
	R	0.073	SLV 1	0	0	0	0	No
	PF	3.711	SLV 13	0.362	1.483	1618	1.653	Si
110	V	0.742	SLV 7	0.179	0.733	208	0.713	No
	PFFP	1.961	SLV 15	0.362	1.483	1618	1.653	Si
	R	0.021	SLV 1	0	0	0	0	No
	PF	1.054	SLV 1	0.257	1.05	549	1.061	Si
111	V	0.558	SLV 15	0.132	0.542	103	0.534	No
	PFFP	1.838	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.069	SLV 1	0	0	0	0	No
	PF	3.093	SLV 11	0.362	1.483	1618	1.653	Si
112	V	1.245	SLV 11	0.3	1.227	875	1.285	Si
	PFFP	2.481	SLV 15	0.362	1.483	1618	1.653	Si
	R	0.021	SLV 1	0	0	0	0	No
	PF	0	SLV 1	0	0	0	0	No
113	V	0	SLV 1	0	0	0	0	No
	PFFP	0.72	SLV 11	0.173	0.708	191	0.688	No
	R	0.034	SLV 1	0	0	0	0	No
	PF	0.42	SLV 5	0.099	0.407	51	0.401	No
114	V	0.4	SLV 5	0.094	0.384	44	0.377	No
	PFFP	1.024	SLV 5	0.25	1.022	507	1.027	Si
	R	0.069	SLV 1	0	0	0	0	No
	PF	1.249	SLV 7	0.301	1.23	883	1.289	Si
115	V	0.605	SLV 7	0.143	0.587	124	0.577	No
	PFFP	1.999	SLV 11	0.362	1.483	1618	1.653	Si
	R	0.021	SLV 1	0	0	0	0	No
	PF	0.17	SLV 7	0.038	0.157	5	0.155	No
116	V	0.193	SLV 7	0.044	0.181	7	0.177	No
	PFFP	0.511	SLV 7	0.12	0.493	82	0.487	No
	R	0.021	SLV 5	0	0	0	0	No
	PF	0	SLV 1	0	0	0	0	No
117	V	0	SLV 1	0	0	0	0	No
	PFFP	0.132	SLV 1	0.031	0.127	3	0.125	No
	R	0.023	SLV 1	0	0	0	0	No



Maschio	Stato limite	Molt.	Comb.	PGA	IPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
118	PF	0.897	SLV 13	0.218	0.893	351	0.883	No
	V	0.757	SLV 13	0.183	0.748	220	0.729	No
	PFFP	1.296	SLV 13	0.311	1.275	982	1.347	Si
	R	0.072	SLV 3	0	0	0	0	No
119	PF	1.918	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.857	SLV 1	0.208	0.852	310	0.839	No
	PFFP	2.368	SLV 9	0.362	1.483	1618	1.653	Si
	R	0.073	SLV 3	0	0	0	0	No
120	PF	1.791	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.858	SLV 13	0.208	0.853	311	0.841	No
	PFFP	2.418	SLV 5	0.362	1.483	1618	1.653	Si
	R	0.073	SLV 13	0	0	0	0	No
121	PF	0.882	SLV 1	0.214	0.878	336	0.868	No
	V	0.738	SLV 1	0.178	0.728	205	0.709	No
	PFFP	1.275	SLV 1	0.307	1.255	936	1.321	Si
	R	0.071	SLV 15	0	0	0	0	No
122	PF	1.869	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.972	SLV 15	0.237	0.97	438	0.967	No
	PFFP	2.106	SLV 13	0.362	1.483	1618	1.653	Si
	R	0.069	SLV 1	0	0	0	0	No
123	PF	2.754	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.663	SLV 3	0.158	0.648	156	0.633	No
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.069	SLV 1	0	0	0	0	No
124	PF	0.642	SLV 15	0.153	0.625	143	0.611	No
	V	0.616	SLV 1	0.146	0.598	129	0.586	No
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.069	SLV 13	0	0	0	0	No
125	PF	1.209	SLV 15	0.292	1.193	806	1.242	Si
	V	0.778	SLV 15	0.188	0.771	238	0.753	No
	PFFP	3.41	SLV 13	0.362	1.483	1618	1.653	Si
	R	0.068	SLV 1	0	0	0	0	No
126	PF	1.055	SLV 15	0.257	1.051	551	1.063	Si
	V	0.594	SLV 15	0.141	0.576	119	0.567	No
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.069	SLV 1	0	0	0	0	No
127	PF	2.115	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.78	SLV 15	0.189	0.773	239	0.755	No
	PFFP	2.293	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.07	SLV 1	0	0	0	0	No
129	PF	3.405	SLV 11	0.362	1.483	1618	1.653	Si
	V	1.275	SLV 7	0.306	1.254	935	1.32	Si
	PFFP	2.494	SLV 15	0.362	1.483	1618	1.653	Si
	R	0.02	SLV 1	0	0	0	0	No
130	PF	0.923	SLV 3	0.225	0.92	380	0.913	No
	V	0.523	SLV 3	0.124	0.506	87	0.499	No
	PFFP	1.452	SLV 15	0.348	1.425	1416	1.565	Si
	R	0.068	SLV 13	0	0	0	0	No
131	PF	4.015	SLV 11	0.362	1.483	1618	1.653	Si
	V	0.849	SLV 11	0.206	0.843	302	0.831	No
	PFFP	2.814	SLV 7	0.362	1.483	1618	1.653	Si
	R	0.021	SLV 1	0	0	0	0	No
132	PF	0.651	SLV 11	0.155	0.635	149	0.622	No
	V	0.523	SLV 3	0.124	0.506	87	0.499	No
	PFFP	1.04	SLV 7	0.253	1.037	530	1.046	Si
	R	0.074	SLV 1	0	0	0	0	No
133	PF	2.519	SLV 5	0.362	1.483	1618	1.653	Si
	V	0.807	SLV 5	0.196	0.801	263	0.785	No
	PFFP	2.128	SLV 9	0.362	1.483	1618	1.653	Si
	R	0.02	SLV 1	0	0	0	0	No
134	PF	0	SLV 1	0	0	0	0	No
	V	0.008	SLV 13	0	0	0	0	No
	PFFP	0.712	SLV 13	0.171	0.699	186	0.681	No
	R	0.064	SLV 15	0	0	0	0	No
135	PF	0.851	SLV 1	0.207	0.845	304	0.833	No
	V	0.877	SLV 1	0.213	0.872	330	0.861	No
	PFFP	1.724	SLV 5	0.362	1.483	1618	1.653	Si
	R	0.038	SLV 15	0	0	0	0	No
136	PF	0.668	SLV 1	0.159	0.652	158	0.637	No
	V	0.53	SLV 3	0.125	0.513	90	0.506	No
	PFFP	1.515	SLV 7	0.361	1.476	1593	1.642	Si
	R	0.077	SLV 13	0	0	0	0	No
137	PF	1.995	SLV 7	0.362	1.483	1618	1.653	Si
	V	0.647	SLV 3	0.154	0.631	147	0.618	No
	PFFP	1.764	SLV 11	0.362	1.483	1618	1.653	Si
	R	0.075	SLV 13	0	0	0	0	No
138	PF	1.123	SLV 3	0.272	1.114	656	1.142	Si
	V	0.584	SLV 15	0.139	0.567	115	0.559	No
	PFFP	1.32	SLV 7	0.317	1.296	1038	1.378	Si
	R	0.073	SLV 15	0	0	0	0	No
139	PF	1.119	SLV 13	0.271	1.11	649	1.137	Si
	V	0.755	SLV 1	0.183	0.747	219	0.728	No
	PFFP	1.588	SLV 13	0.362	1.483	1618	1.653	Si
	R	0.071	SLV 3	0	0	0	0	No
140	PF	1.178	SLV 1	0.285	1.165	750	1.206	Si
	V	0.85	SLV 13	0.206	0.844	303	0.832	No
	PFFP	1.239	SLV 5	0.298	1.221	863	1.277	Si
	R	0.074	SLV 13	0	0	0	0	No
141	PF	1.569	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.534	SLV 1	0.362	1.483	1618	1.653	Si
	PFFP	1.681	SLV 1	0.362	1.483	1618	1.653	Si



Maschio	Stato limite	Molt.	Comb.	PGA	IPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
142	R	0.073	SLV 13	0	0	0	0	No
	PF	2.144	SLV 11	0.362	1.483	1618	1.653	Si
	V	1.463	SLV 11	0.349	1.428	1427	1.57	Si
	PFFP	1.713	SLV 11	0.362	1.483	1618	1.653	Si
143	R	0.073	SLV 1	0	0	0	0	No
	PF	1.604	SLV 13	0.362	1.483	1618	1.653	Si
	V	1.276	SLV 9	0.307	1.255	938	1.322	Si
	PFFP	1.303	SLV 13	0.313	1.281	999	1.356	Si
144	R	0.073	SLV 13	0	0	0	0	No
	PF	1.043	SLV 13	0.254	1.04	534	1.049	Si
	V	0.916	SLV 13	0.223	0.913	373	0.906	No
	PFFP	1.324	SLV 9	0.318	1.3	1047	1.383	Si
145	R	0.071	SLV 3	0	0	0	0	No
	PF	0.679	SLV 3	0.162	0.663	165	0.648	No
	V	0.586	SLV 3	0.139	0.567	115	0.559	No
	PFFP	0.952	SLV 3	0.232	0.95	415	0.946	No
146	R	0.076	SLV 15	0	0	0	0	No
	PF	1.379	SLV 15	0.331	1.355	1200	1.462	Si
	V	1.033	SLV 3	0.252	1.031	520	1.038	Si
	PFFP	1.366	SLV 11	0.327	1.339	1154	1.439	Si
147	R	0.071	SLV 1	0	0	0	0	No
	PF	1.883	SLV 11	0.362	1.483	1618	1.653	Si
	V	0.911	SLV 1	0.221	0.907	366	0.899	No
	PFFP	1.761	SLV 7	0.362	1.483	1618	1.653	Si
148	R	0.071	SLV 3	0	0	0	0	No
	PF	0.498	SLV 13	0.117	0.479	77	0.474	No
	V	0.501	SLV 15	0.118	0.482	78	0.477	No
	PFFP	1.088	SLV 15	0.264	1.082	600	1.101	Si
149	R	0.069	SLV 15	0	0	0	0	No
	PF	1.987	SLV 9	0.362	1.483	1618	1.653	Si
	V	0.882	SLV 9	0.214	0.878	336	0.868	No
	PFFP	1.493	SLV 9	0.356	1.455	1520	1.611	Si
150	R	0.02	SLV 1	0	0	0	0	No
	PF	0.782	SLV 5	0.189	0.775	242	0.758	No
	V	0.751	SLV 13	0.181	0.743	216	0.724	No
	PFFP	1.17	SLV 9	0.283	1.158	736	1.197	Si
151	R	0.064	SLV 1	0	0	0	0	No
	PF	0.549	SLV 13	0.129	0.53	98	0.524	No
	V	0.399	SLV 13	0.094	0.384	44	0.377	No
	PFFP	1.043	SLV 15	0.254	1.04	534	1.049	Si
152	R	0.069	SLV 15	0	0	0	0	No
	PF	3.421	SLV 15	0.362	1.483	1618	1.653	Si
	V	0.861	SLV 11	0.209	0.855	314	0.844	No
	PFFP	1.503	SLV 15	0.36	1.473	1583	1.638	Si
153	R	0.02	SLV 1	0	0	0	0	No
	PF	0.542	SLV 5	0.128	0.523	95	0.517	No
	V	0.545	SLV 5	0.129	0.528	97	0.521	No
	PFFP	0.734	SLV 5	0.177	0.723	201	0.703	No
154	R	0.068	SLV 15	0	0	0	0	No
	PF	2.985	SLV 9	0.362	1.483	1618	1.653	Si
	V	1.444	SLV 11	0.345	1.41	1370	1.544	Si
	PFFP	1.434	SLV 13	0.344	1.407	1360	1.539	Si
155	R	0.021	SLV 1	0	0	0	0	No
	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	0	SLV 1	0	0	0	0	No
156	R	0.035	SLV 1	0	0	0	0	No
	PF	0.215	SLV 5	0.049	0.201	9	0.197	No
	V	0.203	SLV 5	0.047	0.191	8	0.187	No
	PFFP	0.462	SLV 5	0.109	0.445	64	0.44	No
157	R	0.067	SLV 1	0	0	0	0	No
	PF	1.787	SLV 11	0.362	1.483	1618	1.653	Si
	V	0.741	SLV 7	0.179	0.731	207	0.711	No
	PFFP	1.487	SLV 15	0.356	1.458	1529	1.615	Si
158	R	0.02	SLV 1	0	0	0	0	No
	PF	0.425	SLV 7	0.1	0.41	52	0.404	No
	V	0.43	SLV 7	0.101	0.414	53	0.407	No
	PFFP	0.603	SLV 7	0.143	0.585	123	0.575	No
159	R	0.02	SLV 5	0	0	0	0	No
	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	0.93	SLV 9	0.227	0.927	388	0.92	No
160	R	0	SLV 1	0	0	0	0	No
	PF	0.947	SLV 15	0.231	0.944	408	0.94	No
	V	0.837	SLV 15	0.203	0.83	290	0.817	No
	PFFP	1.17	SLV 13	0.283	1.158	736	1.197	Si
161	R	0.071	SLV 3	0	0	0	0	No
	PF	1.717	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.909	SLV 13	0.221	0.905	364	0.897	No
	PFFP	2.525	SLV 9	0.362	1.483	1618	1.653	Si
162	R	0.071	SLV 1	0	0	0	0	No
	PF	1.73	SLV 3	0.362	1.483	1618	1.653	Si
	V	0.901	SLV 3	0.219	0.896	355	0.887	No
	PFFP	2.449	SLV 1	0.362	1.483	1618	1.653	Si
163	R	0.07	SLV 1	0	0	0	0	No
	PF	0.966	SLV 3	0.236	0.964	431	0.961	No
	V	0.863	SLV 3	0.209	0.857	316	0.846	No
	PFFP	1.184	SLV 3	0.286	1.17	760	1.213	Si
164	R	0.07	SLV 13	0	0	0	0	No
	PF	1.525	SLV 15	0.362	1.483	1618	1.653	Si
	V	1.127	SLV 1	0.273	1.118	662	1.146	Si



Maschio	Stato limite	Molt.	Comb.	PGA	IPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
165	PFFP	1.595	SLV 15	0.362	1.483	1618	1.653	Si
	R	0.065	SLV 3	0	0	0	0	No
	PF	3.478	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.778	SLV 13	0.188	0.771	238	0.753	No
166	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.063	SLV 1	0	0	0	0	No
	PF	0.375	SLV 1	0.088	0.359	38	0.355	No
	V	0.348	SLV 1	0.082	0.337	33	0.335	No
167	PFFP	3.006	SLV 11	0.362	1.483	1618	1.653	Si
	R	0.064	SLV 13	0	0	0	0	No
	PF	1.247	SLV 1	0.3	1.228	878	1.286	Si
	V	0.964	SLV 1	0.235	0.962	428	0.958	No
168	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.062	SLV 13	0	0	0	0	No
	PF	1.024	SLV 15	0.25	1.022	507	1.027	Si
	V	0.594	SLV 15	0.141	0.576	119	0.567	No
169	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.064	SLV 1	0	0	0	0	No
	PF	1.587	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.965	SLV 15	0.235	0.963	429	0.959	No
170	PFFP	1.688	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.066	SLV 13	0	0	0	0	No
	PF	0.185	SLV 5	0.041	0.169	6	0.167	No
	V	0.24	SLV 5	0.055	0.226	12	0.221	No
171	PFFP	1.068	SLV 3	0.26	1.063	570	1.078	Si
	R	0.072	SLV 15	0	0	0	0	No
	PF	3.987	SLV 7	0.362	1.483	1618	1.653	Si
	V	1.147	SLV 7	0.278	1.136	696	1.17	Si
173	PFFP	3.444	SLV 3	0.362	1.483	1618	1.653	Si
	R	0.126	SLV 3	0.026	0.107	2	0.106	No
	PF	2.579	SLV 7	0.362	1.483	1618	1.653	Si
	V	1.366	SLV 9	0.327	1.339	1154	1.439	Si
174	PFFP	1.737	SLV 3	0.362	1.483	1618	1.653	Si
	R	0.059	SLV 13	0	0	0	0	No
	PF	3.346	SLV 5	0.362	1.483	1618	1.653	Si
	V	1.442	SLV 7	0.344	1.408	1364	1.541	Si
175	PFFP	1.693	SLV 5	0.362	1.483	1618	1.653	Si
	R	0.021	SLV 1	0	0	0	0	No
	PF	0.784	SLV 3	0.19	0.776	243	0.76	No
	V	0.494	SLV 3	0.116	0.477	75	0.469	No
176	PFFP	1.136	SLV 15	0.275	1.126	678	1.157	Si
	R	0.072	SLV 1	0	0	0	0	No
	PF	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.919	SLV 7	0.224	0.916	376	0.909	No
177	PFFP	1.48	SLV 3	0.355	1.451	1506	1.605	Si
	R	0.02	SLV 1	0	0	0	0	No
	PF	0.519	SLV 3	0.122	0.501	85	0.494	No
	V	0.403	SLV 3	0.095	0.388	45	0.381	No
178	PFFP	0.763	SLV 7	0.185	0.755	225	0.736	No
	R	0.069	SLV 1	0	0	0	0	No
	PF	2.078	SLV 5	0.362	1.483	1618	1.653	Si
	V	0.92	SLV 5	0.224	0.917	377	0.91	No
179	PFFP	1.467	SLV 9	0.35	1.431	1439	1.575	Si
	R	0.02	SLV 1	0	0	0	0	No
	PF	1.033	SLV 5	0.252	1.031	520	1.038	Si
	V	1.024	SLV 5	0.25	1.022	507	1.027	Si
180	PFFP	0.947	SLV 5	0.231	0.945	408	0.94	No
	R	0.067	SLV 3	0	0	0	0	No
	PF	0.484	SLV 7	0.114	0.466	71	0.459	No
	V	0.732	SLV 5	0.176	0.722	200	0.701	No
181	PFFP	0.488	SLV 5	0.115	0.471	73	0.464	No
	R	0.074	SLV 13	0	0	0	0	No
	PF	0.551	SLV 1	0.13	0.532	99	0.526	No
	V	0.509	SLV 3	0.12	0.49	81	0.484	No
182	PFFP	1.016	SLV 7	0.248	1.015	496	1.018	Si
	R	0.075	SLV 13	0	0	0	0	No
	PF	1.638	SLV 15	0.362	1.483	1618	1.653	Si
	V	0.954	SLV 13	0.233	0.952	416	0.947	No
183	PFFP	1.836	SLV 11	0.362	1.483	1618	1.653	Si
	R	0.07	SLV 1	0	0	0	0	No
	PF	1.453	SLV 3	0.348	1.425	1419	1.566	Si
	V	0.991	SLV 15	0.242	0.991	463	0.99	No
184	PFFP	1.454	SLV 7	0.347	1.42	1400	1.558	Si
	R	0.072	SLV 1	0	0	0	0	No
	PF	0.643	SLV 15	0.153	0.627	144	0.613	No
	V	0.554	SLV 15	0.131	0.535	100	0.528	No
185	PFFP	0.93	SLV 15	0.227	0.927	388	0.92	No
	R	0.075	SLV 3	0	0	0	0	No
	PF	1.04	SLV 1	0.253	1.037	530	1.046	Si
	V	0.851	SLV 13	0.207	0.845	304	0.833	No
186	PFFP	1.298	SLV 5	0.312	1.276	985	1.349	Si
	R	0.07	SLV 15	0	0	0	0	No
	PF	2.076	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.715	SLV 5	0.362	1.483	1618	1.653	Si
187	PFFP	1.948	SLV 1	0.362	1.483	1618	1.653	Si
	R	0.073	SLV 1	0	0	0	0	No
	PF	1.327	SLV 7	0.318	1.303	1055	1.387	Si
	V	1.214	SLV 7	0.293	1.198	815	1.248	Si
188	PFFP	0.839	SLV 7	0.203	0.833	292	0.819	No
	R	0.076	SLV 13	0	0	0	0	No
	PF	1.382	SLV 9	0.331	1.353	1196	1.46	Si



Maschio	Stato limite	Molt.	Comb.	PGA	IPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
	V	1.292	SLV 9	0.31	1.27	971	1.341	Si
	PFFP	0.914	SLV 9	0.223	0.911	370	0.903	No
	R	0.057	SLV 15	0	0	0	0	No
189	PF	0.778	SLV 3	0.188	0.771	238	0.753	No
	V	0.55	SLV 3	0.13	0.532	99	0.526	No
	PFFP	1.323	SLV 1	0.318	1.301	1050	1.384	Si
	R	0.057	SLV 1	0	0	0	0	No
190	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	0.206	SLV 5	0.047	0.191	8	0.187	No
	R	0	SLV 1	0	0	0	0	No
191	PF	1.213	SLV 5	0.292	1.197	813	1.247	Si
	V	0.914	SLV 5	0.223	0.911	370	0.903	No
	PFFP	1.228	SLV 11	0.296	1.211	841	1.264	Si
	R	0.063	SLV 3	0	0	0	0	No
192	PF	1.563	SLV 5	0.362	1.483	1618	1.653	Si
	V	1.103	SLV 5	0.268	1.096	624	1.118	Si
	PFFP	1.017	SLV 11	0.248	1.016	497	1.019	Si
	R	0.094	SLV 7	0.02	0.08	1	0.08	No
193	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	0.219	SLV 7	0.051	0.21	10	0.205	No
	R	0	SLV 1	0	0	0	0	No
194	PF	0.198	SLV 13	0.047	0.191	8	0.187	No
	V	0.195	SLV 13	0.044	0.181	7	0.177	No
	PFFP	0.451	SLV 11	0.106	0.433	59	0.425	No
	R	0	SLV 1	0	0	0	0	No
195	PF	0.437	SLV 5	0.103	0.42	55	0.413	No
	V	0.36	SLV 5	0.085	0.346	35	0.343	No
	PFFP	0.868	SLV 3	0.211	0.863	321	0.852	No
	R	0.026	SLV 1	0	0	0	0	No
196	PF	1.127	SLV 13	0.273	1.118	662	1.146	Si
	V	0.812	SLV 13	0.197	0.805	267	0.79	No
	PFFP	1.479	SLV 9	0.352	1.442	1476	1.592	Si
	R	0.074	SLV 1	0	0	0	0	No
197	PF	0.252	SLV 7	0.059	0.242	14	0.236	No
	V	0.165	SLV 7	0.038	0.157	5	0.155	No
	PFFP	0.683	SLV 5	0.163	0.669	168	0.653	No
	R	0.029	SLV 1	0	0	0	0	No
198	PF	1.536	SLV 9	0.362	1.483	1618	1.653	Si
	V	1.486	SLV 3	0.356	1.457	1526	1.614	Si
	PFFP	0.577	SLV 13	0.137	0.56	111	0.551	No
	R	0.028	SLV 13	0	0	0	0	No
199	PFFP	0.384	SLV 7	0.091	0.372	41	0.366	No
	R	0	SLV 1	0	0	0	0	No
200	PFFP	0.613	SLV 9	0.146	0.596	128	0.584	No
	R	0.106	SLV 3	0.02	0.08	1	0.08	No
201	PF	0.264	SLV 9	0.062	0.256	17	0.255	No
	V	0.2	SLV 11	0.047	0.191	8	0.187	No
	PFFP	0.686	SLV 13	0.164	0.671	169	0.655	No
	R	0.028	SLV 3	0	0	0	0	No
202	PF	0.159	SLV 7	0.035	0.143	4	0.141	No
	V	0.16	SLV 7	0.035	0.143	4	0.141	No
	PFFP	0.257	SLV 7	0.061	0.249	16	0.249	No
	R	0.027	SLV 3	0	0	0	0	No
203	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	0.607	SLV 9	0.144	0.589	125	0.578	No
	R	0	SLV 1	0	0	0	0	No
204	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	0.238	SLV 5	0.055	0.226	12	0.221	No
	R	0	SLV 1	0	0	0	0	No
205	PF	0.979	SLV 3	0.239	0.977	447	0.975	No
	V	0.885	SLV 3	0.215	0.881	339	0.871	No
	PFFP	1.114	SLV 7	0.27	1.106	642	1.131	Si
	R	0	SLV 1	0	0	0	0	No
206	PF	1.263	SLV 15	0.304	1.243	911	1.306	Si
	V	1.145	SLV 15	0.277	1.134	692	1.167	Si
	PFFP	1.131	SLV 7	0.274	1.122	669	1.151	Si
	R	0	SLV 1	0	0	0	0	No
207	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	0.468	SLV 5	0.11	0.451	66	0.445	No
	R	0	SLV 1	0	0	0	0	No
208	PF	1.027	SLV 13	0.25	1.025	511	1.03	Si
	V	1.01	SLV 13	0.247	1.009	488	1.011	Si
	PFFP	0.939	SLV 13	0.229	0.936	398	0.93	No
	R	0.12	SLV 3	0.026	0.107	2	0.106	No
209	PF	1.374	SLV 13	0.33	1.35	1186	1.455	Si
	V	1.068	SLV 13	0.26	1.063	570	1.078	Si
	PFFP	1.882	SLV 13	0.362	1.483	1618	1.653	Si
	R	0.083	SLV 3	0.02	0.08	1	0.08	No
210	PF	0.252	SLV 1	0.059	0.242	14	0.236	No
	V	0.234	SLV 1	0.053	0.218	11	0.214	No
	PFFP	1.171	SLV 7	0.283	1.158	737	1.197	Si
	R	0.069	SLV 7	0	0	0	0	No
211	PF	0.393	SLV 1	0.093	0.38	43	0.373	No
	V	0.375	SLV 1	0.088	0.359	38	0.355	No
	PFFP	0.967	SLV 1	0.236	0.965	432	0.962	No
	R	0.092	SLV 13	0.02	0.08	1	0.08	No





Maschio	Stato limite	Molt.	Comb.	PGA	IPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
212	PF	1.002	SLV 1	0.245	1.002	477	1.002	Si
	V	0.686	SLV 15	0.164	0.671	169	0.655	No
	PFFP	2.011	SLV 5	0.362	1.483	1618	1.653	Si
213	R	0.08	SLV 15	0	0	0	0	No
	PF	1.532	SLV 1	0.362	1.483	1618	1.653	Si
	V	1.528	SLV 1	0.362	1.483	1618	1.653	Si
214	PFFP	1.071	SLV 1	0.261	1.066	575	1.081	Si
	R	0.119	SLV 1	0.026	0.107	2	0.106	No
	PF	0.415	SLV 11	0.098	0.399	49	0.394	No
215	V	0.298	SLV 11	0.07	0.286	22	0.284	No
	PFFP	1.042	SLV 7	0.254	1.039	532	1.048	Si
	R	0.126	SLV 13	0.026	0.107	2	0.106	No
216	PF	0.899	SLV 9	0.219	0.895	353	0.885	No
	V	0.897	SLV 9	0.218	0.893	351	0.883	No
	PFFP	0.632	SLV 5	0.15	0.614	138	0.602	No
217	R	0.028	SLV 1	0	0	0	0	No
	PF	0.382	SLV 9	0.09	0.368	40	0.363	No
	V	0.348	SLV 7	0.082	0.337	33	0.335	No
218	PFFP	0.813	SLV 1	0.197	0.807	268	0.791	No
	R	0.029	SLV 1	0	0	0	0	No
	PF	0.476	SLV 9	0.112	0.457	68	0.451	No
219	V	0.428	SLV 5	0.101	0.414	53	0.407	No
	PFFP	0.977	SLV 13	0.238	0.975	444	0.973	No
	R	0.026	SLV 1	0	0	0	0	No
220	PF	0.327	SLV 15	0.077	0.313	27	0.309	No
	V	0.334	SLV 13	0.078	0.318	28	0.313	No
	PFFP	1.561	SLV 5	0.362	1.483	1618	1.653	Si
221	R	0.014	SLV 13	0	0	0	0	No
	PF	0.046	SLV 15	0	0	0	0	No
	V	0.959	SLV 1	0.234	0.957	422	0.953	No
222	PFFP	0.701	SLV 1	0.168	0.689	180	0.672	No
	R	0.065	SLV 13	0	0	0	0	No
	PF	0	SLV 1	0	0	0	0	No
223	V	0	SLV 1	0	0	0	0	No
	PFFP	0.294	SLV 5	0.069	0.281	21	0.278	No
	R	0	SLV 1	0	0	0	0	No
224	PF	0.813	SLV 15	0.197	0.807	268	0.791	No
	V	0.564	SLV 15	0.133	0.546	105	0.539	No
	PFFP	1.229	SLV 9	0.296	1.212	843	1.265	Si
225	R	0.074	SLV 13	0	0	0	0	No
	PF	1.13	SLV 11	0.274	1.121	668	1.15	Si
	V	1.015	SLV 11	0.248	1.014	495	1.017	Si
226	PFFP	1.229	SLV 1	0.296	1.212	843	1.265	Si
	R	0.07	SLV 1	0	0	0	0	No
	PF	0	SLV 1	0	0	0	0	No
227	V	0	SLV 1	0	0	0	0	No
	PFFP	0.17	SLV 5	0.038	0.157	5	0.155	No
	R	0	SLV 1	0	0	0	0	No
228	PF	0.299	SLV 13	0.07	0.286	22	0.284	No
	V	0.285	SLV 13	0.067	0.275	20	0.273	No
	PFFP	0.653	SLV 15	0.156	0.637	150	0.623	No
229	R	0.07	SLV 11	0	0	0	0	No
	PF	0.451	SLV 9	0.106	0.433	59	0.425	No
	V	0.408	SLV 9	0.096	0.392	46	0.384	No
230	PFFP	0.706	SLV 5	0.17	0.694	183	0.676	No
	R	0.063	SLV 15	0	0	0	0	No
	PF	0.757	SLV 3	0.183	0.748	220	0.729	No
231	V	0.517	SLV 3	0.122	0.498	84	0.491	No
	PFFP	0.845	SLV 15	0.205	0.84	299	0.827	No
232	R	0.064	SLV 3	0	0	0	0	No
	PF	0.396	SLV 11	0.093	0.38	43	0.373	No
	V	0.38	SLV 11	0.09	0.368	40	0.363	No
233	PFFP	0.343	SLV 7	0.08	0.328	31	0.327	No
	R	0.1	SLV 5	0.02	0.08	1	0.08	No
	PF	0.282	SLV 7	0.066	0.269	19	0.267	No
234	V	0.273	SLV 11	0.064	0.262	18	0.261	No
	PFFP	0.227	SLV 11	0.053	0.218	11	0.214	No
	R	0	SLV 1	0	0	0	0	No
235	PF	2.231	SLV 9	0.362	1.483	1618	1.653	Si
	V	1.661	SLV 9	0.362	1.483	1618	1.653	Si
	PFFP	1.113	SLV 7	0.27	1.105	640	1.13	Si
236	R	0.085	SLV 7	0.02	0.08	1	0.08	No
	PF	1.188	SLV 11	0.287	1.174	768	1.218	Si
	V	0.994	SLV 11	0.243	0.993	466	0.992	No
237	PFFP	1.149	SLV 11	0.278	1.138	699	1.172	Si
	R	0.088	SLV 15	0.02	0.08	1	0.08	No
	PF	0.519	SLV 15	0.122	0.501	85	0.494	No
238	V	0.318	SLV 1	0.074	0.303	25	0.299	No
	PFFP	1.135	SLV 11	0.275	1.125	676	1.156	Si
	R	0.185	SLV 1	0.041	0.169	6	0.167	No
239	PF	0.464	SLV 3	0.11	0.448	65	0.442	No
	V	0.417	SLV 3	0.098	0.403	50	0.397	No
	PFFP	1.181	SLV 7	0.285	1.168	755	1.209	Si
240	R	0.186	SLV 13	0.041	0.169	6	0.167	No
	PF	0.542	SLV 15	0.128	0.523	95	0.517	No
	V	0.459	SLV 15	0.108	0.442	63	0.437	No
241	PFFP	1.275	SLV 11	0.306	1.254	935	1.32	Si
	R	0.096	SLV 1	0.02	0.08	1	0.08	No
	PF	0.544	SLV 3	0.128	0.525	96	0.519	No
242	V	0.447	SLV 3	0.105	0.43	58	0.422	No
	PFFP	1.359	SLV 11	0.325	1.332	1136	1.43	Si



Maschio	Stato limite	Molt.	Comb.	PGA	IPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
237	R	0.097	SLV 13	0.02	0.08	1	0.08	No
	PF	0.397	SLV 15	0.094	0.384	44	0.377	No
	V	0.375	SLV 15	0.088	0.359	38	0.355	No
	PFFP	0.631	SLV 11	0.15	0.614	138	0.602	No
238	R	0.086	SLV 1	0.02	0.08	1	0.08	No
	PF	0.478	SLV 3	0.112	0.46	69	0.453	No
	V	0.424	SLV 3	0.1	0.41	52	0.404	No
	PFFP	1.048	SLV 11	0.255	1.045	541	1.055	Si
239	R	0.086	SLV 13	0.02	0.08	1	0.08	No
	PF	1.083	SLV 11	0.263	1.077	593	1.095	Si
	V	1.083	SLV 11	0.263	1.077	593	1.095	Si
	PFFP	1.213	SLV 11	0.292	1.197	813	1.247	Si
240	R	0.466	SLV 9	0.11	0.448	65	0.442	No
	PF	0.322	SLV 7	0.075	0.308	26	0.304	No
	V	0.317	SLV 7	0.074	0.303	25	0.299	No
	PFFP	0.33	SLV 11	0.078	0.318	28	0.313	No
241	R	0.006	SLV 15	0	0	0	0	No
	PF	0.429	SLV 3	0.101	0.414	53	0.407	No
	V	0.413	SLV 3	0.098	0.399	49	0.394	No
	PFFP	0.54	SLV 11	0.128	0.523	95	0.517	No
242	R	0.006	SLV 3	0	0	0	0	No
	PF	0.153	SLV 11	0.035	0.143	4	0.141	No
	V	0.147	SLV 11	0.035	0.143	4	0.141	No
	PFFP	0.443	SLV 13	0.104	0.427	57	0.419	No
243	R	0	SLV 1	0	0	0	0	No
	PF	0.008	SLV 5	0	0	0	0	No
	V	0.007	SLV 5	0	0	0	0	No
	PFFP	0.276	SLV 9	0.064	0.262	18	0.261	No
244	R	0	SLV 1	0	0	0	0	No
	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	0.629	SLV 5	0.15	0.612	137	0.601	No
245	R	0.028	SLV 7	0	0	0	0	No
	PF	0.216	SLV 11	0.049	0.201	9	0.197	No
	V	0.204	SLV 11	0.047	0.191	8	0.187	No
	PFFP	0.285	SLV 11	0.067	0.275	20	0.273	No
246	R	0.117	SLV 9	0.026	0.107	2	0.106	No
	PF	0.144	SLV 11	0.031	0.127	3	0.125	No
	V	0.139	SLV 11	0.031	0.127	3	0.125	No
	PFFP	0.276	SLV 11	0.064	0.262	18	0.261	No
247	R	0.118	SLV 5	0.026	0.107	2	0.106	No
	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	0.28	SLV 11	0.066	0.269	19	0.267	No
248	R	0.112	SLV 1	0.026	0.107	2	0.106	No
	PF	0.072	SLV 7	0	0	0	0	No
	V	0.072	SLV 7	0	0	0	0	No
	PFFP	0.416	SLV 3	0.098	0.403	50	0.397	No
249	R	0.099	SLV 7	0.02	0.08	1	0.08	No
	PFFP	0.274	SLV 5	0.064	0.262	18	0.261	No
	R	0.166	SLV 1	0.038	0.157	5	0.155	No
	PF	1.236	SLV 5	0.298	1.218	857	1.274	Si
250	V	0.739	SLV 5	0.178	0.73	206	0.71	No
	PFFP	2.796	SLV 5	0.362	1.483	1618	1.653	Si
	R	0.069	SLV 1	0	0	0	0	No
	PFFP	0.481	SLV 7	0.113	0.463	70	0.456	No
251	R	0	SLV 1	0	0	0	0	No
	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
	PFFP	0.306	SLV 11	0.071	0.292	23	0.289	No
253	R	0.081	SLV 9	0	0	0	0	No
	PF	0.15	SLV 11	0.035	0.143	4	0.141	No
	V	0.15	SLV 11	0.035	0.143	4	0.141	No
	PFFP	0.35	SLV 11	0.082	0.337	33	0.335	No
254	R	0.13	SLV 9	0.026	0.107	2	0.106	No
	PF	0.984	SLV 11	0.24	0.984	454	0.982	No
	V	0.777	SLV 11	0.188	0.77	237	0.752	No
	PFFP	1.863	SLV 11	0.362	1.483	1618	1.653	Si
255	R	0.03	SLV 3	0	0	0	0	No
	PF	3.854	SLV 11	0.362	1.483	1618	1.653	Si
	V	1.034	SLV 7	0.252	1.032	521	1.039	Si
	PFFP	1000	SLV 1	0.362	1.483	1618	1.653	Si
256	R	0.068	SLV 1	0	0	0	0	No
	PF	2.008	SLV 9	0.362	1.483	1618	1.653	Si
	V	1.205	SLV 9	0.291	1.19	798	1.237	Si
	PFFP	1.782	SLV 5	0.362	1.483	1618	1.653	Si
257	R	0.029	SLV 9	0	0	0	0	No
	PF	0.149	SLV 3	0.035	0.143	4	0.141	No
	V	0.147	SLV 3	0.035	0.143	4	0.141	No
	PFFP	0.357	SLV 7	0.083	0.342	34	0.339	No
258	R	0.12	SLV 5	0.026	0.107	2	0.106	No
	PF	0.154	SLV 5	0.035	0.143	4	0.141	No
	V	0.154	SLV 5	0.035	0.143	4	0.141	No
	PFFP	0.3	SLV 7	0.07	0.286	22	0.284	No
259	R	0.112	SLV 1	0.026	0.107	2	0.106	No
	PF	0.018	SLV 11	0	0	0	0	No
	V	0.018	SLV 11	0	0	0	0	No
	PFFP	0.163	SLV 5	0.038	0.157	5	0.155	No
260	R	0.043	SLV 15	0	0	0	0	No
	PF	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No



Maschio	Stato limite	Molt.	Comb.	PGA	IPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
	PFFP	0.309	SLV 5	0.073	0.298	24	0.294	No
	R	0	SLV 1	0	0	0	0	No

#### Verifica travi di collegamento in muratura

Trave	Stato limite	Molt.	Comb.	PGA	IPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
1	F	1.457	SLV 5	0.348	1.422	1409	1.562	Si
	V	0	SLV 1	0	0	0	0	No
2	F	2.58	SLV 7	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
3	F	0.107	SLV 7	0.02	0.08	1	0.08	No
	V	0	SLV 1	0	0	0	0	No
4	F	0.537	SLV 7	0.127	0.518	93	0.512	No
	V	0	SLV 1	0	0	0	0	No
5	F	1.082	SLV 7	0.263	1.076	591	1.094	Si
	V	0	SLV 1	0	0	0	0	No
6	F	2.785	SLV 7	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
7	F	0.199	SLV 11	0.047	0.191	8	0.187	No
	V	0	SLV 1	0	0	0	0	No
8	F	1.758	SLV 13	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
9	F	0.034	SLV 7	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
10	F	0.344	SLV 13	0.081	0.332	31	0.327	No
	V	0	SLV 1	0	0	0	0	No
11	F	0.363	SLV 11	0.086	0.351	36	0.347	No
	V	0	SLV 1	0	0	0	0	No
12	F	1.016	SLV 13	0.248	1.015	496	1.018	Si
	V	0	SLV 1	0	0	0	0	No
13	F	0.402	SLV 3	0.095	0.388	45	0.381	No
	V	0	SLV 1	0	0	0	0	No
14	F	2.36	SLV 3	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
15	F	1.158	SLV 13	0.28	1.146	714	1.182	Si
	V	0	SLV 1	0	0	0	0	No
16	F	0.951	SLV 15	0.232	0.949	413	0.944	No
	V	0	SLV 1	0	0	0	0	No
17	F	0.683	SLV 1	0.163	0.669	168	0.653	No
	V	0	SLV 1	0	0	0	0	No
18	F	1.066	SLV 15	0.259	1.062	567	1.075	Si
	V	0	SLV 1	0	0	0	0	No
19	F	0.384	SLV 7	0.091	0.372	41	0.366	No
	V	0	SLV 1	0	0	0	0	No
20	F	3.237	SLV 1	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
21	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
22	F	0.301	SLV 3	0.07	0.286	22	0.284	No
	V	0	SLV 1	0	0	0	0	No
23	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
24	F	0.448	SLV 13	0.105	0.43	58	0.422	No
	V	0	SLV 1	0	0	0	0	No
25	F	3.308	SLV 13	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
26	F	0.276	SLV 15	0.064	0.262	18	0.261	No
	V	0	SLV 1	0	0	0	0	No
27	F	0.146	SLV 7	0.031	0.127	3	0.125	No
	V	0	SLV 1	0	0	0	0	No
28	F	0.571	SLV 15	0.135	0.553	108	0.545	No
	V	0	SLV 1	0	0	0	0	No
29	F	1.838	SLV 1	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
30	F	0.136	SLV 5	0.031	0.127	3	0.125	No
	V	0	SLV 1	0	0	0	0	No
31	F	2.532	SLV 15	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
32	F	0.202	SLV 11	0.047	0.191	8	0.187	No
	V	0	SLV 1	0	0	0	0	No
33	F	0.499	SLV 11	0.117	0.479	77	0.474	No
	V	0	SLV 1	0	0	0	0	No
34	F	2.058	SLV 5	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
35	F	0.12	SLV 5	0.026	0.107	2	0.106	No
	V	0	SLV 1	0	0	0	0	No
36	F	0.521	SLV 3	0.123	0.503	86	0.496	No
	V	0	SLV 1	0	0	0	0	No
37	F	1.324	SLV 3	0.318	1.302	1052	1.385	Si
	V	0	SLV 1	0	0	0	0	No
38	F	0.395	SLV 1	0.093	0.38	43	0.373	No
	V	0	SLV 1	0	0	0	0	No
39	F	0.769	SLV 1	0.186	0.761	230	0.743	No
	V	0	SLV 1	0	0	0	0	No
40	F	1.214	SLV 5	0.293	1.198	815	1.248	Si
	V	0	SLV 1	0	0	0	0	No
41	F	1.113	SLV 13	0.27	1.105	640	1.13	Si
	V	0	SLV 1	0	0	0	0	No
42	F	0.272	SLV 13	0.064	0.262	18	0.261	No
	V	0	SLV 1	0	0	0	0	No
43	F	1.057	SLV 13	0.257	1.053	554	1.065	Si



Trave	Stato limite	Molt.	Comb.	PGA	IPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
	V	0	SLV 1	0	0	0	0	No
44	F	0.247	SLV 9	0.057	0.234	13	0.229	No
	V	0	SLV 1	0	0	0	0	No
45	F	0.786	SLV 13	0.19	0.779	245	0.762	No
	V	0	SLV 1	0	0	0	0	No
46	F	0.368	SLV 15	0.087	0.355	37	0.351	No
	V	0	SLV 1	0	0	0	0	No
47	F	0.551	SLV 5	0.13	0.532	99	0.526	No
	V	0	SLV 1	0	0	0	0	No
48	F	0.678	SLV 3	0.162	0.663	165	0.648	No
	V	0	SLV 1	0	0	0	0	No
49	F	0.394	SLV 13	0.093	0.38	43	0.373	No
	V	0	SLV 1	0	0	0	0	No
50	F	0.726	SLV 15	0.175	0.715	196	0.696	No
	V	0	SLV 1	0	0	0	0	No
51	F	0.483	SLV 15	0.114	0.466	71	0.459	No
	V	0	SLV 1	0	0	0	0	No
52	F	1.13	SLV 3	0.274	1.121	668	1.15	Si
	V	0	SLV 1	0	0	0	0	No
53	F	0.398	SLV 7	0.094	0.384	44	0.377	No
	V	0	SLV 1	0	0	0	0	No
54	F	1.102	SLV 3	0.267	1.095	622	1.117	Si
	V	0	SLV 1	0	0	0	0	No
55	F	0.428	SLV 3	0.101	0.414	53	0.407	No
	V	0	SLV 1	0	0	0	0	No
56	F	1.037	SLV 15	0.253	1.035	526	1.043	Si
	V	0	SLV 1	0	0	0	0	No
57	F	0.258	SLV 3	0.061	0.249	16	0.249	No
	V	0	SLV 1	0	0	0	0	No
58	F	0.753	SLV 1	0.182	0.744	217	0.725	No
	V	0	SLV 1	0	0	0	0	No
59	F	0.224	SLV 5	0.051	0.21	10	0.205	No
	V	0	SLV 1	0	0	0	0	No
60	F	1.69	SLV 13	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
61	F	1.052	SLV 13	0.256	1.049	547	1.06	Si
	V	0	SLV 1	0	0	0	0	No
62	F	0.359	SLV 1	0.085	0.346	35	0.343	No
	V	0.027	SLV 13	0	0	0	0	No
63	F	1.234	SLV 11	0.297	1.216	853	1.271	Si
	V	0	SLV 1	0	0	0	0	No
64	F	1.383	SLV 5	0.331	1.354	1199	1.462	Si
	V	0	SLV 1	0	0	0	0	No
65	F	0.805	SLV 1	0.195	0.798	261	0.782	No
	V	0	SLV 1	0	0	0	0	No
66	F	0.449	SLV 13	0.106	0.433	59	0.425	No
	V	0	SLV 1	0	0	0	0	No
67	F	0.615	SLV 13	0.146	0.598	129	0.586	No
	V	0	SLV 1	0	0	0	0	No
68	F	0.467	SLV 15	0.11	0.451	66	0.445	No
	V	0	SLV 1	0	0	0	0	No
69	F	0.903	SLV 15	0.22	0.899	358	0.891	No
	V	0	SLV 1	0	0	0	0	No
70	F	1.759	SLV 9	0.362	1.483	1618	1.653	Si
	V	0.062	SLV 9	0	0	0	0	No
71	F	1.477	SLV 3	0.354	1.448	1496	1.601	Si
	V	0	SLV 1	0	0	0	0	No
72	F	1.728	SLV 13	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
73	F	0.68	SLV 1	0.163	0.665	166	0.65	No
	V	0	SLV 1	0	0	0	0	No
74	F	0.84	SLV 1	0.204	0.835	294	0.821	No
	V	0	SLV 1	0	0	0	0	No
75	F	3.807	SLV 3	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
76	F	1.375	SLV 13	0.33	1.351	1188	1.456	Si
	V	0	SLV 1	0	0	0	0	No
77	F	0.908	SLV 13	0.221	0.904	363	0.896	No
	V	0	SLV 1	0	0	0	0	No
78	F	1.115	SLV 13	0.27	1.107	643	1.132	Si
	V	0	SLV 1	0	0	0	0	No
79	F	0.207	SLV 9	0.049	0.201	9	0.197	No
	V	0	SLV 9	0	0	0	0	No
80	F	0.79	SLV 13	0.191	0.783	248	0.766	No
	V	0	SLV 1	0	0	0	0	No
81	F	0.211	SLV 15	0.049	0.201	9	0.197	No
	V	0	SLV 7	0	0	0	0	No
82	F	0.712	SLV 5	0.171	0.699	186	0.681	No
	V	0	SLV 1	0	0	0	0	No
83	F	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
84	F	1.328	SLV 15	0.319	1.306	1062	1.391	Si
	V	0	SLV 1	0	0	0	0	No
85	F	1.127	SLV 3	0.273	1.118	662	1.146	Si
	V	0	SLV 1	0	0	0	0	No
86	F	1.256	SLV 3	0.302	1.237	896	1.297	Si
	V	0	SLV 1	0	0	0	0	No
87	F	1.122	SLV 15	0.272	1.113	654	1.14	Si
	V	0	SLV 1	0	0	0	0	No
88	F	0.839	SLV 13	0.203	0.833	292	0.819	No
	V	0	SLV 1	0	0	0	0	No



Trave	Stato limite	Molt.	Comb.	PGA	IPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
89	F	1.129	SLV 15	0.274	1.12	666	1.149	Si
	V	0	SLV 1	0	0	0	0	No
90	F	0.81	SLV 1	0.196	0.803	265	0.787	No
	V	0	SLV 1	0	0	0	0	No
91	F	0.38	SLV 3	0.089	0.364	39	0.359	No
	V	0	SLV 1	0	0	0	0	No
92	F	0.408	SLV 1	0.096	0.392	46	0.384	No
	V	0	SLV 1	0	0	0	0	No
93	F	0.738	SLV 15	0.178	0.728	205	0.709	No
	V	0	SLV 1	0	0	0	0	No
94	F	0.726	SLV 15	0.175	0.715	196	0.696	No
	V	0	SLV 1	0	0	0	0	No
95	F	0.216	SLV 3	0.049	0.201	9	0.197	No
	V	0.026	SLV 3	0	0	0	0	No
96	F	0.733	SLV 3	0.177	0.723	201	0.703	No
	V	0	SLV 1	0	0	0	0	No
97	F	0.145	SLV 5	0.031	0.127	3	0.125	No
	V	0	SLV 1	0	0	0	0	No
98	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
99	F	0.811	SLV 15	0.196	0.804	266	0.788	No
	V	0	SLV 1	0	0	0	0	No
100	F	0.933	SLV 1	0.227	0.93	392	0.924	No
	V	0	SLV 1	0	0	0	0	No
101	F	1.236	SLV 15	0.298	1.218	857	1.274	Si
	V	0	SLV 1	0	0	0	0	No
102	F	3.693	SLV 3	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
103	F	1.114	SLV 1	0.27	1.106	642	1.131	Si
	V	0	SLV 1	0	0	0	0	No
104	F	0.997	SLV 13	0.243	0.997	470	0.996	No
	V	0	SLV 1	0	0	0	0	No
105	F	0.869	SLV 13	0.211	0.864	322	0.853	No
	V	0	SLV 1	0	0	0	0	No
106	F	1.125	SLV 15	0.273	1.116	660	1.144	Si
	V	0	SLV 1	0	0	0	0	No
107	F	1.22	SLV 1	0.294	1.204	826	1.255	Si
	V	0	SLV 1	0	0	0	0	No
108	F	2.079	SLV 7	0.362	1.483	1618	1.653	Si
	V	0.02	SLV 7	0	0	0	0	No
109	F	2.239	SLV 3	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
110	F	2.204	SLV 3	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
111	F	1.146	SLV 1	0.277	1.136	694	1.168	Si
	V	0	SLV 1	0	0	0	0	No
112	F	1.488	SLV 1	0.356	1.459	1533	1.617	Si
	V	0	SLV 1	0	0	0	0	No
113	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.075	SLV 15	0	0	0	0	No
114	F	2.305	SLV 1	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
115	F	1.146	SLV 13	0.277	1.136	694	1.168	Si
	V	0	SLV 1	0	0	0	0	No
116	F	1.637	SLV 3	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
117	F	0.126	SLV 9	0.026	0.107	2	0.106	No
	V	0.084	SLV 13	0.02	0.08	1	0.08	No
118	F	1.335	SLV 15	0.321	1.312	1081	1.401	Si
	V	0	SLV 1	0	0	0	0	No
119	F	0.232	SLV 15	0.053	0.218	11	0.214	No
	V	0	SLV 7	0	0	0	0	No
120	F	0.786	SLV 5	0.19	0.779	245	0.762	No
	V	0.018	SLV 5	0	0	0	0	No
121	F	0.179	SLV 7	0.041	0.169	6	0.167	No
	V	0	SLV 1	0	0	0	0	No
122	F	2.383	SLV 1	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
123	F	2.354	SLV 1	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
124	F	1.951	SLV 1	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
125	F	1.986	SLV 13	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
126	F	2.337	SLV 1	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
127	F	2.229	SLV 13	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
128	F	1.219	SLV 1	0.294	1.203	824	1.253	Si
	V	0	SLV 1	0	0	0	0	No
129	F	0.453	SLV 3	0.107	0.436	61	0.431	No
	V	0	SLV 1	0	0	0	0	No
130	F	0.444	SLV 1	0.104	0.427	57	0.419	No
	V	0	SLV 1	0	0	0	0	No
131	F	1.05	SLV 15	0.256	1.047	544	1.057	Si
	V	0	SLV 1	0	0	0	0	No
132	F	1.084	SLV 15	0.263	1.078	594	1.096	Si
	V	0	SLV 1	0	0	0	0	No
133	F	0.486	SLV 3	0.114	0.468	72	0.461	No
	V	0	SLV 1	0	0	0	0	No
134	F	1.262	SLV 3	0.304	1.242	909	1.305	Si



Trave	Stato limite	Molt.	Comb.	PGA	IPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
	V	0	SLV 1	0	0	0	0	No
135	F	0.143	SLV 9	0.031	0.127	3	0.125	No
	V	0.007	SLV 5	0	0	0	0	No
136	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.22	SLV 7	0.051	0.21	10	0.205	No
137	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
138	F	1.125	SLV 1	0.273	1.116	660	1.144	Si
	V	0	SLV 1	0	0	0	0	No
139	F	1.879	SLV 5	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
140	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.1	SLV 3	0.02	0.08	1	0.08	No
141	F	1.959	SLV 1	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
142	F	1.431	SLV 13	0.343	1.404	1352	1.536	Si
	V	0	SLV 1	0	0	0	0	No
143	F	1.795	SLV 13	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
144	F	1.394	SLV 15	0.334	1.369	1242	1.483	Si
	V	0.027	SLV 15	0	0	0	0	No
145	F	1.975	SLV 15	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
146	F	3.81	SLV 7	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
147	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.037	SLV 3	0	0	0	0	No
148	F	1.613	SLV 3	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
149	F	2.866	SLV 1	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
150	F	1.534	SLV 5	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
151	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.252	SLV 11	0.059	0.242	14	0.236	No
152	F	1.539	SLV 5	0.362	1.483	1618	1.653	Si
	V	0.214	SLV 11	0.049	0.201	9	0.197	No
153	F	2.311	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.165	SLV 9	0.038	0.157	5	0.155	No
154	F	1.984	SLV 1	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
155	F	3.148	SLV 11	0.362	1.483	1618	1.653	Si
	V	0.243	SLV 7	0.057	0.234	13	0.229	No
156	F	0.783	SLV 11	0.189	0.775	242	0.758	No
	V	0	SLV 1	0	0	0	0	No
157	F	2.46	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.143	SLV 3	0.031	0.127	3	0.125	No
158	F	1.387	SLV 13	0.333	1.362	1222	1.473	Si
	V	0	SLV 1	0	0	0	0	No
159	F	3.471	SLV 15	0.362	1.483	1618	1.653	Si
	V	0.072	SLV 3	0	0	0	0	No
160	F	1.604	SLV 13	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
161	F	4.055	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.139	SLV 15	0.031	0.127	3	0.125	No
162	F	2.166	SLV 1	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
163	F	2.67	SLV 1	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
164	F	0.738	SLV 3	0.178	0.728	205	0.709	No
	V	0	SLV 1	0	0	0	0	No
165	F	0.993	SLV 1	0.243	0.993	465	0.991	No
	V	0	SLV 1	0	0	0	0	No
166	F	2.912	SLV 15	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
167	F	2.343	SLV 15	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
168	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.876	SLV 11	0.213	0.871	329	0.86	No
169	F	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
170	F	3.797	SLV 15	0.362	1.483	1618	1.653	Si
	V	0	SLV 11	0	0	0	0	No
171	F	1.603	SLV 15	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
172	F	1.266	SLV 11	0.304	1.246	917	1.31	Si
	V	0	SLV 7	0	0	0	0	No
173	F	2.341	SLV 13	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
174	F	0.365	SLV 15	0.086	0.351	36	0.347	No
	V	0	SLV 1	0	0	0	0	No
175	F	0.718	SLV 13	0.173	0.706	190	0.687	No
	V	0.192	SLV 13	0.044	0.181	7	0.177	No
176	F	2.67	SLV 3	0.362	1.483	1618	1.653	Si
	V	0.02	SLV 1	0	0	0	0	No
177	F	1.185	SLV 9	0.286	1.171	762	1.214	Si
	V	0	SLV 1	0	0	0	0	No
178	F	2.275	SLV 15	0.362	1.483	1618	1.653	Si
	V	0.159	SLV 15	0.035	0.143	4	0.141	No
179	F	1.237	SLV 11	0.298	1.219	859	1.275	Si
	V	0	SLV 1	0	0	0	0	No



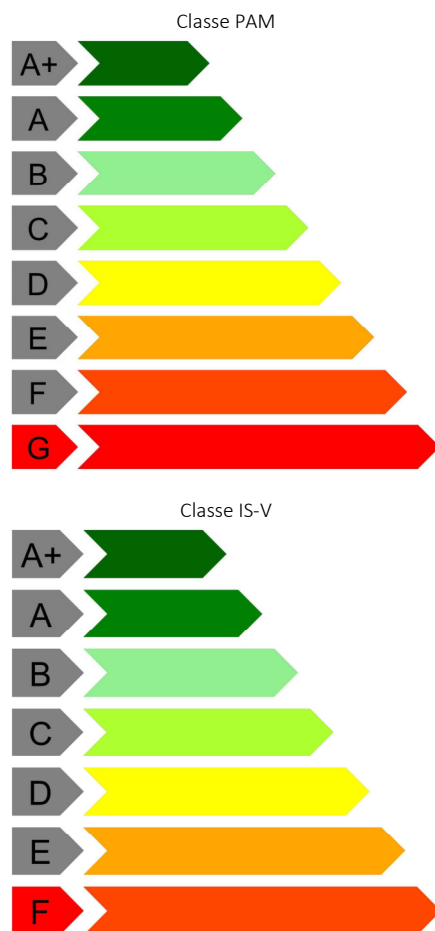
Trave	Stato limite	Molt.	Comb.	PGA	IPGA (ZE)	TR	(TR/TRrif)^.41	Verifica
180	F	1000	SLV 1	0.362	1.483	1618	1.653	Si
	V	0.391	SLV 7	0.092	0.376	42	0.37	No
181	F	0.896	SLV 9	0.218	0.892	351	0.883	No
	V	0.252	SLV 11	0.059	0.242	14	0.236	No
182	F	3.225	SLV 13	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
183	F	2.022	SLV 13	0.362	1.483	1618	1.653	Si
	V	0	SLV 1	0	0	0	0	No
184	F	0	SLV 1	0	0	0	0	No
	V	0	SLV 1	0	0	0	0	No
185	F	0.7	SLV 1	0.168	0.687	178	0.669	No
	V	0.053	SLV 3	0	0	0	0	No
186	F	0.428	SLV 13	0.101	0.414	53	0.407	No
	V	0	SLV 1	0	0	0	0	No
187	F	1.036	SLV 3	0.253	1.034	524	1.041	Si
	V	0.063	SLV 13	0	0	0	0	No
188	F	0.893	SLV 13	0.217	0.889	347	0.879	No
	V	0	SLV 1	0	0	0	0	No
189	F	1.84	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.123	SLV 13	0.026	0.107	2	0.106	No
190	F	3.66	SLV 13	0.362	1.483	1618	1.653	Si
	V	0.181	SLV 13	0.041	0.169	6	0.167	No

Periodi di ritorno e accelerazioni di aggancio per gli Stati Limite

S. L.	TR,C	PGA,C	TR,Rif	PGA,Rif	Tipo rottura
Stato limite di salvaguardia della vita	0	0	475	0.244	taglio maschio muratura

Coefficienti relativi alle Linee guida per la classificazione del rischio sismico delle costruzioni secondo il D.M. 24 09/01/2020

TR,C	TR,Rif	PAM	Classe PAM	IS-V	Classe IS-V	Tipo rottura
0	475	8.22	G	0	F	taglio maschio muratura



## 1.5 Verifiche maschi in muratura

Le unità di misura elencate nel capitolo sono in [cm, daN, s] ove non espressamente specificato.



**X ini.:** coordinate del punto iniziale del maschio. [cm]

**Y ini.:** coordinate del punto iniziale del maschio. [cm]

**X fin.:** coordinate del punto finale del maschio. [cm]

**Y fin.:** coordinate del punto finale del maschio. [cm]

**Quota i.:** livello o falda inferiore.

**Quota.s:** livello o falda superiore.

**l:** lunghezza del maschio. [cm]

**Sp.:** spessore. [cm]

**h netta:** altezza netta (a filo solai). [cm]

**h ini.:** altezza nel modello al punto iniziale. [cm]

**h fin.:** altezza nel modello al punto finale. [cm]

**a:** distanza tra irrigidimenti laterali. [cm]

**a.s.,sx:** lunghezza di appoggio del solaio di sinistra. [cm]

**a.s.,dx:** lunghezza di appoggio del solaio di destra. [cm]

**fb:** resistenza normalizzata a compressione verticale dei blocchi. [daN/cm<sup>2</sup>]

**fk:** resistenza caratteristica a compressione della muratura utilizzata. [daN/cm<sup>2</sup>]

**fvk0:** resistenza caratteristica a taglio in assenza di carichi verticali. [daN/cm<sup>2</sup>]

**fmedio:** resistenza media a compressione della muratura utilizzata. [daN/cm<sup>2</sup>]

**τ0:** resistenza media a taglio in assenza di azioni normali [C8.7.1.16]. [daN/cm<sup>2</sup>]

**fv0:** resistenza media a taglio in assenza di azioni normali [C8.7.1.17]. [daN/cm<sup>2</sup>]

**μ:** coefficiente di attrito [C8.7.1.17].

**φ:** coefficiente di ammortamento o ingranamento secondo Circolare 7 21-01-19 §C8.7.1.3.1.1.

**fv,lim:** valore massimo della resistenza a taglio che può essere impiegata nel calcolo. [daN/cm<sup>2</sup>]

**E:** modulo di elasticità longitudinale della muratura utilizzato. [daN/cm<sup>2</sup>]

**G:** modulo di elasticità tangenziale della muratura utilizzato. [daN/cm<sup>2</sup>]

**FC:** fattore di confidenza della muratura.

**Comb.:** combinazione.

**Quota:** quota della sezione di verifica. [cm]

**N:** sforzo normale. [daN]

**M:** momento flettente nel piano. [daN\*cm]

**σ0:** tensione media di compressione. [daN/cm<sup>2</sup>]

**Mu:** momento flettente ultimo. [daN\*cm]

**c.s.:** coefficiente di sicurezza.

**Verifica:** stato di verifica.

**V par:** taglio nel piano. [daN]

**σN:** tensione media di compressione sulla parte reagente. [daN/cm<sup>2</sup>]

**l':** lunghezza della parte compressa della parete. [cm]

**fvd:** resistenza a taglio di calcolo. [daN/cm<sup>2</sup>]

**Vt scorr.:** taglio ultimo per verifica a scorrimento. [daN]

**Vt fess.diag.:** taglio ultimo per verifica a fessurazione diagonale regolare [C8.7.1.17]. [daN]

**Vt,lim:** taglio limite [C8.7.1.18]. [daN]

**c.s.:** coefficiente di sicurezza a taglio.

**fd:** resistenza a compressione di calcolo. [daN/cm<sup>2</sup>]

**Sa:** accelerazione massima, adimensionalizzata rispetto a g, che l'elemento strutturale subisce durante il sisma.

**M:** momento flettente fuori piano. [daN\*cm]

**Mc:** momento di collasso per azioni perpendicolari al piano. [daN\*cm]

**Coeff.s.:** coefficiente di sicurezza.

**N top:** sforzo normale in sommità. [daN]

**N base:** sforzo normale al piede. [daN]

**V orto:** taglio fuori piano. [daN]

**α0:** moltiplicatore secondo [C8.7.1.1].

**M\*:** massa partecipante al cinetismo. [daN/(cm/s<sup>2</sup>)]

**e\*:** frazione di massa partecipante della muratura [C8.7.1.5].

**α0\*:** accelerazione spettrale di attivazione del meccanismo [C8.7.1.8]. [cm/s<sup>2</sup>]

**αLim:** accelerazione limite [C7.2.11]. [cm/s<sup>2</sup>]

**Stato limite:** pF\_SLU=Presso flessione per azioni non sismiche; V\_SLU=Taglio per azioni non sismiche; PF\_SLV=Presso flessione per azioni sismiche; V\_SLV=Taglio per azioni sismiche; PFFP\_SLV=Presso flessione fuori piano per azioni sismiche; R\_SLV=Ribaltamento per azioni sismiche.

## Maschio 1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2465.3	127.1	-2465.3	-328.4	L1	L3	455.5	45	269	269	269			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 84	-160	-107001	-31353	5.22	8752488	279.161	Si





Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 84	60	-92189	1342352	4.5	9403459	7.005	Si
SLU 75	-160	-104103	-8585	5.08	8926936	1000	Si
SLU 75	60	-89640	1315542	4.37	9455121	7.187	Si
SLU 65	-160	-94528	106273	4.61	9340472	87.891	Si
SLU 65	60	-81670	1298481	3.98	9502318	7.318	Si
SLU 70	-160	-97592	123209	4.76	9235327	74.956	Si
SLU 70	60	-83960	1301664	4.1	9506502	7.303	Si
SLU 78	-160	-105884	40877	5.17	8822460	215.829	Si
SLU 78	60	-91351	1370678	4.46	9422399	6.874	Si
SLU 76	-160	-104599	73404	5.1	8898691	121.229	Si
SLU 76	60	-90772	1422630	4.43	9434367	6.632	Si
SLU 80	-160	-105228	53395	5.13	8861932	165.969	Si
SLU 80	60	-90732	1367911	4.43	9435161	6.897	Si
SLU 68	-160	-96308	155736	4.7	9282508	59.604	Si
SLU 68	60	-83381	1353617	4.07	9506795	7.023	Si
SLU 73	-160	-102819	23941	5.02	8996929	375.793	Si
SLU 73	60	-89061	1367494	4.34	9464387	6.921	Si
SLU 55	-160	-96120	113932	4.69	9289044	81.531	Si
SLU 55	60	-83031	1322834	4.05	9506530	7.186	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 10	-160	-72264	2810171	3.53	11709462	4.167	Si
SLV 10	60	-67493	2161115	3.29	11229143	5.196	Si
SLV 8	-160	-69743	-2943104	3.4	11460860	3.894	Si
SLV 8	60	-52240	-590404	2.55	9416085	15.949	Si
SLV 6	-160	-101630	2667711	4.96	13753874	5.156	Si
SLV 6	60	-92369	2440561	4.51	13278430	5.441	Si
SLV 13	-160	-26844	1012590	1.31	5458490	5.391	Si
SLV 13	60	-24426	774257	1.19	5020441	6.484	Si
SLV 11	-160	-40378	-2800643	1.97	7713483	2.754	Si
SLV 11	60	-27364	-869850	1.34	5551310	6.382	Si
SLV 12	-160	-40378	-2800643	1.97	7713483	2.754	Si
SLV 12	60	-27364	-869850	1.34	5551310	6.382	Si
SLV 14	-160	-26844	1012590	1.31	5458490	5.391	Si
SLV 14	60	-24426	774257	1.19	5020441	6.484	Si
SLV 7	-160	-69743	-2943104	3.4	11460860	3.894	Si
SLV 7	60	-52240	-590404	2.55	9416085	15.949	Si
SLV 5	-160	-101630	2667711	4.96	13753874	5.156	Si
SLV 5	60	-92369	2440561	4.51	13278430	5.441	Si
SLV 9	-160	-72264	2810171	3.53	11709462	4.167	Si
SLV 9	60	-67493	2161115	3.29	11229143	5.196	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 78	-160	-105884	4570	40877	5.17	455.5	1.08	22206				4.86	Si
SLU 78	60	-91351	4097	1370678	4.46	455.5	1.08	22206				5.42	Si
SLU 55	-160	-96120	4430	113932	4.69	455.5	1.08	22206				5.01	Si
SLU 55	60	-83031	3907	1322834	4.05	455.5	1.08	22206				5.68	Si
SLU 65	-160	-94528	4303	106273	4.61	455.5	1.08	22206				5.16	Si
SLU 65	60	-81670	3773	1298481	3.98	455.5	1.08	22206				5.88	Si
SLU 84	-160	-107001	4525	-31353	5.22	455.5	1.08	22206				4.91	Si
SLU 84	60	-92189	4082	1342352	4.5	455.5	1.08	22206				5.44	Si
SLU 82	-160	-105220	4359	-80815	5.13	455.5	1.08	22206				5.09	Si
SLU 82	60	-90478	3931	1287216	4.41	455.5	1.08	22206				5.65	Si
SLU 76	-160	-104599	4795	73404	5.1	455.5	1.08	22206				4.63	Si
SLU 76	60	-90772	4293	1422630	4.43	455.5	1.08	22206				5.17	Si
SLU 73	-160	-102819	4630	23941	5.02	455.5	1.08	22206				4.8	Si
SLU 73	60	-89061	4143	1367494	4.34	455.5	1.08	22206				5.36	Si
SLU 68	-160	-96308	4468	155736	4.7	455.5	1.08	22206				4.97	Si
SLU 68	60	-83381	3924	1353617	4.07	455.5	1.08	22206				5.66	Si
SLU 80	-160	-105228	4550	53395	5.13	455.5	1.08	22206				4.88	Si
SLU 80	60	-90732	4074	1367911	4.43	455.5	1.08	22206				5.45	Si
SLU 75	-160	-104103	4405	-8585	5.08	455.5	1.08	22206				5.04	Si
SLU 75	60	-89640	3946	1315542	4.37	455.5	1.08	22206				5.63	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 7	-160	-69743	-13164	-2943104	3.4	455.5	1.51	31030				2.36	Si
SLV 7	60	-52240	-12247	-590404	2.55	455.5	1.34	27529				2.25	Si
SLV 8	-160	-69743	-13164	-2943104	3.4	455.5	1.51	31030				2.36	Si
SLV 8	60	-52240	-12247	-590404	2.55	455.5	1.34	27529				2.25	Si
SLV 5	-160	-101630	18097	2667711	4.96	455.5	1.63	33308				1.84	Si
SLV 5	60	-92369	17703	2440561	4.51	455.5	1.63	33308				1.88	Si
SLV 9	-160	-72264	18229	2810171	3.53	455.5	1.54	31534				1.73	Si
SLV 9	60	-67493	16671	2161115	3.29	455.5	1.49	30580				1.83	Si
SLV 14	-160	-26844	7441	1012590	1.31	455.5	1.1	22450				3.02	Si
SLV 14	60	-24426	4984	774257	1.19	455.5	1.07	21966				4.41	Si
SLV 12	-160	-40378	-13032	-2800643	1.97	455.5	1.23	25157				1.93	Si
SLV 12	60	-27364	-13280	-869850	1.34	455.5	1.1	22554				1.7	Si
SLV 6	-160	-101630	18097	2667711	4.96	455.5	1.63	33308				1.84	Si
SLV 6	60	-92369	17703	2440561	4.51	455.5	1.63	33308				1.88	Si
SLV 11	-160	-40378	-13032	-2800643	1.97	455.5	1.23	25157				1.93	Si
SLV 11	60	-27364	-13280	-869850	1.34	455.5	1.1	22554				1.7	Si
SLV 13	-160	-26844	7441	1012590	1.31	455.5	1.1	22450				3.02	Si
SLV 13	60	-24426	4984	774257	1.19	455.5	1.07	21966				4.41	Si
SLV 10	-160	-72264	18229	2810171	3.53	455.5	1.54	31534				1.73	Si
SLV 10	60	-67493	16671	2161115	3.29	455.5	1.49	30580				1.83	Si



## Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 15	14	0.24	0.75	-15457	27178	326311	12.01	Si
SLV 16	14	0.24	0.75	-15457	27178	326311	12.01	Si
SLV 14	14	0.24	1.28	-26308	27178	529754	19.49	Si
SLV 13	14	0.24	1.28	-26308	27178	529754	19.49	Si
SLV 12	14	0.24	1.67	-34171	27178	663953	24.43	Si
SLV 11	14	0.24	1.67	-34171	27178	663953	24.43	Si
SLV 8	14	0.24	2.98	-61064	27178	1038953	38.23	Si
SLV 7	14	0.24	2.98	-61064	27178	1038953	38.23	Si
SLV 9	14	0.24	3.43	-70343	27178	1138190	41.88	Si
SLV 10	14	0.24	3.43	-70343	27178	1138190	41.88	Si

## Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = -25.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 2	-104559	-124730	1471	0.074	114.231	0.979	109.874	336.206	No
SLV 1	-104559	-124730	1471	0.074	114.231	0.979	109.874	336.206	No
SLV 3	-92095	-115164	1312	0.074	101.533	0.976	110.75	336.206	No
SLV 4	-92095	-115164	1312	0.074	101.533	0.976	110.75	336.206	No
SLV 5	-90683	-101630	1327	0.074	100.094	0.976	110.353	327.131	No
SLV 6	-90683	-101630	1327	0.074	100.094	0.976	110.353	327.131	No
SLV 9	-66325	-72264	1045	0.075	75.288	0.969	112.248	327.131	No
SLV 10	-66325	-72264	1045	0.075	75.288	0.969	112.248	327.131	No
SLV 8	-49137	-69743	797	0.077	57.798	0.96	115.927	327.131	No
SLV 7	-49137	-69743	797	0.077	57.798	0.96	115.927	327.131	No

## Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.632	SLU 76	Si
V_SLU	4.631	SLU 76	Si
PF_SLV	2.754	SLV 11	Si
V_SLV	1.698	SLV 11	Si
PFFP_SLV	12.006	SLV 15	Si
R_SLV	0.327	SLV 1	No

## Maschio 2

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2465.3	587.6	-2465.3	227.1	L1	L3	360.5	45	269	269	269			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

## Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 53	-160	-65238	-121514	4.02	5953868	48.997	Si
SLU 53	60	-56378	-415709	3.48	5826624	14.016	Si
SLU 77	-160	-70976	-119212	4.38	5922031	49.677	Si
SLU 77	60	-61916	-434108	3.82	5931245	13.663	Si
SLU 62	-160	-66974	-132137	4.13	5953711	45.057	Si
SLU 62	60	-58032	-427707	3.58	5866636	13.716	Si
SLU 74	-160	-70335	-141143	4.34	5930036	42.014	Si
SLU 74	60	-61329	-444413	3.78	5924116	13.33	Si
SLU 83	-160	-72072	-151766	4.44	5905733	38.913	Si
SLU 83	60	-62982	-456410	3.88	5941792	13.019	Si
SLU 66	-160	-65163	-105927	4.02	5953691	56.206	Si
SLU 66	60	-56316	-406004	3.47	5824979	14.347	Si
SLU 64	-160	-64043	-123389	3.95	5949197	48.215	Si
SLU 64	60	-55235	-411845	3.4	5794608	14.07	Si
SLU 81	-160	-71431	-173697	4.4	5915652	34.057	Si
SLU 81	60	-62395	-466714	3.85	5936372	12.719	Si
SLU 79	-160	-70495	-114742	4.35	5928141	51.665	Si
SLU 79	60	-61422	-429645	3.79	5925308	13.791	Si
SLU 60	-160	-66334	-154068	4.09	5954726	38.65	Si
SLU 60	60	-57445	-438011	3.54	5853288	13.363	Si

## Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 11	-160	-54610	-1920906	3.37	7131536	3.713	Si
SLV 11	60	-53914	-1026491	3.32	7074748	6.892	Si
SLV 8	-160	-73477	-2090309	4.53	8334786	3.987	Si
SLV 8	60	-71502	-1134171	4.41	8239173	7.264	Si
SLV 6	-160	-44632	1719582	2.75	6233487	3.625	Si
SLV 6	60	-31752	383553	1.96	4806478	12.531	Si
SLV 5	-160	-44632	1719582	2.75	6233487	3.625	Si
SLV 5	60	-31752	383553	1.96	4806478	12.531	Si
SLV 12	-160	-54610	-1920906	3.37	7131536	3.713	Si
SLV 12	60	-53914	-1026491	3.32	7074748	6.892	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 14	-160	-13849	753159	0.85	2321798	3.083	Si
SLV 14	60	-7556	85655	0.47	1309995	15.294	Si
SLV 13	-160	-13849	753159	0.85	2321798	3.083	Si
SLV 13	60	-7556	85655	0.47	1309995	15.294	Si
SLV 10	-160	-25765	1888985	1.59	4040437	2.139	Si
SLV 10	60	-14163	491232	0.87	2370491	4.826	Si
SLV 7	-160	-73477	-2090309	4.53	8334786	3.987	Si
SLV 7	60	-71502	-1134171	4.41	8239173	7.264	Si
SLV 9	-160	-25765	1888985	1.59	4040437	2.139	Si
SLV 9	60	-14163	491232	0.87	2370491	4.826	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 60	-160	-66334	-3559	-154068		4.09	360.5	1.08	17574			4.94	Si
SLU 60	60	-57445	-2144	-438011		3.54	360.5	1.03	16672			7.77	Si
SLU 77	-160	-70976	-3700	-119212		4.38	360.5	1.08	17574			4.75	Si
SLU 77	60	-61916	-2165	-434108		3.82	360.5	1.06	17268			7.97	Si
SLU 74	-160	-70335	-3742	-141143		4.34	360.5	1.08	17574			4.7	Si
SLU 74	60	-61329	-2217	-444413		3.78	360.5	1.06	17190			7.75	Si
SLU 53	-160	-65238	-3427	-121514		4.02	360.5	1.08	17574			5.13	Si
SLU 53	60	-56378	-2063	-415709		3.48	360.5	1.02	16530			8.01	Si
SLU 79	-160	-70495	-3643	-114742		4.35	360.5	1.08	17574			4.82	Si
SLU 79	60	-61422	-2123	-429645		3.79	360.5	1.06	17202			8.1	Si
SLU 62	-160	-66974	-3518	-132137		4.13	360.5	1.08	17574			5	Si
SLU 62	60	-58032	-2093	-427707		3.58	360.5	1.03	16750			8	Si
SLU 66	-160	-65163	-3397	-105927		4.02	360.5	1.08	17574			5.17	Si
SLU 66	60	-56316	-2048	-406004		3.47	360.5	1.02	16521			8.07	Si
SLU 81	-160	-71431	-3874	-173697		4.4	360.5	1.08	17574			4.54	Si
SLU 81	60	-62395	-2298	-466714		3.85	360.5	1.07	17332			7.54	Si
SLU 82	-160	-70426	-3410	-65364		4.34	360.5	1.08	17574			5.15	Si
SLU 82	60	-61182	-1841	-407383		3.77	360.5	1.06	17170			9.33	Si
SLU 83	-160	-72072	-3832	-151766		4.44	360.5	1.08	17574			4.59	Si
SLU 83	60	-62982	-2246	-456410		3.88	360.5	1.07	17410			7.75	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 8	-160	-73477	-14839	-2090309		4.53	360.5	1.63	26362			1.78	Si
SLV 8	60	-71502	-12371	-1134171		4.41	360.5	1.63	26362			2.13	Si
SLV 6	-160	-44632	9084	1719582		2.75	360.5	1.38	22445			2.47	Si
SLV 6	60	-31752	10022	383553		1.96	360.5	1.22	19869			1.98	Si
SLV 15	-160	-22502	-5394	-389808		1.39	360.5	1.11	18019			3.34	Si
SLV 15	60	-19481	-6363	-369662		1.2	360.5	1.07	17415			2.74	Si
SLV 11	-160	-54610	-14344	-1920906		3.37	360.5	1.51	24441			1.7	Si
SLV 11	60	-53914	-13215	-1026491		3.32	360.5	1.5	24301			1.84	Si
SLV 5	-160	-44632	9084	1719582		2.75	360.5	1.38	22445			2.47	Si
SLV 5	60	-31752	10022	383553		1.96	360.5	1.22	19869			1.98	Si
SLV 12	-160	-54610	-14344	-1920906		3.37	360.5	1.51	24441			1.7	Si
SLV 12	60	-53914	-13215	-1026491		3.32	360.5	1.5	24301			1.84	Si
SLV 9	-160	-25765	9579	1888985		1.78	320.8	1.19	17183			1.79	Si
SLV 9	60	-14163	9177	491232		0.87	360.5	1.01	16351			1.78	Si
SLV 16	-160	-22502	-5394	-389808		1.39	360.5	1.11	18019			3.34	Si
SLV 16	60	-19481	-6363	-369662		1.2	360.5	1.07	17415			2.74	Si
SLV 10	-160	-25765	9579	1888985		1.78	320.8	1.19	17183			1.79	Si
SLV 10	60	-14163	9177	491232		0.87	360.5	1.01	16351			1.78	Si
SLV 7	-160	-73477	-14839	-2090309		4.53	360.5	1.63	26362			1.78	Si
SLV 7	60	-71502	-12371	-1134171		4.41	360.5	1.63	26362			2.13	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 14	14	0.24	0.65	-10551	21510	224754	10.45	Si
SLV 13	14	0.24	0.65	-10551	21510	224754	10.45	Si
SLV 10	14	0.24	1.15	-18644	21510	380039	17.67	Si
SLV 9	14	0.24	1.15	-18644	21510	380039	17.67	Si
SLV 15	14	0.24	1.37	-22202	21510	443595	20.62	Si
SLV 16	14	0.24	1.37	-22202	21510	443595	20.62	Si
SLV 5	14	0.24	2.3	-37233	21510	680387	31.63	Si
SLV 6	14	0.24	2.3	-37233	21510	680387	31.63	Si
SLV 12	14	0.24	3.54	-57483	21510	918292	42.69	Si
SLV 11	14	0.24	3.54	-57483	21510	918292	42.69	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = -25.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 12	-52739	-54610	926	0.073	59.837	0.969	109.668	327.131	No
SLV 11	-52739	-54610	926	0.073	59.837	0.969	109.668	327.131	No
SLV 7	-69955	-73477	1001	0.075	77.37	0.975	111.055	327.131	No
SLV 8	-69955	-73477	1001	0.075	77.37	0.975	111.055	327.131	No
SLV 15	-18273	-22502	541	0.074	24.827	0.932	115.513	336.206	No
SLV 16	-18273	-22502	541	0.074	24.827	0.932	115.513	336.206	No
SLV 3	-75661	-85393	792	0.078	83.183	0.977	115.752	336.206	No
SLV 4	-75661	-85393	792	0.078	83.183	0.977	115.752	336.206	No
SLV 2	-63336	-76740	537	0.081	70.628	0.973	120.272	336.206	No
SLV 1	-63336	-76740	537	0.081	70.628	0.973	120.272	336.206	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	12.719	SLU 81	Si



Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	4.537	SLU 81	Si
PF_SLV	2.139	SLV 9	Si
V_SLV	1.704	SLV 11	Si
PFFP_SLV	10.449	SLV 13	Si
R_SLV	0.335	SLV 11	No

## Maschio 3

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2276.3	587.6	-2465.3	587.6	L1	L3	189	45	269	269	269			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 45	40	-19697	124419	2.32	1332153	10.707	Si
SLU 45	80	-18027	116421	2.12	1260283	10.825	Si
SLU 50	40	-19672	123923	2.31	1331140	10.742	Si
SLU 50	80	-18017	114905	2.12	1259847	10.964	Si
SLU 71	40	-22013	121586	2.59	1419247	11.673	Si
SLU 71	80	-20299	111221	2.39	1356203	12.194	Si
SLU 49	40	-19297	113808	2.27	1315620	11.56	Si
SLU 49	80	-17702	106908	2.08	1245409	11.649	Si
SLU 46	40	-19162	112112	2.25	1309969	11.684	Si
SLU 46	80	-17565	106281	2.07	1239030	11.658	Si
SLU 66	40	-22037	122083	2.59	1420102	11.632	Si
SLU 66	80	-20308	112737	2.39	1356580	12.033	Si
SLU 69	40	-22172	123779	2.61	1424698	11.51	Si
SLU 69	80	-20446	113364	2.4	1361930	12.014	Si
SLU 51	40	-19137	111615	2.25	1308920	11.727	Si
SLU 51	80	-17555	104765	2.06	1238581	11.822	Si
SLU 43	40	-19403	120530	2.28	1320065	10.952	Si
SLU 43	80	-17742	113652	2.09	1247273	10.975	Si
SLU 48	40	-19831	126116	2.33	1337608	10.606	Si
SLU 48	80	-18165	117047	2.14	1266489	10.82	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 3	40	-26142	574707	3.07	1848961	3.217	Si
SLV 3	80	-26524	341006	3.12	1866757	5.474	Si
SLV 13	40	-7803	-397124	0.92	682035	1.717	Si
SLV 13	80	-4778	-175890	0.56	430743	2.449	Si
SLV 10	40	-2370	-189849	0.28	218846	1.153	Si
SLV 10	80	3498	-167558	0	0	0	No, Trazione
SLV 5	40	-5527	75419	0.65	494535	6.557	Si
SLV 5	80	117	-46626	0	0	0	No, Trazione
SLV 4	40	-26142	574707	3.07	1848961	3.217	Si
SLV 4	80	-26524	341006	3.12	1866757	5.474	Si
SLV 1	40	-18327	487103	2.15	1426499	2.929	Si
SLV 1	80	-16049	227216	1.89	1282404	5.644	Si
SLV 14	40	-7803	-397124	0.92	682035	1.717	Si
SLV 14	80	-4778	-175890	0.56	430743	2.449	Si
SLV 6	40	-5527	75419	0.65	494535	6.557	Si
SLV 6	80	117	-46626	0	0	0	No, Trazione
SLV 2	40	-18327	487103	2.15	1426499	2.929	Si
SLV 2	80	-16049	227216	1.89	1282404	5.644	Si
SLV 9	40	-2370	-189849	0.28	218846	1.153	Si
SLV 9	80	3498	-167558	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 81	40	-25549	-2197	104991		3	189	0.96	8132			3.7	Si
SLU 81	80	-23770	-1888	95756		2.79	189	0.93	7894			4.18	Si
SLU 43	40	-19403	-1988	120530		2.28	189	0.86	7312			3.68	Si
SLU 43	80	-17742	-1740	113652		2.09	189	0.83	7091			4.07	Si
SLU 62	40	-23343	-2079	109023		2.74	189	0.92	7837			3.77	Si
SLU 62	80	-21626	-1792	100067		2.54	189	0.89	7608			4.24	Si
SLU 83	40	-25683	-2163	106687		3.02	189	0.96	8149			3.77	Si
SLU 83	80	-23907	-1852	96383		2.81	189	0.93	7913			4.27	Si
SLU 53	40	-22360	-2070	115177		2.63	189	0.91	7706			3.72	Si
SLU 53	80	-20649	-1792	106473		2.43	189	0.88	7478			4.17	Si
SLU 74	40	-24701	-2154	112841		2.9	189	0.94	8018			3.72	Si
SLU 74	80	-22931	-1851	102789		2.7	189	0.92	7782			4.2	Si
SLU 60	40	-23208	-2112	107327		2.73	189	0.92	7819			3.7	Si
SLU 60	80	-21489	-1828	99440		2.53	189	0.89	7590			4.15	Si
SLU 66	40	-22037	-2067	122083		2.59	189	0.9	7663			3.71	Si
SLU 66	80	-20308	-1790	112737		2.39	189	0.87	7433			4.15	Si
SLU 64	40	-21744	-2072	118194		2.56	189	0.9	7624			3.68	Si
SLU 64	80	-20024	-1800	109968		2.35	189	0.87	7395			4.11	Si
SLU 45	40	-19697	-1982	124419		2.32	189	0.86	7351			3.71	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 45	80	-18027	-1730	116421		2.12	189	0.84	7129			4.12	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	40	-26142	4361	574707		3.07	189	1.45	12316			2.82	Si
SLV 4	80	-26524	9136	341006		3.12	189	1.46	12392			1.36	Si
SLV 16	40	-15618	-8707	-309520		1.84	189	1.2	10211			1.17	Si
SLV 16	80	-15253	-8037	-62101		1.79	189	1.19	10138			1.26	Si
SLV 14	40	-7803	-7562	-397124		1.33	130.82	1.1	6467			0.86	No, Vu<V
SLV 14	80	-4778	-11914	-175890		0.61	173.06	0.96	7445			0.62	No, Vu<V
SLV 6	40	-5527	2267	75419		0.65	189	0.96	8193			3.61	Si
SLV 6	80	117	-5275	-46626		0	0	0.83	0			0	No, Vu<V
SLV 3	40	-26142	4361	574707		3.07	189	1.45	12316			2.82	Si
SLV 3	80	-26524	9136	341006		3.12	189	1.46	12392			1.36	Si
SLV 15	40	-15618	-8707	-309520		1.84	189	1.2	10211			1.17	Si
SLV 15	80	-15253	-8037	-62101		1.79	189	1.19	10138			1.26	Si
SLV 13	40	-7803	-7562	-397124		1.33	130.82	1.1	6467			0.86	No, Vu<V
SLV 13	80	-4778	-11914	-175890		0.61	173.06	0.96	7445			0.62	No, Vu<V
SLV 10	40	-2370	-1653	-189849		1.22	43.17	1.08	2093			1.27	Si
SLV 10	80	3498	-10426	-167558		0	0	0.83	0			0	No, Vu<V
SLV 5	40	-5527	2267	75419		0.65	189	0.96	8193			3.61	Si
SLV 5	80	117	-5275	-46626		0	0	0.83	0			0	No, Vu<V
SLV 9	40	-2370	-1653	-189849		1.22	43.17	1.08	2093			1.27	Si
SLV 9	80	3498	-10426	-167558		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.24	0.53	-4500	11695	96874	8.28	Si
SLV 9	14	0.24	0.53	-4500	11695	96874	8.28	Si
SLV 13	14	0.24	0.76	-6467	11695	136445	11.67	Si
SLV 14	14	0.24	0.76	-6467	11695	136445	11.67	Si
SLV 5	14	0.24	1.08	-9181	11695	188323	16.1	Si
SLV 6	14	0.24	1.08	-9181	11695	188323	16.1	Si
SLV 16	14	0.24	1.51	-12833	11695	253078	21.64	Si
SLV 15	14	0.24	1.51	-12833	11695	253078	21.64	Si
SLV 2	14	0.24	2.59	-22069	11695	391097	33.44	Si
SLV 1	14	0.24	2.59	-22069	11695	391097	33.44	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzaria = -25.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 6	-1332	-10320	782	0	4.964	0.893	0	327.131	No
SLV 5	-1332	-10320	782	0	4.964	0.893	0	327.131	No
SLV 10	1342	-4385	702	0	0	0	0	327.131	No, Trazione
SLV 9	1342	-4385	702	0	0	0	0	327.131	No, Trazione
SLV 14	-5253	-6038	485	0.041	8.675	0.908	65.483	336.206	No
SLV 13	-5253	-6038	485	0.041	8.675	0.908	65.483	336.206	No
SLV 2	-14165	-25819	750	0.048	17.659	0.948	73.627	336.206	No
SLV 1	-14165	-25819	750	0.048	17.659	0.948	73.627	336.206	No
SLV 3	-22492	-33171	644	0.064	26.122	0.963	97.23	336.206	No
SLV 4	-22492	-33171	644	0.064	26.122	0.963	97.23	336.206	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.606	SLU 48	Si
V_SLU	3.678	SLU 43	Si
PF_SLV	0	SLV 10	No
V_SLV	0	SLV 5	No
PFFP_SLV	8.284	SLV 9	Si
R_SLV	0	SLV 10	No

## Maschio 4

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1961.8	587.6	-2176.3	587.6	L1	L3	214.5	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 80	40	-30096	-229066	3.12	1992315	8.698	Si
SLU 80	80	-30060	-454916	3.11	1991396	4.378	Si
SLU 75	40	-29907	-227159	3.1	1987493	8.749	Si
SLU 75	80	-29868	-450218	3.09	1986513	4.412	Si
SLU 77	40	-30397	-227887	3.15	1999753	8.775	Si
SLU 77	80	-30366	-458404	3.15	1998993	4.361	Si
SLU 84	40	-31225	-228641	3.23	2018965	8.83	Si
SLU 84	80	-31221	-458621	3.23	2018869	4.402	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 74	40	-30022	-222739	3.11	1990448	8.936	Si
SLU 74	80	-29983	-448560	3.11	1989448	4.435	Si
SLU 83	40	-31341	-224221	3.25	2021503	9.016	Si
SLU 83	80	-31336	-456962	3.25	2021381	4.424	Si
SLU 70	40	-26773	-221290	2.77	1893673	8.557	Si
SLU 70	80	-26649	-428448	2.76	1889410	4.41	Si
SLU 69	40	-26889	-216870	2.79	1897618	8.75	Si
SLU 69	80	-26763	-426790	2.77	1893351	4.436	Si
SLU 78	40	-30281	-232307	3.14	1996917	8.596	Si
SLU 78	80	-30251	-460062	3.13	1996178	4.339	Si
SLU 79	40	-30212	-224646	3.13	1995210	8.882	Si
SLU 79	80	-30174	-453258	3.13	1994270	4.4	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 9	40	-8563	-90268	0.89	851746	9.436	Si
SLV 9	80	-12775	-250495	1.32	1221683	4.877	Si
SLV 14	40	-14023	-392685	1.45	1325171	3.375	Si
SLV 14	80	-15871	-375556	1.64	1473142	3.923	Si
SLV 15	40	-20505	-482774	2.12	1816850	3.763	Si
SLV 15	80	-19895	-427646	2.06	1773789	4.148	Si
SLV 13	40	-14023	-392685	1.45	1325171	3.375	Si
SLV 13	80	-15871	-375556	1.64	1473142	3.923	Si
SLV 16	40	-20505	-482774	2.12	1816850	3.763	Si
SLV 16	80	-19895	-427646	2.06	1773789	4.148	Si
SLD 14	40	-17639	-257803	1.83	1608828	6.241	Si
SLD 14	80	-18341	-337022	1.9	1661208	4.929	Si
SLV 10	40	-8563	-90268	0.89	851746	9.436	Si
SLV 10	80	-12775	-250495	1.32	1221683	4.877	Si
SLD 16	40	-20321	-294931	2.11	1803952	6.117	Si
SLD 16	80	-20020	-360267	2.07	1782676	4.948	Si
SLD 15	40	-20321	-294931	2.11	1803952	6.117	Si
SLD 15	80	-20020	-360267	2.07	1782676	4.948	Si
SLD 13	40	-17639	-257803	1.83	1608828	6.241	Si
SLD 13	80	-18341	-337022	1.9	1661208	4.929	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 77	40	-30397	3937	-227887		3.15	214.5	0.98	9415			2.39	Si
SLU 77	80	-30366	3536	-458404		3.15	214.5	0.98	9411			2.66	Si
SLU 78	40	-30281	3863	-232307		3.14	214.5	0.97	9400			2.43	Si
SLU 78	80	-30251	3463	-460062		3.13	214.5	0.97	9396			2.71	Si
SLU 80	40	-30096	3830	-229066		3.12	214.5	0.97	9375			2.45	Si
SLU 80	80	-30060	3432	-454916		3.11	214.5	0.97	9370			2.73	Si
SLU 83	40	-31341	3932	-224221		3.25	214.5	0.99	9541			2.43	Si
SLU 83	80	-31336	3526	-456962		3.25	214.5	0.99	9541			2.71	Si
SLU 71	40	-26704	3596	-213629		2.77	214.5	0.92	8923			2.48	Si
SLU 71	80	-26572	3235	-421644		2.75	214.5	0.92	8905			2.75	Si
SLU 79	40	-30212	3903	-224646		3.13	214.5	0.97	9391			2.41	Si
SLU 79	80	-30174	3505	-453258		3.13	214.5	0.97	9386			2.68	Si
SLU 81	40	-30967	3830	-219073		3.21	214.5	0.98	9491			2.48	Si
SLU 81	80	-30953	3430	-447118		3.21	214.5	0.98	9490			2.77	Si
SLU 69	40	-26889	3630	-216870		2.79	214.5	0.93	8948			2.46	Si
SLU 69	80	-26763	3266	-426790		2.77	214.5	0.93	8931			2.73	Si
SLU 84	40	-31225	3859	-228641		3.23	214.5	0.99	9526			2.47	Si
SLU 84	80	-31221	3452	-458621		3.23	214.5	0.99	9525			2.76	Si
SLU 74	40	-30022	3834	-222739		3.11	214.5	0.97	9365			2.44	Si
SLU 74	80	-29983	3440	-448560		3.11	214.5	0.97	9360			2.72	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 11	40	-30171	13217	-390565		3.13	214.5	1.46	14078			1.07	Si
SLV 11	80	-26186	13686	-424129		2.71	214.5	1.38	13281			0.97	No, Vu<V
SLV 14	40	-14023	-10408	-392685		1.45	214.5	1.12	10848			1.04	Si
SLV 14	80	-15871	-12071	-375556		1.64	214.5	1.16	11218			0.93	No, Vu<V
SLV 3	40	-26513	15647	80979		2.75	214.5	1.38	13346			0.85	No, Vu<V
SLV 3	80	-24458	16772	-243964		2.53	214.5	1.34	12935			0.77	No, Vu<V
SLV 4	40	-26513	15647	80979		2.75	214.5	1.38	13346			0.85	No, Vu<V
SLV 4	80	-24458	16772	-243964		2.53	214.5	1.34	12935			0.77	No, Vu<V
SLV 13	40	-14023	-10408	-392685		1.45	214.5	1.12	10848			1.04	Si
SLV 13	80	-15871	-12071	-375556		1.64	214.5	1.16	11218			0.93	No, Vu<V
SLV 12	40	-30171	13217	-390565		3.13	214.5	1.46	14078			1.07	Si
SLV 12	80	-26186	13686	-424129		2.71	214.5	1.38	13281			0.97	No, Vu<V
SLV 9	40	-8563	-13399	-90268		0.89	214.5	1.01	9756			0.73	No, Vu<V
SLV 9	80	-12775	-15051	-250495		1.32	214.5	1.1	10599			0.7	No, Vu<V
SLV 8	40	-31973	18638	-221439		3.31	214.5	1.5	14438			0.77	No, Vu<V
SLV 8	80	-27555	19752	-369024		2.85	214.5	1.4	13555			0.69	No, Vu<V
SLV 7	40	-31973	18638	-221439		3.31	214.5	1.5	14438			0.77	No, Vu<V
SLV 7	80	-27555	19752	-369024		2.85	214.5	1.4	13555			0.69	No, Vu<V
SLV 10	40	-8563	-13399	-90268		0.89	214.5	1.01	9756			0.73	No, Vu<V
SLV 10	80	-12775	-15051	-250495		1.32	214.5	1.1	10599			0.7	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.24	1.32	-12743	13272	255743	19.27	Si
SLV 9	14	0.24	1.32	-12743	13272	255743	19.27	Si
SLV 6	14	0.24	1.46	-14072	13272	278838	21.01	Si
SLV 5	14	0.24	1.46	-14072	13272	278838	21.01	Si



Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 14	14	0.24	1.81	-17463	13272	334736	25.22	Si
SLV 13	14	0.24	1.81	-17463	13272	334736	25.22	Si
SLV 1	14	0.24	2.27	-21891	13272	401127	30.22	Si
SLV 2	14	0.24	2.27	-21891	13272	401127	30.22	Si
SLV 16	14	0.24	2.37	-22836	13272	414332	31.22	Si
SLV 15	14	0.24	2.37	-22836	13272	414332	31.22	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeraia = -25.5  $W_a = 0.08$   $T_a = 0.0269$

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 9	-16345	-21834	990	0.041	20.314	0.948	63.008	327.131	No
SLV 10	-16345	-21834	990	0.041	20.314	0.948	63.008	327.131	No
SLV 6	-18135	-21206	1003	0.044	22.132	0.952	67.456	327.131	No
SLV 5	-18135	-21206	1003	0.044	22.132	0.952	67.456	327.131	No
SLV 14	-15029	-25037	764	0.051	18.979	0.945	78.295	336.206	No
SLV 13	-15029	-25037	764	0.051	18.979	0.945	78.295	336.206	No
SLV 1	-20997	-22945	808	0.057	25.04	0.957	87.174	336.206	No
SLV 2	-20997	-22945	808	0.057	25.04	0.957	87.174	336.206	No
SLV 15	-15691	-27154	583	0.062	19.651	0.947	95.397	336.206	No
SLV 16	-15691	-27154	583	0.062	19.651	0.947	95.397	336.206	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.339	SLU 78	Si
V_SLU	2.392	SLU 77	Si
PF_SLV	3.375	SLV 13	Si
V_SLV	0.686	SLV 7	No
PFFP_SLV	19.269	SLV 9	Si
R_SLV	0.193	SLV 9	No

## Maschio 5

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1969.3	587.6	-1969.3	657.6	L1	L3	70	45	269	269	269			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 78	-160	-17656	15688	5.6	192751	12.286	Si
SLU 78	109	-15505	-8079	4.92	214758	26.583	Si
SLU 82	-160	-17854	16708	5.67	190091	11.377	Si
SLU 82	109	-15678	-6877	4.98	213452	31.037	Si
SLU 80	-160	-17527	15370	5.56	194423	12.649	Si
SLU 80	109	-15383	-8135	4.88	215628	26.506	Si
SLU 79	-160	-17542	15727	5.57	194229	12.35	Si
SLU 79	109	-15413	-8491	4.89	215415	25.37	Si
SLU 81	-160	-17869	17065	5.67	189884	11.127	Si
SLU 81	109	-15709	-7233	4.99	213215	29.477	Si
SLU 83	-160	-18068	16890	5.74	187092	11.077	Si
SLU 83	109	-15922	-7874	5.05	211473	26.856	Si
SLU 84	-160	-18053	16533	5.73	187307	11.329	Si
SLU 84	109	-15892	-7518	5.05	211728	28.161	Si
SLU 75	-160	-17457	15863	5.54	195319	12.313	Si
SLU 75	109	-15291	-7438	4.85	216256	29.076	Si
SLU 74	-160	-17472	16220	5.55	195129	12.03	Si
SLU 74	109	-15321	-7794	4.86	216052	27.722	Si
SLU 77	-160	-17671	16045	5.61	192552	12.001	Si
SLU 77	109	-15535	-8435	4.93	214536	25.435	Si

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLD 8	-160	-13731	71517	4.36	309135	4.323	Si
SLD 8	109	-12265	-3852	3.89	292476	75.924	Si
SLV 5	-160	-7590	-131582	2.41	213257	1.621	Si
SLV 5	109	-6158	21192	1.95	181042	8.543	Si
SLV 10	-160	-7976	-133153	2.53	221303	1.662	Si
SLV 10	109	-5849	-8936	1.86	173601	19.428	Si
SLV 11	-160	-16443	153200	5.22	329640	2.152	Si
SLV 11	109	-14563	-31968	4.62	316847	9.911	Si
SLV 7	-160	-16057	154770	5.1	327538	2.116	Si
SLV 7	109	-14872	-1841	4.72	319392	173.471	Si
SLV 6	-160	-7590	-131582	2.41	213257	1.621	Si
SLV 6	109	-6158	21192	1.95	181042	8.543	Si
SLV 9	-160	-7976	-133153	2.53	221303	1.662	Si
SLV 9	109	-5849	-8936	1.86	173601	19.428	Si
SLV 12	-160	-16443	153200	5.22	329640	2.152	Si
SLV 12	109	-14563	-31968	4.62	316847	9.911	Si
SLV 8	-160	-16057	154770	5.1	327538	2.116	Si
SLV 8	109	-14872	-1841	4.72	319392	173.471	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLD 7	-160	-13731	71517	4.36	309135	4.323	Si
SLD 7	109	-12265	-3852	3.89	292476	75.924	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLU 79	-160	-17542	489	15727		5.57	70	1.08	3413			6.98	Si
SLU 79	109	-15413	1135	-8491		4.89	70	1.08	3413			3.01	Si
SLU 84	-160	-18053	517	16533		5.73	70	1.08	3413			6.6	Si
SLU 84	109	-15892	1146	-7518		5.05	70	1.08	3413			2.98	Si
SLU 81	-160	-17869	521	17065		5.67	70	1.08	3413			6.54	Si
SLU 81	109	-15709	1128	-7233		4.99	70	1.08	3413			3.03	Si
SLU 83	-160	-18068	523	16890		5.74	70	1.08	3413			6.53	Si
SLU 83	109	-15922	1153	-7874		5.05	70	1.08	3413			2.96	Si
SLU 78	-160	-17656	488	15688		5.6	70	1.08	3413			6.99	Si
SLU 78	109	-15505	1134	-8079		4.92	70	1.08	3413			3.01	Si
SLU 74	-160	-17472	492	16220		5.55	70	1.08	3413			6.93	Si
SLU 74	109	-15321	1116	-7794		4.86	70	1.08	3413			3.06	Si
SLU 77	-160	-17671	494	16045		5.61	70	1.08	3413			6.91	Si
SLU 77	109	-15535	1141	-8435		4.93	70	1.08	3413			2.99	Si
SLU 82	-160	-17854	516	16708		5.67	70	1.08	3413			6.61	Si
SLU 82	109	-15678	1121	-6877		4.98	70	1.08	3413			3.04	Si
SLU 75	-160	-17457	487	15863		5.54	70	1.08	3413			7.01	Si
SLU 75	109	-15291	1109	-7438		4.85	70	1.08	3413			3.08	Si
SLU 80	-160	-17527	483	15370		5.56	70	1.08	3413			7.06	Si
SLU 80	109	-15383	1128	-8135		4.88	70	1.08	3413			3.03	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLV 14	-160	-11389	964	-34762		3.62	70	1.56	4903			5.09	Si
SLV 14	109	-8538	3961	-52145		2.71	70	1.38	4333			1.09	Si
SLV 11	-160	-16443	3947	153200		5.22	70	1.63	5119			1.3	Si
SLV 11	109	-14563	5247	-31968		4.62	70	1.63	5119			0.98	No, Vu<V
SLV 6	-160	-7590	-3310	-131582		3.18	52.99	1.47	3505			1.06	Si
SLV 6	109	-6158	-3725	21192		1.95	70	1.22	3857			1.04	Si
SLV 2	-160	-10103	-2217	-29527		3.21	70	1.47	4646			2.09	Si
SLV 2	109	-9568	-4379	48278		3.04	70	1.44	4539			1.04	Si
SLV 1	-160	-10103	-2217	-29527		3.21	70	1.47	4646			2.09	Si
SLV 1	109	-9568	-4379	48278		3.04	70	1.44	4539			1.04	Si
SLV 5	-160	-7590	-3310	-131582		3.18	52.99	1.47	3505			1.06	Si
SLV 5	109	-6158	-3725	21192		1.95	70	1.22	3857			1.04	Si
SLV 13	-160	-11389	964	-34762		3.62	70	1.56	4903			5.09	Si
SLV 13	109	-8538	3961	-52145		2.71	70	1.38	4333			1.09	Si
SLV 15	-160	-13929	2855	51144		4.42	70	1.63	5119			1.79	Si
SLV 15	109	-11152	5902	-59055		3.54	70	1.54	4855			0.82	No, Vu<V
SLV 16	-160	-13929	2855	51144		4.42	70	1.63	5119			1.79	Si
SLV 16	109	-11152	5902	-59055		3.54	70	1.54	4855			0.82	No, Vu<V
SLV 12	-160	-16443	3947	153200		5.22	70	1.63	5119			1.3	Si
SLV 12	109	-14563	5247	-31968		4.62	70	1.63	5119			0.98	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.24	2.04	-6429	4177	120488	28.85	Si
SLV 9	14	0.24	2.04	-6429	4177	120488	28.85	Si
SLV 6	14	0.24	2.31	-7270	4177	132681	31.77	Si
SLV 5	14	0.24	2.31	-7270	4177	132681	31.77	Si
SLV 13	14	0.24	2.85	-8974	4177	154834	37.07	Si
SLV 14	14	0.24	2.85	-8974	4177	154834	37.07	Si
SLV 2	14	0.24	3.74	-11778	4177	183912	44.03	Si
SLV 1	14	0.24	3.74	-11778	4177	183912	44.03	Si
SLV 15	14	0.24	3.81	-11996	4177	185790	44.48	Si
SLV 16	14	0.24	3.81	-11996	4177	185790	44.48	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzaria = -25.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 5	-6158	-7590	-936	0	7.466	0.953	0	327.131	No
SLV 12	-14563	-16443	2119	0	16.021	0.977	0	327.131	No
SLV 7	-14872	-16057	1807	0	16.336	0.977	0	327.131	No
SLV 6	-6158	-7590	-936	0	7.466	0.953	0	327.131	No
SLV 10	-5849	-7976	-624	0	7.152	0.951	0	327.131	No
SLV 9	-5849	-7976	-624	0	7.152	0.951	0	327.131	No
SLV 11	-14563	-16443	2119	0	16.021	0.977	0	327.131	No
SLV 15	-11152	-13929	1522	0	12.547	0.971	0	336.206	No
SLV 16	-11152	-13929	1522	0	12.547	0.971	0	336.206	No
SLV 8	-14872	-16057	1807	0	16.336	0.977	0	327.131	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.077	SLU 83	Si
V_SLU	2.959	SLU 83	Si
PF_SLV	1.621	SLV 5	Si
V_SLV	0.823	SLV 15	No
PFFP_SLV	28.848	SLV 9	Si
R_SLV	0	SLV 5	No





## Maschio 6

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1961.8	207.1	-1961.8	485.1	L1	L3	278	30	269	269	269			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 47	-160	-43263	-15581	5.19	2184031	140.17	Si
SLU 47	40	-39436	111172	4.73	2299614	20.685	Si
SLU 75	-160	-55116	-8997	6.61	1445750	160.685	Si
SLU 75	40	-51289	84496	6.15	1746942	20.675	Si
SLU 68	-160	-48854	-20150	5.86	1907414	94.659	Si
SLU 68	40	-45027	103541	5.4	2110550	20.384	Si
SLU 80	-160	-55814	-35185	6.69	1384310	39.343	Si
SLU 80	40	-51988	84722	6.23	1696440	20.024	Si
SLU 76	-160	-54663	-17176	6.55	1484537	86.429	Si
SLU 76	40	-50836	90316	6.1	1778635	19.693	Si
SLU 73	-160	-53626	2504	6.43	1570152	626.96	Si
SLU 73	40	-49799	91220	5.97	1848011	20.259	Si
SLU 65	-160	-47817	-470	5.73	1968379	1000	Si
SLU 65	40	-43990	104445	5.27	2155277	20.636	Si
SLU 82	-160	-56230	5451	6.74	1346808	247.087	Si
SLU 82	40	-52403	80863	6.28	1665444	20.596	Si
SLU 84	-160	-57267	-14230	6.87	1250143	87.852	Si
SLU 84	40	-53440	79959	6.41	1585018	19.823	Si
SLU 78	-160	-56153	-28678	6.73	1353812	47.207	Si
SLU 78	40	-52326	83591	6.27	1671243	19.993	Si

### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 5	-160	-34788	-1799710	4.17	3184796	1.77	Si
SLV 5	40	-32794	506364	3.93	3091449	6.105	Si
SLV 11	-160	-40078	1809125	4.81	3379895	1.868	Si
SLV 11	40	-36185	-367920	4.34	3243726	8.816	Si
SLV 10	-160	-32389	-2003061	3.88	3071141	1.533	Si
SLV 10	40	-31571	810771	3.79	3028831	3.736	Si
SLV 7	-160	-42478	2012476	5.09	3443217	1.711	Si
SLV 7	40	-37408	-672327	4.49	3290953	4.895	Si
SLV 13	-160	-32281	-906038	3.87	3065659	3.384	Si
SLV 13	40	-31759	753370	3.81	3038723	4.034	Si
SLV 14	-160	-32281	-906038	3.87	3065659	3.384	Si
SLV 14	40	-31759	753370	3.81	3038723	4.034	Si
SLV 6	-160	-34788	-1799710	4.17	3184796	1.77	Si
SLV 6	40	-32794	506364	3.93	3091449	6.105	Si
SLV 12	-160	-40078	1809125	4.81	3379895	1.868	Si
SLV 12	40	-36185	-367920	4.34	3243726	8.816	Si
SLV 8	-160	-42478	2012476	5.09	3443217	1.711	Si
SLV 8	40	-37408	-672327	4.49	3290953	4.895	Si
SLV 9	-160	-32389	-2003061	3.88	3071141	1.533	Si
SLV 9	40	-31571	810771	3.79	3028831	3.736	Si

### Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 72	-160	-50005	-680	-38159		6	278	1.08	9035			13.28	Si
SLU 72	40	-46179	-680	97946		5.54	278	1.08	9035			13.28	Si
SLU 50	-160	-44586	-648	-31083		5.35	278	1.08	9035			13.94	Si
SLU 50	40	-40759	-648	98543		4.89	278	1.08	9035			13.94	Si
SLU 51	-160	-44414	-696	-33590		5.33	278	1.08	9035			12.99	Si
SLU 51	40	-40587	-696	105578		4.87	278	1.08	9035			12.99	Si
SLU 71	-160	-50177	-633	-35652		6.02	278	1.08	9035			14.28	Si
SLU 71	40	-46350	-633	90911		5.56	278	1.08	9035			14.28	Si
SLU 68	-160	-48854	-618	-20150		5.86	278	1.08	9035			14.61	Si
SLU 68	40	-45027	-618	103541		5.4	278	1.08	9035			14.61	Si
SLU 70	-160	-50344	-642	-31652		6.04	278	1.08	9035			14.07	Si
SLU 70	40	-46517	-642	96816		5.58	278	1.08	9035			14.07	Si
SLU 59	-160	-50223	-615	-30616		6.02	278	1.08	9035			14.7	Si
SLU 59	40	-46396	-615	92353		5.56	278	1.08	9035			14.7	Si
SLU 49	-160	-44753	-657	-27083		5.37	278	1.08	9035			13.74	Si
SLU 49	40	-40926	-657	104447		4.91	278	1.08	9035			13.74	Si
SLU 47	-160	-43263	-634	-15581		5.19	278	1.08	9035			14.26	Si
SLU 47	40	-39436	-634	111172		4.73	278	1.08	9035			14.26	Si
SLU 48	-160	-44925	-610	-24575		5.39	278	1.08	9035			14.82	Si
SLU 48	40	-41098	-610	97412		4.93	278	1.08	9035			14.82	Si

### Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	-160	-40078	10634	1809125		4.81	278	1.63	13552			1.27	Si
SLV 12	40	-36185	10398	-367920		4.34	278	1.63	13552			1.3	Si
SLV 13	-160	-32281	-7995	-906038		3.87	278	1.61	13406			1.68	Si
SLV 13	40	-31759	-8228	753370		3.81	278	1.59	13302			1.62	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLV 8	-160	-42478	13048	2012476		5.15	274.87	1.63	13400			1.03	Si
SLV 8	40	-37408	12980	-672327		4.49	278	1.63	13552			1.04	Si
SLV 7	-160	-42478	13048	2012476		5.15	274.87	1.63	13400			1.03	Si
SLV 7	40	-37408	12980	-672327		4.49	278	1.63	13552			1.04	Si
SLV 11	-160	-40078	10634	1809125		4.81	278	1.63	13552			1.27	Si
SLV 11	40	-36185	10398	-367920		4.34	278	1.63	13552			1.3	Si
SLV 14	-160	-32281	-7995	-906038		3.87	278	1.61	13406			1.68	Si
SLV 14	40	-31759	-8228	753370		3.81	278	1.59	13302			1.62	Si
SLV 10	-160	-32389	-13693	-2003061		4.66	231.47	1.63	11284			0.82	No, Vu<V
SLV 10	40	-31571	-13624	810771		3.79	278	1.59	13264			0.97	No, Vu<V
SLV 5	-160	-34788	-11279	-1799710		4.43	261.8	1.63	12763			1.13	Si
SLV 5	40	-32794	-11043	506364		3.93	278	1.62	13509			1.22	Si
SLV 6	-160	-34788	-11279	-1799710		4.43	261.8	1.63	12763			1.13	Si
SLV 6	40	-32794	-11043	506364		3.93	278	1.62	13509			1.22	Si
SLV 9	-160	-32389	-13693	-2003061		4.66	231.47	1.63	11284			0.82	No, Vu<V
SLV 9	40	-31571	-13624	810771		3.79	278	1.59	13264			0.97	No, Vu<V

#### Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.24	3.81	-31794	11058	328115	29.67	Si
SLV 10	14	0.24	3.81	-31794	11058	328115	29.67	Si
SLV 14	14	0.24	3.91	-32607	11058	332602	30.08	Si
SLV 13	14	0.24	3.91	-32607	11058	332602	30.08	Si
SLV 5	14	0.24	3.96	-33039	11058	334908	30.29	Si
SLV 6	14	0.24	3.96	-33039	11058	334908	30.29	Si
SLV 16	14	0.24	4.14	-34548	11058	342533	30.98	Si
SLV 15	14	0.24	4.14	-34548	11058	342533	30.98	Si
SLV 1	14	0.24	4.41	-36757	11058	352479	31.87	Si
SLV 2	14	0.24	4.41	-36757	11058	352479	31.87	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = -25.5 Wa = 0.05 Ta = 0.0403

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 3	-29170	-42586	63	0.057	32.857	0.971	85.887	407.523	No
SLV 4	-29170	-42586	63	0.057	32.857	0.971	85.887	407.523	No
SLV 1	-27473	-40279	68	0.057	31.129	0.969	85.902	407.523	No
SLV 2	-27473	-40279	68	0.057	31.129	0.969	85.902	407.523	No
SLV 15	-26150	-34588	-65	0.057	29.782	0.968	86.268	407.523	No
SLV 16	-26150	-34588	-65	0.057	29.782	0.968	86.268	407.523	No
SLV 14	-24453	-32281	-60	0.058	28.054	0.966	86.882	407.523	No
SLV 13	-24453	-32281	-60	0.058	28.054	0.966	86.882	407.523	No
SLV 11	-29187	-40078	-26	0.059	32.874	0.971	87.634	390.295	No
SLV 12	-29187	-40078	-26	0.059	32.874	0.971	87.634	390.295	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	19.693	SLU 76	Si
V_SLU	12.988	SLU 51	Si
PF_SLV	1.533	SLV 9	Si
V_SLV	0.824	SLV 9	No
PFFP_SLV	29.672	SLV 9	Si
R_SLV	0.211	SLV 3	No

## Maschio 7

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1961.8	565.1	-1961.8	610.1	L1	L3	45	30	269	269	269			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv <sub>lim</sub>	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 84	-160	-8326	10300	6.17	45498	4.417	Si
SLU 84	40	-11095	-62410	8.22	0	0	No, Rottura per schiacciamento
SLU 83	-160	-8328	10435	6.17	45480	4.359	Si
SLU 83	40	-11118	-62648	8.24	0	0	No, Rottura per schiacciamento
SLU 81	-160	-8223	10378	6.09	46665	4.496	Si
SLU 81	40	-10958	-61848	8.12	861	0.014	No, M>Mu
SLU 75	-160	-8043	9911	5.96	48612	4.905	Si
SLU 75	40	-10697	-60075	7.92	6571	0.109	No, M>Mu
SLU 79	-160	-8095	9965	6	48068	4.823	Si
SLU 79	40	-10795	-60552	8	4461	0.074	No, M>Mu
SLU 82	-160	-8222	10243	6.09	46683	4.557	Si
SLU 82	40	-10935	-61610	8.1	1383	0.022	No, M>Mu
SLU 80	-160	-8093	9830	5.99	48085	4.891	Si
SLU 80	40	-10771	-60314	7.98	4967	0.082	No, M>Mu



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 78	-160	-8147	9968	6.03	47504	4.766	Si
SLU 78	40	-10856	-60875	8.04	3126	0.051	No, M>Mu
SLU 74	-160	-8044	10047	5.96	48596	4.837	Si
SLU 74	40	-10720	-60313	7.94	6072	0.101	No, M>Mu
SLU 77	-160	-8149	10103	6.04	47487	4.7	Si
SLU 77	40	-10880	-61113	8.06	2612	0.043	No, M>Mu

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 16	-160	-6955	22552	5.15	90508	4.013	Si
SLV 16	40	-10021	-68263	7.42	88496	1.296	Si
SLV 15	-160	-6955	22552	5.15	90508	4.013	Si
SLV 15	40	-10021	-68263	7.42	88496	1.296	Si
SLD 7	-160	-5257	29308	3.89	80587	2.75	Si
SLD 7	40	-8701	-58339	6.45	92506	1.586	Si
SLV 11	-160	-5785	60424	4.28	84511	1.399	Si
SLV 11	40	-11612	-90791	8.6	77345	0.852	No, M>Mu
SLD 8	-160	-5257	29308	3.89	80587	2.75	Si
SLD 8	40	-8701	-58339	6.45	92506	1.586	Si
SLV 8	-160	-4891	60614	3.62	77414	1.277	Si
SLV 8	40	-10660	-82511	7.9	84852	1.028	Si
SLV 7	-160	-4891	60614	3.62	77414	1.277	Si
SLV 7	40	-10660	-82511	7.9	84852	1.028	Si
SLV 12	-160	-5785	60424	4.28	84511	1.399	Si
SLV 12	40	-11612	-90791	8.6	77345	0.852	No, M>Mu
SLD 11	-160	-5636	29244	4.17	83484	2.855	Si
SLD 11	40	-9105	-61859	6.74	91783	1.484	Si
SLD 12	-160	-5636	29244	4.17	83484	2.855	Si
SLD 12	40	-9105	-61859	6.74	91783	1.484	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 83	-160	-8328	141	10435		6.17	45	1.08	1462			10.36	Si
SLU 83	40	-11118	1149	-62648		8.24	45	1.08	1462			1.27	Si
SLU 79	-160	-8095	136	9965		6	45	1.08	1462			10.79	Si
SLU 79	40	-10795	1107	-60552		8	45	1.08	1462			1.32	Si
SLU 74	-160	-8044	135	10047		5.96	45	1.08	1462			10.8	Si
SLU 74	40	-10720	1106	-60313		7.94	45	1.08	1462			1.32	Si
SLU 75	-160	-8043	133	9911		5.96	45	1.08	1462			10.99	Si
SLU 75	40	-10697	1102	-60075		7.92	45	1.08	1462			1.33	Si
SLU 78	-160	-8147	135	9968		6.03	45	1.08	1462			10.84	Si
SLU 78	40	-10856	1114	-60875		8.04	45	1.08	1462			1.31	Si
SLU 77	-160	-8149	137	10103		6.04	45	1.08	1462			10.66	Si
SLU 77	40	-10880	1118	-61113		8.06	45	1.08	1462			1.31	Si
SLU 80	-160	-8093	133	9830		5.99	45	1.08	1462			10.98	Si
SLU 80	40	-10771	1103	-60314		7.98	45	1.08	1462			1.33	Si
SLU 82	-160	-8222	137	10243		6.09	45	1.08	1462			10.68	Si
SLU 82	40	-10935	1133	-61610		8.1	45	1.08	1462			1.29	Si
SLU 81	-160	-8223	139	10378		6.09	45	1.08	1462			10.5	Si
SLU 81	40	-10958	1137	-61848		8.12	45	1.08	1462			1.29	Si
SLU 84	-160	-8326	139	10300		6.17	45	1.08	1462			10.54	Si
SLU 84	40	-11095	1145	-62410		8.22	45	1.08	1462			1.28	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 7	-160	-4891	667	60614		5.38	30.32	1.63	1478			2.22	Si
SLV 7	40	-10660	2013	-82511		8.02	44.28	1.63	2159			1.07	Si
SLV 11	-160	-5785	646	60424		5.33	36.16	1.63	1763			2.73	Si
SLV 11	40	-11612	1785	-90791		8.79	44.04	1.63	2147			1.2	Si
SLD 7	-160	-5257	333	29308		3.89	45	1.61	2176			6.54	Si
SLD 7	40	-8701	1282	-58339		6.45	45	1.63	2194			1.71	Si
SLD 12	-160	-5636	324	29244		4.17	45	1.63	2194			6.77	Si
SLD 12	40	-9105	1184	-61859		6.74	45	1.63	2194			1.85	Si
SLD 8	-160	-5257	333	29308		3.89	45	1.61	2176			6.54	Si
SLD 8	40	-8701	1282	-58339		6.45	45	1.63	2194			1.71	Si
SLV 4	-160	-3976	295	23185		2.94	45	1.42	1920			6.5	Si
SLV 4	40	-6845	1470	-40662		5.07	45	1.63	2194			1.49	Si
SLV 12	-160	-5785	646	60424		5.33	36.16	1.63	1763			2.73	Si
SLV 12	40	-11612	1785	-90791		8.79	44.04	1.63	2147			1.2	Si
SLV 3	-160	-3976	295	23185		2.94	45	1.42	1920			6.5	Si
SLV 3	40	-6845	1470	-40662		5.07	45	1.63	2194			1.49	Si
SLD 11	-160	-5636	324	29244		4.17	45	1.63	2194			6.77	Si
SLD 11	40	-9105	1184	-61859		6.74	45	1.63	2194			1.85	Si
SLV 8	-160	-4891	667	60614		5.38	30.32	1.63	1478			2.22	Si
SLV 8	40	-10660	2013	-82511		8.02	44.28	1.63	2159			1.07	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.24	2.74	-3700	1790	43053	24.05	Si
SLV 6	14	0.24	2.74	-3700	1790	43053	24.05	Si
SLV 1	14	0.24	3.35	-4517	1790	49199	27.49	Si
SLV 2	14	0.24	3.35	-4517	1790	49199	27.49	Si
SLV 10	14	0.24	3.35	-4527	1790	49268	27.52	Si
SLV 9	14	0.24	3.35	-4527	1790	49268	27.52	Si
SLV 3	14	0.24	4.48	-6043	1790	57438	32.09	Si
SLV 4	14	0.24	4.48	-6043	1790	57438	32.09	Si
SLV 11	14	0.24	7.12	-9615	1790	60157	33.61	Si
SLV 12	14	0.24	7.12	-9615	1790	60157	33.61	Si



## Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = -25.5 Wa = 0.05 Ta = 0.0403

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 3	-6079	-3976	-81	0.046	6.701	0.976	68.404	407.523	No
SLV 4	-6079	-3976	-81	0.046	6.701	0.976	68.404	407.523	No
SLV 2	-4254	-4085	-53	0.048	4.842	0.968	72.415	407.523	No
SLV 1	-4254	-4085	-53	0.048	4.842	0.968	72.415	407.523	No
SLV 7	-9016	-4891	-99	0.047	9.693	0.983	69.587	390.295	No
SLV 8	-9016	-4891	-99	0.047	9.693	0.983	69.587	390.295	No
SLV 11	-9708	-5785	-87	0.049	10.399	0.984	72.26	390.295	No
SLV 12	-9708	-5785	-87	0.049	10.399	0.984	72.26	390.295	No
SLV 15	-8387	-6955	-39	0.053	9.052	0.982	79.019	407.523	No
SLV 16	-8387	-6955	-39	0.053	9.052	0.982	79.019	407.523	No

### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 83	No
V_SLU	1.273	SLU 83	Si
PF_SLV	0.852	SLV 11	No
V_SLV	1.073	SLV 7	Si
PFFP_SLV	24.052	SLV 5	Si
R_SLV	0.168	SLV 3	No

## Maschio 8

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-2254.3	-328.4	-2465.3	-328.4	L1	L3	211	45	269	269	269			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 44	40	-22160	397891	2.33	1668066	4.192	Si
SLU 44	80	-19774	375416	2.08	1552825	4.136	Si
SLU 70	40	-26241	429607	2.76	1829180	4.258	Si
SLU 70	80	-23942	372197	2.52	1743995	4.686	Si
SLU 5	40	-18180	352146	1.91	1467138	4.166	Si
SLU 5	80	-16168	336047	1.7	1349167	4.015	Si
SLU 68	40	-25451	444101	2.68	1801518	4.057	Si
SLU 68	80	-22963	407324	2.42	1703331	4.182	Si
SLU 76	40	-28438	456540	3	1897105	4.155	Si
SLU 76	80	-25895	412865	2.73	1817286	4.402	Si
SLU 55	40	-25629	428541	2.7	1807900	4.219	Si
SLU 55	80	-23162	393941	2.44	1711804	4.345	Si
SLU 2	40	-17699	333935	1.86	1439937	4.312	Si
SLU 2	80	-15714	323063	1.65	1320978	4.089	Si
SLU 26	40	-20989	380145	2.21	1613438	4.244	Si
SLU 26	80	-18902	354971	1.99	1506804	4.245	Si
SLU 47	40	-22641	416102	2.38	1689414	4.06	Si
SLU 47	80	-20229	388400	2.13	1575979	4.058	Si
SLU 65	40	-24970	425890	2.63	1783856	4.189	Si
SLU 65	80	-22508	394340	2.37	1683568	4.269	Si

### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 1	40	-30381	948751	3.2	2365885	2.494	Si
SLV 1	80	-30262	613211	3.19	2359870	3.848	Si
SLV 8	40	-8758	270606	0.92	854242	3.157	Si
SLV 8	80	-4595	33153	0.48	465612	14.044	Si
SLV 3	40	-22579	842106	2.38	1918518	2.278	Si
SLV 3	80	-20751	451927	2.19	1797647	3.978	Si
SLV 11	40	-4714	-112608	0.5	477073	4.237	Si
SLV 11	80	-259	-164512	0	0	0	No, e>l/2
SLV 2	40	-30381	948751	3.2	2365885	2.494	Si
SLV 2	80	-30262	613211	3.19	2359870	3.848	Si
SLV 12	40	-4714	-112608	0.5	477073	4.237	Si
SLV 12	80	-259	-164512	0	0	0	No, e>l/2
SLV 4	40	-22579	842106	2.38	1918518	2.278	Si
SLV 4	80	-20751	451927	2.19	1797647	3.978	Si
SLV 15	40	-9097	-435272	0.96	884480	2.032	Si
SLV 15	80	-6297	-206957	0.66	628240	3.036	Si
SLV 7	40	-8758	270606	0.92	854242	3.157	Si
SLV 7	80	-4595	33153	0.48	465612	14.044	Si
SLV 16	40	-9097	-435272	0.96	884480	2.032	Si
SLV 16	80	-6297	-206957	0.66	628240	3.036	Si

### Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 47	40	-22641	-3495	416102		2.38	211	0.87	8294			2.37	Si
SLU 47	80	-20229	-3212	388400		2.13	211	0.84	7972			2.48	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 2	40	-17699	-3291	333935		1.86	211	0.8	7635			2.32	Si
SLU 2	80	-15714	-3072	323063		1.65	211	0.78	7370			2.4	Si
SLU 10	40	-20686	-3272	346374		2.18	211	0.85	8033			2.46	Si
SLU 10	80	-18646	-3023	328604		1.96	211	0.82	7761			2.57	Si
SLU 52	40	-25148	-3534	410330		2.65	211	0.91	8628			2.44	Si
SLU 52	80	-22707	-3231	380957		2.39	211	0.87	8303			2.57	Si
SLU 65	40	-24970	-3535	425890		2.63	211	0.91	8604			2.43	Si
SLU 65	80	-22508	-3230	394340		2.37	211	0.87	8276			2.56	Si
SLU 55	40	-25629	-3475	428541		2.7	211	0.92	8692			2.5	Si
SLU 55	80	-23162	-3164	393941		2.44	211	0.88	8363			2.64	Si
SLU 23	40	-20508	-3273	361934		2.16	211	0.84	8009			2.45	Si
SLU 23	80	-18447	-3022	341987		1.94	211	0.81	7735			2.56	Si
SLU 5	40	-18180	-3232	352146		1.91	211	0.81	7699			2.38	Si
SLU 5	80	-16168	-3005	336047		1.7	211	0.78	7431			2.47	Si
SLU 44	40	-22160	-3554	397891		2.33	211	0.87	8230			2.32	Si
SLU 44	80	-19774	-3279	375416		2.08	211	0.83	7912			2.41	Si
SLU 68	40	-25451	-3476	444101		2.68	211	0.91	8668			2.49	Si
SLU 68	80	-22963	-3163	407324		2.42	211	0.88	8337			2.64	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 11	40	-4714	6840	-112608		0.5	211	0.93	8855			1.29	Si
SLV 11	80	-259	8658	-164512		0	0	0.83	0			0	No, Vu<V
SLV 7	40	-8758	12509	270606		0.92	211	1.02	9664			0.77	No, Vu<V
SLV 7	80	-4595	15390	33153		0.48	211	0.93	8832			0.57	No, Vu<V
SLV 8	40	-8758	12509	270606		0.92	211	1.02	9664			0.77	No, Vu<V
SLV 8	80	-4595	15390	33153		0.48	211	0.93	8832			0.57	No, Vu<V
SLV 10	40	-30720	-14195	242873		3.24	211	1.48	14057			0.99	No, Vu<V
SLV 10	80	-31963	-16604	373101		3.37	211	1.51	14305			0.86	No, Vu<V
SLV 13	40	-16899	-13446	-328628		1.78	211	1.19	11292			0.84	No, Vu<V
SLV 13	80	-15808	-15616	-45674		1.66	211	1.17	11074			0.71	No, Vu<V
SLV 3	40	-22579	11760	842106		2.45	204.61	1.32	12189			1.04	Si
SLV 3	80	-20751	14401	451927		2.19	211	1.27	12063			0.84	No, Vu<V
SLV 14	40	-16899	-13446	-328628		1.78	211	1.19	11292			0.84	No, Vu<V
SLV 14	80	-15808	-15616	-45674		1.66	211	1.17	11074			0.71	No, Vu<V
SLV 12	40	-4714	6840	-112608		0.5	211	0.93	8855			1.29	Si
SLV 12	80	-259	8658	-164512		0	0	0.83	0			0	No, Vu<V
SLV 9	40	-30720	-14195	242873		3.24	211	1.48	14057			0.99	No, Vu<V
SLV 9	80	-31963	-16604	373101		3.37	211	1.51	14305			0.86	No, Vu<V
SLV 4	40	-22579	11760	842106		2.45	204.61	1.32	12189			1.04	Si
SLV 4	80	-20751	14401	451927		2.19	211	1.27	12063			0.84	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.24	0.73	-6965	12590	147308	11.7	Si
SLV 11	14	0.24	0.73	-6965	12590	147308	11.7	Si
SLV 15	14	0.24	0.9	-8572	12590	178622	14.19	Si
SLV 16	14	0.24	0.9	-8572	12590	178622	14.19	Si
SLV 8	14	0.24	1.3	-12314	12590	247653	19.67	Si
SLV 7	14	0.24	1.3	-12314	12590	247653	19.67	Si
SLV 14	14	0.24	1.61	-15298	12590	298820	23.74	Si
SLV 13	14	0.24	1.61	-15298	12590	298820	23.74	Si
SLV 4	14	0.24	2.78	-26401	12590	458843	36.45	Si
SLV 3	14	0.24	2.78	-26401	12590	458843	36.45	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = -25.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 8	-17258	-15260	-836	0.051	21.18	0.951	77.54	327.131	No
SLV 7	-17258	-15260	-836	0.051	21.18	0.951	77.54	327.131	No
SLV 4	-21981	-32808	-940	0.053	25.98	0.959	80.065	336.206	No
SLV 3	-21981	-32808	-940	0.053	25.98	0.959	80.065	336.206	No
SLV 11	-13694	-7663	-678	0.053	17.565	0.942	82.182	327.131	No
SLV 12	-13694	-7663	-678	0.053	17.565	0.942	82.182	327.131	No
SLV 2	-22467	-40253	-872	0.056	26.474	0.96	85.115	336.206	No
SLV 1	-22467	-40253	-872	0.056	26.474	0.96	85.115	336.206	No
SLV 6	-18877	-40076	-608	0.064	22.825	0.954	97.559	327.131	No
SLV 5	-18877	-40076	-608	0.064	22.825	0.954	97.559	327.131	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.015	SLU 5	Si
V_SLU	2.316	SLU 44	Si
PF_SLV	0	SLV 11	No
V_SLV	0	SLV 11	No
PFFP_SLV	11.701	SLV 11	Si
R_SLV	0.237	SLV 7	No

## Maschio 9

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1831.3	-328.4	-2154.3	-328.4	L1	L3	323	45	269	269	269			



## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 73	40	-45854	-1735804	3.15	4537441	2.614	Si
SLU 73	80	-44572	-2095763	3.07	4488528	2.142	Si
SLU 2	40	-28704	-1233601	1.97	3511864	2.847	Si
SLU 2	80	-27718	-1518003	1.91	3428502	2.259	Si
SLU 76	40	-46089	-1721957	3.17	4545914	2.64	Si
SLU 76	80	-44807	-2095464	3.08	4497821	2.146	Si
SLU 47	40	-36357	-1481134	2.5	4068650	2.747	Si
SLU 47	80	-35075	-1816548	2.41	3986525	2.195	Si
SLU 65	40	-40559	-1600953	2.79	4306432	2.69	Si
SLU 65	80	-39277	-1943903	2.7	4239002	2.181	Si
SLU 68	40	-40794	-1587106	2.81	4318296	2.721	Si
SLU 68	80	-39512	-1943605	2.72	4251687	2.188	Si
SLU 5	40	-28939	-1219754	1.99	3531321	2.895	Si
SLU 5	80	-27953	-1517704	1.92	3448590	2.272	Si
SLU 55	40	-41652	-1615985	2.87	4360358	2.698	Si
SLU 55	80	-40370	-1968408	2.78	4296749	2.183	Si
SLU 44	40	-36122	-1494980	2.49	4053944	2.712	Si
SLU 44	80	-34840	-1816847	2.4	3970998	2.186	Si
SLU 52	40	-41417	-1629831	2.85	4349043	2.668	Si
SLU 52	80	-40135	-1968707	2.76	4284613	2.176	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 5	40	-49346	-1372586	3.39	5755069	4.193	Si
SLV 5	80	-36430	-1832401	2.51	4676601	2.552	Si
SLD 10	40	-39074	-1443951	2.69	4922059	3.409	Si
SLD 10	80	-33161	-1556571	2.28	4355537	2.798	Si
SLD 9	40	-39074	-1443951	2.69	4922059	3.409	Si
SLD 9	80	-33161	-1556571	2.28	4355537	2.798	Si
SLV 15	40	-26212	-1883837	1.8	3608452	1.915	Si
SLV 15	80	-28087	-1317363	1.93	3818677	2.899	Si
SLV 6	40	-49346	-1372586	3.39	5755069	4.193	Si
SLV 6	80	-36430	-1832401	2.51	4676601	2.552	Si
SLV 10	40	-48465	-1976592	3.33	5691141	2.879	Si
SLV 10	80	-35076	-2016836	2.41	4545932	2.254	Si
SLV 13	40	-36008	-2251881	2.48	4636253	2.059	Si
SLV 13	80	-30583	-1739508	2.1	4088638	2.35	Si
SLV 14	40	-36008	-2251881	2.48	4636253	2.059	Si
SLV 14	80	-30583	-1739508	2.1	4088638	2.35	Si
SLV 16	40	-26212	-1883837	1.8	3608452	1.915	Si
SLV 16	80	-28087	-1317363	1.93	3818677	2.899	Si
SLV 9	40	-48465	-1976592	3.33	5691141	2.879	Si
SLV 9	80	-35076	-2016836	2.41	4545932	2.254	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 73	40	-45854	9011	-1735804		3.15	323	0.98	14189			1.57	Si
SLU 73	80	-44572	9011	-2095763		3.07	323	0.96	14018			1.56	Si
SLU 44	40	-36122	8058	-1494980		2.49	323	0.89	12891			1.6	Si
SLU 44	80	-34840	8058	-1816847		2.4	323	0.88	12720			1.58	Si
SLU 34	40	-38671	8410	-1460578		2.66	323	0.91	13231			1.57	Si
SLU 34	80	-37685	8410	-1796620		2.59	323	0.9	13100			1.56	Si
SLU 26	40	-33376	7985	-1325727		2.3	323	0.86	12525			1.57	Si
SLU 26	80	-32390	7985	-1644761		2.23	323	0.85	12394			1.55	Si
SLU 76	40	-46089	9349	-1721957		3.17	323	0.98	14220			1.52	Si
SLU 76	80	-44807	9349	-2095464		3.08	323	0.97	14049			1.5	Si
SLU 47	40	-36357	8397	-1481134		2.5	323	0.89	12923			1.54	Si
SLU 47	80	-35075	8397	-1816548		2.41	323	0.88	12752			1.52	Si
SLU 68	40	-40794	8924	-1587106		2.81	323	0.93	13514			1.51	Si
SLU 68	80	-39512	8924	-1943605		2.72	323	0.92	13343			1.5	Si
SLU 55	40	-41652	8822	-1615985		2.87	323	0.94	13629			1.54	Si
SLU 55	80	-40370	8822	-1968408		2.78	323	0.93	13458			1.53	Si
SLU 5	40	-28939	7458	-1219754		1.99	323	0.82	11934			1.6	Si
SLU 5	80	-27953	7458	-1517704		1.93	321.61	0.81	11767			1.58	Si
SLU 65	40	-40559	8585	-1600953		2.79	323	0.93	13483			1.57	Si
SLU 65	80	-39277	8585	-1943903		2.7	323	0.92	13312			1.55	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	40	-15811	-17304	-749780		1.09	323	1.05	15275			0.88	No, Vu<V
SLV 12	80	-26755	-23726	-609687		1.84	323	1.2	17463			0.74	No, Vu<V
SLV 6	40	-49346	25315	-1372586		3.39	323	1.51	21982			0.87	No, Vu<V
SLV 6	80	-36430	31737	-1832401		2.51	323	1.33	19398			0.61	No, Vu<V
SLV 5	40	-49346	25315	-1372586		3.39	323	1.51	21982			0.87	No, Vu<V
SLV 5	80	-36430	31737	-1832401		2.51	323	1.33	19398			0.61	No, Vu<V
SLV 15	40	-26212	-19406	-1883837		2.17	268.89	1.27	15326			0.79	No, Vu<V
SLV 15	80	-28087	-21824	-1317363		1.93	323	1.22	17730			0.81	No, Vu<V
SLV 1	40	-38945	27417	-238528		2.68	323	1.37	19901			0.73	No, Vu<V
SLV 1	80	-35098	29834	-1124725		2.41	323	1.32	19132			0.64	No, Vu<V
SLV 16	40	-26212	-19406	-1883837		2.17	268.89	1.27	15326			0.79	No, Vu<V
SLV 16	80	-28087	-21824	-1317363		1.93	323	1.22	17730			0.81	No, Vu<V
SLV 2	40	-38945	27417	-238528		2.68	323	1.37	19901			0.73	No, Vu<V



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	80	-35098	29834	-1124725		2.41	323	1.32	19132			0.64	No, Vu<V
SLV 10	40	-48465	14093	-1976592		3.33	323	1.5	21805			1.55	Si
SLV 10	80	-35076	20192	-2016836		2.5	312	1.33	18715			0.93	No, Vu<V
SLV 9	40	-48465	14093	-1976592		3.33	323	1.5	21805			1.55	Si
SLV 9	80	-35076	20192	-2016836		2.5	312	1.33	18715			0.93	No, Vu<V
SLV 11	40	-15811	-17304	-749780		1.09	323	1.05	15275			0.88	No, Vu<V
SLV 11	80	-26755	-23726	-609687		1.84	323	1.2	17463			0.74	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.24	1	-14477	19272	299189	15.52	Si
SLV 12	14	0.24	1	-14477	19272	299189	15.52	Si
SLV 8	14	0.24	1.06	-15473	19272	317804	16.49	Si
SLV 7	14	0.24	1.06	-15473	19272	317804	16.49	Si
SLV 15	14	0.24	1.51	-21907	19272	432106	22.42	Si
SLV 16	14	0.24	1.51	-21907	19272	432106	22.42	Si
SLV 3	14	0.24	1.74	-25224	19272	486937	25.27	Si
SLV 4	14	0.24	1.74	-25224	19272	486937	25.27	Si
SLV 13	14	0.24	2.01	-29270	19272	550040	28.54	Si
SLV 14	14	0.24	2.01	-29270	19272	550040	28.54	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = -25.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 12	-23267	-15347	-1472	0.04	29.224	0.946	60.933	327.131	No
SLV 11	-23267	-15347	-1472	0.04	29.224	0.946	60.933	327.131	No
SLV 7	-24154	-16468	-1434	0.042	30.124	0.947	65.108	327.131	No
SLV 8	-24154	-16468	-1434	0.042	30.124	0.947	65.108	327.131	No
SLV 16	-24242	-22152	-1364	0.045	30.214	0.948	69.198	336.206	No
SLV 15	-24242	-22152	-1364	0.045	30.214	0.948	69.198	336.206	No
SLV 13	-25965	-29106	-1233	0.052	31.962	0.95	79.252	336.206	No
SLV 14	-25965	-29106	-1233	0.052	31.962	0.95	79.252	336.206	No
SLV 3	-27198	-25889	-1237	0.053	33.214	0.952	80.843	336.206	No
SLV 4	-27198	-25889	-1237	0.053	33.214	0.952	80.843	336.206	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.142	SLU 73	Si
V_SLU	1.495	SLU 68	Si
PF_SLV	1.915	SLV 15	Si
V_SLV	0.611	SLV 5	No
PFFP_SLV	15.524	SLV 11	Si
R_SLV	0.186	SLV 11	No

## Maschio 10

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1652.3	-328.4	-1731.3	-328.4	L1	L3	79	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 80	40	-24628	65740	6.93	145481	2.213	Si
SLU 80	80	-19767	347095	5.56	247822	0.714	No, M>Mu
SLU 84	40	-25566	65911	7.19	118296	1.795	Si
SLU 84	80	-20509	360057	5.77	236366	0.656	No, M>Mu
SLU 81	40	-24466	60134	6.88	149927	2.493	Si
SLU 81	80	-19505	342840	5.49	251508	0.734	No, M>Mu
SLU 77	40	-23846	61011	6.71	166300	2.726	Si
SLU 77	80	-19008	333986	5.35	257994	0.772	No, M>Mu
SLU 73	40	-24798	70305	6.98	140715	2.001	Si
SLU 73	80	-20079	353296	5.65	243197	0.688	No, M>Mu
SLU 82	40	-25355	66178	7.13	124619	1.883	Si
SLU 82	80	-20375	358078	5.73	238549	0.666	No, M>Mu
SLU 78	40	-24735	67056	6.96	142497	2.125	Si
SLU 78	80	-19877	349223	5.59	246216	0.705	No, M>Mu
SLU 83	40	-24677	59866	6.94	144115	2.407	Si
SLU 83	80	-19639	344819	5.52	249643	0.724	No, M>Mu
SLU 76	40	-25010	70037	7.04	134712	1.923	Si
SLU 76	80	-20213	355275	5.69	241122	0.679	No, M>Mu
SLU 75	40	-24524	67324	6.9	148342	2.203	Si
SLU 75	80	-19743	347244	5.55	248168	0.715	No, M>Mu

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLD 14	40	-16292	69004	4.58	402163	5.828	Si
SLD 14	80	-14019	262903	3.94	375035	1.427	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 16	40	-12966	62670	3.65	359275	5.733	Si
SLV 16	80	-12251	271167	3.45	347430	1.281	Si
SLV 14	40	-16536	101360	4.65	404519	3.991	Si
SLV 14	80	-15490	309351	4.36	393666	1.273	Si
SLV 12	40	-9800	-7751	2.76	299768	38.676	Si
SLV 12	80	-7850	183854	2.21	254048	1.382	Si
SLD 13	40	-16292	69004	4.58	402163	5.828	Si
SLD 13	80	-14019	262903	3.94	375035	1.427	Si
SLV 11	40	-9800	-7751	2.76	299768	38.676	Si
SLV 11	80	-7850	183854	2.21	254048	1.382	Si
SLV 9	40	-21701	121213	6.1	428947	3.539	Si
SLV 9	80	-18648	311131	5.25	420370	1.351	Si
SLV 10	40	-21701	121213	6.1	428947	3.539	Si
SLV 10	80	-18648	311131	5.25	420370	1.351	Si
SLV 13	40	-16536	101360	4.65	404519	3.991	Si
SLV 13	80	-15490	309351	4.36	393666	1.273	Si
SLV 15	40	-12966	62670	3.65	359275	5.733	Si
SLV 15	80	-12251	271167	3.45	347430	1.281	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 68	40	-22327	-1770	70263		6.28	79	1.08	3851			2.18	Si
SLU 68	80	-18168	-1188	320412		6.16	65.59	1.08	3198			2.69	Si
SLU 55	40	-22917	-1718	67556		6.45	79	1.08	3851			2.24	Si
SLU 55	80	-18581	-1200	327019		6.28	65.7	1.08	3203			2.67	Si
SLU 65	40	-22116	-1924	70531		6.22	79	1.08	3851			2	Si
SLU 65	80	-18034	-1194	318433		6.12	65.53	1.08	3194			2.68	Si
SLU 73	40	-24798	-1933	70305		6.98	79	1.08	3851			1.99	Si
SLU 73	80	-20079	-1256	353296		6.79	65.71	1.08	3204			2.55	Si
SLU 47	40	-20235	-1708	67782		5.69	79	1.08	3851			2.25	Si
SLU 47	80	-16537	-1137	292157		5.61	65.5	1.08	3193			2.81	Si
SLU 44	40	-20024	-1863	68050		5.63	79	1.08	3851			2.07	Si
SLU 44	80	-16402	-1143	290178		5.57	65.43	1.08	3190			2.79	Si
SLU 52	40	-22706	-1872	67824		6.39	79	1.08	3851			2.06	Si
SLU 52	80	-18447	-1206	325040		6.25	65.64	1.08	3200			2.65	Si
SLU 82	40	-25355	-1687	66178		7.13	79	1.08	3851			2.28	Si
SLU 82	80	-20375	-1132	358078		6.88	65.78	1.08	3207			2.83	Si
SLU 31	40	-21071	-1664	57580		5.93	79	1.08	3851			2.31	Si
SLU 31	80	-17058	-1093	299644		5.76	65.8	1.08	3208			2.94	Si
SLU 76	40	-25010	-1779	70037		7.04	79	1.08	3851			2.16	Si
SLU 76	80	-20213	-1250	355275		6.83	65.77	1.08	3206			2.56	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 7	40	-10657	5793	-29423		3	79	1.43	5094			0.88	No, Vu<V
SLV 7	80	-7318	1415	147197		2.8	58.16	1.39	3644			2.57	Si
SLV 15	40	-12966	-7280	62670		3.65	79	1.56	5556			0.76	No, Vu<V
SLV 15	80	-12251	-1074	271167		5.23	52.1	1.63	3810			3.55	Si
SLV 3	40	-15822	7999	-9569		4.45	79	1.63	5777			0.72	No, Vu<V
SLV 3	80	-10475	860	148977		3.07	75.84	1.45	4939			5.75	Si
SLV 10	40	-21701	-7767	121213		6.1	79	1.63	5777			0.74	No, Vu<V
SLV 10	80	-18648	-2686	311131		6.05	68.45	1.63	5005			1.86	Si
SLV 9	40	-21701	-7767	121213		6.1	79	1.63	5777			0.74	No, Vu<V
SLV 9	80	-18648	-2686	311131		6.05	68.45	1.63	5005			1.86	Si
SLV 8	40	-10657	5793	-29423		3	79	1.43	5094			0.88	No, Vu<V
SLV 8	80	-7318	1415	147197		2.8	58.16	1.39	3644			2.57	Si
SLV 14	40	-16536	-9973	101360		4.65	79	1.63	5777			0.58	No, Vu<V
SLV 14	80	-15490	-2130	309351		5.88	58.59	1.63	4284			2.01	Si
SLV 16	40	-12966	-7280	62670		3.65	79	1.56	5556			0.76	No, Vu<V
SLV 16	80	-12251	-1074	271167		5.23	52.1	1.63	3810			3.55	Si
SLV 4	40	-15822	7999	-9569		4.45	79	1.63	5777			0.72	No, Vu<V
SLV 4	80	-10475	860	148977		3.07	75.84	1.45	4939			5.75	Si
SLV 13	40	-16536	-9973	101360		4.65	79	1.63	5777			0.58	No, Vu<V
SLV 13	80	-15490	-2130	309351		5.88	58.59	1.63	4284			2.01	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.24	2.53	-8995	4714	160483	34.05	Si
SLV 7	14	0.24	2.53	-8995	4714	160483	34.05	Si
SLV 3	14	0.24	2.86	-10164	4714	175173	37.16	Si
SLV 4	14	0.24	2.86	-10164	4714	175173	37.16	Si
SLV 11	14	0.24	2.9	-10309	4714	176907	37.53	Si
SLV 12	14	0.24	2.9	-10309	4714	176907	37.53	Si
SLV 2	14	0.24	3.51	-12479	4714	200111	42.45	Si
SLV 1	14	0.24	3.51	-12479	4714	200111	42.45	Si
SLV 16	14	0.24	4.09	-14543	4714	217665	46.18	Si
SLV 15	14	0.24	4.09	-14543	4714	217665	46.18	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = -25.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 11	-3234	-11156	-398	0.004	4.664	0.923	6.39	327.131	No
SLV 12	-3234	-11156	-398	0.004	4.664	0.923	6.39	327.131	No
SLV 8	-3806	-6663	-432	0.006	5.24	0.93	10.007	327.131	No
SLV 7	-3806	-6663	-432	0.006	5.24	0.93	10.007	327.131	No
SLV 4	-7603	-4611	-429	0.041	9.09	0.956	63.062	336.206	No
SLV 3	-7603	-4611	-429	0.041	9.09	0.956	63.062	336.206	No
SLV 16	-5698	-19587	-314	0.047	7.155	0.946	71.913	336.206	No





Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 15	-5698	-19587	-314	0.047	7.155	0.946	71.913	336.206	No
SLV 2	-10286	-7344	-391	0.055	11.819	0.966	82.821	336.206	No
SLV 1	-10286	-7344	-391	0.055	11.819	0.966	82.821	336.206	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0.656	SLU 84	No
V_SLU	1.992	SLU 73	Si
PF_SLV	1.273	SLV 13	Si
V_SLV	0.579	SLV 13	No
PFFP_SLV	34.046	SLV 7	Si
R_SLV	0.02	SLV 11	No

## Maschio 11

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X inl.	Y inl.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h inl.	h fin.	a	a.s.,sx	a.s.,dx
-1376.3	-328.4	-1422.3	-328.4	L1	L3	46	45	269	269	269			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 73	-160	-9635	-78474	4.65	94977	1.21	Si
SLU 73	50	-10204	-3400	4.93	92667	27.257	Si
SLU 81	-160	-10207	-78259	4.93	92655	1.184	Si
SLU 81	50	-10565	-3952	5.1	90741	22.958	Si
SLU 82	-160	-10150	-80571	4.9	92924	1.153	Si
SLU 82	50	-10631	-3280	5.14	90355	27.543	Si
SLU 84	-160	-10314	-79988	4.98	92119	1.152	Si
SLU 84	50	-10718	-3612	5.18	89821	24.871	Si
SLU 74	-160	-9910	-74534	4.79	93972	1.261	Si
SLU 74	50	-10221	-4873	4.94	92587	19	Si
SLU 83	-160	-10371	-77676	5.01	91824	1.182	Si
SLU 83	50	-10653	-4284	5.15	90222	21.062	Si
SLU 75	-160	-9854	-76846	4.76	94195	1.226	Si
SLU 75	50	-10286	-4201	4.97	92262	21.963	Si
SLU 78	-160	-10018	-76264	4.84	93522	1.226	Si
SLU 78	50	-10373	-4532	5.01	91810	20.259	Si
SLU 76	-160	-9799	-77891	4.73	94401	1.212	Si
SLU 76	50	-10291	-3731	4.97	92235	24.722	Si
SLU 80	-160	-10001	-75768	4.83	93593	1.235	Si
SLU 80	50	-10335	-4510	4.99	92010	20.402	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 12	-160	-4438	-73880	2.14	84158	1.139	Si
SLV 12	50	-6387	1159	3.09	109805	94.715	Si
SLD 16	-160	-6192	-85866	2.99	107552	1.253	Si
SLD 16	50	-7979	-3454	3.85	125627	36.368	Si
SLV 14	-160	-6618	-132888	3.2	112386	0.846	No, M>Mu
SLV 14	50	-10074	-5575	4.87	139417	25.007	Si
SLD 14	-160	-6733	-86355	3.25	113637	1.316	Si
SLD 14	50	-8346	-4831	4.03	128614	26.62	Si
SLD 15	-160	-6192	-85866	2.99	107552	1.253	Si
SLD 15	50	-7979	-3454	3.85	125627	36.368	Si
SLD 13	-160	-6733	-86355	3.25	113637	1.316	Si
SLD 13	50	-8346	-4831	4.03	128614	26.62	Si
SLV 11	-160	-4438	-73880	2.14	84158	1.139	Si
SLV 11	50	-6387	1159	3.09	109805	94.715	Si
SLV 13	-160	-6618	-132888	3.2	112386	0.846	No, M>Mu
SLV 13	50	-10074	-5575	4.87	139417	25.007	Si
SLV 16	-160	-5335	-131711	0	0	0	No, e>l/2
SLV 16	50	-9202	-2361	4.45	134648	57.041	Si
SLV 15	-160	-5335	-131711	0	0	0	No, e>l/2
SLV 15	50	-9202	-2361	4.45	134648	57.041	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma M = 3$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 76	-160	-9799	-1695	-77891		4.82	45.15	1.08	2201			1.3	Si
SLU 76	50	-10291	516	-3731		4.97	46	1.08	2243			4.34	Si
SLU 73	-160	-9635	-1704	-78474		4.8	44.57	1.08	2173			1.28	Si
SLU 73	50	-10204	509	-3400		4.93	46	1.08	2243			4.4	Si
SLU 78	-160	-10018	-1663	-76264		4.84	46	1.08	2243			1.35	Si
SLU 78	50	-10373	518	-4532		5.01	46	1.08	2243			4.33	Si
SLU 82	-160	-10150	-1755	-80571		4.99	45.19	1.08	2203			1.26	Si
SLU 82	50	-10631	524	-3280		5.14	46	1.08	2243			4.28	Si
SLU 84	-160	-10314	-1745	-79988		5.01	45.73	1.08	2230			1.28	Si
SLU 84	50	-10718	531	-3612		5.18	46	1.08	2243			4.22	Si
SLU 80	-160	-10001	-1654	-75768		4.83	46	1.08	2243			1.36	Si
SLU 80	50	-10335	515	-4510		4.99	46	1.08	2243			4.35	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 81	-160	-10207	-1707	-78259		4.93	46	1.08	2242			1.31	Si
SLU 81	50	-10565	511	-3952		5.1	46	1.08	2243			4.39	Si
SLU 74	-160	-9910	-1625	-74534		4.79	46	1.08	2243			1.38	Si
SLU 74	50	-10221	498	-4873		4.94	46	1.08	2243			4.5	Si
SLU 83	-160	-10371	-1698	-77676		5.01	46	1.08	2243			1.32	Si
SLU 83	50	-10653	518	-4284		5.15	46	1.08	2243			4.33	Si
SLU 75	-160	-9854	-1672	-76846		4.8	45.6	1.08	2223			1.33	Si
SLU 75	50	-10286	510	-4201		4.97	46	1.08	2243			4.39	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 13	-160	-6733	-1544	-86355		4.9	30.52	1.63	2232			1.45	Si
SLD 13	50	-8346	332	-4831		4.03	46	1.63	3364			10.14	Si
SLV 14	-160	-6618	-2113	-132888		16.79	8.76	1.63	641			0.3	No, Vu<V
SLV 14	50	-10074	314	-5575		4.87	46	1.63	3364			10.72	Si
SLD 15	-160	-6192	-1555	-85866		5.02	27.4	1.63	2004			1.29	Si
SLD 15	50	-7979	191	-3454		3.85	46	1.6	3321			17.37	Si
SLV 15	-160	-5335	-2138	-131711		0	0	0.83	0			0	No, Vu<V
SLV 15	50	-9202	-17	-2361		4.45	46	1.63	3364			195.69	Si
SLV 11	-160	-4438	-1464	-73880		5.18	19.05	1.63	1393			0.95	No, Vu<V
SLV 11	50	-6387	-265	1159		3.09	46	1.45	3002			11.31	Si
SLV 12	-160	-4438	-1464	-73880		5.18	19.05	1.63	1393			0.95	No, Vu<V
SLV 12	50	-6387	-265	1159		3.09	46	1.45	3002			11.31	Si
SLV 13	-160	-6618	-2113	-132888		16.79	8.76	1.63	641			0.3	No, Vu<V
SLV 13	50	-10074	314	-5575		4.87	46	1.63	3364			10.72	Si
SLD 16	-160	-6192	-1555	-85866		5.02	27.4	1.63	2004			1.29	Si
SLD 16	50	-7979	191	-3454		3.85	46	1.6	3321			17.37	Si
SLV 16	-160	-5335	-2138	-131711		0	0	0.83	0			0	No, Vu<V
SLV 16	50	-9202	-17	-2361		4.45	46	1.63	3364			195.69	Si
SLD 14	-160	-6733	-1544	-86355		4.9	30.52	1.63	2232			1.45	Si
SLD 14	50	-8346	332	-4831		4.03	46	1.63	3364			10.14	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 4	14	0.24	3.22	-6666	2745	110452	40.24	Si
SLV 3	14	0.24	3.22	-6666	2745	110452	40.24	Si
SLV 7	14	0.24	3.43	-7098	2745	114883	41.86	Si
SLV 8	14	0.24	3.43	-7098	2745	114883	41.86	Si
SLV 2	14	0.24	3.89	-8060	2745	123562	45.02	Si
SLV 1	14	0.24	3.89	-8060	2745	123562	45.02	Si
SLV 11	14	0.24	4.28	-8862	2745	129535	47.2	Si
SLV 12	14	0.24	4.28	-8862	2745	129535	47.2	Si
SLV 14	14	0.24	6.74	-13943	2745	140776	51.29	Si
SLV 13	14	0.24	6.74	-13943	2745	140776	51.29	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = -25.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 7	-2434	-4950	-173	0.039	3.271	0.934	60.78	327.131	No
SLV 8	-2434	-4950	-173	0.039	3.271	0.934	60.78	327.131	No
SLV 11	-3726	-4438	-211	0.044	4.581	0.95	66.602	327.131	No
SLV 12	-3726	-4438	-211	0.044	4.581	0.95	66.602	327.131	No
SLV 15	-6478	-5335	-224	0.058	7.379	0.968	86.454	336.206	No
SLV 16	-6478	-5335	-224	0.058	7.379	0.968	86.454	336.206	No
SLV 14	-7544	-6618	-196	0.064	8.465	0.972	96.467	336.206	No
SLV 13	-7544	-6618	-196	0.064	8.465	0.972	96.467	336.206	No
SLV 3	-2169	-7045	-95	0.064	3.004	0.929	99.655	336.206	No
SLV 4	-2169	-7045	-95	0.064	3.004	0.929	99.655	336.206	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.152	SLU 84	Si
V_SLU	1.256	SLU 82	Si
PF_SLV	0	SLV 15	No
V_SLV	0	SLV 15	No
PFFP_SLV	40.243	SLV 3	Si
R_SLV	0.186	SLV 7	No

## Maschio 12

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1849.8	104.6	-1849.8	-328.4	L1	L3	433	30	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 79	-160	-41159	-1190366	3.17	5444801	4.574	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 79	109	-21419	163856	1.65	3698517	22.572	Si
SLU 69	-160	-37596	-1043047	2.89	5247524	5.031	Si
SLU 69	109	-19311	166078	1.49	3417783	20.579	Si
SLU 32	-160	-34257	-1001553	2.64	5015556	5.008	Si
SLU 32	109	-18081	129930	1.39	3245611	24.98	Si
SLU 35	-160	-34730	-1070292	2.67	5051206	4.719	Si
SLU 35	109	-18342	113477	1.41	3282682	28.928	Si
SLU 77	-160	-41427	-1196426	3.19	5457536	4.562	Si
SLU 77	109	-21599	165061	1.66	3721646	22.547	Si
SLU 74	-160	-40954	-1127686	3.15	5434850	4.819	Si
SLU 74	109	-21338	181514	1.64	3688055	20.318	Si
SLU 37	-160	-34462	-1064233	2.65	5031128	4.727	Si
SLU 37	109	-18162	112273	1.4	3257154	29.011	Si
SLU 41	-160	-35631	-1061227	2.74	5116549	4.821	Si
SLU 41	109	-18881	128290	1.45	3358399	26.178	Si
SLU 81	-160	-41854	-1118621	3.22	5477254	4.896	Si
SLU 81	109	-21877	196327	1.68	3757157	19.137	Si
SLU 83	-160	-42328	-1187360	3.26	5498195	4.631	Si
SLU 83	109	-22138	179873	1.7	3790172	21.071	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 3	-160	-31548	-2192364	2.43	5472514	2.496	Si
SLV 3	109	-16303	-74053	1.26	3167123	42.768	Si
SLD 7	-160	-28337	-1385770	2.18	5039729	3.637	Si
SLD 7	109	-13990	101533	1.08	2761900	27.202	Si
SLV 12	-160	-26330	-1680667	2.03	4754783	2.829	Si
SLV 12	109	-11873	152582	0.91	2378167	15.586	Si
SLD 8	-160	-28337	-1385770	2.18	5039729	3.637	Si
SLD 8	109	-13990	101533	1.08	2761900	27.202	Si
SLD 3	-160	-29685	-1327693	2.29	5224783	3.935	Si
SLD 3	109	-15242	59207	1.17	2983054	50.383	Si
SLV 8	-160	-28433	-2340379	2.19	5053049	2.159	Si
SLV 8	109	-13297	27094	1.02	2637557	97.348	Si
SLV 11	-160	-26330	-1680667	2.03	4754783	2.829	Si
SLV 11	109	-11873	152582	0.91	2378167	15.586	Si
SLD 4	-160	-29685	-1327693	2.29	5224783	3.935	Si
SLD 4	109	-15242	59207	1.17	2983054	50.383	Si
SLV 7	-160	-28433	-2340379	2.19	5053049	2.159	Si
SLV 7	109	-13297	27094	1.02	2637557	97.348	Si
SLV 4	-160	-31548	-2192364	2.43	5472514	2.496	Si
SLV 4	109	-16303	-74053	1.26	3167123	42.768	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 52	-160	-36716	2425	-689503		2.83	433	0.93	12112			4.99	Si
SLU 52	109	-19439	4367	247843		1.5	433	0.76	9809			2.25	Si
SLU 2	-160	-26189	2401	-409991		2.02	433	0.82	10709			4.46	Si
SLU 2	109	-13894	3794	197277		1.07	433	0.7	9069			2.39	Si
SLU 76	-160	-40626	1969	-922944		3.13	433	0.97	12633			6.42	Si
SLU 76	109	-21798	4102	219374		1.68	433	0.78	10123			2.47	Si
SLU 44	-160	-32885	2396	-536124		2.53	433	0.89	11601			4.84	Si
SLU 44	109	-17151	4144	248861		1.32	433	0.73	9503			2.29	Si
SLU 31	-160	-33457	2322	-728071		2.58	433	0.9	11678			5.03	Si
SLU 31	109	-18280	4082	184244		1.41	433	0.74	9654			2.36	Si
SLU 65	-160	-36322	2287	-700825		2.8	433	0.93	12060			5.27	Si
SLU 65	109	-19249	4210	236845		1.48	433	0.75	9783			2.32	Si
SLU 23	-160	-29625	2292	-574692		2.28	433	0.86	11167			4.87	Si
SLU 23	109	-15992	3859	185261		1.23	433	0.72	9349			2.42	Si
SLU 55	-160	-37190	2077	-758243		2.86	433	0.94	12175			5.86	Si
SLU 55	109	-19700	4036	231390		1.52	433	0.76	9843			2.44	Si
SLU 73	-160	-40153	2317	-854204		3.09	433	0.97	12570			5.43	Si
SLU 73	109	-21537	4433	235827		1.66	433	0.78	10088			2.28	Si
SLU 10	-160	-30020	2430	-563370		2.31	433	0.86	11219			4.62	Si
SLU 10	109	-16182	4017	196260		1.25	433	0.72	9374			2.33	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 6	-160	-29207	5475	-291760		2.25	433	1.28	16666			3.04	Si
SLD 6	109	-15611	8684	155097		1.2	433	1.07	13947			1.61	Si
SLV 11	-160	-26330	-13637	-1680667		2.03	433	1.24	16091			1.18	Si
SLV 11	109	-11873	-16535	152582		0.91	433	1.02	13200			0.8	No, Vu<V
SLV 12	-160	-26330	-13637	-1680667		2.03	433	1.24	16091			1.18	Si
SLV 12	109	-11873	-16535	152582		0.91	433	1.02	13200			0.8	No, Vu<V
SLV 9	-160	-28217	14879	941271		2.17	433	1.27	16468			1.11	Si
SLV 9	109	-15717	17828	281884		1.21	433	1.08	13968			0.78	No, Vu<V
SLD 5	-160	-29207	5475	-291760		2.25	433	1.28	16666			3.04	Si
SLD 5	109	-15611	8684	155097		1.2	433	1.07	13947			1.61	Si
SLV 6	-160	-30320	13309	281560		2.33	433	1.3	16889			1.27	Si
SLV 6	109	-17141	19189	156395		1.32	433	1.1	14253			0.74	No, Vu<V
SLV 7	-160	-28433	-15206	-2340379		2.35	402.57	1.3	15751			1.04	Si
SLV 7	109	-13297	-15174	27094		1.02	433	1.04	13484			0.89	No, Vu<V
SLV 8	-160	-28433	-15206	-2340379		2.35	402.57	1.3	15751			1.04	Si
SLV 8	109	-13297	-15174	27094		1.02	433	1.04	13484			0.89	No, Vu<V
SLV 5	-160	-30320	13309	281560		2.33	433	1.3	16889			1.27	Si
SLV 5	109	-17141	19189	156395		1.32	433	1.1	14253			0.74	No, Vu<V
SLV 10	-160	-28217	14879	941271		2.17	433	1.27	16468			1.11	Si
SLV 10	109	-15717	17828	281884		1.21	433	1.08	13968			0.78	No, Vu<V



## Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.24	1.68	-21792	17224	282000	16.37	Si
SLV 11	14	0.24	1.68	-21792	17224	282000	16.37	Si
SLV 15	14	0.24	1.69	-21988	17224	284130	16.5	Si
SLV 16	14	0.24	1.69	-21988	17224	284130	16.5	Si
SLV 8	14	0.24	1.73	-22420	17224	288793	16.77	Si
SLV 7	14	0.24	1.73	-22420	17224	288793	16.77	Si
SLV 13	14	0.24	1.75	-22784	17224	292700	16.99	Si
SLV 14	14	0.24	1.75	-22784	17224	292700	16.99	Si
SLV 3	14	0.24	1.85	-24080	17224	306404	17.79	Si
SLV 4	14	0.24	1.85	-24080	17224	306404	17.79	Si

## Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeraia = -25.5 Wa = 0.05 Ta = 0.0403

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 10	-15717	-28217	-792	0.023	20.976	0.935	35.83	390.295	No
SLV 9	-15717	-28217	-792	0.023	20.976	0.935	35.83	390.295	No
SLV 14	-12710	-25102	-657	0.025	17.942	0.926	39.865	407.523	No
SLV 13	-12710	-25102	-657	0.025	17.942	0.926	39.865	407.523	No
SLV 6	-17141	-30320	-803	0.025	22.416	0.939	38.423	390.295	No
SLV 5	-17141	-30320	-803	0.025	22.416	0.939	38.423	390.295	No
SLV 2	-17457	-32114	-693	0.031	22.736	0.939	47.417	407.523	No
SLV 1	-17457	-32114	-693	0.031	22.736	0.939	47.417	407.523	No
SLV 16	-11557	-24536	-551	0.03	16.782	0.922	47.584	407.523	No
SLV 15	-11557	-24536	-551	0.03	16.782	0.922	47.584	407.523	No

## Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.562	SLU 77	Si
V_SLU	2.246	SLU 52	Si
PF_SLV	2.159	SLV 7	Si
V_SLV	0.743	SLV 5	No
PFFP_SLV	16.373	SLV 11	Si
R_SLV	0.092	SLV 9	No

## Maschio 13

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1705.3	-500.9	-1705.3	-350.9	L1	L3	150	45	269	269	269			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

## Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 80	-160	-17837	337178	2.64	903800	2.68	Si
SLU 80	109	-11720	735954	1.74	691653	0.94	No, M>Mu
SLU 78	-160	-17943	338723	2.66	906586	2.676	Si
SLU 78	109	-11838	742857	1.75	696706	0.938	No, M>Mu
SLU 83	-160	-18570	315801	2.75	922377	2.921	Si
SLU 83	109	-12775	790403	1.89	735503	0.931	No, M>Mu
SLU 81	-160	-18648	311596	2.76	924265	2.966	Si
SLU 81	109	-12834	792498	1.9	737869	0.931	No, M>Mu
SLU 73	-160	-17927	351035	2.66	906146	2.581	Si
SLU 73	109	-11534	727285	1.71	683597	0.94	No, M>Mu
SLU 82	-160	-18549	344996	2.75	921852	2.672	Si
SLU 82	109	-12377	773210	1.83	719337	0.93	No, M>Mu
SLU 77	-160	-18043	305324	2.67	909163	2.978	Si
SLU 77	109	-12295	762146	1.82	715910	0.939	No, M>Mu
SLU 76	-160	-17849	355240	2.64	904105	2.545	Si
SLU 76	109	-11475	725190	1.7	681022	0.939	No, M>Mu
SLU 75	-160	-18021	334519	2.67	908607	2.716	Si
SLU 75	109	-11897	744952	1.76	699223	0.939	No, M>Mu
SLU 84	-160	-18471	349200	2.74	919943	2.634	Si
SLU 84	109	-12318	771115	1.82	716897	0.93	No, M>Mu

## Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLD 7	-160	-8771	250737	1.3	587869	2.345	Si
SLD 7	109	-3343	248147	0.5	240553	0.969	No, M>Mu
SLV 6	-160	-24086	-42870	3.57	1278891	29.832	Si
SLV 6	109	-21488	1230651	3.18	1191717	0.968	No, M>Mu
SLV 12	-160	-2073	446995	0	0	0	No, e>l/2
SLV 12	109	4205	-162702	0	0	0	No, Trazione
SLV 5	-160	-24086	-42870	3.57	1278891	29.832	Si
SLV 5	109	-21488	1230651	3.18	1191717	0.968	No, M>Mu
SLV 11	-160	-2073	446995	0	0	0	No, e>l/2
SLV 11	109	4205	-162702	0	0	0	No, Trazione



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 10	-160	-23569	76415	3.49	1262533	16.522	Si
SLV 10	109	-21962	1251168	3.25	1208545	0.966	No, M>Mu
SLV 8	-160	-2590	327710	0	0	0	No, e>I/2
SLV 8	109	4680	-183219	0	0	0	No, Trazione
SLV 9	-160	-23569	76415	3.49	1262533	16.522	Si
SLV 9	109	-21962	1251168	3.25	1208545	0.966	No, M>Mu
SLD 8	-160	-8771	250737	1.3	587869	2.345	Si
SLD 8	109	-3343	248147	0.5	240553	0.969	No, M>Mu
SLV 7	-160	-2590	327710	0	0	0	No, e>I/2
SLV 7	109	4680	-183219	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 53	-160	-17162	-113	270009		2.54	150	0.89	6038			53.6	Si
SLU 53	109	-11407	-1115	705550		6.43	39.44	1.08	1923			1.72	Si
SLU 74	-160	-18121	-149	301119		2.68	150	0.91	6166			41.36	Si
SLU 74	109	-12354	-1211	764240		6.97	39.41	1.08	1921			1.59	Si
SLU 82	-160	-18549	62	344996		2.75	150	0.92	6223			100.33	Si
SLU 82	109	-12377	-1070	773210		7.32	37.59	1.08	1833			1.71	Si
SLU 84	-160	-18471	84	349200		2.74	150	0.92	6213			73.95	Si
SLU 84	109	-12318	-1057	771115		7.36	37.2	1.08	1814			1.72	Si
SLU 62	-160	-17612	-130	284691		2.61	150	0.9	6098			46.94	Si
SLU 62	109	-11828	-1159	731713		6.67	39.41	1.08	1921			1.66	Si
SLU 83	-160	-18570	-166	315801		2.75	150	0.92	6226			37.43	Si
SLU 83	109	-12775	-1255	790403		7.21	39.38	1.08	1920			1.53	Si
SLU 77	-160	-18043	-127	305324		2.67	150	0.91	6156			48.44	Si
SLU 77	109	-12295	-1198	762146		7	39.03	1.08	1903			1.59	Si
SLU 81	-160	-18648	-188	311596		2.76	150	0.92	6236			33.12	Si
SLU 81	109	-12834	-1268	792498		7.18	39.75	1.08	1938			1.53	Si
SLU 79	-160	-17936	-120	303779		2.66	150	0.91	6142			51.38	Si
SLU 79	109	-12177	-1184	755243		6.95	38.93	1.08	1898			1.6	Si
SLU 60	-160	-17690	-152	280486		2.62	150	0.9	6109			40.21	Si
SLU 60	109	-11887	-1172	733808		6.64	39.8	1.08	1940			1.66	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	-160	-2073	1341	446995		0	0	0.83	0			0	No, Vu<V
SLV 12	109	4205	1822	-162702		0	0	0.83	0			0	No, Vu<V
SLV 11	-160	-2073	1341	446995		0	0	0.83	0			0	No, Vu<V
SLV 11	109	4205	1822	-162702		0	0	0.83	0			0	No, Vu<V
SLV 10	-160	-23569	-1467	76415		3.49	150	1.53	10339			7.05	Si
SLV 10	109	-21962	-3028	1251168		9.02	54.09	1.63	3955			1.31	Si
SLV 5	-160	-24086	-1520	-42870		3.57	150	1.55	10442			6.87	Si
SLV 5	109	-21488	-3511	1230651		8.98	53.18	1.63	3889			1.11	Si
SLV 7	-160	-2590	1287	327710		0	0	0.83	0			0	No, Vu<V
SLV 7	109	4680	1339	-183219		0	0	0.83	0			0	No, Vu<V
SLV 8	-160	-2590	1287	327710		0	0	0.83	0			0	No, Vu<V
SLV 8	109	4680	1339	-183219		0	0	0.83	0			0	No, Vu<V
SLV 3	-160	-10716	242	58841		1.59	150	1.15	7768			32.06	Si
SLV 3	109	-3926	-922	287699		16.94	5.15	1.63	377			0.41	No, Vu<V
SLV 9	-160	-23569	-1467	76415		3.49	150	1.53	10339			7.05	Si
SLV 9	109	-21962	-3028	1251168		9.02	54.09	1.63	3955			1.31	Si
SLV 6	-160	-24086	-1520	-42870		3.57	150	1.55	10442			6.87	Si
SLV 6	109	-21488	-3511	1230651		8.98	53.18	1.63	3889			1.11	Si
SLV 4	-160	-10716	242	58841		1.59	150	1.15	7768			32.06	Si
SLV 4	109	-3926	-922	287699		16.94	5.15	1.63	377			0.41	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.24	0.2	-1351	8950	29900	3.34	Si
SLV 11	14	0.24	0.2	-1351	8950	29900	3.34	Si
SLV 8	14	0.24	0.29	-1982	8950	43518	4.86	Si
SLV 7	14	0.24	0.29	-1982	8950	43518	4.86	Si
SLV 16	14	0.24	1.11	-7522	8950	153806	17.19	Si
SLV 15	14	0.24	1.11	-7522	8950	153806	17.19	Si
SLV 3	14	0.24	1.43	-9624	8950	191279	21.37	Si
SLV 4	14	0.24	1.43	-9624	8950	191279	21.37	Si
SLV 14	14	0.24	1.99	-13442	8950	253151	28.29	Si
SLV 13	14	0.24	1.99	-13442	8950	253151	28.29	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = -25.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 8	4680	-2590	10	0	0	0	0	327.131	No, Trazione
SLV 7	4680	-2590	10	0	0	0	0	327.131	No, Trazione
SLV 12	4205	-2073	-96	0	0	0	0	327.131	No, Trazione
SLV 11	4205	-2073	-96	0	0	0	0	327.131	No, Trazione
SLV 16	-5506	-8994	-279	0.064	8.219	0.919	100.716	336.206	No
SLV 15	-5506	-8994	-279	0.064	8.219	0.919	100.716	336.206	No
SLV 14	-13357	-15443	-331	0.071	16.162	0.954	107.753	336.206	No
SLV 13	-13357	-15443	-331	0.071	16.162	0.954	107.753	336.206	No
SLV 9	-21962	-23569	-267	0.078	24.916	0.969	117.191	327.131	No
SLV 10	-21962	-23569	-267	0.078	24.916	0.969	117.191	327.131	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0.93	SLU 84	No



Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	1.528	SLV 81	Si
PF_SLV	0	SLV 12	No
V_SLV	0	SLV 7	No
PFFP_SLV	3.341	SLV 11	Si
R_SLV	0	SLV 12	No

## Maschio 14

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1376.3	-478.4	-1705.3	-478.4	L1	L3	329	45	269	269	269			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 78	-160	-35154	-901355	2.37	4097183	4.546	Si
SLV 78	109	-21045	-46596	1.42	2857769	61.331	Si
SLV 38	-160	-28153	-776452	1.9	3550025	4.572	Si
SLV 38	109	-16929	-87936	1.14	2393922	27.224	Si
SLV 79	-160	-35355	-896209	2.39	4110908	4.587	Si
SLV 79	109	-20873	-79380	1.41	2839281	35.768	Si
SLV 84	-160	-35752	-918737	2.41	4137675	4.504	Si
SLV 84	109	-21503	-37404	1.45	2906542	77.707	Si
SLV 36	-160	-28194	-773411	1.9	3553657	4.595	Si
SLV 36	109	-16981	-80509	1.15	2400026	29.811	Si
SLV 83	-160	-35994	-910550	2.43	4153823	4.562	Si
SLV 83	109	-21382	-62762	1.44	2893754	46.107	Si
SLV 41	-160	-29034	-782606	1.96	3626240	4.634	Si
SLV 41	109	-17318	-96675	1.17	2439752	25.237	Si
SLV 80	-160	-35113	-904396	2.37	4094338	4.527	Si
SLV 80	109	-20993	-54022	1.42	2852238	52.798	Si
SLV 77	-160	-35397	-893168	2.39	4113726	4.606	Si
SLV 77	109	-20924	-71953	1.41	2844830	39.537	Si
SLV 42	-160	-28791	-790793	1.94	3605492	4.559	Si
SLV 42	109	-17439	-71317	1.18	2453878	34.408	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 16	-160	-6443	-432500	0.44	1022056	2.363	Si
SLV 16	109	-716	637369	0	0	0	No, e>l/2
SLV 7	-160	-12739	-78198	0.86	1947998	24.911	Si
SLV 7	109	-7641	305533	0.52	1203895	3.94	Si
SLV 13	-160	-16586	-717532	1.12	2478227	3.454	Si
SLV 13	109	-7171	395239	0.48	1132848	2.866	Si
SLV 14	-160	-16586	-717532	1.12	2478227	3.454	Si
SLV 14	109	-7171	395239	0.48	1132848	2.866	Si
SLD 15	-160	-17385	-504492	1.17	2584949	5.124	Si
SLD 15	109	-8967	297588	0.61	1401957	4.711	Si
SLV 15	-160	-6443	-432500	0.44	1022056	2.363	Si
SLV 15	109	-716	637369	0	0	0	No, e>l/2
SLV 11	-160	-4371	-88243	0.3	701680	7.952	Si
SLV 11	109	-970	589066	0	0	0	No, e>l/2
SLV 8	-160	-12739	-78198	0.86	1947998	24.911	Si
SLV 8	109	-7641	305533	0.52	1203895	3.94	Si
SLV 12	-160	-4371	-88243	0.3	701680	7.952	Si
SLV 12	109	-970	589066	0	0	0	No, e>l/2
SLD 16	-160	-17385	-504492	1.17	2584949	5.124	Si
SLD 16	109	-8967	297588	0.61	1401957	4.711	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 82	-160	-35466	5524	-881245		2.4	329	0.87	12954			2.34	Si
SLV 82	109	-21411	2094	5962		1.45	329	0.75	11080			5.29	Si
SLV 76	-160	-34666	5459	-872362		2.34	329	0.87	12847			2.35	Si
SLV 76	109	-20981	2103	6249		1.42	329	0.74	11023			5.24	Si
SLV 83	-160	-35994	5635	-910550		2.43	329	0.88	13024			2.31	Si
SLV 83	109	-21382	2115	-62762		1.44	329	0.75	11076			5.24	Si
SLV 77	-160	-35397	5534	-893168		2.39	329	0.87	12945			2.34	Si
SLV 77	109	-20924	2087	-71953		1.41	329	0.74	11015			5.28	Si
SLV 79	-160	-35355	5544	-896209		2.39	329	0.87	12939			2.33	Si
SLV 79	109	-20873	2093	-79380		1.41	329	0.74	11008			5.26	Si
SLV 80	-160	-35113	5583	-904396		2.37	329	0.87	12907			2.31	Si
SLV 80	109	-20993	2139	-54022		1.42	329	0.74	11024			5.15	Si
SLV 75	-160	-34869	5423	-863863		2.36	329	0.87	12874			2.37	Si
SLV 75	109	-20953	2067	-3230		1.42	329	0.74	11019			5.33	Si
SLV 84	-160	-35752	5674	-918737		2.41	329	0.88	12992			2.29	Si
SLV 84	109	-21503	2160	-37404		1.45	329	0.75	11092			5.13	Si
SLV 78	-160	-35154	5573	-901355		2.37	329	0.87	12912			2.32	Si
SLV 78	109	-21045	2133	-46596		1.42	329	0.75	11031			5.17	Si
SLV 81	-160	-35708	5485	-873058		2.41	329	0.88	12986			2.37	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 81	109	-21290	2049	-19396		1.44	329	0.75	11064			5.4	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	-160	-34335	10012	-399016		2.32	329	1.3	19205			1.92	Si
SLV 4	109	-22955	7223	-307740		1.55	329	1.14	16929			2.34	Si
SLV 2	-160	-44479	11507	-684048		3	329	1.43	21233			1.85	Si
SLV 2	109	-29410	7977	-549870		1.99	329	1.23	18219			2.28	Si
SLV 12	-160	-4371	-917	-88243		0.3	329	0.89	13212			14.41	Si
SLV 12	109	-970	-1735	589066		0	0	0.83	0			0	No, Vu<V
SLV 3	-160	-34335	10012	-399016		2.32	329	1.3	19205			1.92	Si
SLV 3	109	-22955	7223	-307740		1.55	329	1.14	16929			2.34	Si
SLV 16	-160	-6443	-4117	-432500		0.49	292.1	0.93	12242			2.97	Si
SLV 16	109	-716	-5205	637369		0	0	0.83	0			0	No, Vu<V
SLV 11	-160	-4371	-917	-88243		0.3	329	0.89	13212			14.41	Si
SLV 11	109	-970	-1735	589066		0	0	0.83	0			0	No, Vu<V
SLV 6	-160	-46550	8308	-1028304		3.14	329	1.46	21648			2.61	Si
SLV 6	109	-29157	4506	-501567		1.97	329	1.23	18169			4.03	Si
SLV 1	-160	-44479	11507	-684048		3	329	1.43	21233			1.85	Si
SLV 1	109	-29410	7977	-549870		1.99	329	1.23	18219			2.28	Si
SLV 5	-160	-46550	8308	-1028304		3.14	329	1.46	21648			2.61	Si
SLV 5	109	-29157	4506	-501567		1.97	329	1.23	18169			4.03	Si
SLV 15	-160	-6443	-4117	-432500		0.49	292.1	0.93	12242			2.97	Si
SLV 15	109	-716	-5205	637369		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.24	0.24	-3622	19630	79853	4.07	Si
SLV 12	14	0.24	0.24	-3622	19630	79853	4.07	Si
SLV 16	14	0.24	0.31	-4598	19630	100831	5.14	Si
SLV 15	14	0.24	0.31	-4598	19630	100831	5.14	Si
SLV 7	14	0.24	0.75	-11114	19630	234708	11.96	Si
SLV 8	14	0.24	0.75	-11114	19630	234708	11.96	Si
SLV 14	14	0.24	0.87	-12928	19630	270096	13.76	Si
SLV 13	14	0.24	0.87	-12928	19630	270096	13.76	Si
SLV 3	14	0.24	2	-29574	19630	556632	28.36	Si
SLV 4	14	0.24	2	-29574	19630	556632	28.36	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzaria = -25.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 1	-29410	-44479	-1656	0.043	35.565	0.954	64.839	336.206	No
SLV 2	-29410	-44479	-1656	0.043	35.565	0.954	64.839	336.206	No
SLV 5	-29157	-46550	-1648	0.042	35.308	0.954	64.742	327.131	No
SLV 6	-29157	-46550	-1648	0.042	35.308	0.954	64.742	327.131	No
SLV 4	-22955	-34335	-1216	0.049	29.013	0.945	75.547	336.206	No
SLV 3	-22955	-34335	-1216	0.049	29.013	0.945	75.547	336.206	No
SLV 10	-22485	-38182	-1202	0.049	28.536	0.944	75.515	327.131	No
SLV 9	-22485	-38182	-1202	0.049	28.536	0.944	75.515	327.131	No
SLV 15	-716	-6443	271	0.09	7.516	0.935	140.535	336.206	No
SLV 16	-716	-6443	271	0.09	7.516	0.935	140.535	336.206	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.504	SLU 84	Si
V_SLU	2.29	SLU 84	Si
PF_SLV	0	SLV 11	No
V_SLV	0	SLV 11	No
PFFP_SLV	4.068	SLV 11	Si
R_SLV	0.193	SLV 1	No

## Maschio 15

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1505.7	220.1	-1505.8	635.1	L1	L3	415	30	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 70	-160	-53472	776940	4.29	5245334	6.751	Si
SLU 70	60	-49104	1273283	3.94	5255700	4.128	Si
SLU 77	-160	-59995	778298	4.82	5084517	6.533	Si
SLU 77	60	-55633	1381383	4.47	5211341	3.773	Si
SLU 78	-160	-59995	774354	4.82	5084502	6.566	Si
SLU 78	60	-55633	1377423	4.47	5211345	3.783	Si
SLU 69	-160	-53472	780884	4.29	5245339	6.717	Si
SLU 69	60	-49104	1277242	3.94	5255701	4.115	Si



Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 83	-160	-62923	632617	5.05	4955679	7.834	Si
SLU 83	60	-58469	1310388	4.7	5137741	3.921	Si
SLU 71	-160	-52729	803992	4.24	5252611	6.533	Si
SLU 71	60	-48324	1288203	3.88	5249337	4.075	Si
SLU 72	-160	-52729	800048	4.24	5252608	6.565	Si
SLU 72	60	-48324	1284243	3.88	5249335	4.087	Si
SLU 79	-160	-59252	801406	4.76	5111618	6.378	Si
SLU 79	60	-54853	1392343	4.41	5225815	3.753	Si
SLU 80	-160	-59252	797462	4.76	5111604	6.41	Si
SLU 80	60	-54853	1388384	4.41	5225818	3.764	Si
SLU 84	-160	-62923	628674	5.05	4955659	7.883	Si
SLU 84	60	-58468	1306429	4.7	5137747	3.933	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 9	-160	-53306	-2857611	4.28	7185107	2.514	Si
SLV 9	60	-47092	-1150180	3.78	6746703	5.866	Si
SLV 5	-160	-57453	-3125817	4.61	7419110	2.373	Si
SLV 5	60	-50752	-1254208	4.08	7017657	5.595	Si
SLV 11	-160	-27677	3813452	2.22	4698097	1.232	Si
SLV 11	60	-27373	2843588	2.2	4657818	1.638	Si
SLV 12	-160	-27677	3813452	2.22	4698097	1.232	Si
SLV 12	60	-27373	2843588	2.2	4657818	1.638	Si
SLV 7	-160	-31824	3545246	2.56	5222072	1.473	Si
SLV 7	60	-31032	2739560	2.49	5125647	1.871	Si
SLV 8	-160	-31824	3545246	2.56	5222072	1.473	Si
SLV 8	60	-31032	2739560	2.49	5125647	1.871	Si
SLV 10	-160	-53306	-2857611	4.28	7185107	2.514	Si
SLV 10	60	-47092	-1150180	3.78	6746703	5.866	Si
SLV 16	-160	-31808	1791487	2.55	5220177	2.914	Si
SLV 16	60	-30005	1567136	2.41	4998011	3.189	Si
SLV 15	-160	-31808	1791487	2.55	5220177	2.914	Si
SLV 15	60	-30005	1567136	2.41	4998011	3.189	Si
SLV 6	-160	-57453	-3125817	4.61	7419110	2.373	Si
SLV 6	60	-50752	-1254208	4.08	7017657	5.595	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 72	-160	-52729	1115	800048		4.24	415	1.08	13488			12.09	Si
SLU 72	60	-48324	1306	1284243		3.88	415	1.07	13360			10.23	Si
SLU 9	-160	-37381	950	655267		3	415	0.96	11901			12.53	Si
SLU 9	60	-33959	1080	973539		2.73	415	0.92	11445			10.59	Si
SLU 80	-160	-59252	1092	797462		4.76	415	1.08	13488			12.35	Si
SLU 80	60	-54853	1279	1388384		4.41	415	1.08	13488			10.54	Si
SLU 79	-160	-59252	1094	801406		4.76	415	1.08	13488			12.32	Si
SLU 79	60	-54853	1281	1392343		4.41	415	1.08	13488			10.53	Si
SLU 27	-160	-43615	1040	708577		3.5	415	1.02	12732			12.25	Si
SLU 27	60	-40349	1181	1108679		3.24	415	0.99	12297			10.41	Si
SLU 8	-160	-37380	952	659211		3	415	0.96	11901			12.5	Si
SLU 8	60	-33959	1082	977498		2.73	415	0.92	11445			10.58	Si
SLU 28	-160	-43615	1037	704634		3.5	415	1.02	12732			12.27	Si
SLU 28	60	-40349	1180	1104720		3.24	415	0.99	12297			10.42	Si
SLU 71	-160	-52729	1117	803992		4.24	415	1.08	13488			12.07	Si
SLU 71	60	-48324	1307	1288203		3.88	415	1.07	13360			10.22	Si
SLU 30	-160	-42872	1094	727742		3.44	415	1.01	12633			11.55	Si
SLU 30	60	-39569	1225	1115681		3.18	415	0.98	12193			9.95	Si
SLU 29	-160	-42872	1096	731685		3.44	415	1.01	12633			11.53	Si
SLU 29	60	-39569	1227	1119640		3.18	415	0.98	12193			9.94	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 6	-160	-57453	-15578	-3125817		4.61	415	1.63	20231			1.3	Si
SLV 6	60	-50752	-13582	-1254208		4.08	415	1.63	20231			1.49	Si
SLD 11	-160	-36357	6979	1799886		2.92	415	1.42	17646			2.53	Si
SLD 11	60	-34196	6409	1652724		2.75	415	1.38	17214			2.69	Si
SLV 12	-160	-27677	16120	3813452		4.41	209.15	1.63	10196			0.63	No, Vu<V
SLV 12	60	-27373	14516	2843588		2.94	310.85	1.42	13246			0.91	No, Vu<V
SLD 12	-160	-36357	6979	1799886		2.92	415	1.42	17646			2.53	Si
SLD 12	60	-34196	6409	1652724		2.75	415	1.38	17214			2.69	Si
SLV 9	-160	-53306	-15473	-2857611		4.28	415	1.63	20231			1.31	Si
SLV 9	60	-47092	-14649	-1150180		3.78	415	1.59	19793			1.35	Si
SLV 7	-160	-31824	16016	3545246		3.68	288.3	1.57	13572			0.85	No, Vu<V
SLV 7	60	-31032	15584	2739560		2.89	357.66	1.41	15148			0.97	No, Vu<V
SLV 5	-160	-57453	-15578	-3125817		4.61	415	1.63	20231			1.3	Si
SLV 5	60	-50752	-13582	-1254208		4.08	415	1.63	20231			1.49	Si
SLV 8	-160	-31824	16016	3545246		3.68	288.3	1.57	13572			0.85	No, Vu<V
SLV 8	60	-31032	15584	2739560		2.89	357.66	1.41	15148			0.97	No, Vu<V
SLV 11	-160	-27677	16120	3813452		4.41	209.15	1.63	10196			0.63	No, Vu<V
SLV 11	60	-27373	14516	2843588		2.94	310.85	1.42	13246			0.91	No, Vu<V
SLV 10	-160	-53306	-15473	-2857611		4.28	415	1.63	20231			1.31	Si
SLV 10	60	-47092	-14649	-1150180		3.78	415	1.59	19793			1.35	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.05 denominatore 8 γM = 2

Comb.	fd	Sa	σ0	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.24	2.17	-26960	16508	332730	20.16	Si
SLV 11	14	0.24	2.17	-26960	16508	332730	20.16	Si
SLV 16	14	0.24	2.45	-30482	16508	365611	22.15	Si
SLV 15	14	0.24	2.45	-30482	16508	365611	22.15	Si





Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.24	2.48	-30908	16508	369425	22.38	Si
SLV 7	14	0.24	2.48	-30908	16508	369425	22.38	Si
SLV 13	14	0.24	3.01	-37449	16508	423450	25.65	Si
SLV 14	14	0.24	3.01	-37449	16508	423450	25.65	Si
SLV 3	14	0.24	3.51	-43643	16508	466832	28.28	Si
SLV 4	14	0.24	3.51	-43643	16508	466832	28.28	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeraia = -25.5  $W_a = 0.05$   $T_a = 0.0403$

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 7	-27911	-31824	-721	0.038	33.14	0.958	57.463	390.295	No
SLV 8	-27911	-31824	-721	0.038	33.14	0.958	57.463	390.295	No
SLV 12	-24419	-27677	-642	0.038	29.59	0.953	58.669	390.295	No
SLV 11	-24419	-27677	-642	0.038	29.59	0.953	58.669	390.295	No
SLV 10	-43822	-53306	701	0.044	49.33	0.971	66.443	390.295	No
SLV 9	-43822	-53306	701	0.044	49.33	0.971	66.443	390.295	No
SLV 5	-47314	-57453	622	0.047	52.887	0.973	69.851	390.295	No
SLV 6	-47314	-57453	622	0.047	52.887	0.973	69.851	390.295	No
SLV 3	-38777	-45633	-344	0.052	44.194	0.968	77.439	407.523	No
SLV 4	-38777	-45633	-344	0.052	44.194	0.968	77.439	407.523	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.753	SLU 79	Si
V_SLU	9.938	SLU 29	Si
PF_SLV	1.232	SLV 11	Si
V_SLV	0.632	SLV 11	No
PFFP_SLV	20.156	SLV 11	Si
R_SLV	0.147	SLV 7	No

## Maschio 16

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1376.3	-478.4	-1376.3	-331.4	L1	L3	147	30	269	269	269			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 74	-160	-24480	63646	5.55	572982	9.003	Si
SLU 74	109	-30431	170791	6.9	341754	2.001	Si
SLU 80	-160	-24777	63812	5.62	564885	8.852	Si
SLU 80	109	-30869	169327	7	319029	1.884	Si
SLU 78	-160	-24827	65029	5.63	563469	8.665	Si
SLU 78	109	-30922	171429	7.01	316183	1.844	Si
SLU 82	-160	-25237	75269	5.72	551601	7.328	Si
SLU 82	109	-31075	177636	7.05	308043	1.734	Si
SLU 84	-160	-25547	71904	5.79	542198	7.541	Si
SLU 84	109	-31573	177497	7.16	280811	1.582	Si
SLU 81	-160	-25199	70521	5.71	552733	7.838	Si
SLU 81	109	-31081	176859	7.05	307690	1.74	Si
SLU 75	-160	-24518	68394	5.56	571962	8.363	Si
SLU 75	109	-30424	171568	6.9	342090	1.994	Si
SLU 79	-160	-24739	59064	5.61	565945	9.582	Si
SLU 79	109	-30875	168550	7	318681	1.891	Si
SLU 77	-160	-24789	60281	5.62	564538	9.365	Si
SLU 77	109	-30929	170652	7.01	315834	1.851	Si
SLU 83	-160	-25509	67156	5.78	543379	8.091	Si
SLU 83	109	-31579	176719	7.16	280444	1.587	Si

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 3	-160	-13052	-187989	2.96	726857	3.866	Si
SLV 3	109	-22776	-97715	5.17	966300	9.889	Si
SLV 15	-160	-15908	361405	3.61	823948	2.28	Si
SLV 15	109	-12450	329729	2.82	703548	2.134	Si
SLV 13	-160	-20993	274934	4.76	941702	3.425	Si
SLV 13	109	-19708	331676	4.47	918614	2.77	Si
SLV 4	-160	-13052	-187989	2.96	726857	3.866	Si
SLV 4	109	-22776	-97715	5.17	966300	9.889	Si
SLV 16	-160	-15908	361405	3.61	823948	2.28	Si
SLV 16	109	-12450	329729	2.82	703548	2.134	Si
SLV 11	-160	-8977	270000	2.04	549808	2.036	Si
SLV 11	109	-7596	177852	1.72	479526	2.696	Si
SLV 12	-160	-8977	270000	2.04	549808	2.036	Si
SLV 12	109	-7596	177852	1.72	479526	2.696	Si
SLV 2	-160	-18136	-274460	4.11	884230	3.222	Si
SLV 2	109	-30035	-95768	6.81	976883	10.201	Si
SLV 14	-160	-20993	274934	4.76	941702	3.425	Si
SLV 14	109	-19708	331676	4.47	918614	2.77	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 1	-160	-18136	-274460	4.11	884230	3.222	Si
SLV 1	109	-30035	-95768	6.81	976883	10.201	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLU 74	-160	-24480	-5762	63646	5.55	146.99	1.08	4777				0.83	No, Vu<V
SLU 74	109	-30431	-2990	170791	6.9	146.99	1.08	4777				1.6	Si
SLU 80	-160	-24777	-5824	63812	5.62	146.99	1.08	4777				0.82	No, Vu<V
SLU 80	109	-30869	-3007	169327	7	146.99	1.08	4777				1.59	Si
SLU 78	-160	-24827	-5833	65029	5.63	146.99	1.08	4777				0.82	No, Vu<V
SLU 78	109	-30922	-3010	171429	7.01	146.99	1.08	4777				1.59	Si
SLU 75	-160	-24518	-5709	68394	5.56	146.99	1.08	4777				0.84	No, Vu<V
SLU 75	109	-30424	-2924	171568	6.9	146.99	1.08	4777				1.63	Si
SLU 81	-160	-25199	-5924	70521	5.71	146.99	1.08	4777				0.81	No, Vu<V
SLU 81	109	-31081	-3098	176859	7.05	146.99	1.08	4777				1.54	Si
SLU 79	-160	-24739	-5876	59064	5.61	146.99	1.08	4777				0.81	No, Vu<V
SLU 79	109	-30875	-3073	168550	7	146.99	1.08	4777				1.55	Si
SLU 82	-160	-25237	-5871	75269	5.72	146.99	1.08	4777				0.81	No, Vu<V
SLU 82	109	-31075	-3032	177636	7.05	146.99	1.08	4777				1.58	Si
SLU 83	-160	-25509	-6048	67156	5.78	146.99	1.08	4777				0.79	No, Vu<V
SLU 83	109	-31579	-3184	176719	7.16	146.99	1.08	4777				1.5	Si
SLU 84	-160	-25547	-5995	71904	5.79	146.99	1.08	4777				0.8	No, Vu<V
SLU 84	109	-31573	-3118	177497	7.16	146.99	1.08	4777				1.53	Si
SLU 77	-160	-24789	-5886	60281	5.62	146.99	1.08	4777				0.81	No, Vu<V
SLU 77	109	-30929	-3076	170652	7.01	146.99	1.08	4777				1.55	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLV 10	-160	-25925	-9388	-18237	5.88	146.99	1.63	7166				0.76	No, Vu<V
SLV 10	109	-31791	-7494	184342	7.21	146.99	1.63	7166				0.96	No, Vu<V
SLV 9	-160	-25925	-9388	-18237	5.88	146.99	1.63	7166				0.76	No, Vu<V
SLV 9	109	-31791	-7494	184342	7.21	146.99	1.63	7166				0.96	No, Vu<V
SLV 1	-160	-18136	-7504	-274460	4.11	146.99	1.63	7166				0.95	No, Vu<V
SLV 1	109	-30035	-5105	-95768	6.81	146.99	1.63	7166				1.4	Si
SLD 6	-160	-20423	-6696	-52613	4.63	146.99	1.63	7166				1.07	Si
SLD 6	109	-27012	-4654	91194	6.13	146.99	1.63	7166				1.54	Si
SLV 2	-160	-18136	-7504	-274460	4.11	146.99	1.63	7166				0.95	No, Vu<V
SLV 2	109	-30035	-5105	-95768	6.81	146.99	1.63	7166				1.4	Si
SLV 6	-160	-25068	-10462	-183055	5.68	146.99	1.63	7166				0.68	No, Vu<V
SLV 6	109	-34889	-8312	56109	7.91	146.99	1.63	7166				0.86	No, Vu<V
SLD 9	-160	-20787	-6239	17598	4.71	146.99	1.63	7166				1.15	Si
SLD 9	109	-25693	-4309	145703	5.83	146.99	1.63	7166				1.66	Si
SLD 5	-160	-20423	-6696	-52613	4.63	146.99	1.63	7166				1.07	Si
SLD 5	109	-27012	-4654	91194	6.13	146.99	1.63	7166				1.54	Si
SLV 5	-160	-25068	-10462	-183055	5.68	146.99	1.63	7166				0.68	No, Vu<V
SLV 5	109	-34889	-8312	56109	7.91	146.99	1.63	7166				0.86	No, Vu<V
SLD 10	-160	-20787	-6239	17598	4.71	146.99	1.63	7166				1.15	Si
SLD 10	109	-25693	-4309	145703	5.83	146.99	1.63	7166				1.66	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.24	1.94	-8541	5847	107807	18.44	Si
SLV 12	14	0.24	1.94	-8541	5847	107807	18.44	Si
SLV 7	14	0.24	2.13	-9379	5847	116191	19.87	Si
SLV 8	14	0.24	2.13	-9379	5847	116191	19.87	Si
SLV 16	14	0.24	3.44	-15177	5847	163528	27.97	Si
SLV 15	14	0.24	3.44	-15177	5847	163528	27.97	Si
SLV 3	14	0.24	4.07	-17969	5847	179642	30.73	Si
SLV 4	14	0.24	4.07	-17969	5847	179642	30.73	Si
SLV 13	14	0.24	4.92	-21702	5847	194412	33.25	Si
SLV 14	14	0.24	4.92	-21702	5847	194412	33.25	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = -25.5 Wa = 0.05 Ta = 0.0403

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 15	-12450	-15908	-102	0.053	14.345	0.965	79.221	407.523	No
SLV 16	-12450	-15908	-102	0.053	14.345	0.965	79.221	407.523	No
SLV 2	-30035	-18136	126	0.054	32.258	0.984	79.25	407.523	No
SLV 1	-30035	-18136	126	0.054	32.258	0.984	79.25	407.523	No
SLV 4	-22776	-13052	85	0.055	24.862	0.979	81.18	407.523	No
SLV 3	-22776	-13052	85	0.055	24.862	0.979	81.18	407.523	No
SLV 14	-19708	-20993	-62	0.056	21.737	0.976	82.843	407.523	No
SLV 13	-19708	-20993	-62	0.056	21.737	0.976	82.843	407.523	No
SLV 6	-34889	-25068	107	0.054	37.205	0.986	80.262	390.295	No
SLV 5	-34889	-25068	107	0.054	37.205	0.986	80.262	390.295	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.582	SLU 84	Si
V_SLV	0.79	SLU 83	No
PF_SLV	2.036	SLV 11	Si
V_SLV	0.685	SLV 5	No
PFFP_SLV	18.439	SLV 11	Si
R_SLV	0.194	SLV 15	No



## Maschio 18

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s, dx
-1376.3	-331.4	-1376.3	104.6	Z medio -61 cm	L3	436	30	170	71	269			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 80	38	-72082	-641596	5.51	5083519	7.923	Si
SLU 80	109	-64535	-1503610	4.93	5547811	3.69	Si
SLU 81	38	-74047	-584665	5.66	4924463	8.423	Si
SLU 81	109	-66396	-1518722	5.08	5454955	3.592	Si
SLU 75	38	-71896	-616197	5.5	5097795	8.273	Si
SLU 75	109	-64355	-1495789	4.92	5556051	3.714	Si
SLU 77	38	-72360	-632119	5.53	5062028	8.008	Si
SLU 77	109	-64780	-1489356	4.95	5536419	3.717	Si
SLU 82	38	-74265	-580215	5.68	4905816	8.455	Si
SLU 82	109	-66599	-1529395	5.09	5444003	3.56	Si
SLU 79	38	-71864	-646045	5.49	5100217	7.895	Si
SLU 79	109	-64333	-1492938	4.92	5557053	3.722	Si
SLU 83	38	-74728	-596137	5.71	4865554	8.162	Si
SLU 83	109	-67024	-1522963	5.12	5420470	3.559	Si
SLU 76	38	-71546	-627157	5.47	5124210	8.171	Si
SLU 76	109	-64043	-1506485	4.9	5569999	3.697	Si
SLU 78	38	-72578	-627669	5.55	5044887	8.037	Si
SLU 78	109	-64982	-1500029	4.97	5526807	3.684	Si
SLU 84	38	-74947	-591687	5.73	4846299	8.191	Si
SLU 84	109	-67226	-1533635	5.14	5408999	3.527	Si

### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLD 1	38	-42728	-834436	3.27	6824705	8.179	Si
SLD 1	109	-38517	-1389768	2.94	6373381	4.586	Si
SLV 10	38	-46881	-1759189	3.58	7222509	4.106	Si
SLV 10	109	-41510	-1392366	3.17	6699112	4.811	Si
SLV 4	38	-37827	-451554	2.89	6294773	13.94	Si
SLV 4	109	-34656	-1510080	2.65	5917043	3.918	Si
SLV 9	38	-46881	-1759189	3.58	7222509	4.106	Si
SLV 9	109	-41510	-1392366	3.17	6699112	4.811	Si
SLV 6	38	-39096	-1942899	2.99	6438267	3.314	Si
SLV 6	109	-35147	-1720972	2.69	5977318	3.473	Si
SLV 2	38	-34220	-1238788	2.62	5862958	4.733	Si
SLV 2	109	-31457	-1784357	2.4	5508073	3.087	Si
SLV 5	38	-39096	-1942899	2.99	6438267	3.314	Si
SLV 5	109	-35147	-1720972	2.69	5977318	3.473	Si
SLV 1	38	-34220	-1238788	2.62	5862958	4.733	Si
SLV 1	109	-31457	-1784357	2.4	5508073	3.087	Si
SLV 3	38	-37827	-451554	2.89	6294773	13.94	Si
SLV 3	109	-34656	-1510080	2.65	5917043	3.918	Si
SLD 2	38	-42728	-834436	3.27	6824705	8.179	Si
SLD 2	109	-38517	-1389768	2.94	6373381	4.586	Si

### Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 73	38	-70864	2388	-615685		5.42	436.01	1.08	14170			5.93	Si
SLU 73	109	-63415	1772	-1502245		4.85	436.01	1.08	14170			8	Si
SLU 10	38	-53673	2057	-488717		4.1	436.01	1.08	14170			6.89	Si
SLU 10	109	-48077	1568	-1169639		3.68	436.01	1.05	13677			8.72	Si
SLU 60	38	-68446	2070	-658893		5.23	436.01	1.08	14170			6.85	Si
SLU 60	109	-61315	1462	-1501928		4.69	436.01	1.08	14170			9.69	Si
SLU 55	38	-65945	2071	-701385		5.04	436.01	1.08	14170			6.84	Si
SLU 55	109	-58961	1490	-1489691		4.51	436.01	1.08	14170			9.51	Si
SLU 61	38	-68664	2376	-654443		5.25	436.01	1.08	14170			5.96	Si
SLU 61	109	-61517	1753	-1512601		4.7	436.01	1.08	14170			8.08	Si
SLU 63	38	-69346	2050	-665915		5.3	436.01	1.08	14170			6.91	Si
SLU 63	109	-62144	1426	-1516841		4.75	436.01	1.08	14170			9.94	Si
SLU 82	38	-74265	2366	-580215		5.68	436.01	1.08	14170			5.99	Si
SLU 82	109	-66599	1708	-1529395		5.09	436.01	1.08	14170			8.3	Si
SLU 76	38	-71546	2062	-627157		5.47	436.01	1.08	14170			6.87	Si
SLU 76	109	-64043	1445	-1506485		4.9	436.01	1.08	14170			9.81	Si
SLU 52	38	-65264	2397	-689913		4.99	436.01	1.08	14170			5.91	Si
SLU 52	109	-58334	1818	-1485451		4.46	436.01	1.08	14170			7.8	Si
SLU 81	38	-74047	2060	-584665		5.66	436.01	1.08	14170			6.88	Si
SLU 81	109	-66396	1417	-1518722		5.08	436.01	1.08	14170			10	Si

### Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 11	38	-58903	18677	864926		4.5	436.01	1.63	21256			1.14	Si
SLV 11	109	-52174	18697	-478111		3.99	436.01	1.63	21256			1.14	Si
SLV 9	38	-46881	-14525	-1759189		3.58	436.01	1.55	20277			1.4	Si
SLV 9	109	-41510	-12622	-1392366		3.17	436.01	1.47	19202			1.52	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLV 7	38	-51117	17008	681216		3.91	436.01	1.61	21124			1.24	Si
SLV 7	109	-45812	14331	-806717		3.5	436.01	1.53	20063			1.4	Si
SLV 8	38	-51117	17008	681216		3.91	436.01	1.61	21124			1.24	Si
SLV 8	109	-45812	14331	-806717		3.5	436.01	1.53	20063			1.4	Si
SLV 5	38	-39096	-16195	-1942899		2.99	436.01	1.43	18720			1.16	Si
SLV 5	109	-35147	-16988	-1720972		2.69	436.01	1.37	17930			1.06	Si
SLV 2	38	-34220	-6522	-1238788		2.62	436.01	1.36	17744			2.72	Si
SLV 2	109	-31457	-11120	-1784357		2.4	436.01	1.31	17192			1.55	Si
SLV 6	38	-39096	-16195	-1942899		2.99	436.01	1.43	18720			1.16	Si
SLV 6	109	-35147	-16988	-1720972		2.69	436.01	1.37	17930			1.06	Si
SLV 12	38	-58903	18677	864926		4.5	436.01	1.63	21256			1.14	Si
SLV 12	109	-52174	18697	-478111		3.99	436.01	1.63	21256			1.14	Si
SLV 1	38	-34220	-6522	-1238788		2.62	436.01	1.36	17744			2.72	Si
SLV 1	109	-31457	-11120	-1784357		2.4	436.01	1.31	17192			1.55	Si
SLV 10	38	-46881	-14525	-1759189		3.58	436.01	1.55	20277			1.4	Si
SLV 10	109	-41510	-12622	-1392366		3.17	436.01	1.47	19202			1.52	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 73.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 2	14	0.26	2.62	-34283	7364	403937	54.86	Si
SLV 1	14	0.26	2.62	-34283	7364	403937	54.86	Si
SLV 5	14	0.26	2.85	-37332	7364	429178	58.28	Si
SLV 6	14	0.26	2.85	-37332	7364	429178	58.28	Si
SLV 4	14	0.26	2.87	-37570	7364	431082	58.54	Si
SLV 3	14	0.26	2.87	-37570	7364	431082	58.54	Si
SLV 9	14	0.26	3.31	-43233	7364	473076	64.24	Si
SLV 10	14	0.26	3.31	-43233	7364	473076	64.24	Si
SLV 8	14	0.26	3.69	-48291	7364	505499	68.65	Si
SLV 7	14	0.26	3.69	-48291	7364	505499	68.65	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 73.5 Wa = 0.05 Ta = 0.0161

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 2	-31457	-34220	460	0.08	35.158	0.973	119.188	307.013	No
SLV 1	-31457	-34220	460	0.08	35.158	0.973	119.188	307.013	No
SLV 4	-34656	-37827	389	0.082	38.416	0.975	122.91	307.013	No
SLV 3	-34656	-37827	389	0.082	38.416	0.975	122.91	307.013	No
SLV 5	-35147	-39096	383	0.083	38.916	0.975	123.204	302.241	No
SLV 6	-35147	-39096	383	0.083	38.916	0.975	123.204	302.241	No
SLV 9	-41510	-46881	247	0.087	45.398	0.979	128.648	302.241	No
SLV 10	-41510	-46881	247	0.087	45.398	0.979	128.648	302.241	No
SLV 16	-55865	-63778	-66	0.09	60.025	0.984	133.194	307.013	No
SLV 15	-55865	-63778	-66	0.09	60.025	0.984	133.194	307.013	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.527	SLU 84	Si
V_SLU	5.911	SLU 52	Si
PF_SLV	3.087	SLV 1	Si
V_SLV	1.055	SLV 5	Si
PFFP_SLV	54.855	SLV 1	Si
R_SLV	0.388	SLV 1	No

## Maschio 19

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1246.3	-361.9	-1246.3	-331.5	L1	L3	30.4	30	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv <sub>lim</sub>	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 56	-160	-529	3437	0.58	7473	2.174	Si
SLU 56	109	29	-850	0	0	0	No, Trazione
SLU 57	-160	-526	3449	0.58	7438	2.157	Si
SLU 57	109	29	-850	0	0	0	No, Trazione
SLU 61	-160	-718	3687	0.79	9862	2.675	Si
SLU 61	109	36	-1028	0	0	0	No, Trazione
SLU 60	-160	-721	3675	0.79	9896	2.693	Si
SLU 60	109	36	-1027	0	0	0	No, Trazione
SLU 53	-160	-543	3389	0.6	7651	2.258	Si
SLU 53	109	29	-849	0	0	0	No, Trazione
SLU 54	-160	-540	3401	0.59	7616	2.239	Si
SLU 54	109	29	-849	0	0	0	No, Trazione
SLU 1	-160	-148	1998	0.16	2206	1.104	Si
SLU 1	109	12	-343	0	0	0	No, Trazione
SLU 59	-160	-535	3422	0.59	7555	2.208	Si
SLU 59	109	29	-846	0	0	0	No, Trazione



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 55	-160	-547	3381	0.6	7709	2.28	Si
SLU 55	109	29	-846	0	0	0	No, Trazione
SLU 58	-160	-538	3410	0.59	7590	2.226	Si
SLU 58	109	29	-846	0	0	0	No, Trazione

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 13	-160	-1456	-3064	1.6	19252	6.284	Si
SLV 13	109	16	-529	0	0	0	No, Trazione
SLV 9	-160	-2218	-6376	2.43	27018	4.237	Si
SLV 9	109	2	-231	0	0	0	No, Trazione
SLV 11	-160	1324	9220	0	0	0	No, Trazione
SLV 11	109	34	-823	0	0	0	No, Trazione
SLD 1	-160	-177	2653	0.19	2655	1.001	Si
SLD 1	109	13	-396	0	0	0	No, Trazione
SLV 10	-160	-2218	-6376	2.43	27018	4.237	Si
SLV 10	109	2	-231	0	0	0	No, Trazione
SLV 8	-160	1734	11059	0	0	0	No, Trazione
SLV 8	109	32	-745	0	0	0	No, Trazione
SLV 7	-160	1734	11059	0	0	0	No, Trazione
SLV 7	109	32	-745	0	0	0	No, Trazione
SLV 12	-160	1324	9220	0	0	0	No, Trazione
SLV 12	109	34	-823	0	0	0	No, Trazione
SLV 14	-160	-1456	-3064	1.6	19252	6.284	Si
SLV 14	109	16	-529	0	0	0	No, Trazione
SLV 6	-160	-1809	-4537	1.98	23040	5.078	Si
SLV 6	109	0	-153	0	0	0	No, $e \geq l/2$

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 61	-160	-718	35	3687		0.79	30.21	0.66	599			16.99	Si
SLU 61	109	36	32	-1028		0	0	0.56	0			0	No, $V_u < V$
SLU 57	-160	-526	49	3449		0.68	25.96	0.65	503			10.33	Si
SLU 57	109	29	26	-850		0	0	0.56	0			0	No, $V_u < V$
SLU 54	-160	-540	45	3401		0.67	26.73	0.65	517			11.39	Si
SLU 54	109	29	26	-849		0	0	0.56	0			0	No, $V_u < V$
SLU 58	-160	-538	46	3410		0.67	26.61	0.65	515			11.2	Si
SLU 58	109	29	26	-846		0	0	0.56	0			0	No, $V_u < V$
SLU 56	-160	-529	48	3437		0.68	26.13	0.65	506			10.55	Si
SLU 56	109	29	26	-850		0	0	0.56	0			0	No, $V_u < V$
SLU 53	-160	-543	45	3389		0.67	26.88	0.65	520			11.64	Si
SLU 53	109	29	26	-849		0	0	0.56	0			0	No, $V_u < V$
SLU 60	-160	-721	35	3675		0.79	30.32	0.66	601			17.41	Si
SLU 60	109	36	32	-1027		0	0	0.56	0			0	No, $V_u < V$
SLU 59	-160	-535	47	3422		0.67	26.44	0.65	512			10.96	Si
SLU 59	109	29	26	-846		0	0	0.56	0			0	No, $V_u < V$
SLU 1	-160	-148	44	1998		0.96	5.13	0.68	105			2.42	Si
SLU 1	109	12	10	-343		0	0	0.56	0			0	No, $V_u < V$
SLU 55	-160	-547	44	3381		0.67	27.08	0.65	524			11.93	Si
SLU 55	109	29	26	-846		0	0	0.56	0			0	No, $V_u < V$

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 9	-160	-2218	-498	-6376		2.43	30.41	1.32	1204			2.42	Si
SLV 9	109	2	45	-231		0	0	0.83	0			0	No, $V_u < V$
SLV 14	-160	-1456	-292	-3064		1.6	30.41	1.15	1052			3.6	Si
SLV 14	109	16	27	-529		0	0	0.83	0			0	No, $V_u < V$
SLV 13	-160	-1456	-292	-3064		1.6	30.41	1.15	1052			3.6	Si
SLV 13	109	16	27	-529		0	0	0.83	0			0	No, $V_u < V$
SLV 8	-160	1734	588	11059		0	0	0.83	0			0	No, $V_u < V$
SLV 8	109	32	-16	-745		0	0	0.83	0			0	No, $V_u < V$
SLV 10	-160	-2218	-498	-6376		2.43	30.41	1.32	1204			2.42	Si
SLV 10	109	2	45	-231		0	0	0.83	0			0	No, $V_u < V$
SLV 6	-160	-1809	-384	-4537		1.98	30.41	1.23	1122			2.93	Si
SLV 6	109	0	42	-153		0	0	0.83	0			0	No, $V_u < V$
SLV 12	-160	1324	473	9220		0	0	0.83	0			0	No, $V_u < V$
SLV 12	109	34	-13	-823		0	0	0.83	0			0	No, $V_u < V$
SLV 11	-160	1324	473	9220		0	0	0.83	0			0	No, $V_u < V$
SLV 11	109	34	-13	-823		0	0	0.83	0			0	No, $V_u < V$
SLV 7	-160	1734	588	11059		0	0	0.83	0			0	No, $V_u < V$
SLV 7	109	32	-16	-745		0	0	0.83	0			0	No, $V_u < V$
SLD 1	-160	-177	64	2653		7.85	0.75	1.63	37			0.57	No, $V_u < V$
SLD 1	109	13	15	-396		0	0	0.83	0			0	No, $V_u < V$

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5  $W_a$  0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 16	14	0.24	0	-64	1210	0	0	No, $e > t/2$
SLV 11	14	0.24	0	141	1210	0	0	No, Trazione
SLV 15	14	0.24	0	-64	1210	0	0	No, $e > t/2$
SLV 8	14	0.24	0	46	1210	0	0	No, Trazione
SLV 7	14	0.24	0	46	1210	0	0	No, Trazione
SLV 12	14	0.24	0	141	1210	0	0	No, Trazione
SLV 13	14	0.24	0.37	-335	1210	4869	4.03	Si
SLV 14	14	0.24	0.37	-335	1210	4869	4.03	Si
SLV 3	14	0.24	0.42	-380	1210	5512	4.56	Si
SLV 4	14	0.24	0.42	-380	1210	5512	4.56	Si



## Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = -25.5 Wa = 0.05 Ta = 0.0403

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 9	2	-2218	-20	0	0	0	0	390.295	No, Trazione
SLV 2	8	-91	30	0	0	0	0	407.523	No, Trazione
SLV 7	32	1734	16	0	0	0	0	390.295	No, Trazione
SLV 12	34	1324	-4	0	0	0	0	390.295	No, Trazione
SLV 10	2	-2218	-20	0	0	0	0	390.295	No, Trazione
SLV 4	18	972	35	0	0	0	0	407.523	No, Trazione
SLV 3	18	972	35	0	0	0	0	407.523	No, Trazione
SLV 8	32	1734	16	0	0	0	0	390.295	No, Trazione
SLV 1	8	-91	30	0	0	0	0	407.523	No, Trazione
SLV 11	34	1324	-4	0	0	0	0	390.295	No, Trazione

### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 84	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 16	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 12	No
R_SLV	0	SLV 16	No

## Maschio 21

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1246.3	-331.5	-1246.3	-191.6	L2	L3	139.9	30	71	71	71			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 57	38	-644	16752	0.15	44230	2.64	Si
SLU 57	109	37	-6685	0	0	0	No, Trazione
SLU 53	38	-649	16486	0.15	44566	2.703	Si
SLU 53	109	36	-6583	0	0	0	No, Trazione
SLU 54	38	-649	16522	0.15	44515	2.694	Si
SLU 54	109	36	-6598	0	0	0	No, Trazione
SLU 60	38	-717	17332	0.17	49125	2.834	Si
SLU 60	109	29	-6984	0	0	0	No, Trazione
SLU 59	38	-648	16588	0.15	44443	2.679	Si
SLU 59	109	36	-6614	0	0	0	No, Trazione
SLU 61	38	-717	17369	0.17	49075	2.825	Si
SLU 61	109	29	-6999	0	0	0	No, Trazione
SLU 1	38	-394	10636	0.09	27271	2.564	Si
SLU 1	109	36	-4142	0	0	0	No, Trazione
SLU 58	38	-648	16552	0.15	44494	2.688	Si
SLU 58	109	36	-6598	0	0	0	No, Trazione
SLU 56	38	-645	16715	0.15	44281	2.649	Si
SLU 56	109	37	-6670	0	0	0	No, Trazione
SLU 55	38	-651	16383	0.16	44694	2.728	Si
SLU 55	109	35	-6537	0	0	0	No, Trazione

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 14	38	-400	13983	0.1	27790	1.987	Si
SLV 14	109	54	-6058	0	0	0	No, Trazione
SLD 1	38	-572	5810	0.14	39582	6.812	Si
SLD 1	109	7	-2318	0	0	0	No, Trazione
SLV 12	38	114	35313	0	0	0	No, Trazione
SLV 12	109	124	-13014	0	0	0	No, Trazione
SLV 3	38	-464	9981	0.11	32180	3.224	Si
SLV 3	109	15	-3412	0	0	0	No, Trazione
SLV 7	38	6	30358	0	0	0	No, Trazione
SLV 7	109	98	-10919	0	0	0	No, Trazione
SLV 8	38	6	30358	0	0	0	No, Trazione
SLV 8	109	98	-10919	0	0	0	No, Trazione
SLV 13	38	-400	13983	0.1	27790	1.987	Si
SLV 13	109	54	-6058	0	0	0	No, Trazione
SLV 4	38	-464	9981	0.11	32180	3.224	Si
SLV 4	109	15	-3412	0	0	0	No, Trazione
SLV 11	38	114	35313	0	0	0	No, Trazione
SLV 11	109	124	-13014	0	0	0	No, Trazione
SLV 15	38	-105	26495	0	0	0	No, e>l/2
SLV 15	109	100	-10397	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma M = 3$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 56	38	-645	1099	16715		0.16	132.14	0.58	2288			2.08	Si
SLU 56	109	37	429	-6670		0	0	0.56	0			0	No, Vu<V



Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 61	38	-717	1196	17369		0.17	137.14	0.58	2381			1.99	Si
SLU 61	109	29	458	-6999		0	0	0.56	0			0	No, Vu<V
SLU 60	38	-717	1194	17332		0.17	137.37	0.58	2385			2	Si
SLU 60	109	29	458	-6984		0	0	0.56	0			0	No, Vu<V
SLU 53	38	-649	1087	16486		0.16	133.71	0.58	2315			2.13	Si
SLU 53	109	36	424	-6583		0	0	0.56	0			0	No, Vu<V
SLU 54	38	-649	1089	16522		0.16	133.45	0.58	2311			2.12	Si
SLU 54	109	36	424	-6598		0	0	0.56	0			0	No, Vu<V
SLU 59	38	-648	1092	16588		0.16	133.02	0.58	2303			2.11	Si
SLU 59	109	36	426	-6614		0	0	0.56	0			0	No, Vu<V
SLU 58	38	-648	1090	16552		0.16	133.27	0.58	2308			2.12	Si
SLU 58	109	36	425	-6598		0	0	0.56	0			0	No, Vu<V
SLU 1	38	-394	620	10636		0.1	128.96	0.57	2202			3.55	Si
SLU 1	109	36	254	-4142		0	0	0.56	0			0	No, Vu<V
SLU 55	38	-651	1081	16383		0.16	134.4	0.58	2327			2.15	Si
SLU 55	109	35	421	-6537		0	0	0.56	0			0	No, Vu<V
SLU 57	38	-644	1101	16752		0.16	131.88	0.58	2284			2.07	Si
SLU 57	109	37	429	-6685		0	0	0.56	0			0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma M = 2$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	38	-400	629	13983		0.13	105.09	0.86	2707			4.3	Si
SLV 14	109	54	394	-6058		0	0	0.83	0			0	No, Vu<V
SLV 8	38	6	1988	30358		0	0	0.83	0			0	No, Vu<V
SLV 8	109	98	514	-10919		0	0	0.83	0			0	No, Vu<V
SLV 12	38	114	2162	35313		0	0	0.83	0			0	No, Vu<V
SLV 12	109	124	622	-13014		0	0	0.83	0			0	No, Vu<V
SLV 13	38	-400	629	13983		0.13	105.09	0.86	2707			4.3	Si
SLV 13	109	54	394	-6058		0	0	0.83	0			0	No, Vu<V
SLV 7	38	6	1988	30358		0	0	0.83	0			0	No, Vu<V
SLV 7	109	98	514	-10919		0	0	0.83	0			0	No, Vu<V
SLV 3	38	-464	850	9981		0.11	139.91	0.86	3591			4.22	Si
SLV 3	109	15	198	-3412		0	0	0.83	0			0	No, Vu<V
SLV 15	38	-105	1431	26495		0	0	0.83	0			0	No, Vu<V
SLV 15	109	100	557	-10397		0	0	0.83	0			0	No, Vu<V
SLD 1	38	-572	447	5810		0.14	139.91	0.86	3612			8.08	Si
SLD 1	109	7	184	-2318		0	0	0.83	0			0	No, Vu<V
SLV 4	38	-464	850	9981		0.11	139.91	0.86	3591			4.22	Si
SLV 4	109	15	198	-3412		0	0	0.83	0			0	No, Vu<V
SLV 11	38	114	2162	35313		0	0	0.83	0			0	No, Vu<V
SLV 11	109	124	622	-13014		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 73.5 Wa 0.05 denominatore 8  $\gamma M = 2$

Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.26	0.04	-167	412	2496	6.06	Si
SLV 12	14	0.26	0.04	-167	412	2496	6.06	Si
SLV 16	14	0.26	0.04	-184	412	2752	6.68	Si
SLV 15	14	0.26	0.04	-184	412	2752	6.68	Si
SLV 8	14	0.26	0.05	-192	412	2872	6.97	Si
SLV 7	14	0.26	0.05	-192	412	2872	6.97	Si
SLV 14	14	0.26	0.05	-224	412	3348	8.12	Si
SLV 13	14	0.26	0.05	-224	412	3348	8.12	Si
SLV 4	14	0.26	0.06	-268	412	4004	9.72	Si
SLV 3	14	0.26	0.06	-268	412	4004	9.72	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 73.5 Wa = 0.05 Ta = 0.0028

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 3	15	-464	39	0	0	0	0	258.626	No, Trazione
SLV 11	124	114	-3	0	0	0	0	257.96	No, Trazione
SLV 16	100	-105	-35	0	0	0	0	258.626	No, Trazione
SLV 12	124	114	-3	0	0	0	0	257.96	No, Trazione
SLV 15	100	-105	-35	0	0	0	0	258.626	No, Trazione
SLV 14	54	-400	-40	0	0	0	0	258.626	No, Trazione
SLV 7	98	6	19	0	0	0	0	257.96	No, Trazione
SLV 8	98	6	19	0	0	0	0	257.96	No, Trazione
SLV 4	15	-464	39	0	0	0	0	258.626	No, Trazione
SLV 13	54	-400	-40	0	0	0	0	258.626	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 84	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 16	No
V_SLV	0	SLD 1	No
PFFP_SLV	6.055	SLV 11	Si
R_SLV	0	SLV 16	No

## Maschio 23

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



## Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1246.3	-191.6	-1246.3	-35.4	Z medio -61 cm	Z medio 74 cm	156.2	30	134.5	63.5	205.4			

## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

## Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 30	-26	-1818	30891	0.39	135184	4.376	Si
SLU 30	38	-971	-11647	0.21	73872	6.343	Si
SLU 69	-26	-2268	37229	0.48	166560	4.474	Si
SLU 69	38	-1190	-14389	0.25	90053	6.258	Si
SLU 24	-26	-1821	30643	0.39	135408	4.419	Si
SLU 24	38	-975	-11411	0.21	74167	6.5	Si
SLU 26	-26	-1818	30360	0.39	135217	4.454	Si
SLU 26	38	-976	-11367	0.21	74286	6.535	Si
SLU 28	-26	-1819	31333	0.39	135292	4.318	Si
SLU 28	38	-967	-11802	0.21	73623	6.238	Si
SLU 27	-26	-1820	31238	0.39	135342	4.333	Si
SLU 27	38	-968	-11735	0.21	73701	6.28	Si
SLU 70	-26	-2267	37325	0.48	166512	4.461	Si
SLU 70	38	-1189	-14456	0.25	89976	6.224	Si
SLU 25	-26	-1820	30739	0.39	135358	4.404	Si
SLU 25	38	-974	-11478	0.21	74089	6.455	Si
SLU 72	-26	-2265	36883	0.48	166406	4.512	Si
SLU 72	38	-1193	-14301	0.25	90222	6.309	Si
SLU 29	-26	-1818	30796	0.39	135234	4.391	Si
SLU 29	38	-972	-11581	0.21	73950	6.386	Si

## Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLD 3	-26	-1746	39757	0.37	132200	3.325	Si
SLD 3	38	-938	-28158	0.2	72080	2.56	Si
SLD 8	-26	-1651	45846	0.35	125178	2.73	Si
SLD 8	38	-809	-32810	0.17	62316	1.899	Si
SLD 7	-26	-1651	45846	0.35	125178	2.73	Si
SLD 7	38	-809	-32810	0.17	62316	1.899	Si
SLV 11	-26	-1400	59985	0.3	106682	1.778	Si
SLV 11	38	-500	-46290	0	0	0	No, e>1/2
SLD 4	-26	-1746	39757	0.37	132200	3.325	Si
SLD 4	38	-938	-28158	0.2	72080	2.56	Si
SLV 4	-26	-1381	55801	0.29	105217	1.886	Si
SLV 4	38	-571	-53941	0	0	0	No, e>1/2
SLV 3	-26	-1381	55801	0.29	105217	1.886	Si
SLV 3	38	-571	-53941	0	0	0	No, e>1/2
SLV 8	-26	-1152	70114	0.25	88172	1.258	Si
SLV 8	38	-265	-64813	0	0	0	No, e>1/2
SLV 7	-26	-1152	70114	0.25	88172	1.258	Si
SLV 7	38	-265	-64813	0	0	0	No, e>1/2
SLV 12	-26	-1400	59985	0.3	106682	1.778	Si
SLV 12	38	-500	-46290	0	0	0	No, e>1/2

## Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 78	-26	-3335	1526	41967		0.71	156.18	0.65	3048			2	Si
SLU 78	38	-2274	1951	-10644		0.49	156.18	0.62	2906			1.49	Si
SLU 68	-26	-2266	1463	36352		0.48	156.18	0.62	2905			1.99	Si
SLU 68	38	-1198	1874	-14021		0.26	156.18	0.59	2763			1.47	Si
SLU 67	-26	-2268	1477	36730		0.48	156.18	0.62	2905			1.97	Si
SLU 67	38	-1196	1894	-14131		0.26	156.18	0.59	2762			1.46	Si
SLU 71	-26	-2266	1482	36787		0.48	156.18	0.62	2905			1.96	Si
SLU 71	38	-1194	1899	-14234		0.25	156.18	0.59	2762			1.45	Si
SLU 69	-26	-2268	1501	37229		0.48	156.18	0.62	2905			1.94	Si
SLU 69	38	-1190	1923	-14389		0.25	156.18	0.59	2762			1.44	Si
SLU 66	-26	-2269	1471	36635		0.48	156.18	0.62	2905			1.98	Si
SLU 66	38	-1197	1887	-14065		0.26	156.18	0.59	2763			1.46	Si
SLU 77	-26	-3335	1520	41872		0.71	156.18	0.65	3048			2.01	Si
SLU 77	38	-2275	1944	-10578		0.49	156.18	0.62	2906			1.5	Si
SLU 72	-26	-2265	1489	36883		0.48	156.18	0.62	2905			1.95	Si
SLU 72	38	-1193	1906	-14301		0.25	156.18	0.59	2762			1.45	Si
SLU 65	-26	-2267	1432	35757		0.48	156.18	0.62	2905			2.03	Si
SLU 65	38	-1204	1837	-13697		0.26	156.18	0.59	2764			1.5	Si
SLU 70	-26	-2267	1508	37325		0.48	156.18	0.62	2905			1.93	Si
SLU 70	38	-1189	1931	-14456		0.25	156.18	0.59	2762			1.43	Si

## Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 8	-26	-1152	5700	70114		0.74	51.73	0.98	1524			0.27	No, Vu<V
SLV 8	38	-265	5572	-64813		0	0	0.83	0			0	No, Vu<V
SLD 7	-26	-1651	3036	45846		0.36	150.94	0.91	4104			1.35	Si
SLD 7	38	-809	3153	-32810		0.24	112.67	0.88	2979			0.94	No, Vu<V
SLV 9	-26	-2880	-3579	-14671		0.61	156.18	0.96	4480			1.25	Si
SLV 9	38	-2161	-2848	46518		0.46	156.18	0.93	4337			1.52	Si
SLV 10	-26	-2880	-3579	-14671		0.61	156.18	0.96	4480			1.25	Si





Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 10	38	-2161	-2848	46518		0.46	156.18	0.93	4337			1.52	Si
SLV 12	-26	-1400	5284	59985		0.44	105.77	0.92	2924			0.55	No, Vu<V
SLV 12	38	-500	4761	-46290		0	0	0.83	0			0	No, Vu<V
SLV 4	-26	-1381	3083	55801		0.41	113.02	0.91	3102			1.01	Si
SLV 4	38	-571	3855	-53941		0	0	0.83	0			0	No, Vu<V
SLD 8	-26	-1651	3036	45846		0.36	150.94	0.91	4104			1.35	Si
SLD 8	38	-809	3153	-32810		0.24	112.67	0.88	2979			0.94	No, Vu<V
SLV 7	-26	-1152	5700	70114		0.74	51.73	0.98	1524			0.27	No, Vu<V
SLV 7	38	-265	5572	-64813		0	0	0.83	0			0	No, Vu<V
SLV 3	-26	-1381	3083	55801		0.41	113.02	0.91	3102			1.01	Si
SLV 3	38	-571	3855	-53941		0	0	0.83	0			0	No, Vu<V
SLV 11	-26	-1400	5284	59985		0.44	105.77	0.92	2924			0.55	No, Vu<V
SLV 11	38	-500	4761	-46290		0	0	0.83	0			0	No, Vu<V

#### Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.2 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.25	0	226	1561	0	0	No, Trazione
SLV 8	14	0.25	0	226	1561	0	0	No, Trazione
SLV 11	14	0.25	0.05	-217	1561	3239	2.07	Si
SLV 12	14	0.25	0.05	-217	1561	3239	2.07	Si
SLV 3	14	0.25	0.06	-296	1561	4418	2.83	Si
SLV 4	14	0.25	0.06	-296	1561	4418	2.83	Si
SLV 1	14	0.25	0.25	-1187	1561	17435	11.17	Si
SLV 2	14	0.25	0.25	-1187	1561	17435	11.17	Si
SLV 16	14	0.25	0.38	-1773	1561	25771	16.51	Si
SLV 15	14	0.25	0.38	-1773	1561	25771	16.51	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 6.2 Wa = 0.05 Ta = 0.0101

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 4	-571	-1381	115	0.066	1.545	0.889	107.527	273.206	No
SLV 3	-571	-1381	115	0.066	1.545	0.889	107.527	273.206	No
SLV 7	-265	-1152	82	0.089	1.286	0.902	143.845	270.61	No
SLV 8	-265	-1152	82	0.089	1.286	0.902	143.845	270.61	No
SLV 1	-1069	-1825	92	0.094	2.018	0.898	152.43	273.206	No
SLV 2	-1069	-1825	92	0.094	2.018	0.898	152.43	273.206	No
SLV 14	-1854	-2651	-84	0.103	2.796	0.918	163.384	273.206	No
SLV 13	-1854	-2651	-84	0.103	2.796	0.918	163.384	273.206	No
SLV 16	-1356	-2208	-60	0.113	2.299	0.906	181.857	273.206	No
SLV 15	-1356	-2208	-60	0.113	2.299	0.906	181.857	273.206	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.318	SLU 28	Si
V_SLU	1.43	SLU 70	Si
PF_SLV	0	SLV 3	No
V_SLV	0	SLV 3	No
PFFP_SLV	0	SLV 8	No
R_SLV	0.394	SLV 3	No

## Maschio 25

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1246.3	-35.4	-1246.3	104.6	Z medio -128 cm	L3	140	30	237.2	205.4	269			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>k</sub>	f <sub>vk0</sub>	f <sub>medio</sub>	$\tau_0$	f <sub>v0</sub>	$\mu$	$\phi$	f <sub>v,lim</sub>	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 45	-96	-11372	122028	2.71	531437	4.355	Si
SLU 45	109	-3456	183026	0.82	217496	1.188	Si
SLU 50	-96	-11391	122420	2.71	531897	4.345	Si
SLU 50	109	-3446	181925	0.82	216923	1.192	Si
SLU 51	-96	-11408	122702	2.72	532291	4.338	Si
SLU 51	109	-3449	182021	0.82	217100	1.193	Si
SLU 48	-96	-11515	124176	2.74	534760	4.306	Si
SLU 48	109	-3493	185141	0.83	219563	1.186	Si
SLU 44	-96	-11133	118593	2.65	525710	4.433	Si
SLU 44	109	-3377	177855	0.8	213065	1.198	Si
SLU 43	-96	-11105	118122	2.64	525022	4.445	Si
SLU 43	109	-3372	177694	0.8	212769	1.197	Si
SLU 69	-96	-12839	141088	3.06	561459	3.98	Si
SLU 69	109	-3989	204530	0.95	246700	1.206	Si
SLU 47	-96	-11276	120742	2.68	529173	4.383	Si
SLU 47	109	-3414	179971	0.81	215145	1.195	Si
SLU 49	-96	-11532	124459	2.75	535144	4.3	Si
SLU 49	109	-3496	185238	0.83	219740	1.186	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 46	-96	-11389	122310	2.71	531832	4.348	Si
SLU 46	109	-3459	183123	0.82	217673	1.189	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 5	-96	-5714	25515	1.36	355426	13.93	Si
SLV 5	109	-4495	265227	1.07	287119	1.083	Si
SLV 10	-96	-7997	59470	1.9	472563	7.946	Si
SLV 10	109	-5252	308382	1.25	330030	1.07	Si
SLD 10	-96	-9078	85546	2.16	523039	6.114	Si
SLD 10	109	-4075	212693	0.97	262588	1.235	Si
SLD 6	-96	-8105	71021	1.93	477740	6.727	Si
SLD 6	109	-3755	194441	0.89	243634	1.253	Si
SLV 14	-96	-12773	142424	3.04	671590	4.715	Si
SLV 14	109	-4972	257650	1.18	314344	1.22	Si
SLD 5	-96	-8105	71021	1.93	477740	6.727	Si
SLD 5	109	-3755	194441	0.89	243634	1.253	Si
SLD 9	-96	-9078	85546	2.16	523039	6.114	Si
SLD 9	109	-4075	212693	0.97	262588	1.235	Si
SLV 13	-96	-12773	142424	3.04	671590	4.715	Si
SLV 13	109	-4972	257650	1.18	314344	1.22	Si
SLV 6	-96	-5714	25515	1.36	355426	13.93	Si
SLV 6	109	-4495	265227	1.07	287119	1.083	Si
SLV 9	-96	-7997	59470	1.9	472563	7.946	Si
SLV 9	109	-5252	308382	1.25	330030	1.07	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 48	-96	-11515	-930	124176		2.74	140	0.92	3869			4.16	Si
SLU 48	109	-3493	-992	185141		2.28	51	0.86	1316			1.33	Si
SLU 50	-96	-11391	-915	122420		2.71	140	0.92	3852			4.21	Si
SLU 50	109	-3446	-976	181925		2.23	51.62	0.85	1320			1.35	Si
SLU 46	-96	-11389	-918	122310		2.71	140	0.92	3852			4.2	Si
SLU 46	109	-3459	-986	183123		2.25	51.2	0.86	1315			1.33	Si
SLU 69	-96	-12839	-1058	141088		3.06	140	0.96	4045			3.82	Si
SLU 69	109	-3989	-1082	204530		2.37	56.2	0.87	1469			1.36	Si
SLU 43	-96	-11105	-894	118122		2.64	140	0.91	3814			4.27	Si
SLU 43	109	-3372	-975	177694		2.17	51.9	0.84	1315			1.35	Si
SLU 45	-96	-11372	-919	122028		2.71	140	0.92	3850			4.19	Si
SLU 45	109	-3456	-991	183026		2.25	51.13	0.86	1313			1.33	Si
SLU 49	-96	-11532	-929	124459		2.75	140	0.92	3871			4.17	Si
SLU 49	109	-3496	-986	185238		2.28	51.06	0.86	1317			1.34	Si
SLU 44	-96	-11133	-892	118593		2.65	140	0.91	3818			4.28	Si
SLU 44	109	-3377	-966	177855		2.16	52.01	0.84	1317			1.36	Si
SLU 51	-96	-11408	-914	122702		2.72	140	0.92	3854			4.22	Si
SLU 51	109	-3449	-971	182021		2.22	51.68	0.85	1321			1.36	Si
SLU 66	-96	-12695	-1048	138939		3.02	140	0.96	4026			3.84	Si
SLU 66	109	-3952	-1081	202414		2.34	56.36	0.87	1466			1.36	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	-96	-12773	-2435	142424		3.04	140	1.44	6055			2.49	Si
SLV 14	109	-4972	-5492	257650		3.04	54.55	1.44	2358			0.43	No, Vu<V
SLD 9	-96	-9078	-2003	85546		2.16	140	1.27	5316			2.65	Si
SLD 9	109	-4075	-3255	212693		2.54	53.41	1.34	2150			0.66	No, Vu<V
SLD 10	-96	-9078	-2003	85546		2.16	140	1.27	5316			2.65	Si
SLD 10	109	-4075	-3255	212693		2.54	53.41	1.34	2150			0.66	No, Vu<V
SLV 6	-96	-5714	-3120	25515		1.36	140	1.11	4643			1.49	Si
SLV 6	109	-4495	-4673	265227		4.54	33.01	1.63	1609			0.34	No, Vu<V
SLV 9	-96	-7997	-3641	59470		1.9	140	1.21	5099			1.4	Si
SLV 9	109	-5252	-6630	308382		5.17	33.86	1.63	1651			0.25	No, Vu<V
SLV 13	-96	-12773	-2435	142424		3.04	140	1.44	6055			2.49	Si
SLV 13	109	-4972	-5492	257650		3.04	54.55	1.44	2358			0.43	No, Vu<V
SLV 10	-96	-7997	-3641	59470		1.9	140	1.21	5099			1.4	Si
SLV 10	109	-5252	-6630	308382		5.17	33.86	1.63	1651			0.25	No, Vu<V
SLV 5	-96	-5714	-3120	25515		1.36	140	1.11	4643			1.49	Si
SLV 5	109	-4495	-4673	265227		4.54	33.01	1.63	1609			0.34	No, Vu<V
SLV 8	-96	-11749	2064	149342		2.8	140	1.39	5850			2.83	Si
SLV 8	109	-1173	5098	-23571		0.28	140	0.89	3735			0.73	No, Vu<V
SLV 7	-96	-11749	2064	149342		2.8	140	1.39	5850			2.83	Si
SLV 7	109	-1173	5098	-23571		0.28	140	0.89	3735			0.73	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 6.3 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 1	14	0.25	1.37	-5771	4354	76833	17.65	Si
SLV 2	14	0.25	1.37	-5771	4354	76833	17.65	Si
SLV 3	14	0.25	1.46	-6127	4354	80938	18.59	Si
SLV 4	14	0.25	1.46	-6127	4354	80938	18.59	Si
SLV 5	14	0.25	1.87	-7843	4354	99666	22.89	Si
SLV 6	14	0.25	1.87	-7843	4354	99666	22.89	Si
SLV 7	14	0.25	2.15	-9031	4354	111622	25.64	Si
SLV 8	14	0.25	2.15	-9031	4354	111622	25.64	Si
SLV 10	14	0.25	2.38	-9975	4354	120543	27.69	Si
SLV 9	14	0.25	2.38	-9975	4354	120543	27.69	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 6.3 Wa = 0.05 Ta = 0.0313



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 3	-1453	-6973	174	0.013	2.96	0.894	21.686	364.651	No
SLV 4	-1453	-6973	174	0.013	2.96	0.894	21.686	364.651	No
SLV 1	-2450	-5162	174	0.028	3.939	0.911	44.978	364.651	No
SLV 2	-2450	-5162	174	0.028	3.939	0.911	44.978	364.651	No
SLV 16	-3976	-14584	-179	0.038	5.47	0.93	59.73	364.651	No
SLV 15	-3976	-14584	-179	0.038	5.47	0.93	59.73	364.651	No
SLV 14	-4972	-12773	-178	0.042	6.478	0.939	65.741	364.651	No
SLV 13	-4972	-12773	-178	0.042	6.478	0.939	65.741	364.651	No
SLV 10	-5252	-7997	-55	0.064	6.761	0.941	98.04	352.991	No
SLV 9	-5252	-7997	-55	0.064	6.761	0.941	98.04	352.991	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.186	SLU 48	Si
V_SLU	1.325	SLU 45	Si
PF_SLV	1.07	SLV 9	Si
V_SLV	0.249	SLV 9	No
PFFP_SLV	17.646	SLV 1	Si
R_SLV	0.059	SLV 3	No

## Maschio 26

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1963.8	104.6	-2465.3	104.6	L1	L3	501.5	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 77	-160	-125452	1133813	5.56	9989844	8.811	Si
SLU 77	50	-119528	-785518	5.3	10483952	13.347	Si
SLU 78	-160	-125377	1144382	5.56	9996630	8.735	Si
SLU 78	50	-119389	-733318	5.29	10494396	14.311	Si
SLU 84	-160	-128629	1160099	5.7	9685340	8.349	Si
SLU 84	50	-122858	-756836	5.44	10217908	13.501	Si
SLU 82	-160	-126900	1162078	5.62	9854478	8.48	Si
SLU 82	50	-121045	-709155	5.36	10366510	14.618	Si
SLU 83	-160	-128704	1149529	5.7	9677895	8.419	Si
SLU 83	50	-122997	-809036	5.45	10206148	12.615	Si
SLU 74	-160	-123722	1135792	5.48	10143989	8.931	Si
SLU 74	50	-117714	-737837	5.22	10616074	14.388	Si
SLU 81	-160	-126974	1151509	5.63	9847384	8.552	Si
SLU 81	50	-121184	-761355	5.37	10355438	13.601	Si
SLU 76	-160	-122817	1125541	5.44	10221433	9.081	Si
SLU 76	50	-116652	-651450	5.17	10689306	16.408	Si
SLU 80	-160	-124596	1116515	5.52	10067149	9.017	Si
SLU 80	50	-118558	-733931	5.25	10555716	14.382	Si
SLU 75	-160	-123648	1146362	5.48	10150425	8.854	Si
SLU 75	50	-117575	-685637	5.21	10625831	15.498	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 3	-160	-103105	6720339	4.57	16186617	2.409	Si
SLV 3	50	-105504	923269	4.68	16333074	17.69	Si
SLV 2	-160	-101872	6225434	4.51	16107275	2.587	Si
SLV 2	50	-104109	934282	4.61	16249167	17.392	Si
SLV 13	-160	-64921	-5150317	2.88	12446338	2.417	Si
SLV 13	50	-51971	-1766225	2.3	10575552	5.988	Si
SLV 16	-160	-66154	-4655413	2.93	12608533	2.708	Si
SLV 16	50	-53366	-1777239	2.36	10791759	6.072	Si
SLV 7	-160	-91611	3316214	4.06	15339651	4.626	Si
SLV 7	50	-88883	-34758	3.94	15103421	434.531	Si
SLV 8	-160	-91611	3316214	4.06	15339651	4.626	Si
SLV 8	50	-88883	-34758	3.94	15103421	434.531	Si
SLV 14	-160	-64921	-5150317	2.88	12446338	2.417	Si
SLV 14	50	-51971	-1766225	2.3	10575552	5.988	Si
SLV 15	-160	-66154	-4655413	2.93	12608533	2.708	Si
SLV 15	50	-53366	-1777239	2.36	10791759	6.072	Si
SLV 1	-160	-101872	6225434	4.51	16107275	2.587	Si
SLV 1	50	-104109	934282	4.61	16249167	17.392	Si
SLV 4	-160	-103105	6720339	4.57	16186617	2.409	Si
SLV 4	50	-105504	923269	4.68	16333074	17.69	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 80	-160	-124596	13960	1116515		5.52	501.5	1.08	24448			1.75	Si
SLU 80	50	-118558	14378	-733931		5.25	501.5	1.08	24448			1.7	Si
SLU 78	-160	-125377	14148	1144382		5.56	501.5	1.08	24448			1.73	Si
SLU 78	50	-119389	14569	-733318		5.29	501.5	1.08	24448			1.68	Si
SLU 81	-160	-126974	14552	1151509		5.63	501.5	1.08	24448			1.68	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLU 81	50	-121184	14978	-761355		5.37	501.5	1.08	24448			1.63	Si
SLU 79	-160	-124670	14235	-1105946		5.52	501.5	1.08	24448			1.72	Si
SLU 79	50	-118697	14661	-786131		5.26	501.5	1.08	24448			1.67	Si
SLU 77	-160	-125452	14422	-1133813		5.56	501.5	1.08	24448			1.7	Si
SLU 77	50	-119528	14852	-785518		5.3	501.5	1.08	24448			1.65	Si
SLU 84	-160	-128629	14593	-1160099		5.7	501.5	1.08	24448			1.68	Si
SLU 84	50	-122858	15019	-756836		5.44	501.5	1.08	24448			1.63	Si
SLU 75	-160	-123648	13831	-1146362		5.48	501.5	1.08	24448			1.77	Si
SLU 75	50	-117575	14245	-685637		5.21	501.5	1.08	24448			1.72	Si
SLU 74	-160	-123722	14106	-1135792		5.48	501.5	1.08	24448			1.73	Si
SLU 74	50	-117714	14528	-737837		5.22	501.5	1.08	24448			1.68	Si
SLU 83	-160	-128704	14868	-1149529		5.7	501.5	1.08	24448			1.64	Si
SLU 83	50	-122997	15302	-809036		5.45	501.5	1.08	24448			1.6	Si
SLU 82	-160	-126900	14277	-1162078		5.62	501.5	1.08	24448			1.71	Si
SLU 82	50	-121045	14695	-709155		5.36	501.5	1.08	24448			1.66	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLV 14	-160	-64921	-20495	-5150317		2.88	501.5	1.41	31791			1.55	Si
SLV 14	50	-51971	-20426	-1766225		2.3	501.5	1.29	29200			1.43	Si
SLV 16	-160	-66154	-18428	-4655413		2.93	501.5	1.42	32037			1.74	Si
SLV 16	50	-53366	-18991	-1777239		2.36	501.5	1.31	29479			1.55	Si
SLV 15	-160	-66154	-18428	-4655413		2.93	501.5	1.42	32037			1.74	Si
SLV 15	50	-53366	-18991	-1777239		2.36	501.5	1.31	29479			1.55	Si
SLV 13	-160	-64921	-20495	-5150317		2.88	501.5	1.41	31791			1.55	Si
SLV 13	50	-51971	-20426	-1766225		2.3	501.5	1.29	29200			1.43	Si
SLV 2	-160	-101872	36345	6225434		4.51	501.5	1.63	36672			1.01	Si
SLV 2	50	-104109	37491	934282		4.61	501.5	1.63	36672			0.98	No, Vu<V
SLV 4	-160	-103105	38411	6720339		4.57	501.5	1.63	36672			0.95	No, Vu<V
SLV 4	50	-105504	38926	923269		4.68	501.5	1.63	36672			0.94	No, Vu<V
SLD 4	-160	-92155	21523	3320192		4.08	501.5	1.63	36672			1.7	Si
SLD 4	50	-90138	21900	153506		3.99	501.5	1.63	36672			1.67	Si
SLV 3	-160	-103105	38411	6720339		4.57	501.5	1.63	36672			0.95	No, Vu<V
SLV 3	50	-105504	38926	923269		4.68	501.5	1.63	36672			0.94	No, Vu<V
SLD 3	-160	-92155	21523	3320192		4.08	501.5	1.63	36672			1.7	Si
SLD 3	50	-90138	21900	153506		3.99	501.5	1.63	36672			1.67	Si
SLV 1	-160	-101872	36345	6225434		4.51	501.5	1.63	36672			1.01	Si
SLV 1	50	-104109	37491	934282		4.61	501.5	1.63	36672			0.98	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 13	14	0.24	2.59	-58356	29923	1035134	34.59	Si
SLV 14	14	0.24	2.59	-58356	29923	1035134	34.59	Si
SLV 15	14	0.24	2.62	-59047	29923	1044064	34.89	Si
SLV 16	14	0.24	2.62	-59047	29923	1044064	34.89	Si
SLV 9	14	0.24	3.24	-73160	29923	1209365	40.42	Si
SLV 10	14	0.24	3.24	-73160	29923	1209365	40.42	Si
SLV 11	14	0.24	3.34	-75464	29923	1233263	41.21	Si
SLV 12	14	0.24	3.34	-75464	29923	1233263	41.21	Si
SLV 5	14	0.24	3.83	-86541	29923	1336067	44.65	Si
SLV 6	14	0.24	3.83	-86541	29923	1336067	44.65	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = -25.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 10	-63019	-76416	511	0.083	72.709	0.965	124.837	327.131	No
SLV 9	-63019	-76416	511	0.083	72.709	0.965	124.837	327.131	No
SLV 5	-74412	-87501	481	0.083	84.306	0.969	124.979	327.131	No
SLV 6	-74412	-87501	481	0.083	84.306	0.969	124.979	327.131	No
SLV 7	-76237	-91611	-467	0.084	86.164	0.97	125.166	327.131	No
SLV 8	-76237	-91611	-467	0.084	86.164	0.97	125.166	327.131	No
SLV 4	-88890	-103105	-170	0.087	99.049	0.973	129.419	336.206	No
SLV 3	-88890	-103105	-170	0.087	99.049	0.973	129.419	336.206	No
SLV 11	-64843	-80525	-438	0.084	74.566	0.965	126.333	327.131	No
SLV 12	-64843	-80525	-438	0.084	74.566	0.965	126.333	327.131	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.349	SLU 84	Si
V_SLU	1.598	SLU 83	Si
PF_SLV	2.409	SLV 3	Si
V_SLV	0.942	SLV 3	No
PFFP_SLV	34.594	SLV 13	Si
R_SLV	0.382	SLV 9	No

## Maschio 27

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1506.3	104.6	-1883.8	104.6	L1	L3	377.5	45	269	269	269			



## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 78	-160	-112987	-567791	6.65	3913115	6.892	Si
SLU 78	50	-110196	-475497	6.49	4235912	8.908	Si
SLU 83	-160	-116445	-519981	6.85	3483574	6.699	Si
SLU 83	50	-113506	-509717	6.68	3850656	7.554	Si
SLU 81	-160	-114298	-513350	6.73	3754059	7.313	Si
SLU 81	50	-111383	-548272	6.56	4101260	7.48	Si
SLU 75	-160	-110840	-561160	6.52	4163345	7.419	Si
SLU 75	50	-108073	-514051	6.36	4467338	8.69	Si
SLU 80	-160	-112171	-568434	6.6	4009648	7.054	Si
SLU 80	50	-109312	-458800	6.43	4333722	9.446	Si
SLU 84	-160	-115476	-585693	6.8	3607183	6.159	Si
SLU 84	50	-112931	-545790	6.65	3919739	7.182	Si
SLU 82	-160	-113330	-579062	6.67	3871995	6.687	Si
SLU 82	50	-110808	-584344	6.52	4167011	7.131	Si
SLU 77	-160	-113955	-502079	6.71	3796085	7.561	Si
SLU 77	50	-110771	-439424	6.52	4171120	9.492	Si
SLU 76	-160	-109378	-605610	6.44	4326480	7.144	Si
SLU 76	50	-106805	-521402	6.29	4599575	8.822	Si
SLU 73	-160	-107232	-598979	6.31	4555577	7.606	Si
SLU 73	50	-104682	-559956	6.16	4811355	8.592	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 2	-160	-64918	4001668	3.82	8420970	2.104	Si
SLV 2	50	-65861	-658978	3.88	8486771	12.879	Si
SLV 3	-160	-73062	4276120	4.3	8936295	2.09	Si
SLV 3	50	-71303	-895745	4.2	8835223	9.864	Si
SLV 9	-160	-63278	-2139316	3.72	8302599	3.881	Si
SLV 9	50	-64113	208722	3.77	8363488	40.07	Si
SLV 16	-160	-85156	-4678943	5.01	9479006	2.026	Si
SLV 16	50	-78384	14213	4.61	9207913	647.871	Si
SLV 13	-160	-77012	-4953395	4.53	9142808	1.846	Si
SLV 13	50	-72942	250979	4.29	8929557	35.579	Si
SLV 14	-160	-77012	-4953395	4.53	9142808	1.846	Si
SLV 14	50	-72942	250979	4.29	8929557	35.579	Si
SLV 1	-160	-64918	4001668	3.82	8420970	2.104	Si
SLV 1	50	-65861	-658978	3.88	8486771	12.879	Si
SLV 4	-160	-73062	4276120	4.3	8936295	2.09	Si
SLV 4	50	-71303	-895745	4.2	8835223	9.864	Si
SLV 10	-160	-63278	-2139316	3.72	8302599	3.881	Si
SLV 10	50	-64113	208722	3.77	8363488	40.07	Si
SLV 15	-160	-85156	-4678943	5.01	9479006	2.026	Si
SLV 15	50	-78384	14213	4.61	9207913	647.871	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 60	-160	-102743	3673	-463688		6.05	377.5	1.08	18403			5.01	Si
SLU 60	50	-99278	3493	-514332		5.84	377.5	1.08	18403			5.27	Si
SLU 76	-160	-109378	3690	-605610		6.44	377.5	1.08	18403			4.99	Si
SLU 76	50	-106805	3487	-521402		6.29	377.5	1.08	18403			5.28	Si
SLU 40	-160	-96861	3651	-503532		5.7	377.5	1.08	18403			5.04	Si
SLU 40	50	-95507	3473	-511862		5.62	377.5	1.08	18403			5.3	Si
SLU 83	-160	-116445	3776	-519981		6.85	377.5	1.08	18403			4.87	Si
SLU 83	50	-113506	3572	-509717		6.68	377.5	1.08	18403			5.15	Si
SLU 75	-160	-110840	3724	-561160		6.52	377.5	1.08	18403			4.94	Si
SLU 75	50	-108073	3523	-514051		6.36	377.5	1.08	18403			5.22	Si
SLU 84	-160	-115476	3924	-585693		6.8	377.5	1.08	18403			4.69	Si
SLU 84	50	-112931	3715	-545790		6.65	377.5	1.08	18403			4.95	Si
SLU 61	-160	-101774	3821	-529400		5.99	377.5	1.08	18403			4.82	Si
SLU 61	50	-98703	3635	-550405		5.81	377.5	1.08	18403			5.06	Si
SLU 82	-160	-113330	4155	-579062		6.67	377.5	1.08	18403			4.43	Si
SLU 82	50	-110808	3948	-584344		6.52	377.5	1.08	18403			4.66	Si
SLU 81	-160	-114298	4007	-513350		6.73	377.5	1.08	18403			4.59	Si
SLU 81	50	-111383	3805	-548272		6.56	377.5	1.08	18403			4.84	Si
SLU 73	-160	-107232	3921	-598979		6.31	377.5	1.08	18403			4.69	Si
SLU 73	50	-104682	3720	-559956		6.16	377.5	1.08	18403			4.95	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	-160	-77012	-24042	-4953395		4.58	373.29	1.63	27297			1.14	Si
SLV 14	50	-72942	-24480	250979		4.29	377.5	1.63	27605			1.13	Si
SLV 2	-160	-64918	27261	4001668		3.82	377.5	1.6	27140			1	No, Vu<V
SLV 2	50	-65861	27261	-658978		3.88	377.5	1.61	27328			1	Si
SLV 13	-160	-77012	-24042	-4953395		4.58	373.29	1.63	27297			1.14	Si
SLV 13	50	-72942	-24480	250979		4.29	377.5	1.63	27605			1.13	Si
SLD 3	-160	-74143	13655	1628790		4.36	377.5	1.63	27605			2.02	Si
SLD 3	50	-71743	13654	-565889		4.22	377.5	1.63	27605			2.02	Si
SLV 15	-160	-85156	-22505	-4678943		5.01	377.5	1.63	27605			1.23	Si
SLV 15	50	-78384	-22768	14213		4.61	377.5	1.63	27605			1.21	Si
SLV 1	-160	-64918	27261	4001668		3.82	377.5	1.6	27140			1	No, Vu<V
SLV 1	50	-65861	27261	-658978		3.88	377.5	1.61	27328			1	Si
SLV 16	-160	-85156	-22505	-4678943		5.01	377.5	1.63	27605			1.23	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	50	-78384	-22768	14213		4.61	377.5	1.63	27605			1.21	Si
SLV 3	-160	-73062	28798	4276120		4.3	377.5	1.63	27605			0.96	No, Vu<V
SLV 3	50	-71303	28973	-895745		4.2	377.5	1.63	27605			0.95	No, Vu<V
SLV 4	-160	-73062	28798	4276120		4.3	377.5	1.63	27605			0.96	No, Vu<V
SLV 4	50	-71303	28973	-895745		4.2	377.5	1.63	27605			0.95	No, Vu<V
SLD 4	-160	-74143	13655	1628790		4.36	377.5	1.63	27605			2.02	Si
SLD 4	50	-71743	13654	-565889		4.22	377.5	1.63	27605			2.02	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.24	3.58	-60814	22524	967414	42.95	Si
SLV 6	14	0.24	3.58	-60814	22524	967414	42.95	Si
SLV 9	14	0.24	3.76	-63946	22524	995533	44.2	Si
SLV 10	14	0.24	3.76	-63946	22524	995533	44.2	Si
SLV 2	14	0.24	3.81	-64714	22524	1002098	44.49	Si
SLV 1	14	0.24	3.81	-64714	22524	1002098	44.49	Si
SLV 3	14	0.24	4.19	-71189	22524	1052401	46.72	Si
SLV 4	14	0.24	4.19	-71189	22524	1052401	46.72	Si
SLV 14	14	0.24	4.42	-75156	22524	1078723	47.89	Si
SLV 13	14	0.24	4.42	-75156	22524	1078723	47.89	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = -25.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 11	-72370	-90424	-897	0.076	80.118	0.975	113.87	327.131	No
SLV 12	-72370	-90424	-897	0.076	80.118	0.975	113.87	327.131	No
SLV 15	-69392	-85156	-683	0.079	77.085	0.974	117.897	336.206	No
SLV 16	-69392	-85156	-683	0.079	77.085	0.974	117.897	336.206	No
SLV 6	-54089	-59650	655	0.078	61.502	0.968	117.543	327.131	No
SLV 5	-54089	-59650	655	0.078	61.502	0.968	117.543	327.131	No
SLV 7	-70114	-86796	-681	0.079	77.821	0.974	117.975	327.131	No
SLV 8	-70114	-86796	-681	0.079	77.821	0.974	117.975	327.131	No
SLV 2	-57066	-64918	440	0.082	64.533	0.97	123.023	336.206	No
SLV 1	-57066	-64918	440	0.082	64.533	0.97	123.023	336.206	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.159	SLU 84	Si
V_SLU	4.429	SLU 82	Si
PF_SLV	1.846	SLV 13	Si
V_SLV	0.953	SLV 3	No
PFFP_SLV	42.95	SLV 5	Si
R_SLV	0.348	SLV 11	No

## Maschio 28

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1358.3	104.6	-1406.3	104.6	L1	L3	48	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 77	-160	-18645	-16040	8.63	0	0	No, Rottura per schiacciamento
SLU 77	56	-11099	-136505	5.14	98344	0.72	No, M>Mu
SLU 75	-160	-18540	-14950	8.58	0	0	No, Rottura per schiacciamento
SLU 75	56	-10923	-134389	5.06	99409	0.74	No, M>Mu
SLU 83	-160	-19267	-15733	8.92	0	0	No, Rottura per schiacciamento
SLU 83	56	-11426	-140614	5.29	96147	0.684	No, M>Mu
SLU 81	-160	-19093	-14718	8.84	0	0	No, Rottura per schiacciamento
SLU 81	56	-11257	-138587	5.21	97320	0.702	No, M>Mu
SLU 79	-160	-18470	-16143	8.55	0	0	No, Rottura per schiacciamento
SLU 79	56	-10994	-135200	5.09	98988	0.732	No, M>Mu
SLU 76	-160	-18410	-15003	8.52	0	0	No, Rottura per schiacciamento
SLU 76	56	-10813	-133023	5.01	100028	0.752	No, M>Mu
SLU 84	-160	-19335	-15658	8.95	0	0	No, Rottura per schiacciamento
SLU 84	56	-11419	-140525	5.29	96198	0.685	No, M>Mu
SLU 74	-160	-18472	-15025	8.55	0	0	No, Rottura per schiacciamento
SLU 74	56	-10930	-134478	5.06	99367	0.739	No, M>Mu
SLU 73	-160	-18237	-13988	8.44	0	0	No, Rottura per schiacciamento



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 73	56	-10644	-130996	4.93	100919	0.77	No, M>Mu
SLU 80	-160	-18538	-16068	8.58	0	0	No, Rottura per schiacciamento
SLU 80	56	-10987	-135110	5.09	99031	0.733	No, M>Mu

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 12	-160	-19190	-22085	8.88	125687	5.691	Si
SLV 12	56	-8723	-106544	4.04	140162	1.316	Si
SLD 11	-160	-15302	-14988	7.08	154324	10.297	Si
SLD 11	56	-7868	-96463	3.64	132540	1.374	Si
SLD 15	-160	-15286	-26577	7.08	154385	5.809	Si
SLD 15	56	-8378	-100921	3.88	137240	1.36	Si
SLV 14	-160	-15989	-49033	7.4	151264	3.085	Si
SLV 14	56	-9451	-110773	4.38	145597	1.314	Si
SLV 13	-160	-15989	-49033	7.4	151264	3.085	Si
SLV 13	56	-9451	-110773	4.38	145597	1.314	Si
SLV 16	-160	-19112	-49352	8.85	126527	2.564	Si
SLV 16	56	-9893	-116709	4.58	148434	1.272	Si
SLV 15	-160	-19112	-49352	8.85	126527	2.564	Si
SLV 15	56	-9893	-116709	4.58	148434	1.272	Si
SLD 12	-160	-15302	-14988	7.08	154324	10.297	Si
SLD 12	56	-7868	-96463	3.64	132540	1.374	Si
SLV 11	-160	-19190	-22085	8.88	125687	5.691	Si
SLV 11	56	-8723	-106544	4.04	140162	1.316	Si
SLD 16	-160	-15286	-26577	7.08	154385	5.809	Si
SLD 16	56	-8378	-100921	3.88	137240	1.36	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 79	-160	-18470	-219	-16143		8.55	48	1.08	2340			10.67	Si
SLU 79	56	-10994	342	-135200		6.96	35.11	1.08	1712			5	Si
SLU 83	-160	-19267	-214	-15733		8.92	48	1.08	2340			10.95	Si
SLU 83	56	-11426	352	-140614		7.24	35.08	1.08	1710			4.86	Si
SLU 82	-160	-19162	-196	-14643		8.87	48	1.08	2340			11.94	Si
SLU 82	56	-11250	342	-138498		7.13	35.07	1.08	1709			4.99	Si
SLU 81	-160	-19093	-200	-14718		8.84	48	1.08	2340			11.73	Si
SLU 81	56	-11257	345	-138587		7.13	35.07	1.08	1709			4.96	Si
SLU 74	-160	-18472	-204	-15025		8.55	48	1.08	2340			11.47	Si
SLU 74	56	-10930	337	-134478		6.92	35.09	1.08	1711			5.07	Si
SLU 78	-160	-18713	-215	-15965		8.66	48	1.08	2340			10.9	Si
SLU 78	56	-11092	341	-136416		7.02	35.1	1.08	1711			5.01	Si
SLU 84	-160	-19335	-210	-15658		8.95	48	1.08	2340			11.13	Si
SLU 84	56	-11419	349	-140525		7.23	35.08	1.08	1710			4.9	Si
SLU 77	-160	-18645	-218	-16040		8.63	48	1.08	2340			10.72	Si
SLU 77	56	-11099	344	-136505		7.03	35.1	1.08	1711			4.98	Si
SLU 80	-160	-18538	-216	-16068		8.58	48	1.08	2340			10.85	Si
SLU 80	56	-10987	339	-135110		6.95	35.11	1.08	1712			5.04	Si
SLU 75	-160	-18540	-200	-14950		8.58	48	1.08	2340			11.67	Si
SLU 75	56	-10923	334	-134389		6.92	35.09	1.08	1711			5.11	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	-160	-19112	-989	-49352		8.85	48	1.63	3510			3.55	Si
SLV 16	56	-9893	270	-116709		6.01	36.61	1.63	2677			9.93	Si
SLV 13	-160	-15989	-1066	-49033		7.4	48	1.63	3510			3.29	Si
SLV 13	56	-9451	306	-110773		5.7	36.84	1.63	2694			8.8	Si
SLD 14	-160	-13969	-529	-26432		6.47	48	1.63	3510			6.63	Si
SLD 14	56	-8199	260	-98510		5.07	35.96	1.63	2629			10.1	Si
SLV 3	-160	-8922	806	29617		4.13	48	1.63	3510			4.35	Si
SLV 3	56	-5075	146	-67883		3.54	31.87	1.54	2210			15.12	Si
SLV 2	-160	-5798	729	29937		2.68	48	1.37	2960			4.06	Si
SLV 2	56	-4633	183	-61948		3.23	31.88	1.48	2122			11.62	Si
SLV 14	-160	-15989	-1066	-49033		7.4	48	1.63	3510			3.29	Si
SLV 14	56	-9451	306	-110773		5.7	36.84	1.63	2694			8.8	Si
SLV 4	-160	-8922	806	29617		4.13	48	1.63	3510			4.35	Si
SLV 4	56	-5075	146	-67883		3.54	31.87	1.54	2210			15.12	Si
SLV 15	-160	-19112	-989	-49352		8.85	48	1.63	3510			3.55	Si
SLV 15	56	-9893	270	-116709		6.01	36.61	1.63	2677			9.93	Si
SLD 13	-160	-13969	-529	-26432		6.47	48	1.63	3510			6.63	Si
SLD 13	56	-8199	260	-98510		5.07	35.96	1.63	2629			10.1	Si
SLV 1	-160	-5798	729	29937		2.68	48	1.37	2960			4.06	Si
SLV 1	56	-4633	183	-61948		3.23	31.88	1.48	2122			11.62	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 2	14	0.24	3.19	-6889	2864	114541	39.99	Si
SLV 1	14	0.24	3.19	-6889	2864	114541	39.99	Si
SLV 3	14	0.24	3.76	-8119	2864	126485	44.16	Si
SLV 4	14	0.24	3.76	-8119	2864	126485	44.16	Si
SLV 15	14	0.24	8.45	-18251	2864	126673	44.23	Si
SLV 16	14	0.24	8.45	-18251	2864	126673	44.23	Si
SLV 5	14	0.24	4.17	-8999	2864	133440	46.59	Si
SLV 6	14	0.24	4.17	-8999	2864	133440	46.59	Si
SLV 13	14	0.24	7.88	-17021	2864	135989	47.48	Si
SLV 14	14	0.24	7.88	-17021	2864	135989	47.48	Si



## Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = -25.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 14	-10020	-15989	29	0.085	11.021	0.977	126.477	336.206	No
SLV 13	-10020	-15989	29	0.085	11.021	0.977	126.477	336.206	No
SLV 8	-8194	-16133	-48	0.083	9.161	0.973	124.312	327.131	No
SLV 7	-8194	-16133	-48	0.083	9.161	0.973	124.312	327.131	No
SLV 9	-7262	-8778	44	0.084	8.211	0.97	125.23	327.131	No
SLV 10	-7262	-8778	44	0.084	8.211	0.97	125.23	327.131	No
SLV 11	-9798	-19190	-36	0.084	10.794	0.977	125.532	327.131	No
SLV 12	-9798	-19190	-36	0.084	10.794	0.977	125.532	327.131	No
SLV 4	-5436	-8922	-32	0.086	6.353	0.962	129.295	336.206	No
SLV 3	-5436	-8922	-32	0.086	6.353	0.962	129.295	336.206	No

### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 73	No
V_SLU	4.861	SLU 83	Si
PF_SLV	1.272	SLV 15	Si
V_SLV	3.293	SLV 13	Si
PFFP_SLV	39.993	SLV 1	Si
R_SLV	0.376	SLV 13	No

## Maschio 29

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-1223.8	104.6	-1261.3	104.6	L1	L3	37.5	45	269	269	269			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 81	-160	-14931	-14011	8.85	0	0	No, Rottura per schiacciamento
SLU 81	56	-6565	-28228	3.89	64306	2.278	Si
SLU 77	-160	-14621	-14807	8.66	0	0	No, Rottura per schiacciamento
SLU 77	56	-6424	-27290	3.81	64160	2.351	Si
SLU 73	-160	-14203	-13497	8.42	0	0	No, Rottura per schiacciamento
SLU 73	56	-6227	-26698	3.69	63866	2.392	Si
SLU 79	-160	-14483	-14715	8.58	0	0	No, Rottura per schiacciamento
SLU 79	56	-6359	-26999	3.77	64074	2.373	Si
SLU 76	-160	-14358	-14156	8.51	0	0	No, Rottura per schiacciamento
SLU 76	56	-6299	-26870	3.73	63986	2.381	Si
SLU 83	-160	-15087	-14670	8.94	0	0	No, Rottura per schiacciamento
SLU 83	56	-6638	-28400	3.93	64359	2.266	Si
SLU 74	-160	-14466	-14148	8.57	0	0	No, Rottura per schiacciamento
SLU 74	56	-6352	-27118	3.76	64065	2.362	Si
SLU 75	-160	-14484	-14208	8.58	0	0	No, Rottura per schiacciamento
SLU 75	56	-6360	-27144	3.77	64075	2.361	Si
SLU 84	-160	-15105	-14731	8.95	0	0	No, Rottura per schiacciamento
SLU 84	56	-6645	-28426	3.94	64364	2.264	Si
SLU 80	-160	-14501	-14775	8.59	0	0	No, Rottura per schiacciamento
SLU 80	56	-6367	-27024	3.77	64085	2.371	Si

### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 1	-160	-5034	40894	2.98	71343	1.745	Si
SLV 1	56	-2145	-19916	1.27	36031	1.809	Si
SLV 14	-160	-13202	-58375	7.82	89044	1.525	Si
SLV 14	56	-5830	-13024	3.45	78406	6.02	Si
SLV 15	-160	-14435	-59467	8.55	81173	1.365	Si
SLV 15	56	-6337	-16292	3.76	82302	5.052	Si
SLV 4	-160	-6267	39802	3.71	81793	2.055	Si
SLV 4	56	-2652	-23184	1.57	43324	1.869	Si
SLV 3	-160	-6267	39802	3.71	81793	2.055	Si
SLV 3	56	-2652	-23184	1.57	43324	1.869	Si
SLV 16	-160	-14435	-59467	8.55	81173	1.365	Si
SLV 16	56	-6337	-16292	3.76	82302	5.052	Si
SLV 13	-160	-13202	-58375	7.82	89044	1.525	Si
SLV 13	56	-5830	-13024	3.45	78406	6.02	Si
SLV 8	-160	-10565	3784	6.26	96593	25.524	Si
SLV 8	56	-4533	-24585	2.69	66307	2.697	Si





Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 2	-160	-5034	40894	2.98	71343	1.745	Si
SLV 2	56	-2145	-19916	1.27	36031	1.809	Si
SLV 7	-160	-10565	3784	6.26	96593	25.524	Si
SLV 7	56	-4533	-24585	2.69	66307	2.697	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 79	-160	-14483	-173	-14715		8.58	37.5	1.08	1828			10.55	Si
SLU 79	56	-6359	142	-26999		3.77	37.5	1.06	1785			12.59	Si
SLU 83	-160	-15087	-174	-14670		8.94	37.5	1.08	1828			10.53	Si
SLU 83	56	-6638	152	-28400		3.93	37.5	1.08	1823			11.97	Si
SLU 80	-160	-14501	-174	-14775		8.59	37.5	1.08	1828			10.51	Si
SLU 80	56	-6367	141	-27024		3.77	37.5	1.06	1786			12.66	Si
SLU 82	-160	-14950	-167	-14072		8.86	37.5	1.08	1828			10.95	Si
SLU 82	56	-6573	151	-28254		3.9	37.5	1.07	1814			12.02	Si
SLU 75	-160	-14484	-168	-14208		8.58	37.5	1.08	1828			10.88	Si
SLU 75	56	-6360	140	-27144		3.77	37.5	1.06	1785			12.79	Si
SLU 76	-160	-14358	-167	-14156		8.51	37.5	1.08	1828			10.94	Si
SLU 76	56	-6299	140	-26870		3.73	37.5	1.05	1777			12.7	Si
SLU 78	-160	-14640	-175	-14867		8.68	37.5	1.08	1828			10.44	Si
SLU 78	56	-6432	140	-27316		3.81	37.5	1.06	1795			12.8	Si
SLU 84	-160	-15105	-174	-14731		8.95	37.5	1.08	1828			10.5	Si
SLU 84	56	-6645	152	-28426		3.94	37.5	1.08	1824			12.03	Si
SLU 74	-160	-14466	-167	-14148		8.57	37.5	1.08	1828			10.92	Si
SLU 74	56	-6352	140	-27118		3.76	37.5	1.06	1784			12.72	Si
SLU 77	-160	-14621	-175	-14807		8.66	37.5	1.08	1828			10.47	Si
SLU 77	56	-6424	141	-27290		3.81	37.5	1.06	1794			12.73	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 10	-160	-8904	-227	-22358		5.28	37.5	1.63	2742			12.09	Si
SLV 10	56	-3949	291	-11623		2.34	37.5	1.3	2196			7.54	Si
SLV 1	-160	-5034	341	40894		3.51	31.88	1.54	2202			6.46	Si
SLV 1	56	-2145	17	-19916		1.68	28.39	1.17	1494			85.49	Si
SLV 16	-160	-14435	-561	-59467		8.55	37.5	1.63	2742			4.89	Si
SLV 16	56	-6337	167	-16292		3.76	37.5	1.58	2674			16.03	Si
SLV 15	-160	-14435	-561	-59467		8.55	37.5	1.63	2742			4.89	Si
SLV 15	56	-6337	167	-16292		3.76	37.5	1.58	2674			16.03	Si
SLV 4	-160	-6267	331	39802		3.74	37.2	1.58	2648			8.01	Si
SLV 4	56	-2652	-80	-23184		1.96	30.02	1.23	1656			20.78	Si
SLV 3	-160	-6267	331	39802		3.74	37.2	1.58	2648			8.01	Si
SLV 3	56	-2652	-80	-23184		1.96	30.02	1.23	1656			20.78	Si
SLV 9	-160	-8904	-227	-22358		5.28	37.5	1.63	2742			12.09	Si
SLV 9	56	-3949	291	-11623		2.34	37.5	1.3	2196			7.54	Si
SLV 2	-160	-5034	341	40894		3.51	31.88	1.54	2202			6.46	Si
SLV 2	56	-2145	17	-19916		1.68	28.39	1.17	1494			85.49	Si
SLV 13	-160	-13202	-551	-58375		7.82	37.5	1.63	2742			4.98	Si
SLV 13	56	-5830	264	-13024		3.45	37.5	1.52	2572			9.74	Si
SLV 14	-160	-13202	-551	-58375		7.82	37.5	1.63	2742			4.98	Si
SLV 14	56	-5830	264	-13024		3.45	37.5	1.52	2572			9.74	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 1	14	0.24	2.84	-4794	2237	82780	37	Si
SLV 2	14	0.24	2.84	-4794	2237	82780	37	Si
SLV 4	14	0.24	3.57	-6020	2237	95904	42.86	Si
SLV 3	14	0.24	3.57	-6020	2237	95904	42.86	Si
SLV 5	14	0.24	3.63	-6124	2237	96867	43.29	Si
SLV 6	14	0.24	3.63	-6124	2237	96867	43.29	Si
SLV 16	14	0.24	8.24	-13910	2237	101835	45.51	Si
SLV 15	14	0.24	8.24	-13910	2237	101835	45.51	Si
SLV 13	14	0.24	7.52	-12684	2237	109832	49.09	Si
SLV 14	14	0.24	7.52	-12684	2237	109832	49.09	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = -25.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 6	-4027	-6454	773	0	4.74	0.96	0	327.131	No
SLV 8	-6679	-10565	-862	0	7.439	0.974	0	327.131	No
SLV 5	-4027	-6454	773	0	4.74	0.96	0	327.131	No
SLV 9	-6003	-8904	904	0	6.751	0.971	0	327.131	No
SLV 7	-6679	-10565	-862	0	7.439	0.974	0	327.131	No
SLV 4	-3445	-6267	-442	0	4.148	0.955	0	336.206	No
SLV 10	-6003	-8904	904	0	6.751	0.971	0	327.131	No
SLV 3	-3445	-6267	-442	0	4.148	0.955	0	336.206	No
SLV 11	-8655	-13015	-731	0.007	9.452	0.979	9.974	327.131	No
SLV 12	-8655	-13015	-731	0.007	9.452	0.979	9.974	327.131	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 73	No
V_SLU	10.44	SLU 78	Si
PF_SLV	1.365	SLV 15	Si
V_SLV	4.886	SLV 15	Si
PFFP_SLV	36.997	SLV 1	Si
R_SLV	0	SLV 3	No



## Maschio 30

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1071.3	104.6	-1123.8	104.6	L1	L3	52.5	45	269	269	269			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 73	-160	-18664	15243	7.9	14770	0.969	No, M>Mu
SLU 73	56	-11692	36970	4.95	120449	3.258	Si
SLU 84	-160	-19633	16107	8.31	0	0	No, Rottura per schiacciamento
SLU 84	56	-12487	39791	5.29	115095	2.892	Si
SLU 82	-160	-19649	16538	8.32	0	0	No, Rottura per schiacciamento
SLU 82	56	-12406	39066	5.25	115723	2.962	Si
SLU 81	-160	-19564	16946	8.28	0	0	No, Rottura per schiacciamento
SLU 81	56	-12401	38970	5.25	115758	2.97	Si
SLU 77	-160	-18694	15180	7.91	14032	0.924	No, M>Mu
SLU 77	56	-11966	38583	5.07	118798	3.079	Si
SLU 83	-160	-19549	16515	8.27	0	0	No, Rottura per schiacciamento
SLU 83	56	-12483	39695	5.28	115130	2.9	Si
SLU 74	-160	-18709	15611	7.92	13657	0.875	No, M>Mu
SLU 74	56	-11885	37858	5.03	119310	3.152	Si
SLU 78	-160	-18779	14772	7.95	11927	0.807	No, M>Mu
SLU 78	56	-11971	38679	5.07	118769	3.071	Si
SLU 75	-160	-18794	15203	7.96	11549	0.76	No, M>Mu
SLU 75	56	-11889	37954	5.03	119282	3.143	Si
SLU 76	-160	-18649	14811	7.89	15144	1.022	Si
SLU 76	56	-11774	37695	4.98	119979	3.183	Si

### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 4	-160	-17272	145213	7.31	182111	1.254	Si
SLV 4	56	-10735	-24373	4.54	177003	7.262	Si
SLV 13	-160	-8072	-124113	3.42	152643	1.23	Si
SLV 13	56	-5034	74411	2.13	109098	1.466	Si
SLV 1	-160	-13262	146838	5.61	188190	1.282	Si
SLV 1	56	-9333	-26351	3.95	165778	6.291	Si
SLV 14	-160	-8072	-124113	3.42	152643	1.23	Si
SLV 14	56	-5034	74411	2.13	109098	1.466	Si
SLV 5	-160	-6767	53900	2.86	135990	2.523	Si
SLV 5	56	-6191	6607	2.62	127665	19.322	Si
SLV 6	-160	-6767	53900	2.86	135990	2.523	Si
SLV 6	56	-6191	6607	2.62	127665	19.322	Si
SLV 3	-160	-17272	145213	7.31	182111	1.254	Si
SLV 3	56	-10735	-24373	4.54	177003	7.262	Si
SLV 2	-160	-13262	146838	5.61	188190	1.282	Si
SLV 2	56	-9333	-26351	3.95	165778	6.291	Si
SLV 16	-160	-12083	-125737	5.11	184413	1.467	Si
SLV 16	56	-6437	76390	2.72	131290	1.719	Si
SLV 15	-160	-12083	-125737	5.11	184413	1.467	Si
SLV 15	56	-6437	76390	2.72	131290	1.719	Si

### Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 77	-160	-18694	299	15180		7.91	52.5	1.08	2559			8.56	Si
SLU 77	56	-11966	674	38583		5.07	52.5	1.08	2559			3.8	Si
SLU 79	-160	-18493	297	15060		7.83	52.5	1.08	2559			8.62	Si
SLU 79	56	-11848	664	38261		5.01	52.5	1.08	2559			3.85	Si
SLU 84	-160	-19633	310	16107		8.31	52.5	1.08	2559			8.26	Si
SLU 84	56	-12487	697	39791		5.29	52.5	1.08	2559			3.67	Si
SLU 80	-160	-18578	291	14652		7.86	52.5	1.08	2559			8.8	Si
SLU 80	56	-11852	667	38356		5.02	52.5	1.08	2559			3.84	Si
SLU 81	-160	-19564	316	16946		8.28	52.5	1.08	2559			8.1	Si
SLU 81	56	-12401	687	38970		5.25	52.5	1.08	2559			3.73	Si
SLU 82	-160	-19649	310	16538		8.32	52.5	1.08	2559			8.26	Si
SLU 82	56	-12406	690	39066		5.25	52.5	1.08	2559			3.71	Si
SLU 74	-160	-18709	299	15611		7.92	52.5	1.08	2559			8.56	Si
SLU 74	56	-11885	667	37858		5.03	52.5	1.08	2559			3.84	Si
SLU 83	-160	-19549	316	16515		8.27	52.5	1.08	2559			8.11	Si
SLU 83	56	-12483	694	39695		5.28	52.5	1.08	2559			3.69	Si
SLU 78	-160	-18779	293	14772		7.95	52.5	1.08	2559			8.73	Si
SLU 78	56	-11971	677	38679		5.07	52.5	1.08	2559			3.78	Si
SLU 75	-160	-18794	293	15203		7.96	52.5	1.08	2559			8.73	Si
SLU 75	56	-11889	669	37954		5.03	52.5	1.08	2559			3.82	Si



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 6	-160	-6767	673	53900		2.86	52.5	1.41	3322			4.94	Si
SLV 6	56	-6191	252	6607		2.62	52.5	1.36	3207			12.73	Si
SLV 4	-160	-17272	1501	145213		7.31	52.5	1.63	3839			2.56	Si
SLV 4	56	-10735	171	-24373		4.54	52.5	1.63	3839			22.48	Si
SLV 15	-160	-12083	-1152	-125737		5.65	47.53	1.63	3476			3.02	Si
SLV 15	56	-6437	767	76390		3.32	43.15	1.5	2905			3.79	Si
SLV 1	-160	-13262	1547	146838		6.47	45.53	1.63	3330			2.15	Si
SLV 1	56	-9333	112	-26351		3.95	52.5	1.62	3835			34.29	Si
SLV 14	-160	-8072	-1106	-124113		5.5	32.62	1.63	2386			2.16	Si
SLV 14	56	-5034	708	74411		3.25	34.4	1.48	2297			3.24	Si
SLV 13	-160	-8072	-1106	-124113		5.5	32.62	1.63	2386			2.16	Si
SLV 13	56	-5034	708	74411		3.25	34.4	1.48	2297			3.24	Si
SLV 2	-160	-13262	1547	146838		6.47	45.53	1.63	3330			2.15	Si
SLV 2	56	-9333	112	-26351		3.95	52.5	1.62	3835			34.29	Si
SLV 16	-160	-12083	-1152	-125737		5.65	47.53	1.63	3476			3.02	Si
SLV 16	56	-6437	767	76390		3.32	43.15	1.5	2905			3.79	Si
SLV 5	-160	-6767	673	53900		2.86	52.5	1.41	3322			4.94	Si
SLV 5	56	-6191	252	6607		2.62	52.5	1.36	3207			12.73	Si
SLV 3	-160	-17272	1501	145213		7.31	52.5	1.63	3839			2.56	Si
SLV 3	56	-10735	171	-24373		4.54	52.5	1.63	3839			22.48	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.24	2.61	-6158	3132	109000	34.8	Si
SLV 10	14	0.24	2.61	-6158	3132	109000	34.8	Si
SLV 13	14	0.24	2.87	-6772	3132	116620	37.23	Si
SLV 14	14	0.24	2.87	-6772	3132	116620	37.23	Si
SLV 6	14	0.24	3.46	-8167	3132	131768	42.06	Si
SLV 5	14	0.24	3.46	-8167	3132	131768	42.06	Si
SLV 16	14	0.24	3.94	-9306	3132	141885	45.29	Si
SLV 15	14	0.24	3.94	-9306	3132	141885	45.29	Si
SLV 8	14	0.24	7.03	-16615	3132	158665	50.65	Si
SLV 7	14	0.24	7.03	-16615	3132	158665	50.65	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzaria = -25.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 10	-3236	-5210	389	0	4.197	0.94	0	327.131	No
SLV 9	-3236	-5210	389	0	4.197	0.94	0	327.131	No
SLV 6	-4934	-6767	357	0.027	5.92	0.956	41.818	327.131	No
SLV 5	-4934	-6767	357	0.027	5.92	0.956	41.818	327.131	No
SLV 12	-7101	-18578	-357	0.043	8.125	0.967	65.126	327.131	No
SLV 11	-7101	-18578	-357	0.043	8.125	0.967	65.126	327.131	No
SLV 8	-8799	-20134	-389	0.047	9.853	0.972	70.566	327.131	No
SLV 7	-8799	-20134	-389	0.047	9.853	0.972	70.566	327.131	No
SLV 14	-2609	-8072	165	0.047	3.563	0.931	72.936	336.206	No
SLV 13	-2609	-8072	165	0.047	3.563	0.931	72.936	336.206	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 81	No
V_SLU	3.671	SLU 84	Si
PF_SLV	1.23	SLV 13	Si
V_SLV	2.152	SLV 1	Si
PFFP_SLV	34.797	SLV 9	Si
R_SLV	0	SLV 9	No

## Maschio 31

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-742.8	104.6	-971.3	104.6	L1	L3	228.5	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 77	-160	-70749	-225956	6.88	1255559	5.557	Si
SLU 77	50	-65887	203696	6.41	1606208	7.885	Si
SLU 79	-160	-70173	-221041	6.82	1300468	5.883	Si
SLU 79	50	-65311	196093	6.35	1643477	8.381	Si
SLU 75	-160	-69634	-221548	6.77	1341689	6.056	Si
SLU 75	50	-64772	241299	6.3	1677548	6.952	Si
SLU 80	-160	-69843	-227582	6.79	1325771	5.825	Si
SLU 80	50	-64982	219564	6.32	1664407	7.581	Si
SLU 82	-160	-72018	-220580	7	1153436	5.229	Si
SLU 82	50	-67156	269676	6.53	1520913	5.64	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 83	-160	-73133	-224988	7.11	1060054	4.712	Si
SLU 83	50	-68271	232073	6.64	1442321	6.215	Si
SLU 84	-160	-72803	-231529	7.08	1088020	4.699	Si
SLU 84	50	-67942	255544	6.61	1465913	5.736	Si
SLU 81	-160	-72348	-214039	7.04	1126177	5.262	Si
SLU 81	50	-67486	246205	6.56	1498027	6.084	Si
SLU 78	-160	-70419	-232497	6.85	1281381	5.511	Si
SLU 78	50	-65558	227167	6.38	1627656	7.165	Si
SLU 74	-160	-69964	-215007	6.8	1316574	6.123	Si
SLU 74	50	-65102	217828	6.33	1656806	7.606	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 3	-160	-55743	2189643	5.42	3543030	1.618	Si
SLV 3	50	-51709	-798807	5.03	3476311	4.352	Si
SLV 16	-160	-43856	-2537641	4.27	3261539	1.285	Si
SLV 16	50	-40258	1219805	3.92	3125701	2.562	Si
SLV 14	-160	-38009	-2452827	3.7	3028820	1.235	Si
SLV 14	50	-34564	1088148	3.36	2862557	2.631	Si
SLV 13	-160	-38009	-2452827	3.7	3028820	1.235	Si
SLV 13	50	-34564	1088148	3.36	2862557	2.631	Si
SLV 15	-160	-43856	-2537641	4.27	3261539	1.285	Si
SLV 15	50	-40258	1219805	3.92	3125701	2.562	Si
SLD 15	-160	-45572	-1158444	4.43	3318061	2.864	Si
SLD 15	50	-41890	603166	4.07	3190236	5.289	Si
SLV 1	-160	-49896	2274457	4.85	3436703	1.511	Si
SLV 1	50	-46014	-930463	4.48	3331754	3.581	Si
SLD 16	-160	-45572	-1158444	4.43	3318061	2.864	Si
SLD 16	50	-41890	603166	4.07	3190236	5.289	Si
SLV 4	-160	-55743	2189643	5.42	3543030	1.618	Si
SLV 4	50	-51709	-798807	5.03	3476311	4.352	Si
SLV 2	-160	-49896	2274457	4.85	3436703	1.511	Si
SLV 2	50	-46014	-930463	4.48	3331754	3.581	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 82	-160	-72018	-2335	-220580			7	228.5	1.08	11139		4.77	Si
SLU 82	50	-67156	-2335	269676			6.53	228.5	1.08	11139		4.77	Si
SLU 61	-160	-64422	-2160	-198788			6.27	228.5	1.08	11139		5.16	Si
SLU 61	50	-59560	-2160	254833			5.79	228.5	1.08	11139		5.16	Si
SLU 83	-160	-73133	-2177	-224988			7.11	228.5	1.08	11139		5.12	Si
SLU 83	50	-68271	-2177	232073			6.64	228.5	1.08	11139		5.12	Si
SLU 63	-160	-65208	-2145	-209737			6.34	228.5	1.08	11139		5.19	Si
SLU 63	50	-60346	-2145	240701			5.87	228.5	1.08	11139		5.19	Si
SLU 78	-160	-70419	-2189	-232497			6.85	228.5	1.08	11139		5.09	Si
SLU 78	50	-65558	-2189	227167			6.38	228.5	1.08	11139		5.09	Si
SLU 84	-160	-72803	-2319	-231529			7.08	228.5	1.08	11139		4.8	Si
SLU 84	50	-67942	-2319	255544			6.61	228.5	1.08	11139		4.8	Si
SLU 81	-160	-72348	-2192	-214039			7.04	228.5	1.08	11139		5.08	Si
SLU 81	50	-67486	-2192	246205			6.56	228.5	1.08	11139		5.08	Si
SLU 76	-160	-68838	-2240	-220993			6.69	228.5	1.08	11139		4.97	Si
SLU 76	50	-63976	-2240	249343			6.22	228.5	1.08	11139		4.97	Si
SLU 75	-160	-69634	-2204	-221548			6.77	228.5	1.08	11139		5.05	Si
SLU 75	50	-64772	-2204	241299			6.3	228.5	1.08	11139		5.05	Si
SLU 73	-160	-68053	-2255	-210044			6.62	228.5	1.08	11139		4.94	Si
SLU 73	50	-63191	-2255	263475			6.15	228.5	1.08	11139		4.94	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 15	-160	-43856	-17810	-2537641		5.76	169.16	1.63	12370			0.69	No, Vu<V
SLV 15	50	-40258	-18007	1219805		3.92	228.5	1.62	16620			0.92	No, Vu<V
SLV 1	-160	-49896	15178	2274457		5.38	206	1.63	15064			0.99	No, Vu<V
SLV 1	50	-46014	15376	-930463		4.48	228.5	1.63	16709			1.09	Si
SLV 13	-160	-38009	-16946	-2452827		5.66	149.15	1.63	10907			0.64	No, Vu<V
SLV 13	50	-34564	-16880	1088148		3.36	228.5	1.51	15482			0.92	No, Vu<V
SLV 16	-160	-43856	-17810	-2537641		5.76	169.16	1.63	12370			0.69	No, Vu<V
SLV 16	50	-40258	-18007	1219805		3.92	228.5	1.62	16620			0.92	No, Vu<V
SLD 15	-160	-45572	-8352	-1158444		4.43	228.5	1.63	16709			2	Si
SLD 15	50	-41890	-8436	603166		4.07	228.5	1.63	16709			1.98	Si
SLV 3	-160	-55743	14315	2189643		5.51	224.91	1.63	16446			1.15	Si
SLV 3	50	-51709	14249	-798807		5.03	228.5	1.63	16709			1.17	Si
SLD 16	-160	-45572	-8352	-1158444		4.43	228.5	1.63	16709			2	Si
SLD 16	50	-41890	-8436	603166		4.07	228.5	1.63	16709			1.98	Si
SLV 2	-160	-49896	15178	2274457		5.38	206	1.63	15064			0.99	No, Vu<V
SLV 2	50	-46014	15376	-930463		4.48	228.5	1.63	16709			1.09	Si
SLV 14	-160	-38009	-16946	-2452827		5.66	149.15	1.63	10907			0.64	No, Vu<V
SLV 14	50	-34564	-16880	1088148		3.36	228.5	1.51	15482			0.92	No, Vu<V
SLV 4	-160	-55743	14315	2189643		5.51	224.91	1.63	16446			1.15	Si
SLV 4	50	-51709	14249	-798807		5.03	228.5	1.63	16709			1.17	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.24	3.26	-33504	13634	552810	40.55	Si
SLV 9	14	0.24	3.26	-33504	13634	552810	40.55	Si
SLV 13	14	0.24	3.53	-36255	13634	580340	42.57	Si
SLV 14	14	0.24	3.53	-36255	13634	580340	42.57	Si
SLV 5	14	0.24	3.58	-36807	13634	585543	42.95	Si
SLV 6	14	0.24	3.58	-36807	13634	585543	42.95	Si



Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 16	14	0.24	4.08	-41916	13634	628468	46.1	Si
SLV 15	14	0.24	4.08	-41916	13634	628468	46.1	Si
SLV 1	14	0.24	4.6	-47266	13634	663399	48.66	Si
SLV 2	14	0.24	4.6	-47266	13634	663399	48.66	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = -25.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 3	-40384	-55743	18	0.088	45.011	0.973	131.52	336.206	No
SLV 4	-40384	-55743	18	0.088	45.011	0.973	131.52	336.206	No
SLV 1	-36095	-49896	25	0.088	40.643	0.971	132.34	336.206	No
SLV 2	-36095	-49896	25	0.088	40.643	0.971	132.34	336.206	No
SLV 16	-30596	-43856	-13	0.09	35.044	0.966	134.648	336.206	No
SLV 15	-30596	-43856	-13	0.09	35.044	0.966	134.648	336.206	No
SLV 7	-41962	-58403	-2	0.088	46.617	0.974	131.708	327.131	No
SLV 8	-41962	-58403	-2	0.088	46.617	0.974	131.708	327.131	No
SLV 11	-39025	-54837	-11	0.088	43.627	0.973	132.089	327.131	No
SLV 12	-39025	-54837	-11	0.088	43.627	0.973	132.089	327.131	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.699	SLU 84	Si
V_SLU	4.771	SLU 82	Si
PF_SLV	1.235	SLV 13	Si
V_SLV	0.644	SLV 13	No
PFFP_SLV	40.547	SLV 9	Si
R_SLV	0.391	SLV 3	No

## Maschio 32

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-598.8	104.6	-652.8	104.6	L1	L3	54	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 83	-160	-18327	-17301	7.54	36683	2.12	Si
SLU 83	50	-19244	17235	7.92	14457	0.839	No, M>Mu
SLU 74	-160	-17573	-16451	7.23	53256	3.237	Si
SLU 74	50	-18372	16379	7.56	35638	2.176	Si
SLU 79	-160	-17847	-16562	7.34	47405	2.862	Si
SLU 79	50	-18574	16293	7.64	30928	1.898	Si
SLU 80	-160	-17350	-16711	7.14	57850	3.462	Si
SLU 80	50	-18402	16520	7.57	34950	2.116	Si
SLU 75	-160	-17075	-16599	7.03	63329	3.815	Si
SLU 75	50	-18201	16607	7.49	39565	2.382	Si
SLU 84	-160	-17830	-17449	7.34	47780	2.738	Si
SLU 84	50	-19072	17462	7.85	18792	1.076	Si
SLU 81	-160	-17945	-16783	7.38	45277	2.698	Si
SLU 81	50	-18905	16882	7.78	22942	1.359	Si
SLU 82	-160	-17447	-16932	7.18	55855	3.299	Si
SLU 82	50	-18733	17109	7.71	27118	1.585	Si
SLU 77	-160	-17955	-16968	7.39	45050	2.655	Si
SLU 77	50	-18711	16733	7.7	27645	1.652	Si
SLU 78	-160	-17458	-17117	7.18	55642	3.251	Si
SLU 78	50	-18540	16960	7.63	31731	1.871	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 15	-160	-12968	-118180	5.34	197213	1.669	Si
SLV 15	50	-12376	111879	5.09	194873	1.742	Si
SLV 16	-160	-12968	-118180	5.34	197213	1.669	Si
SLV 16	50	-12376	111879	5.09	194873	1.742	Si
SLV 11	-160	-15509	-55702	6.38	200018	3.591	Si
SLV 11	50	-12939	69117	5.32	197111	2.852	Si
SLV 14	-160	-10728	-109481	4.41	184999	1.69	Si
SLV 14	50	-11899	93095	4.9	192521	2.068	Si
SLV 4	-160	-12759	89327	5.25	196459	2.199	Si
SLV 4	50	-12392	-72911	5.1	194941	2.674	Si
SLV 2	-160	-10519	98026	4.33	183391	1.871	Si
SLV 2	50	-11914	-91695	4.9	192602	2.1	Si
SLV 13	-160	-10728	-109481	4.41	184999	1.69	Si
SLV 13	50	-11899	93095	4.9	192521	2.068	Si
SLV 1	-160	-10519	98026	4.33	183391	1.871	Si
SLV 1	50	-11914	-91695	4.9	192602	2.1	Si
SLV 3	-160	-12759	89327	5.25	196459	2.199	Si
SLV 3	50	-12392	-72911	5.1	194941	2.674	Si
SLV 12	-160	-15509	-55702	6.38	200018	3.591	Si
SLV 12	50	-12939	69117	5.32	197111	2.852	Si



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 84	-160	-17830	-154	-17449		7.34	54	1.08	2633			17.14	Si
SLU 84	50	-19072	-156	17462		7.85	54	1.08	2633			16.88	Si
SLU 74	-160	-17573	-146	-16451		7.23	54	1.08	2633			17.99	Si
SLU 74	50	-18372	-148	16379		7.56	54	1.08	2633			17.82	Si
SLU 83	-160	-18327	-154	-17301		7.54	54	1.08	2633			17.11	Si
SLU 83	50	-19244	-155	17235		7.92	54	1.08	2633			16.95	Si
SLU 75	-160	-17075	-146	-16599		7.03	54	1.08	2633			18.03	Si
SLU 75	50	-18201	-148	16607		7.49	54	1.08	2633			17.75	Si
SLU 82	-160	-17447	-149	-16932		7.18	54	1.08	2633			17.65	Si
SLU 82	50	-18733	-152	17109		7.71	54	1.08	2633			17.37	Si
SLU 77	-160	-17955	-151	-16968		7.39	54	1.08	2633			17.47	Si
SLU 77	50	-18711	-152	16733		7.7	54	1.08	2633			17.31	Si
SLU 78	-160	-17458	-150	-17117		7.18	54	1.08	2633			17.51	Si
SLU 78	50	-18540	-153	16960		7.63	54	1.08	2633			17.24	Si
SLU 80	-160	-17350	-146	-16711		7.14	54	1.08	2633			17.97	Si
SLU 80	50	-18402	-149	16520		7.57	54	1.08	2633			17.69	Si
SLU 79	-160	-17847	-147	-16562		7.34	54	1.08	2633			17.93	Si
SLU 79	50	-18574	-148	16293		7.64	54	1.08	2633			17.77	Si
SLU 81	-160	-17945	-150	-16783		7.38	54	1.08	2633			17.61	Si
SLU 81	50	-18905	-151	16882		7.78	54	1.08	2633			17.44	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 1	-160	-10519	855	98026		4.41	53.04	1.63	3879			4.54	Si
SLV 1	50	-11914	792	-91695		4.9	54	1.63	3949			4.99	Si
SLV 15	-160	-12968	-1034	-118180		5.37	53.66	1.63	3924			3.8	Si
SLV 15	50	-12376	-972	111879		5.1	53.88	1.63	3940			4.05	Si
SLV 13	-160	-10728	-932	-109481		4.73	50.38	1.63	3684			3.95	Si
SLV 13	50	-11899	-884	93095		4.9	54	1.63	3949			4.47	Si
SLV 3	-160	-12759	754	89327		5.25	54	1.63	3949			5.24	Si
SLV 3	50	-12392	703	-72911		5.1	54	1.63	3949			5.62	Si
SLV 2	-160	-10519	855	98026		4.41	53.04	1.63	3879			4.54	Si
SLV 2	50	-11914	792	-91695		4.9	54	1.63	3949			4.99	Si
SLV 16	-160	-12968	-1034	-118180		5.37	53.66	1.63	3924			3.8	Si
SLV 16	50	-12376	-972	111879		5.1	53.88	1.63	3940			4.05	Si
SLV 12	-160	-15509	-527	-55702		6.38	54	1.63	3949			7.5	Si
SLV 12	50	-12939	-489	69117		5.32	54	1.63	3949			8.07	Si
SLV 11	-160	-15509	-527	-55702		6.38	54	1.63	3949			7.5	Si
SLV 11	50	-12939	-489	69117		5.32	54	1.63	3949			8.07	Si
SLV 14	-160	-10728	-932	-109481		4.73	50.38	1.63	3684			3.95	Si
SLV 14	50	-11899	-884	93095		4.9	54	1.63	3949			4.47	Si
SLV 4	-160	-12759	754	89327		5.25	54	1.63	3949			5.24	Si
SLV 4	50	-12392	703	-72911		5.1	54	1.63	3949			5.62	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.24	3.88	-9424	3222	144737	44.92	Si
SLV 9	14	0.24	3.88	-9424	3222	144737	44.92	Si
SLV 6	14	0.24	3.9	-9480	3222	145195	45.06	Si
SLV 5	14	0.24	3.9	-9480	3222	145195	45.06	Si
SLV 14	14	0.24	4.38	-10650	3222	153673	47.7	Si
SLV 13	14	0.24	4.38	-10650	3222	153673	47.7	Si
SLV 2	14	0.24	4.46	-10837	3222	154835	48.06	Si
SLV 1	14	0.24	4.46	-10837	3222	154835	48.06	Si
SLV 15	14	0.24	4.84	-11757	3222	159784	49.59	Si
SLV 16	14	0.24	4.84	-11757	3222	159784	49.59	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = -25.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 2	-5720	-10519	19	0.089	6.745	0.959	134.072	336.206	No
SLV 1	-5720	-10519	19	0.089	6.745	0.959	134.072	336.206	No
SLV 4	-5950	-12759	16	0.089	6.979	0.961	134.32	336.206	No
SLV 3	-5950	-12759	16	0.089	6.979	0.961	134.32	336.206	No
SLV 14	-5363	-10728	19	0.089	6.382	0.957	134.669	336.206	No
SLV 13	-5363	-10728	19	0.089	6.382	0.957	134.669	336.206	No
SLV 15	-5594	-12968	16	0.089	6.616	0.959	134.912	336.206	No
SLV 16	-5594	-12968	16	0.089	6.616	0.959	134.912	336.206	No
SLV 6	-5326	-7978	22	0.088	6.345	0.957	133.958	327.131	No
SLV 5	-5326	-7978	22	0.088	6.345	0.957	133.958	327.131	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0.839	SLU 83	No
V_SLU	16.881	SLU 84	Si
PF_SLV	1.669	SLV 15	Si
V_SLV	3.796	SLV 15	Si
PFFP_SLV	44.922	SLV 9	Si
R_SLV	0.399	SLV 1	No

## Maschio 33

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



## Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.3	104.6	-508.8	104.6	L1	L3	496.5	45	269	269	269			

## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 82	-160	-111534	-395110	4.99	10720113	27.132	Si
SLU 82	50	-108890	1088717	4.87	10858681	9.974	Si
SLU 79	-160	-108769	-435178	4.87	10864546	24.966	Si
SLU 79	50	-106061	1130268	4.75	10985818	9.72	Si
SLU 84	-160	-112670	-425186	5.04	10654716	25.059	Si
SLU 84	50	-110211	1130984	4.93	10791789	9.542	Si
SLU 39	-160	-94729	-265531	4.24	11276290	42.467	Si
SLU 39	50	-93689	1097844	4.19	11285400	10.28	Si
SLU 81	-160	-111425	-362421	4.99	10726177	29.596	Si
SLU 81	50	-108864	1161686	4.87	10859921	9.348	Si
SLU 78	-160	-109538	-486848	4.9	10826477	22.238	Si
SLU 78	50	-106812	1058558	4.78	10954190	10.348	Si
SLU 41	-160	-95865	-295607	4.29	11262970	38.101	Si
SLU 41	50	-95011	1140111	4.25	11273318	9.888	Si
SLU 74	-160	-108293	-424082	4.85	10887305	25.673	Si
SLU 74	50	-105465	1089260	4.72	11009829	10.108	Si
SLU 77	-160	-109429	-454159	4.9	10831949	23.851	Si
SLU 77	50	-106787	1131527	4.78	10955286	9.682	Si
SLU 83	-160	-112561	-392498	5.04	10661116	27.162	Si
SLU 83	50	-110186	1203953	4.93	10793120	8.965	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLD 16	-160	-74771	-2590149	3.35	13478049	5.204	Si
SLD 16	50	-75499	216997	3.38	13559235	62.486	Si
SLV 2	-160	-72335	5052667	3.24	13199081	2.612	Si
SLV 2	50	-59952	1569560	2.68	11614703	7.4	Si
SLV 14	-160	-76000	-5413153	3.4	13614649	2.515	Si
SLV 14	50	-81110	-444400	3.63	14153135	31.848	Si
SLD 15	-160	-74771	-2590149	3.35	13478049	5.204	Si
SLD 15	50	-75499	216997	3.38	13559235	62.486	Si
SLV 1	-160	-72335	5052667	3.24	13199081	2.612	Si
SLV 1	50	-59952	1569560	2.68	11614703	7.4	Si
SLV 4	-160	-72076	4804588	3.23	13168829	2.741	Si
SLV 4	50	-60586	1689321	2.71	11702609	6.927	Si
SLV 13	-160	-76000	-5413153	3.4	13614649	2.515	Si
SLV 13	50	-81110	-444400	3.63	14153135	31.848	Si
SLV 16	-160	-75742	-5661233	3.39	13586122	2.4	Si
SLV 16	50	-81744	-324639	3.66	14216642	43.792	Si
SLV 3	-160	-72076	4804588	3.23	13168829	2.741	Si
SLV 3	50	-60586	1689321	2.71	11702609	6.927	Si
SLV 15	-160	-75742	-5661233	3.39	13586122	2.4	Si
SLV 15	50	-81744	-324639	3.66	14216642	43.792	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 75	-160	-108402	-15658	-456771		4.85	496.5	1.08	24204			1.55	Si
SLU 75	50	-105490	-15734	1016290		4.72	496.5	1.08	24204			1.54	Si
SLU 79	-160	-108769	-16336	-435178		4.87	496.5	1.08	24204			1.48	Si
SLU 79	50	-106061	-16415	1130268		4.75	496.5	1.08	24204			1.47	Si
SLU 82	-160	-111534	-16024	-395110		4.99	496.5	1.08	24204			1.51	Si
SLU 82	50	-108890	-16102	1088717		4.87	496.5	1.08	24204			1.5	Si
SLU 74	-160	-108293	-15946	-424082		4.85	496.5	1.08	24204			1.52	Si
SLU 74	50	-105465	-16025	1089260		4.72	496.5	1.08	24204			1.51	Si
SLU 81	-160	-111425	-16312	-362421		4.99	496.5	1.08	24204			1.48	Si
SLU 81	50	-108864	-16392	1161686		4.87	496.5	1.08	24204			1.48	Si
SLU 78	-160	-109538	-16221	-486848		4.9	496.5	1.08	24204			1.49	Si
SLU 78	50	-106812	-16298	1058558		4.78	496.5	1.08	24204			1.49	Si
SLU 80	-160	-108878	-16048	-467867		4.87	496.5	1.08	24204			1.51	Si
SLU 80	50	-106087	-16125	1057298		4.75	496.5	1.08	24204			1.5	Si
SLU 77	-160	-109429	-16509	-454159		4.9	496.5	1.08	24204			1.47	Si
SLU 77	50	-106787	-16589	1131527		4.78	496.5	1.08	24204			1.46	Si
SLU 83	-160	-112561	-16875	-392498		5.04	496.5	1.08	24204			1.43	Si
SLU 83	50	-110186	-16956	1203953		4.93	496.5	1.08	24204			1.43	Si
SLU 84	-160	-112670	-16587	-425186		5.04	496.5	1.08	24204			1.46	Si
SLU 84	50	-110211	-16666	1130984		4.93	496.5	1.08	24204			1.45	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	-160	-76000	-38709	-5413153		3.4	496.5	1.51	33819			0.87	No, Vu<V
SLV 14	50	-81110	-39270	-444400		3.63	496.5	1.56	34841			0.89	No, Vu<V
SLV 16	-160	-75742	-41173	-5661233		3.39	496.5	1.51	33767			0.82	No, Vu<V
SLV 16	50	-81744	-41354	-324639		3.66	496.5	1.57	34968			0.85	No, Vu<V
SLD 16	-160	-74771	-23273	-2590149		3.35	496.5	1.5	33573			1.44	Si
SLD 16	50	-75499	-23381	216997		3.38	496.5	1.51	33719			1.44	Si
SLD 15	-160	-74771	-23273	-2590149		3.35	496.5	1.5	33573			1.44	Si
SLD 15	50	-75499	-23381	216997		3.38	496.5	1.51	33719			1.44	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	-160	-74157	-23050	-2287622		3.32	496.5	1.5	33450			1.45	Si
SLV 12	50	-75079	-22565	519969		3.36	496.5	1.51	33635			1.49	Si
SLV 2	-160	-72335	21284	5052667		3.24	496.5	1.48	33086			1.55	Si
SLV 2	50	-59952	21360	1569560		2.68	496.5	1.37	30609			1.43	Si
SLV 13	-160	-76000	-38709	-5413153		3.4	496.5	1.51	33819			0.87	No, Vu<V
SLV 13	50	-81110	-39270	-444400		3.63	496.5	1.56	34841			0.89	No, Vu<V
SLV 15	-160	-75742	-41173	-5661233		3.39	496.5	1.51	33767			0.82	No, Vu<V
SLV 15	50	-81744	-41354	-324639		3.66	496.5	1.57	34968			0.85	No, Vu<V
SLV 11	-160	-74157	-23050	-2287622		3.32	496.5	1.5	33450			1.45	Si
SLV 11	50	-75079	-22565	519969		3.36	496.5	1.51	33635			1.49	Si
SLV 1	-160	-72335	21284	5052667		3.24	496.5	1.48	33086			1.55	Si
SLV 1	50	-59952	21360	1569560		2.68	496.5	1.37	30609			1.43	Si

#### Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.08 denominatore  $8 \gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 2	14	0.24	2.93	-65515	29624	1120329	37.82	Si
SLV 1	14	0.24	2.93	-65515	29624	1120329	37.82	Si
SLV 4	14	0.24	2.94	-65715	29624	1122666	37.9	Si
SLV 3	14	0.24	2.94	-65715	29624	1122666	37.9	Si
SLV 5	14	0.24	3.13	-69968	29624	1170795	39.52	Si
SLV 6	14	0.24	3.13	-69968	29624	1170795	39.52	Si
SLV 8	14	0.24	3.16	-70634	29624	1178072	39.77	Si
SLV 7	14	0.24	3.16	-70634	29624	1178072	39.77	Si
SLV 10	14	0.24	3.31	-73984	29624	1213515	40.96	Si
SLV 9	14	0.24	3.31	-73984	29624	1213515	40.96	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = -25.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 6	-58924	-73919	635	0.081	68.457	0.963	121.969	327.131	No
SLV 5	-58924	-73919	635	0.081	68.457	0.963	121.969	327.131	No
SLV 11	-65512	-74157	-588	0.082	75.161	0.966	122.959	327.131	No
SLV 12	-65512	-74157	-588	0.082	75.161	0.966	122.959	327.131	No
SLV 9	-63476	-75019	586	0.082	73.088	0.965	123.037	327.131	No
SLV 10	-63476	-75019	586	0.082	73.088	0.965	123.037	327.131	No
SLV 8	-60960	-73057	-540	0.082	70.529	0.964	124.123	327.131	No
SLV 7	-60960	-73057	-540	0.082	70.529	0.964	124.123	327.131	No
SLV 16	-70109	-75742	-234	0.087	79.84	0.968	129.95	336.206	No
SLV 15	-70109	-75742	-234	0.087	79.84	0.968	129.95	336.206	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.965	SLU 83	Si
V_SLU	1.427	SLU 83	Si
PF_SLV	2.4	SLV 15	Si
V_SLV	0.82	SLV 15	No
PFFP_SLV	37.818	SLV 1	Si
R_SLV	0.373	SLV 5	No

## Maschio 34

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1505.7	333.1	-1475.8	333.1	L1	L3	30	30	269	269	269			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 2	-160	-2495	376	2.77	24657	65.597	Si
SLU 2	60	-1477	-3979	1.64	17670	4.44	Si
SLU 47	-160	-2997	338	3.33	26541	78.422	Si
SLU 47	60	-1767	-4681	1.97	20097	4.293	Si
SLU 64	-160	-3426	52	3.81	27332	523.8	Si
SLU 64	60	-2116	-5157	2.35	22553	4.373	Si
SLU 45	-160	-3063	481	3.41	26710	55.481	Si
SLU 45	60	-1791	-4893	1.99	20282	4.145	Si
SLU 43	-160	-3141	701	3.49	26891	38.336	Si
SLU 43	60	-1814	-5162	2.02	20458	3.963	Si
SLU 46	-160	-3065	486	3.41	26715	54.975	Si
SLU 46	60	-1792	-4899	1.99	20289	4.142	Si
SLU 49	-160	-2917	115	3.24	26309	227.978	Si
SLU 49	60	-1744	-4408	1.94	19912	4.517	Si
SLU 1	-160	-2491	368	2.77	24640	66.896	Si
SLU 1	60	-1475	-3970	1.64	17657	4.448	Si
SLU 44	-160	-3145	709	3.5	26898	37.939	Si
SLU 44	60	-1816	-5172	2.02	20469	3.958	Si
SLU 65	-160	-3429	60	3.81	27335	457.683	Si
SLU 65	60	-2117	-5167	2.35	22562	4.367	Si





### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 15	-160	-1012	-10033	1.13	13772	1.373	Si
SLV 15	60	-1616	9818	1.8	20662	2.104	Si
SLV 16	-160	-1012	-10033	1.13	13772	1.373	Si
SLV 16	60	-1616	9818	1.8	20662	2.104	Si
SLV 5	-160	-4992	7424	5.55	40826	5.499	Si
SLV 5	60	-2237	-13501	2.49	26697	1.977	Si
SLV 2	-160	-4340	9895	4.83	39354	3.977	Si
SLV 2	60	-1731	-17708	1.92	21855	1.234	Si
SLV 6	-160	-4992	7424	5.55	40826	5.499	Si
SLV 6	60	-2237	-13501	2.49	26697	1.977	Si
SLV 4	-160	-3142	6925	3.49	33628	4.856	Si
SLV 4	60	-1371	-14129	1.52	17984	1.273	Si
SLV 12	-160	-361	-7562	0	0	0	No, $e \geq l/2$
SLV 12	60	-1111	5612	1.24	14964	2.667	Si
SLV 1	-160	-4340	9895	4.83	39354	3.977	Si
SLV 1	60	-1731	-17708	1.92	21855	1.234	Si
SLV 11	-160	-361	-7562	0	0	0	No, $e \geq l/2$
SLV 11	60	-1111	5612	1.24	14964	2.667	Si
SLV 3	-160	-3142	6925	3.49	33628	4.856	Si
SLV 3	60	-1371	-14129	1.52	17984	1.273	Si

### Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 43	-160	-3141	25	701		3.49	29.98	1.02	918			36.51	Si
SLU 43	60	-1814	85	-5162		2.02	29.98	0.82	742			8.75	Si
SLU 49	-160	-2917	10	115		3.24	29.98	0.99	889			91.01	Si
SLU 49	60	-1744	66	-4408		1.94	29.98	0.81	732			11.11	Si
SLU 48	-160	-2915	10	111		3.24	29.98	0.99	888			92	Si
SLU 48	60	-1743	66	-4402		1.94	29.98	0.81	732			11.16	Si
SLU 44	-160	-3145	25	709		3.5	29.98	1.02	919			36.27	Si
SLU 44	60	-1816	85	-5172		2.02	29.98	0.82	742			8.71	Si
SLU 47	-160	-2997	16	338		3.33	29.98	1	899			57.83	Si
SLU 47	60	-1767	73	-4681		1.97	29.98	0.82	735			10.14	Si
SLU 64	-160	-3426	9	52		3.81	29.98	1.06	956			103.88	Si
SLU 64	60	-2116	71	-5157		2.35	29.98	0.87	782			11.01	Si
SLU 65	-160	-3429	9	60		3.81	29.98	1.06	957			101.95	Si
SLU 65	60	-2117	71	-5167		2.35	29.98	0.87	782			10.94	Si
SLU 2	-160	-2495	15	376		2.77	29.98	0.93	832			54.31	Si
SLU 2	60	-1477	62	-3979		1.64	29.98	0.77	696			11.23	Si
SLU 46	-160	-3065	20	486		3.41	29.98	1.01	908			46.47	Si
SLU 46	60	-1792	79	-4899		1.99	29.98	0.82	739			9.41	Si
SLU 45	-160	-3063	19	481		3.41	29.98	1.01	908			46.71	Si
SLU 45	60	-1791	78	-4893		1.99	29.98	0.82	738			9.44	Si

### Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	-160	-4340	302	9895		4.83	29.98	1.63	1461			4.84	Si
SLV 2	60	-1731	212	-17708		4.04	14.27	1.63	696			3.29	Si
SLV 13	-160	-2210	-209	-7063		2.46	29.98	1.32	1191			5.7	Si
SLV 13	60	-1976	6	6240		2.2	29.98	1.27	1145			204.16	Si
SLV 6	-160	-4992	222	7424		5.55	29.98	1.63	1461			6.59	Si
SLV 6	60	-2237	273	-13501		2.78	26.85	1.39	1119			4.1	Si
SLV 15	-160	-1012	-294	-10033		2.22	15.22	1.28	583			1.99	Si
SLV 15	60	-1616	-109	9818		2.01	26.74	1.24	992			9.13	Si
SLV 11	-160	-361	-213	-7562		0	0	0.83	0			0	No, $V_u < V$
SLV 11	60	-1111	-170	5612		1.24	29.81	1.08	967			5.7	Si
SLV 5	-160	-4992	222	7424		5.55	29.98	1.63	1461			6.59	Si
SLV 5	60	-2237	273	-13501		2.78	26.85	1.39	1119			4.1	Si
SLV 12	-160	-361	-213	-7562		0	0	0.83	0			0	No, $V_u < V$
SLV 12	60	-1111	-170	5612		1.24	29.81	1.08	967			5.7	Si
SLV 1	-160	-4340	302	9895		4.83	29.98	1.63	1461			4.84	Si
SLV 1	60	-1731	212	-17708		4.04	14.27	1.63	696			3.29	Si
SLV 16	-160	-1012	-294	-10033		2.22	15.22	1.28	583			1.99	Si
SLV 16	60	-1616	-109	9818		2.01	26.74	1.24	992			9.13	Si
SLV 14	-160	-2210	-209	-7063		2.46	29.98	1.32	1191			5.7	Si
SLV 14	60	-1976	6	6240		2.2	29.98	1.27	1145			204.16	Si

### Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.24	1.04	-939	1192	12887	10.81	Si
SLV 11	14	0.24	1.04	-939	1192	12887	10.81	Si
SLV 8	14	0.24	1.47	-1321	1192	17429	14.62	Si
SLV 7	14	0.24	1.47	-1321	1192	17429	14.62	Si
SLV 15	14	0.24	1.57	-1412	1192	18457	15.48	Si
SLV 16	14	0.24	1.57	-1412	1192	18457	15.48	Si
SLV 14	14	0.24	2.44	-2198	1192	26375	22.12	Si
SLV 13	14	0.24	2.44	-2198	1192	26375	22.12	Si
SLV 4	14	0.24	2.98	-2683	1192	30414	25.51	Si
SLV 3	14	0.24	2.98	-2683	1192	30414	25.51	Si

### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = -25.5 Wa = 0.05 Ta = 0.0403

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 8	-604	-1000	-31	0.032	0.965	0.911	51.462	390.295	No
SLV 7	-604	-1000	-31	0.032	0.965	0.911	51.462	390.295	No
SLV 4	-1084	-3142	-25	0.046	1.448	0.935	71.256	407.523	No



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 3	-1084	-3142	-25	0.046	1.448	0.935	71.256	407.523	No
SLV 11	-550	-361	-21	0.044	0.911	0.908	70.17	390.295	No
SLV 12	-550	-361	-21	0.044	0.911	0.908	70.17	390.295	No
SLV 14	-1261	-2210	24	0.047	1.627	0.941	73.349	407.523	No
SLV 13	-1261	-2210	24	0.047	1.627	0.941	73.349	407.523	No
SLV 10	-1741	-4352	31	0.046	2.114	0.953	70.548	390.295	No
SLV 9	-1741	-4352	31	0.046	2.114	0.953	70.548	390.295	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.958	SLU 44	Si
V_SLU	8.709	SLU 44	Si
PF_SLV	0	SLV 11	No
V_SLV	0	SLV 11	No
PFFP_SLV	10.808	SLV 11	Si
R_SLV	0.132	SLV 7	No

## Maschio 35

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.8	333.1	-972.8	333.1	L1	L3	403	30	269	269	269			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 38	-160	-28504	-277788	2.36	4081213	14.692	Si
SLU 38	60	-19601	-416903	1.62	3163564	7.588	Si
SLU 29	-160	-24093	-231801	1.99	3667108	15.82	Si
SLU 29	60	-15817	-351504	1.31	2675280	7.611	Si
SLU 79	-160	-34066	-274122	2.82	4489868	16.379	Si
SLU 79	60	-22794	-468024	1.89	3529967	7.542	Si
SLU 35	-160	-28869	-267331	2.39	4111913	15.381	Si
SLU 35	60	-19852	-416576	1.64	3193855	7.667	Si
SLU 78	-160	-34486	-262656	2.85	4515621	17.192	Si
SLU 78	60	-23086	-467849	1.91	3561318	7.612	Si
SLU 77	-160	-34458	-263161	2.85	4513943	17.153	Si
SLU 77	60	-23065	-467773	1.91	3559150	7.609	Si
SLU 37	-160	-28476	-278292	2.36	4078855	14.657	Si
SLU 37	60	-19581	-416827	1.62	3161107	7.584	Si
SLU 36	-160	-28897	-266826	2.39	4114226	15.419	Si
SLU 36	60	-19872	-416652	1.64	3196288	7.671	Si
SLU 30	-160	-24121	-231296	2	3669964	15.867	Si
SLU 30	60	-15837	-351581	1.31	2678048	7.617	Si
SLU 80	-160	-34093	-273618	2.82	4491591	16.416	Si
SLU 80	60	-22814	-468101	1.89	3532157	7.546	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 8	-160	-25973	-1502672	2.15	4313414	2.87	Si
SLV 8	60	-20482	-971631	1.69	3554831	3.659	Si
SLV 10	-160	-22808	1321959	1.89	3886305	2.94	Si
SLV 10	60	-10955	409839	0.91	2043740	4.987	Si
SLV 14	-160	-17525	1512332	1.45	3112413	2.058	Si
SLV 14	60	-10975	124843	0.91	2047112	16.397	Si
SLV 7	-160	-25973	-1502672	2.15	4313414	2.87	Si
SLV 7	60	-20482	-971631	1.69	3554831	3.659	Si
SLV 4	-160	-31256	-1693045	2.59	4965551	2.933	Si
SLV 4	60	-20462	-686636	1.69	3551969	5.173	Si
SLV 13	-160	-17525	1512332	1.45	3112413	2.058	Si
SLV 13	60	-10975	124843	0.91	2047112	16.397	Si
SLV 3	-160	-31256	-1693045	2.59	4965551	2.933	Si
SLV 3	60	-20462	-686636	1.69	3551969	5.173	Si
SLV 9	-160	-22808	1321959	1.89	3886305	2.94	Si
SLV 9	60	-10955	409839	0.91	2043740	4.987	Si
SLV 15	-160	-17211	898151	1.42	3063912	3.411	Si
SLV 15	60	-13177	-250330	1.09	2418326	9.661	Si
SLV 16	-160	-17211	898151	1.42	3063912	3.411	Si
SLV 16	60	-13177	-250330	1.09	2418326	9.661	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	$\sigma N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 52	-160	-32256	-4	-100359		2.67	403	0.91	11017			1000	Si
SLU 52	60	-20867	-447	-360565		1.73	403	0.79	9499			21.27	Si
SLU 74	-160	-35108	19	-208541		2.9	403	0.94	11398			598.95	Si
SLU 74	60	-23461	-468	-446031		1.94	403	0.81	9845			21.06	Si
SLU 82	-160	-37271	23	-184301		3.08	403	0.97	11686			517.84	Si
SLU 82	60	-25220	-503	-452612		2.09	403	0.83	10079			20.03	Si
SLU 61	-160	-34115	6	-120620		2.82	403	0.93	11265			1000	Si
SLU 61	60	-22467	-467	-388510		1.86	403	0.8	9712			20.79	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLU 83	-160	-36594	33	-239427		3.03	403	0.96	11596			352.6	Si
SLU 83	60	-24803	-477	-474278		2.05	403	0.83	10024			20.99	Si
SLU 75	-160	-35136	19	-208036		2.91	403	0.94	11401			603.76	Si
SLU 75	60	-23482	-468	-446107		1.94	403	0.81	9848			21.04	Si
SLU 60	-160	-34088	6	-121125		2.82	403	0.93	11262			1000	Si
SLU 60	60	-22447	-467	-388433		1.86	403	0.8	9710			20.8	Si
SLU 73	-160	-35411	13	-164040		2.93	403	0.95	11438			892.95	Si
SLU 73	60	-23620	-483	-424667		1.95	403	0.82	9866			20.44	Si
SLU 84	-160	-36621	33	-238922		3.03	403	0.96	11600			354.28	Si
SLU 84	60	-24824	-478	-474354		2.05	403	0.83	10026			20.98	Si
SLU 81	-160	-37243	23	-184806		3.08	403	0.97	11682			514.36	Si
SLU 81	60	-25199	-503	-452535		2.08	403	0.83	10077			20.04	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLV 2	-160	-31571	-8242	-1078863		2.61	403	1.36	16389			1.99	Si
SLV 2	60	-18260	-5856	-311462		1.51	403	1.14	13727			2.34	Si
SLV 1	-160	-31571	-8242	-1078863		2.61	403	1.36	16389			1.99	Si
SLV 1	60	-18260	-5856	-311462		1.51	403	1.14	13727			2.34	Si
SLD 14	-160	-21438	3677	591842		1.77	403	1.19	14363			3.91	Si
SLD 14	60	-13698	1873	-109507		1.13	403	1.06	12815			6.84	Si
SLD 13	-160	-21438	3677	591842		1.77	403	1.19	14363			3.91	Si
SLD 13	60	-13698	1873	-109507		1.13	403	1.06	12815			6.84	Si
SLV 4	-160	-31256	-8601	-1693045		2.59	403	1.35	16326			1.9	Si
SLV 4	60	-20462	-5513	-686636		1.69	403	1.17	14167			2.57	Si
SLV 14	-160	-17525	8592	1512332		1.69	345.62	1.17	12146			1.41	Si
SLV 14	60	-10975	4834	124843		0.91	403	1.01	12270			2.54	Si
SLV 16	-160	-17211	8234	898151		1.42	403	1.12	13517			1.64	Si
SLV 16	60	-13177	5178	-250330		1.09	403	1.05	12710			2.45	Si
SLV 13	-160	-17525	8592	1512332		1.69	345.62	1.17	12146			1.41	Si
SLV 13	60	-10975	4834	124843		0.91	403	1.01	12270			2.54	Si
SLV 3	-160	-31256	-8601	-1693045		2.59	403	1.35	16326			1.9	Si
SLV 3	60	-20462	-5513	-686636		1.69	403	1.17	14167			2.57	Si
SLV 15	-160	-17211	8234	898151		1.42	403	1.12	13517			1.64	Si
SLV 15	60	-13177	5178	-250330		1.09	403	1.05	12710			2.45	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 16	14	0.24	1.23	-14816	16030	199951	12.47	Si
SLV 15	14	0.24	1.23	-14816	16030	199951	12.47	Si
SLV 14	14	0.24	1.24	-14978	16030	201894	12.59	Si
SLV 13	14	0.24	1.24	-14978	16030	201894	12.59	Si
SLV 12	14	0.24	1.56	-18885	16030	247064	15.41	Si
SLV 11	14	0.24	1.56	-18885	16030	247064	15.41	Si
SLV 10	14	0.24	1.61	-19426	16030	253073	15.79	Si
SLV 9	14	0.24	1.61	-19426	16030	253073	15.79	Si
SLV 8	14	0.24	1.86	-22535	16030	286464	17.87	Si
SLV 7	14	0.24	1.86	-22535	16030	286464	17.87	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = -25.5 Wa = 0.05 Ta = 0.0403

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	a <sub>lim</sub>	Verifica
SLV 9	-7726	-22808	-537	0.021	12.589	0.909	33.07	390.295	No
SLV 10	-7726	-22808	-537	0.021	12.589	0.909	33.07	390.295	No
SLV 6	-10149	-27022	-596	0.023	15.009	0.92	35.767	390.295	No
SLV 5	-10149	-27022	-596	0.023	15.009	0.92	35.767	390.295	No
SLV 12	-16993	-21759	630	0.032	21.916	0.941	49.948	390.295	No
SLV 11	-16993	-21759	630	0.032	21.916	0.941	49.948	390.295	No
SLV 7	-19416	-25973	570	0.038	24.372	0.946	57.666	390.295	No
SLV 8	-19416	-25973	570	0.038	24.372	0.946	57.666	390.295	No
SLV 15	-10923	-17211	291	0.047	15.787	0.923	73.288	407.523	No
SLV 16	-10923	-17211	291	0.047	15.787	0.923	73.288	407.523	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.542	SLU 79	Si
V_SLU	20.026	SLU 82	Si
PF_SLV	2.058	SLV 13	Si
V_SLV	1.414	SLV 13	Si
PFFP_SLV	12.473	SLV 15	Si
R_SLV	0.085	SLV 9	No

## Maschio 36

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-1969.3	657.6	-1776.8	657.6	L1	L3	192.5	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>k</sub>	f <sub>vk0</sub>	f <sub>medio</sub>	$\tau_0$	f <sub>v0</sub>	$\mu$	$\phi$	f <sub>v,lim</sub>	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2



Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 81	40	-24681	-425874	2.85	1544655	3.627	Si
SLU 81	80	-24811	-537692	2.86	1548390	2.88	Si
SLU 83	40	-25003	-430091	2.89	1553826	3.613	Si
SLU 83	80	-25144	-544789	2.9	1557745	2.859	Si
SLU 74	40	-24209	-413800	2.79	1530702	3.699	Si
SLU 74	80	-24331	-525797	2.81	1534360	2.918	Si
SLU 80	40	-24305	-413774	2.81	1533593	3.706	Si
SLU 80	80	-24428	-527521	2.82	1537245	2.914	Si
SLU 77	40	-24531	-418017	2.83	1540287	3.685	Si
SLU 77	80	-24664	-532895	2.85	1544151	2.898	Si
SLU 79	40	-24339	-413999	2.81	1534590	3.707	Si
SLU 79	80	-24460	-528145	2.82	1538199	2.912	Si
SLU 75	40	-24176	-413576	2.79	1529693	3.699	Si
SLU 75	80	-24299	-525174	2.81	1533394	2.92	Si
SLU 78	40	-24498	-417793	2.83	1539308	3.684	Si
SLU 78	80	-24632	-532271	2.84	1543215	2.899	Si
SLU 82	40	-24648	-425649	2.85	1543690	3.627	Si
SLU 82	80	-24779	-537068	2.86	1547467	2.881	Si
SLU 84	40	-24970	-429866	2.88	1552890	3.612	Si
SLU 84	80	-25112	-544165	2.9	1556851	2.861	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 4	40	-19473	-586642	2.25	1529449	2.607	Si
SLV 4	80	-19392	-623443	2.24	1524503	2.445	Si
SLV 5	40	-9775	-310056	1.13	853952	2.754	Si
SLV 5	80	-9412	-306843	1.09	825332	2.69	Si
SLD 4	40	-17828	-410618	2.06	1426921	3.475	Si
SLD 4	80	-17812	-470534	2.06	1425886	3.03	Si
SLV 6	40	-9775	-310056	1.13	853952	2.754	Si
SLV 6	80	-9412	-306843	1.09	825332	2.69	Si
SLD 3	40	-17828	-410618	2.06	1426921	3.475	Si
SLD 3	80	-17812	-470534	2.06	1425886	3.03	Si
SLV 2	40	-15234	-552804	1.76	1255231	2.271	Si
SLV 2	80	-14956	-551942	1.73	1236101	2.24	Si
SLD 2	40	-16038	-396623	1.85	1309766	3.302	Si
SLD 2	80	-15936	-440353	1.84	1302931	2.959	Si
SLV 3	40	-19473	-586642	2.25	1529449	2.607	Si
SLV 3	80	-19392	-623443	2.24	1524503	2.445	Si
SLD 1	40	-16038	-396623	1.85	1309766	3.302	Si
SLD 1	80	-15936	-440353	1.84	1302931	2.959	Si
SLV 1	40	-15234	-552804	1.76	1255231	2.271	Si
SLV 1	80	-14956	-551942	1.73	1236101	2.24	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 78	40	-24498	557	-417793	2.83	192.5	0.93	8079				14.51	Si
SLU 78	80	-24632	1000	-532271	2.84	192.5	0.93	8097				8.1	Si
SLU 79	40	-24339	578	-413999	2.81	192.5	0.93	8058				13.93	Si
SLU 79	80	-24460	1018	-528145	2.82	192.5	0.93	8074				7.93	Si
SLU 72	40	-22003	545	-366386	2.54	192.5	0.89	7746				14.21	Si
SLU 72	80	-22056	942	-472125	2.55	192.5	0.9	7753				8.23	Si
SLU 70	40	-22196	536	-370404	2.56	192.5	0.9	7772				14.5	Si
SLU 70	80	-22260	937	-476875	2.57	192.5	0.9	7780				8.3	Si
SLU 83	40	-25003	543	-430091	2.89	192.5	0.94	8146				15	Si
SLU 83	80	-25144	995	-544789	2.9	192.5	0.94	8165				8.21	Si
SLU 77	40	-24531	569	-418017	2.83	192.5	0.93	8083				14.2	Si
SLU 77	80	-24664	1013	-532895	2.85	192.5	0.94	8101				8	Si
SLU 84	40	-24970	531	-429866	2.88	192.5	0.94	8142				15.34	Si
SLU 84	80	-25112	982	-544165	2.9	192.5	0.94	8161				8.31	Si
SLU 69	40	-22229	548	-370629	2.57	192.5	0.9	7776				14.19	Si
SLU 69	80	-22292	950	-477499	2.57	192.5	0.9	7785				8.2	Si
SLU 80	40	-24305	566	-413774	2.81	192.5	0.93	8053				14.23	Si
SLU 80	80	-24428	1005	-527521	2.82	192.5	0.93	8070				8.03	Si
SLU 71	40	-22037	557	-366610	2.54	192.5	0.89	7751				13.91	Si
SLU 71	80	-22088	955	-472749	2.55	192.5	0.9	7758				8.12	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	40	-18006	8429	-5865	2.08	192.5	1.25	10820				1.28	Si
SLV 16	80	-18338	8852	-161500	2.12	192.5	1.26	10886				1.23	Si
SLV 6	40	-9775	-4075	-310056	1.13	192.5	1.06	9174				2.25	Si
SLV 6	80	-9412	-3652	-306843	1.1	190.94	1.05	9043				2.48	Si
SLV 2	40	-15234	-7719	-552804	1.88	179.89	1.21	9793				1.27	Si
SLV 2	80	-14956	-7544	-551942	1.87	178.04	1.21	9668				1.28	Si
SLV 15	40	-18006	8429	-5865	2.08	192.5	1.25	10820				1.28	Si
SLV 15	80	-18338	8852	-161500	2.12	192.5	1.26	10886				1.23	Si
SLV 5	40	-9775	-4075	-310056	1.13	192.5	1.06	9174				2.25	Si
SLV 5	80	-9412	-3652	-306843	1.1	190.94	1.05	9043				2.48	Si
SLV 14	40	-13767	7105	-27972	1.59	192.5	1.15	9972				1.4	Si
SLV 14	80	-13902	7635	-89998	1.6	192.5	1.15	9999				1.31	Si
SLV 13	40	-13767	7105	-27972	1.59	192.5	1.15	9972				1.4	Si
SLV 13	80	-13902	7635	-89998	1.6	192.5	1.15	9999				1.31	Si
SLV 1	40	-15234	-7719	-552804	1.88	179.89	1.21	9793				1.27	Si
SLV 1	80	-14956	-7544	-551942	1.87	178.04	1.21	9668				1.28	Si
SLV 3	40	-19473	-6395	-586642	2.25	192.5	1.28	11113				1.74	Si
SLV 3	80	-19392	-6327	-623443	2.24	192.3	1.28	11090				1.75	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	40	-19473	-6395	-586642		2.25	192.5	1.28	11113			1.74	Si
SLV 4	80	-19392	-6327	-623443		2.24	192.3	1.28	11090			1.75	Si

#### Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.24	1.1	-9487	11486	194327	16.92	Si
SLV 10	14	0.24	1.1	-9487	11486	194327	16.92	Si
SLV 6	14	0.24	1.17	-10174	11486	206914	18.01	Si
SLV 5	14	0.24	1.17	-10174	11486	206914	18.01	Si
SLV 14	14	0.24	1.7	-14689	11486	284642	24.78	Si
SLV 13	14	0.24	1.7	-14689	11486	284642	24.78	Si
SLV 2	14	0.24	1.96	-16980	11486	320754	27.93	Si
SLV 1	14	0.24	1.96	-16980	11486	320754	27.93	Si
SLV 15	14	0.24	2.29	-19836	11486	362662	31.57	Si
SLV 16	14	0.24	2.29	-19836	11486	362662	31.57	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = -25.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 1	-11946	-20762	-882	0.033	15.47	0.94	51.46	336.206	No
SLV 2	-11946	-20762	-882	0.033	15.47	0.94	51.46	336.206	No
SLV 5	-6820	-10080	-621	0.034	10.301	0.917	53.267	327.131	No
SLV 6	-6820	-10080	-621	0.034	10.301	0.917	53.267	327.131	No
SLV 4	-16743	-28334	-1014	0.039	20.337	0.953	59.707	336.206	No
SLV 3	-16743	-28334	-1014	0.039	20.337	0.953	59.707	336.206	No
SLV 10	-7224	-8498	-529	0.046	10.706	0.92	72.237	327.131	No
SLV 9	-7224	-8498	-529	0.046	10.706	0.92	72.237	327.131	No
SLV 8	-22812	-35323	-1059	0.048	26.507	0.963	72.707	327.131	No
SLV 7	-22812	-35323	-1059	0.048	26.507	0.963	72.707	327.131	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF SLU	2.859	SLU 83	Si
V SLU	7.928	SLU 79	Si
PF SLV	2.24	SLV 1	Si
V SLV	1.23	SLV 15	Si
PFFP SLV	16.919	SLV 9	Si
R SLV	0.153	SLV 1	No

## Maschio 37

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1676.8	657.6	-1288.8	657.6	L1	L3	388	45	269	269	269			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedlo	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 48	40	-54997	-458986	3.15	6543692	14.257	Si
SLU 48	80	-55407	-388128	3.17	6561511	16.906	Si
SLU 49	40	-54937	-458428	3.15	6541040	14.268	Si
SLU 49	80	-55345	-387460	3.17	6558819	16.928	Si
SLU 51	40	-54447	-450359	3.12	6519124	14.475	Si
SLU 51	80	-54831	-380549	3.14	6536361	17.176	Si
SLU 70	40	-61727	-472839	3.54	6777806	14.334	Si
SLU 70	80	-62373	-389839	3.57	6793779	17.427	Si
SLU 66	40	-60663	-463795	3.47	6749020	14.552	Si
SLU 66	80	-61293	-380191	3.51	6766420	17.797	Si
SLU 71	40	-61298	-465327	3.51	6766569	14.542	Si
SLU 71	80	-61922	-383596	3.55	6782749	17.682	Si
SLU 46	40	-53813	-448827	3.08	6489710	14.459	Si
SLU 46	80	-54201	-377144	3.1	6507852	17.256	Si
SLU 45	40	-53873	-449384	3.09	6492547	14.448	Si
SLU 45	80	-54264	-377812	3.11	6510740	17.233	Si
SLU 69	40	-61787	-473396	3.54	6779342	14.321	Si
SLU 69	80	-62436	-390507	3.58	6795269	17.401	Si
SLU 50	40	-54508	-450916	3.12	6521856	14.464	Si
SLU 50	80	-54894	-381217	3.14	6539142	17.153	Si

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLD 1	40	-44489	-771351	2.55	6830966	8.856	Si
SLD 1	80	-44386	-410775	2.54	6819322	16.601	Si
SLV 14	40	-37240	754324	2.13	5963435	7.906	Si
SLV 14	80	-36683	18178	2.1	5892842	324.17	Si
SLV 5	40	-26227	-527205	1.5	4462517	8.464	Si
SLV 5	80	-22596	-425781	1.29	3919350	9.205	Si
SLV 3	40	-54686	-1430482	3.13	7889663	5.515	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 3	80	-56185	-562766	3.22	8029328	14.268	Si
SLD 2	40	-44489	-771351	2.55	6830966	8.856	Si
SLD 2	80	-44386	-410775	2.54	6819322	16.601	Si
SLV 1	40	-42382	-1354191	2.43	6588691	4.865	Si
SLV 1	80	-41453	-599286	2.37	6479324	10.812	Si
SLV 4	40	-54686	-1430482	3.13	7889663	5.515	Si
SLV 4	80	-56185	-562766	3.22	8029328	14.268	Si
SLV 2	40	-42382	-1354191	2.43	6588691	4.865	Si
SLV 2	80	-41453	-599286	2.37	6479324	10.812	Si
SLV 13	40	-37240	754324	2.13	5963435	7.906	Si
SLV 13	80	-36683	18178	2.1	5892842	324.17	Si
SLV 6	40	-26227	-527205	1.5	4462517	8.464	Si
SLV 6	80	-22596	-425781	1.29	3919350	9.205	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 73	40	-66063	-3856	-438452	3.78	388	1.06	18508				4.8	Si
SLU 73	80	-66900	-3860	-339499	3.83	388	1.07	18620				4.82	Si
SLU 78	40	-68841	-3885	-466096	3.94	388	1.08	18879				4.86	Si
SLU 78	80	-69742	-3889	-367487	3.99	388	1.08	18915				4.86	Si
SLU 84	40	-70276	-4079	-445535	4.02	388	1.08	18915				4.64	Si
SLU 84	80	-71243	-4083	-340680	4.08	388	1.08	18915				4.63	Si
SLU 77	40	-68901	-3884	-466654	3.95	388	1.08	18887				4.86	Si
SLU 77	80	-69805	-3888	-368155	4	388	1.08	18915				4.87	Si
SLU 74	40	-67777	-3891	-457052	3.88	388	1.07	18737				4.82	Si
SLU 74	80	-68662	-3895	-357839	3.93	388	1.08	18855				4.84	Si
SLU 76	40	-67188	-3850	-448054	3.85	388	1.07	18658				4.85	Si
SLU 76	80	-68043	-3854	-349814	3.9	388	1.08	18772				4.87	Si
SLU 81	40	-69213	-4085	-436492	3.96	388	1.08	18915				4.63	Si
SLU 81	80	-70163	-4089	-331033	4.02	388	1.08	18915				4.63	Si
SLU 75	40	-67717	-3892	-456495	3.88	388	1.07	18729				4.81	Si
SLU 75	80	-68599	-3896	-357171	3.93	388	1.08	18847				4.84	Si
SLU 83	40	-70337	-4078	-446093	4.03	388	1.08	18915				4.64	Si
SLU 83	80	-71306	-4082	-341349	4.08	388	1.08	18915				4.63	Si
SLU 82	40	-69152	-4086	-435934	3.96	388	1.08	18915				4.63	Si
SLU 82	80	-70100	-4090	-330365	4.01	388	1.08	18915				4.62	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	40	-54686	-19547	-1430482	3.13	388	1.46	25487				1.3	Si
SLV 4	80	-56185	-21208	-562766	3.22	388	1.48	25787				1.22	Si
SLV 13	40	-37240	14329	754324	2.13	388	1.26	21998				1.54	Si
SLV 13	80	-36683	15986	18178	2.1	388	1.25	21887				1.37	Si
SLD 2	40	-44489	-9809	-771351	2.55	388	1.34	23448				2.39	Si
SLD 2	80	-44386	-10571	-410775	2.54	388	1.34	23427				2.22	Si
SLV 3	40	-54686	-19547	-1430482	3.13	388	1.46	25487				1.3	Si
SLV 3	80	-56185	-21208	-562766	3.22	388	1.48	25787				1.22	Si
SLV 15	40	-49544	14270	678034	2.84	388	1.4	24459				1.71	Si
SLV 15	80	-51415	16191	54698	2.94	388	1.42	24833				1.53	Si
SLV 2	40	-42382	-19487	-1354191	2.43	388	1.32	23026				1.18	Si
SLV 2	80	-41453	-21413	-599286	2.37	388	1.31	22841				1.07	Si
SLV 16	40	-49544	14270	678034	2.84	388	1.4	24459				1.71	Si
SLV 16	80	-51415	16191	54698	2.94	388	1.42	24833				1.53	Si
SLD 1	40	-44489	-9809	-771351	2.55	388	1.34	23448				2.39	Si
SLD 1	80	-44386	-10571	-410775	2.54	388	1.34	23427				2.22	Si
SLV 14	40	-37240	14329	754324	2.13	388	1.26	21998				1.54	Si
SLV 14	80	-36683	15986	18178	2.1	388	1.25	21887				1.37	Si
SLV 1	40	-42382	-19487	-1354191	2.43	388	1.32	23026				1.18	Si
SLV 1	80	-41453	-21413	-599286	2.37	388	1.31	22841				1.07	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.24	1.54	-26916	23151	529199	22.86	Si
SLV 10	14	0.24	1.54	-26916	23151	529199	22.86	Si
SLV 5	14	0.24	1.62	-28218	23151	550920	23.8	Si
SLV 6	14	0.24	1.62	-28218	23151	550920	23.8	Si
SLV 13	14	0.24	2.11	-36917	23151	686904	29.67	Si
SLV 14	14	0.24	2.11	-36917	23151	686904	29.67	Si
SLV 1	14	0.24	2.36	-41257	23151	748763	32.34	Si
SLV 2	14	0.24	2.36	-41257	23151	748763	32.34	Si
SLV 16	14	0.24	2.68	-46792	23151	821906	35.5	Si
SLV 15	14	0.24	2.68	-46792	23151	821906	35.5	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = -25.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 5	-25577	-28197	-1652	0.04	32.7	0.943	61.77	327.131	No
SLV 6	-25577	-28197	-1652	0.04	32.7	0.943	61.77	327.131	No
SLV 10	-24207	-27130	-1537	0.042	31.312	0.94	64.918	327.131	No
SLV 9	-24207	-27130	-1537	0.042	31.312	0.94	64.918	327.131	No
SLV 2	-40267	-40976	-1906	0.049	47.617	0.959	73.909	336.206	No
SLV 1	-40267	-40976	-1906	0.049	47.617	0.959	73.909	336.206	No
SLV 3	-51487	-50862	-2008	0.054	59.033	0.966	81.159	336.206	No
SLV 4	-51487	-50862	-2008	0.054	59.033	0.966	81.159	336.206	No
SLV 14	-35698	-37419	-1522	0.054	42.973	0.955	82.762	336.206	No
SLV 13	-35698	-37419	-1522	0.054	42.973	0.955	82.762	336.206	No



## Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	14.257	SLU 48	Si
V_SLU	4.625	SLU 82	Si
PF_SLV	4.865	SLV 1	Si
V_SLV	1.067	SLV 1	Si
PFFP_SLV	22.859	SLV 9	Si
R_SLV	0.189	SLV 5	No

## Maschio 38

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1188.8	657.6	-800.8	657.6	L1	L3	388	45	269	269	269			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 71	40	-55828	318836	3.2	6579293	20.635	Si
SLU 71	80	-51252	171713	2.94	6359912	37.038	Si
SLU 69	40	-56191	321709	3.22	6594236	20.498	Si
SLU 69	80	-51598	173782	2.96	6378494	36.704	Si
SLU 72	40	-55759	318142	3.19	6576398	20.671	Si
SLU 72	80	-51187	170722	2.93	6356367	37.232	Si
SLU 48	40	-49958	321370	2.86	6287538	19.565	Si
SLU 48	80	-45706	192928	2.62	6017495	31.19	Si
SLU 46	40	-48472	294165	2.78	6198751	21.072	Si
SLU 46	80	-44339	170714	2.54	5920186	34.679	Si
SLU 70	40	-56121	321015	3.21	6591410	20.533	Si
SLU 70	80	-51533	172791	2.95	6375011	36.894	Si
SLU 49	40	-49889	320676	2.86	6283534	19.595	Si
SLU 49	80	-45641	191937	2.61	6012962	31.328	Si
SLU 51	40	-49526	317803	2.84	6262355	19.705	Si
SLU 51	80	-45295	189868	2.59	5988759	31.542	Si
SLU 45	40	-48541	294859	2.78	6203023	21.037	Si
SLU 45	80	-44405	171705	2.54	5924951	34.507	Si
SLU 50	40	-49596	318497	2.84	6266428	19.675	Si
SLU 50	80	-45360	190858	2.6	5993354	31.402	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 3	40	-42230	-837858	2.42	6570936	7.843	Si
SLV 3	80	-40930	-189654	2.34	6417035	33.835	Si
SLV 15	40	-50390	1278521	2.89	7466711	5.84	Si
SLV 15	80	-47896	373386	2.74	7205793	19.298	Si
SLV 14	40	-40247	1230100	2.31	6334941	5.15	Si
SLV 14	80	-34822	368575	1.99	5652756	15.337	Si
SLV 16	40	-50390	1278521	2.89	7466711	5.84	Si
SLV 16	80	-47896	373386	2.74	7205793	19.298	Si
SLV 4	40	-42230	-837858	2.42	6570936	7.843	Si
SLV 4	80	-40930	-189654	2.34	6417035	33.835	Si
SLD 14	40	-40857	638065	2.34	6408268	10.043	Si
SLD 14	80	-36636	208077	2.1	5886847	28.292	Si
SLV 13	40	-40247	1230100	2.31	6334941	5.15	Si
SLV 13	80	-34822	368575	1.99	5652756	15.337	Si
SLV 2	40	-32087	-886280	1.84	5288634	5.967	Si
SLV 2	80	-27855	-194466	1.6	4698346	24.16	Si
SLD 13	40	-40857	638065	2.34	6408268	10.043	Si
SLD 13	80	-36636	208077	2.1	5886847	28.292	Si
SLV 1	40	-32087	-886280	1.84	5288634	5.967	Si
SLV 1	80	-27855	-194466	1.6	4698346	24.16	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 84	40	-63560	2436	250242		3.64	388	1.04	18175			7.46	Si
SLU 84	80	-58629	2430	78582		3.36	388	1	17517			7.21	Si
SLU 80	40	-62212	2361	289169		3.56	388	1.03	17995			7.62	Si
SLU 80	80	-57308	2356	121080		3.28	388	0.99	17341			7.36	Si
SLU 79	40	-62281	2352	289863		3.57	388	1.03	18004			7.66	Si
SLU 79	80	-57373	2346	122071		3.29	388	0.99	17350			7.4	Si
SLU 82	40	-62143	2367	223732		3.56	388	1.03	17986			7.6	Si
SLU 82	80	-57328	2361	57359		3.28	388	0.99	17344			7.35	Si
SLU 76	40	-60749	2299	262196		3.48	388	1.02	17800			7.74	Si
SLU 76	80	-55963	2293	99197		3.21	388	0.98	17162			7.48	Si
SLU 83	40	-63630	2426	250936		3.64	388	1.04	18184			7.5	Si
SLU 83	80	-58695	2420	79573		3.36	388	1	17526			7.24	Si
SLU 77	40	-62644	2363	292736		3.59	388	1.03	18052			7.64	Si
SLU 77	80	-57719	2357	124140		3.31	388	1	17396			7.38	Si
SLU 75	40	-61157	2303	265531		3.5	388	1.02	17854			7.75	Si
SLU 75	80	-56352	2298	101927		3.23	388	0.99	17214			7.49	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 81	40	-62213	2357	224426		3.56	388	1.03	17995			7.63	Si
SLU 81	80	-57393	2352	58350		3.29	388	0.99	17352			7.38	Si
SLU 78	40	-62574	2372	292042		3.58	388	1.03	18043			7.61	Si
SLU 78	80	-57654	2367	123150		3.3	388	1	17387			7.35	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	40	-40247	19260	1230100		2.31	388	1.29	22599			1.17	Si
SLV 13	80	-34822	20243	368575		1.99	388	1.23	21514			1.06	Si
SLV 10	40	-25557	8436	432875		1.46	388	1.13	19661			2.33	Si
SLV 10	80	-17129	8717	165897		0.98	388	1.03	17976			2.06	Si
SLV 14	40	-40247	19260	1230100		2.31	388	1.29	22599			1.17	Si
SLV 14	80	-34822	20243	368575		1.99	388	1.23	21514			1.06	Si
SLV 4	40	-42230	-16309	-837858		2.42	388	1.32	22996			1.41	Si
SLV 4	80	-40930	-17300	-189654		2.34	388	1.3	22736			1.31	Si
SLV 2	40	-32087	-15237	-886280		1.84	388	1.2	20967			1.38	Si
SLV 2	80	-27855	-16236	-194466		1.6	388	1.15	20121			1.24	Si
SLV 16	40	-50390	18188	1278521		2.89	388	1.41	24628			1.35	Si
SLV 16	80	-47896	19179	373386		2.74	388	1.38	24129			1.26	Si
SLV 1	40	-32087	-15237	-886280		1.84	388	1.2	20967			1.38	Si
SLV 1	80	-27855	-16236	-194466		1.6	388	1.15	20121			1.24	Si
SLV 3	40	-42230	-16309	-837858		2.42	388	1.32	22996			1.41	Si
SLV 3	80	-40930	-17300	-189654		2.34	388	1.3	22736			1.31	Si
SLV 15	40	-50390	18188	1278521		2.89	388	1.41	24628			1.35	Si
SLV 15	80	-47896	19179	373386		2.74	388	1.38	24129			1.26	Si
SLV 9	40	-25557	8436	432875		1.46	388	1.13	19661			2.33	Si
SLV 9	80	-17129	8717	165897		0.98	388	1.03	17976			2.06	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.24	1.45	-25262	23151	501093	21.64	Si
SLV 6	14	0.24	1.45	-25262	23151	501093	21.64	Si
SLV 10	14	0.24	1.56	-27280	23151	535317	23.12	Si
SLV 9	14	0.24	1.56	-27280	23151	535317	23.12	Si
SLV 1	14	0.24	1.91	-33379	23151	633523	27.37	Si
SLV 2	14	0.24	1.91	-33379	23151	633523	27.37	Si
SLV 13	14	0.24	2.3	-40106	23151	732744	31.65	Si
SLV 14	14	0.24	2.3	-40106	23151	732744	31.65	Si
SLV 3	14	0.24	2.43	-42354	23151	763780	32.99	Si
SLV 4	14	0.24	2.43	-42354	23151	763780	32.99	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = -25.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 10	-17949	-27799	-1854	0.016	24.987	0.928	25.035	327.131	No
SLV 9	-17949	-27799	-1854	0.016	24.987	0.928	25.035	327.131	No
SLV 6	-15876	-25992	-1696	0.017	22.9	0.923	26.558	327.131	No
SLV 5	-15876	-25992	-1696	0.017	22.9	0.923	26.558	327.131	No
SLV 14	-32998	-41696	-2191	0.034	40.231	0.952	52.35	336.206	No
SLV 13	-32998	-41696	-2191	0.034	40.231	0.952	52.35	336.206	No
SLV 2	-26089	-35675	-1664	0.04	33.219	0.943	62.256	336.206	No
SLV 1	-26089	-35675	-1664	0.04	33.219	0.943	62.256	336.206	No
SLV 16	-43825	-51802	-2321	0.043	51.237	0.961	64.535	336.206	No
SLV 15	-43825	-51802	-2321	0.043	51.237	0.961	64.535	336.206	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	19.565	SLU 48	Si
V_SLU	7.209	SLU 84	Si
PF_SLV	5.15	SLV 13	Si
V_SLV	1.063	SLV 13	Si
PFFP_SLV	21.645	SLV 5	Si
R_SLV	0.077	SLV 9	No

## Maschio 39

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-700.8	657.6	-530.8	657.6	L1	L3	170	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 84	40	-15025	-130077	1.96	969177	7.451	Si
SLU 84	80	-14339	-177534	1.87	938367	5.286	Si
SLU 81	40	-14653	-128048	1.92	952627	7.44	Si
SLU 81	80	-13967	-174132	1.83	921122	5.29	Si
SLU 77	40	-14970	-129698	1.96	966779	7.454	Si





Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 77	80	-14285	-175861	1.87	935867	5.322	Si
SLU 82	40	-14624	-127512	1.91	951325	7.461	Si
SLU 82	80	-13938	-173953	1.82	919766	5.287	Si
SLU 75	40	-14541	-126597	1.9	947559	7.485	Si
SLU 75	80	-13855	-172100	1.81	915844	5.322	Si
SLU 80	40	-14864	-128494	1.94	962081	7.487	Si
SLU 80	80	-14179	-174491	1.85	930971	5.335	Si
SLU 73	40	-14044	-123007	1.84	924690	7.517	Si
SLU 73	80	-13358	-167209	1.75	892045	5.335	Si
SLU 74	40	-14570	-127133	1.9	948867	7.464	Si
SLU 74	80	-13884	-172280	1.81	917206	5.324	Si
SLU 78	40	-14941	-129162	1.95	965502	7.475	Si
SLU 78	80	-14256	-175682	1.86	934536	5.319	Si
SLU 83	40	-15053	-130613	1.97	970447	7.43	Si
SLU 83	80	-14368	-177714	1.88	939692	5.288	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLD 2	40	-8515	-192726	1.11	657836	3.413	Si
SLD 2	80	-7941	-116742	1.04	617675	5.291	Si
SLV 6	40	-4982	-101746	0.65	400875	3.94	Si
SLV 6	80	-4046	-94163	0.53	328991	3.494	Si
SLV 2	40	-6634	-332423	0.87	523902	1.576	Si
SLV 2	80	-5997	-114940	0.78	477006	4.15	Si
SLD 3	40	-9616	-209631	1.26	733264	3.498	Si
SLD 3	80	-9149	-123175	1.2	701540	5.695	Si
SLV 5	40	-4982	-101746	0.65	400875	3.94	Si
SLV 5	80	-4046	-94163	0.53	328991	3.494	Si
SLV 3	40	-9235	-371859	1.21	707413	1.902	Si
SLV 3	80	-8845	-130029	1.16	680657	5.235	Si
SLV 4	40	-9235	-371859	1.21	707413	1.902	Si
SLV 4	80	-8845	-130029	1.16	680657	5.235	Si
SLV 1	40	-6634	-332423	0.87	523902	1.576	Si
SLV 1	80	-5997	-114940	0.78	477006	4.15	Si
SLD 4	40	-9616	-209631	1.26	733264	3.498	Si
SLD 4	80	-9149	-123175	1.2	701540	5.695	Si
SLD 1	40	-8515	-192726	1.11	657836	3.413	Si
SLD 1	80	-7941	-116742	1.04	617675	5.291	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 84	40	-15025	1192	-130077		1.96	170	0.82	6253			5.25	Si
SLU 84	80	-14339	1192	-177534		1.87	170	0.81	6162			5.17	Si
SLU 83	40	-15053	1183	-130613		1.97	170	0.82	6257			5.29	Si
SLU 83	80	-14368	1183	-177714		1.88	170	0.81	6166			5.21	Si
SLU 78	40	-14941	1168	-129162		1.95	170	0.82	6242			5.34	Si
SLU 78	80	-14256	1168	-175682		1.86	170	0.8	6151			5.26	Si
SLU 76	40	-14444	1136	-125572		1.89	170	0.81	6176			5.44	Si
SLU 76	80	-13759	1136	-170790		1.8	170	0.8	6085			5.36	Si
SLU 79	40	-14893	1146	-129030		1.95	170	0.82	6236			5.44	Si
SLU 79	80	-14208	1146	-174671		1.86	170	0.8	6144			5.36	Si
SLU 77	40	-14970	1159	-129698		1.96	170	0.82	6246			5.39	Si
SLU 77	80	-14285	1159	-175861		1.87	170	0.8	6155			5.31	Si
SLU 82	40	-14624	1166	-127512		1.91	170	0.81	6200			5.32	Si
SLU 82	80	-13938	1166	-173953		1.82	170	0.8	6108			5.24	Si
SLU 80	40	-14864	1155	-128494		1.94	170	0.81	6232			5.39	Si
SLU 80	80	-14179	1155	-174491		1.85	170	0.8	6140			5.32	Si
SLU 81	40	-14653	1157	-128048		1.92	170	0.81	6204			5.36	Si
SLU 81	80	-13967	1157	-174132		1.83	170	0.8	6112			5.28	Si
SLU 75	40	-14541	1143	-126597		1.9	170	0.81	6189			5.41	Si
SLU 75	80	-13855	1143	-172100		1.81	170	0.8	6097			5.33	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 9	40	-6165	4736	56540		0.81	170	0.99	7608			1.61	Si
SLV 9	80	-5221	4471	-91444		0.68	170	0.97	7419			1.66	Si
SLV 16	40	-13181	6306	155760		1.72	170	1.18	9011			1.43	Si
SLV 16	80	-12764	6581	-120965		1.67	170	1.17	8928			1.36	Si
SLV 3	40	-9235	-6095	-371859		1.53	134.2	1.14	6879			1.13	Si
SLV 3	80	-8845	-6179	-130029		1.16	170	1.06	8144			1.32	Si
SLV 4	40	-9235	-6095	-371859		1.53	134.2	1.14	6879			1.13	Si
SLV 4	80	-8845	-6179	-130029		1.16	170	1.06	8144			1.32	Si
SLV 1	40	-6634	-4817	-332423		1.41	104.68	1.12	5253			1.09	Si
SLV 1	80	-5997	-5092	-114940		0.78	170	0.99	7574			1.49	Si
SLV 15	40	-13181	6306	155760		1.72	170	1.18	9011			1.43	Si
SLV 15	80	-12764	6581	-120965		1.67	170	1.17	8928			1.36	Si
SLV 2	40	-6634	-4817	-332423		1.41	104.68	1.12	5253			1.09	Si
SLV 2	80	-5997	-5092	-114940		0.78	170	0.99	7574			1.49	Si
SLV 10	40	-6165	4736	56540		0.81	170	0.99	7608			1.61	Si
SLV 10	80	-5221	4471	-91444		0.68	170	0.97	7419			1.66	Si
SLV 13	40	-10580	7585	195197		1.38	170	1.11	8491			1.12	Si
SLV 13	80	-9916	7668	-105876		1.3	170	1.09	8358			1.09	Si
SLV 14	40	-10580	7585	195197		1.38	170	1.11	8491			1.12	Si
SLV 14	80	-9916	7668	-105876		1.3	170	1.09	8358			1.09	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 2	14	0.24	0.54	-4150	10143	89228	8.8	Si



Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 1	14	0.24	0.54	-4150	10143	89228	8.8	Si
SLV 5	14	0.24	0.67	-5108	10143	108652	10.71	Si
SLV 6	14	0.24	0.67	-5108	10143	108652	10.71	Si
SLV 4	14	0.24	0.81	-6214	10143	130520	12.87	Si
SLV 3	14	0.24	0.81	-6214	10143	130520	12.87	Si
SLV 10	14	0.24	1.04	-7994	10143	164474	16.22	Si
SLV 9	14	0.24	1.04	-7994	10143	164474	16.22	Si
SLV 7	14	0.24	1.57	-11988	10143	235144	23.18	Si
SLV 8	14	0.24	1.57	-11988	10143	235144	23.18	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = -25.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 16	-10128	-23032	-199	0.08	13.236	0.939	123.793	336.206	No
SLV 15	-10128	-23032	-199	0.08	13.236	0.939	123.793	336.206	No
SLV 11	-12796	-18980	-228	0.079	15.94	0.948	120.633	327.131	No
SLV 12	-12796	-18980	-228	0.079	15.94	0.948	120.633	327.131	No
SLV 7	-12249	-13500	-222	0.079	15.384	0.946	121.198	327.131	No
SLV 8	-12249	-13500	-222	0.079	15.384	0.946	121.198	327.131	No
SLV 3	-8304	-4764	-179	0.081	11.391	0.931	126.904	336.206	No
SLV 4	-8304	-4764	-179	0.081	11.391	0.931	126.904	336.206	No
SLV 14	-7294	-21024	-168	0.082	10.374	0.925	129.055	336.206	No
SLV 13	-7294	-21024	-168	0.082	10.374	0.925	129.055	336.206	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.286	SLU 84	Si
V_SLU	5.17	SLU 84	Si
PF_SLV	1.576	SLV 1	Si
V_SLV	1.09	SLV 13	Si
PFFP_SLV	8.797	SLV 1	Si
R_SLV	0.368	SLV 15	No

## Maschio 40

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1101.3	-478.4	-1101.3	-191.6	L1	L2	286.8	30	198	198	198			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 83	-160	-52919	347639	6.15	1859321	5.348	Si
SLU 83	38	-51980	110998	6.04	1926233	17.354	Si
SLU 81	-160	-51741	366901	6.01	1942627	5.295	Si
SLU 81	38	-50623	125060	5.88	2016476	16.124	Si
SLU 78	-160	-52004	320463	6.04	1924554	6.006	Si
SLU 78	38	-51032	84701	5.93	1990067	23.495	Si
SLU 84	-160	-52952	356821	6.15	1856901	5.204	Si
SLU 84	38	-51864	114056	6.03	1934211	16.958	Si
SLU 73	-160	-49606	356229	5.77	2079177	5.837	Si
SLU 73	38	-48200	105966	5.6	2158940	20.374	Si
SLU 77	-160	-51971	311281	6.04	1926845	6.19	Si
SLU 77	38	-51147	81643	5.94	1982483	24.282	Si
SLU 76	-160	-50784	336966	5.9	2086162	5.954	Si
SLU 76	38	-49556	91904	5.76	2082150	22.656	Si
SLU 74	-160	-50793	330543	5.9	2005580	6.068	Si
SLU 74	38	-49791	95705	5.79	2068106	21.609	Si
SLU 82	-160	-51774	376084	6.02	1940367	5.159	Si
SLU 82	38	-50507	128118	5.87	2023813	15.797	Si
SLU 75	-160	-50826	339726	5.91	2003448	5.897	Si
SLU 75	38	-49675	98763	5.77	2075049	21.01	Si

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 16	-160	-19212	443108	2.23	2251679	5.082	Si
SLV 16	38	-20734	-108750	2.41	2387056	21.95	Si
SLV 12	-160	-17967	751276	2.09	2136311	2.844	Si
SLV 12	38	-16595	343872	1.93	2004284	5.829	Si
SLD 12	-160	-27704	447689	3.22	2926137	6.536	Si
SLD 12	38	-26597	169435	3.09	2849347	16.817	Si
SLD 11	-160	-27704	447689	3.22	2926137	6.536	Si
SLD 11	38	-26597	169435	3.09	2849347	16.817	Si
SLV 8	-160	-24959	711112	2.9	2729640	3.839	Si
SLV 8	38	-21886	503007	2.54	2485290	4.941	Si
SLV 7	-160	-24959	711112	2.9	2729640	3.839	Si
SLV 7	38	-21886	503007	2.54	2485290	4.941	Si
SLV 11	-160	-17967	751276	2.09	2136311	2.844	Si
SLV 11	38	-16595	343872	1.93	2004284	5.829	Si
SLV 15	-160	-19212	443108	2.23	2251679	5.082	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 15	38	-20734	-108750	2.41	2387056	21.95	Si
SLD 8	-160	-30679	430454	3.57	3115860	7.239	Si
SLD 8	38	-28844	236829	3.35	3001673	12.674	Si
SLD 7	-160	-30679	430454	3.57	3115860	7.239	Si
SLD 7	38	-28844	236829	3.35	3001673	12.674	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLU 83	-160	-52919	-6693	347639		6.15	286.82	1.08	9322			1.39	Si
SLU 83	38	-51980	-2748	110998		6.04	286.82	1.08	9322			3.39	Si
SLU 74	-160	-50793	-6380	330543		5.9	286.82	1.08	9322			1.46	Si
SLU 74	38	-49791	-2580	95705		5.79	286.82	1.08	9322			3.61	Si
SLU 79	-160	-51907	-6915	302400		6.03	286.82	1.08	9322			1.35	Si
SLU 79	38	-51105	-3075	72747		5.94	286.82	1.08	9322			3.03	Si
SLU 56	-160	-48555	-6300	270660		5.64	286.82	1.08	9322			1.48	Si
SLU 56	38	-47792	-2756	44140		5.55	286.82	1.08	9322			3.38	Si
SLU 71	-160	-46796	-6267	241787		5.44	286.82	1.08	9322			1.49	Si
SLU 71	38	-45900	-2804	16304		5.33	286.82	1.08	9322			3.32	Si
SLU 80	-160	-51940	-6739	311582		6.04	286.82	1.08	9322			1.38	Si
SLU 80	38	-50990	-2898	75804		5.93	286.82	1.08	9322			3.22	Si
SLU 77	-160	-51971	-6880	311281		6.04	286.82	1.08	9322			1.35	Si
SLU 77	38	-51147	-3022	81643		5.94	286.82	1.08	9322			3.08	Si
SLU 78	-160	-52004	-6704	320463		6.04	286.82	1.08	9322			1.39	Si
SLU 78	38	-51032	-2845	84701		5.93	286.82	1.08	9322			3.28	Si
SLU 84	-160	-52952	-6517	356821		6.15	286.82	1.08	9322			1.43	Si
SLU 84	38	-51864	-2572	114056		6.03	286.82	1.08	9322			3.62	Si
SLU 58	-160	-48491	-6335	261779		5.64	286.82	1.08	9322			1.47	Si
SLU 58	38	-47749	-2809	35243		5.55	286.82	1.08	9322			3.32	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLV 11	-160	-17967	6650	751276		2.09	286.82	1.25	10764			1.62	Si
SLV 11	38	-16595	8673	343872		1.93	286.82	1.22	10490			1.21	Si
SLV 9	-160	-44830	-14752	-263082		5.21	286.82	1.63	13982			0.95	No, Vu<V
SLV 9	38	-46054	-12246	-418888		5.35	286.82	1.63	13982			1.14	Si
SLV 5	-160	-51822	-14868	-303245		6.02	286.82	1.63	13982			0.94	No, Vu<V
SLV 5	38	-51345	-11663	-259753		5.97	286.82	1.63	13982			1.2	Si
SLV 6	-160	-51822	-14868	-303245		6.02	286.82	1.63	13982			0.94	No, Vu<V
SLV 6	38	-51345	-11663	-259753		5.97	286.82	1.63	13982			1.2	Si
SLV 12	-160	-17967	6650	751276		2.09	286.82	1.25	10764			1.62	Si
SLV 12	38	-16595	8673	343872		1.93	286.82	1.22	10490			1.21	Si
SLD 5	-160	-42084	-8701	341		4.89	286.82	1.63	13982			1.61	Si
SLD 5	38	-41343	-5834	-85316		4.8	286.82	1.63	13982			2.4	Si
SLV 7	-160	-24959	6533	711112		2.9	286.82	1.41	12162			1.86	Si
SLV 7	38	-21886	9257	503007		2.54	286.82	1.34	11548			1.25	Si
SLV 8	-160	-24959	6533	711112		2.9	286.82	1.41	12162			1.86	Si
SLV 8	38	-21886	9257	503007		2.54	286.82	1.34	11548			1.25	Si
SLV 10	-160	-44830	-14752	-263082		5.21	286.82	1.63	13982			0.95	No, Vu<V
SLV 10	38	-46054	-12246	-418888		5.35	286.82	1.63	13982			1.14	Si
SLD 6	-160	-42084	-8701	341		4.89	286.82	1.63	13982			1.61	Si
SLD 6	38	-41343	-5834	-85316		4.8	286.82	1.63	13982			2.4	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -61 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.24	1.91	-16467	6181	208320	33.7	Si
SLV 12	14	0.24	1.91	-16467	6181	208320	33.7	Si
SLV 16	14	0.24	2.04	-17571	6181	219520	35.51	Si
SLV 15	14	0.24	2.04	-17571	6181	219520	35.51	Si
SLV 8	14	0.24	2.75	-23666	6181	275080	44.5	Si
SLV 7	14	0.24	2.75	-23666	6181	275080	44.5	Si
SLV 13	14	0.24	2.99	-25716	6181	291392	47.14	Si
SLV 14	14	0.24	2.99	-25716	6181	291392	47.14	Si
SLV 3	14	0.24	4.83	-41566	6181	376994	60.99	Si
SLV 4	14	0.24	4.83	-41566	6181	376994	60.99	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = -61 Wa = 0.05 Ta = 0.0218

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 1	-47206	-50577	124	0.076	50.478	0.985	111.555	307.197	No
SLV 2	-47206	-50577	124	0.076	50.478	0.985	111.555	307.197	No
SLV 4	-38369	-42518	111	0.076	41.472	0.982	112.328	307.197	No
SLV 3	-38369	-42518	111	0.076	41.472	0.982	112.328	307.197	No
SLV 13	-29572	-27270	-63	0.077	32.509	0.977	115.237	307.197	No
SLV 14	-29572	-27270	-63	0.077	32.509	0.977	115.237	307.197	No
SLV 5	-51345	-51822	73	0.077	54.695	0.986	112.853	300.579	No
SLV 6	-51345	-51822	73	0.077	54.695	0.986	112.853	300.579	No
SLV 15	-20734	-19212	-75	0.078	23.508	0.969	116.385	307.197	No
SLV 16	-20734	-19212	-75	0.078	23.508	0.969	116.385	307.197	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.159	SLU 82	Si
V_SLU	1.348	SLU 79	Si
PF_SLV	2.844	SLV 11	Si
V_SLV	0.94	SLV 5	No
PFFP_SLV	33.702	SLV 11	Si
R_SLV	0.363	SLV 1	No



## Maschio 41

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1101.3	-478.4	-1101.3	-191.6	L2	L3	286.8	30	71	71	71			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>k</sub>	f <sub>vk0</sub>	f <sub>medio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>v,lim</sub>	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γ<sub>M</sub> = 3

Comb.	Quota	N	M	σ <sub>0</sub>	Mu	c.s.	Verifica
SLU 80	38	-54324	-438973	6.31	1752536	3.992	Si
SLU 80	109	-54483	-248834	6.33	1739969	6.993	Si
SLU 78	38	-54362	-427133	6.32	1749512	4.096	Si
SLU 78	109	-54528	-239236	6.34	1736346	7.258	Si
SLU 56	38	-50953	-441921	5.92	1995190	4.515	Si
SLU 56	109	-50988	-260640	5.93	1992946	7.646	Si
SLU 58	38	-50915	-453760	5.92	1997681	4.403	Si
SLU 58	109	-50942	-270237	5.92	1995910	7.386	Si
SLU 79	38	-54437	-449600	6.33	1743579	3.878	Si
SLU 79	109	-54570	-251686	6.34	1733024	6.886	Si
SLU 77	38	-54476	-437760	6.33	1740536	3.976	Si
SLU 77	109	-54615	-242089	6.35	1729384	7.144	Si
SLU 84	38	-55072	-407590	6.4	1692382	4.152	Si
SLU 84	109	-55291	-229096	6.43	1674342	7.308	Si
SLU 83	38	-55185	-418217	6.41	1683077	4.024	Si
SLU 83	109	-55378	-231949	6.44	1667109	7.187	Si
SLU 59	38	-50802	-443134	5.9	2005006	4.525	Si
SLU 59	109	-50855	-267385	5.91	2001562	7.486	Si
SLU 62	38	-51663	-422377	6	1947960	4.612	Si
SLU 62	109	-51751	-250500	6.01	1941993	7.752	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γ<sub>M</sub> = 2

Comb.	Quota	N	M	σ <sub>0</sub>	Mu	c.s.	Verifica
SLV 6	38	-54196	-1021744	6.3	3765811	3.686	Si
SLV 6	109	-53245	-469424	6.19	3768798	8.029	Si
SLV 14	38	-33380	-935247	3.88	3267182	3.493	Si
SLV 14	109	-35502	-1043863	4.13	3372122	3.23	Si
SLV 10	38	-49616	-1263416	5.77	3757534	2.974	Si
SLV 10	109	-50000	-903655	5.81	3760424	4.161	Si
SLV 8	38	-23070	721455	2.68	2582499	3.58	Si
SLV 8	109	-22638	577421	2.63	2547505	4.412	Si
SLV 13	38	-33380	-935247	3.88	3267182	3.493	Si
SLV 13	109	-35502	-1043863	4.13	3372122	3.23	Si
SLV 7	38	-23070	721455	2.68	2582499	3.58	Si
SLV 7	109	-22638	577421	2.63	2547505	4.412	Si
SLV 16	38	-24042	-412288	2.79	2659446	6.45	Si
SLV 16	109	-26320	-729809	3.06	2829620	3.877	Si
SLV 5	38	-54196	-1021744	6.3	3765811	3.686	Si
SLV 5	109	-53245	-469424	6.19	3768798	8.029	Si
SLV 9	38	-49616	-1263416	5.77	3757534	2.974	Si
SLV 9	109	-50000	-903655	5.81	3760424	4.161	Si
SLV 15	38	-24042	-412288	2.79	2659446	6.45	Si
SLV 15	109	-26320	-729809	3.06	2829620	3.877	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γ<sub>M</sub> = 3

Comb.	Quota	N	V par	M	σ <sub>0</sub>	σ <sub>N</sub>	l'	f <sub>vd</sub>	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLU 71	38	-49267	-2260	-425539		5.73	286.82	1.08	9322			4.13	Si
SLU 71	109	-49229	-2428	-248012		5.72	286.82	1.08	9322			3.84	Si
SLU 58	38	-50915	-2246	-453760		5.92	286.82	1.08	9322			4.15	Si
SLU 58	109	-50942	-2394	-270237		5.92	286.82	1.08	9322			3.89	Si
SLU 79	38	-54437	-2468	-449600		6.33	286.82	1.08	9322			3.78	Si
SLU 79	109	-54570	-2616	-251686		6.34	286.82	1.08	9322			3.56	Si
SLU 37	38	-45487	-2252	-368585		5.29	286.82	1.08	9322			4.14	Si
SLU 37	109	-45686	-2366	-195115		5.31	286.82	1.08	9322			3.94	Si
SLU 78	38	-54362	-2246	-427133		6.32	286.82	1.08	9322			4.15	Si
SLU 78	109	-54528	-2398	-239236		6.34	286.82	1.08	9322			3.89	Si
SLU 35	38	-45525	-2200	-356745		5.29	286.82	1.08	9322			4.24	Si
SLU 35	109	-45732	-2315	-185518		5.31	286.82	1.08	9322			4.03	Si
SLU 80	38	-54324	-2298	-438973		6.31	286.82	1.08	9322			4.06	Si
SLU 80	109	-54483	-2449	-248834		6.33	286.82	1.08	9322			3.81	Si
SLU 77	38	-54476	-2416	-437760		6.33	286.82	1.08	9322			3.86	Si
SLU 77	109	-54615	-2565	-242089		6.35	286.82	1.08	9322			3.63	Si
SLU 56	38	-50953	-2195	-441921		5.92	286.82	1.08	9322			4.25	Si
SLU 56	109	-50988	-2343	-260640		5.93	286.82	1.08	9322			3.98	Si
SLU 69	38	-49306	-2208	-413700		5.73	286.82	1.08	9322			4.22	Si
SLU 69	109	-49274	-2377	-238415		5.73	286.82	1.08	9322			3.92	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γ<sub>M</sub> = 2

Comb.	Quota	N	V par	M	σ <sub>0</sub>	σ <sub>N</sub>	l'	f <sub>vd</sub>	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLV 7	38	-23070	9351	721455		2.68	286.82	1.37	11784			1.26	Si
SLV 7	109	-22638	9882	577421		2.63	286.82	1.36	11698			1.18	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 9	38	-49616	-11542	-1263416		5.77	286.82	1.63	13982			1.21	Si
SLV 9	109	-50000	-12294	-903655		5.81	286.82	1.63	13982			1.14	Si
SLV 6	38	-54196	-10538	-1021744		6.3	286.82	1.63	13982			1.33	Si
SLV 6	109	-53245	-10343	-469424		6.19	286.82	1.63	13982			1.35	Si
SLV 13	38	-33380	-5752	-935247		3.88	286.82	1.61	13846			2.41	Si
SLV 13	109	-35502	-7491	-1043863		4.13	286.82	1.63	13982			1.87	Si
SLV 8	38	-23070	9351	721455		2.68	286.82	1.37	11784			1.26	Si
SLV 8	109	-22638	9882	577421		2.63	286.82	1.36	11698			1.18	Si
SLV 5	38	-54196	-10538	-1021744		6.3	286.82	1.63	13982			1.33	Si
SLV 5	109	-53245	-10343	-469424		6.19	286.82	1.63	13982			1.35	Si
SLV 12	38	-18491	8347	479783		2.15	286.82	1.26	10869			1.3	Si
SLV 12	109	-19393	7932	143189		2.25	286.82	1.28	11049			1.39	Si
SLV 10	38	-49616	-11542	-1263416		5.77	286.82	1.63	13982			1.21	Si
SLV 10	109	-50000	-12294	-903655		5.81	286.82	1.63	13982			1.14	Si
SLV 11	38	-18491	8347	479783		2.15	286.82	1.26	10869			1.3	Si
SLV 11	109	-19393	7932	143189		2.25	286.82	1.28	11049			1.39	Si
SLV 14	38	-33380	-5752	-935247		3.88	286.82	1.61	13846			2.41	Si
SLV 14	109	-35502	-7491	-1043863		4.13	286.82	1.63	13982			1.87	Si

#### Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 73.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.26	2.28	-19581	845	239012	282.88	Si
SLV 11	14	0.26	2.28	-19581	845	239012	282.88	Si
SLV 8	14	0.26	2.69	-23167	845	270930	320.65	Si
SLV 7	14	0.26	2.69	-23167	845	270930	320.65	Si
SLV 16	14	0.26	3.04	-26179	845	294910	349.03	Si
SLV 15	14	0.26	3.04	-26179	845	294910	349.03	Si
SLV 14	14	0.26	4.12	-35421	845	352315	416.97	Si
SLV 13	14	0.26	4.12	-35421	845	352315	416.97	Si
SLV 4	14	0.26	4.43	-38132	845	364532	431.43	Si
SLV 3	14	0.26	4.43	-38132	845	364532	431.43	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 73.5 Wa = 0.05 Ta = 0.0028

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 5	-53245	-54196	689	0.201	55.119	0.995	293.042	257.96	Si
SLV 6	-53245	-54196	689	0.201	55.119	0.995	293.042	257.96	Si
SLV 9	-50000	-49616	616	0.201	51.811	0.995	294.245	257.96	Si
SLV 10	-50000	-49616	616	0.201	51.811	0.995	294.245	257.96	Si
SLV 2	-46319	-48644	546	0.202	48.058	0.994	295.413	258.626	Si
SLV 1	-46319	-48644	546	0.202	48.058	0.994	295.413	258.626	Si
SLV 4	-37137	-39307	351	0.205	38.699	0.993	300.141	258.626	Si
SLV 3	-37137	-39307	351	0.205	38.699	0.993	300.141	258.626	Si
SLV 13	-35502	-33380	303	0.206	37.032	0.993	301.762	258.626	Si
SLV 14	-35502	-33380	303	0.206	37.032	0.993	301.762	258.626	Si

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.878	SLU 79	Si
V_SLU	3.563	SLU 79	Si
PF_SLV	2.974	SLV 9	Si
V_SLV	1.137	SLV 9	Si
PFFP_SLV	282.877	SLV 11	Si
R_SLV	1.136	SLV 5	Si

## Maschio 42

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1101.3	-191.6	-1101.3	-35.4	L1	Z medio 74 cm	156.2	30	233.5	198	269			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 75	-160	-29478	33008	6.29	524023	15.876	Si
SLU 75	38	-27854	7016	5.94	587720	83.767	Si
SLU 82	-160	-30386	40914	6.49	483736	11.823	Si
SLU 82	38	-28768	3458	6.14	553197	159.968	Si
SLU 76	-160	-29325	32625	6.26	530501	16.26	Si
SLU 76	38	-27689	5016	5.91	593580	118.328	Si
SLU 84	-160	-30764	34113	6.57	465969	13.659	Si
SLU 84	38	-29163	4841	6.22	537239	110.969	Si
SLU 83	-160	-30729	31506	6.56	467626	14.843	Si
SLU 83	38	-29132	6406	6.22	538498	84.057	Si
SLU 81	-160	-30351	38307	6.48	485339	12.67	Si
SLU 81	38	-28738	5023	6.13	554406	110.371	Si
SLU 40	-160	-25680	37231	5.48	656083	17.622	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 40	38	-24469	4888	5.22	685760	140.298	Si
SLU 61	-160	-28013	35506	5.98	581959	16.39	Si
SLU 61	38	-26375	-3672	5.63	636315	173.268	Si
SLU 74	-160	-29443	30400	6.28	525498	17.286	Si
SLU 74	38	-27823	8581	5.94	588815	68.618	Si
SLU 73	-160	-28947	39426	6.18	546043	13.85	Si
SLU 73	38	-27294	3633	5.83	607158	167.114	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 8	-160	-22218	192683	4.74	1061666	5.51	Si
SLV 8	38	-20846	-50840	4.45	1035112	20.36	Si
SLV 12	-160	-19636	202471	4.19	1007435	4.976	Si
SLV 12	38	-18374	-46682	3.92	974330	20.872	Si
SLV 6	-160	-20468	-158159	4.37	1026899	6.493	Si
SLV 6	38	-19116	55899	4.08	994320	17.788	Si
SLV 15	-160	-16010	91095	3.42	900606	9.886	Si
SLV 15	38	-14885	-4472	3.18	860165	192.337	Si
SLV 7	-160	-22218	192683	4.74	1061666	5.51	Si
SLV 7	38	-20846	-50840	4.45	1035112	20.36	Si
SLV 10	-160	-17885	-148372	3.82	960339	6.473	Si
SLV 10	38	-16644	60058	3.55	921876	15.35	Si
SLV 5	-160	-20468	-158159	4.37	1026899	6.493	Si
SLV 5	38	-19116	55899	4.08	994320	17.788	Si
SLV 16	-160	-16010	91095	3.42	900606	9.886	Si
SLV 16	38	-14885	-4472	3.18	860165	192.337	Si
SLV 11	-160	-19636	202471	4.19	1007435	4.976	Si
SLV 11	38	-18374	-46682	3.92	974330	20.872	Si
SLV 9	-160	-17885	-148372	3.82	960339	6.473	Si
SLV 9	38	-16644	60058	3.55	921876	15.35	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 60	-160	-27978	1498	32899		5.97	156.18	1.08	5076			3.39	Si
SLU 60	38	-26345	1144	-2107		5.62	156.18	1.08	5076			4.44	Si
SLU 44	-160	-23163	1441	26490		4.94	156.18	1.08	5076			3.52	Si
SLU 44	38	-21415	1014	-655		4.57	156.18	1.08	5076			5.01	Si
SLU 52	-160	-26574	1602	34018		5.67	156.18	1.08	5076			3.17	Si
SLU 52	38	-24901	1232	-3497		5.31	156.18	1.08	5076			4.12	Si
SLU 55	-160	-26952	1435	27217		5.75	156.18	1.08	5076			3.54	Si
SLU 55	38	-25296	1025	-2114		5.4	156.18	1.08	5076			4.95	Si
SLU 61	-160	-28013	1602	35506		5.98	156.18	1.08	5076			3.17	Si
SLU 61	38	-26375	1253	-3672		5.63	156.18	1.08	5076			4.05	Si
SLU 73	-160	-28947	1589	39426		6.18	156.18	1.08	5076			3.19	Si
SLU 73	38	-27294	1231	3633		5.83	156.18	1.08	5076			4.12	Si
SLU 63	-160	-28391	1434	28705		6.06	156.18	1.08	5076			3.54	Si
SLU 63	38	-26770	1046	-2289		5.71	156.18	1.08	5076			4.85	Si
SLU 82	-160	-30386	1589	40914		6.49	156.18	1.08	5076			3.2	Si
SLU 82	38	-28768	1252	3458		6.14	156.18	1.08	5076			4.05	Si
SLU 81	-160	-30351	1485	38307		6.48	156.18	1.08	5076			3.42	Si
SLU 81	38	-28738	1143	5023		6.13	156.18	1.08	5076			4.44	Si
SLU 65	-160	-25536	1428	31898		5.45	156.18	1.08	5076			3.55	Si
SLU 65	38	-23808	1014	6476		5.08	156.18	1.08	5076			5.01	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 5	-160	-20468	-4216	-158159		4.37	156.18	1.63	7614			1.81	Si
SLV 5	38	-19116	-4359	55899		4.08	156.18	1.63	7614			1.75	Si
SLV 9	-160	-17885	-4117	-148372		3.82	156.18	1.6	7482			1.82	Si
SLV 9	38	-16644	-5624	60058		3.55	156.18	1.54	7233			1.29	Si
SLV 8	-160	-22218	6145	192683		4.74	156.18	1.63	7614			1.24	Si
SLV 8	38	-20846	7029	-50840		4.45	156.18	1.63	7614			1.08	Si
SLV 10	-160	-17885	-4117	-148372		3.82	156.18	1.6	7482			1.82	Si
SLV 10	38	-16644	-5624	60058		3.55	156.18	1.54	7233			1.29	Si
SLV 12	-160	-19636	6244	202471		4.19	156.18	1.63	7614			1.22	Si
SLV 12	38	-18374	5764	-46682		3.92	156.18	1.62	7579			1.32	Si
SLV 11	-160	-19636	6244	202471		4.19	156.18	1.63	7614			1.22	Si
SLV 11	38	-18374	5764	-46682		3.92	156.18	1.62	7579			1.32	Si
SLV 4	-160	-24618	2403	58470		5.25	156.18	1.63	7614			3.17	Si
SLV 4	38	-23123	4520	-18333		4.94	156.18	1.63	7614			1.68	Si
SLV 6	-160	-20468	-4216	-158159		4.37	156.18	1.63	7614			1.81	Si
SLV 6	38	-19116	-4359	55899		4.08	156.18	1.63	7614			1.75	Si
SLV 3	-160	-24618	2403	58470		5.25	156.18	1.63	7614			3.17	Si
SLV 3	38	-23123	4520	-18333		4.94	156.18	1.63	7614			1.68	Si
SLV 7	-160	-22218	6145	192683		4.74	156.18	1.63	7614			1.24	Si
SLV 7	38	-20846	7029	-50840		4.45	156.18	1.63	7614			1.08	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -61 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 13	14	0.24	3.26	-15269	4681	167947	35.88	Si
SLV 14	14	0.24	3.26	-15269	4681	167947	35.88	Si
SLV 16	14	0.24	3.37	-15795	4681	171561	36.65	Si
SLV 15	14	0.24	3.37	-15795	4681	171561	36.65	Si
SLV 10	14	0.24	3.78	-17703	4681	183431	39.19	Si
SLV 9	14	0.24	3.78	-17703	4681	183431	39.19	Si
SLV 11	14	0.24	4.15	-19459	4681	192673	41.16	Si
SLV 12	14	0.24	4.15	-19459	4681	192673	41.16	Si
SLV 6	14	0.24	4.34	-20316	4681	196598	42	Si



Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.24	4.34	-20316	4681	196598	42	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = -61  $W_a = 0.05$   $T_a = 0.0303$

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 1	-22605	-24093	119	0.062	24.559	0.98	91.706	345.856	No
SLV 2	-22605	-24093	119	0.062	24.559	0.98	91.706	345.856	No
SLV 4	-23123	-24618	113	0.062	25.087	0.981	92.154	345.856	No
SLV 3	-23123	-24618	113	0.062	25.087	0.981	92.154	345.856	No
SLV 16	-14885	-16010	-71	0.064	16.695	0.972	95.339	345.856	No
SLV 15	-14885	-16010	-71	0.064	16.695	0.972	95.339	345.856	No
SLV 13	-14366	-15485	-64	0.064	16.167	0.971	96.049	345.856	No
SLV 14	-14366	-15485	-64	0.064	16.167	0.971	96.049	345.856	No
SLV 5	-19116	-20468	63	0.064	21.004	0.977	95.572	335.176	No
SLV 6	-19116	-20468	63	0.064	21.004	0.977	95.572	335.176	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.823	SLU 82	Si
V_SLU	3.169	SLU 52	Si
PF_SLV	4.976	SLV 11	Si
V_SLV	1.083	SLV 7	Si
PFFP_SLV	35.879	SLV 13	Si
R_SLV	0.265	SLV 1	No

## Maschio 44

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X inl.	Y inl.	X fin.	Y fin.	Quota l.	Quota s.	l	Sp.	h netta	h inl.	h fin.	a	a.s.,sx	a.s.,dx
-1101.3	-35.4	-1101.3	104.6	L1	L3	140	30	269	269	269			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>k</sub>	f <sub>vk0</sub>	f <sub>medio</sub>	$\tau_0$	f <sub>v0</sub>	$\mu$	$\phi$	f <sub>v,lim</sub>	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 78	-160	-29252	120604	6.96	296874	2.462	Si
SLU 78	109	-24275	-58810	5.78	493571	8.393	Si
SLU 83	-160	-30343	129015	7.22	240219	1.862	Si
SLU 83	109	-25179	-61331	5.99	465395	7.588	Si
SLU 82	-160	-30316	137794	7.22	241710	1.754	Si
SLU 82	109	-25037	-61110	5.96	470040	7.692	Si
SLU 74	-160	-29054	123491	6.92	306633	2.483	Si
SLU 74	109	-24043	-57202	5.72	500278	8.746	Si
SLU 84	-160	-30429	131961	7.24	235589	1.785	Si
SLU 84	109	-25224	-62025	6.01	463896	7.479	Si
SLU 73	-160	-28813	131668	6.86	318306	2.418	Si
SLU 73	109	-23678	-57673	5.64	510354	8.849	Si
SLU 77	-160	-29167	117658	6.94	301094	2.559	Si
SLU 77	109	-24230	-58117	5.77	494895	8.516	Si
SLU 76	-160	-28926	125835	6.89	312878	2.486	Si
SLU 76	109	-23865	-58588	5.68	505251	8.624	Si
SLU 75	-160	-29140	126437	6.94	302453	2.392	Si
SLU 75	109	-24088	-57896	5.74	498989	8.619	Si
SLU 81	-160	-30231	134848	7.2	246301	1.827	Si
SLU 81	109	-24992	-60416	5.95	471505	7.804	Si

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLD 7	-160	-23419	159443	5.58	891239	5.59	Si
SLD 7	109	-18717	-32554	4.46	832345	25.568	Si
SLV 11	-160	-25615	233248	6.1	898082	3.85	Si
SLV 11	109	-19588	-32762	4.66	847796	25.878	Si
SLV 8	-160	-28450	259556	6.77	887463	3.419	Si
SLV 8	109	-22370	-24415	5.33	883329	36.18	Si
SLV 7	-160	-28450	259556	6.77	887463	3.419	Si
SLV 7	109	-22370	-24415	5.33	883329	36.18	Si
SLV 12	-160	-25615	233248	6.1	898082	3.85	Si
SLV 12	109	-19588	-32762	4.66	847796	25.878	Si
SLD 12	-160	-22210	148287	5.29	881852	5.947	Si
SLD 12	109	-17564	-36969	4.18	808697	21.875	Si
SLD 11	-160	-22210	148287	5.29	881852	5.947	Si
SLD 11	109	-17564	-36969	4.18	808697	21.875	Si
SLV 3	-160	-26625	177669	6.34	896813	5.048	Si
SLV 3	109	-22170	-22066	5.28	881475	39.948	Si
SLD 8	-160	-23419	159443	5.58	891239	5.59	Si
SLD 8	109	-18717	-32554	4.46	832345	25.568	Si
SLV 4	-160	-26625	177669	6.34	896813	5.048	Si
SLV 4	109	-22170	-22066	5.28	881475	39.948	Si



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 83	-160	-30343	3650	129015		7.22	140	1.08	4550			1.25	Si
SLU 83	109	-25179	-525	-61331		5.99	140	1.08	4550			8.67	Si
SLU 76	-160	-28926	3610	125835		6.89	140	1.08	4550			1.26	Si
SLU 76	109	-23865	-380	-58588		5.68	140	1.08	4550			11.96	Si
SLU 61	-160	-27608	3650	125046		6.57	140	1.08	4550			1.25	Si
SLU 61	109	-22604	-116	-61420		5.38	140	1.08	4550			39.18	Si
SLU 75	-160	-29140	3600	126437		6.94	140	1.08	4550			1.26	Si
SLU 75	109	-24088	-404	-57896		5.74	140	1.08	4550			11.26	Si
SLU 60	-160	-27523	3562	122100		6.55	140	1.08	4550			1.28	Si
SLU 60	109	-22559	-196	-60726		5.37	140	1.08	4550			23.22	Si
SLU 73	-160	-28813	3725	131668		6.86	140	1.08	4550			1.22	Si
SLU 73	109	-23678	-219	-57673		5.64	140	1.08	4550			20.82	Si
SLU 63	-160	-27721	3535	119214		6.6	140	1.08	4550			1.29	Si
SLU 63	109	-22792	-278	-62334		5.43	140	1.08	4550			16.36	Si
SLU 84	-160	-30429	3738	131961		7.24	140	1.08	4550			1.22	Si
SLU 84	109	-25224	-445	-62025		6.01	140	1.08	4550			10.22	Si
SLU 82	-160	-30316	3853	137794		7.22	140	1.08	4550			1.18	Si
SLU 82	109	-25037	-283	-61110		5.96	140	1.08	4550			16.06	Si
SLU 81	-160	-30231	3765	134848		7.2	140	1.08	4550			1.21	Si
SLU 81	109	-24992	-363	-60416		5.95	140	1.08	4550			12.53	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 7	-160	-23419	4461	159443		5.58	140	1.63	6825			1.53	Si
SLD 7	109	-18717	1517	-32554		4.46	140	1.63	6825			4.5	Si
SLV 9	-160	-10951	-2107	-88404		2.61	140	1.35	5690			2.7	Si
SLV 9	109	-9739	-4328	-53871		2.32	140	1.3	5448			1.26	Si
SLV 8	-160	-28450	7099	259556		6.77	140	1.63	6825			0.96	No, Vu<V
SLV 8	109	-22370	3886	-24415		5.33	140	1.63	6825			1.76	Si
SLV 12	-160	-25615	7069	233248		6.1	140	1.63	6825			0.97	No, Vu<V
SLV 12	109	-19588	3472	-32762		4.66	140	1.63	6825			1.97	Si
SLV 6	-160	-13786	-2077	-62096		3.28	140	1.49	6257			3.01	Si
SLV 6	109	-12521	-3914	-45525		2.98	140	1.43	6004			1.53	Si
SLV 10	-160	-10951	-2107	-88404		2.61	140	1.35	5690			2.7	Si
SLV 10	109	-9739	-4328	-53871		2.32	140	1.3	5448			1.26	Si
SLD 8	-160	-23419	4461	159443		5.58	140	1.63	6825			1.53	Si
SLD 8	109	-18717	1517	-32554		4.46	140	1.63	6825			4.5	Si
SLV 7	-160	-28450	7099	259556		6.77	140	1.63	6825			0.96	No, Vu<V
SLV 7	109	-22370	3886	-24415		5.33	140	1.63	6825			1.76	Si
SLV 5	-160	-13786	-2077	-62096		3.28	140	1.49	6257			3.01	Si
SLV 5	109	-12521	-3914	-45525		2.98	140	1.43	6004			1.53	Si
SLV 11	-160	-25615	7069	233248		6.1	140	1.63	6825			0.97	No, Vu<V
SLV 11	109	-19588	3472	-32762		4.66	140	1.63	6825			1.97	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.24	2.68	-11247	5569	131730	23.65	Si
SLV 10	14	0.24	2.68	-11247	5569	131730	23.65	Si
SLV 13	14	0.24	2.99	-12576	5569	142415	25.57	Si
SLV 14	14	0.24	2.99	-12576	5569	142415	25.57	Si
SLV 6	14	0.24	3.27	-13719	5569	150772	27.07	Si
SLV 5	14	0.24	3.27	-13719	5569	150772	27.07	Si
SLV 16	14	0.24	3.85	-16188	5569	166224	29.85	Si
SLV 15	14	0.24	3.85	-16188	5569	166224	29.85	Si
SLV 2	14	0.24	4.96	-20816	5569	185590	33.33	Si
SLV 1	14	0.24	4.96	-20816	5569	185590	33.33	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = -25.5 Wa = 0.05 Ta = 0.0403

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 11	-19588	-25615	227	0.048	21.535	0.977	70.675	390.295	No
SLV 12	-19588	-25615	227	0.048	21.535	0.977	70.675	390.295	No
SLV 8	-22370	-28450	240	0.048	24.37	0.98	71.12	390.295	No
SLV 7	-22370	-28450	240	0.048	24.37	0.98	71.12	390.295	No
SLV 3	-22170	-26625	161	0.051	24.166	0.979	76.054	407.523	No
SLV 4	-22170	-26625	161	0.051	24.166	0.979	76.054	407.523	No
SLV 16	-12894	-17175	118	0.051	14.718	0.967	77.193	407.523	No
SLV 15	-12894	-17175	118	0.051	14.718	0.967	77.193	407.523	No
SLV 2	-19215	-22226	81	0.055	21.156	0.977	81.197	407.523	No
SLV 1	-19215	-22226	81	0.055	21.156	0.977	81.197	407.523	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.754	SLU 82	Si
V_SLU	1.181	SLU 82	Si
PF_SLV	3.419	SLV 7	Si
V_SLV	0.961	SLV 7	No
PFFP_SLV	23.655	SLV 9	Si
R_SLV	0.181	SLV 11	No

## Maschio 45

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)





## Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-972.8	220.1	-972.8	657.6	L1	L3	437.5	30	269	269	269			

## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 71	-160	-48363	1408568	3.68	5793772	4.113	Si
SLU 71	60	-50052	2624519	3.81	5823141	2.219	Si
SLU 80	-160	-54533	1440991	4.15	5844494	4.056	Si
SLU 80	60	-57147	2827807	4.35	5819004	2.058	Si
SLU 78	-160	-55293	1407712	4.21	5839969	4.149	Si
SLU 78	60	-58001	2811498	4.42	5804613	2.065	Si
SLU 77	-160	-55282	1415044	4.21	5840052	4.127	Si
SLU 77	60	-57996	2819708	4.42	5804713	2.059	Si
SLU 84	-160	-58271	1211346	4.44	5799438	4.788	Si
SLU 84	60	-61113	2685980	4.66	5726923	2.132	Si
SLU 74	-160	-56381	1168362	4.3	5829376	4.989	Si
SLU 74	60	-58924	2587239	4.49	5785715	2.236	Si
SLU 72	-160	-48374	1401237	3.69	5794001	4.135	Si
SLU 72	60	-50057	2616309	3.81	5823216	2.226	Si
SLU 79	-160	-54522	1448322	4.15	5844542	4.035	Si
SLU 79	60	-57142	2836017	4.35	5819085	2.052	Si
SLU 83	-160	-58261	1218678	4.44	5799654	4.759	Si
SLU 83	60	-61108	2694190	4.66	5727091	2.126	Si
SLU 69	-160	-49123	1375290	3.74	5808425	4.223	Si
SLU 69	60	-50906	2608211	3.88	5833550	2.237	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 7	-160	-28156	3946538	2.15	5077790	1.287	Si
SLV 7	60	-32585	4111279	2.48	5679714	1.381	Si
SLV 12	-160	-32202	3815274	2.45	5629712	1.476	Si
SLV 12	60	-36566	4206963	2.79	6175064	1.468	Si
SLD 7	-160	-34854	2051009	2.66	5967348	2.909	Si
SLD 7	60	-37362	2683183	2.85	6268820	2.336	Si
SLD 11	-160	-36571	1996392	2.79	6175628	3.093	Si
SLD 11	60	-39043	2725910	2.97	6461397	2.37	Si
SLV 11	-160	-32202	3815274	2.45	5629712	1.476	Si
SLV 11	60	-36566	4206963	2.79	6175064	1.468	Si
SLD 8	-160	-34854	2051009	2.66	5967348	2.909	Si
SLD 8	60	-37362	2683183	2.85	6268820	2.336	Si
SLD 12	-160	-36571	1996392	2.79	6175628	3.093	Si
SLD 12	60	-39043	2725910	2.97	6461397	2.37	Si
SLV 8	-160	-28156	3946538	2.15	5077790	1.287	Si
SLV 8	60	-32585	4111279	2.48	5679714	1.381	Si
SLV 3	-160	-30070	1857361	2.29	5344395	2.877	Si
SLV 3	60	-32272	2244905	2.46	5638856	2.512	Si
SLV 4	-160	-30070	1857361	2.29	5344395	2.877	Si
SLV 4	60	-32272	2244905	2.46	5638856	2.512	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 8	-160	-34401	1326	1110500		2.62	437.5	0.91	11879			8.96	Si
SLU 8	60	-35332	1337	1966765		2.69	437.5	0.91	12003			8.98	Si
SLU 29	-160	-38939	1524	1282346		2.97	437.5	0.95	12484			8.19	Si
SLU 29	60	-40755	1504	2282078		3.11	437.5	0.97	12726			8.46	Si
SLU 27	-160	-39699	1451	1249067		3.02	437.5	0.96	12585			8.68	Si
SLU 27	60	-41609	1441	2265769		3.17	437.5	0.98	12840			8.91	Si
SLU 38	-160	-45109	1519	1314769		3.44	437.5	1.01	13306			8.76	Si
SLU 38	60	-47850	1475	2485366		3.65	437.5	1.04	13672			9.27	Si
SLU 28	-160	-39710	1443	1241736		3.03	437.5	0.96	12586			8.72	Si
SLU 28	60	-41614	1435	2257559		3.17	437.5	0.98	12840			8.95	Si
SLU 71	-160	-48363	1567	1408568		3.68	437.5	1.05	13740			8.77	Si
SLU 71	60	-50052	1584	2624519		3.81	437.5	1.06	13965			8.82	Si
SLU 30	-160	-38950	1517	1275014		2.97	437.5	0.95	12485			8.23	Si
SLU 30	60	-40760	1498	2273868		3.11	437.5	0.97	12726			8.49	Si
SLU 37	-160	-45098	1526	1322100		3.44	437.5	1.01	13305			8.72	Si
SLU 37	60	-47844	1481	2493576		3.65	437.5	1.04	13671			9.23	Si
SLU 9	-160	-34412	1319	1103169		2.62	437.5	0.91	11880			9.01	Si
SLU 9	60	-35337	1331	1958555		2.69	437.5	0.91	12003			9.02	Si
SLU 72	-160	-48374	1559	1401237		3.69	437.5	1.05	13742			8.81	Si
SLU 72	60	-50057	1578	2616309		3.81	437.5	1.06	13966			8.85	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 9	-160	-51155	-14406	-2591352		3.9	437.5	1.61	21168			1.47	Si
SLV 9	60	-48941	-14138	-806589		3.73	437.5	1.58	20726			1.47	Si
SLV 10	-160	-51155	-14406	-2591352		3.9	437.5	1.61	21168			1.47	Si
SLV 10	60	-48941	-14138	-806589		3.73	437.5	1.58	20726			1.47	Si
SLV 7	-160	-28156	15257	3946538		3.98	235.75	1.63	11493			0.75	No, Vu<V
SLV 7	60	-32585	15130	4111279		3.91	277.74	1.62	13461			0.89	No, Vu<V
SLV 6	-160	-47109	-14286	-2460087		3.59	437.5	1.55	20359			1.43	Si
SLV 6	60	-44960	-13633	-902273		3.43	437.5	1.52	19929			1.46	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 8	-160	-28156	15257	3946538		3.98	235.75	1.63	11493			0.75	No, Vu<V
SLV 8	60	-32585	15130	4111279		3.91	277.74	1.62	13461			0.89	No, Vu<V
SLD 7	-160	-34854	6711	2051009		2.66	437.5	1.36	17908			2.67	Si
SLD 7	60	-37362	6697	2683183		2.85	437.5	1.4	18410			2.75	Si
SLV 5	-160	-47109	-14286	-2460087		3.59	437.5	1.55	20359			1.43	Si
SLV 5	60	-44960	-13633	-902273		3.43	437.5	1.52	19929			1.46	Si
SLD 8	-160	-34854	6711	2051009		2.66	437.5	1.36	17908			2.67	Si
SLD 8	60	-37362	6697	2683183		2.85	437.5	1.4	18410			2.75	Si
SLV 12	-160	-32202	15138	3815274		3.57	300.81	1.55	13961			0.92	No, Vu<V
SLV 12	60	-36566	14626	4206963		3.92	311.1	1.62	15091			1.03	Si
SLV 11	-160	-32202	15138	3815274		3.57	300.81	1.55	13961			0.92	No, Vu<V
SLV 11	60	-36566	14626	4206963		3.92	311.1	1.62	15091			1.03	Si

#### Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.24	2.32	-30515	17403	370627	21.3	Si
SLV 7	14	0.24	2.32	-30515	17403	370627	21.3	Si
SLV 3	14	0.24	2.35	-30820	17403	373457	21.46	Si
SLV 4	14	0.24	2.35	-30820	17403	373457	21.46	Si
SLV 12	14	0.24	2.62	-34335	17403	404763	23.26	Si
SLV 11	14	0.24	2.62	-34335	17403	404763	23.26	Si
SLV 1	14	0.24	2.66	-34903	17403	409599	23.54	Si
SLV 2	14	0.24	2.66	-34903	17403	409599	23.54	Si
SLV 15	14	0.24	3.32	-43556	17403	475895	27.35	Si
SLV 16	14	0.24	3.32	-43556	17403	475895	27.35	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = -25.5 Wa = 0.05 Ta = 0.0403

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 3	-33443	-30070	-403	0.05	39.023	0.962	74.954	407.523	No
SLV 4	-33443	-30070	-403	0.05	39.023	0.962	74.954	407.523	No
SLV 13	-50938	-49241	407	0.052	56.832	0.973	76.944	407.523	No
SLV 14	-50938	-49241	407	0.052	56.832	0.973	76.944	407.523	No
SLV 8	-35311	-28156	-356	0.051	40.923	0.964	77.12	390.295	No
SLV 7	-35311	-28156	-356	0.051	40.923	0.964	77.12	390.295	No
SLV 15	-48132	-43555	251	0.054	53.975	0.972	81.244	407.523	No
SLV 16	-48132	-43555	251	0.054	53.975	0.972	81.244	407.523	No
SLV 1	-36249	-35755	-247	0.054	41.878	0.964	81.384	407.523	No
SLV 2	-36249	-35755	-247	0.054	41.878	0.964	81.384	407.523	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.052	SLU 79	Si
V_SLU	8.19	SLU 29	Si
PF_SLV	1.287	SLV 7	Si
V_SLV	0.753	SLV 7	No
PFFP_SLV	21.297	SLV 7	Si
R_SLV	0.184	SLV 3	No

## Maschio 46

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-772.3	-478.4	-1101.3	-478.4	L1	L3	329	45	269	269	269			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 80	-160	-35979	755522	2.43	4152859	5.497	Si
SLU 80	109	-19236	-135233	1.3	2659604	19.667	Si
SLU 35	-160	-29462	637421	1.99	3662490	5.746	Si
SLU 35	109	-15606	-59937	1.05	2235027	37.289	Si
SLU 78	-160	-35931	749315	2.43	4149627	5.538	Si
SLU 78	109	-19219	-140955	1.3	2657653	18.855	Si
SLU 42	-160	-29037	669746	1.96	3626525	5.415	Si
SLU 42	109	-15652	-71623	1.06	2240582	31.283	Si
SLU 34	-160	-27812	642926	1.88	3520017	5.475	Si
SLU 34	109	-15132	-97173	1.02	2176829	22.402	Si
SLU 36	-160	-28893	670777	1.95	3614234	5.388	Si
SLU 36	109	-15534	-62788	1.05	2226191	35.456	Si
SLU 38	-160	-28942	676984	1.95	3618400	5.345	Si
SLU 38	109	-15551	-57066	1.05	2228318	39.048	Si
SLU 76	-160	-34850	721464	2.35	4076165	5.65	Si
SLU 76	109	-18816	-175340	1.27	2612336	14.899	Si
SLU 37	-160	-29510	643628	1.99	3666581	5.697	Si
SLU 37	109	-15624	-54216	1.06	2237149	41.264	Si
SLU 84	-160	-36075	748284	2.44	4159158	5.558	Si
SLU 84	109	-19337	-149790	1.31	2670857	17.831	Si



# Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 12	-160	-9897	120960	0.67	1538915	12.723	Si
SLV 12	109	-7458	-309055	0.5	1176239	3.806	Si
SLV 8	-160	-3800	514482	0.26	611965	1.189	Si
SLV 8	109	-2138	-546827	0	0	0	No, $e \geq l/2$
SLV 4	-160	-9911	1029565	0.67	1541106	1.497	Si
SLV 4	109	-2089	-661141	0	0	0	No, $e \geq l/2$
SLV 1	-160	-21246	1077542	1.44	3084551	2.863	Si
SLV 1	109	-7367	-521353	0.5	1162547	2.23	Si
SLD 4	-160	-19048	663131	1.29	2803481	4.228	Si
SLD 4	109	-8705	-394470	0.59	1363116	3.456	Si
SLD 3	-160	-19048	663131	1.29	2803481	4.228	Si
SLD 3	109	-8705	-394470	0.59	1363116	3.456	Si
SLV 11	-160	-9897	120960	0.67	1538915	12.723	Si
SLV 11	109	-7458	-309055	0.5	1176239	3.806	Si
SLV 7	-160	-3800	514482	0.26	611965	1.189	Si
SLV 7	109	-2138	-546827	0	0	0	No, $e \geq l/2$
SLV 3	-160	-9911	1029565	0.67	1541106	1.497	Si
SLV 3	109	-2089	-661141	0	0	0	No, $e \geq l/2$
SLV 2	-160	-21246	1077542	1.44	3084551	2.863	Si
SLV 2	109	-7367	-521353	0.5	1162547	2.23	Si

# Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 83	-160	-36643	-5265	714927		2.48	329	0.89	13111			2.49	Si
SLU 83	109	-19409	-1860	-146939		1.31	329	0.73	10813			5.81	Si
SLU 79	-160	-36548	-5254	722166		2.47	329	0.88	13098			2.49	Si
SLU 79	109	-19308	-1877	-132383		1.3	329	0.73	10799			5.75	Si
SLU 77	-160	-36499	-5233	715959		2.47	329	0.88	13092			2.5	Si
SLU 77	109	-19291	-1868	-138104		1.3	329	0.73	10797			5.78	Si
SLU 84	-160	-36075	-5309	748284		2.44	329	0.88	13035			2.46	Si
SLU 84	109	-19337	-1900	-149790		1.31	329	0.73	10803			5.69	Si
SLU 76	-160	-34850	-5113	721464		2.35	329	0.87	12872			2.52	Si
SLU 76	109	-18816	-1863	-175340		1.27	329	0.73	10734			5.76	Si
SLU 78	-160	-35931	-5277	749315		2.43	329	0.88	13016			2.47	Si
SLU 78	109	-19219	-1908	-140955		1.3	329	0.73	10787			5.66	Si
SLU 75	-160	-35180	-5063	693019		2.38	329	0.87	12916			2.55	Si
SLU 75	109	-18847	-1827	-179162		1.27	329	0.73	10738			5.88	Si
SLU 63	-160	-34872	-5005	676054		2.36	329	0.87	12875			2.57	Si
SLU 63	109	-18638	-1800	-184671		1.26	329	0.72	10710			5.95	Si
SLU 80	-160	-35979	-5298	755522		2.43	329	0.88	13022			2.46	Si
SLU 80	109	-19236	-1917	-135233		1.3	329	0.73	10790			5.63	Si
SLU 82	-160	-35324	-5094	691988		2.39	329	0.87	12935			2.54	Si
SLU 82	109	-18965	-1819	-187996		1.28	329	0.73	10754			5.91	Si

# Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	-160	-9911	4111	1029565		1.21	181.87	1.08	8802			2.14	Si
SLV 3	109	-2089	5647	-661141		0	0	0.83	0			0	No, $V_u < V$
SLV 15	-160	-30233	-9758	-282177		2.04	329	1.24	18384			1.88	Si
SLV 15	109	-19823	-7307	131433		1.34	329	1.1	16302			2.23	Si
SLV 1	-160	-21246	2975	1077542		1.44	329	1.12	16587			5.58	Si
SLV 1	109	-7367	4853	-521353		0.58	281.2	0.95	12018			2.48	Si
SLV 16	-160	-30233	-9758	-282177		2.04	329	1.24	18384			1.88	Si
SLV 16	109	-19823	-7307	131433		1.34	329	1.1	16302			2.23	Si
SLV 4	-160	-9911	4111	1029565		1.21	181.87	1.08	8802			2.14	Si
SLV 4	109	-2089	5647	-661141		0	0	0.83	0			0	No, $V_u < V$
SLV 13	-160	-41568	-10894	-234200		2.81	329	1.39	20651			1.9	Si
SLV 13	109	-25101	-8102	271221		1.7	329	1.17	17358			2.14	Si
SLV 2	-160	-21246	2975	1077542		1.44	329	1.12	16587			5.58	Si
SLV 2	109	-7367	4853	-521353		0.58	281.2	0.95	12018			2.48	Si
SLV 8	-160	-3800	582	514482		0.97	87.33	1.03	4035			6.93	Si
SLV 8	109	-2138	2041	-546827		0	0	0.83	0			0	No, $V_u < V$
SLV 14	-160	-41568	-10894	-234200		2.81	329	1.39	20651			1.9	Si
SLV 14	109	-25101	-8102	271221		1.7	329	1.17	17358			2.14	Si
SLV 7	-160	-3800	582	514482		0.97	87.33	1.03	4035			6.93	Si
SLV 7	109	-2138	2041	-546827		0	0	0.83	0			0	No, $V_u < V$

# Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.24	0.23	-3422	19630	75535	3.85	Si
SLV 8	14	0.24	0.23	-3422	19630	75535	3.85	Si
SLV 3	14	0.24	0.45	-6599	19630	143064	7.29	Si
SLV 4	14	0.24	0.45	-6599	19630	143064	7.29	Si
SLV 12	14	0.24	0.63	-9357	19630	199639	10.17	Si
SLV 11	14	0.24	0.63	-9357	19630	199639	10.17	Si
SLV 1	14	0.24	1.03	-15257	19630	314338	16.01	Si
SLV 2	14	0.24	1.03	-15257	19630	314338	16.01	Si
SLV 16	14	0.24	1.78	-26382	19630	507030	25.83	Si
SLV 15	14	0.24	1.78	-26382	19630	507030	25.83	Si

# Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = -25.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 14	-25101	-41568	-1649	0.037	31.189	0.948	56.136	336.206	No
SLV 13	-25101	-41568	-1649	0.037	31.189	0.948	56.136	336.206	No
SLV 9	-25052	-47680	-1673	0.036	31.14	0.948	54.733	327.131	No



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 10	-25052	-47680	-1673	0.036	31.14	0.948	54.733	327.131	No
SLV 6	-19732	-41583	-1308	0.04	25.747	0.939	62.556	327.131	No
SLV 5	-19732	-41583	-1308	0.04	25.747	0.939	62.556	327.131	No
SLV 16	-19823	-30233	-1263	0.042	25.839	0.939	65.749	336.206	No
SLV 15	-19823	-30233	-1263	0.042	25.839	0.939	65.749	336.206	No
SLV 1	-7367	-21246	-432	0.072	13.348	0.901	115.399	336.206	No
SLV 2	-7367	-21246	-432	0.072	13.348	0.901	115.399	336.206	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.345	SLU 38	Si
V_SLU	2.455	SLU 84	Si
PF_SLV	0	SLV 3	No
V_SLV	0	SLV 3	No
PFFP_SLV	3.848	SLV 7	Si
R_SLV	0.167	SLV 13	No

## Maschio 47

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-772.3	-328.4	-772.3	-478.4	L1	L3	150	45	269	269	269			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 35	-160	-17001	-149026	2.52	880871	5.911	Si
SLU 35	109	-10298	-191507	1.53	627707	3.278	Si
SLU 83	-160	-21230	-173524	3.15	977531	5.633	Si
SLU 83	109	-12644	-228276	1.87	730260	3.199	Si
SLU 32	-160	-16858	-144967	2.5	876766	6.048	Si
SLU 32	109	-10168	-188981	1.51	621627	3.289	Si
SLU 74	-160	-20674	-161865	3.06	967612	5.978	Si
SLU 74	109	-12205	-215770	1.81	712233	3.301	Si
SLU 37	-160	-16933	-148001	2.51	878927	5.939	Si
SLU 37	109	-10231	-189268	1.52	624566	3.3	Si
SLU 39	-160	-17272	-152567	2.56	888528	5.824	Si
SLU 39	109	-10478	-198961	1.55	636120	3.197	Si
SLU 81	-160	-21088	-169466	3.12	975070	5.754	Si
SLU 81	109	-12515	-225750	1.85	725007	3.212	Si
SLU 77	-160	-20817	-165924	3.08	970234	5.847	Si
SLU 77	109	-12334	-218296	1.83	717596	3.287	Si
SLU 41	-160	-17414	-156626	2.58	892471	5.698	Si
SLU 41	109	-10607	-201487	1.57	642091	3.187	Si
SLU 79	-160	-20749	-164899	3.07	968995	5.876	Si
SLU 79	109	-12268	-216057	1.82	714826	3.309	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 6	-160	-22780	-65513	3.37	1236671	18.877	Si
SLV 6	109	-21527	-451576	3.19	1193186	2.642	Si
SLV 11	-160	-6789	-136000	1.01	467297	3.436	Si
SLV 11	109	4603	172637	0	0	0	No, Trazione
SLV 7	-160	-6332	-304802	0.94	438436	1.438	Si
SLV 7	109	5995	105802	0	0	0	No, Trazione
SLV 2	-160	-16489	-346199	2.44	989486	2.858	Si
SLV 2	109	-10269	-334468	1.52	674325	2.016	Si
SLV 3	-160	-11555	-417986	1.71	745224	1.783	Si
SLV 3	109	-2013	-167254	0	0	0	No, e>l/2
SLV 1	-160	-16489	-346199	2.44	989486	2.858	Si
SLV 1	109	-10269	-334468	1.52	674325	2.016	Si
SLV 12	-160	-6789	-136000	1.01	467297	3.436	Si
SLV 12	109	4603	172637	0	0	0	No, Trazione
SLV 8	-160	-6332	-304802	0.94	438436	1.438	Si
SLV 8	109	5995	105802	0	0	0	No, Trazione
SLV 4	-160	-11555	-417986	1.71	745224	1.783	Si
SLV 4	109	-2013	-167254	0	0	0	No, e>l/2
SLV 5	-160	-22780	-65513	3.37	1236671	18.877	Si
SLV 5	109	-21527	-451576	3.19	1193186	2.642	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	$\sigma N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 56	-160	-19662	133	-140742		2.91	150.01	0.94	6372			47.8	Si
SLU 56	109	-11399	1282	-190057		1.69	150.01	0.78	5270			4.11	Si
SLU 74	-160	-20674	175	-161865		3.06	150.01	0.96	6507			37.1	Si
SLU 74	109	-12205	1370	-215770		1.81	150.01	0.8	5378			3.93	Si
SLU 81	-160	-21088	202	-169466		3.12	150.01	0.97	6562			32.51	Si
SLU 81	109	-12515	1412	-225750		1.85	150.01	0.8	5419			3.84	Si
SLU 60	-160	-19933	168	-144284		2.95	150.01	0.95	6408			38.22	Si
SLU 60	109	-11579	1316	-197510		1.72	150.01	0.78	5294			4.02	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 58	-160	-19595	129	-139717		2.9	150.01	0.94	6363			49.3	Si
SLU 58	109	-11332	1275	-187818		1.68	150.01	0.78	5261			4.13	Si
SLU 77	-160	-20817	167	-165924		3.08	150.01	0.97	6526			38.96	Si
SLU 77	109	-12334	1378	-218296		1.83	150.01	0.8	5395			3.91	Si
SLU 83	-160	-21230	194	-173524		3.15	150.01	0.97	6581			33.94	Si
SLU 83	109	-12644	1420	-228276		1.87	150.01	0.81	5436			3.83	Si
SLU 62	-160	-20076	160	-148342		2.97	150.01	0.95	6427			40.24	Si
SLU 62	109	-11709	1324	-200036		1.73	150.01	0.79	5311			4.01	Si
SLU 53	-160	-19520	141	-136684		2.89	150.01	0.94	6353			44.98	Si
SLU 53	109	-11270	1274	-187530		1.67	150.01	0.78	5253			4.12	Si
SLU 79	-160	-20749	163	-164899		3.07	150.01	0.97	6517			39.92	Si
SLU 79	109	-12268	1371	-216057		1.82	150.01	0.8	5386			3.93	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	-160	-11555	-1015	-417986		2.2	116.48	1.27	6679			6.58	Si
SLV 3	109	-2013	-1541	-167254		0	0	0.83	0			0	No, Vu<V
SLV 12	-160	-6789	-2451	-136000		1.01	150.01	1.03	6983			2.85	Si
SLV 12	109	4603	-1285	172637		0	0	0.83	0			0	No, Vu<V
SLV 13	-160	-18014	1224	216472		2.67	150.01	1.37	9228			7.54	Si
SLV 13	109	-14912	3452	-111685		2.21	150.01	1.28	8608			2.49	Si
SLV 11	-160	-6789	-2451	-136000		1.01	150.01	1.03	6983			2.85	Si
SLV 11	109	4603	-1285	172637		0	0	0.83	0			0	No, Vu<V
SLV 8	-160	-6332	-2645	-304802		1.75	80.59	1.18	4288			1.62	Si
SLV 8	109	5995	-2290	105802		0	0	0.83	0			0	No, Vu<V
SLV 7	-160	-6332	-2645	-304802		1.75	80.59	1.18	4288			1.62	Si
SLV 7	109	5995	-2290	105802		0	0	0.83	0			0	No, Vu<V
SLV 14	-160	-18014	1224	216472		2.67	150.01	1.37	9228			7.54	Si
SLV 14	109	-14912	3452	-111685		2.21	150.01	1.28	8608			2.49	Si
SLV 10	-160	-23237	2855	103288		3.44	150.01	1.52	10273			3.6	Si
SLV 10	109	-22920	4200	-384741		3.4	150.01	1.51	10209			2.43	Si
SLV 9	-160	-23237	2855	103288		3.44	150.01	1.52	10273			3.6	Si
SLV 9	109	-22920	4200	-384741		3.4	150.01	1.51	10209			2.43	Si
SLV 4	-160	-11555	-1015	-417986		2.2	116.48	1.27	6679			6.58	Si
SLV 4	109	-2013	-1541	-167254		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.24	0.73	-4909	8950	103883	11.61	Si
SLV 8	14	0.24	0.73	-4909	8950	103883	11.61	Si
SLV 12	14	0.24	0.85	-5720	8950	119780	13.38	Si
SLV 11	14	0.24	0.85	-5720	8950	119780	13.38	Si
SLV 4	14	0.24	1.47	-9915	8950	196264	21.93	Si
SLV 3	14	0.24	1.47	-9915	8950	196264	21.93	Si
SLV 16	14	0.24	1.87	-12618	8950	240475	26.87	Si
SLV 15	14	0.24	1.87	-12618	8950	240475	26.87	Si
SLV 2	14	0.24	2.22	-15016	8950	276351	30.88	Si
SLV 1	14	0.24	2.22	-15016	8950	276351	30.88	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = -25.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 7	5995	-6332	28	0	0	0	0	327.131	No, Trazione
SLV 8	5995	-6332	28	0	0	0	0	327.131	No, Trazione
SLV 11	4603	-6789	33	0	0	0	0	327.131	No, Trazione
SLV 12	4603	-6789	33	0	0	0	0	327.131	No, Trazione
SLV 5	-21527	-22780	-180	0.082	24.473	0.968	122.728	327.131	No
SLV 6	-21527	-22780	-180	0.082	24.473	0.968	122.728	327.131	No
SLV 10	-22920	-23237	-176	0.082	25.891	0.97	122.962	327.131	No
SLV 9	-22920	-23237	-176	0.082	25.891	0.97	122.962	327.131	No
SLV 13	-14912	-18014	-97	0.086	17.743	0.957	130.581	336.206	No
SLV 14	-14912	-18014	-97	0.086	17.743	0.957	130.581	336.206	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.187	SLU 41	Si
V_SLU	3.828	SLU 83	Si
PF_SLV	0	SLV 12	No
V_SLV	0	SLV 3	No
PFFP_SLV	11.607	SLV 7	Si
R_SLV	0	SLV 12	No

## Maschio 48

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-626.8	104.6	-626.8	-328.4	L1	L3	433	30	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2



Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 77	-160	-63779	-1499283	4.91	5485190	3.659	Si
SLU 77	109	-55580	769872	4.28	5712430	7.42	Si
SLU 83	-160	-65166	-1517384	5.02	5419522	3.572	Si
SLU 83	109	-56824	779822	4.37	5695650	7.304	Si
SLU 41	-160	-55294	-1357418	4.26	5715386	4.21	Si
SLU 41	109	-48559	604624	3.74	5688383	9.408	Si
SLU 81	-160	-64263	-1454426	4.95	5463149	3.756	Si
SLU 81	109	-55982	785812	4.31	5707693	7.263	Si
SLU 74	-160	-62876	-1436325	4.84	5523691	3.846	Si
SLU 74	109	-54738	775862	4.21	5720187	7.373	Si
SLU 78	-160	-64001	-1332229	4.93	5475229	4.11	Si
SLU 78	109	-56600	898996	4.36	5699134	6.339	Si
SLU 79	-160	-63379	-1491484	4.88	5502643	3.689	Si
SLU 79	109	-55161	766769	4.25	5716649	7.455	Si
SLU 84	-160	-65388	-1350330	5.03	5408303	4.005	Si
SLU 84	109	-57845	908946	4.45	5677158	6.246	Si
SLU 80	-160	-63601	-1324430	4.9	5493045	4.147	Si
SLU 80	109	-56182	895893	4.33	5705101	6.368	Si
SLU 82	-160	-64485	-1287371	4.96	5452748	4.236	Si
SLU 82	109	-57003	914936	4.39	5692716	6.222	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 11	-160	-37340	-2457013	2.87	6182151	2.516	Si
SLV 11	109	-27229	-394221	2.1	4883633	12.388	Si
SLV 15	-160	-36212	-1485713	2.79	6051159	4.073	Si
SLV 15	109	-28313	57082	2.18	5036248	88.228	Si
SLD 8	-160	-42049	-1522130	3.24	6691692	4.396	Si
SLD 8	109	-34579	246295	2.66	5855240	23.773	Si
SLD 7	-160	-42049	-1522130	3.24	6691692	4.396	Si
SLD 7	109	-34579	246295	2.66	5855240	23.773	Si
SLD 12	-160	-40644	-1557546	3.13	6546057	4.203	Si
SLD 12	109	-32970	178950	2.54	5655161	31.602	Si
SLV 16	-160	-36212	-1485713	2.79	6051159	4.073	Si
SLV 16	109	-28313	57082	2.18	5036248	88.228	Si
SLD 11	-160	-40644	-1557546	3.13	6546057	4.203	Si
SLD 11	109	-32970	178950	2.54	5655161	31.602	Si
SLV 8	-160	-40717	-2379959	3.13	6553703	2.754	Si
SLV 8	109	-31069	-237180	2.39	5409704	22.808	Si
SLV 12	-160	-37340	-2457013	2.87	6182151	2.516	Si
SLV 12	109	-27229	-394221	2.1	4883633	12.388	Si
SLV 7	-160	-40717	-2379959	3.13	6553703	2.754	Si
SLV 7	109	-31069	-237180	2.39	5409704	22.808	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 10	-160	-46229	2479	-710156	3.56	432.99	1.03	13380				5.4	Si
SLU 10	109	-41398	3729	817321	3.19	432.99	0.98	12736				3.42	Si
SLU 44	-160	-49825	2429	-662788	3.84	432.99	1.07	13860				5.71	Si
SLU 44	109	-43819	3808	976040	3.37	432.99	1.01	13059				3.43	Si
SLU 2	-160	-39953	2434	-502822	3.08	432.99	0.97	12544				5.15	Si
SLU 2	109	-35554	3536	800842	2.74	432.99	0.92	11957				3.38	Si
SLU 73	-160	-61943	2400	-1087144	4.77	432.99	1.08	14072				5.86	Si
SLU 73	109	-55179	4062	993956	4.25	432.99	1.08	14072				3.46	Si
SLU 52	-160	-56102	2474	-870123	4.32	432.99	1.08	14072				5.69	Si
SLU 52	109	-49663	4001	992519	3.82	432.99	1.07	13838				3.46	Si
SLU 65	-160	-55666	2356	-879809	4.29	432.99	1.08	14072				5.97	Si
SLU 65	109	-49335	3869	977476	3.8	432.99	1.06	13795				3.57	Si
SLU 76	-160	-62846	2090	-1150102	4.84	432.99	1.08	14072				6.73	Si
SLU 76	109	-56021	3771	987966	4.31	432.99	1.08	14072				3.73	Si
SLU 31	-160	-52071	2405	-927178	4.01	432.99	1.08	14072				5.85	Si
SLU 31	109	-46914	3791	818758	3.61	432.99	1.04	13472				3.55	Si
SLU 5	-160	-40856	2124	-565780	3.15	432.99	0.97	12664				5.96	Si
SLU 5	109	-36396	3245	794852	2.8	432.99	0.93	12069				3.72	Si
SLU 23	-160	-45794	2361	-719843	3.53	432.99	1.03	13322				5.64	Si
SLU 23	109	-41071	3598	802278	3.16	432.99	0.98	12693				3.53	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 10	-160	-45375	12622	574979	3.49	432.99	1.53	19900				1.58	Si
SLV 10	109	-43129	13488	1418688	3.32	432.99	1.5	19451				1.44	Si
SLV 9	-160	-45375	12622	574979	3.49	432.99	1.53	19900				1.58	Si
SLV 9	109	-43129	13488	1418688	3.32	432.99	1.5	19451				1.44	Si
SLV 8	-160	-40717	-12839	-2379959	3.13	432.99	1.46	18968				1.48	Si
SLV 8	109	-31069	-11393	-237180	2.39	432.99	1.31	17039				1.5	Si
SLD 5	-160	-45447	5420	-247434	3.5	432.99	1.53	19914				3.67	Si
SLD 5	109	-41228	6791	1002557	3.17	432.99	1.47	19070				2.81	Si
SLD 6	-160	-45447	5420	-247434	3.5	432.99	1.53	19914				3.67	Si
SLD 6	109	-41228	6791	1002557	3.17	432.99	1.47	19070				2.81	Si
SLV 6	-160	-48752	13027	652033	3.75	432.99	1.58	20575				1.58	Si
SLV 6	109	-46969	14760	1575729	3.62	432.99	1.56	20219				1.37	Si
SLV 12	-160	-37340	-13244	-2457013	2.87	432.99	1.41	18293				1.38	Si
SLV 12	109	-27229	-12665	-394221	2.1	432.99	1.25	16271				1.28	Si
SLV 7	-160	-40717	-12839	-2379959	3.13	432.99	1.46	18968				1.48	Si
SLV 7	109	-31069	-11393	-237180	2.39	432.99	1.31	17039				1.5	Si
SLV 5	-160	-48752	13027	652033	3.75	432.99	1.58	20575				1.58	Si
SLV 5	109	-46969	14760	1575729	3.62	432.99	1.56	20219				1.37	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 11	-160	-37340	-13244	-2457013		2.87	432.99	1.41	18293			1.38	Si
SLV 11	109	-27229	-12665	-394221		2.1	432.99	1.25	16271			1.28	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.24	2.64	-34236	17223	402767	23.38	Si
SLV 11	14	0.24	2.64	-34236	17223	402767	23.38	Si
SLV 15	14	0.24	2.65	-34432	17223	404436	23.48	Si
SLV 16	14	0.24	2.65	-34432	17223	404436	23.48	Si
SLV 8	14	0.24	2.89	-37593	17223	430338	24.99	Si
SLV 7	14	0.24	2.89	-37593	17223	430338	24.99	Si
SLV 13	14	0.24	2.92	-37958	17223	433201	25.15	Si
SLV 14	14	0.24	2.92	-37958	17223	433201	25.15	Si
SLV 3	14	0.24	3.51	-45624	17223	487639	28.31	Si
SLV 4	14	0.24	3.51	-45624	17223	487639	28.31	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = -25.5 Wa = 0.05 Ta = 0.0403

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 1	-45885	-49879	-38	0.059	51.635	0.971	87.67	407.523	No
SLV 2	-45885	-49879	-38	0.059	51.635	0.971	87.67	407.523	No
SLV 3	-41115	-47469	-25	0.059	46.779	0.968	88.831	407.523	No
SLV 4	-41115	-47469	-25	0.059	46.779	0.968	88.831	407.523	No
SLV 5	-46969	-48752	-41	0.058	52.74	0.971	87.429	390.295	No
SLV 6	-46969	-48752	-41	0.058	52.74	0.971	87.429	390.295	No
SLV 13	-33083	-38623	-3	0.061	38.605	0.962	91.45	407.523	No
SLV 14	-33083	-38623	-3	0.061	38.605	0.962	91.45	407.523	No
SLV 10	-43129	-45375	-31	0.059	48.829	0.969	88.296	390.295	No
SLV 9	-43129	-45375	-31	0.059	48.829	0.969	88.296	390.295	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF SLU	3.572	SLU 83	Si
V SLU	3.381	SLU 2	Si
PF SLV	2.516	SLV 11	Si
V SLV	1.285	SLV 11	Si
PFFP SLV	23.385	SLV 11	Si
R SLV	0.215	SLV 1	No

## Maschio 49

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1101.3	-328.4	-1055.3	-328.4	L1	L3	46	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedlo	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 84	-160	-9978	-72897	4.82	93691	1.285	Si
SLU 84	45	-10563	-840	5.1	90755	108.092	Si
SLU 83	-160	-10045	-70946	4.85	93403	1.317	Si
SLU 83	45	-10524	-1504	5.08	90982	60.477	Si
SLU 76	-160	-9540	-70699	4.61	95277	1.348	Si
SLU 76	45	-10107	-608	4.88	93122	153.149	Si
SLU 78	-160	-9843	-70084	4.76	94234	1.345	Si
SLU 78	45	-10301	-1383	4.98	92185	66.662	Si
SLU 73	-160	-9286	-70274	4.49	95959	1.365	Si
SLU 73	45	-9904	-254	4.78	93996	370.624	Si
SLU 82	-160	-9724	-72473	4.7	94677	1.306	Si
SLU 82	45	-10360	-485	5	91881	189.38	Si
SLU 80	-160	-9839	-69822	4.75	94250	1.35	Si
SLU 80	45	-10284	-1406	4.97	92270	65.641	Si
SLU 81	-160	-9791	-70521	4.73	94434	1.339	Si
SLU 81	45	-10320	-1150	4.99	92086	80.078	Si
SLU 77	-160	-9910	-68133	4.79	93970	1.379	Si
SLU 77	45	-10262	-2048	4.96	92384	45.117	Si
SLU 75	-160	-9589	-69660	4.63	95126	1.366	Si
SLU 75	45	-10098	-1028	4.88	93166	90.59	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 4	-160	-5148	-123548	0	0	0	No, e>l/2
SLV 4	45	-8786	-5480	4.24	131879	24.065	Si
SLV 1	-160	-6572	-127154	3.18	111885	0.88	No, M>Mu
SLV 1	45	-9886	-7017	4.78	138503	19.738	Si
SLD 2	-160	-6618	-80716	3.2	112385	1.392	Si
SLD 2	45	-8142	-3792	3.93	126985	33.487	Si
SLV 7	-160	-4046	-63896	1.95	78172	1.223	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 7	45	-5764	-282	2.78	102360	362.56	Si
SLV 3	-160	-5148	-123548	0	0	0	No, $e \geq l/2$
SLV 3	45	-8786	-5480	4.24	131879	24.065	Si
SLD 1	-160	-6618	-80716	3.2	112385	1.392	Si
SLD 1	45	-8142	-3792	3.93	126985	33.487	Si
SLV 8	-160	-4046	-63896	1.95	78172	1.223	Si
SLV 8	45	-5764	-282	2.78	102360	362.56	Si
SLD 3	-160	-6014	-79195	2.91	105433	1.331	Si
SLD 3	45	-7676	-3128	3.71	122970	39.309	Si
SLD 4	-160	-6014	-79195	2.91	105433	1.331	Si
SLD 4	45	-7676	-3128	3.71	122970	39.309	Si
SLV 2	-160	-6572	-127154	3.18	111885	0.88	No, $M > Mu$
SLV 2	45	-9886	-7017	4.78	138503	19.738	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 73	-160	-9286	-1550	-70274		4.49	46	1.08	2242			1.45	Si
SLU 73	45	-9904	201	-254		4.78	46	1.08	2242			11.15	Si
SLU 81	-160	-9791	-1559	-70521		4.73	46	1.08	2242			1.44	Si
SLU 81	45	-10320	185	-1150		4.99	46	1.08	2242			12.14	Si
SLU 84	-160	-9978	-1610	-72897		4.82	46	1.08	2242			1.39	Si
SLU 84	45	-10563	205	-840		5.1	46	1.08	2242			10.95	Si
SLU 77	-160	-9910	-1504	-68133		4.79	46	1.08	2242			1.49	Si
SLU 77	45	-10262	207	-2048		4.96	46	1.08	2242			10.82	Si
SLU 76	-160	-9540	-1559	-70699		4.61	46	1.08	2242			1.44	Si
SLU 76	45	-10107	212	-608		4.88	46	1.08	2242			10.6	Si
SLU 78	-160	-9843	-1545	-70084		4.76	46	1.08	2242			1.45	Si
SLU 78	45	-10301	217	-1383		4.98	46	1.08	2242			10.34	Si
SLU 80	-160	-9839	-1540	-69822		4.75	46	1.08	2242			1.46	Si
SLU 80	45	-10284	216	-1406		4.97	46	1.08	2242			10.4	Si
SLU 75	-160	-9589	-1536	-69660		4.63	46	1.08	2242			1.46	Si
SLU 75	45	-10098	206	-1028		4.88	46	1.08	2242			10.87	Si
SLU 83	-160	-10045	-1568	-70946		4.85	46	1.08	2242			1.43	Si
SLU 83	45	-10524	195	-1504		5.08	46	1.08	2242			11.49	Si
SLU 82	-160	-9724	-1601	-72473		4.7	46	1.08	2242			1.4	Si
SLU 82	45	-10360	194	-485		5	46	1.08	2242			11.53	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 1	-160	-6618	-1412	-80716		4.54	32.41	1.63	2370			1.68	Si
SLD 1	45	-8142	220	-3792		3.93	46	1.62	3353			15.25	Si
SLV 4	-160	-5148	-1958	-123548		0	0	0.83	0			0	No, $Vu < V$
SLV 4	45	-8786	55	-5480		4.24	46	1.63	3364			61.4	Si
SLD 4	-160	-6014	-1418	-79195		4.53	29.5	1.63	2157			1.52	Si
SLD 4	45	-7676	107	-3128		3.71	46	1.57	3260			30.41	Si
SLD 3	-160	-6014	-1418	-79195		4.53	29.5	1.63	2157			1.52	Si
SLD 3	45	-7676	107	-3128		3.71	46	1.57	3260			30.41	Si
SLV 3	-160	-5148	-1958	-123548		0	0	0.83	0			0	No, $Vu < V$
SLV 3	45	-8786	55	-5480		4.24	46	1.63	3364			61.4	Si
SLD 2	-160	-6618	-1412	-80716		4.54	32.41	1.63	2370			1.68	Si
SLD 2	45	-8142	220	-3792		3.93	46	1.62	3353			15.25	Si
SLV 7	-160	-4046	-1322	-63896		4.16	21.62	1.63	1581			1.2	Si
SLV 7	45	-5764	-285	-282		2.78	46	1.39	2878			10.08	Si
SLV 1	-160	-6572	-1943	-127154		13.33	10.96	1.63	801			0.41	No, $Vu < V$
SLV 1	45	-9886	320	-7017		4.78	46	1.63	3364			10.51	Si
SLV 2	-160	-6572	-1943	-127154		13.33	10.96	1.63	801			0.41	No, $Vu < V$
SLV 2	45	-9886	320	-7017		4.78	46	1.63	3364			10.51	Si
SLV 8	-160	-4046	-1322	-63896		4.16	21.62	1.63	1581			1.2	Si
SLV 8	45	-5764	-285	-282		2.78	46	1.39	2878			10.08	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 15	14	0.24	2.8	-5792	2745	100477	36.61	Si
SLV 16	14	0.24	2.8	-5792	2745	100477	36.61	Si
SLV 11	14	0.24	2.81	-5810	2745	100697	36.69	Si
SLV 12	14	0.24	2.81	-5810	2745	100697	36.69	Si
SLV 14	14	0.24	3.63	-7515	2745	118847	43.3	Si
SLV 13	14	0.24	3.63	-7515	2745	118847	43.3	Si
SLV 8	14	0.24	3.65	-7548	2745	119152	43.41	Si
SLV 7	14	0.24	3.65	-7548	2745	119152	43.41	Si
SLV 10	14	0.24	5.58	-11553	2745	141208	51.45	Si
SLV 9	14	0.24	5.58	-11553	2745	141208	51.45	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = -25.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 12	-2004	-4527	162	0.036	2.837	0.926	55.936	327.131	No
SLV 11	-2004	-4527	162	0.036	2.837	0.926	55.936	327.131	No
SLV 8	-3272	-4046	197	0.042	4.12	0.946	65.219	327.131	No
SLV 7	-3272	-4046	197	0.042	4.12	0.946	65.219	327.131	No
SLV 4	-6245	-5148	215	0.058	7.142	0.967	87.188	336.206	No
SLV 3	-6245	-5148	215	0.058	7.142	0.967	87.188	336.206	No
SLV 1	-7525	-6572	195	0.065	8.445	0.972	96.648	336.206	No
SLV 2	-7525	-6572	195	0.065	8.445	0.972	96.648	336.206	No
SLV 16	-2017	-6750	97	0.062	2.85	0.926	96.67	336.206	No
SLV 15	-2017	-6750	97	0.062	2.85	0.926	96.67	336.206	No





## Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.285	SLU 84	Si
V_SLU	1.393	SLU 84	Si
PF_SLV	0	SLV 3	No
V_SLV	0	SLV 3	No
PFFP_SLV	36.608	SLV 15	Si
R_SLV	0.171	SLV 11	No

## Maschio 50

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-825.3	-328.4	-746.3	-328.4	L1	L3	79	45	269	269	269			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 81	40	-17406	138652	4.9	274283	1.978	Si
SLU 81	80	-15873	259036	4.47	283314	1.094	Si
SLU 84	40	-18308	144927	5.15	265971	1.835	Si
SLU 84	80	-16783	274219	4.72	278726	1.016	Si
SLU 78	40	-17808	141651	5.01	270847	1.912	Si
SLU 78	80	-16333	266966	4.59	281280	1.054	Si
SLU 80	40	-17746	141133	4.99	271410	1.923	Si
SLU 80	80	-16269	265792	4.58	281595	1.059	Si
SLU 83	40	-17643	141254	4.96	272314	1.928	Si
SLU 83	80	-16094	262298	4.53	282407	1.077	Si
SLU 73	40	-17715	138378	4.98	271683	1.963	Si
SLU 73	80	-16286	267217	4.58	281513	1.053	Si
SLU 75	40	-17571	139049	4.94	272924	1.963	Si
SLU 75	80	-16111	263704	4.53	282331	1.071	Si
SLU 82	40	-18071	142325	5.08	268371	1.886	Si
SLU 82	80	-16562	270958	4.66	280049	1.034	Si
SLU 77	40	-17143	137978	4.82	276284	2.002	Si
SLU 77	80	-15644	255044	4.4	284114	1.114	Si
SLU 76	40	-17952	140979	5.05	269514	1.912	Si
SLU 76	80	-16507	270478	4.64	280356	1.037	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 4	40	-9722	-3839	2.73	298073	77.651	Si
SLV 4	80	-10108	229331	2.84	306355	1.336	Si
SLV 7	40	-6313	-20309	1.78	213126	10.494	Si
SLV 7	80	-7340	167421	2.06	240931	1.439	Si
SLV 3	40	-9722	-3839	2.73	298073	77.651	Si
SLV 3	80	-10108	229331	2.84	306355	1.336	Si
SLV 8	40	-6313	-20309	1.78	213126	10.494	Si
SLV 8	80	-7340	167421	2.06	240931	1.439	Si
SLV 1	40	-12810	51165	3.6	356776	6.973	Si
SLV 1	80	-12118	243745	3.41	345128	1.416	Si
SLD 3	40	-10798	51841	3.04	320497	6.182	Si
SLD 3	80	-10360	196365	2.91	311616	1.587	Si
SLD 1	40	-12051	73853	3.39	343956	4.657	Si
SLD 1	80	-11170	202144	3.14	327760	1.621	Si
SLV 2	40	-12810	51165	3.6	356776	6.973	Si
SLV 2	80	-12118	243745	3.41	345128	1.416	Si
SLD 4	40	-10798	51841	3.04	320497	6.182	Si
SLD 4	80	-10360	196365	2.91	311616	1.587	Si
SLD 2	40	-12051	73853	3.39	343956	4.657	Si
SLD 2	80	-11170	202144	3.14	327760	1.621	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 65	40	-15850	-2173	123453		4.46	79	1.08	3851			1.77	Si
SLU 65	80	-14571	-1130	239943		4.69	69.1	1.08	3369			2.98	Si
SLU 78	40	-17808	-2204	141651		5.01	79	1.08	3851			1.75	Si
SLU 78	80	-16333	-1052	266966		5.23	69.46	1.08	3386			3.22	Si
SLU 80	40	-17746	-2184	141133		4.99	79	1.08	3851			1.76	Si
SLU 80	80	-16269	-1041	265792		5.2	69.49	1.08	3388			3.25	Si
SLU 84	40	-18308	-2260	144927		5.15	79	1.08	3851			1.7	Si
SLU 84	80	-16783	-1067	274219		5.37	69.48	1.08	3387			3.17	Si
SLU 82	40	-18071	-2261	142325		5.08	79	1.08	3851			1.7	Si
SLU 82	80	-16562	-1067	270958		5.3	69.42	1.08	3384			3.17	Si
SLU 73	40	-17715	-2346	138378		4.98	79	1.08	3851			1.64	Si
SLU 73	80	-16286	-1191	267217		5.22	69.28	1.08	3377			2.84	Si
SLU 75	40	-17571	-2205	139049		4.94	79	1.08	3851			1.75	Si
SLU 75	80	-16111	-1052	263704		5.16	69.4	1.08	3383			3.21	Si
SLU 52	40	-16213	-2174	126037		4.56	79	1.08	3851			1.77	Si
SLU 52	80	-14890	-1134	244630		4.78	69.21	1.08	3374			2.98	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 55	40	-16450	-2172	128639		4.63	79	1.08	3851			1.77	Si
SLU 55	80	-15111	-1134	247891		4.85	69.29	1.08	3378			2.98	Si
SLU 76	40	-17952	-2344	140979		5.05	79	1.08	3851			1.64	Si
SLU 76	80	-16507	-1191	270478		5.29	69.34	1.08	3380			2.84	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 11	40	-6479	2871	20577		1.82	79	1.2	4258			1.48	Si
SLV 11	80	-6977	1051	128768		2.46	63.13	1.32	3763			3.58	Si
SLV 12	40	-6479	2871	20577		1.82	79	1.2	4258			1.48	Si
SLV 12	80	-6977	1051	128768		2.46	63.13	1.32	3763			3.58	Si
SLV 16	40	-10275	3115	132448		2.89	79	1.41	5018			1.61	Si
SLV 16	80	-8899	1697	100487		2.5	79	1.33	4742			2.79	Si
SLV 15	40	-10275	3115	132448		2.89	79	1.41	5018			1.61	Si
SLV 15	80	-8899	1697	100487		2.5	79	1.33	4742			2.79	Si
SLV 1	40	-12810	-5870	51165		3.6	79	1.55	5525			0.94	No, Vu<V
SLV 1	80	-12118	-2871	243745		4.63	58.16	1.63	4253			1.48	Si
SLV 6	40	-16606	-5626	163037		4.67	79	1.63	5777			1.03	Si
SLV 6	80	-14040	-2225	215464		4.31	72.46	1.63	5299			2.38	Si
SLV 2	40	-12810	-5870	51165		3.6	79	1.55	5525			0.94	No, Vu<V
SLV 2	80	-12118	-2871	243745		4.63	58.16	1.63	4253			1.48	Si
SLV 4	40	-9722	-3957	-3839		2.73	79	1.38	4907			1.24	Si
SLV 4	80	-10108	-2243	229331		4.45	50.44	1.63	3688			1.64	Si
SLV 5	40	-16606	-5626	163037		4.67	79	1.63	5777			1.03	Si
SLV 5	80	-14040	-2225	215464		4.31	72.46	1.63	5299			2.38	Si
SLV 3	40	-9722	-3957	-3839		2.73	79	1.38	4907			1.24	Si
SLV 3	80	-10108	-2243	229331		4.45	50.44	1.63	3688			1.64	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.24	1.93	-6866	4714	130059	27.59	Si
SLV 11	14	0.24	1.93	-6866	4714	130059	27.59	Si
SLV 15	14	0.24	2.14	-7604	4714	141137	29.94	Si
SLV 16	14	0.24	2.14	-7604	4714	141137	29.94	Si
SLV 8	14	0.24	2.29	-8151	4714	148979	31.61	Si
SLV 7	14	0.24	2.29	-8151	4714	148979	31.61	Si
SLV 14	14	0.24	2.68	-9522	4714	167278	35.49	Si
SLV 13	14	0.24	2.68	-9522	4714	167278	35.49	Si
SLV 3	14	0.24	3.34	-11888	4714	194274	41.22	Si
SLV 4	14	0.24	3.34	-11888	4714	194274	41.22	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = -25.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 11	-2839	-5156	547	0	4.267	0.918	0	327.131	No
SLV 7	-2024	-9224	346	0	3.456	0.905	0	327.131	No
SLV 8	-2024	-9224	346	0	3.456	0.905	0	327.131	No
SLV 12	-2839	-5156	547	0	4.267	0.918	0	327.131	No
SLV 16	-7560	-3255	638	0.016	9.046	0.956	24.994	336.206	No
SLV 15	-7560	-3255	638	0.016	9.046	0.956	24.994	336.206	No
SLV 13	-10793	-5693	515	0.046	12.335	0.967	68.601	336.206	No
SLV 14	-10793	-5693	515	0.046	12.335	0.967	68.601	336.206	No
SLV 1	-8077	-19253	-155	0.074	9.572	0.958	112.799	336.206	No
SLV 2	-8077	-19253	-155	0.074	9.572	0.958	112.799	336.206	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.016	SLU 84	Si
V_SLU	1.641	SLU 73	Si
PF_SLV	1.336	SLV 3	Si
V_SLV	0.941	SLV 1	No
PFFP_SLV	27.592	SLV 11	Si
R_SLV	0	SLV 7	No

## Maschio 51

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-646.3	-328.4	-323.3	-328.4	L1	L3	323	45	269	269	269			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 73	40	-38958	-1320783	2.68	4221513	3.196	Si
SLU 73	80	-37666	-1640936	2.59	4147898	2.528	Si
SLU 5	40	-24473	-965857	1.68	3135467	3.246	Si
SLU 5	80	-23480	-1226477	1.62	3039975	2.479	Si
SLU 68	40	-34685	-1239331	2.39	3960643	3.196	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 68	80	-33393	-1548342	2.3	3871968	2.501	Si
SLU 76	40	-39319	-1329244	2.71	4241267	3.191	Si
SLU 76	80	-38027	-1654811	2.62	4168924	2.519	Si
SLU 65	40	-34324	-1230870	2.36	3936326	3.198	Si
SLU 65	80	-33032	-1534467	2.27	3846379	2.507	Si
SLU 52	40	-35053	-1242463	2.41	3985087	3.207	Si
SLU 52	80	-33761	-1546835	2.32	3897709	2.52	Si
SLU 2	40	-24112	-957397	1.66	3101095	3.239	Si
SLU 2	80	-23119	-1212602	1.59	3004624	2.478	Si
SLU 44	40	-30419	-1152550	2.09	3650534	3.167	Si
SLU 44	80	-29127	-1440366	2	3546825	2.462	Si
SLU 55	40	-35414	-1250923	2.44	4008686	3.205	Si
SLU 55	80	-34122	-1560710	2.35	3922580	2.513	Si
SLU 47	40	-30780	-1161010	2.12	3678697	3.169	Si
SLU 47	80	-29488	-1454241	2.03	3576259	2.459	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 4	40	-22211	-1626134	1.53	3138474	1.93	Si
SLV 4	80	-24256	-953794	1.67	3382379	3.546	Si
SLV 1	40	-31390	-1916840	2.16	4173468	2.177	Si
SLV 1	80	-26460	-1351605	1.82	3636613	2.691	Si
SLV 3	40	-22211	-1626134	1.53	3138474	1.93	Si
SLV 3	80	-24256	-953794	1.67	3382379	3.546	Si
SLV 5	40	-42886	-1567616	2.95	5253608	3.351	Si
SLV 5	80	-30132	-1655671	2.07	4040677	2.441	Si
SLV 10	40	-43561	-977575	3	5309549	5.431	Si
SLV 10	80	-31076	-1518489	2.14	4140593	2.727	Si
SLV 9	40	-43561	-977575	3	5309549	5.431	Si
SLV 9	80	-31076	-1518489	2.14	4140593	2.727	Si
SLD 3	40	-25570	-1147563	1.76	3535010	3.08	Si
SLD 3	80	-25771	-939298	1.77	3558130	3.788	Si
SLV 6	40	-42886	-1567616	2.95	5253608	3.351	Si
SLV 6	80	-30132	-1655671	2.07	4040677	2.441	Si
SLV 2	40	-31390	-1916840	2.16	4173468	2.177	Si
SLV 2	80	-26460	-1351605	1.82	3636613	2.691	Si
SLD 4	40	-25570	-1147563	1.76	3535010	3.08	Si
SLD 4	80	-25771	-939298	1.77	3558130	3.788	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 52	40	-35053	7625	-1242463		2.41	323	0.88	12749			1.67	Si
SLU 52	80	-33761	7625	-1546835		2.32	323	0.87	12577			1.65	Si
SLU 34	40	-33012	7336	-1134091		2.27	323	0.86	12477			1.7	Si
SLU 34	80	-32018	7336	-1427047		2.2	323	0.85	12344			1.68	Si
SLU 26	40	-28378	6922	-1044178		1.95	323	0.82	11859			1.71	Si
SLU 26	80	-27384	6922	-1320578		1.88	323	0.81	11726			1.69	Si
SLU 55	40	-35414	7760	-1250923		2.44	323	0.88	12797			1.65	Si
SLU 55	80	-34122	7760	-1560710		2.35	323	0.87	12625			1.63	Si
SLU 47	40	-30780	7346	-1161010		2.12	323	0.84	12179			1.66	Si
SLU 47	80	-29488	7346	-1454241		2.03	323	0.83	12007			1.63	Si
SLU 73	40	-38958	8019	-1320783		2.68	323	0.91	13269			1.65	Si
SLU 73	80	-37666	8019	-1640936		2.59	323	0.9	13097			1.63	Si
SLU 68	40	-34685	7741	-1239331		2.39	323	0.87	12700			1.64	Si
SLU 68	80	-33393	7741	-1548342		2.3	323	0.86	12527			1.62	Si
SLU 44	40	-30419	7211	-1152550		2.09	323	0.83	12131			1.68	Si
SLU 44	80	-29127	7211	-1440366		2	323	0.82	11959			1.66	Si
SLU 65	40	-34324	7605	-1230870		2.36	323	0.87	12652			1.66	Si
SLU 65	80	-33032	7605	-1534467		2.27	323	0.86	12479			1.64	Si
SLU 76	40	-39319	8155	-1329244		2.71	323	0.92	13318			1.63	Si
SLU 76	80	-38027	8155	-1654811		2.62	323	0.9	13145			1.61	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	40	-33640	25616	49963		2.31	323	1.3	18840			0.74	No, Vu<V
SLV 13	80	-29607	28000	-894330		2.04	323	1.24	18034			0.64	No, Vu<V
SLV 7	40	-12290	-14060	-598596		0.85	323	1	14570			1.04	Si
SLV 7	80	-22787	-20737	-329636		1.57	323	1.15	16670			0.8	No, Vu<V
SLV 9	40	-43561	20883	-977575		3	323	1.43	20825			1	No, Vu<V
SLV 9	80	-31076	27560	-1518489		2.14	323	1.26	18328			0.67	No, Vu<V
SLV 4	40	-22211	-18793	-1626134		1.86	264.86	1.21	14375			0.76	No, Vu<V
SLV 4	80	-24256	-21177	-953794		1.67	323	1.17	16964			0.8	No, Vu<V
SLV 3	40	-22211	-18793	-1626134		1.86	264.86	1.21	14375			0.76	No, Vu<V
SLV 3	80	-24256	-21177	-953794		1.67	323	1.17	16964			0.8	No, Vu<V
SLV 8	40	-12290	-14060	-598596		0.85	323	1	14570			1.04	Si
SLV 8	80	-22787	-20737	-329636		1.57	323	1.15	16670			0.8	No, Vu<V
SLV 16	40	-24461	18488	340669		1.68	323	1.17	17005			0.92	No, Vu<V
SLV 16	80	-27403	16942	-496520		1.89	323	1.21	17593			1.04	Si
SLV 10	40	-43561	20883	-977575		3	323	1.43	20825			1	No, Vu<V
SLV 10	80	-31076	27560	-1518489		2.14	323	1.26	18328			0.67	No, Vu<V
SLV 14	40	-33640	25616	49963		2.31	323	1.3	18840			0.74	No, Vu<V
SLV 14	80	-29607	28000	-894330		2.04	323	1.24	18034			0.64	No, Vu<V
SLV 15	40	-24461	18488	340669		1.68	323	1.17	17005			0.92	No, Vu<V
SLV 15	80	-27403	16942	-496520		1.89	323	1.21	17593			1.04	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.24	0.9	-13138	19272	273731	14.2	Si



Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.24	0.9	-13138	19272	273731	14.2	Si
SLV 12	14	0.24	0.95	-13841	19272	287150	14.9	Si
SLV 11	14	0.24	0.95	-13841	19272	287150	14.9	Si
SLV 4	14	0.24	1.4	-20335	19272	405146	21.02	Si
SLV 3	14	0.24	1.4	-20335	19272	405146	21.02	Si
SLV 16	14	0.24	1.56	-22679	19272	445115	23.1	Si
SLV 15	14	0.24	1.56	-22679	19272	445115	23.1	Si
SLV 1	14	0.24	1.87	-27207	19272	518379	26.9	Si
SLV 2	14	0.24	1.87	-27207	19272	518379	26.9	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeraia = -25.5  $W_a = 0.08$   $T_a = 0.0269$

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 7	-19514	-14910	1341	0.038	25.421	0.939	59.113	327.131	No
SLV 8	-19514	-14910	1341	0.038	25.421	0.939	59.113	327.131	No
SLV 11	-20228	-15712	1292	0.042	26.144	0.941	64.316	327.131	No
SLV 12	-20228	-15712	1292	0.042	26.144	0.941	64.316	327.131	No
SLV 4	-20456	-21777	1228	0.045	26.375	0.941	69.013	336.206	No
SLV 3	-20456	-21777	1228	0.045	26.375	0.941	69.013	336.206	No
SLV 1	-21979	-28465	1083	0.053	27.918	0.944	81.175	336.206	No
SLV 2	-21979	-28465	1083	0.053	27.918	0.944	81.175	336.206	No
SLV 16	-22839	-24449	1065	0.054	28.79	0.945	83.617	336.206	No
SLV 15	-22839	-24449	1065	0.054	28.79	0.945	83.617	336.206	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.459	SLU 47	Si
V_SLU	1.612	SLU 76	Si
PF_SLV	1.93	SLV 3	Si
V_SLV	0.644	SLV 13	No
PFFP_SLV	14.203	SLV 7	Si
R_SLV	0.181	SLV 7	No

## Maschio 52

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-223.3	-328.4	-12.3	-328.4	L1	L3	211	45	269	269	269			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 5	40	-15271	304464	1.61	1293009	4.247	Si
SLU 5	80	-13418	301079	1.41	1170028	3.886	Si
SLU 44	40	-18716	350160	1.97	1496712	4.274	Si
SLU 44	80	-16505	337371	1.74	1369684	4.06	Si
SLU 65	40	-21155	369803	2.23	1621401	4.385	Si
SLU 65	80	-18868	349499	1.99	1504970	4.306	Si
SLU 68	40	-21509	379608	2.27	1638139	4.315	Si
SLU 68	80	-19193	357280	2.02	1522395	4.261	Si
SLU 2	40	-14917	294658	1.57	1270251	4.311	Si
SLU 2	80	-13093	293297	1.38	1147480	3.912	Si
SLU 55	40	-21717	367974	2.29	1647817	4.478	Si
SLU 55	80	-19424	345989	2.05	1534614	4.435	Si
SLU 26	40	-17711	324106	1.87	1440618	4.445	Si
SLU 26	80	-15781	313207	1.66	1325211	4.231	Si
SLU 23	40	-17357	314300	1.83	1420215	4.519	Si
SLU 23	80	-15456	305425	1.63	1304760	4.272	Si
SLU 47	40	-19069	359966	2.01	1515804	4.211	Si
SLU 47	80	-16830	345153	1.77	1389205	4.025	Si
SLU 13	40	-17919	312472	1.89	1452452	4.648	Si
SLU 13	80	-16013	301915	1.69	1339583	4.437	Si

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 13	40	-27279	833357	2.87	2201257	2.641	Si
SLV 13	80	-24140	493594	2.54	2016869	4.086	Si
SLV 11	40	-6423	248135	0.68	640066	2.58	Si
SLV 11	80	-11712	-5430	1.23	1110915	204.587	Si
SLV 7	40	-2441	-97462	0.26	252074	2.586	Si
SLV 7	80	-7574	-158538	0.8	746932	4.711	Si
SLV 4	40	-6524	-402646	0.69	649604	1.613	Si
SLV 4	80	-6839	-164642	0.72	678999	4.124	Si
SLV 15	40	-19797	749346	2.09	1732196	2.312	Si
SLV 15	80	-20632	345718	2.17	1789615	5.177	Si
SLV 8	40	-2441	-97462	0.26	252074	2.586	Si
SLV 8	80	-7574	-158538	0.8	746932	4.711	Si
SLV 16	40	-19797	749346	2.09	1732196	2.312	Si
SLV 16	80	-20632	345718	2.17	1789615	5.177	Si
SLV 14	40	-27279	833357	2.87	2201257	2.641	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 14	80	-24140	493594	2.54	2016869	4.086	Si
SLV 3	40	-6524	-402646	0.69	649604	1.613	Si
SLV 3	80	-6839	-164642	0.72	678999	4.124	Si
SLV 12	40	-6423	248135	0.68	640066	2.58	Si
SLV 12	80	-11712	-5430	1.23	1110915	204.587	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLU 55	40	-21717	-3251	367974		2.29	211	0.86	8171			2.51	Si
SLU 55	80	-19424	-3287	345989		2.05	211	0.83	7865			2.39	Si
SLU 44	40	-18716	-3267	350160		1.97	211	0.82	7770			2.38	Si
SLU 44	80	-16505	-3303	337371		1.74	211	0.79	7476			2.26	Si
SLU 52	40	-21363	-3226	358168		2.25	211	0.86	8123			2.52	Si
SLU 52	80	-19099	-3263	338207		2.01	211	0.82	7822			2.4	Si
SLU 47	40	-19069	-3291	359966		2.01	211	0.82	7818			2.38	Si
SLU 47	80	-16830	-3328	345153		1.77	211	0.79	7519			2.26	Si
SLU 68	40	-21509	-3304	379608		2.27	211	0.86	8143			2.46	Si
SLU 68	80	-19193	-3340	357280		2.02	211	0.83	7834			2.35	Si
SLU 5	40	-15271	-3073	304464		1.61	211	0.77	7311			2.38	Si
SLU 5	80	-13418	-3108	301079		1.41	211	0.74	7064			2.27	Si
SLU 2	40	-14917	-3049	294658		1.57	211	0.77	7264			2.38	Si
SLU 2	80	-13093	-3083	293297		1.38	211	0.74	7021			2.28	Si
SLU 65	40	-21155	-3279	369803		2.23	211	0.85	8096			2.47	Si
SLU 65	80	-18868	-3316	349499		1.99	211	0.82	7791			2.35	Si
SLU 26	40	-17711	-3086	324106		1.87	211	0.8	7636			2.47	Si
SLU 26	80	-15781	-3121	313207		1.66	211	0.78	7379			2.36	Si
SLU 23	40	-17357	-3061	314300		1.83	211	0.8	7589			2.48	Si
SLU 23	80	-15456	-3096	305425		1.63	211	0.77	7336			2.37	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLV 6	40	-27381	-15481	182576		2.88	211	1.41	13389			0.86	No, Vu<V
SLV 6	80	-19267	-11672	334382		2.03	211	1.24	11766			1.01	Si
SLV 15	40	-19797	12144	749346		2.17	202.95	1.27	11570			0.95	No, Vu<V
SLV 15	80	-20632	12622	345718		2.17	211	1.27	12039			0.95	No, Vu<V
SLV 16	40	-19797	12144	749346		2.17	202.95	1.27	11570			0.95	No, Vu<V
SLV 16	80	-20632	12622	345718		2.17	211	1.27	12039			0.95	No, Vu<V
SLV 7	40	-2441	8444	-97462		0.28	196.7	0.89	7864			0.93	No, Vu<V
SLV 7	80	-7574	3548	-158538		0.8	211	0.99	9427			2.66	Si
SLV 1	40	-14006	-13608	-318634		1.48	211	1.13	10714			0.79	No, Vu<V
SLV 1	80	-10347	-14099	-16766		1.09	211	1.05	9982			0.71	No, Vu<V
SLV 5	40	-27381	-15481	182576		2.88	211	1.41	13389			0.86	No, Vu<V
SLV 5	80	-19267	-11672	334382		2.03	211	1.24	11766			1.01	Si
SLV 8	40	-2441	8444	-97462		0.28	196.7	0.89	7864			0.93	No, Vu<V
SLV 8	80	-7574	3548	-158538		0.8	211	0.99	9427			2.66	Si
SLV 2	40	-14006	-13608	-318634		1.48	211	1.13	10714			0.79	No, Vu<V
SLV 2	80	-10347	-14099	-16766		1.09	211	1.05	9982			0.71	No, Vu<V
SLV 11	40	-6423	14016	248135		0.71	200.59	0.98	8807			0.63	No, Vu<V
SLV 11	80	-11712	10194	-5430		1.23	211	1.08	10255			1.01	Si
SLV 12	40	-6423	14016	248135		0.71	200.59	0.98	8807			0.63	No, Vu<V
SLV 12	80	-11712	10194	-5430		1.23	211	1.08	10255			1.01	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.24	0.54	-5127	12590	110269	8.76	Si
SLV 8	14	0.24	0.54	-5127	12590	110269	8.76	Si
SLV 4	14	0.24	0.65	-6190	12590	131847	10.47	Si
SLV 3	14	0.24	0.65	-6190	12590	131847	10.47	Si
SLV 12	14	0.24	1.12	-10626	12590	217187	17.25	Si
SLV 11	14	0.24	1.12	-10626	12590	217187	17.25	Si
SLV 2	14	0.24	1.33	-12600	12590	252703	20.07	Si
SLV 1	14	0.24	1.33	-12600	12590	252703	20.07	Si
SLV 16	14	0.24	2.58	-24519	12590	435080	34.56	Si
SLV 15	14	0.24	2.58	-24519	12590	435080	34.56	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = -25.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 8	-11031	-6541	584	0.054	14.871	0.933	84.49	327.131	No
SLV 7	-11031	-6541	584	0.054	14.871	0.933	84.49	327.131	No
SLV 12	-14274	-14564	668	0.055	18.153	0.944	84.648	327.131	No
SLV 11	-14274	-14564	668	0.055	18.153	0.944	84.648	327.131	No
SLV 16	-18487	-32021	649	0.062	22.429	0.953	94.064	336.206	No
SLV 15	-18487	-32021	649	0.062	22.429	0.953	94.064	336.206	No
SLV 13	-18855	-38961	549	0.067	22.803	0.954	101.781	336.206	No
SLV 14	-18855	-38961	549	0.067	22.803	0.954	101.781	336.206	No
SLV 4	-7678	-5278	370	0.066	11.494	0.919	104.22	336.206	No
SLV 3	-7678	-5278	370	0.066	11.494	0.919	104.22	336.206	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.886	SLU 5	Si
V_SLU	2.26	SLU 47	Si
PF_SLV	1.613	SLV 3	Si
V_SLV	0.628	SLV 11	No
PFFP_SLV	8.759	SLV 7	Si
R_SLV	0.258	SLV 7	No



## Maschio 53

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-515.8	207.1	-515.8	680.1	L1	L3	473	30	269	269	269			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 74	-160	-105475	2790635	7.43	2182690	0.782	No, M>Mu
SLU 74	50	-98670	2757033	6.95	3415770	1.239	Si
SLU 78	-160	-107947	2912789	7.61	1687843	0.579	No, M>Mu
SLU 78	50	-101142	2886688	7.13	2989769	1.036	Si
SLU 80	-160	-107444	2897897	7.57	1790584	0.618	No, M>Mu
SLU 80	50	-100639	2876249	7.09	3078498	1.07	Si
SLU 82	-160	-106293	2744024	7.49	2021795	0.737	No, M>Mu
SLU 82	50	-99487	2721387	7.01	3277644	1.204	Si
SLU 75	-160	-105091	2787448	7.41	2257393	0.81	No, M>Mu
SLU 75	50	-98285	2767598	6.93	3479767	1.257	Si
SLU 84	-160	-109149	2869365	7.69	1438194	0.501	No, M>Mu
SLU 84	50	-102344	2840477	7.21	2773595	0.976	No, M>Mu
SLU 83	-160	-109534	2872552	7.72	1357107	0.472	No, M>Mu
SLU 83	50	-102728	2829912	7.24	2703213	0.955	No, M>Mu
SLU 77	-160	-108332	2915976	7.63	1608647	0.552	No, M>Mu
SLU 77	50	-101526	2876123	7.15	2921278	1.016	Si
SLU 81	-160	-106677	2747211	7.52	1945201	0.708	No, M>Mu
SLU 81	50	-99872	2710822	7.04	3211756	1.185	Si
SLU 79	-160	-107829	2901085	7.6	1712179	0.59	No, M>Mu
SLU 79	50	-101023	2865683	7.12	3010799	1.051	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 8	-160	-90292	6100933	6.36	10233657	1.677	Si
SLV 8	50	-85747	3332664	6.04	10250113	3.076	Si
SLD 7	-160	-79144	3660194	5.58	10173630	2.78	Si
SLD 7	50	-74221	2491450	5.23	10039190	4.029	Si
SLD 8	-160	-79144	3660194	5.58	10173630	2.78	Si
SLD 8	50	-74221	2491450	5.23	10039190	4.029	Si
SLV 3	-160	-86639	3632696	6.11	10251329	2.822	Si
SLV 3	50	-75952	2711981	5.35	10093990	3.722	Si
SLD 11	-160	-76404	3519374	5.38	10106952	2.872	Si
SLD 11	50	-73064	2378883	5.15	9998007	4.203	Si
SLV 7	-160	-90292	6100933	6.36	10233657	1.677	Si
SLV 7	50	-85747	3332664	6.04	10250113	3.076	Si
SLV 4	-160	-86639	3632696	6.11	10251329	2.822	Si
SLV 4	50	-75952	2711981	5.35	10093990	3.722	Si
SLV 11	-160	-83813	5775914	5.91	10240024	1.773	Si
SLV 11	50	-82999	3069201	5.85	10232730	3.334	Si
SLD 12	-160	-76404	3519374	5.38	10106952	2.872	Si
SLD 12	50	-73064	2378883	5.15	9998007	4.203	Si
SLV 12	-160	-83813	5775914	5.91	10240024	1.773	Si
SLV 12	50	-82999	3069201	5.85	10232730	3.334	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 36	-160	-92166	290	2485761		6.5	473	1.08	15373			52.93	Si
SLU 36	50	-86931	290	2442247		6.13	473	1.08	15373			52.93	Si
SLU 77	-160	-108332	298	2915976		7.63	473	1.08	15373			51.59	Si
SLU 77	50	-101526	298	2876123		7.15	473	1.08	15373			51.59	Si
SLU 39	-160	-90896	339	2320183		6.41	473	1.08	15373			45.29	Si
SLU 39	50	-85661	339	2266380		6.04	473	1.08	15373			45.29	Si
SLU 37	-160	-92047	335	2474057		6.49	473	1.08	15373			45.93	Si
SLU 37	50	-86812	335	2421242		6.12	473	1.08	15373			45.93	Si
SLU 32	-160	-89694	326	2363607		6.32	473	1.08	15373			47.13	Si
SLU 32	50	-84459	326	2312591		5.95	473	1.08	15373			47.13	Si
SLU 42	-160	-93368	304	2442337		6.58	473	1.08	15373			50.62	Si
SLU 42	50	-88133	304	2396036		6.21	473	1.08	15373			50.62	Si
SLU 83	-160	-109534	311	2872552		7.72	473	1.08	15373			49.39	Si
SLU 83	50	-102728	311	2829912		7.24	473	1.08	15373			49.39	Si
SLU 41	-160	-93753	369	2445525		6.61	473	1.08	15373			41.64	Si
SLU 41	50	-88518	369	2385470		6.24	473	1.08	15373			41.64	Si
SLU 35	-160	-92550	356	2488949		6.52	473	1.08	15373			43.19	Si
SLU 35	50	-87315	356	2431682		6.15	473	1.08	15373			43.19	Si
SLU 81	-160	-106677	281	2747211		7.52	473	1.08	15373			54.61	Si
SLU 81	50	-99872	281	2710822		7.04	473	1.08	15373			54.61	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 9	-160	-51780	-15135	-2359587		3.65	473	1.56	22181			1.47	Si
SLV 9	50	-45856	-14894	417610		3.23	473	1.48	20996			1.41	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	-160	-83813	16649	5775914		5.91	473	1.63	23059			1.39	Si
SLV 12	50	-82999	15748	3069201		5.85	473	1.63	23059			1.46	Si
SLV 7	-160	-90292	15259	6100933		6.36	473	1.63	23059			1.51	Si
SLV 7	50	-85747	15018	3332664		6.04	473	1.63	23059			1.54	Si
SLV 5	-160	-58259	-16525	-2034569		4.11	473	1.63	23059			1.4	Si
SLV 5	50	-48603	-15624	681073		3.43	473	1.52	21546			1.38	Si
SLV 15	-160	-65043	7146	2549300		4.58	473	1.63	23059			3.23	Si
SLV 15	50	-66793	5874	1833771		4.71	473	1.63	23059			3.93	Si
SLV 6	-160	-58259	-16525	-2034569		4.11	473	1.63	23059			1.4	Si
SLV 6	50	-48603	-15624	681073		3.43	473	1.52	21546			1.38	Si
SLV 11	-160	-83813	16649	5775914		5.91	473	1.63	23059			1.39	Si
SLV 11	50	-82999	15748	3069201		5.85	473	1.63	23059			1.46	Si
SLV 8	-160	-90292	15259	6100933		6.36	473	1.63	23059			1.51	Si
SLV 8	50	-85747	15018	3332664		6.04	473	1.63	23059			1.54	Si
SLV 10	-160	-51780	-15135	-2359587		3.65	473	1.56	22181			1.47	Si
SLV 10	50	-45856	-14894	417610		3.23	473	1.48	20996			1.41	Si
SLV 16	-160	-65043	7146	2549300		4.58	473	1.63	23059			3.23	Si
SLV 16	50	-66793	5874	1833771		4.71	473	1.63	23059			3.93	Si

#### Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.24	3.36	-47717	18815	518771	27.57	Si
SLV 9	14	0.24	3.36	-47717	18815	518771	27.57	Si
SLV 13	14	0.24	3.75	-53170	18815	552973	29.39	Si
SLV 14	14	0.24	3.75	-53170	18815	552973	29.39	Si
SLV 6	14	0.24	3.76	-53358	18815	554059	29.45	Si
SLV 5	14	0.24	3.76	-53358	18815	554059	29.45	Si
SLV 16	14	0.24	4.47	-63485	18815	603598	32.08	Si
SLV 15	14	0.24	4.47	-63485	18815	603598	32.08	Si
SLV 2	14	0.24	5.07	-71973	18815	631447	33.56	Si
SLV 1	14	0.24	5.07	-71973	18815	631447	33.56	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeraia = -25.5 Wa = 0.05 Ta = 0.0403

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 15	-66063	-65043	-59	0.058	72.639	0.977	85.772	407.523	No
SLV 16	-66063	-65043	-59	0.058	72.639	0.977	85.772	407.523	No
SLV 3	-68075	-86639	-45	0.058	74.69	0.978	85.941	407.523	No
SLV 4	-68075	-86639	-45	0.058	74.69	0.978	85.941	407.523	No
SLV 2	-57552	-77030	67	0.058	63.97	0.974	86.245	407.523	No
SLV 1	-57552	-77030	67	0.058	63.97	0.974	86.245	407.523	No
SLV 12	-79044	-83813	-185	0.056	85.865	0.98	82.778	390.295	No
SLV 11	-79044	-83813	-185	0.056	85.865	0.98	82.778	390.295	No
SLV 7	-79648	-90292	-181	0.056	86.48	0.981	82.843	390.295	No
SLV 8	-79648	-90292	-181	0.056	86.48	0.981	82.843	390.295	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0.472	SLU 83	No
V_SLU	41.638	SLU 41	Si
PF_SLV	1.677	SLV 7	Si
V_SLV	1.379	SLV 5	Si
PFFP_SLV	27.573	SLV 9	Si
R_SLV	0.21	SLV 15	No

## Maschio 54

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-500.8	587.6	-301.3	587.6	L1	L3	199.5	45	269	269	269			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>k</sub>	f <sub>vk0</sub>	f <sub>medio</sub>	$\tau_0$	f <sub>v0</sub>	$\mu$	$\phi$	f <sub>v,lim</sub>	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 77	40	-21357	318145	2.38	1508191	4.741	Si
SLU 77	80	-20554	238223	2.29	1474005	6.188	Si
SLU 83	40	-21951	336595	2.45	1532372	4.553	Si
SLU 83	80	-21148	254716	2.36	1499487	5.887	Si
SLU 82	40	-21446	333315	2.39	1511889	4.536	Si
SLU 82	80	-20643	252283	2.3	1477899	5.858	Si
SLU 84	40	-21868	331949	2.44	1529046	4.606	Si
SLU 84	80	-21065	251745	2.35	1495979	5.942	Si
SLU 75	40	-20852	314865	2.32	1486889	4.722	Si
SLU 75	80	-20049	235790	2.23	1451597	6.156	Si
SLU 74	40	-20935	319511	2.33	1490446	4.665	Si
SLU 74	80	-20132	238761	2.24	1455336	6.095	Si
SLU 60	40	-19211	301804	2.14	1412869	4.681	Si
SLU 60	80	-18408	225097	2.05	1373983	6.104	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 39	40	-18551	292840	2.07	1381059	4.716	Si
SLU 39	80	-17934	224231	2	1350192	6.021	Si
SLU 73	40	-20294	310730	2.26	1462562	4.707	Si
SLU 73	80	-19491	233441	2.17	1426049	6.109	Si
SLU 81	40	-21529	337961	2.4	1515311	4.484	Si
SLU 81	80	-20727	255254	2.31	1481502	5.804	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLD 15	40	-14644	416086	1.63	1265724	3.042	Si
SLD 15	80	-13573	198547	1.51	1186410	5.975	Si
SLV 8	40	-17356	398431	1.93	1457309	3.658	Si
SLV 8	80	-14500	388307	1.62	1255154	3.232	Si
SLV 13	40	-13440	510766	1.5	1176354	2.303	Si
SLV 13	80	-13130	113106	1.46	1152949	10.194	Si
SLD 16	40	-14644	416086	1.63	1265724	3.042	Si
SLD 16	80	-13573	198547	1.51	1186410	5.975	Si
SLV 11	40	-17675	629684	1.97	1478995	2.349	Si
SLV 11	80	-14579	404494	1.62	1260994	3.117	Si
SLV 7	40	-17356	398431	1.93	1457309	3.658	Si
SLV 7	80	-14500	388307	1.62	1255154	3.232	Si
SLV 14	40	-13440	510766	1.5	1176354	2.303	Si
SLV 14	80	-13130	113106	1.46	1152949	10.194	Si
SLV 12	40	-17675	629684	1.97	1478995	2.349	Si
SLV 12	80	-14579	404494	1.62	1260994	3.117	Si
SLV 15	40	-15566	690172	1.73	1332402	1.931	Si
SLV 15	80	-13842	256309	1.54	1206491	4.707	Si
SLV 16	40	-15566	690172	1.73	1332402	1.931	Si
SLV 16	80	-13842	256309	1.54	1206491	4.707	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 74	40	-20935	2014	319511		2.33	199.5	0.87	7779			3.86	Si
SLU 74	80	-20132	2014	238761		2.24	199.5	0.85	7672			3.81	Si
SLU 84	40	-21868	2001	331949		2.44	199.5	0.88	7903			3.95	Si
SLU 84	80	-21065	2001	251745		2.35	199.5	0.87	7796			3.9	Si
SLU 77	40	-21357	1994	318145		2.38	199.5	0.87	7835			3.93	Si
SLU 77	80	-20554	1994	238223		2.29	199.5	0.86	7728			3.88	Si
SLU 64	40	-17874	1844	273003		1.99	199.5	0.82	7371			4	Si
SLU 64	80	-17071	1844	199051		1.9	199.5	0.81	7264			3.94	Si
SLU 81	40	-21529	2063	337961		2.4	199.5	0.88	7858			3.81	Si
SLU 81	80	-20727	2063	255254		2.31	199.5	0.86	7751			3.76	Si
SLU 73	40	-20294	1928	310730		2.26	199.5	0.86	7693			3.99	Si
SLU 73	80	-19491	1928	233441		2.17	199.5	0.85	7586			3.94	Si
SLU 82	40	-21446	2021	333315		2.39	199.5	0.87	7847			3.88	Si
SLU 82	80	-20643	2021	252283		2.3	199.5	0.86	7740			3.83	Si
SLU 60	40	-19211	1913	301804		2.14	199.5	0.84	7549			3.95	Si
SLU 60	80	-18408	1913	225097		2.05	199.5	0.83	7442			3.89	Si
SLU 83	40	-21951	2043	336595		2.45	199.5	0.88	7914			3.87	Si
SLU 83	80	-21148	2043	254716		2.36	199.5	0.87	7807			3.82	Si
SLU 75	40	-20852	1973	314865		2.32	199.5	0.87	7768			3.94	Si
SLU 75	80	-20049	1973	235790		2.23	199.5	0.85	7661			3.88	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 10	40	-10586	-8607	31664		1.18	199.5	1.07	9598			1.12	Si
SLV 10	80	-12207	-14359	-72849		1.36	199.5	1.11	9923			0.69	No, Vu<V
SLV 5	40	-10266	-13380	-199589		1.14	199.5	1.06	9535			0.71	No, Vu<V
SLV 5	80	-12127	-19414	-89036		1.35	199.5	1.1	9907			0.51	No, Vu<V
SLV 9	40	-10586	-8607	31664		1.18	199.5	1.07	9598			1.12	Si
SLV 9	80	-12207	-14359	-72849		1.36	199.5	1.11	9923			0.69	No, Vu<V
SLV 11	40	-17675	16239	629684		2.04	192.37	1.24	10749			0.66	No, Vu<V
SLV 11	80	-14579	22273	404494		1.62	199.5	1.16	10397			0.47	No, Vu<V
SLV 6	40	-10266	-13380	-199589		1.14	199.5	1.06	9535			0.71	No, Vu<V
SLV 6	80	-12127	-19414	-89036		1.35	199.5	1.1	9907			0.51	No, Vu<V
SLV 7	40	-17356	11466	398431		1.93	199.5	1.22	10952			0.96	No, Vu<V
SLV 7	80	-14500	17218	388307		1.62	199.5	1.16	10381			0.6	No, Vu<V
SLV 8	40	-17356	11466	398431		1.93	199.5	1.22	10952			0.96	No, Vu<V
SLV 8	80	-14500	17218	388307		1.62	199.5	1.16	10381			0.6	No, Vu<V
SLV 12	40	-17675	16239	629684		2.04	192.37	1.24	10749			0.66	No, Vu<V
SLV 12	80	-14579	22273	404494		1.62	199.5	1.16	10397			0.47	No, Vu<V
SLV 15	40	-15566	13111	690172		2.08	166.24	1.25	9347			0.71	No, Vu<V
SLV 15	80	-13842	15349	256309		1.54	199.5	1.14	10250			0.67	No, Vu<V
SLV 16	40	-15566	13111	690172		2.08	166.24	1.25	9347			0.71	No, Vu<V
SLV 16	80	-13842	15349	256309		1.54	199.5	1.14	10250			0.67	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 W<sub>0</sub> 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 15	14	0.24	1.01	-9093	11903	187641	15.76	Si
SLV 16	14	0.24	1.01	-9093	11903	187641	15.76	Si
SLV 11	14	0.24	1.12	-10089	11903	206124	17.32	Si
SLV 12	14	0.24	1.12	-10089	11903	206124	17.32	Si
SLV 13	14	0.24	1.13	-10160	11903	207422	17.43	Si
SLV 14	14	0.24	1.13	-10160	11903	207422	17.43	Si
SLV 8	14	0.24	1.34	-12009	11903	240614	20.21	Si
SLV 7	14	0.24	1.34	-12009	11903	240614	20.21	Si
SLV 10	14	0.24	1.52	-13643	11903	268795	22.58	Si
SLV 9	14	0.24	1.52	-13643	11903	268795	22.58	Si





## Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeraia = -25.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 4	-10006	-20545	-314	0.073	13.632	0.932	113.507	336.206	No
SLV 3	-10006	-20545	-314	0.073	13.632	0.932	113.507	336.206	No
SLV 2	-10919	-23067	-301	0.075	14.554	0.935	115.772	336.206	No
SLV 1	-10919	-23067	-301	0.075	14.554	0.935	115.772	336.206	No
SLV 7	-9775	-11774	-266	0.077	13.399	0.931	119.586	327.131	No
SLV 8	-9775	-11774	-266	0.077	13.399	0.931	119.586	327.131	No
SLV 5	-12816	-20180	-223	0.081	16.474	0.942	124.805	327.131	No
SLV 6	-12816	-20180	-223	0.081	16.474	0.942	124.805	327.131	No
SLV 11	-10490	-6778	-212	0.081	14.12	0.934	126.483	327.131	No
SLV 12	-10490	-6778	-212	0.081	14.12	0.934	126.483	327.131	No

### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.484	SLU 81	Si
V_SLU	3.757	SLU 81	Si
PF_SLV	1.931	SLV 15	Si
V_SLV	0.467	SLV 11	No
PFFP_SLV	15.764	SLV 15	Si
R_SLV	0.338	SLV 3	No

## Maschio 55

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-201.3	587.6	-12.3	587.6	L1	L3	189	45	269	269	269			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 3	40	-13502	66564	1.59	1027261	15.433	Si
SLU 3	80	-12757	72813	1.5	983532	13.508	Si
SLU 46	40	-16323	78839	1.92	1179110	14.956	Si
SLU 46	80	-15386	85569	1.81	1131078	13.218	Si
SLU 64	40	-18607	85537	2.19	1286097	15.036	Si
SLU 64	80	-17653	92213	2.08	1243129	13.481	Si
SLU 1	40	-13280	69583	1.56	1014398	14.578	Si
SLU 1	80	-12544	74902	1.47	970757	12.96	Si
SLU 43	40	-16563	93026	1.95	1191020	12.803	Si
SLU 43	80	-15605	100065	1.83	1142486	11.417	Si
SLU 66	40	-18829	82518	2.21	1295736	15.703	Si
SLU 66	80	-17866	90124	2.1	1252936	13.902	Si
SLU 50	40	-16730	79864	1.97	1199207	15.016	Si
SLU 50	80	-15757	89622	1.85	1150389	12.836	Si
SLU 48	40	-16869	83426	1.98	1205948	14.455	Si
SLU 48	80	-15894	92755	1.87	1157399	12.478	Si
SLU 45	40	-16785	90007	1.97	1201896	13.353	Si
SLU 45	80	-15817	97976	1.86	1153484	11.773	Si
SLU 44	40	-15794	74414	1.86	1152255	15.484	Si
SLU 44	80	-14886	79386	1.75	1104443	13.912	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 15	40	-22573	554375	2.65	1669783	3.012	Si
SLV 15	80	-23426	331685	2.75	1714725	5.17	Si
SLV 14	40	-16010	473222	1.88	1279888	2.705	Si
SLV 14	80	-14817	223511	1.74	1200559	5.371	Si
SLV 1	40	-6516	-425982	0.77	577143	1.355	Si
SLV 1	80	-4203	-193545	0.49	381158	1.969	Si
SLV 9	40	-5031	63823	0.59	452442	7.089	Si
SLV 9	80	-1058	-48662	0.12	98993	2.034	Si
SLV 2	40	-6516	-425982	0.77	577143	1.355	Si
SLV 2	80	-4203	-193545	0.49	381158	1.969	Si
SLV 5	40	-2183	-205938	0.26	201958	0.981	No, M>Mu
SLV 5	80	2126	-173778	0	0	0	No, Trazione
SLV 6	40	-2183	-205938	0.26	201958	0.981	No, M>Mu
SLV 6	80	2126	-173778	0	0	0	No, Trazione
SLV 16	40	-22573	554375	2.65	1669783	3.012	Si
SLV 16	80	-23426	331685	2.75	1714725	5.17	Si
SLV 10	40	-5031	63823	0.59	452442	7.089	Si
SLV 10	80	-1058	-48662	0.12	98993	2.034	Si
SLV 13	40	-16010	473222	1.88	1279888	2.705	Si
SLV 13	80	-14817	223511	1.74	1200559	5.371	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma M = 3$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 51	40	-16268	-724	68697		1.91	189	0.81	6894			9.52	Si
SLU 51	80	-15326	-815	77214		1.8	189	0.8	6768			8.31	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 48	40	-16869	-824	83426		1.98	189	0.82	6974			8.46	Si
SLU 48	80	-15894	-916	92755		1.87	189	0.8	6844			7.47	Si
SLU 43	40	-16563	-725	93026		1.95	189	0.82	6933			9.56	Si
SLU 43	80	-15605	-815	100065		1.83	189	0.8	6806			8.35	Si
SLU 69	40	-18912	-813	75937		2.22	189	0.85	7247			8.91	Si
SLU 69	80	-17942	-914	84902		2.11	189	0.84	7117			7.78	Si
SLU 66	40	-18829	-761	82518		2.21	189	0.85	7235			9.51	Si
SLU 66	80	-17866	-862	90124		2.1	189	0.84	7107			8.25	Si
SLU 45	40	-16785	-772	90007		1.97	189	0.82	6963			9.02	Si
SLU 45	80	-15817	-863	97976		1.86	189	0.8	6834			7.92	Si
SLU 56	40	-19250	-760	72061		2.26	189	0.86	7292			9.6	Si
SLU 56	80	-18294	-862	80194		2.15	189	0.84	7164			8.32	Si
SLU 58	40	-19112	-765	68500		2.25	189	0.86	7273			9.51	Si
SLU 58	80	-18158	-866	77062		2.13	189	0.84	7146			8.25	Si
SLU 50	40	-16730	-829	79864		1.97	189	0.82	6956			8.39	Si
SLU 50	80	-15757	-920	89622		1.85	189	0.8	6826			7.42	Si
SLU 71	40	-18774	-818	72375		2.21	189	0.85	7228			8.83	Si
SLU 71	80	-17806	-919	81769		2.09	189	0.83	7099			7.73	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	40	-13078	-8892	-344829		1.54	189	1.14	9703			1.09	Si
SLV 4	80	-12812	-7680	-85371		1.51	189	1.13	9650			1.26	Si
SLV 16	40	-22573	7676	554375		2.65	189	1.36	11602			1.51	Si
SLV 16	80	-23426	9288	331685		2.75	189	1.38	11773			1.27	Si
SLV 14	40	-16010	7825	473222		1.88	189	1.21	10290			1.31	Si
SLV 14	80	-14817	6459	223511		1.74	189	1.18	10051			1.56	Si
SLV 13	40	-16010	7825	473222		1.88	189	1.21	10290			1.31	Si
SLV 13	80	-14817	6459	223511		1.74	189	1.18	10051			1.56	Si
SLV 5	40	-2183	-2770	-205938		99.8	0.49	1.63	36			0.01	No, Vu<V
SLV 5	80	2126	-7871	-173778		0	0	0.83	0			0	No, Vu<V
SLV 15	40	-22573	7676	554375		2.65	189	1.36	11602			1.51	Si
SLV 15	80	-23426	9288	331685		2.75	189	1.38	11773			1.27	Si
SLV 2	40	-6516	-8743	-425982		1.66	87.37	1.16	4580			0.52	No, Vu<V
SLV 2	80	-4203	-10509	-193545		0.64	145.37	0.96	6292			0.6	No, Vu<V
SLV 1	40	-6516	-8743	-425982		1.66	87.37	1.16	4580			0.52	No, Vu<V
SLV 1	80	-4203	-10509	-193545		0.64	145.37	0.96	6292			0.6	No, Vu<V
SLV 6	40	-2183	-2770	-205938		99.8	0.49	1.63	36			0.01	No, Vu<V
SLV 6	80	2126	-7871	-173778		0	0	0.83	0			0	No, Vu<V
SLV 3	40	-13078	-8892	-344829		1.54	189	1.14	9703			1.09	Si
SLV 3	80	-12812	-7680	-85371		1.51	189	1.13	9650			1.26	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.24	0.47	-4039	11277	87344	7.75	Si
SLV 6	14	0.24	0.47	-4039	11277	87344	7.75	Si
SLV 2	14	0.24	0.68	-5754	11277	122293	10.84	Si
SLV 1	14	0.24	0.68	-5754	11277	122293	10.84	Si
SLV 9	14	0.24	0.97	-8214	11277	170215	15.09	Si
SLV 10	14	0.24	0.97	-8214	11277	170215	15.09	Si
SLV 4	14	0.24	1.34	-11399	11277	228348	20.25	Si
SLV 3	14	0.24	1.34	-11399	11277	228348	20.25	Si
SLV 14	14	0.24	2.31	-19672	11277	358833	31.82	Si
SLV 13	14	0.24	2.31	-19672	11277	358833	31.82	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = -25.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 5	2575	-4220	-493	0	0	0	0	327.131	No, Trazione
SLV 9	26	-10585	-528	0	0	0	0	327.131	No, Trazione
SLV 6	2575	-4220	-493	0	0	0	0	327.131	No, Trazione
SLV 10	26	-10585	-528	0	0	0	0	327.131	No, Trazione
SLV 1	-3797	-4134	-331	0.056	7.242	0.898	91.392	336.206	No
SLV 2	-3797	-4134	-331	0.056	7.242	0.898	91.392	336.206	No
SLV 14	-12293	-25349	-450	0.064	15.76	0.942	99.198	336.206	No
SLV 13	-12293	-25349	-450	0.064	15.76	0.942	99.198	336.206	No
SLV 15	-20303	-31639	-347	0.076	23.895	0.96	114.818	336.206	No
SLV 16	-20303	-31639	-347	0.076	23.895	0.96	114.818	336.206	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.417	SLU 43	Si
V_SLU	7.421	SLU 50	Si
PF_SLV	0	SLV 6	No
V_SLV	0	SLV 5	No
PFFP_SLV	7.745	SLV 5	Si
R_SLV	0	SLV 10	No

## Maschio 56

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.3	610.1	-12.3	-328.4	L1	L3	938.5	45	269	269	269			



## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 13	-160	-147571	3528432	3.49	39542651	11.207	Si
SLU 13	109	-127588	4929669	3.02	37665770	7.641	Si
SLU 68	-160	-180661	3937849	4.28	40255097	10.223	Si
SLU 68	109	-155201	5576335	3.67	39971898	7.168	Si
SLU 26	-160	-147237	3675655	3.49	39520238	10.752	Si
SLU 26	109	-127586	5104050	3.02	37665573	7.38	Si
SLU 73	-160	-194506	3853898	4.61	39666858	10.293	Si
SLU 73	109	-167913	5544509	3.98	40334343	7.275	Si
SLU 78	-160	-199568	3842270	4.73	39321180	10.234	Si
SLU 78	109	-172167	5380592	4.08	40357186	7.501	Si
SLU 34	-160	-163012	3920797	3.86	40246829	10.265	Si
SLU 34	109	-142158	5418650	3.37	39141847	7.224	Si
SLU 55	-160	-180995	3790627	4.29	40247064	10.618	Si
SLU 55	109	-155203	5401953	3.67	39971972	7.4	Si
SLU 65	-160	-178730	3608756	4.23	40295585	11.166	Si
SLU 65	109	-153341	5229910	3.63	39881897	7.626	Si
SLU 80	-160	-198045	3859367	4.69	39432571	10.217	Si
SLU 80	109	-170651	5383147	4.04	40354706	7.496	Si
SLU 76	-160	-196436	4182992	4.65	39543287	9.453	Si
SLU 76	109	-169773	5890934	4.02	40350404	6.85	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 2	-160	-44839	4111450	1.06	19212470	4.673	Si
SLV 2	109	-37220	4911301	0.88	16205819	3.3	Si
SLV 1	-160	-44839	4111450	1.06	19212470	4.673	Si
SLV 1	109	-37220	4911301	0.88	16205819	3.3	Si
SLV 4	-160	-47842	4975211	1.13	20368406	4.094	Si
SLV 4	109	-38623	3556591	0.91	16767056	4.714	Si
SLV 9	-160	-160466	17229907	3.8	51883052	3.011	Si
SLV 9	109	-138422	16981470	3.28	47530311	2.799	Si
SLV 3	-160	-47842	4975211	1.13	20368406	4.094	Si
SLV 3	109	-38623	3556591	0.91	16767056	4.714	Si
SLV 6	-160	-105483	16068051	2.5	39379578	2.451	Si
SLV 6	109	-90958	15970257	2.15	35158527	2.202	Si
SLV 10	-160	-160466	17229907	3.8	51883052	3.011	Si
SLV 10	109	-138422	16981470	3.28	47530311	2.799	Si
SLV 7	-160	-115492	14220817	2.73	42065017	2.958	Si
SLV 7	109	-95632	12256050	2.26	36558637	2.983	Si
SLV 5	-160	-105483	16068051	2.5	39379578	2.451	Si
SLV 5	109	-90958	15970257	2.15	35158527	2.202	Si
SLV 8	-160	-115492	14220817	2.73	42065017	2.958	Si
SLV 8	109	-95632	12256050	2.26	36558637	2.983	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 10	-160	-145640	1241	3199339		3.45	938.49	1.02	42881			34.54	Si
SLU 10	109	-125728	1318	4583244		2.98	938.49	0.95	40226			30.51	Si
SLU 44	-160	-163289	1190	3216391		3.87	938.49	1.07	45234			38.01	Si
SLU 44	109	-138771	1268	4740929		3.29	938.49	0.99	41965			33.09	Si
SLU 2	-160	-129865	1309	2954196		3.08	938.49	0.97	40778			31.16	Si
SLU 2	109	-111156	1382	4268645		2.63	938.49	0.91	38283			27.7	Si
SLU 23	-160	-145307	1260	3346561		3.44	938.49	1.01	42837			34	Si
SLU 23	109	-125726	1340	4757625		2.98	938.49	0.95	40226			30.02	Si
SLU 34	-160	-163012	1276	3920797		3.86	938.49	1.07	45197			35.41	Si
SLU 34	109	-142158	1367	5418650		3.37	938.49	1	42417			31.03	Si
SLU 31	-160	-161082	1192	3591704		3.81	938.49	1.06	44940			37.69	Si
SLU 31	109	-140298	1276	5072225		3.32	938.49	1	42169			33.04	Si
SLU 47	-160	-165220	1274	3545484		3.91	938.49	1.08	45492			35.7	Si
SLU 47	109	-140631	1359	5087354		3.33	938.49	1	42213			31.06	Si
SLU 5	-160	-131796	1393	3283290		3.12	938.49	0.97	41035			29.46	Si
SLU 5	109	-113016	1473	4615070		2.68	938.49	0.91	38531			26.16	Si
SLU 13	-160	-147571	1326	3528432		3.49	938.49	1.02	43139			32.54	Si
SLU 13	109	-127588	1409	4929669		3.02	938.49	0.96	40474			28.72	Si
SLU 26	-160	-147237	1344	3675655		3.49	938.49	1.02	43094			32.07	Si
SLU 26	109	-127586	1431	5104050		3.02	938.49	0.96	40474			28.29	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	-160	-170475	-30097	-13058962		4.04	938.49	1.63	68627			2.28	Si
SLV 12	109	-143095	-26085	-11244836		3.39	938.49	1.51	63813			2.45	Si
SLV 9	-160	-160466	29139	17229907		3.8	938.49	1.59	67287			2.31	Si
SLV 9	109	-138422	25246	16981470		3.28	938.49	1.49	62878			2.49	Si
SLV 11	-160	-170475	-30097	-13058962		4.04	938.49	1.63	68627			2.28	Si
SLV 11	109	-143095	-26085	-11244836		3.39	938.49	1.51	63813			2.45	Si
SLV 6	-160	-105483	29126	16068051		2.5	938.49	1.33	56290			1.93	Si
SLV 6	109	-90958	25170	15970257		2.29	881.01	1.29	51229			2.04	Si
SLV 5	-160	-105483	29126	16068051		2.5	938.49	1.33	56290			1.93	Si
SLV 5	109	-90958	25170	15970257		2.29	881.01	1.29	51229			2.04	Si
SLV 8	-160	-115492	-30110	-14220817		2.73	938.49	1.38	58292			1.94	Si
SLV 8	109	-95632	-26162	-12256050		2.26	938.49	1.29	54320			2.08	Si
SLD 7	-160	-128362	-13167	-5174788		3.04	938.49	1.44	60866			4.62	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLD 7	109	-107881	-11391	-3801858		2.55	938.49	1.34	56770			4.98	Si
SLV 10	-160	-160466	29139	17229907		3.8	938.49	1.59	67287			2.31	Si
SLV 10	109	-138422	25246	16981470		3.28	938.49	1.49	62878			2.49	Si
SLD 8	-160	-128362	-13167	-5174788		3.04	938.49	1.44	60866			4.62	Si
SLD 8	109	-107881	-11391	-3801858		2.55	938.49	1.34	56770			4.98	Si
SLV 7	-160	-115492	-30110	-14220817		2.73	938.49	1.38	58292			1.94	Si
SLV 7	109	-95632	-26162	-12256050		2.26	938.49	1.29	54320			2.08	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -25.5 Wa 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 1	14	0.24	0.93	-39198	55997	814958	14.55	Si
SLV 2	14	0.24	0.93	-39198	55997	814958	14.55	Si
SLV 4	14	0.24	0.97	-40775	55997	844951	15.09	Si
SLV 3	14	0.24	0.97	-40775	55997	844951	15.09	Si
SLV 6	14	0.24	2.3	-97032	55997	1772694	31.66	Si
SLV 5	14	0.24	2.3	-97032	55997	1772694	31.66	Si
SLV 8	14	0.24	2.42	-102290	55997	1845305	32.95	Si
SLV 7	14	0.24	2.42	-102290	55997	1845305	32.95	Si
SLV 10	14	0.24	3.51	-148182	55997	2376672	42.44	Si
SLV 9	14	0.24	3.51	-148182	55997	2376672	42.44	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = -25.5 Wa = 0.08 Ta = 0.0269

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 14	-195431	-228116	446	0.086	214.983	0.977	127.393	336.206	No
SLV 13	-195431	-228116	446	0.086	214.983	0.977	127.393	336.206	No
SLV 15	-196833	-231118	381	0.086	216.411	0.977	127.818	336.206	No
SLV 16	-196833	-231118	381	0.086	216.411	0.977	127.818	336.206	No
SLV 9	-138422	-160466	321	0.087	156.922	0.969	130.847	327.131	No
SLV 10	-138422	-160466	321	0.087	156.922	0.969	130.847	327.131	No
SLV 11	-143095	-170475	106	0.089	161.68	0.97	132.672	327.131	No
SLV 12	-143095	-170475	106	0.089	161.68	0.97	132.672	327.131	No
SLV 5	-90958	-105483	149	0.091	108.631	0.957	137.69	327.131	No
SLV 6	-90958	-105483	149	0.091	108.631	0.957	137.69	327.131	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.85	SLU 76	Si
V_SLU	26.161	SLU 5	Si
PF_SLV	2.202	SLV 5	Si
V_SLV	1.933	SLV 5	Si
PFFP_SLV	14.554	SLV 1	Si
R_SLV	0.379	SLV 13	No

## Maschio 57

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2467.8	-335.9	-2467.8	595.1	L3	L4	931.1	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv <sub>lim</sub>	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 80	109	-152282	-5214092	5.84	20056226	3.847	Si
SLU 80	482	-104115	-3109362	3.99	24706038	7.946	Si
SLU 78	109	-153420	-5214124	5.88	19823407	3.802	Si
SLU 78	482	-105107	-3119763	4.03	24712868	7.921	Si
SLU 65	109	-137001	-5293381	5.26	22633004	4.276	Si
SLU 65	482	-91540	-2987559	3.51	24245527	8.115	Si
SLU 75	109	-151074	-4910239	5.79	20297275	4.134	Si
SLU 75	482	-103174	-2941432	3.96	24695575	8.396	Si
SLU 55	109	-138859	-5445796	5.33	22374411	4.109	Si
SLU 55	482	-93190	-3070481	3.57	24345433	7.929	Si
SLU 76	109	-151323	-5898094	5.8	20248021	3.433	Si
SLU 76	482	-102979	-3406346	3.95	24692922	7.249	Si
SLU 84	109	-155069	-5039134	5.95	19476029	3.865	Si
SLU 84	482	-106255	-3034084	4.08	24715382	8.146	Si
SLU 82	109	-152722	-4735249	5.86	19966855	4.217	Si
SLU 82	482	-104322	-2855753	4	24707820	8.652	Si
SLU 73	109	-148977	-5594209	5.71	20700322	3.7	Si
SLU 73	482	-101046	-3228015	3.88	24657591	7.639	Si
SLU 68	109	-139348	-5597266	5.35	22303895	3.985	Si
SLU 68	482	-93474	-3165890	3.59	24361426	7.695	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 6	109	-122532	-16428498	4.7	35100522	2.137	Si
SLV 6	482	-84506	-8196034	3.24	28903919	3.527	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 10	109	-83090	-15733404	3.19	28591455	1.817	Si
SLV 10	482	-57170	-8061686	2.19	21837927	2.709	Si
SLV 8	109	-123710	11416217	4.75	35224952	3.086	Si
SLV 8	482	-81723	5303804	3.13	28284339	5.333	Si
SLV 7	109	-123710	11416217	4.75	35224952	3.086	Si
SLV 7	482	-81723	5303804	3.13	28284339	5.333	Si
SLV 13	109	-37486	-5176810	1.44	15397379	2.974	Si
SLV 13	482	-24303	-3180003	0.93	10450687	3.286	Si
SLV 9	109	-83090	-15733404	3.19	28591455	1.817	Si
SLV 9	482	-57170	-8061686	2.19	21837927	2.709	Si
SLV 14	109	-37486	-5176810	1.44	15397379	2.974	Si
SLV 14	482	-24303	-3180003	0.93	10450687	3.286	Si
SLV 11	109	-84268	12111311	3.23	28851650	2.382	Si
SLV 11	482	-54386	5438152	2.09	20995948	3.861	Si
SLV 12	109	-84268	12111311	3.23	28851650	2.382	Si
SLV 12	482	-54386	5438152	2.09	20995948	3.861	Si
SLV 5	109	-122532	-16428498	4.7	35100522	2.137	Si
SLV 5	482	-84506	-8196034	3.24	28903919	3.527	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 31	109	-124326	-1614	-5166259		4.77	931.07	1.08	28242			17.5	Si
SLU 31	482	-85222	-1291	-2978885		3.27	931.07	0.99	25846			20.02	Si
SLU 26	109	-114696	-1846	-5169315		4.4	931.07	1.08	28242			15.3	Si
SLU 26	482	-77650	-1523	-2916760		2.98	931.07	0.95	24837			16.3	Si
SLU 23	109	-112350	-1632	-4865430		4.31	931.07	1.08	28242			17.3	Si
SLU 23	482	-75717	-1316	-2738429		2.9	931.07	0.94	24579			18.67	Si
SLU 68	109	-139348	-1796	-5597266		5.35	931.07	1.08	28242			15.72	Si
SLU 68	482	-93474	-1462	-3165890		3.59	931.07	1.03	26946			18.43	Si
SLU 55	109	-138859	-1724	-5445796		5.33	931.07	1.08	28242			16.39	Si
SLU 55	482	-93190	-1393	-3070481		3.57	931.07	1.03	26909			19.32	Si
SLU 5	109	-102232	-1791	-4717017		3.92	931.07	1.08	28114			15.7	Si
SLU 5	482	-67861	-1479	-2580896		2.6	931.07	0.9	23531			15.91	Si
SLU 47	109	-126883	-1742	-5144967		4.87	931.07	1.08	28242			16.22	Si
SLU 47	482	-83684	-1418	-2830025		3.21	931.07	0.98	25641			18.09	Si
SLU 76	109	-151323	-1778	-5898094		5.8	931.07	1.08	28242			15.88	Si
SLU 76	482	-102979	-1437	-3406346		3.95	931.07	1.08	28214			19.63	Si
SLU 34	109	-126672	-1828	-5470144		4.86	931.07	1.08	28242			15.45	Si
SLU 34	482	-87155	-1498	-3157216		3.34	931.07	1	26104			17.42	Si
SLU 13	109	-114207	-1773	-5017845		4.38	931.07	1.08	28242			15.93	Si
SLU 13	482	-77366	-1454	-2821352		2.97	931.07	0.95	24799			17.06	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 8	109	-123710	24854	11416217		4.75	931.07	1.63	42364			1.7	Si
SLV 8	482	-81723	16810	5303804		3.13	931.07	1.46	38070			2.26	Si
SLV 11	109	-84268	23846	12111311		3.23	931.07	1.48	38578			1.62	Si
SLV 11	482	-54386	16252	5438152		2.09	931.07	1.25	32602			2.01	Si
SLV 9	109	-83090	-24669	-15733404		3.58	828.54	1.55	35951			1.46	Si
SLV 9	482	-57170	-16516	-8061686		2.19	931.07	1.27	33159			2.01	Si
SLV 10	109	-83090	-24669	-15733404		3.58	828.54	1.55	35951			1.46	Si
SLV 10	482	-57170	-16516	-8061686		2.19	931.07	1.27	33159			2.01	Si
SLV 7	109	-123710	24854	11416217		4.75	931.07	1.63	42364			1.7	Si
SLV 7	482	-81723	16810	5303804		3.13	931.07	1.46	38070			2.26	Si
SLV 5	109	-122532	-23661	-16428498		4.7	931.07	1.63	42364			1.79	Si
SLV 5	482	-84506	-15957	-8196034		3.24	931.07	1.48	38626			2.42	Si
SLV 14	109	-37486	-8864	-5176810		1.44	931.07	1.12	29222			3.3	Si
SLV 14	482	-24303	-5699	-3180003		0.93	931.07	1.02	26586			4.66	Si
SLV 12	109	-84268	23846	12111311		3.23	931.07	1.48	38578			1.62	Si
SLV 12	482	-54386	16252	5438152		2.09	931.07	1.25	32602			2.01	Si
SLV 6	109	-122532	-23661	-16428498		4.7	931.07	1.63	42364			1.79	Si
SLV 6	482	-84506	-15957	-8196034		3.24	931.07	1.48	38626			2.42	Si
SLV 13	109	-37486	-8864	-5176810		1.44	931.07	1.12	29222			3.3	Si
SLV 13	482	-24303	-5699	-3180003		0.93	931.07	1.02	26586			4.66	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 15	14	0.31	1.13	-29394	85298	373546	4.38	Si
SLV 16	14	0.31	1.13	-29394	85298	373546	4.38	Si
SLV 13	14	0.31	1.14	-29703	85298	377070	4.42	Si
SLV 14	14	0.31	1.14	-29703	85298	377070	4.42	Si
SLV 12	14	0.31	2.57	-66946	85298	740273	8.68	Si
SLV 11	14	0.31	2.57	-66946	85298	740273	8.68	Si
SLV 10	14	0.31	2.61	-67977	85298	748587	8.78	Si
SLV 9	14	0.31	2.61	-67977	85298	748587	8.78	Si
SLV 8	14	0.31	3.81	-99443	85298	957582	11.23	Si
SLV 7	14	0.31	3.81	-99443	85298	957582	11.23	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 295.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 15	-23468	-37839	647	0.028	38.005	0.91	44.133	924.595	No
SLV 16	-23468	-37839	647	0.028	38.005	0.91	44.133	924.595	No
SLV 14	-24303	-37486	586	0.03	38.836	0.911	47.449	924.595	No
SLV 13	-24303	-37486	586	0.03	38.836	0.911	47.449	924.595	No
SLV 2	-115425	-168961	-814	0.034	131.205	0.968	50.465	924.595	No
SLV 1	-115425	-168961	-814	0.034	131.205	0.968	50.465	924.595	No
SLV 4	-114590	-169314	-752	0.034	130.355	0.968	51.187	924.595	No



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 3	-114590	-169314	-752	0.034	130.355	0.968	51.187	924.595	No
SLV 6	-84506	-122532	-396	0.037	99.744	0.959	55.766	844.398	No
SLV 5	-84506	-122532	-396	0.037	99.744	0.959	55.766	844.398	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.433	SLU 76	Si
V_SLU	15.3	SLU 26	Si
PF_SLV	1.817	SLV 9	Si
V_SLV	1.457	SLV 9	Si
PFFP_SLV	4.379	SLV 15	Si
R_SLV	0.048	SLV 15	No

## Maschio 58

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2276.3	595.1	-2467.8	595.1	L3	L4	191.5	28	373	373	373			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 82	199	-16610	373605	3.1	985606	2.638	Si
SLU 82	389	-20131	-78412	3.75	1039148	13.252	Si
SLU 74	199	-16698	378306	3.11	987607	2.611	Si
SLU 74	389	-20072	-72502	3.74	1038696	14.326	Si
SLU 77	199	-16806	382863	3.13	990016	2.586	Si
SLU 77	389	-20279	-81778	3.78	1040209	12.72	Si
SLU 79	199	-16650	379953	3.11	986505	2.596	Si
SLU 79	389	-20087	-82219	3.75	1038814	12.635	Si
SLU 75	199	-16240	367850	3.03	976830	2.656	Si
SLU 75	389	-19623	-80133	3.66	1034774	12.913	Si
SLU 78	199	-16348	372407	3.05	979456	2.63	Si
SLU 78	389	-19830	-89409	3.7	1036695	11.595	Si
SLU 83	199	-17176	388617	3.2	997874	2.568	Si
SLU 83	389	-20788	-80057	3.88	1043119	13.03	Si
SLU 84	199	-16718	378162	3.12	988056	2.613	Si
SLU 84	389	-20339	-87688	3.79	1040607	11.867	Si
SLU 80	199	-16192	369497	3.02	975631	2.64	Si
SLU 80	389	-19638	-89850	3.66	1034922	11.518	Si
SLU 81	199	-17068	384060	3.18	995640	2.592	Si
SLU 81	389	-20580	-70781	3.84	1042069	14.722	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 1	199	-14308	628886	2.67	1070801	1.703	Si
SLV 1	389	-20912	-271390	3.9	1363201	5.023	Si
SLV 8	199	-18885	798572	3.52	1287002	1.612	Si
SLV 8	389	-26856	-221872	5.01	1517393	6.839	Si
SLV 10	199	-4345	-271507	0.81	388447	1.431	Si
SLV 10	389	-483	148176	0	0	0	No, e>1/2
SLV 13	199	-5365	-336005	1	471607	1.404	Si
SLV 13	389	-365	260810	0	0	0	No, e>1/2
SLV 2	199	-14308	628886	2.67	1070801	1.703	Si
SLV 2	389	-20912	-271390	3.9	1363201	5.023	Si
SLV 9	199	-4345	-271507	0.81	388447	1.431	Si
SLV 9	389	-483	148176	0	0	0	No, e>1/2
SLV 4	199	-17865	863069	3.33	1244134	1.442	Si
SLV 4	389	-26974	-334506	5.03	1519415	4.542	Si
SLV 14	199	-5365	-336005	1	471607	1.404	Si
SLV 14	389	-365	260810	0	0	0	No, e>1/2
SLV 7	199	-18885	798572	3.52	1287002	1.612	Si
SLV 7	389	-26856	-221872	5.01	1517393	6.839	Si
SLV 3	199	-17865	863069	3.33	1244134	1.442	Si
SLV 3	389	-26974	-334506	5.03	1519415	4.542	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	$\sigma N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 82	199	-16610	5476	373605		3.1	191.5	0.97	5194			0.95	No, Vu<V
SLU 82	389	-20131	5320	-78412		3.75	191.5	1.06	5663			1.06	Si
SLU 80	199	-16192	5475	369497		3.02	191.5	0.96	5138			0.94	No, Vu<V
SLU 80	389	-19638	5322	-89850		3.66	191.5	1.04	5597			1.05	Si
SLU 78	199	-16348	5507	372407		3.05	191.5	0.96	5159			0.94	No, Vu<V
SLU 78	389	-19830	5352	-89409		3.7	191.5	1.05	5623			1.05	Si
SLU 76	199	-15779	5343	357969		2.94	191.5	0.95	5083			0.95	No, Vu<V
SLU 76	389	-19131	5192	-85661		3.57	191.5	1.03	5530			1.06	Si
SLU 77	199	-16806	5519	382863		3.13	191.5	0.97	5220			0.95	No, Vu<V
SLU 77	389	-20279	5362	-81778		3.78	191.5	1.06	5683			1.06	Si
SLU 75	199	-16240	5383	367850		3.03	191.5	0.96	5144			0.96	No, Vu<V
SLU 75	389	-19623	5230	-80133		3.66	191.5	1.04	5595			1.07	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 79	199	-16650	5488	379953		3.11	191.5	0.97	5199			0.95	No, Vu<V
SLU 79	389	-20087	5332	-82219		3.75	191.5	1.06	5657			1.06	Si
SLU 81	199	-17068	5488	384060		3.18	191.5	0.98	5255			0.96	No, Vu<V
SLU 81	389	-20580	5330	-70781		3.84	191.5	1.07	5723			1.07	Si
SLU 84	199	-16718	5600	378162		3.12	191.5	0.97	5208			0.93	No, Vu<V
SLU 84	389	-20339	5442	-87688		3.79	191.5	1.06	5691			1.05	Si
SLU 83	199	-17176	5612	388617		3.2	191.5	0.98	5269			0.94	No, Vu<V
SLU 83	389	-20788	5453	-80057		3.88	191.5	1.07	5751			1.05	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	199	-14308	8344	628886		3.29	155.39	1.49	6487			0.78	No, Vu<V
SLV 2	389	-20912	8893	-271390		3.9	191.5	1.61	8651			0.97	No, Vu<V
SLV 4	199	-17865	12108	863069		4.48	142.32	1.63	6475			0.53	No, Vu<V
SLV 4	389	-26974	11101	-334506		5.03	191.5	1.63	8713			0.78	No, Vu<V
SLV 7	199	-18885	11877	798572		4.21	160.39	1.63	7298			0.61	No, Vu<V
SLV 7	389	-26856	9140	-221872		5.01	191.5	1.63	8713			0.95	No, Vu<V
SLV 13	199	-5365	-4861	-336005		1.93	99.35	1.22	3391			0.7	No, Vu<V
SLV 13	389	-365	-4071	260810		0	0	0.83	0			0	No, Vu<V
SLV 14	199	-5365	-4861	-336005		1.93	99.35	1.22	3391			0.7	No, Vu<V
SLV 14	389	-365	-4071	260810		0	0	0.83	0			0	No, Vu<V
SLV 8	199	-18885	11877	798572		4.21	160.39	1.63	7298			0.61	No, Vu<V
SLV 8	389	-26856	9140	-221872		5.01	191.5	1.63	8713			0.95	No, Vu<V
SLV 10	199	-4345	-4630	-271507		1.56	99.79	1.14	3197			0.69	No, Vu<V
SLV 10	389	-483	-2111	148176		0	0	0.83	0			0	No, Vu<V
SLV 3	199	-17865	12108	863069		4.48	142.32	1.63	6475			0.53	No, Vu<V
SLV 3	389	-26974	11101	-334506		5.03	191.5	1.63	8713			0.78	No, Vu<V
SLV 9	199	-4345	-4630	-271507		1.56	99.79	1.14	3197			0.69	No, Vu<V
SLV 9	389	-483	-2111	148176		0	0	0.83	0			0	No, Vu<V
SLV 1	199	-14308	8344	628886		3.29	155.39	1.49	6487			0.78	No, Vu<V
SLV 1	389	-20912	8893	-271390		3.9	191.5	1.61	8651			0.97	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.31	0	1340	17544	0	0	No, Trazione
SLV 10	14	0.31	0	1340	17544	0	0	No, Trazione
SLV 14	14	0.31	0.36	-1918	17544	26060	1.49	Si
SLV 13	14	0.31	0.36	-1918	17544	26060	1.49	Si
SLV 6	14	0.31	0.59	-3183	17544	42395	2.42	Si
SLV 5	14	0.31	0.59	-3183	17544	42395	2.42	Si
SLV 15	14	0.31	1.72	-9232	17544	111033	6.33	Si
SLV 16	14	0.31	1.72	-9232	17544	111033	6.33	Si
SLV 1	14	0.31	3.17	-16992	17544	176192	10.04	Si
SLV 2	14	0.31	3.17	-16992	17544	176192	10.04	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 295.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 10	-2594	3213	80	0	0	0	0	844.398	No, Trazione
SLV 9	-2594	3213	80	0	0	0	0	844.398	No, Trazione
SLV 6	-6238	175	85	0	0	0	0	844.398	No, Trazione
SLV 5	-6238	175	85	0	0	0	0	844.398	No, Trazione
SLV 4	-19457	-18792	-19	0.04	22.626	0.963	60.115	924.595	No
SLV 3	-19457	-18792	-19	0.04	22.626	0.963	60.115	924.595	No
SLV 2	-15318	-11674	31	0.04	18.418	0.955	60.323	924.595	No
SLV 1	-15318	-11674	31	0.04	18.418	0.955	60.323	924.595	No
SLV 11	-16389	-20513	-88	0.036	19.506	0.957	55.299	844.398	No
SLV 12	-16389	-20513	-88	0.036	19.506	0.957	55.299	844.398	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.568	SLU 83	Si
V_SLU	0.93	SLU 84	No
PF_SLV	0	SLV 9	No
V_SLV	0	SLV 9	No
PFFP_SLV	0	SLV 10	No
R_SLV	0	SLV 10	No

## Maschio 59

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1961.8	595.1	-2176.3	595.1	L3	L4	214.5	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 80	199	-25481	-679287	4.24	1309497	1.928	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 80	389	-25383	-220047	4.23	1309911	5.953	Si
SLU 75	199	-25183	-675874	4.19	1310631	1.939	Si
SLU 75	389	-25016	-202662	4.17	1311098	6.469	Si
SLU 81	199	-25639	-688991	4.27	1308733	1.899	Si
SLU 81	389	-25534	-184369	4.25	1309250	7.101	Si
SLU 82	199	-25528	-687170	4.25	1309281	1.905	Si
SLU 82	389	-25386	-189511	4.23	1309899	6.912	Si
SLU 74	199	-25295	-677695	4.21	1310251	1.933	Si
SLU 74	389	-25165	-197520	4.19	1310689	6.636	Si
SLU 79	199	-25592	-681108	4.26	1308972	1.922	Si
SLU 79	389	-25531	-214904	4.25	1309264	6.092	Si
SLU 78	199	-25690	-684979	4.28	1308463	1.91	Si
SLU 78	389	-25589	-220032	4.26	1308987	5.949	Si
SLU 83	199	-26146	-698096	4.35	1305551	1.87	Si
SLU 83	389	-26107	-201738	4.35	1305838	6.473	Si
SLU 84	199	-26035	-696275	4.33	1306347	1.876	Si
SLU 84	389	-25959	-206881	4.32	1306860	6.317	Si
SLU 77	199	-25802	-686800	4.3	1307835	1.904	Si
SLU 77	389	-25737	-214889	4.29	1308205	6.088	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 16	199	-16396	-761919	2.73	1365590	1.792	Si
SLV 16	389	-23031	214106	3.83	1694897	7.916	Si
SLV 5	199	-5776	-596467	0.96	570706	0.957	No, $M > \mu$
SLV 5	389	-6659	-315429	1.11	649400	2.059	Si
SLV 6	199	-5776	-596467	0.96	570706	0.957	No, $M > \mu$
SLV 6	389	-6659	-315429	1.11	649400	2.059	Si
SLV 13	199	-8745	-905617	1.46	826143	0.912	No, $M > \mu$
SLV 13	389	-17519	159516	2.92	1430374	8.967	Si
SLV 9	199	-3027	-816528	0	0	0	No, $e \geq l/2$
SLV 9	389	-8703	-125619	1.45	822728	6.549	Si
SLV 14	199	-8745	-905617	1.46	826143	0.912	No, $M > \mu$
SLV 14	389	-17519	159516	2.92	1430374	8.967	Si
SLV 15	199	-16396	-761919	2.73	1365590	1.792	Si
SLV 15	389	-23031	214106	3.83	1694897	7.916	Si
SLD 10	199	-11292	-608291	1.88	1024713	1.685	Si
SLD 10	389	-13481	-124592	2.24	1180238	9.473	Si
SLV 10	199	-3027	-816528	0	0	0	No, $e \geq l/2$
SLV 10	389	-8703	-125619	1.45	822728	6.549	Si
SLD 9	199	-11292	-608291	1.88	1024713	1.685	Si
SLD 9	389	-13481	-124592	2.24	1180238	9.473	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 75	199	-25183	-3928	-675874		4.19	214.5	1.08	6506			1.66	Si
SLU 75	389	-25016	-3930	-202662		4.17	214.5	1.08	6506			1.66	Si
SLU 77	199	-25802	-3978	-686800		4.3	214.5	1.08	6506			1.64	Si
SLU 77	389	-25737	-3982	-214889		4.29	214.5	1.08	6506			1.63	Si
SLU 74	199	-25295	-3985	-677695		4.21	214.5	1.08	6506			1.63	Si
SLU 74	389	-25165	-3988	-197520		4.19	214.5	1.08	6506			1.63	Si
SLU 82	199	-25528	-4071	-687170		4.25	214.5	1.08	6506			1.6	Si
SLU 82	389	-25386	-4073	-189511		4.23	214.5	1.08	6506			1.6	Si
SLU 78	199	-25690	-3921	-684979		4.28	214.5	1.08	6506			1.66	Si
SLU 78	389	-25589	-3923	-220032		4.26	214.5	1.08	6506			1.66	Si
SLU 84	199	-26035	-4064	-696275		4.33	214.5	1.08	6506			1.6	Si
SLU 84	389	-25959	-4066	-206881		4.32	214.5	1.08	6506			1.6	Si
SLU 80	199	-25481	-3894	-679287		4.24	214.5	1.08	6506			1.67	Si
SLU 80	389	-25383	-3896	-220047		4.23	214.5	1.08	6506			1.67	Si
SLU 83	199	-26146	-4121	-698096		4.35	214.5	1.08	6506			1.58	Si
SLU 83	389	-26107	-4125	-201738		4.35	214.5	1.08	6506			1.58	Si
SLU 79	199	-25592	-3950	-681108		4.26	214.5	1.08	6506			1.65	Si
SLU 79	389	-25531	-3954	-214904		4.25	214.5	1.08	6506			1.65	Si
SLU 81	199	-25639	-4128	-688991		4.27	214.5	1.08	6506			1.58	Si
SLU 81	389	-25534	-4131	-184369		4.25	214.5	1.08	6506			1.57	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	199	-8745	-10412	-905617		28.19	11.08	1.63	504			0.05	No, $V_u < V$
SLV 13	389	-17519	-10866	159516		2.92	214.5	1.42	8509			0.78	No, $V_u < V$
SLD 13	199	-13610	-6050	-651094		2.73	178.23	1.38	6881			1.14	Si
SLD 13	389	-17173	-6233	-5056		2.86	214.5	1.41	8440			1.35	Si
SLV 14	199	-8745	-10412	-905617		28.19	11.08	1.63	504			0.05	No, $V_u < V$
SLV 14	389	-17519	-10866	159516		2.92	214.5	1.42	8509			0.78	No, $V_u < V$
SLD 14	199	-13610	-6050	-651094		2.73	178.23	1.38	6881			1.14	Si
SLD 14	389	-17173	-6233	-5056		2.86	214.5	1.41	8440			1.35	Si
SLV 15	199	-16396	-11315	-761919		3.21	182.34	1.48	7534			0.67	No, $V_u < V$
SLV 15	389	-23031	-10842	214106		3.83	214.5	1.6	9611			0.89	No, $V_u < V$
SLV 5	199	-5776	1137	-596467		17.27	11.94	1.63	543			0.48	No, $V_u < V$
SLV 5	389	-6659	-414	-315429		1.32	179.65	1.1	5524			13.33	Si
SLV 10	199	-3027	-3708	-816528		0	0	0.83	0			0	No, $V_u < V$
SLV 10	389	-8703	-5251	-125619		1.45	214.5	1.12	6746			1.28	Si
SLV 16	199	-16396	-11315	-761919		3.21	182.34	1.48	7534			0.67	No, $V_u < V$
SLV 16	389	-23031	-10842	214106		3.83	214.5	1.6	9611			0.89	No, $V_u < V$
SLV 6	199	-5776	1137	-596467		17.27	11.94	1.63	543			0.48	No, $V_u < V$
SLV 6	389	-6659	-414	-315429		1.32	179.65	1.1	5524			13.33	Si
SLV 9	199	-3027	-3708	-816528		0	0	0.83	0			0	No, $V_u < V$
SLV 9	389	-8703	-5251	-125619		1.45	214.5	1.12	6746			1.28	Si





## Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.31	1	-5985	19651	76959	3.92	Si
SLV 5	14	0.31	1	-5985	19651	76959	3.92	Si
SLV 10	14	0.31	1.02	-6139	19651	78755	4.01	Si
SLV 9	14	0.31	1.02	-6139	19651	78755	4.01	Si
SLV 1	14	0.31	2.25	-13494	19651	154182	7.85	Si
SLV 2	14	0.31	2.25	-13494	19651	154182	7.85	Si
SLV 14	14	0.31	2.33	-14007	19651	158667	8.07	Si
SLV 13	14	0.31	2.33	-14007	19651	158667	8.07	Si
SLV 4	14	0.31	3.34	-20085	19651	204229	10.39	Si
SLV 3	14	0.31	3.34	-20085	19651	204229	10.39	Si

## Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 295.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 6	-7835	-3252	125	0.033	11.187	0.925	51.119	844.398	No
SLV 5	-7835	-3252	125	0.033	11.187	0.925	51.119	844.398	No
SLV 15	-18645	-20310	-86	0.037	22.142	0.958	56.189	924.595	No
SLV 16	-18645	-20310	-86	0.037	22.142	0.958	56.189	924.595	No
SLV 2	-11004	-14215	83	0.037	14.386	0.939	57.275	924.595	No
SLV 1	-11004	-14215	83	0.037	14.386	0.939	57.275	924.595	No
SLV 11	-21814	-31273	-128	0.035	25.365	0.963	53.329	844.398	No
SLV 12	-21814	-31273	-128	0.035	25.365	0.963	53.329	844.398	No
SLV 8	-20678	-32034	-98	0.037	24.209	0.961	55.29	844.398	No
SLV 7	-20678	-32034	-98	0.037	24.209	0.961	55.29	844.398	No

## Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.87	SLU 83	Si
V_SLU	1.575	SLU 81	Si
PF_SLV	0	SLV 9	No
V_SLV	0	SLV 9	No
PFFP_SLV	3.916	SLV 5	Si
R_SLV	0.061	SLV 5	No

## Maschio 60

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2254.3	-335.9	-2467.8	-335.9	L3	L4	213.5	28	373	373	373			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

## Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 73	199	-18258	840742	3.05	1218267	1.449	Si
SLU 73	389	-23704	80827	3.97	1298661	16.067	Si
SLU 47	199	-15063	743957	2.52	1110602	1.493	Si
SLU 47	389	-19252	109003	3.22	1242643	11.4	Si
SLU 55	199	-16830	798048	2.82	1175673	1.473	Si
SLU 55	389	-21734	92782	3.64	1284587	13.845	Si
SLU 2	199	-11371	623858	1.9	930380	1.491	Si
SLU 2	389	-14924	101543	2.5	1104881	10.881	Si
SLU 68	199	-16937	804136	2.83	1179169	1.466	Si
SLU 68	389	-21807	98115	3.65	1285412	13.101	Si
SLU 65	199	-16491	786652	2.76	1164256	1.48	Si
SLU 65	389	-21223	97048	3.55	1278160	13.17	Si
SLU 34	199	-15456	755611	2.59	1126249	1.491	Si
SLU 34	389	-20544	75500	3.44	1267849	16.793	Si
SLU 52	199	-16385	780564	2.74	1160552	1.487	Si
SLU 52	389	-21150	91716	3.54	1277149	13.925	Si
SLU 5	199	-11816	641342	1.98	955296	1.49	Si
SLU 5	389	-15508	102609	2.59	1128255	10.996	Si
SLU 76	199	-18704	858226	3.13	1229729	1.433	Si
SLU 76	389	-24288	81894	4.06	1299561	15.869	Si

## Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 1	199	-21466	1237384	3.59	1618092	1.308	Si
SLV 1	389	-31787	-455334	5.32	1916595	4.209	Si
SLV 14	199	-10529	-123357	1.76	961928	7.798	Si
SLV 14	389	-7487	445274	1.25	717346	1.611	Si
SLV 13	199	-10529	-123357	1.76	961928	7.798	Si
SLV 13	389	-7487	445274	1.25	717346	1.611	Si
SLV 3	199	-17483	1010306	2.92	1419591	1.405	Si
SLV 3	389	-26191	-443029	4.38	1793383	4.048	Si
SLV 2	199	-21466	1237384	3.59	1618092	1.308	Si
SLV 2	389	-31787	-455334	5.32	1916595	4.209	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 16	199	-6545	-350436	1.09	636065	1.815	Si
SLV 16	389	-1891	457579	0	0	0	No, $e \geq 1/2$
SLV 4	199	-17483	1010306	2.92	1419591	1.405	Si
SLV 4	389	-26191	-443029	4.38	1793383	4.048	Si
SLV 5	199	-22286	1026050	3.73	1653173	1.611	Si
SLV 5	389	-29811	-154476	4.99	1883542	12.193	Si
SLV 15	199	-6545	-350436	1.09	636065	1.815	Si
SLV 15	389	-1891	457579	0	0	0	No, $e \geq 1/2$
SLV 6	199	-22286	1026050	3.73	1653173	1.611	Si
SLV 6	389	-29811	-154476	4.99	1883542	12.193	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 55	199	-16830	8100	798048	3.38	178	1.01	5013				0.62	No, Vu<V
SLU 55	389	-21734	7889	92782	3.64	213.5	1.04	6219				0.79	No, Vu<V
SLU 34	199	-15456	7739	755611	3.18	173.59	0.98	4761				0.62	No, Vu<V
SLU 34	389	-20544	7541	75500	3.44	213.5	1.01	6060				0.8	No, Vu<V
SLU 68	199	-16937	8104	804136	3.4	177.82	1.01	5024				0.62	No, Vu<V
SLU 68	389	-21807	7892	98115	3.65	213.5	1.04	6229				0.79	No, Vu<V
SLU 31	199	-15011	7573	738127	3.1	172.73	0.97	4688				0.62	No, Vu<V
SLU 31	389	-19960	7378	74434	3.34	213.5	1	5982				0.81	No, Vu<V
SLU 52	199	-16385	7933	780564	3.3	177.33	1	4943				0.62	No, Vu<V
SLU 52	389	-21150	7726	91716	3.54	213.5	1.03	6141				0.79	No, Vu<V
SLU 73	199	-18258	8719	840742	3.58	182.11	1.03	5267				0.6	No, Vu<V
SLU 73	389	-23704	8495	80827	3.97	213.5	1.08	6476				0.76	No, Vu<V
SLU 13	199	-13583	6954	695432	2.91	166.65	0.94	4403				0.63	No, Vu<V
SLU 13	389	-17989	6772	86388	3.01	213.5	0.96	5720				0.84	No, Vu<V
SLU 65	199	-16491	7937	786652	3.32	177.15	1	4954				0.62	No, Vu<V
SLU 65	389	-21223	7729	97048	3.55	213.5	1.03	6151				0.8	No, Vu<V
SLU 26	199	-13690	6957	701521	2.94	166.52	0.95	4416				0.63	No, Vu<V
SLU 26	389	-18062	6775	91721	3.02	213.5	0.96	5729				0.85	No, Vu<V
SLU 76	199	-18704	8885	858226	3.66	182.59	1.04	5334				0.6	No, Vu<V
SLU 76	389	-24288	8658	81894	4.06	213.5	1.08	6476				0.75	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 5	199	-22286	12110	1026050		4.37	182.13	1.63	8287			0.68	No, Vu<V
SLV 5	389	-29811	11055	-154476		4.99	213.5	1.63	9714			0.88	No, Vu<V
SLV 4	199	-17483	13702	1010306		4.25	146.88	1.63	6683			0.49	No, Vu<V
SLV 4	389	-26191	13775	-443029		4.38	213.5	1.63	9714			0.71	No, Vu<V
SLV 3	199	-17483	13702	1010306		4.25	146.88	1.63	6683			0.49	No, Vu<V
SLV 3	389	-26191	13775	-443029		4.38	213.5	1.63	9714			0.71	No, Vu<V
SLV 2	199	-21466	16115	1237384		5.2	147.32	1.63	6703			0.42	No, Vu<V
SLV 2	389	-31787	15643	-455334		5.32	213.5	1.63	9714			0.62	No, Vu<V
SLV 16	199	-6545	-5782	-350436		1.46	159.62	1.13	5033			0.87	No, Vu<V
SLV 16	389	-1891	-5559	457579		0	0	0.83	0			0	No, Vu<V
SLV 6	199	-22286	12110	1026050		4.37	182.13	1.63	8287			0.68	No, Vu<V
SLV 6	389	-29811	11055	-154476		4.99	213.5	1.63	9714			0.88	No, Vu<V
SLV 1	199	-21466	16115	1237384		5.2	147.32	1.63	6703			0.42	No, Vu<V
SLV 1	389	-31787	15643	-455334		5.32	213.5	1.63	9714			0.62	No, Vu<V
SLD 1	199	-17123	9804	779905		3.33	183.61	1.5	7709			0.79	No, Vu<V
SLD 1	389	-23155	9547	-192345		3.87	213.5	1.61	9613			1.01	Si
SLV 15	199	-6545	-5782	-350436		1.46	159.62	1.13	5033			0.87	No, Vu<V
SLV 15	389	-1891	-5559	457579		0	0	0.83	0			0	No, Vu<V
SLD 2	199	-17123	9804	779905		3.33	183.61	1.5	7709			0.79	No, Vu<V
SLD 2	389	-23155	9547	-192345		3.87	213.5	1.61	9613			1.01	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.31	0.4	-2401	19559	32511	1.66	Si
SLV 12	14	0.31	0.4	-2401	19559	32511	1.66	Si
SLV 15	14	0.31	0.58	-3464	19559	46200	2.36	Si
SLV 16	14	0.31	0.58	-3464	19559	46200	2.36	Si
SLV 8	14	0.31	1.33	-7976	19559	99471	5.09	Si
SLV 7	14	0.31	1.33	-7976	19559	99471	5.09	Si
SLV 14	14	0.31	1.66	-9950	19559	120329	6.15	Si
SLV 13	14	0.31	1.66	-9950	19559	120329	6.15	Si
SLV 4	14	0.31	3.69	-22047	19559	215496	11.02	Si
SLV 3	14	0.31	3.69	-22047	19559	215496	11.02	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 295.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 3	-18830	-15038	-63	0.038	22.315	0.958	57.849	924.595	No
SLV 4	-18830	-15038	-63	0.038	22.315	0.958	57.849	924.595	No
SLV 2	-23186	-21125	-19	0.04	26.746	0.965	59.898	924.595	No
SLV 1	-23186	-21125	-19	0.04	26.746	0.965	59.898	924.595	No
SLV 13	-9219	-10148	63	0.039	12.567	0.932	60.329	924.595	No
SLV 14	-9219	-10148	63	0.039	12.567	0.932	60.329	924.595	No
SLV 10	-19190	-21092	84	0.037	22.681	0.959	56.239	844.398	No
SLV 9	-19190	-21092	84	0.037	22.681	0.959	56.239	844.398	No
SLV 8	-8859	-4094	-84	0.037	12.204	0.93	57.345	844.398	No
SLV 7	-8859	-4094	-84	0.037	12.204	0.93	57.345	844.398	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.433	SLU 76	Si



Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	0.6	SLV 76	No
PF_SLV	0	SLV 15	No
V_SLV	0	SLV 15	No
PFFP_SLV	1.662	SLV 11	Si
R_SLV	0.063	SLV 3	No

## Maschio 61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1936.8	-335.9	-2154.3	-335.9	L3	L4	217.5	28	373	373	373			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 65	309	-14817	-612034	2.43	1130077	1.846	Si
SLV 65	389	-13728	-318200	2.25	1079800	3.393	Si
SLV 68	309	-14962	-611076	2.46	1136393	1.86	Si
SLV 68	389	-13874	-323638	2.28	1086809	3.358	Si
SLV 76	309	-17164	-662911	2.82	1220760	1.842	Si
SLV 76	389	-16075	-351661	2.64	1181686	3.36	Si
SLV 5	309	-9898	-477037	1.63	861633	1.806	Si
SLV 5	389	-9067	-253150	1.49	805842	3.183	Si
SLV 2	309	-9753	-477994	1.6	852091	1.783	Si
SLV 2	389	-8922	-247712	1.47	795771	3.212	Si
SLV 55	309	-15199	-620256	2.5	1146464	1.848	Si
SLV 55	389	-14124	-326156	2.32	1098664	3.369	Si
SLV 44	309	-12852	-569379	2.11	1035561	1.819	Si
SLV 44	389	-11777	-292695	1.93	976701	3.337	Si
SLV 73	309	-17019	-663868	2.79	1215847	1.831	Si
SLV 73	389	-15930	-346223	2.62	1176080	3.397	Si
SLV 52	309	-15053	-621214	2.47	1140299	1.836	Si
SLV 52	389	-13979	-320718	2.3	1091814	3.404	Si
SLV 47	309	-12997	-568422	2.13	1043128	1.835	Si
SLV 47	389	-11922	-298133	1.96	984953	3.304	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 4	309	-9923	-20775	1.63	935210	45.017	Si
SLV 4	389	-7544	-970614	0	0	0	No, e>l/2
SLV 3	309	-9923	-20775	1.63	935210	45.017	Si
SLV 3	389	-7544	-970614	0	0	0	No, e>l/2
SLD 4	309	-12153	-229391	2	1105783	4.821	Si
SLD 4	389	-10703	-523514	1.76	996533	1.904	Si
SLV 10	309	-18695	-873012	3.07	1522289	1.744	Si
SLV 10	389	-23372	186701	3.84	1743386	9.338	Si
SLV 1	309	-12411	-274473	2.04	1124592	4.097	Si
SLV 1	389	-13360	-872888	2.19	1192070	1.366	Si
SLD 3	309	-12153	-229391	2	1105783	4.821	Si
SLD 3	389	-10703	-523514	1.76	996533	1.904	Si
SLV 2	309	-12411	-274473	2.04	1124592	4.097	Si
SLV 2	389	-13360	-872888	2.19	1192070	1.366	Si
SLV 8	309	-8840	112290	1.45	847165	7.544	Si
SLV 8	389	-2494	-575472	0	0	0	No, e>l/2
SLV 9	309	-18695	-873012	3.07	1522289	1.744	Si
SLV 9	389	-23372	186701	3.84	1743386	9.338	Si
SLV 7	309	-8840	112290	1.45	847165	7.544	Si
SLV 7	389	-2494	-575472	0	0	0	No, e>l/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 76	309	-17164	-3884	-662911		2.91	210.38	0.94	5561			1.43	Si
SLV 76	389	-16075	-3884	-351661		2.64	217.5	0.91	5527			1.42	Si
SLV 68	309	-14962	-3587	-611076		2.62	203.73	0.91	5164			1.44	Si
SLV 68	389	-13874	-3587	-323638		2.28	217.5	0.86	5233			1.46	Si
SLV 2	309	-9753	-2873	-477994		1.94	179.21	0.81	4088			1.42	Si
SLV 2	389	-8922	-2873	-247712		1.47	217.5	0.75	4573			1.59	Si
SLV 44	309	-12852	-3451	-569379		2.37	193.34	0.87	4721			1.37	Si
SLV 44	389	-11777	-3451	-292695		1.93	217.5	0.81	4954			1.44	Si
SLV 52	309	-15053	-3748	-621214		2.66	202.45	0.91	5156			1.38	Si
SLV 52	389	-13979	-3748	-320718		2.3	217.5	0.86	5247			1.4	Si
SLV 73	309	-17019	-3964	-663868		2.91	209.23	0.94	5524			1.39	Si
SLV 73	389	-15930	-3964	-346223		2.62	217.5	0.9	5507			1.39	Si
SLV 55	309	-15199	-3668	-620256		2.66	203.82	0.91	5197			1.42	Si
SLV 55	389	-14124	-3668	-326156		2.32	217.5	0.86	5267			1.44	Si
SLV 10	309	-11954	-3170	-529829		2.21	193.28	0.85	4601			1.45	Si
SLV 10	389	-11124	-3170	-275735		1.83	217.5	0.8	4866			1.53	Si
SLV 47	309	-12997	-3371	-568422		2.38	195.05	0.87	4767			1.41	Si
SLV 47	389	-11922	-3371	-298133		1.96	217.5	0.82	4973			1.48	Si
SLV 65	309	-14817	-3667	-612034		2.62	202.33	0.9	5123			1.4	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 65	389	-13728	-3667	-318200		2.25	217.5	0.86	5214			1.42	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	309	-17612	-15544	-739948		3.14	200.21	1.46	8194			0.53	No, Vu<V
SLV 13	389	-18322	-15843	581842		3.01	217.5	1.44	8739			0.55	No, Vu<V
SLV 16	309	-15124	-13396	-486250		2.48	217.5	1.33	8100			0.6	No, Vu<V
SLV 16	389	-12506	-12941	484116		2.13	210.11	1.26	7404			0.57	No, Vu<V
SLV 8	309	-8840	4906	112290		1.45	217.5	1.12	6843			1.39	Si
SLV 8	389	-2494	6140	-575472		0	0	0.83	0			0	No, Vu<V
SLV 4	309	-9923	10905	-20775		1.63	217.5	1.16	7060			0.65	No, Vu<V
SLV 4	389	-7544	11204	-970614		0	0	0.83	0			0	No, Vu<V
SLV 15	309	-15124	-13396	-486250		2.48	217.5	1.33	8100			0.6	No, Vu<V
SLV 15	389	-12506	-12941	484116		2.13	210.11	1.26	7404			0.57	No, Vu<V
SLV 1	309	-12411	8757	-274473		2.04	217.5	1.24	7557			0.86	No, Vu<V
SLV 1	389	-13360	8302	-872888		3.66	130.25	1.57	5711			0.69	No, Vu<V
SLV 14	309	-17612	-15544	-739948		3.14	200.21	1.46	8194			0.53	No, Vu<V
SLV 14	389	-18322	-15843	581842		3.01	217.5	1.44	8739			0.55	No, Vu<V
SLV 3	309	-9923	10905	-20775		1.63	217.5	1.16	7060			0.65	No, Vu<V
SLV 3	389	-7544	11204	-970614		0	0	0.83	0			0	No, Vu<V
SLV 7	309	-8840	4906	112290		1.45	217.5	1.12	6843			1.39	Si
SLV 7	389	-2494	6140	-575472		0	0	0.83	0			0	No, Vu<V
SLV 2	309	-12411	8757	-274473		2.04	217.5	1.24	7557			0.86	No, Vu<V
SLV 2	389	-13360	8302	-872888		3.66	130.25	1.57	5711			0.69	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.31	1.75	-10663	19926	127886	6.42	Si
SLV 7	14	0.31	1.75	-10663	19926	127886	6.42	Si
SLV 3	14	0.31	1.77	-10761	19926	128864	6.47	Si
SLV 4	14	0.31	1.77	-10761	19926	128864	6.47	Si
SLV 11	14	0.31	1.81	-11012	19926	131350	6.59	Si
SLV 12	14	0.31	1.81	-11012	19926	131350	6.59	Si
SLV 1	14	0.31	1.84	-11194	19926	133141	6.68	Si
SLV 2	14	0.31	1.84	-11194	19926	133141	6.68	Si
SLV 15	14	0.31	1.96	-11925	19926	140191	7.04	Si
SLV 16	14	0.31	1.96	-11925	19926	140191	7.04	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 295.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 8	-5088	-1503	-116	0.032	8.487	0.907	51.41	844.398	No
SLV 7	-5088	-1503	-116	0.032	8.487	0.907	51.41	844.398	No
SLV 9	-16912	-18140	113	0.036	20.425	0.954	54.241	844.398	No
SLV 10	-16912	-18140	113	0.036	20.425	0.954	54.241	844.398	No
SLV 11	-5133	-357	-102	0.034	8.532	0.908	54.402	844.398	No
SLV 12	-5133	-357	-102	0.034	8.532	0.908	54.402	844.398	No
SLV 14	-12842	-10579	53	0.039	16.293	0.944	60.209	924.595	No
SLV 13	-12842	-10579	53	0.039	16.293	0.944	60.209	924.595	No
SLV 6	-16867	-19286	100	0.036	20.38	0.954	55.306	844.398	No
SLV 5	-16867	-19286	100	0.036	20.38	0.954	55.306	844.398	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.783	SLU 2	Si
V_SLU	1.368	SLU 44	Si
PF_SLV	0	SLV 3	No
V_SLV	0	SLV 3	No
PFFP_SLV	6.418	SLV 7	Si
R_SLV	0.061	SLV 7	No

## Maschio 62

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1831.3	-335.9	-1886.8	-335.9	L3	L4	55.5	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 76	309	-11055	-14779	7.11	38873	2.63	Si
SLU 76	389	-10942	47769	7.04	41181	0.862	No, M>Mu
SLU 73	309	-10939	-16099	7.04	41242	2.562	Si
SLU 73	389	-10812	50182	6.96	43770	0.872	No, M>Mu
SLU 80	309	-11056	-10672	7.11	38840	3.639	Si
SLU 80	389	-10977	42342	7.06	40473	0.956	No, M>Mu
SLU 78	309	-11147	-10993	7.17	36931	3.359	Si
SLU 78	389	-11064	43349	7.12	38672	0.892	No, M>Mu



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 82	309	-11299	-13593	7.27	33684	2.478	Si
SLU 82	389	-11208	48905	7.21	35651	0.729	No, M>Mu
SLU 75	309	-11032	-12314	7.1	39347	3.195	Si
SLU 75	389	-10934	45762	7.04	41330	0.903	No, M>Mu
SLU 81	309	-11127	-9414	7.16	37352	3.968	Si
SLU 81	389	-11065	44385	7.12	38653	0.871	No, M>Mu
SLU 84	309	-11414	-12272	7.35	31132	2.537	Si
SLU 84	389	-11337	46493	7.3	32837	0.706	No, M>Mu
SLU 83	309	-11243	-8093	7.23	34887	4.311	Si
SLU 83	389	-11195	41972	7.2	35920	0.856	No, M>Mu
SLU 74	309	-10860	-8134	6.99	42814	5.263	Si
SLU 74	389	-10792	41241	6.94	44161	1.071	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 4	309	-8921	90847	5.74	131249	1.445	Si
SLV 4	389	-8418	-123791	5.42	130038	1.05	Si
SLV 10	309	-9642	-46006	6.2	131697	2.863	Si
SLV 10	389	-8829	123000	5.68	131082	1.066	Si
SLV 3	309	-8921	90847	5.74	131249	1.445	Si
SLV 3	389	-8418	-123791	5.42	130038	1.05	Si
SLV 16	309	-4236	-97411	2.73	91329	0.938	No, M>Mu
SLV 16	389	-5133	153187	0	0	0	No, $e \geq l/2$
SLD 13	309	-6797	-47945	4.37	121099	2.526	Si
SLD 13	389	-6897	95367	4.44	121870	1.278	Si
SLV 14	309	-5975	-104097	3.84	113629	1.092	Si
SLV 14	389	-6308	183997	0	0	0	No, $e \geq l/2$
SLD 14	309	-6797	-47945	4.37	121099	2.526	Si
SLD 14	389	-6897	95367	4.44	121870	1.278	Si
SLV 9	309	-9642	-46006	6.2	131697	2.863	Si
SLV 9	389	-8829	123000	5.68	131082	1.066	Si
SLV 13	309	-5975	-104097	3.84	113629	1.092	Si
SLV 13	389	-6308	183997	0	0	0	No, $e \geq l/2$
SLV 15	309	-4236	-97411	2.73	91329	0.938	No, M>Mu
SLV 15	389	-5133	153187	0	0	0	No, $e \geq l/2$

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 84	309	-11414	-772	-12272		7.35	55.5	1.08	1684			2.18	Si
SLU 84	389	-11337	-753	46493		7.3	55.5	1.08	1684			2.24	Si
SLU 82	309	-11299	-817	-13593		7.27	55.5	1.08	1684			2.06	Si
SLU 82	389	-11208	-797	48905		7.21	55.5	1.08	1684			2.11	Si
SLU 55	309	-10089	-764	-14392		6.49	55.5	1.08	1684			2.2	Si
SLU 55	389	-9952	-743	44390		6.4	55.5	1.08	1684			2.26	Si
SLU 61	309	-10333	-766	-13206		6.65	55.5	1.08	1684			2.2	Si
SLU 61	389	-10218	-747	45526		6.58	55.5	1.08	1684			2.25	Si
SLU 65	309	-9832	-795	-15446		6.33	55.5	1.08	1684			2.12	Si
SLU 65	389	-9667	-774	46128		6.22	55.5	1.08	1684			2.17	Si
SLU 73	309	-10939	-860	-16099		7.04	55.5	1.08	1684			1.96	Si
SLU 73	389	-10812	-838	50182		6.96	55.5	1.08	1684			2.01	Si
SLU 76	309	-11055	-815	-14779		7.11	55.5	1.08	1684			2.06	Si
SLU 76	389	-10942	-793	47769		7.04	55.5	1.08	1684			2.12	Si
SLU 75	309	-11032	-761	-12314		7.1	55.5	1.08	1684			2.21	Si
SLU 75	389	-10934	-741	45762		7.04	55.5	1.08	1684			2.27	Si
SLU 52	309	-9973	-809	-15712		6.42	55.5	1.08	1684			2.08	Si
SLU 52	389	-9822	-788	46803		6.32	55.5	1.08	1684			2.14	Si
SLU 68	309	-9948	-751	-14126		6.4	55.5	1.08	1684			2.24	Si
SLU 68	389	-9797	-730	43715		6.3	55.5	1.08	1684			2.31	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	309	-5975	-3712	-104097		6.89	30.98	1.63	1410			0.38	No, Vu<V
SLV 13	389	-6308	-3627	183997		0	0	0.83	0			0	No, Vu<V
SLD 13	309	-6797	-1855	-47945		4.37	55.5	1.63	2525			1.36	Si
SLD 13	389	-6897	-1816	95367		5.9	41.77	1.63	1900			1.05	Si
SLV 15	309	-4236	-3258	-97411		10.6	14.27	1.63	649			0.2	No, Vu<V
SLV 15	389	-5133	-3409	153187		0	0	0.83	0			0	No, Vu<V
SLV 16	309	-4236	-3258	-97411		10.6	14.27	1.63	649			0.2	No, Vu<V
SLV 16	389	-5133	-3409	153187		0	0	0.83	0			0	No, Vu<V
SLV 14	309	-5975	-3712	-104097		6.89	30.98	1.63	1410			0.38	No, Vu<V
SLV 14	389	-6308	-3627	183997		0	0	0.83	0			0	No, Vu<V
SLD 14	309	-6797	-1855	-47945		4.37	55.5	1.63	2525			1.36	Si
SLD 14	389	-6897	-1816	95367		5.9	41.77	1.63	1900			1.05	Si
SLV 2	309	-10659	2294	84161		6.86	55.5	1.63	2525			1.1	Si
SLV 2	389	-9593	2465	-92981		6.32	54.17	1.63	2465			1	Si
SLV 3	309	-8921	2747	90847		6.05	52.7	1.63	2398			0.87	No, Vu<V
SLV 3	389	-8418	2683	-123791		7.68	39.14	1.63	1781			0.66	No, Vu<V
SLV 1	309	-10659	2294	84161		6.86	55.5	1.63	2525			1.1	Si
SLV 1	389	-9593	2465	-92981		6.32	54.17	1.63	2465			1	Si
SLV 4	309	-8921	2747	90847		6.05	52.7	1.63	2398			0.87	No, Vu<V
SLV 4	389	-8418	2683	-123791		7.68	39.14	1.63	1781			0.66	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.31	2.19	-3410	5085	39163	7.7	Si
SLV 11	14	0.31	2.19	-3410	5085	39163	7.7	Si
SLV 8	14	0.31	2.47	-3841	5085	42900	8.44	Si
SLV 7	14	0.31	2.47	-3841	5085	42900	8.44	Si



Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 15	14	0.31	3.2	-4970	5085	51367	10.1	Si
SLV 16	14	0.31	3.2	-4970	5085	51367	10.1	Si
SLV 4	14	0.31	4.12	-6409	5085	59442	11.69	Si
SLV 3	14	0.31	4.12	-6409	5085	59442	11.69	Si
SLV 13	14	0.31	4.34	-6739	5085	60862	11.97	Si
SLV 14	14	0.31	4.34	-6739	5085	60862	11.97	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 295.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 2	-3843	-8408	14	0.039	4.732	0.95	59.508	924.595	No
SLV 1	-3843	-8408	14	0.039	4.732	0.95	59.508	924.595	No
SLV 3	-3271	-6085	13	0.039	4.152	0.944	60.535	924.595	No
SLV 4	-3271	-6085	13	0.039	4.152	0.944	60.535	924.595	No
SLV 14	-2849	-10273	-10	0.04	3.724	0.939	62.611	924.595	No
SLV 13	-2849	-10273	-10	0.04	3.724	0.939	62.611	924.595	No
SLV 15	-2277	-7950	-11	0.041	3.147	0.93	63.692	924.595	No
SLV 16	-2277	-7950	-11	0.041	3.147	0.93	63.692	924.595	No
SLV 6	-4162	-11772	6	0.04	5.056	0.953	61.549	844.398	No
SLV 5	-4162	-11772	6	0.04	5.056	0.953	61.549	844.398	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0.706	SLU 84	No
V_SLU	1.958	SLU 73	Si
PF_SLV	0	SLV 13	No
V_SLV	0	SLV 13	No
PFFP_SLV	7.702	SLV 11	Si
R_SLV	0.064	SLV 1	No

## Maschio 63

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1961.8	104.6	-1961.8	581.1	L3	L4	476.5	14	373	373	373			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 81	109	-52859	1915377	7.92	343723	0.179	No, M>Mu
SLU 81	482	-37302	-165119	5.59	2786919	16.878	Si
SLU 79	109	-53305	1907375	7.99	242429	0.127	No, M>Mu
SLU 79	482	-38934	-102629	5.84	2630308	25.629	Si
SLU 74	109	-52460	1889598	7.86	433077	0.229	No, M>Mu
SLU 74	482	-37594	-135009	5.64	2760582	20.447	Si
SLU 84	109	-53926	1950164	8.08	98546	0.051	No, M>Mu
SLU 84	482	-38829	-143868	5.82	2640998	18.357	Si
SLU 82	109	-52648	1920221	7.89	391123	0.204	No, M>Mu
SLU 82	482	-37223	-164198	5.58	2793929	17.016	Si
SLU 83	109	-54137	1945320	8.12	48779	0.025	No, M>Mu
SLU 83	482	-38909	-144789	5.83	2632872	18.184	Si
SLU 75	109	-52248	1894442	7.83	479736	0.253	No, M>Mu
SLU 75	482	-37515	-134088	5.62	2767795	20.642	Si
SLU 80	109	-53094	1912219	7.96	290655	0.152	No, M>Mu
SLU 80	482	-38854	-101708	5.82	2638451	25.941	Si
SLU 77	109	-53737	1919541	8.06	142612	0.074	No, M>Mu
SLU 77	482	-39201	-114680	5.88	2602418	22.693	Si
SLU 78	109	-53526	1924385	8.02	191638	0.1	No, M>Mu
SLU 78	482	-39122	-113759	5.86	2610747	22.95	Si

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 12	109	-44174	1927762	6.62	4821189	2.501	Si
SLV 12	482	-28515	17703	4.27	4417276	249.522	Si
SLV 11	109	-44174	1927762	6.62	4821189	2.501	Si
SLV 11	482	-28515	17703	4.27	4417276	249.522	Si
SLD 14	109	-33320	1644505	4.99	4693679	2.854	Si
SLD 14	482	-23005	163502	3.45	3934225	24.062	Si
SLV 16	109	-36005	2307394	5.4	4789334	2.076	Si
SLV 16	482	-23381	451565	3.5	3972830	8.798	Si
SLD 13	109	-33320	1644505	4.99	4693679	2.854	Si
SLD 13	482	-23005	163502	3.45	3934225	24.062	Si
SLD 16	109	-35696	1731185	5.35	4780471	2.761	Si
SLD 16	482	-24175	147711	3.62	4051607	27.429	Si
SLV 13	109	-30387	2096401	4.55	4541015	2.166	Si
SLV 13	482	-20641	492797	3.09	3672580	7.453	Si
SLV 15	109	-36005	2307394	5.4	4789334	2.076	Si
SLV 15	482	-23381	451565	3.5	3972830	8.798	Si
SLD 15	109	-35696	1731185	5.35	4780471	2.761	Si
SLD 15	482	-24175	147711	3.62	4051607	27.429	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 14	109	-30387	2096401	4.55	4541015	2.166	Si
SLV 14	482	-20641	492797	3.09	3672580	7.453	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLU 73	109	-50398	3224	1855562		7.55	476.52	1.08	7227			2.24	Si
SLU 73	482	-35588	975	-141754		5.33	476.52	1.08	7227			7.42	Si
SLU 82	109	-52648	3477	1920221		7.89	476.52	1.08	7227			2.08	Si
SLU 82	482	-37223	1157	-164198		5.58	476.52	1.08	7227			6.25	Si
SLU 81	109	-52859	3540	1915377		7.92	476.52	1.08	7227			2.04	Si
SLU 81	482	-37302	1212	-165119		5.59	476.52	1.08	7227			5.96	Si
SLU 79	109	-53305	3198	1907375		7.99	476.52	1.08	7227			2.26	Si
SLU 79	482	-38934	679	-102629		5.84	476.52	1.08	7227			10.64	Si
SLU 84	109	-53926	3411	1950164		8.08	476.52	1.08	7227			2.12	Si
SLU 84	482	-38829	964	-143868		5.82	476.52	1.08	7227			7.5	Si
SLU 74	109	-52460	3342	1889598		7.86	476.52	1.08	7227			2.16	Si
SLU 74	482	-37594	952	-135009		5.64	476.52	1.08	7227			7.59	Si
SLU 78	109	-53526	3214	1924385		8.02	476.52	1.08	7227			2.25	Si
SLU 78	482	-39122	704	-113759		5.86	476.52	1.08	7227			10.27	Si
SLU 77	109	-53737	3277	1919541		8.06	476.52	1.08	7227			2.21	Si
SLU 77	482	-39201	759	-114680		5.88	476.52	1.08	7227			9.53	Si
SLU 83	109	-54137	3474	1945320		8.12	476.52	1.08	7227			2.08	Si
SLU 83	482	-38909	1018	-144789		5.83	476.52	1.08	7227			7.1	Si
SLU 75	109	-52248	3279	1894442		7.83	476.52	1.08	7227			2.2	Si
SLU 75	482	-37515	897	-134088		5.62	476.52	1.08	7227			8.05	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLV 3	109	-40618	11412	519424		6.09	476.52	1.63	10841			0.95	No, Vu<V
SLV 3	482	-28916	8732	-650601		4.33	476.52	1.63	10841			1.24	Si
SLV 10	109	-25447	-13034	1224454		3.81	476.52	1.6	10649			0.82	No, Vu<V
SLV 10	482	-19382	-11881	155143		2.91	476.52	1.41	9436			0.79	No, Vu<V
SLV 9	109	-25447	-13034	1224454		3.81	476.52	1.6	10649			0.82	No, Vu<V
SLV 9	482	-19382	-11881	155143		2.91	476.52	1.41	9436			0.79	No, Vu<V
SLV 6	109	-26830	-10004	688063		4.02	476.52	1.63	10841			1.08	Si
SLV 6	482	-21043	-9000	-175507		3.15	476.52	1.46	9768			1.09	Si
SLV 4	109	-40618	11412	519424		6.09	476.52	1.63	10841			0.95	No, Vu<V
SLV 4	482	-28916	8732	-650601		4.33	476.52	1.63	10841			1.24	Si
SLV 7	109	-45558	17505	1391371		6.83	476.52	1.63	10841			0.62	No, Vu<V
SLV 7	482	-30176	13110	-312947		4.52	476.52	1.63	10841			0.83	No, Vu<V
SLV 5	109	-26830	-10004	688063		4.02	476.52	1.63	10841			1.08	Si
SLV 5	482	-21043	-9000	-175507		3.15	476.52	1.46	9768			1.09	Si
SLV 8	109	-45558	17505	1391371		6.83	476.52	1.63	10841			0.62	No, Vu<V
SLV 8	482	-30176	13110	-312947		4.52	476.52	1.63	10841			0.83	No, Vu<V
SLV 12	109	-44174	14475	1927762		6.62	476.52	1.63	10841			0.75	No, Vu<V
SLV 12	482	-28515	10229	17703		4.27	476.52	1.63	10841			1.06	Si
SLV 11	109	-44174	14475	1927762		6.62	476.52	1.63	10841			0.75	No, Vu<V
SLV 11	482	-28515	10229	17703		4.27	476.52	1.63	10841			1.06	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.03 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.31	3.58	-23910	23350	118275	5.07	Si
SLV 9	14	0.31	3.58	-23910	23350	118275	5.07	Si
SLV 6	14	0.31	3.76	-25092	23350	121577	5.21	Si
SLV 5	14	0.31	3.76	-25092	23350	121577	5.21	Si
SLV 13	14	0.31	3.99	-26640	23350	125535	5.38	Si
SLV 14	14	0.31	3.99	-26640	23350	125535	5.38	Si
SLV 15	14	0.31	4.52	-30162	23350	133010	5.7	Si
SLV 16	14	0.31	4.52	-30162	23350	133010	5.7	Si
SLV 2	14	0.31	4.58	-30581	23350	133757	5.73	Si
SLV 1	14	0.31	4.58	-30581	23350	133757	5.73	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 295.5 Wa = 0.03 Ta = 0.166

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 8	-30176	-45558	40	0.019	34.225	0.969	28.252	1400.956	No
SLV 7	-30176	-45558	40	0.019	34.225	0.969	28.252	1400.956	No
SLV 11	-28515	-44174	34	0.019	32.535	0.967	28.588	1400.956	No
SLV 12	-28515	-44174	34	0.019	32.535	0.967	28.588	1400.956	No
SLV 10	-19382	-25447	-41	0.019	23.244	0.956	28.6	1400.956	No
SLV 9	-19382	-25447	-41	0.019	23.244	0.956	28.6	1400.956	No
SLV 6	-21043	-26830	-35	0.019	24.932	0.958	28.898	1400.956	No
SLV 5	-21043	-26830	-35	0.019	24.932	0.958	28.898	1400.956	No
SLV 4	-28916	-40618	20	0.019	32.943	0.968	29.226	1400.956	No
SLV 3	-28916	-40618	20	0.019	32.943	0.968	29.226	1400.956	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.025	SLU 83	No
V_SLV	2.042	SLU 81	Si
PF_SLV	2.076	SLV 15	Si
V_SLV	0.619	SLV 7	No
PFFP_SLV	5.065	SLV 9	Si
R_SLV	0.02	SLV 7	No



## Maschio 64

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1961.8	595.1	-1961.8	666.1	L3	L4	71	28	373	373	373			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 84	109	-16712	-99629	8.41	0	0	No, Rottura per schiacciamento
SLU 84	482	-8500	11115	4.28	143364	12.899	Si
SLU 74	109	-16217	-96929	8.16	0	0	No, Rottura per schiacciamento
SLU 74	482	-8247	10378	4.15	143672	13.844	Si
SLU 78	109	-16444	-98014	8.27	0	0	No, Rottura per schiacciamento
SLU 78	482	-8646	8429	4.35	143060	16.972	Si
SLU 81	109	-16485	-98544	8.29	0	0	No, Rottura per schiacciamento
SLU 81	482	-8102	13064	4.08	143721	11.002	Si
SLU 82	109	-16455	-98256	8.28	0	0	No, Rottura per schiacciamento
SLU 82	482	-8079	13153	4.06	143720	10.927	Si
SLU 83	109	-16742	-99917	8.42	0	0	No, Rottura per schiacciamento
SLU 83	482	-8524	11025	4.29	143322	13	Si
SLU 80	109	-16303	-97075	8.2	0	0	No, Rottura per schiacciamento
SLU 80	482	-8616	7860	4.33	143131	18.21	Si
SLU 75	109	-16187	-96641	8.14	250	0.003	No, M>Mu
SLU 75	482	-8224	10468	4.14	143686	13.726	Si
SLU 79	109	-16333	-97363	8.22	0	0	No, Rottura per schiacciamento
SLU 79	482	-8639	7771	4.35	143077	18.412	Si
SLU 77	109	-16474	-98302	8.29	0	0	No, Rottura per schiacciamento
SLU 77	482	-8669	8340	4.36	143004	17.147	Si

### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLD 1	109	-11027	-100056	5.55	213754	2.136	Si
SLD 1	482	-3945	28920	1.98	117309	4.056	Si
SLV 8	109	-16558	-91013	8.33	187132	2.056	Si
SLV 8	482	-7731	6591	3.89	187097	28.388	Si
SLD 2	109	-11027	-100056	5.55	213754	2.136	Si
SLD 2	482	-3945	28920	1.98	117309	4.056	Si
SLV 2	109	-10928	-145487	5.5	213416	1.467	Si
SLV 2	482	-1905	57723	0.96	62324	1.08	Si
SLV 4	109	-13971	-145997	7.03	210710	1.443	Si
SLV 4	482	-3743	48942	1.88	112408	2.297	Si
SLV 3	109	-13971	-145997	7.03	210710	1.443	Si
SLV 3	482	-3743	48942	1.88	112408	2.297	Si
SLV 5	109	-6415	-89314	3.23	167584	1.876	Si
SLV 5	482	-1603	35861	0.81	53157	1.482	Si
SLV 7	109	-16558	-91013	8.33	187132	2.056	Si
SLV 7	482	-7731	6591	3.89	187097	28.388	Si
SLV 1	109	-10928	-145487	5.5	213416	1.467	Si
SLV 1	482	-1905	57723	0.96	62324	1.08	Si
SLV 6	109	-6415	-89314	3.23	167584	1.876	Si
SLV 6	482	-1603	35861	0.81	53157	1.482	Si

### Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 82	109	-16455	-2711	-98256		8.28	71	1.08	2154			0.79	No, Vu<V
SLU 82	482	-8079	-1158	13153		4.06	71	1.08	2154			1.86	Si
SLU 77	109	-16474	-2673	-98302		8.29	71	1.08	2154			0.81	No, Vu<V
SLU 77	482	-8669	-922	8340		4.36	71	1.08	2154			2.34	Si
SLU 84	109	-16712	-2731	-99629		8.41	71	1.08	2154			0.79	No, Vu<V
SLU 84	482	-8500	-1064	11115		4.28	71	1.08	2154			2.02	Si
SLU 79	109	-16333	-2644	-97363		8.22	71	1.08	2154			0.81	No, Vu<V
SLU 79	482	-8639	-886	7771		4.35	71	1.08	2154			2.43	Si
SLU 80	109	-16303	-2639	-97075		8.2	71	1.08	2154			0.82	No, Vu<V
SLU 80	482	-8616	-893	7860		4.33	71	1.08	2154			2.41	Si
SLU 81	109	-16485	-2716	-98544		8.29	71	1.08	2154			0.79	No, Vu<V
SLU 81	482	-8102	-1151	13064		4.08	71	1.08	2154			1.87	Si
SLU 83	109	-16742	-2736	-99917		8.42	71	1.08	2154			0.79	No, Vu<V
SLU 83	482	-8524	-1058	11025		4.29	71	1.08	2154			2.04	Si
SLU 74	109	-16217	-2653	-96929		8.16	71	1.08	2154			0.81	No, Vu<V
SLU 74	482	-8247	-1015	10378		4.15	71	1.08	2154			2.12	Si
SLU 75	109	-16187	-2647	-96641		8.14	71	1.08	2154			0.81	No, Vu<V
SLU 75	482	-8224	-1022	10468		4.14	71	1.08	2154			2.11	Si
SLU 78	109	-16444	-2668	-98014		8.27	71	1.08	2154			0.81	No, Vu<V





Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 78	482	-8646	-929	8429		4.35	71	1.08	2154			2.32	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	109	-13971	-5126	-145997		7.03	71	1.63	3230			0.63	No, Vu<V
SLV 3	482	-3743	-3249	48942		1.99	67.28	1.23	2318			0.71	No, Vu<V
SLV 6	109	-6415	-718	-89314		3.54	64.73	1.54	2793			3.89	Si
SLV 6	482	-1603	-3317	35861		1.45	39.39	1.12	1240			0.37	No, Vu<V
SLV 2	109	-10928	-3973	-145487		5.86	66.56	1.63	3029			0.76	No, Vu<V
SLV 2	482	-1905	-4264	57723		4.36	15.6	1.63	710			0.17	No, Vu<V
SLV 1	109	-10928	-3973	-145487		5.86	66.56	1.63	3029			0.76	No, Vu<V
SLV 1	482	-1905	-4264	57723		4.36	15.6	1.63	710			0.17	No, Vu<V
SLV 8	109	-16558	-4561	-91013		8.33	71	1.63	3230			0.71	No, Vu<V
SLV 8	482	-7731	66	6591		3.89	71	1.61	3203			48.89	Si
SLV 5	109	-6415	-718	-89314		3.54	64.73	1.54	2793			3.89	Si
SLV 5	482	-1603	-3317	35861		1.45	39.39	1.12	1240			0.37	No, Vu<V
SLV 4	109	-13971	-5126	-145997		7.03	71	1.63	3230			0.63	No, Vu<V
SLV 4	482	-3743	-3249	48942		1.99	67.28	1.23	2318			0.71	No, Vu<V
SLD 3	109	-12305	-3202	-100261		6.19	71	1.63	3230			1.01	Si
SLD 3	482	-4721	-1803	25224		2.37	71	1.31	2601			1.44	Si
SLV 7	109	-16558	-4561	-91013		8.33	71	1.63	3230			0.71	No, Vu<V
SLV 7	482	-7731	66	6591		3.89	71	1.61	3203			48.89	Si
SLD 4	109	-12305	-3202	-100261		6.19	71	1.63	3230			1.01	Si
SLD 4	482	-4721	-1803	25224		2.37	71	1.31	2601			1.44	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.31	2.01	-3992	6656	46706	7.02	Si
SLV 10	14	0.31	2.01	-3992	6656	46706	7.02	Si
SLV 5	14	0.31	2.27	-4506	6656	51381	7.72	Si
SLV 6	14	0.31	2.27	-4506	6656	51381	7.72	Si
SLV 13	14	0.31	3.1	-6159	6656	64362	9.67	Si
SLV 14	14	0.31	3.1	-6159	6656	64362	9.67	Si
SLV 2	14	0.31	3.96	-7871	6656	74487	11.19	Si
SLV 1	14	0.31	3.96	-7871	6656	74487	11.19	Si
SLV 16	14	0.31	4.29	-8530	6656	77482	11.64	Si
SLV 15	14	0.31	4.29	-8530	6656	77482	11.64	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 295.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 6	-1603	-6415	-182	0	2.713	0.906	0	844.398	No
SLV 5	-1603	-6415	-182	0	2.713	0.906	0	844.398	No
SLV 9	-3183	-5589	-160	0.003	4.297	0.933	3.911	844.398	No
SLV 10	-3183	-5589	-160	0.003	4.297	0.933	3.911	844.398	No
SLV 2	-1905	-10928	-89	0.013	3.013	0.912	20.346	924.595	No
SLV 1	-1905	-10928	-89	0.013	3.013	0.912	20.346	924.595	No
SLV 8	-7731	-16558	157	0.022	8.915	0.965	32.854	844.398	No
SLV 7	-7731	-16558	157	0.022	8.915	0.965	32.854	844.398	No
SLV 12	-9310	-15732	179	0.022	10.523	0.97	33.124	844.398	No
SLV 11	-9310	-15732	179	0.022	10.523	0.97	33.124	844.398	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 74	No
V_SLU	0.787	SLU 83	No
PF_SLV	1.08	SLV 1	Si
V_SLV	0.166	SLV 1	No
PFFP_SLV	7.017	SLV 9	Si
R_SLV	0	SLV 5	No

## Maschio 65

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1638.3	-335.9	-1731.3	-335.9	L3	L4	93	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 73	199	-19059	198521	7.32	89943	0.453	No, M>Mu
SLU 73	389	-13916	122727	5.34	222560	1.813	Si
SLU 80	199	-19259	205752	7.4	82456	0.401	No, M>Mu
SLU 80	389	-13959	119951	5.36	221944	1.85	Si
SLU 84	199	-19719	203202	7.57	64539	0.318	No, M>Mu
SLU 84	389	-14678	129336	5.64	210231	1.625	Si
SLU 79	199	-18649	188566	7.16	104777	0.556	No, M>Mu
SLU 79	389	-14128	125351	5.43	219398	1.75	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 78	199	-19356	205060	7.43	78733	0.384	No, M>Mu
SLU 78	389	-14118	122136	5.42	219546	1.798	Si
SLU 83	199	-19109	186016	7.34	88089	0.474	No, M>Mu
SLU 83	389	-14847	134737	5.7	207153	1.537	Si
SLU 75	199	-19053	195716	7.32	90160	0.461	No, M>Mu
SLU 75	389	-14153	125324	5.44	219001	1.747	Si
SLU 76	199	-19362	207865	7.44	78508	0.378	No, M>Mu
SLU 76	389	-13881	119539	5.33	223069	1.866	Si
SLU 77	199	-18746	187874	7.2	101314	0.539	No, M>Mu
SLU 77	389	-14287	127536	5.49	216882	1.701	Si
SLU 82	199	-19416	193858	7.46	76447	0.394	No, M>Mu
SLU 82	389	-14713	132524	5.65	209600	1.582	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 2	199	-18102	354663	6.95	362851	1.023	Si
SLV 2	389	-10215	48938	3.92	322496	6.59	Si
SLV 1	199	-18102	354663	6.95	362851	1.023	Si
SLV 1	389	-10215	48938	3.92	322496	6.59	Si
SLV 11	199	-8027	143426	3.08	279092	1.946	Si
SLV 11	389	-606	-67509	0	0	0	No, e>1/2
SLV 4	199	-16090	416583	6.18	369832	0.888	No, M>Mu
SLV 4	389	-4174	-64688	1.6	168636	2.607	Si
SLV 10	199	-14732	-62973	5.66	367855	5.841	Si
SLV 10	389	-20742	311242	7.97	335746	1.079	Si
SLV 7	199	-10666	302840	4.1	329702	1.089	Si
SLV 7	389	999	-127390	0	0	0	No, Trazione
SLV 3	199	-16090	416583	6.18	369832	0.888	No, M>Mu
SLV 3	389	-4174	-64688	1.6	168636	2.607	Si
SLV 9	199	-14732	-62973	5.66	367855	5.841	Si
SLV 9	389	-20742	311242	7.97	335746	1.079	Si
SLV 12	199	-8027	143426	3.08	279092	1.946	Si
SLV 12	389	-606	-67509	0	0	0	No, e>1/2
SLV 8	199	-10666	302840	4.1	329702	1.089	Si
SLV 8	389	999	-127390	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 76	199	-19362	2395	207865		7.44	93	1.08	2821			1.18	Si
SLU 76	389	-13881	-410	119539		5.33	93	1.08	2821			6.88	Si
SLU 77	199	-18746	2479	187874		7.2	93	1.08	2821			1.14	Si
SLU 77	389	-14287	-324	127536		5.49	93	1.08	2821			8.72	Si
SLU 75	199	-19053	2355	195716		7.32	93	1.08	2821			1.2	Si
SLU 75	389	-14153	-404	125324		5.44	93	1.08	2821			6.98	Si
SLU 84	199	-19719	2472	203202		7.57	93	1.08	2821			1.14	Si
SLU 84	389	-14678	-396	129336		5.64	93	1.08	2821			7.12	Si
SLU 59	199	-17806	2363	191754		6.84	93	1.08	2821			1.19	Si
SLU 59	389	-12692	-354	108980		4.87	93	1.08	2821			7.98	Si
SLU 57	199	-17903	2342	191062		6.88	93	1.08	2821			1.2	Si
SLU 57	389	-12851	-368	111165		4.94	93	1.08	2821			7.66	Si
SLU 83	199	-19109	2442	186016		7.34	93	1.08	2821			1.16	Si
SLU 83	389	-14847	-366	134737		5.7	93	1.08	2821			7.7	Si
SLU 79	199	-18649	2499	188566		7.16	93	1.08	2821			1.13	Si
SLU 79	389	-14128	-309	125351		5.43	93	1.08	2821			9.12	Si
SLU 78	199	-19356	2509	205060		7.43	93	1.08	2821			1.12	Si
SLU 78	389	-14118	-353	122136		5.42	93	1.08	2821			7.98	Si
SLU 80	199	-19259	2529	205752		7.4	93	1.08	2821			1.12	Si
SLU 80	389	-13959	-339	119951		5.36	93	1.08	2821			8.32	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	199	-18102	6860	354663		8.01	80.72	1.63	3673			0.54	No, Vu<V
SLV 2	389	-10215	1345	48938		3.92	93	1.62	4213			3.13	Si
SLV 16	199	-7295	-3780	-114796		2.82	92.29	1.4	3613			0.96	No, Vu<V
SLV 16	389	-9527	-1969	134915		3.66	93	1.57	4075			2.07	Si
SLV 11	199	-8027	-544	143426		3.34	85.9	1.5	3610			6.63	Si
SLV 11	389	-606	646	-67509		0	0	0.83	0			0	No, Vu<V
SLV 15	199	-7295	-3780	-114796		2.82	92.29	1.4	3613			0.96	No, Vu<V
SLV 15	389	-9527	-1969	134915		3.66	93	1.57	4075			2.07	Si
SLV 7	199	-10666	2551	302840		7.01	54.32	1.63	2471			0.97	No, Vu<V
SLV 7	389	999	1928	-127390		0	0	0.83	0			0	No, Vu<V
SLV 1	199	-18102	6860	354663		8.01	80.72	1.63	3673			0.54	No, Vu<V
SLV 1	389	-10215	1345	48938		3.92	93	1.62	4213			3.13	Si
SLV 12	199	-8027	-544	143426		3.34	85.9	1.5	3610			6.63	Si
SLV 12	389	-606	646	-67509		0	0	0.83	0			0	No, Vu<V
SLV 3	199	-16090	6538	416583		9.29	61.83	1.63	2813			0.43	No, Vu<V
SLV 3	389	-4174	2304	-64688		1.6	93	1.15	3005			1.3	Si
SLV 4	199	-16090	6538	416583		9.29	61.83	1.63	2813			0.43	No, Vu<V
SLV 4	389	-4174	2304	-64688		1.6	93	1.15	3005			1.3	Si
SLV 8	199	-10666	2551	302840		7.01	54.32	1.63	2471			0.97	No, Vu<V
SLV 8	389	999	1928	-127390		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.31	1.79	-4653	8520	55613	6.53	Si
SLV 11	14	0.31	1.79	-4653	8520	55613	6.53	Si
SLV 15	14	0.31	2.31	-6008	8520	68233	8.01	Si
SLV 16	14	0.31	2.31	-6008	8520	68233	8.01	Si



Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.31	2.89	-7526	8520	80438	9.44	Si
SLV 7	14	0.31	2.89	-7526	8520	80438	9.44	Si
SLV 13	14	0.31	3.86	-10043	8520	96223	11.29	Si
SLV 14	14	0.31	3.86	-10043	8520	96223	11.29	Si
SLV 6	14	0.31	8.05	-20975	8520	100069	11.75	Si
SLV 5	14	0.31	8.05	-20975	8520	100069	11.75	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeraia = 295.5  $W_a = 0.05$   $T_a = 0.083$

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 14	-11155	-12103	2	0.04	12.724	0.967	60.235	924.595	No
SLV 13	-11155	-12103	2	0.04	12.724	0.967	60.235	924.595	No
SLV 16	-9085	-8062	3	0.04	10.618	0.962	61.192	924.595	No
SLV 15	-9085	-8062	3	0.04	10.618	0.962	61.192	924.595	No
SLV 1	-5430	-11702	7	0.042	6.905	0.944	64.102	924.595	No
SLV 2	-5430	-11702	7	0.042	6.905	0.944	64.102	924.595	No
SLV 10	-11566	-16677	2	0.04	13.143	0.968	60.036	844.398	No
SLV 9	-11566	-16677	2	0.04	13.143	0.968	60.036	844.398	No
SLV 5	-9849	-16557	4	0.04	11.395	0.964	60.697	844.398	No
SLV 6	-9849	-16557	4	0.04	11.395	0.964	60.697	844.398	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0.318	SLU 84	No
V_SLU	1.115	SLU 80	Si
PF_SLV	0	SLV 8	No
V_SLV	0	SLV 7	No
PFFP_SLV	6.527	SLV 11	Si
R_SLV	0.065	SLV 13	No

## Maschio 66

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1844.8	-335.9	-1844.8	104.6	L3	L4	440.6	14	373	373	373			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 44	109	-19014	-670528	3.08	2603409	3.883	Si
SLU 44	482	-19410	207807	3.15	2623943	12.627	Si
SLU 68	109	-21461	-653394	3.48	2708196	4.145	Si
SLU 68	482	-22490	304794	3.65	2736583	8.978	Si
SLU 2	109	-15412	-559616	2.5	2353570	4.206	Si
SLU 2	482	-15783	174807	2.56	2384586	13.641	Si
SLU 76	109	-23813	-682875	3.86	2759442	4.041	Si
SLU 76	482	-25227	372380	4.09	2766906	7.43	Si
SLU 47	109	-19284	-641931	3.13	2617548	4.078	Si
SLU 47	482	-19904	230706	3.23	2647614	11.476	Si
SLU 82	109	-24184	-653382	3.92	2763103	4.229	Si
SLU 82	482	-25611	386391	4.15	2765905	7.158	Si
SLU 65	109	-21191	-681991	3.44	2699210	3.958	Si
SLU 65	482	-21996	281895	3.57	2724112	9.664	Si
SLU 55	109	-21636	-671412	3.51	2713683	4.042	Si
SLU 55	482	-22641	298291	3.67	2739980	9.186	Si
SLU 73	109	-23543	-711472	3.82	2756023	3.874	Si
SLU 73	482	-24733	349481	4.01	2766290	7.915	Si
SLU 52	109	-21366	-700008	3.46	2705112	3.864	Si
SLU 52	482	-22147	275392	3.59	2728165	9.906	Si

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 6	109	-19796	-1187402	3.21	3215304	2.708	Si
SLV 6	482	-19271	274691	3.12	3159572	11.502	Si
SLV 10	109	-18649	-1328285	3.02	3091544	2.327	Si
SLV 10	482	-17123	291326	2.78	2915005	10.006	Si
SLV 5	109	-19796	-1187402	3.21	3215304	2.708	Si
SLV 5	482	-19271	274691	3.12	3159572	11.502	Si
SLD 10	109	-16985	-781723	2.75	2898296	3.708	Si
SLD 10	482	-16807	258144	2.72	2876634	11.144	Si
SLV 13	109	-14908	-888310	2.42	2634443	2.966	Si
SLV 13	482	-13477	277232	2.19	2437952	8.794	Si
SLD 9	109	-16985	-781723	2.75	2898296	3.708	Si
SLD 9	482	-16807	258144	2.72	2876634	11.144	Si
SLV 9	109	-18649	-1328285	3.02	3091544	2.327	Si
SLV 9	482	-17123	291326	2.78	2915005	10.006	Si
SLV 14	109	-14908	-888310	2.42	2634443	2.966	Si
SLV 14	482	-13477	277232	2.19	2437952	8.794	Si
SLD 6	109	-17461	-722833	2.83	2955281	4.088	Si
SLD 6	482	-17692	250553	2.87	2982427	11.903	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLD 5	109	-17461	-722833	2.83	2955281	4.088	Si
SLD 5	482	-17692	250553	2.87	2982427	11.903	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLU 73	109	-23543	-2193	-711472		3.82	440.57	1.06	6566			2.99	Si
SLU 73	482	-24733	-1218	349481		4.01	440.57	1.08	6682			5.49	Si
SLU 23	109	-17588	-2110	-571080		2.85	440.57	0.94	5772			2.74	Si
SLU 23	482	-18368	-1278	248896		2.98	440.57	0.95	5876			4.6	Si
SLU 2	109	-15412	-2204	-559616		2.5	440.57	0.89	5482			2.49	Si
SLU 2	482	-15783	-1417	174807		2.56	440.57	0.9	5531			3.9	Si
SLU 65	109	-21191	-2141	-681991		3.44	440.57	1.01	6252			2.92	Si
SLU 65	482	-21996	-1215	281895		3.57	440.57	1.03	6359			5.23	Si
SLU 31	109	-19940	-2162	-600560		3.23	440.57	0.99	6085			2.81	Si
SLU 31	482	-21105	-1281	316482		3.42	440.57	1.01	6241			4.87	Si
SLU 13	109	-18033	-1907	-560500		2.92	440.57	0.95	5831			3.06	Si
SLU 13	482	-19014	-1067	265292		3.08	440.57	0.97	5962			5.59	Si
SLU 44	109	-19014	-2235	-670528		3.08	440.57	0.97	5962			2.67	Si
SLU 44	482	-19410	-1354	207807		3.15	440.57	0.98	6015			4.44	Si
SLU 52	109	-21366	-2287	-700008		3.46	440.57	1.02	6275			2.74	Si
SLU 52	482	-22147	-1357	275392		3.59	440.57	1.03	6380			4.7	Si
SLU 5	109	-15682	-1855	-531020		2.54	440.57	0.89	5518			2.97	Si
SLU 5	482	-16277	-1064	197706		2.64	440.57	0.91	5597			5.26	Si
SLU 10	109	-17763	-2256	-589097		2.88	440.57	0.94	5795			2.57	Si
SLU 10	482	-18520	-1420	242393		3	440.57	0.96	5896			4.15	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLV 10	109	-18649	-16045	-1328285		3.02	440.57	1.44	8870			0.55	No, Vu<V
SLV 10	482	-17123	-10807	291326		2.78	440.57	1.39	8565			0.79	No, Vu<V
SLV 7	109	-12931	16078	539276		2.1	440.57	1.25	7726			0.48	No, Vu<V
SLV 7	482	-16010	11621	178972		2.6	440.57	1.35	8342			0.72	No, Vu<V
SLD 8	109	-14595	6648	-7286		2.37	440.57	1.31	8059			1.21	Si
SLD 8	482	-16327	5088	212154		2.65	440.57	1.36	8405			1.65	Si
SLV 11	109	-11784	15384	398394		1.91	440.57	1.22	7497			0.49	No, Vu<V
SLV 11	482	-13863	11019	195608		2.25	440.57	1.28	7913			0.72	No, Vu<V
SLV 9	109	-18649	-16045	-1328285		3.02	440.57	1.44	8870			0.55	No, Vu<V
SLV 9	482	-17123	-10807	291326		2.78	440.57	1.39	8565			0.79	No, Vu<V
SLV 5	109	-19796	-15352	-1187402		3.21	440.57	1.48	9099			0.59	No, Vu<V
SLV 5	482	-19271	-10205	274691		3.12	440.57	1.46	8994			0.88	No, Vu<V
SLV 12	109	-11784	15384	398394		1.91	440.57	1.22	7497			0.49	No, Vu<V
SLV 12	482	-13863	11019	195608		2.25	440.57	1.28	7913			0.72	No, Vu<V
SLV 6	109	-19796	-15352	-1187402		3.21	440.57	1.48	9099			0.59	No, Vu<V
SLV 6	482	-19271	-10205	274691		3.12	440.57	1.46	8994			0.88	No, Vu<V
SLD 7	109	-14595	6648	-7286		2.37	440.57	1.31	8059			1.21	Si
SLD 7	482	-16327	5088	212154		2.65	440.57	1.36	8405			1.65	Si
SLV 8	109	-12931	16078	539276		2.1	440.57	1.25	7726			0.48	No, Vu<V
SLV 8	482	-16010	11621	178972		2.6	440.57	1.35	8342			0.72	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.03 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 15	14	0.31	1.97	-12120	21589	71197	3.3	Si
SLV 16	14	0.31	1.97	-12120	21589	71197	3.3	Si
SLV 13	14	0.31	2.19	-13505	21589	77595	3.59	Si
SLV 14	14	0.31	2.19	-13505	21589	77595	3.59	Si
SLV 11	14	0.31	2.26	-13924	21589	79460	3.68	Si
SLV 12	14	0.31	2.26	-13924	21589	79460	3.68	Si
SLV 8	14	0.31	2.73	-16855	21589	91598	4.24	Si
SLV 7	14	0.31	2.73	-16855	21589	91598	4.24	Si
SLV 9	14	0.31	3.01	-18540	21589	97855	4.53	Si
SLV 10	14	0.31	3.01	-18540	21589	97855	4.53	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 295.5 Wa = 0.03 Ta = 0.166

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 2	-20634	-18731	39	0.019	24.25	0.96	28.39	1400.956	No
SLV 1	-20634	-18731	39	0.019	24.25	0.96	28.39	1400.956	No
SLV 3	-19656	-16672	34	0.019	23.256	0.959	28.781	1400.956	No
SLV 4	-19656	-16672	34	0.019	23.256	0.959	28.781	1400.956	No
SLV 15	-12499	-12849	-36	0.019	15.988	0.943	29.208	1400.956	No
SLV 16	-12499	-12849	-36	0.019	15.988	0.943	29.208	1400.956	No
SLV 14	-13477	-14908	-31	0.019	16.98	0.945	29.593	1400.956	No
SLV 13	-13477	-14908	-31	0.019	16.98	0.945	29.593	1400.956	No
SLV 5	-19271	-19796	20	0.02	22.864	0.958	29.793	1400.956	No
SLV 6	-19271	-19796	20	0.02	22.864	0.958	29.793	1400.956	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.864	SLU 52	Si
V_SLU	2.487	SLU 2	Si
PF_SLV	2.327	SLV 9	Si
V_SLV	0.481	SLV 7	No
PFFP_SLV	3.298	SLV 15	Si
R_SLV	0.02	SLV 1	No



## Maschio 67

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	-335.9	-1548.3	-335.9	L3	L4	173	28	373	373	373			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 81	109	-11288	-533876	2.33	697093	1.306	Si
SLU 81	319	-15621	-211629	3.22	816286	3.857	Si
SLU 61	109	-10722	-502416	2.21	675444	1.344	Si
SLU 61	319	-14663	-192608	3.03	797025	4.138	Si
SLU 84	109	-11504	-539224	2.37	704963	1.307	Si
SLU 84	319	-15848	-214319	3.27	820273	3.827	Si
SLU 73	109	-10981	-522014	2.27	685506	1.313	Si
SLU 73	319	-15270	-186129	3.15	809689	4.35	Si
SLU 74	109	-11091	-513150	2.29	689697	1.344	Si
SLU 74	319	-15130	-218265	3.12	806925	3.697	Si
SLU 82	109	-11346	-540460	2.34	699230	1.294	Si
SLU 82	319	-15802	-199613	3.26	819483	4.105	Si
SLU 83	109	-11446	-532641	2.36	702867	1.32	Si
SLU 83	319	-15667	-226334	3.23	817113	3.61	Si
SLU 78	109	-11306	-518497	2.33	697754	1.346	Si
SLU 78	319	-15358	-220955	3.17	811402	3.672	Si
SLU 75	109	-11149	-519733	2.3	691884	1.331	Si
SLU 75	319	-15312	-206249	3.16	810513	3.93	Si
SLU 76	109	-11138	-520778	2.3	691492	1.328	Si
SLU 76	319	-15316	-200835	3.16	810587	4.036	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 15	109	-8036	-776433	0	0	0	No, e>1/2
SLV 15	319	-18346	379123	3.79	1095023	2.888	Si
SLV 4	109	-4903	30132	1.01	388980	12.909	Si
SLV 4	319	-1803	-562462	0	0	0	No, e>1/2
SLV 8	109	-2943	-285216	0	0	0	No, e>1/2
SLV 8	319	-6541	-94783	1.35	503269	5.31	Si
SLV 16	109	-8036	-776433	0	0	0	No, e>1/2
SLV 16	319	-18346	379123	3.79	1095023	2.888	Si
SLV 7	109	-2943	-285216	0	0	0	No, e>1/2
SLV 7	319	-6541	-94783	1.35	503269	5.31	Si
SLV 2	109	-7523	58461	1.55	568012	9.716	Si
SLV 2	319	-2705	-680854	0	0	0	No, e>1/2
SLV 11	109	-3883	-527185	0	0	0	No, e>1/2
SLV 11	319	-11504	187693	2.37	801668	4.271	Si
SLV 3	109	-4903	30132	1.01	388980	12.909	Si
SLV 3	319	-1803	-562462	0	0	0	No, e>1/2
SLV 12	109	-3883	-527185	0	0	0	No, e>1/2
SLV 12	319	-11504	187693	2.37	801668	4.271	Si
SLV 1	109	-7523	58461	1.55	568012	9.716	Si
SLV 1	319	-2705	-680854	0	0	0	No, e>1/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 81	109	-11288	-4564	-533876		3.43	117.61	1.01	3335			0.73	No, Vu<V
SLU 81	319	-15621	-4544	-211629		3.22	173	0.99	4774			1.05	Si
SLU 31	109	-8995	-3890	-435190		2.81	114.36	0.93	2978			0.77	No, Vu<V
SLU 31	319	-12731	-3882	-144966		2.63	173	0.91	4389			1.13	Si
SLU 75	109	-11149	-4455	-519733		3.33	119.64	1	3348			0.75	No, Vu<V
SLU 75	319	-15312	-4372	-206249		3.16	173	0.98	4733			1.08	Si
SLU 73	109	-10981	-4606	-522014		3.36	116.88	1	3282			0.71	No, Vu<V
SLU 73	319	-15270	-4553	-186129		3.15	173	0.98	4727			1.04	Si
SLU 76	109	-11138	-4489	-520778		3.34	119.23	1	3340			0.74	No, Vu<V
SLU 76	319	-15316	-4412	-200835		3.16	173	0.98	4733			1.07	Si
SLU 82	109	-11346	-4702	-540460		3.48	116.6	1.02	3327			0.71	No, Vu<V
SLU 82	319	-15802	-4693	-199613		3.26	173	0.99	4798			1.02	Si
SLU 61	109	-10722	-4313	-502416		3.22	118.93	0.98	3280			0.76	No, Vu<V
SLU 61	319	-14663	-4304	-192608		3.03	173	0.96	4646			1.08	Si
SLU 40	109	-9360	-3985	-453635		2.93	114.11	0.95	3023			0.76	No, Vu<V
SLU 40	319	-13264	-4022	-158450		2.74	173	0.92	4460			1.11	Si
SLU 84	109	-11504	-4584	-539224		3.46	118.88	1.02	3383			0.74	No, Vu<V
SLU 84	319	-15848	-4552	-214319		3.27	173	0.99	4804			1.06	Si
SLU 83	109	-11446	-4447	-532641		3.41	119.89	1.01	3391			0.76	No, Vu<V
SLU 83	319	-15667	-4402	-226334		3.23	173	0.99	4780			1.09	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	109	-7523	4833	58461		1.55	173	1.14	5541			1.15	Si
SLV 2	319	-2705	2900	-680854		0	0	0.83	0			0	No, Vu<V
SLV 12	109	-3883	-4595	-527185		0	0	0.83	0			0	No, Vu<V
SLV 12	319	-11504	-3426	187693		2.37	173	1.31	6337			1.85	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 8	109	-2943	314	-285216		0	0	0.83	0			0	No, Vu<V
SLV 8	319	-6541	340	-94783		1.35	173	1.1	5345			15.72	Si
SLV 16	109	-8036	-10972	-776433		0	0	0.83	0			0	No, Vu<V
SLV 16	319	-18346	-8808	379123		3.79	173	1.59	7706			0.87	No, Vu<V
SLV 3	109	-4903	5391	30132		1.01	173	1.04	5017			0.93	No, Vu<V
SLV 3	319	-1803	3746	-562462		0	0	0.83	0			0	No, Vu<V
SLV 4	109	-4903	5391	30132		1.01	173	1.04	5017			0.93	No, Vu<V
SLV 4	319	-1803	3746	-562462		0	0	0.83	0			0	No, Vu<V
SLV 1	109	-7523	4833	58461		1.55	173	1.14	5541			1.15	Si
SLV 1	319	-2705	2900	-680854		0	0	0.83	0			0	No, Vu<V
SLV 11	109	-3883	-4595	-527185		0	0	0.83	0			0	No, Vu<V
SLV 11	319	-11504	-3426	187693		2.37	173	1.31	6337			1.85	Si
SLV 15	109	-8036	-10972	-776433		0	0	0.83	0			0	No, Vu<V
SLV 15	319	-18346	-8808	379123		3.79	173	1.59	7706			0.87	No, Vu<V
SLV 7	109	-2943	314	-285216		0	0	0.83	0			0	No, Vu<V
SLV 7	319	-6541	340	-94783		1.35	173	1.1	5345			15.72	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 4	14	0.31	0.55	-2666	15849	35642	2.25	Si
SLV 3	14	0.31	0.55	-2666	15849	35642	2.25	Si
SLV 1	14	0.31	0.56	-2707	15849	36159	2.28	Si
SLV 2	14	0.31	0.56	-2707	15849	36159	2.28	Si
SLV 7	14	0.31	1.6	-7737	15849	94155	5.94	Si
SLV 8	14	0.31	1.6	-7737	15849	94155	5.94	Si
SLV 6	14	0.31	1.63	-7872	15849	95548	6.03	Si
SLV 5	14	0.31	1.63	-7872	15849	95548	6.03	Si
SLV 11	14	0.31	2.5	-12123	15849	134962	8.52	Si
SLV 12	14	0.31	2.5	-12123	15849	134962	8.52	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 295.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 11	-7786	-3883	-178	0.025	10.502	0.933	39.026	844.398	No
SLV 12	-7786	-3883	-178	0.025	10.502	0.933	39.026	844.398	No
SLV 7	-8478	-2943	-148	0.029	11.201	0.937	44.842	844.398	No
SLV 8	-8478	-2943	-148	0.029	11.201	0.937	44.842	844.398	No
SLV 5	-14465	-11676	185	0.03	17.276	0.957	45.35	844.398	No
SLV 6	-14465	-11676	185	0.03	17.276	0.957	45.35	844.398	No
SLV 9	-13774	-12616	155	0.031	16.573	0.955	47.887	844.398	No
SLV 10	-13774	-12616	155	0.031	16.573	0.955	47.887	844.398	No
SLV 15	-9075	-8036	-97	0.034	11.806	0.939	52.847	924.595	No
SLV 16	-9075	-8036	-97	0.034	11.806	0.939	52.847	924.595	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.294	SLU 82	Si
V_SLU	0.708	SLU 82	No
PF_SLV	0	SLV 1	No
V_SLV	0	SLV 1	No
PFFP_SLV	2.249	SLV 3	Si
R_SLV	0.046	SLV 11	No

## Maschio 68

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1505.8	220.1	-1505.8	666.1	L3	L4	446	14	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 55	109	-51977	2443146	8.32	0	0	No, Rottura per schiacciamento
SLU 55	482	-34064	-427368	5.46	2508838	5.87	Si
SLU 56	109	-52189	2640106	8.36	0	0	No, Rottura per schiacciamento
SLU 56	482	-34171	-366377	5.47	2500676	6.825	Si
SLU 52	109	-52687	2244820	8.44	0	0	No, Rottura per schiacciamento
SLU 52	482	-34686	-511760	5.56	2460064	4.807	Si
SLU 83	109	-59472	2906884	9.52	0	0	No, Rottura per schiacciamento
SLU 83	482	-39291	-452789	6.29	1993334	4.402	Si
SLU 84	109	-59465	2900336	9.52	0	0	No, Rottura per schiacciamento
SLU 84	482	-39298	-455687	6.29	1992463	4.372	Si
SLU 57	109	-52182	2633558	8.36	0	0	No, Rottura per schiacciamento



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 57	482	-34178	-369275	5.47	2500127	6.77	Si
SLU 54	109	-52892	2435232	8.47	0	0	No, Rottura per schiacciamento
SLU 54	482	-34800	-453667	5.57	2450729	5.402	Si
SLU 59	109	-51271	2645837	8.21	0	0	No, Rottura per schiacciamento
SLU 59	482	-33437	-341043	5.36	2554556	7.49	Si
SLU 53	109	-52899	2441780	8.47	0	0	No, Rottura per schiacciamento
SLU 53	482	-34793	-450769	5.57	2451318	5.438	Si
SLU 58	109	-51278	2652385	8.21	0	0	No, Rottura per schiacciamento
SLU 58	482	-33430	-338145	5.35	2555059	7.556	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 8	109	-37292	4461876	5.97	4251224	0.953	No, M>Mu
SLV 8	482	-24387	188738	3.91	3699923	19.603	Si
SLD 8	109	-39368	2893411	6.3	4249004	1.469	Si
SLD 8	482	-25808	-143685	4.13	3808354	26.505	Si
SLD 7	109	-39368	2893411	6.3	4249004	1.469	Si
SLD 7	482	-25808	-143685	4.13	3808354	26.505	Si
SLV 12	109	-33392	4619590	5.35	4187272	0.906	No, M>Mu
SLV 12	482	-21622	299854	3.46	3455188	11.523	Si
SLV 16	109	-32598	2865021	5.22	4163369	1.453	Si
SLV 16	482	-21006	-8537	3.36	3394627	397.618	Si
SLV 11	109	-33392	4619590	5.35	4187272	0.906	No, M>Mu
SLV 11	482	-21622	299854	3.46	3455188	11.523	Si
SLV 7	109	-37292	4461876	5.97	4251224	0.953	No, M>Mu
SLV 7	482	-24387	188738	3.91	3699923	19.603	Si
SLD 11	109	-37715	2959582	6.04	4252815	1.437	Si
SLD 11	482	-24637	-96842	3.95	3719921	38.412	Si
SLD 12	109	-37715	2959582	6.04	4252815	1.437	Si
SLD 12	482	-24637	-96842	3.95	3719921	38.412	Si
SLV 15	109	-32598	2865021	5.22	4163369	1.453	Si
SLV 15	482	-21006	-8537	3.36	3394627	397.618	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 37	109	-46870	1610	2612157		7.51	446	1.08	6764			4.2	Si
SLU 37	482	-30831	754	-248534		4.94	446	1.08	6764			8.97	Si
SLU 70	109	-51836	1636	2663899		8.3	446	1.08	6764			4.13	Si
SLU 70	482	-33818	723	-349628		5.42	446	1.08	6764			9.36	Si
SLU 78	109	-57317	1673	2959638		9.18	446	1.08	6764			4.04	Si
SLU 78	482	-37738	657	-384557		6.04	446	1.08	6764			10.29	Si
SLU 77	109	-57324	1675	2966186		9.18	446	1.08	6764			4.04	Si
SLU 77	482	-37731	659	-381659		6.04	446	1.08	6764			10.27	Si
SLU 38	109	-46864	1608	2605609		7.51	446	1.08	6764			4.21	Si
SLU 38	482	-30838	753	-251432		4.94	446	1.08	6764			8.98	Si
SLU 79	109	-56413	1727	2978465		9.03	446	1.08	6764			3.92	Si
SLU 79	482	-36990	719	-353427		5.92	446	1.08	6764			9.41	Si
SLU 72	109	-50925	1688	2676178		8.16	446	1.08	6764			4.01	Si
SLU 72	482	-33077	783	-321397		5.3	446	1.08	6764			8.64	Si
SLU 71	109	-50932	1690	2682726		8.16	446	1.08	6764			4	Si
SLU 71	482	-33070	784	-318499		5.3	446	1.08	6764			8.63	Si
SLU 69	109	-51843	1638	2670448		8.3	446	1.08	6764			4.13	Si
SLU 69	482	-33811	724	-346730		5.41	446	1.08	6764			9.35	Si
SLU 80	109	-56406	1725	2971916		9.03	446	1.08	6764			3.92	Si
SLU 80	482	-36997	718	-356325		5.93	446	1.08	6764			9.42	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 11	109	-37715	4723	2959582		6.21	433.58	1.63	9864			2.09	Si
SLD 11	482	-24637	3285	-96842		3.95	446	1.62	10131			3.08	Si
SLV 7	109	-37292	10108	4461876		8.59	310.06	1.63	7054			0.7	No, Vu<V
SLV 7	482	-24387	7204	188738		3.91	446	1.61	10081			1.4	Si
SLV 11	109	-33392	10297	4619590		9.39	253.96	1.63	5778			0.56	No, Vu<V
SLV 11	482	-21622	7824	299854		3.46	446	1.53	9528			1.22	Si
SLV 6	109	-48025	-8912	-1076889		7.69	446	1.63	10146			1.14	Si
SLV 6	482	-31844	-7794	-1062763		5.1	446	1.63	10146			1.3	Si
SLV 12	109	-33392	10297	4619590		9.39	253.96	1.63	5778			0.56	No, Vu<V
SLV 12	482	-21622	7824	299854		3.46	446	1.53	9528			1.22	Si
SLV 5	109	-48025	-8912	-1076889		7.69	446	1.63	10146			1.14	Si
SLV 5	482	-31844	-7794	-1062763		5.1	446	1.63	10146			1.3	Si
SLV 9	109	-44125	-8722	-919176		7.07	446	1.63	10146			1.16	Si
SLV 9	482	-29079	-7173	-951648		4.66	446	1.63	10146			1.41	Si
SLV 8	109	-37292	10108	4461876		8.59	310.06	1.63	7054			0.7	No, Vu<V
SLV 8	482	-24387	7204	188738		3.91	446	1.61	10081			1.4	Si
SLD 12	109	-37715	4723	2959582		6.21	433.58	1.63	9864			2.09	Si
SLD 12	482	-24637	3285	-96842		3.95	446	1.62	10131			3.08	Si
SLV 10	109	-44125	-8722	-919176		7.07	446	1.63	10146			1.16	Si
SLV 10	482	-29079	-7173	-951648		4.66	446	1.63	10146			1.41	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.03 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 16	14	0.31	3.96	-24733	21855	117004	5.35	Si
SLV 15	14	0.31	3.96	-24733	21855	117004	5.35	Si
SLV 12	14	0.31	3.97	-24792	21855	117150	5.36	Si



Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.31	3.97	-24792	21855	117150	5.36	Si
SLV 13	14	0.31	4.44	-27734	21855	123566	5.65	Si
SLV 14	14	0.31	4.44	-27734	21855	123566	5.65	Si
SLV 7	14	0.31	4.46	-27844	21855	123775	5.66	Si
SLV 8	14	0.31	4.46	-27844	21855	123775	5.66	Si
SLV 10	14	0.31	5.57	-34797	21855	132484	6.06	Si
SLV 9	14	0.31	5.57	-34797	21855	132484	6.06	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 295.5 Wa = 0.03 Ta = 0.166

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 16	-21006	-32598	-142	0.014	24.669	0.96	21.668	1400.956	No
SLV 15	-21006	-32598	-142	0.014	24.669	0.96	21.668	1400.956	No
SLV 13	-23244	-35818	-143	0.015	26.945	0.963	22.119	1400.956	No
SLV 14	-23244	-35818	-143	0.015	26.945	0.963	22.119	1400.956	No
SLV 3	-30222	-45599	144	0.016	34.048	0.971	23.234	1400.956	No
SLV 4	-30222	-45599	144	0.016	34.048	0.971	23.234	1400.956	No
SLV 1	-32459	-48819	143	0.016	36.326	0.972	23.559	1400.956	No
SLV 2	-32459	-48819	143	0.016	36.326	0.972	23.559	1400.956	No
SLV 9	-29079	-44125	-44	0.019	32.885	0.97	27.884	1400.956	No
SLV 10	-29079	-44125	-44	0.019	32.885	0.97	27.884	1400.956	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 52	No
V_SLU	3.917	SLU 79	Si
PF_SLV	0.906	SLV 11	No
V_SLV	0.561	SLV 11	No
PFFP_SLV	5.354	SLV 15	Si
R_SLV	0.015	SLV 15	No

## Maschio 69

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-1375.3	-470.9	-1375.3	-331.4	L3	Z medio 312 cm	139.5	28	203	203	203			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 77	109	-27764	-111810	7.11	246744	2.207	Si
SLU 77	312	-19381	206502	4.96	528386	2.559	Si
SLU 79	109	-27718	-113233	7.1	249111	2.2	Si
SLU 79	312	-19343	205486	4.95	528960	2.574	Si
SLU 74	109	-27313	-106509	6.99	269724	2.532	Si
SLU 74	312	-19048	204465	4.88	533219	2.608	Si
SLU 84	109	-28353	-110538	7.26	215342	1.948	Si
SLU 84	312	-19888	220671	5.09	520114	2.357	Si
SLU 78	109	-27781	-109808	7.11	245826	2.239	Si
SLU 78	312	-19380	205921	4.96	528408	2.566	Si
SLU 75	109	-27330	-104507	7	268841	2.572	Si
SLU 75	312	-19046	203883	4.88	533239	2.615	Si
SLU 81	109	-27885	-107238	7.14	240415	2.242	Si
SLU 81	312	-19556	219215	5.01	525664	2.398	Si
SLU 82	109	-27902	-105237	7.14	239487	2.276	Si
SLU 82	312	-19554	218633	5.01	525687	2.404	Si
SLU 80	109	-27736	-111231	7.1	248196	2.231	Si
SLU 80	312	-19342	204904	4.95	528982	2.582	Si
SLU 83	109	-28335	-112539	7.25	216305	1.922	Si
SLU 83	312	-19889	221252	5.09	520088	2.351	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 5	109	-31359	-341082	8.03	750116	2.199	Si
SLV 5	312	-21062	158402	5.39	820762	5.182	Si
SLV 11	109	-6816	194800	1.75	407542	2.092	Si
SLV 11	312	-5187	104337	1.33	322489	3.091	Si
SLV 16	109	-11237	264183	2.88	599244	2.268	Si
SLV 16	312	-6017	140016	1.54	366779	2.62	Si
SLV 15	109	-11237	264183	2.88	599244	2.268	Si
SLV 15	312	-6017	140016	1.54	366779	2.62	Si
SLV 6	109	-31359	-341082	8.03	750116	2.199	Si
SLV 6	312	-21062	158402	5.39	820762	5.182	Si
SLV 4	109	-20400	-300524	5.22	814704	2.711	Si
SLV 4	312	-16405	103189	4.2	750929	7.277	Si
SLV 3	109	-20400	-300524	5.22	814704	2.711	Si
SLV 3	312	-16405	103189	4.2	750929	7.277	Si
SLV 12	109	-6816	194800	1.75	407542	2.092	Si
SLV 12	312	-5187	104337	1.33	322489	3.091	Si





Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 2	109	-26938	-410465	6.9	818410	1.994	Si
SLV 2	312	-20232	122723	5.18	812961	6.624	Si
SLV 1	109	-26938	-410465	6.9	818410	1.994	Si
SLV 1	312	-20232	122723	5.18	812961	6.624	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 83	109	-28335	-2119	-112539		7.25	139.5	1.08	4231			2	Si
SLU 83	312	-19889	-1002	221252		5.09	139.5	1.08	4231			4.22	Si
SLU 62	109	-26810	-1934	-109772		6.86	139.5	1.08	4231			2.19	Si
SLU 62	312	-18752	-890	205439		4.8	139.5	1.08	4231			4.75	Si
SLU 82	109	-27902	-1993	-105237		7.14	139.5	1.08	4231			2.12	Si
SLU 82	312	-19554	-953	218633		5.01	139.5	1.08	4231			4.44	Si
SLU 84	109	-28353	-2053	-110538		7.26	139.5	1.08	4231			2.06	Si
SLU 84	312	-19888	-960	220671		5.09	139.5	1.08	4231			4.41	Si
SLU 80	109	-27736	-1967	-111231		7.1	139.5	1.08	4231			2.15	Si
SLU 80	312	-19342	-827	204904		4.95	139.5	1.08	4231			5.11	Si
SLU 78	109	-27781	-1970	-109808		7.11	139.5	1.08	4231			2.15	Si
SLU 78	312	-19380	-832	205921		4.96	139.5	1.08	4231			5.09	Si
SLU 74	109	-27313	-1976	-106509		6.99	139.5	1.08	4231			2.14	Si
SLU 74	312	-19048	-866	204465		4.88	139.5	1.08	4231			4.88	Si
SLU 81	109	-27885	-2059	-107238		7.14	139.5	1.08	4231			2.05	Si
SLU 81	312	-19556	-995	219215		5.01	139.5	1.08	4231			4.25	Si
SLU 77	109	-27764	-2036	-111810		7.11	139.5	1.08	4231			2.08	Si
SLU 77	312	-19381	-873	206502		4.96	139.5	1.08	4231			4.84	Si
SLU 79	109	-27718	-2033	-113233		7.1	139.5	1.08	4231			2.08	Si
SLU 79	312	-19343	-869	205486		4.95	139.5	1.08	4231			4.87	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	109	-17775	-3744	154242		4.55	139.5	1.63	6347			1.7	Si
SLV 13	312	-9845	-3557	159550		2.52	139.5	1.34	5224			1.47	Si
SLV 11	109	-6816	2797	194800		1.97	123.52	1.23	4245			1.52	Si
SLV 11	312	-5187	1959	104337		1.33	139.5	1.1	4292			2.19	Si
SLV 14	109	-17775	-3744	154242		4.55	139.5	1.63	6347			1.7	Si
SLV 14	312	-9845	-3557	159550		2.52	139.5	1.34	5224			1.47	Si
SLV 6	109	-31359	-5331	-341082		8.03	139.5	1.63	6347			1.19	Si
SLV 6	312	-21062	-2910	158402		5.39	139.5	1.63	6347			2.18	Si
SLV 10	109	-28610	-6023	-171670		7.32	139.5	1.63	6347			1.05	Si
SLV 10	312	-17946	-4204	169450		4.59	139.5	1.63	6347			1.51	Si
SLV 12	109	-6816	2797	194800		1.97	123.52	1.23	4245			1.52	Si
SLV 12	312	-5187	1959	104337		1.33	139.5	1.1	4292			2.19	Si
SLV 5	109	-31359	-5331	-341082		8.03	139.5	1.63	6347			1.19	Si
SLV 5	312	-21062	-2910	158402		5.39	139.5	1.63	6347			2.18	Si
SLV 9	109	-28610	-6023	-171670		7.32	139.5	1.63	6347			1.05	Si
SLV 9	312	-17946	-4204	169450		4.59	139.5	1.63	6347			1.51	Si
SLV 7	109	-9565	3490	25388		2.45	139.5	1.32	5168			1.48	Si
SLV 7	312	-8304	3253	93289		2.13	139.5	1.26	4916			1.51	Si
SLV 8	109	-9565	3490	25388		2.45	139.5	1.32	5168			1.48	Si
SLV 8	312	-8304	3253	93289		2.13	139.5	1.26	4916			1.51	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 210.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.29	1.59	-6202	3648	75543	20.71	Si
SLV 12	14	0.29	1.59	-6202	3648	75543	20.71	Si
SLV 15	14	0.29	2.22	-8688	3648	99492	27.27	Si
SLV 16	14	0.29	2.22	-8688	3648	99492	27.27	Si
SLV 7	14	0.29	2.29	-8944	3648	101746	27.89	Si
SLV 8	14	0.29	2.29	-8944	3648	101746	27.89	Si
SLV 13	14	0.29	3.47	-13561	3648	135909	37.26	Si
SLV 14	14	0.29	3.47	-13561	3648	135909	37.26	Si
SLV 4	14	0.29	4.56	-17827	3648	156355	42.86	Si
SLV 3	14	0.29	4.56	-17827	3648	156355	42.86	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 210.5 Wa = 0.05 Ta = 0.0246

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 11	-5187	-6816	191	0.045	6.402	0.95	68.709	361.308	No
SLV 12	-5187	-6816	191	0.045	6.402	0.95	68.709	361.308	No
SLV 16	-6017	-11237	141	0.055	7.245	0.955	84.157	370.385	No
SLV 15	-6017	-11237	141	0.055	7.245	0.955	84.157	370.385	No
SLV 7	-8304	-9565	164	0.056	9.571	0.965	84.634	361.308	No
SLV 8	-8304	-9565	164	0.056	9.571	0.965	84.634	361.308	No
SLV 14	-9845	-17775	72	0.067	11.139	0.969	100.21	370.385	No
SLV 13	-9845	-17775	72	0.067	11.139	0.969	100.21	370.385	No
SLV 3	-16405	-20400	52	0.069	17.821	0.98	102.006	370.385	No
SLV 4	-16405	-20400	52	0.069	17.821	0.98	102.006	370.385	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.922	SLU 83	Si
V_SLU	1.997	SLU 83	Si
PF_SLV	1.994	SLV 1	Si
V_SLV	1.054	SLV 9	Si
PFFP_SLV	20.708	SLV 11	Si
R_SLV	0.19	SLV 11	No



## Maschio 70

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	-349.9	-1375.3	-331.4	Z medio 312 cm	L4	18.6	28	170	170	170			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 80	312	-2837	2627	5.46	8694	3.309	Si
SLU 80	482	-2064	18183	3.97	9823	0.54	No, M>Mu
SLU 83	312	-2783	1461	5.35	8857	6.061	Si
SLU 83	482	-2115	18594	4.07	9829	0.529	No, M>Mu
SLU 75	312	-2795	2698	5.38	8822	3.27	Si
SLU 75	482	-2047	17837	3.94	9818	0.55	No, M>Mu
SLU 84	312	-2783	1628	5.35	8858	5.441	Si
SLU 84	482	-2123	18494	4.08	9829	0.531	No, M>Mu
SLU 79	312	-2837	2461	5.46	8693	3.533	Si
SLU 79	482	-2057	18283	3.96	9821	0.537	No, M>Mu
SLU 82	312	-2730	1641	5.25	9006	5.487	Si
SLU 82	482	-2095	18095	4.03	9828	0.543	No, M>Mu
SLU 81	312	-2730	1474	5.25	9006	6.108	Si
SLU 81	482	-2088	18195	4.02	9827	0.54	No, M>Mu
SLU 74	312	-2795	2531	5.38	8821	3.485	Si
SLU 74	482	-2040	17937	3.92	9816	0.547	No, M>Mu
SLU 78	312	-2848	2685	5.48	8658	3.225	Si
SLU 78	482	-2075	18236	3.99	9825	0.539	No, M>Mu
SLU 77	312	-2849	2518	5.48	8658	3.438	Si
SLU 77	482	-2067	18336	3.98	9824	0.536	No, M>Mu

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 5	312	-2609	-6298	5.02	14273	2.266	Si
SLV 5	482	-1684	26051	0	0	0	No, e>l/2
SLD 1	312	-2142	664	4.12	13180	19.834	Si
SLD 1	482	-1453	16994	0	0	0	No, e>l/2
SLD 10	312	-2289	-132	4.4	13594	103.273	Si
SLD 10	482	-1523	16310	0	0	0	No, e>l/2
SLV 1	312	-2246	-2586	4.32	13478	5.212	Si
SLV 1	482	-1508	23191	0	0	0	No, e>l/2
SLV 2	312	-2246	-2586	4.32	13478	5.212	Si
SLV 2	482	-1508	23191	0	0	0	No, e>l/2
SLV 4	312	-1923	2455	3.7	12449	5.07	Si
SLV 4	482	-1347	16340	0	0	0	No, e>l/2
SLV 6	312	-2609	-6298	5.02	14273	2.266	Si
SLV 6	482	-1684	26051	0	0	0	No, e>l/2
SLV 3	312	-1923	2455	3.7	12449	5.07	Si
SLV 3	482	-1347	16340	0	0	0	No, e>l/2
SLV 9	312	-2597	-4439	5	14254	3.211	Si
SLV 9	482	-1675	21650	0	0	0	No, e>l/2
SLV 10	312	-2597	-4439	5	14254	3.211	Si
SLV 10	482	-1675	21650	0	0	0	No, e>l/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 71	312	-2839	-2	4823		5.46	18.57	1.08	563			279.05	Si
SLU 71	482	-1857	110	16629		67.3	0.99	1.08	30			0.27	No, Vu<V
SLU 49	312	-2686	20	4949		5.17	18.57	1.08	563			28.88	Si
SLU 49	482	-1734	102	15579		68.79	0.9	1.08	27			0.27	No, Vu<V
SLU 48	312	-2686	6	4782		5.17	18.57	1.08	563			87.18	Si
SLU 48	482	-1727	92	15679		100.69	0.61	1.08	19			0.2	No, Vu<V
SLU 56	312	-2684	-96	2420		5.16	18.57	1.08	563			5.89	Si
SLU 56	482	-1927	111	17333		79.53	0.87	1.08	26			0.24	No, Vu<V
SLU 8	312	-2126	-3	3654		4.09	18.57	1.08	563			186.05	Si
SLU 8	482	-1370	71	12468		89.38	0.55	1.08	17			0.24	No, Vu<V
SLU 45	312	-2633	16	4795		5.06	18.57	1.08	563			35.29	Si
SLU 45	482	-1699	99	15280		69.18	0.88	1.08	27			0.27	No, Vu<V
SLU 58	312	-2673	-98	2362		5.14	18.57	1.08	563			5.73	Si
SLU 58	482	-1916	108	17281		85.49	0.8	1.08	24			0.23	No, Vu<V
SLU 51	312	-2675	17	4891		5.15	18.57	1.08	563			33.56	Si
SLU 51	482	-1724	98	15526		74.29	0.83	1.08	25			0.26	No, Vu<V
SLU 50	312	-2675	4	4724		5.15	18.57	1.08	563			150.7	Si
SLU 50	482	-1716	89	15626		113.78	0.54	1.08	16			0.18	No, Vu<V
SLU 6	312	-2137	0	3712		4.11	18.57	1.08	563			1000	Si
SLU 6	482	-1380	74	12521		77.07	0.64	1.08	19			0.26	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 5	312	-2609	-811	-6298		5.02	18.57	1.63	845			1.04	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 5	482	-1684	-441	26051		0	0	0.83	0			0	No, Vu<V
SLV 1	312	-2246	-504	-2586		4.32	18.57	1.63	845			1.68	Si
SLV 1	482	-1508	-227	23191		0	0	0.83	0			0	No, Vu<V
SLV 2	312	-2246	-504	-2586		4.32	18.57	1.63	845			1.68	Si
SLV 2	482	-1508	-227	23191		0	0	0.83	0			0	No, Vu<V
SLV 3	312	-1923	-76	2455		3.7	18.57	1.57	818			10.71	Si
SLV 3	482	-1347	64	16340		0	0	0.83	0			0	No, Vu<V
SLV 10	312	-2597	-645	-4439		5	18.57	1.63	845			1.31	Si
SLV 10	482	-1675	-335	21650		0	0	0.83	0			0	No, Vu<V
SLV 9	312	-2597	-645	-4439		5	18.57	1.63	845			1.31	Si
SLV 9	482	-1675	-335	21650		0	0	0.83	0			0	No, Vu<V
SLD 10	312	-2289	-281	-132		4.4	18.57	1.63	845			3.01	Si
SLD 10	482	-1523	-86	16310		0	0	0.83	0			0	No, Vu<V
SLD 1	312	-2142	-220	664		4.12	18.57	1.63	845			3.83	Si
SLD 1	482	-1453	-40	16994		0	0	0.83	0			0	No, Vu<V
SLV 4	312	-1923	-76	2455		3.7	18.57	1.57	818			10.71	Si
SLV 4	482	-1347	64	16340		0	0	0.83	0			0	No, Vu<V
SLV 6	312	-2609	-811	-6298		5.02	18.57	1.63	845			1.04	Si
SLV 6	482	-1684	-441	26051		0	0	0.83	0			0	No, Vu<V

#### Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 397 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.33	2.43	-1262	387	14156	36.61	Si
SLV 12	14	0.33	2.43	-1262	387	14156	36.61	Si
SLV 7	14	0.33	2.52	-1308	387	14540	37.6	Si
SLV 8	14	0.33	2.52	-1308	387	14540	37.6	Si
SLV 16	14	0.33	2.74	-1423	387	15458	39.98	Si
SLV 15	14	0.33	2.74	-1423	387	15458	39.98	Si
SLV 3	14	0.33	3.03	-1576	387	16591	42.91	Si
SLV 4	14	0.33	3.03	-1576	387	16591	42.91	Si
SLV 13	14	0.33	3.09	-1607	387	16806	43.46	Si
SLV 14	14	0.33	3.09	-1607	387	16806	43.46	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 397 Wa = 0.05 Ta = 0.0172

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 11	-1141	-1523	17	0.074	1.286	0.97	110.63	360.984	No
SLV 12	-1141	-1523	17	0.074	1.286	0.97	110.63	360.984	No
SLV 5	-1684	-2609	-19	0.075	1.84	0.979	111.962	360.984	No
SLV 6	-1684	-2609	-19	0.075	1.84	0.979	111.962	360.984	No
SLV 1	-1508	-2246	-14	0.077	1.66	0.977	115.274	367.125	No
SLV 2	-1508	-2246	-14	0.077	1.66	0.977	115.274	367.125	No
SLV 15	-1317	-1886	12	0.078	1.466	0.974	116.643	367.125	No
SLV 16	-1317	-1886	12	0.078	1.466	0.974	116.643	367.125	No
SLV 10	-1675	-2597	-14	0.078	1.83	0.979	116.382	360.984	No
SLV 9	-1675	-2597	-14	0.078	1.83	0.979	116.382	360.984	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0.529	SLU 83	No
V_SLU	0.184	SLU 50	No
PF_SLV	0	SLD 1	No
V_SLV	0	SLD 1	No
PFFP_SLV	36.61	SLV 11	Si
R_SLV	0.306	SLV 11	No

## Maschio 72

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1375.3	-331.4	-1375.3	-35.4	Z medio 211 cm	L4	296	28	271.5	0	373			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 83	312	-45827	691973	5.53	2178566	3.148	Si
SLU 83	482	-36890	54115	4.45	2476432	45.762	Si
SLU 79	312	-44278	639543	5.34	2255266	3.526	Si
SLU 79	482	-35535	23254	4.29	2491027	107.12	Si
SLU 75	312	-44073	638535	5.32	2264616	3.547	Si
SLU 75	482	-35415	29691	4.27	2491928	83.93	Si
SLU 81	312	-45278	682702	5.46	2206960	3.233	Si
SLU 81	482	-36463	58311	4.4	2481902	42.564	Si
SLU 80	312	-44326	638175	5.35	2253059	3.53	Si
SLU 80	482	-35590	21830	4.29	2490590	114.088	Si
SLU 84	312	-45875	690606	5.54	2176035	3.151	Si
SLU 84	482	-36945	52691	4.46	2475668	46.984	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 74	312	-44026	639902	5.31	2266770	3.542	Si
SLU 74	482	-35360	31115	4.27	2492322	80.101	Si
SLU 82	312	-45326	681334	5.47	2204543	3.236	Si
SLU 82	482	-36518	56887	4.41	2481241	43.617	Si
SLU 77	312	-44575	649173	5.38	2241390	3.453	Si
SLU 77	482	-35787	26920	4.32	2488918	92.457	Si
SLU 78	312	-44622	647806	5.38	2239121	3.456	Si
SLU 78	482	-35842	25496	4.32	2488420	97.602	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLD 16	312	-32054	620814	3.87	3242375	5.223	Si
SLD 16	482	-25156	81226	3.04	2798275	34.45	Si
SLV 13	312	-35366	865864	4.27	3406247	3.934	Si
SLV 13	482	-26823	69584	3.24	2918322	41.94	Si
SLV 12	312	-30445	657361	3.67	3151252	4.794	Si
SLV 12	482	-24504	258216	2.96	2749082	10.646	Si
SLD 15	312	-32054	620814	3.87	3242375	5.223	Si
SLD 15	482	-25156	81226	3.04	2798275	34.45	Si
SLD 14	312	-32342	592097	3.9	3257904	5.502	Si
SLD 14	482	-25247	24707	3.05	2804990	113.529	Si
SLV 16	312	-34682	934878	4.18	3375034	3.61	Si
SLV 16	482	-26602	203783	3.21	2902879	14.245	Si
SLV 15	312	-34682	934878	4.18	3375034	3.61	Si
SLV 15	482	-26602	203783	3.21	2902879	14.245	Si
SLV 14	312	-35366	865864	4.27	3406247	3.934	Si
SLV 14	482	-26823	69584	3.24	2918322	41.94	Si
SLV 11	312	-30445	657361	3.67	3151252	4.794	Si
SLV 11	482	-24504	258216	2.96	2749082	10.646	Si
SLD 13	312	-32342	592097	3.9	3257904	5.502	Si
SLD 13	482	-25247	24707	3.05	2804990	113.529	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 40	312	-38149	1329	614418		4.6	296	1.08	8979			6.76	Si
SLU 40	482	-30785	115	71764		3.71	296	1.05	8709			75.57	Si
SLU 82	312	-45326	1500	681334		5.47	296	1.08	8979			5.99	Si
SLU 82	482	-36518	139	56887		4.41	296	1.08	8979			64.51	Si
SLU 52	312	-39906	1477	531426		4.81	296	1.08	8979			6.08	Si
SLU 52	482	-32122	271	13455		3.88	296	1.07	8887			32.81	Si
SLU 81	312	-45278	1280	682702		5.46	296	1.08	8979			7.01	Si
SLU 81	482	-36463	-15	58311		4.4	296	1.08	8979			606.41	Si
SLU 10	312	-32729	1306	464510		3.95	296	1.08	8968			6.87	Si
SLU 10	482	-26389	247	28332		3.18	296	0.98	8123			32.9	Si
SLU 60	312	-41924	1260	595406		5.06	296	1.08	8979			7.12	Si
SLU 60	482	-33813	-33	42494		4.08	296	1.08	8979			271.47	Si
SLU 73	312	-43260	1497	618722		5.22	296	1.08	8979			6	Si
SLU 73	482	-34772	289	29271		4.2	296	1.08	8979			31.06	Si
SLU 61	312	-41971	1480	594039		5.06	296	1.08	8979			6.07	Si
SLU 61	482	-33868	121	41070		4.09	296	1.08	8979			74.26	Si
SLU 19	312	-34795	1309	527123		4.2	296	1.08	8979			6.86	Si
SLU 19	482	-28135	97	55947		3.39	296	1.01	8356			86.16	Si
SLU 31	312	-36083	1326	551806		4.35	296	1.08	8979			6.77	Si
SLU 31	482	-29039	265	44149		3.5	296	1.02	8476			31.96	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	312	-34682	8829	934878		4.18	296	1.63	13468			1.53	Si
SLV 16	482	-26602	5568	203783		3.21	296	1.48	12227			2.2	Si
SLV 6	312	-29778	-12302	120429		3.59	296	1.55	12862			1.05	Si
SLV 6	482	-23663	-8814	-276654		2.86	296	1.4	11639			1.32	Si
SLV 12	312	-30445	13696	657361		3.67	296	1.57	12996			0.95	No, Vu<V
SLV 12	482	-24504	8962	258216		2.96	296	1.42	11808			1.32	Si
SLV 10	312	-32726	-9512	427315		3.95	296	1.62	13452			1.41	Si
SLV 10	482	-25241	-6949	-189113		3.05	296	1.44	11955			1.72	Si
SLV 11	312	-30445	13696	657361		3.67	296	1.57	12996			0.95	No, Vu<V
SLV 11	482	-24504	8962	258216		2.96	296	1.42	11808			1.32	Si
SLV 9	312	-32726	-9512	427315		3.95	296	1.62	13452			1.41	Si
SLV 9	482	-25241	-6949	-189113		3.05	296	1.44	11955			1.72	Si
SLV 7	312	-27498	10906	350475		3.32	296	1.5	12406			1.14	Si
SLV 7	482	-22927	7098	170675		2.77	296	1.39	11492			1.62	Si
SLV 5	312	-29778	-12302	120429		3.59	296	1.55	12862			1.05	Si
SLV 5	482	-23663	-8814	-276654		2.86	296	1.4	11639			1.32	Si
SLV 8	312	-27498	10906	350475		3.32	296	1.5	12406			1.14	Si
SLV 8	482	-22927	7098	170675		2.77	296	1.39	11492			1.62	Si
SLV 15	312	-34682	8829	934878		4.18	296	1.63	13468			1.53	Si
SLV 15	482	-26602	5568	203783		3.21	296	1.48	12227			2.2	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 397 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 1	14	0.33	2.8	-23168	15723	250150	15.91	Si
SLV 2	14	0.33	2.8	-23168	15723	250150	15.91	Si
SLV 4	14	0.33	2.81	-23254	15723	250802	15.95	Si
SLV 3	14	0.33	2.81	-23254	15723	250802	15.95	Si
SLV 6	14	0.33	3.01	-24922	15723	263045	16.73	Si
SLV 5	14	0.33	3.01	-24922	15723	263045	16.73	Si
SLV 7	14	0.33	3.04	-25209	15723	265072	16.86	Si
SLV 8	14	0.33	3.04	-25209	15723	265072	16.86	Si



Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.33	3.2	-26512	15723	273996	17.43	Si
SLV 9	14	0.33	3.2	-26512	15723	273996	17.43	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 397  $W_a = 0.05$   $T_a = 0.044$

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 2	-21565	-25541	88	0.052	25.126	0.962	78.929	535.881	No
SLV 1	-21565	-25541	88	0.052	25.126	0.962	78.929	535.881	No
SLV 6	-23663	-29778	118	0.051	27.26	0.965	76.852	510.907	No
SLV 5	-23663	-29778	118	0.051	27.26	0.965	76.852	510.907	No
SLV 14	-26823	-35366	36	0.054	30.477	0.968	80.926	535.881	No
SLV 13	-26823	-35366	36	0.054	30.477	0.968	80.926	535.881	No
SLV 10	-25241	-32726	103	0.052	28.866	0.967	77.61	510.907	No
SLV 9	-25241	-32726	103	0.052	28.866	0.967	77.61	510.907	No
SLV 3	-21344	-24857	47	0.054	24.901	0.962	81.639	535.881	No
SLV 4	-21344	-24857	47	0.054	24.901	0.962	81.639	535.881	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.148	SLU 83	Si
V_SLU	5.987	SLU 82	Si
PF_SLV	3.61	SLV 15	Si
V_SLV	0.949	SLV 11	No
PFFP_SLV	15.91	SLV 1	Si
R_SLV	0.147	SLV 1	No

## Maschio 73

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	-35.4	-1375.3	-22.8	L3	L4	12.6	28	373	373	373			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 59	109	-1978	-725	5.62	3855	5.315	Si
SLU 59	319	-879	-14902	0	0	0	No, e>l/2
SLU 53	109	-1984	-658	5.64	3840	5.836	Si
SLU 53	319	-867	-14784	0	0	0	No, e>l/2
SLU 57	109	-2002	-716	5.69	3797	5.302	Si
SLU 57	319	-886	-15035	0	0	0	No, e>l/2
SLU 1	109	-1367	-617	3.88	4495	7.289	Si
SLU 1	319	-576	-9826	0	0	0	No, e>l/2
SLU 56	109	-1973	-829	5.61	3866	4.662	Si
SLU 56	319	-893	-15081	0	0	0	No, e>l/2
SLU 58	109	-1950	-838	5.54	3921	4.677	Si
SLU 58	319	-886	-14948	0	0	0	No, e>l/2
SLU 61	109	-2108	-278	5.99	3509	12.624	Si
SLU 61	319	-876	-15208	0	0	0	No, e>l/2
SLU 54	109	-2012	-545	5.72	3770	6.918	Si
SLU 54	319	-860	-14738	0	0	0	No, e>l/2
SLU 60	109	-2079	-391	5.91	3590	9.184	Si
SLU 60	319	-884	-15254	0	0	0	No, e>l/2
SLU 55	109	-2007	-479	5.7	3783	7.899	Si
SLU 55	319	-848	-14574	0	0	0	No, e>l/2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLD 1	109	-1026	-1497	2.91	4909	3.279	Si
SLD 1	319	-560	-7606	0	0	0	No, e>l/2
SLV 13	109	-1689	-1864	4.8	6446	3.458	Si
SLV 13	319	-1056	-19949	0	0	0	No, e>l/2
SLV 10	109	-174	-6178	0	0	0	No, e>l/2
SLV 10	319	-1127	-15791	0	0	0	No, e>l/2
SLV 14	109	-1689	-1864	4.8	6446	3.458	Si
SLV 14	319	-1056	-19949	0	0	0	No, e>l/2
SLV 6	109	219	-6446	0	0	0	No, Trazione
SLV 6	319	-947	-10772	0	0	0	No, e>l/2
SLV 7	109	-2802	4984	7.96	6136	1.231	Si
SLV 7	319	-147	-5926	0	0	0	No, e>l/2
SLV 12	109	-3194	5252	9.08	5163	0.983	No, M>Mu
SLV 12	319	-327	-10944	0	0	0	No, e>l/2
SLV 9	109	-174	-6178	0	0	0	No, e>l/2
SLV 9	319	-1127	-15791	0	0	0	No, e>l/2
SLV 8	109	-2802	4984	7.96	6136	1.231	Si
SLV 8	319	-147	-5926	0	0	0	No, e>l/2
SLV 11	109	-3194	5252	9.08	5163	0.983	No, M>Mu
SLV 11	319	-327	-10944	0	0	0	No, e>l/2



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 60	109	-2079	172	-391		5.91	12.57	1.08	381			2.22	Si
SLU 60	319	-884	-223	-15254		0	0	0.56	0			0	No, Vu<V
SLU 54	109	-2012	158	-545		5.72	12.57	1.08	381			2.41	Si
SLU 54	319	-860	-229	-14738		0	0	0.56	0			0	No, Vu<V
SLU 61	109	-2108	181	-278		5.99	12.57	1.08	381			2.11	Si
SLU 61	319	-876	-211	-15208		0	0	0.56	0			0	No, Vu<V
SLU 53	109	-1984	149	-658		5.64	12.57	1.08	381			2.56	Si
SLU 53	319	-867	-241	-14784		0	0	0.56	0			0	No, Vu<V
SLU 56	109	-1973	138	-829		5.61	12.57	1.08	381			2.77	Si
SLU 56	319	-893	-267	-15081		0	0	0.56	0			0	No, Vu<V
SLU 1	109	-1367	96	-617		3.88	12.57	1.07	378			3.93	Si
SLU 1	319	-576	-159	-9826		0	0	0.56	0			0	No, Vu<V
SLU 55	109	-2007	162	-479		5.7	12.57	1.08	381			2.36	Si
SLU 55	319	-848	-221	-14574		0	0	0.56	0			0	No, Vu<V
SLU 59	109	-1978	144	-725		5.62	12.57	1.08	381			2.64	Si
SLU 59	319	-879	-255	-14902		0	0	0.56	0			0	No, Vu<V
SLU 58	109	-1950	135	-838		5.54	12.57	1.08	381			2.83	Si
SLU 58	319	-886	-267	-14948		0	0	0.56	0			0	No, Vu<V
SLU 57	109	-2002	147	-716		5.69	12.57	1.08	381			2.59	Si
SLU 57	319	-886	-256	-15035		0	0	0.56	0			0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	109	-1689	542	-1864		4.8	12.57	1.63	572			1.05	Si
SLV 13	319	-1056	-67	-19949		0	0	0.83	0			0	No, Vu<V
SLD 1	109	-1026	-193	-1497		2.91	12.57	1.42	498			2.58	Si
SLD 1	319	-560	-394	-7606		0	0	0.83	0			0	No, Vu<V
SLV 14	109	-1689	542	-1864		4.8	12.57	1.63	572			1.05	Si
SLV 14	319	-1056	-67	-19949		0	0	0.83	0			0	No, Vu<V
SLV 12	109	-3194	766	5252		9.08	12.57	1.63	572			0.75	No, Vu<V
SLV 12	319	-327	578	-10944		0	0	0.83	0			0	No, Vu<V
SLV 9	109	-174	-203	-6178		0	0	0.83	0			0	No, Vu<V
SLV 9	319	-1127	-748	-15791		0	0	0.83	0			0	No, Vu<V
SLV 10	109	-174	-203	-6178		0	0	0.83	0			0	No, Vu<V
SLV 10	319	-1127	-748	-15791		0	0	0.83	0			0	No, Vu<V
SLV 8	109	-2802	418	4984		7.96	12.57	1.63	572			1.37	Si
SLV 8	319	-147	392	-5926		0	0	0.83	0			0	No, Vu<V
SLV 6	109	219	-551	-6446		0	0	0.83	0			0	No, Vu<V
SLV 6	319	-947	-933	-10772		0	0	0.83	0			0	No, Vu<V
SLV 7	109	-2802	418	4984		7.96	12.57	1.63	572			1.37	Si
SLV 7	319	-147	392	-5926		0	0	0.83	0			0	No, Vu<V
SLV 11	109	-3194	766	5252		9.08	12.57	1.63	572			0.75	No, Vu<V
SLV 11	319	-327	578	-10944		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295,5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 3	14	0.31	2.48	-874	1178	9750	8.27	Si
SLV 4	14	0.31	2.48	-874	1178	9750	8.27	Si
SLV 8	14	0.31	2.82	-994	1178	10697	9.08	Si
SLV 7	14	0.31	2.82	-994	1178	10697	9.08	Si
SLV 2	14	0.31	3.53	-1242	1178	12367	10.5	Si
SLV 1	14	0.31	3.53	-1242	1178	12367	10.5	Si
SLV 12	14	0.31	4.16	-1464	1178	13519	11.47	Si
SLV 11	14	0.31	4.16	-1464	1178	13519	11.47	Si
SLV 14	14	0.31	7.99	-2810	1178	13632	11.57	Si
SLV 13	14	0.31	7.99	-2810	1178	13632	11.57	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 295.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\sigma_0$	M*	e*	a0*	aLim	Verifica
SLV 1	-296	-381	307	0	0.492	0.907	0	924.595	No
SLV 13	-1572	-1689	-242	0	1.786	0.969	0	924.595	No
SLV 9	66	-174	-32	0	0	0	0	844.398	No, Trazione
SLV 4	-1317	-1287	291	0	1.526	0.964	0	924.595	No
SLV 3	-1317	-1287	291	0	1.526	0.964	0	924.595	No
SLV 14	-1572	-1689	-242	0	1.786	0.969	0	924.595	No
SLV 5	449	219	133	0	0	0	0	844.398	No, Trazione
SLV 10	66	-174	-32	0	0	0	0	844.398	No, Trazione
SLV 2	-296	-381	307	0	0.492	0.907	0	924.595	No
SLV 6	449	219	133	0	0	0	0	844.398	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 1	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 6	No
V_SLV	0	SLD 1	No
PFFP_SLV	8.274	SLV 3	Si
R_SLV	0	SLV 10	No

## Maschio 74

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



## Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1375.3	67.2	-1375.3	104.6	L3	L4	37.4	28	373	373	373			

## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 84	109	-9588	-28572	9.15	0	0	No, Rottura per schiacciamento
SLU 84	319	-6073	10430	5.79	32808	3.146	Si
SLU 63	109	-8579	-24901	8.19	0	0	No, Rottura per schiacciamento
SLU 63	319	-5524	8212	5.27	36492	4.444	Si
SLU 83	109	-9636	-29248	9.19	0	0	No, Rottura per schiacciamento
SLU 83	319	-6015	11201	5.74	33257	2.969	Si
SLU 75	109	-9205	-27444	8.78	0	0	No, Rottura per schiacciamento
SLU 75	319	-5806	10146	5.54	34766	3.427	Si
SLU 62	109	-8627	-25577	8.23	0	0	No, Rottura per schiacciamento
SLU 62	319	-5466	8983	5.22	36802	4.097	Si
SLU 79	109	-9401	-29536	8.97	0	0	No, Rottura per schiacciamento
SLU 79	319	-5692	12420	5.43	35506	2.859	Si
SLU 73	109	-8861	-25397	8.45	0	0	No, Rottura per schiacciamento
SLU 73	319	-5742	8250	5.48	35184	4.265	Si
SLU 74	109	-9253	-28120	8.83	0	0	No, Rottura per schiacciamento
SLU 74	319	-5748	10917	5.48	35148	3.219	Si
SLU 78	109	-9435	-28950	9	0	0	No, Rottura per schiacciamento
SLU 78	319	-5828	11589	5.56	34612	2.987	Si
SLU 76	109	-9091	-26903	8.67	0	0	No, Rottura per schiacciamento
SLU 76	319	-5765	9692	5.5	35036	3.615	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 10	109	-8851	-69550	8.44	51162	0.736	No, M>Mu
SLV 10	319	-664	43790	0	0	0	No, e>l/2
SLV 2	109	-3681	-14742	3.51	49088	3.33	Si
SLV 2	319	-1165	25721	0	0	0	No, e>l/2
SLD 6	109	-6528	-35627	6.23	59895	1.681	Si
SLD 6	319	-2099	24216	2	32845	1.356	Si
SLV 5	109	-7053	-59159	6.73	59300	1.002	Si
SLV 5	319	281	48175	0	0	0	No, Trazione
SLV 1	109	-3681	-14742	3.51	49088	3.33	Si
SLV 1	319	-1165	25721	0	0	0	No, e>l/2
SLV 13	109	-9673	-49381	9.23	44293	0.897	No, M>Mu
SLV 13	319	-4314	11102	4.12	53539	4.822	Si
SLV 9	109	-8851	-69550	8.44	51162	0.736	No, M>Mu
SLV 9	319	-664	43790	0	0	0	No, e>l/2
SLV 14	109	-9673	-49381	9.23	44293	0.897	No, M>Mu
SLV 14	319	-4314	11102	4.12	53539	4.822	Si
SLD 5	109	-6528	-35627	6.23	59895	1.681	Si
SLD 5	319	-2099	24216	2	32845	1.356	Si
SLV 6	109	-7053	-59159	6.73	59300	1.002	Si
SLV 6	319	281	48175	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 84	109	-9588	-466	-28572		9.15	37.43	1.08	1135			2.44	Si
SLU 84	319	-6073	-441	10430		5.79	37.43	1.08	1135			2.58	Si
SLU 69	109	-8398	-454	-26784		8.01	37.43	1.08	1135			2.5	Si
SLU 69	319	-4962	-433	11839		4.73	37.43	1.08	1135			2.62	Si
SLU 71	109	-8315	-454	-26693		7.93	37.43	1.08	1135			2.5	Si
SLU 71	319	-4883	-433	11899		4.66	37.43	1.08	1135			2.62	Si
SLU 79	109	-9401	-496	-29536		8.97	37.43	1.08	1135			2.29	Si
SLU 79	319	-5692	-473	12420		5.43	37.43	1.08	1135			2.4	Si
SLU 81	109	-9405	-449	-27742		8.97	37.43	1.08	1135			2.53	Si
SLU 81	319	-5993	-424	9759		5.72	37.43	1.08	1135			2.67	Si
SLU 74	109	-9253	-464	-28120		8.83	37.43	1.08	1135			2.45	Si
SLU 74	319	-5748	-440	10917		5.48	37.43	1.08	1135			2.58	Si
SLU 80	109	-9353	-480	-28860		8.92	37.43	1.08	1135			2.36	Si
SLU 80	319	-5749	-456	11649		5.49	37.43	1.08	1135			2.49	Si
SLU 78	109	-9435	-481	-28950		9	37.43	1.08	1135			2.36	Si
SLU 78	319	-5828	-457	11589		5.56	37.43	1.08	1135			2.49	Si
SLU 77	109	-9483	-497	-29626		9.05	37.43	1.08	1135			2.28	Si
SLU 77	319	-5771	-473	12360		5.51	37.43	1.08	1135			2.4	Si
SLU 83	109	-9636	-482	-29248		9.19	37.43	1.08	1135			2.36	Si
SLU 83	319	-6015	-457	11201		5.74	37.43	1.08	1135			2.48	Si



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 5	109	-6528	-834	-35627		6.23	37.43	1.63	1703			2.04	Si
SLD 5	319	-2099	-566	24216		3.48	21.54	1.53	922			1.63	Si
SLD 6	109	-6528	-834	-35627		6.23	37.43	1.63	1703			2.04	Si
SLD 6	319	-2099	-566	24216		3.48	21.54	1.53	922			1.63	Si
SLV 10	109	-8851	-1384	-69550		9.7	32.57	1.63	1482			1.07	Si
SLV 10	319	-664	-1251	43790		0	0	0.83	0			0	No, Vu<V
SLV 9	109	-8851	-1384	-69550		9.7	32.57	1.63	1482			1.07	Si
SLV 9	319	-664	-1251	43790		0	0	0.83	0			0	No, Vu<V
SLV 7	109	-3410	793	33108		4.51	27.02	1.63	1229			1.55	Si
SLV 7	319	-7000	692	-30599		6.68	37.43	1.63	1703			2.46	Si
SLV 6	109	-7053	-1558	-59159		8.13	30.98	1.63	1410			0.9	No, Vu<V
SLV 6	319	281	-957	48175		0	0	0.83	0			0	No, Vu<V
SLV 5	109	-7053	-1558	-59159		8.13	30.98	1.63	1410			0.9	No, Vu<V
SLV 5	319	281	-957	48175		0	0	0.83	0			0	No, Vu<V
SLV 8	109	-3410	793	33108		4.51	27.02	1.63	1229			1.55	Si
SLV 8	319	-7000	692	-30599		6.68	37.43	1.63	1703			2.46	Si
SLV 1	109	-3681	-938	-14742		3.51	37.43	1.54	1610			1.72	Si
SLV 1	319	-1165	-37	25721		0	0	0.83	0			0	No, Vu<V
SLV 2	109	-3681	-938	-14742		3.51	37.43	1.54	1610			1.72	Si
SLV 2	319	-1165	-37	25721		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.31	0	135	3509	0	0	No, Trazione
SLV 5	14	0.31	0	135	3509	0	0	No, Trazione
SLV 10	14	0.31	0.63	-665	3509	8821	2.51	Si
SLV 9	14	0.31	0.63	-665	3509	8821	2.51	Si
SLV 1	14	0.31	1.41	-1475	3509	18267	5.21	Si
SLV 2	14	0.31	1.41	-1475	3509	18267	5.21	Si
SLV 4	14	0.31	3.49	-3654	3509	36562	10.42	Si
SLV 3	14	0.31	3.49	-3654	3509	36562	10.42	Si
SLV 14	14	0.31	3.95	-4141	3509	39227	11.18	Si
SLV 13	14	0.31	3.95	-4141	3509	39227	11.18	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 295.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 14	-3599	-9673	-5	0.04	4.215	0.961	59.958	924.595	No
SLV 13	-3599	-9673	-5	0.04	4.215	0.961	59.958	924.595	No
SLV 1	-3847	-3681	1	0.04	4.467	0.963	60.961	924.595	No
SLV 2	-3847	-3681	1	0.04	4.467	0.963	60.961	924.595	No
SLV 15	-2603	-8580	-5	0.04	3.202	0.95	61.902	924.595	No
SLV 16	-2603	-8580	-5	0.04	3.202	0.95	61.902	924.595	No
SLV 3	-2850	-2588	2	0.041	3.454	0.953	62.781	924.595	No
SLV 4	-2850	-2588	2	0.041	3.454	0.953	62.781	924.595	No
SLV 9	-4849	-8851	-3	0.039	5.487	0.969	59.177	844.398	No
SLV 10	-4849	-8851	-3	0.039	5.487	0.969	59.177	844.398	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 62	No
V_SLU	2.284	SLU 77	Si
PF_SLV	0	SLV 6	No
V_SLV	0	SLV 1	No
PFFP_SLV	0	SLV 6	No
R_SLV	0.065	SLV 13	No

## Maschio 75

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2066.8	104.6	-2465.3	104.6	L3	L4	398.5	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 75	109	-80403	261871	7.21	1848668	7.059	Si
SLU 75	319	-74677	-952495	6.69	2654305	2.787	Si
SLU 83	109	-83301	297999	7.47	1386112	4.651	Si
SLU 83	319	-77575	-1036288	6.95	2264493	2.185	Si
SLU 80	109	-81073	253564	7.27	1744889	6.881	Si
SLU 80	319	-75348	-981036	6.75	2567362	2.617	Si
SLU 74	109	-80444	278254	7.21	1842402	6.621	Si
SLU 74	319	-74718	-967149	6.7	2649065	2.739	Si
SLU 77	109	-81834	280432	7.33	1624747	5.794	Si
SLU 77	319	-76109	-1006183	6.82	2466323	2.451	Si





Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 81	109	-81910	295821	7.34	1612708	5.452	Si
SLU 81	319	-76184	-997254	6.83	2456175	2.463	Si
SLU 84	109	-83260	281616	7.46	1392891	4.946	Si
SLU 84	319	-77534	-1021634	6.95	2270245	2.222	Si
SLU 78	109	-81794	264049	7.33	1631263	6.178	Si
SLU 78	319	-76068	-991529	6.82	2471813	2.493	Si
SLU 79	109	-81114	269947	7.27	1738503	6.44	Si
SLU 79	319	-75389	-995690	6.76	2562002	2.573	Si
SLU 82	109	-81869	279437	7.34	1619237	5.795	Si
SLU 82	319	-76144	-982600	6.82	2461679	2.505	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 13	109	-33762	-3297434	3.03	5061240	1.535	Si
SLV 13	319	-28643	-174899	2.57	4508112	25.776	Si
SLV 16	109	-35664	-3260299	3.2	5247201	1.609	Si
SLV 16	319	-30332	-240764	2.72	4699120	19.518	Si
SLV 4	109	-75014	3610433	6.72	6722797	1.862	Si
SLV 4	319	-71385	-982476	6.4	6776154	6.897	Si
SLV 1	109	-73112	3573299	6.55	6755561	1.891	Si
SLV 1	319	-69696	-916610	6.25	6787868	7.405	Si
SLV 2	109	-73112	3573299	6.55	6755561	1.891	Si
SLV 2	319	-69696	-916610	6.25	6787868	7.405	Si
SLV 3	109	-75014	3610433	6.72	6722797	1.862	Si
SLV 3	319	-71385	-982476	6.4	6776154	6.897	Si
SLD 3	109	-63143	1627021	5.66	6754375	4.151	Si
SLD 3	319	-59066	-756749	5.29	6670201	8.814	Si
SLV 14	109	-33762	-3297434	3.03	5061240	1.535	Si
SLV 14	319	-28643	-174899	2.57	4508112	25.776	Si
SLD 4	109	-63143	1627021	5.66	6754375	4.151	Si
SLD 4	319	-59066	-756749	5.29	6670201	8.814	Si
SLV 15	109	-35664	-3260299	3.2	5247201	1.609	Si
SLV 15	319	-30332	-240764	2.72	4699120	19.518	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 77	109	-81834	6133	280432		7.33	398.5	1.08	12088			1.97	Si
SLU 77	319	-76109	6133	-1006183		6.82	398.5	1.08	12088			1.97	Si
SLU 82	109	-81869	6016	279437		7.34	398.5	1.08	12088			2.01	Si
SLU 82	319	-76144	6016	-982600		6.82	398.5	1.08	12088			2.01	Si
SLU 79	109	-81114	6033	269947		7.27	398.5	1.08	12088			2	Si
SLU 79	319	-75389	6033	-995690		6.76	398.5	1.08	12088			2	Si
SLU 84	109	-83260	6212	281616		7.46	398.5	1.08	12088			1.95	Si
SLU 84	319	-77534	6212	-1021634		6.95	398.5	1.08	12088			1.95	Si
SLU 41	109	-71272	5886	283801		6.39	398.5	1.08	12088			2.05	Si
SLU 41	319	-66800	5886	-951410		5.99	398.5	1.08	12088			2.05	Si
SLU 78	109	-81794	5985	264049		7.33	398.5	1.08	12088			2.02	Si
SLU 78	319	-76068	5985	-991529		6.82	398.5	1.08	12088			2.02	Si
SLU 81	109	-81910	6164	295821		7.34	398.5	1.08	12088			1.96	Si
SLU 81	319	-76184	6164	-997254		6.83	398.5	1.08	12088			1.96	Si
SLU 74	109	-80444	5937	278254		7.21	398.5	1.08	12088			2.04	Si
SLU 74	319	-74718	5937	-967149		6.7	398.5	1.08	12088			2.04	Si
SLU 83	109	-83301	6360	297999		7.47	398.5	1.08	12088			1.9	Si
SLU 83	319	-77575	6360	-1036288		6.95	398.5	1.08	12088			1.9	Si
SLU 80	109	-81073	5885	253564		7.27	398.5	1.08	12088			2.05	Si
SLU 80	319	-75348	5885	-981036		6.75	398.5	1.08	12088			2.05	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	109	-73112	22086	3573299		6.55	398.5	1.63	18132			0.82	No, Vu<V
SLV 2	319	-69696	21942	-916610		6.25	398.5	1.63	18132			0.83	No, Vu<V
SLV 1	109	-73112	22086	3573299		6.55	398.5	1.63	18132			0.82	No, Vu<V
SLV 1	319	-69696	21942	-916610		6.25	398.5	1.63	18132			0.83	No, Vu<V
SLV 14	109	-33762	-15163	-3297434		3.96	304.75	1.62	13863			0.91	No, Vu<V
SLV 14	319	-28643	-15330	-174899		2.57	398.5	1.35	15027			0.98	No, Vu<V
SLV 13	109	-33762	-15163	-3297434		3.96	304.75	1.62	13863			0.91	No, Vu<V
SLV 13	319	-28643	-15330	-174899		2.57	398.5	1.35	15027			0.98	No, Vu<V
SLV 4	109	-75014	22176	3610433		6.72	398.5	1.63	18132			0.82	No, Vu<V
SLV 4	319	-71385	22342	-982476		6.4	398.5	1.63	18132			0.81	No, Vu<V
SLD 3	109	-63143	11472	1627021		5.66	398.5	1.63	18132			1.58	Si
SLD 3	319	-59066	11546	-756749		5.29	398.5	1.63	18132			1.57	Si
SLV 15	109	-35664	-15074	-3260299		3.94	323.5	1.62	14681			0.97	No, Vu<V
SLV 15	319	-30332	-14930	-240764		2.72	398.5	1.38	15365			1.03	Si
SLD 4	109	-63143	11472	1627021		5.66	398.5	1.63	18132			1.58	Si
SLD 4	319	-59066	11546	-756749		5.29	398.5	1.63	18132			1.57	Si
SLV 3	109	-75014	22176	3610433		6.72	398.5	1.63	18132			0.82	No, Vu<V
SLV 3	319	-71385	22342	-982476		6.4	398.5	1.63	18132			0.81	No, Vu<V
SLV 16	109	-35664	-15074	-3260299		3.94	323.5	1.62	14681			0.97	No, Vu<V
SLV 16	319	-30332	-14930	-240764		2.72	398.5	1.38	15365			1.03	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 14	14	0.31	2.67	-29752	37357	325628	8.72	Si
SLV 13	14	0.31	2.67	-29752	37357	325628	8.72	Si
SLV 16	14	0.31	2.82	-31469	37357	338873	9.07	Si
SLV 15	14	0.31	2.82	-31469	37357	338873	9.07	Si
SLV 10	14	0.31	3.76	-41941	37357	406541	10.88	Si
SLV 9	14	0.31	3.76	-41941	37357	406541	10.88	Si



Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.31	4.27	-47664	37357	434008	11.62	Si
SLV 12	14	0.31	4.27	-47664	37357	434008	11.62	Si
SLV 5	14	0.31	4.85	-54106	37357	456872	12.23	Si
SLV 6	14	0.31	4.85	-54106	37357	456872	12.23	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 295.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 4	-51341	-75014	-69	0.039	58.13	0.969	58.233	924.595	No
SLV 3	-51341	-75014	-69	0.039	58.13	0.969	58.233	924.595	No
SLV 1	-50235	-73112	47	0.039	57.004	0.969	58.898	924.595	No
SLV 2	-50235	-73112	47	0.039	57.004	0.969	58.898	924.595	No
SLV 13	-33667	-33762	71	0.039	40.147	0.957	59.844	924.595	No
SLV 14	-33667	-33762	71	0.039	40.147	0.957	59.844	924.595	No
SLV 10	-38175	-45316	198	0.036	44.731	0.961	54.693	844.398	No
SLV 9	-38175	-45316	198	0.036	44.731	0.961	54.693	844.398	No
SLV 7	-46833	-63460	-196	0.036	53.541	0.967	54.767	844.398	No
SLV 8	-46833	-63460	-196	0.036	53.541	0.967	54.767	844.398	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.185	SLV 83	Si
V_SLV	1.901	SLV 83	Si
PF_SLV	1.535	SLV 13	Si
V_SLV	0.812	SLV 3	No
PFFP_SLV	8.717	SLV 13	Si
R_SLV	0.063	SLV 3	No

## Maschio 76

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1228.3	104.6	-1986.8	104.6	L3	L4	758.5	28	373	373	373			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 82	109	-156857	3271044	7.39	5551316	1.697	Si
SLU 82	359	-134894	600502	6.35	11268688	18.765	Si
SLU 80	109	-155809	3526883	7.34	5872059	1.665	Si
SLU 80	359	-133816	723909	6.3	11495034	15.879	Si
SLU 79	109	-156349	3638018	7.36	5707461	1.569	Si
SLU 79	359	-133991	743761	6.31	11458667	15.406	Si
SLU 83	109	-160699	3579494	7.57	4333912	1.211	Si
SLU 83	359	-138204	677141	6.51	10542516	15.569	Si
SLU 84	109	-160159	3468359	7.54	4508800	1.3	Si
SLU 84	359	-138029	657289	6.5	10582116	16.1	Si
SLU 81	109	-157397	3382179	7.41	5384240	1.592	Si
SLU 81	359	-135069	620354	6.36	11231493	18.105	Si
SLU 78	109	-157309	3527391	7.41	5411394	1.534	Si
SLU 78	359	-135246	708018	6.37	11193862	15.81	Si
SLU 77	109	-157849	3638526	7.43	5243248	1.441	Si
SLU 77	359	-135421	727870	6.38	11156397	15.327	Si
SLU 74	109	-154547	3441211	7.28	6252314	1.817	Si
SLU 74	359	-132286	671082	6.23	11807130	17.594	Si
SLU 75	109	-154007	3330076	7.25	6412648	1.926	Si
SLU 75	359	-132111	651230	6.22	11842190	18.184	Si

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 2	109	-94000	9101052	4.43	22736063	2.498	Si
SLV 2	359	-78604	1827775	3.7	20780893	11.37	Si
SLV 3	109	-102034	8027359	4.8	23481327	2.925	Si
SLV 3	359	-85388	1171882	4.02	21727824	18.541	Si
SLD 2	109	-99204	5157976	4.67	23240290	4.506	Si
SLD 2	359	-83212	1044085	3.92	21438698	20.533	Si
SLD 3	109	-102496	4709242	4.83	23518424	4.994	Si
SLD 3	359	-85993	766580	4.05	21805754	28.446	Si
SLV 1	109	-94000	9101052	4.43	22736063	2.498	Si
SLV 1	359	-78604	1827775	3.7	20780893	11.37	Si
SLD 1	109	-99204	5157976	4.67	23240290	4.506	Si
SLD 1	359	-83212	1044085	3.92	21438698	20.533	Si
SLD 4	109	-102496	4709242	4.83	23518424	4.994	Si
SLD 4	359	-85993	766580	4.05	21805754	28.446	Si
SLV 5	109	-88045	5922679	4.15	22061954	3.725	Si
SLV 5	359	-73848	1868464	3.48	20036838	10.724	Si
SLV 6	109	-88045	5922679	4.15	22061954	3.725	Si
SLV 6	359	-73848	1868464	3.48	20036838	10.724	Si
SLV 4	109	-102034	8027359	4.8	23481327	2.925	Si
SLV 4	359	-85388	1171882	4.02	21727824	18.541	Si



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 83	109	-160699	6821	3579494		7.57	758.5	1.08	23008			3.37	Si
SLU 83	359	-138204	7340	677141		6.51	758.5	1.08	23008			3.13	Si
SLU 60	109	-140771	6586	2908326		6.63	758.5	1.08	23008			3.49	Si
SLU 60	359	-119376	7162	479072		5.62	758.5	1.08	23008			3.21	Si
SLU 81	109	-157397	7106	3382179		7.41	758.5	1.08	23008			3.24	Si
SLU 81	359	-135069	7680	620354		6.36	758.5	1.08	23008			3	Si
SLU 61	109	-140231	6685	2797191		6.6	758.5	1.08	23008			3.44	Si
SLU 61	359	-119201	7310	459220		5.61	758.5	1.08	23008			3.15	Si
SLU 76	109	-152148	6472	3255477		7.16	758.5	1.08	23008			3.55	Si
SLU 76	359	-130565	7054	653887		6.15	758.5	1.08	23008			3.26	Si
SLU 82	109	-156857	7205	3271044		7.39	758.5	1.08	23008			3.19	Si
SLU 82	359	-134894	7827	600502		6.35	758.5	1.08	23008			2.94	Si
SLU 73	109	-148845	6756	3058162		7.01	758.5	1.08	23008			3.41	Si
SLU 73	359	-127430	7393	597100		6	758.5	1.08	23008			3.11	Si
SLU 75	109	-154007	6627	3330076		7.25	758.5	1.08	23008			3.47	Si
SLU 75	359	-132111	7176	651230		6.22	758.5	1.08	23008			3.21	Si
SLU 84	109	-160159	6921	3468359		7.54	758.5	1.08	23008			3.32	Si
SLU 84	359	-138029	7488	657289		6.5	758.5	1.08	23008			3.07	Si
SLU 74	109	-154547	6527	3441211		7.28	758.5	1.08	23008			3.52	Si
SLU 74	359	-132286	7028	671082		6.23	758.5	1.08	23008			3.27	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 15	109	-111803	-32721	-4632683		5.26	758.5	1.63	34512			1.05	Si
SLV 15	359	-94413	-29143	-898173		4.45	758.5	1.63	34512			1.18	Si
SLV 3	109	-102034	43924	8027359		4.8	758.5	1.63	34512			0.79	No, Vu<V
SLV 3	359	-85388	41886	1171882		4.02	758.5	1.63	34512			0.82	No, Vu<V
SLD 4	109	-102496	21256	4709242		4.83	758.5	1.63	34512			1.62	Si
SLD 4	359	-85993	20614	766580		4.05	758.5	1.63	34512			1.67	Si
SLV 1	109	-94000	41471	9101052		4.43	758.5	1.63	34512			0.83	No, Vu<V
SLV 1	359	-78604	38711	1827775		3.7	758.5	1.57	33419			0.86	No, Vu<V
SLV 14	109	-103768	-35174	-3558990		4.89	758.5	1.63	34512			0.98	No, Vu<V
SLV 14	359	-87629	-32318	-242280		4.13	758.5	1.63	34512			1.07	Si
SLV 4	109	-102034	43924	8027359		4.8	758.5	1.63	34512			0.79	No, Vu<V
SLV 4	359	-85388	41886	1171882		4.02	758.5	1.63	34512			0.82	No, Vu<V
SLD 3	109	-102496	21256	4709242		4.83	758.5	1.63	34512			1.62	Si
SLD 3	359	-85993	20614	766580		4.05	758.5	1.63	34512			1.67	Si
SLV 16	109	-111803	-32721	-4632683		5.26	758.5	1.63	34512			1.05	Si
SLV 16	359	-94413	-29143	-898173		4.45	758.5	1.63	34512			1.18	Si
SLV 2	109	-94000	41471	9101052		4.43	758.5	1.63	34512			0.83	No, Vu<V
SLV 2	359	-78604	38711	1827775		3.7	758.5	1.57	33419			0.86	No, Vu<V
SLV 13	109	-103768	-35174	-3558990		4.89	758.5	1.63	34512			0.98	No, Vu<V
SLV 13	359	-87629	-32318	-242280		4.13	758.5	1.63	34512			1.07	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.31	3.67	-77950	71105	763491	10.74	Si
SLV 6	14	0.31	3.67	-77950	71105	763491	10.74	Si
SLV 1	14	0.31	3.77	-79997	71105	774708	10.9	Si
SLV 2	14	0.31	3.77	-79997	71105	774708	10.9	Si
SLV 9	14	0.31	3.89	-82608	71105	788354	11.09	Si
SLV 10	14	0.31	3.89	-82608	71105	788354	11.09	Si
SLV 3	14	0.31	4.07	-86410	71105	806916	11.35	Si
SLV 4	14	0.31	4.07	-86410	71105	806916	11.35	Si
SLV 13	14	0.31	4.5	-95523	71105	845053	11.88	Si
SLV 14	14	0.31	4.5	-95523	71105	845053	11.88	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 295.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 10	-71472	-90975	617	0.033	83.93	0.96	50.079	844.398	No
SLV 9	-71472	-90975	617	0.033	83.93	0.96	50.079	844.398	No
SLV 5	-72309	-88045	585	0.034	84.781	0.961	50.739	844.398	No
SLV 6	-72309	-88045	585	0.034	84.781	0.961	50.739	844.398	No
SLV 8	-93198	-114827	-624	0.034	106.038	0.968	51.014	844.398	No
SLV 7	-93198	-114827	-624	0.034	106.038	0.968	51.014	844.398	No
SLV 12	-92361	-117758	-592	0.034	105.186	0.968	51.464	844.398	No
SLV 11	-92361	-117758	-592	0.034	105.186	0.968	51.464	844.398	No
SLV 4	-86863	-102034	-238	0.038	99.591	0.966	56.93	924.595	No
SLV 3	-86863	-102034	-238	0.038	99.591	0.966	56.93	924.595	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.211	SLU 83	Si
V_SLU	2.939	SLU 82	Si
PF_SLV	2.498	SLV 1	Si
V_SLV	0.786	SLV 3	No
PFFP_SLV	10.738	SLV 5	Si
R_SLV	0.059	SLV 9	No

## Maschio 77

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



## Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-496.8	104.6	-1116.3	104.6	L3	L4	619.5	28	373	373	373			

## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 84	109	-106029	-149001	6.11	8197722	55.018	Si
SLU 84	359	-98435	885153	5.67	9249249	10.449	Si
SLU 82	109	-104264	-53741	6.01	8464581	157.508	Si
SLU 82	359	-96609	910917	5.57	9464318	10.39	Si
SLU 78	109	-103415	-254462	5.96	8588220	33.75	Si
SLU 78	359	-95612	796823	5.51	9575604	12.017	Si
SLU 73	109	-98492	-33469	5.68	9242243	276.145	Si
SLU 73	359	-90842	828737	5.24	10047842	12.124	Si
SLU 81	109	-104822	-122711	6.04	8381670	68.304	Si
SLU 81	359	-96748	905460	5.58	9448471	10.435	Si
SLU 76	109	-100257	-128730	5.78	9020035	70.07	Si
SLU 76	359	-92667	802973	5.34	9878930	12.303	Si
SLU 74	109	-102208	-228172	5.89	8758342	38.385	Si
SLU 74	359	-93926	817130	5.41	9753957	11.937	Si
SLU 75	109	-101650	-159202	5.86	8834858	55.495	Si
SLU 75	359	-93787	822587	5.41	9768086	11.875	Si
SLU 83	109	-106586	-217972	6.14	8110495	37.209	Si
SLU 83	359	-98574	879696	5.68	9232291	10.495	Si
SLU 77	109	-103972	-323433	5.99	8507387	26.303	Si
SLU 77	359	-95751	791366	5.52	9560364	12.081	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 15	109	-66671	-1942372	3.84	14155112	7.288	Si
SLV 15	359	-59154	3035591	3.41	13209092	4.351	Si
SLV 9	109	-53960	-2441558	3.11	12458813	5.103	Si
SLV 9	359	-50372	381211	2.9	11894461	31.202	Si
SLV 4	109	-76388	2656788	4.4	15133428	5.696	Si
SLV 4	359	-68383	-1503492	3.94	14347576	9.543	Si
SLV 13	109	-59234	-2915707	3.41	13220038	4.534	Si
SLV 13	359	-53610	2543729	3.09	12405426	4.877	Si
SLV 16	109	-66671	-1942372	3.84	14155112	7.288	Si
SLV 16	359	-59154	3035591	3.41	13209092	4.351	Si
SLV 10	109	-53960	-2441558	3.11	12458813	5.103	Si
SLV 10	359	-50372	381211	2.9	11894461	31.202	Si
SLV 14	109	-59234	-2915707	3.41	13220038	4.534	Si
SLV 14	359	-53610	2543729	3.09	12405426	4.877	Si
SLV 3	109	-76388	2656788	4.4	15133428	5.696	Si
SLV 3	359	-68383	-1503492	3.94	14347576	9.543	Si
SLV 2	109	-68952	1683453	3.98	14409568	8.56	Si
SLV 2	359	-62839	-1995354	3.62	13693475	6.863	Si
SLV 1	109	-68952	1683453	3.98	14409568	8.56	Si
SLV 1	359	-62839	-1995354	3.62	13693475	6.863	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 76	109	-100257	-5256	-128730		5.78	619.5	1.08	18791			3.58	Si
SLU 76	359	-92667	-5453	802973		5.34	619.5	1.08	18791			3.45	Si
SLU 63	109	-94314	-86604			5.44	619.5	1.08	18791			3.66	Si
SLU 63	359	-86343	-5310	823479		4.98	619.5	1.08	18791			3.54	Si
SLU 81	109	-104822	-5407	-122711		6.04	619.5	1.08	18791			3.48	Si
SLU 81	359	-96748	-5569	905460		5.58	619.5	1.08	18791			3.37	Si
SLU 75	109	-101650	-5311	-159202		5.86	619.5	1.08	18791			3.54	Si
SLU 75	359	-93787	-5462	822587		5.41	619.5	1.08	18791			3.44	Si
SLU 83	109	-106586	-5423	-217972		6.14	619.5	1.08	18791			3.47	Si
SLU 83	359	-98574	-5515	879696		5.68	619.5	1.08	18791			3.41	Si
SLU 78	109	-103415	-5327	-254462		5.96	619.5	1.08	18791			3.53	Si
SLU 78	359	-95612	-5408	796823		5.51	619.5	1.08	18791			3.47	Si
SLU 82	109	-104264	-5538	-53741		6.01	619.5	1.08	18791			3.39	Si
SLU 82	359	-96609	-5763	910917		5.57	619.5	1.08	18791			3.26	Si
SLU 61	109	-92549	-5112	8657		5.34	619.5	1.08	18791			3.68	Si
SLU 61	359	-84518	-5364	849243		4.87	619.5	1.08	18791			3.5	Si
SLU 84	109	-106029	-5554	-149001		6.11	619.5	1.08	18791			3.38	Si
SLU 84	359	-98435	-5709	885153		5.67	619.5	1.08	18791			3.29	Si
SLU 73	109	-98492	-5240	-33469		5.68	619.5	1.08	18791			3.59	Si
SLU 73	359	-90842	-5508	828737		5.24	619.5	1.08	18791			3.41	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	109	-76388	25551	2656788		4.4	619.5	1.63	28187			1.1	Si
SLV 4	359	-68383	21982	-1503492		3.94	619.5	1.62	28132			1.28	Si
SLV 2	109	-68952	28369	1683453		3.98	619.5	1.63	28187			0.99	No, Vu<V
SLV 2	359	-62839	25198	-1995354		3.62	619.5	1.56	27023			1.07	Si
SLV 12	109	-78747	-17119	802891		4.54	619.5	1.63	28187			1.65	Si
SLV 12	359	-68853	-16943	2020751		3.97	619.5	1.63	28187			1.66	Si
SLV 16	109	-66671	-35037	-1942372		3.84	619.5	1.6	27789			0.79	No, Vu<V
SLV 16	359	-59154	-32130	3035591		3.41	619.5	1.52	26286			0.82	No, Vu<V



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 11	109	-78747	-17119	802891		4.54	619.5	1.63	28187			1.65	Si
SLV 11	359	-68853	-16943	2020751		3.97	619.5	1.63	28187			1.66	Si
SLV 14	109	-59234	-32219	-2915707		3.41	619.5	1.52	26302			0.82	No, Vu<V
SLV 14	359	-53610	-28914	2543729		3.09	619.5	1.45	25177			0.87	No, Vu<V
SLV 15	109	-66671	-35037	-1942372		3.84	619.5	1.6	27789			0.79	No, Vu<V
SLV 15	359	-59154	-32130	3035591		3.41	619.5	1.52	26286			0.82	No, Vu<V
SLV 13	109	-59234	-32219	-2915707		3.41	619.5	1.52	26302			0.82	No, Vu<V
SLV 13	359	-53610	-28914	2543729		3.09	619.5	1.45	25177			0.87	No, Vu<V
SLV 3	109	-76388	25551	2656788		4.4	619.5	1.63	28187			1.1	Si
SLV 3	359	-68383	21982	-1503492		3.94	619.5	1.62	28132			1.28	Si
SLV 1	109	-68952	28369	1683453		3.98	619.5	1.63	28187			0.99	No, Vu<V
SLV 1	359	-62839	25198	-1995354		3.62	619.5	1.56	27023			1.07	Si

#### Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.31	3	-52014	58074	549487	9.46	Si
SLV 10	14	0.31	3	-52014	58074	549487	9.46	Si
SLV 13	14	0.31	3.14	-54543	58074	567096	9.76	Si
SLV 14	14	0.31	3.14	-54543	58074	567096	9.76	Si
SLV 6	14	0.31	3.22	-55905	58074	576226	9.92	Si
SLV 5	14	0.31	3.22	-55905	58074	576226	9.92	Si
SLV 16	14	0.31	3.49	-60603	58074	605842	10.43	Si
SLV 15	14	0.31	3.49	-60603	58074	605842	10.43	Si
SLV 1	14	0.31	3.89	-67514	58074	644113	11.09	Si
SLV 2	14	0.31	3.89	-67514	58074	644113	11.09	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 295.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 9	-48515	-53960	484	0.033	58.526	0.954	49.717	844.398	No
SLV 10	-48515	-53960	484	0.033	58.526	0.954	49.717	844.398	No
SLV 5	-50117	-56875	479	0.033	60.154	0.955	50	844.398	No
SLV 6	-50117	-56875	479	0.033	60.154	0.955	50	844.398	No
SLV 7	-64781	-81663	-487	0.034	75.067	0.964	50.869	844.398	No
SLV 8	-64781	-81663	-487	0.034	75.067	0.964	50.869	844.398	No
SLV 12	-63178	-78747	-483	0.034	73.436	0.963	50.878	844.398	No
SLV 11	-63178	-78747	-483	0.034	73.436	0.963	50.878	844.398	No
SLV 4	-61518	-76388	-154	0.038	71.747	0.962	58.14	924.595	No
SLV 3	-61518	-76388	-154	0.038	71.747	0.962	58.14	924.595	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	10.39	SLV 82	Si
V_SLV	3.261	SLV 82	Si
PF_SLV	4.351	SLV 15	Si
V_SLV	0.793	SLV 15	No
PFFP_SLV	9.462	SLV 9	Si
R_SLV	0.059	SLV 9	No

## Maschio 78

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.3	104.6	-416.8	104.6	L3	L4	404.5	28	373	373	373			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 79	109	-69053	234801	6.1	3512914	14.961	Si
SLU 79	319	-67713	1095407	5.98	3643695	3.326	Si
SLU 74	109	-68708	241758	6.07	3547401	14.673	Si
SLU 74	319	-67264	1060484	5.94	3685768	3.476	Si
SLU 81	109	-69952	280488	6.18	3420824	12.196	Si
SLU 81	319	-68738	1092706	6.07	3544369	3.244	Si
SLU 78	109	-69903	225986	6.17	3425950	15.16	Si
SLU 78	319	-68525	1068576	6.05	3565362	3.337	Si
SLU 84	109	-71147	264716	6.28	3292852	12.439	Si
SLU 84	319	-70000	1100797	6.18	3415806	3.103	Si
SLU 80	109	-69291	227762	6.12	3488949	15.318	Si
SLU 80	319	-67866	1059611	5.99	3629131	3.425	Si
SLU 83	109	-70910	271756	6.26	3318748	12.212	Si
SLU 83	319	-69847	1136593	6.17	3431804	3.019	Si
SLU 82	109	-70189	273449	6.2	3395924	12.419	Si
SLU 82	319	-68892	1056910	6.08	3529115	3.339	Si
SLU 75	109	-68945	234718	6.09	3523795	15.013	Si
SLU 75	319	-67417	1024688	5.95	3671506	3.583	Si
SLU 77	109	-69666	233025	6.15	3450552	14.808	Si
SLU 77	319	-68372	1104372	6.04	3580370	3.242	Si



Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 13	109	-52703	-2359372	4.65	6599852	2.797	Si
SLV 13	319	-57661	452989	5.09	6802899	15.018	Si
SLV 1	109	-40921	2595203	3.61	5829032	2.246	Si
SLV 1	319	-31724	680490	2.8	4945379	7.267	Si
SLV 3	109	-41285	2658666	3.65	5858876	2.204	Si
SLV 3	319	-32508	820904	2.87	5030287	6.128	Si
SLV 14	109	-52703	-2359372	4.65	6599852	2.797	Si
SLV 14	319	-57661	452989	5.09	6802899	15.018	Si
SLV 16	109	-53067	-2295909	4.69	6617180	2.882	Si
SLV 16	319	-58444	593402	5.16	6828414	11.507	Si
SLV 15	109	-53067	-2295909	4.69	6617180	2.882	Si
SLV 15	319	-58444	593402	5.16	6828414	11.507	Si
SLD 4	109	-44547	1220600	3.93	6109449	5.005	Si
SLD 4	319	-39701	714347	3.51	5726071	8.016	Si
SLV 4	109	-41285	2658666	3.65	5858876	2.204	Si
SLV 4	319	-32508	820904	2.87	5030287	6.128	Si
SLD 3	109	-44547	1220600	3.93	6109449	5.005	Si
SLD 3	319	-39701	714347	3.51	5726071	8.016	Si
SLV 2	109	-40921	2595203	3.61	5829032	2.246	Si
SLV 2	319	-31724	680490	2.8	4945379	7.267	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 83	109	-70910	-8900	271756		6.26	404.5	1.08	12270			1.38	Si
SLU 83	319	-69847	-8921	1136593		6.17	404.5	1.08	12270			1.38	Si
SLU 77	109	-69666	-8710	233025		6.15	404.5	1.08	12270			1.41	Si
SLU 77	319	-68372	-8731	1104372		6.04	404.5	1.08	12270			1.41	Si
SLU 84	109	-71147	-8680	264716		6.28	404.5	1.08	12270			1.41	Si
SLU 84	319	-70000	-8709	1100797		6.18	404.5	1.08	12270			1.41	Si
SLU 80	109	-69291	-8393	227762		6.12	404.5	1.08	12270			1.46	Si
SLU 80	319	-67866	-8422	1059611		5.99	404.5	1.08	12270			1.46	Si
SLU 74	109	-68708	-8315	241758		6.07	404.5	1.08	12270			1.48	Si
SLU 74	319	-67264	-8335	1060484		5.94	404.5	1.08	12270			1.47	Si
SLU 81	109	-69952	-8505	280488		6.18	404.5	1.08	12270			1.44	Si
SLU 81	319	-68738	-8526	1092706		6.07	404.5	1.08	12270			1.44	Si
SLU 79	109	-69053	-8614	234801		6.1	404.5	1.08	12270			1.42	Si
SLU 79	319	-67713	-8634	1095407		5.98	404.5	1.08	12270			1.42	Si
SLU 82	109	-70189	-8285	273449		6.2	404.5	1.08	12270			1.48	Si
SLU 82	319	-68892	-8314	1056910		6.08	404.5	1.08	12270			1.48	Si
SLU 41	109	-60250	-8195	257002		5.32	404.5	1.08	12270			1.5	Si
SLU 41	319	-60167	-8213	1044763		5.31	404.5	1.08	12270			1.49	Si
SLU 78	109	-69903	-8489	225986		6.17	404.5	1.08	12270			1.45	Si
SLU 78	319	-68525	-8519	1068576		6.05	404.5	1.08	12270			1.44	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	109	-41285	12922	2658666		3.65	404.5	1.56	17695			1.37	Si
SLV 4	319	-32508	12559	820904		2.87	404.5	1.41	15940			1.27	Si
SLV 16	109	-53067	-23034	-2295909		4.69	404.5	1.63	18405			0.8	No, Vu<V
SLV 16	319	-58444	-23241	593402		5.16	404.5	1.63	18405			0.79	No, Vu<V
SLV 1	109	-40921	13188	2595203		3.61	404.5	1.56	17623			1.34	Si
SLV 1	319	-31724	13367	680490		2.8	404.5	1.39	15783			1.18	Si
SLD 15	109	-49589	-12651	-894946		4.38	404.5	1.63	18405			1.45	Si
SLD 15	319	-50785	-12744	616689		4.48	404.5	1.63	18405			1.44	Si
SLV 14	109	-52703	-22769	-2359372		4.65	404.5	1.63	18405			0.81	No, Vu<V
SLV 14	319	-57661	-22433	452989		5.09	404.5	1.63	18405			0.82	No, Vu<V
SLD 16	109	-49589	-12651	-894946		4.38	404.5	1.63	18405			1.45	Si
SLD 16	319	-50785	-12744	616689		4.48	404.5	1.63	18405			1.44	Si
SLV 13	109	-52703	-22769	-2359372		4.65	404.5	1.63	18405			0.81	No, Vu<V
SLV 13	319	-57661	-22433	452989		5.09	404.5	1.63	18405			0.82	No, Vu<V
SLV 2	109	-40921	13188	2595203		3.61	404.5	1.56	17623			1.34	Si
SLV 2	319	-31724	13367	680490		2.8	404.5	1.39	15783			1.18	Si
SLV 3	109	-41285	12922	2658666		3.65	404.5	1.56	17695			1.37	Si
SLV 3	319	-32508	12559	820904		2.87	404.5	1.41	15940			1.27	Si
SLV 15	109	-53067	-23034	-2295909		4.69	404.5	1.63	18405			0.8	No, Vu<V
SLV 15	319	-58444	-23241	593402		5.16	404.5	1.63	18405			0.79	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 1	14	0.31	2.9	-32815	37919	350471	9.24	Si
SLV 2	14	0.31	2.9	-32815	37919	350471	9.24	Si
SLV 4	14	0.31	2.97	-33602	37919	356204	9.39	Si
SLV 3	14	0.31	2.97	-33602	37919	356204	9.39	Si
SLV 5	14	0.31	3.6	-40740	37919	402452	10.61	Si
SLV 6	14	0.31	3.6	-40740	37919	402452	10.61	Si
SLV 8	14	0.31	3.83	-43365	37919	416867	10.99	Si
SLV 7	14	0.31	3.83	-43365	37919	416867	10.99	Si
SLV 10	14	0.31	4.27	-48320	37919	440282	11.61	Si
SLV 9	14	0.31	4.27	-48320	37919	440282	11.61	Si

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 295.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\sigma_0$	M*	e*	a0*	aLim	Verifica
SLV 7	-38625	-45832	-330	0.033	45.277	0.961	50.107	844.398	No
SLV 8	-38625	-45832	-330	0.033	45.277	0.961	50.107	844.398	No
SLV 10	-41072	-48155	330	0.033	47.767	0.963	50.364	844.398	No



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 9	-41072	-48155	330	0.033	47.767	0.963	50.364	844.398	No
SLV 6	-36567	-44621	316	0.033	43.184	0.959	50.378	844.398	No
SLV 5	-36567	-44621	316	0.033	43.184	0.959	50.378	844.398	No
SLV 11	-43130	-49367	-316	0.034	49.861	0.964	51.028	844.398	No
SLV 12	-43130	-49367	-316	0.034	49.861	0.964	51.028	844.398	No
SLV 14	-47048	-52703	121	0.038	53.848	0.967	57.09	924.595	No
SLV 13	-47048	-52703	121	0.038	53.848	0.967	57.09	924.595	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.019	SLU 83	Si
V_SLU	1.375	SLU 83	Si
PF_SLV	2.204	SLV 3	Si
V_SLV	0.792	SLV 15	No
PFFP_SLV	9.243	SLV 1	Si
R_SLV	0.059	SLV 7	No

## Maschio 79

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1239.3	333.1	-1239.3	104.6	L3	L4	228.5	14	373	373	373			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 82	109	-17078	-794941	5.34	672429	0.846	No, M>Mu
SLU 82	482	-18724	-347268	5.85	602092	1.734	Si
SLU 81	109	-17057	-793103	5.33	673175	0.849	No, M>Mu
SLU 81	482	-18718	-347319	5.85	602419	1.734	Si
SLU 74	109	-16350	-749821	5.11	695942	0.928	No, M>Mu
SLU 74	482	-17899	-307981	5.6	640333	2.079	Si
SLU 84	109	-16841	-762689	5.26	680594	0.892	No, M>Mu
SLU 84	482	-18433	-312699	5.76	616249	1.971	Si
SLU 73	109	-16306	-765267	5.1	697230	0.911	No, M>Mu
SLU 73	482	-17804	-330800	5.57	644336	1.948	Si
SLU 76	109	-16069	-733015	5.02	703791	0.96	No, M>Mu
SLU 76	482	-17513	-296231	5.47	656146	2.215	Si
SLU 60	109	-15588	-738675	4.87	715594	0.969	No, M>Mu
SLU 60	482	-17004	-325767	5.32	675045	2.072	Si
SLU 75	109	-16371	-751660	5.12	695327	0.925	No, M>Mu
SLU 75	482	-17905	-307930	5.6	640053	2.079	Si
SLU 61	109	-15609	-740514	4.88	715120	0.966	No, M>Mu
SLU 61	482	-17010	-325717	5.32	674817	2.072	Si
SLU 83	109	-16820	-760850	5.26	681296	0.895	No, M>Mu
SLU 83	482	-18427	-312750	5.76	616559	1.971	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 12	109	-15209	-1259007	4.75	1061510	0.843	No, M>Mu
SLV 12	482	-7119	311823	2.23	665186	2.133	Si
SLV 10	109	-5709	542340	1.78	556954	1.027	Si
SLV 10	482	-18443	-766155	5.77	1112901	1.453	Si
SLD 7	109	-13671	-997073	4.27	1015636	1.019	Si
SLD 7	482	-9656	-3424	3.02	830651	242.587	Si
SLV 3	109	-15555	-1413528	4.86	1069943	0.757	No, M>Mu
SLV 3	482	-8856	-83158	2.77	782588	9.411	Si
SLV 11	109	-15209	-1259007	4.75	1061510	0.843	No, M>Mu
SLV 11	482	-7119	311823	2.23	665186	2.133	Si
SLD 8	109	-13671	-997073	4.27	1015636	1.019	Si
SLD 8	482	-9656	-3424	3.02	830651	242.587	Si
SLV 4	109	-15555	-1413528	4.86	1069943	0.757	No, M>Mu
SLV 4	482	-8856	-83158	2.77	782588	9.411	Si
SLV 8	109	-16903	-1621312	5.28	1096063	0.676	No, M>Mu
SLV 8	482	-6091	303659	1.9	587490	1.935	Si
SLV 7	109	-16903	-1621312	5.28	1096063	0.676	No, M>Mu
SLV 7	482	-6091	303659	1.9	587490	1.935	Si
SLV 9	109	-5709	542340	1.78	556954	1.027	Si
SLV 9	482	-18443	-766155	5.77	1112901	1.453	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	$\sigma N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 62	109	-15351	143	-706423		5.36	204.7	1.08	3105			21.73	Si
SLU 62	482	-16713	132	-291198		5.22	228.5	1.08	3466			26.33	Si
SLU 43	109	-12967	154	-635675		4.73	195.68	1.08	2968			19.31	Si
SLU 43	482	-13921	157	-270985		4.35	228.5	1.08	3466			22.11	Si
SLU 81	109	-17057	151	-793103		5.99	203.26	1.08	3083			20.48	Si
SLU 81	482	-18718	140	-347319		5.85	228.5	1.08	3466			24.77	Si
SLU 61	109	-15609	156	-740514		5.56	200.42	1.08	3040			19.5	Si
SLU 61	482	-17010	146	-325717		5.32	228.5	1.08	3466			23.77	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLU 44	109	-13002	137	-638739		4.75	195.37	1.08	2963			21.62	Si
SLU 44	482	-13932	142	-270901		4.36	228.5	1.08	3466			24.33	Si
SLU 53	109	-14881	141	-695393		5.25	202.56	1.08	3072			21.73	Si
SLU 53	482	-16185	135	-286429		5.06	228.5	1.08	3466			25.73	Si
SLU 52	109	-14837	146	-710840		5.32	199.02	1.08	3018			20.74	Si
SLU 52	482	-16090	141	-309249		5.03	228.5	1.08	3466			24.62	Si
SLU 82	109	-17078	141	-794941		6.01	203.11	1.08	3080			21.92	Si
SLU 82	482	-18724	131	-347268		5.85	228.5	1.08	3466			26.39	Si
SLU 64	109	-14436	138	-690102		5.17	199.34	1.08	3023			21.85	Si
SLU 64	482	-15636	142	-292537		4.89	228.5	1.08	3466			24.36	Si
SLU 60	109	-15588	166	-738675		5.55	200.59	1.08	3042			18.34	Si
SLU 60	482	-17004	154	-325767		5.32	228.5	1.08	3466			22.44	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLV 6	109	-7403	6765	180036		2.31	228.5	1.3	4146			0.61	No, Vu<V
SLV 6	482	-17416	5948	-774319		5.94	209.37	1.63	4763			0.8	No, Vu<V
SLV 9	109	-5709	8616	542340		7.06	57.74	1.63	1314			0.15	No, Vu<V
SLV 9	482	-18443	6946	-766155		6.04	218.12	1.63	4962			0.71	No, Vu<V
SLV 10	109	-5709	8616	542340		7.06	57.74	1.63	1314			0.15	No, Vu<V
SLV 10	482	-18443	6946	-766155		6.04	218.12	1.63	4962			0.71	No, Vu<V
SLV 4	109	-15555	-5246	-1413528		15.84	70.14	1.63	1596			0.3	No, Vu<V
SLV 4	482	-8856	-3451	-83158		2.77	228.5	1.39	4437			1.29	Si
SLV 3	109	-15555	-5246	-1413528		15.84	70.14	1.63	1596			0.3	No, Vu<V
SLV 3	482	-8856	-3451	-83158		2.77	228.5	1.39	4437			1.29	Si
SLV 8	109	-16903	-8392	-1621312		21.95	55	1.63	1251			0.15	No, Vu<V
SLV 8	482	-6091	-6721	303659		2.25	193.2	1.28	3472			0.52	No, Vu<V
SLV 12	109	-15209	-6541	-1259007		11.51	94.4	1.63	2148			0.33	No, Vu<V
SLV 12	482	-7119	-5724	311823		2.41	211.34	1.31	3889			0.68	No, Vu<V
SLV 11	109	-15209	-6541	-1259007		11.51	94.4	1.63	2148			0.33	No, Vu<V
SLV 11	482	-7119	-5724	311823		2.41	211.34	1.31	3889			0.68	No, Vu<V
SLV 7	109	-16903	-8392	-1621312		21.95	55	1.63	1251			0.15	No, Vu<V
SLV 7	482	-6091	-6721	303659		2.25	193.2	1.28	3472			0.52	No, Vu<V
SLV 5	109	-7403	6765	180036		2.31	228.5	1.3	4146			0.61	No, Vu<V
SLV 5	482	-17416	5948	-774319		5.94	209.37	1.63	4763			0.8	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.03 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.31	3.46	-11059	10223	55510	5.43	Si
SLV 12	14	0.31	3.46	-11059	10223	55510	5.43	Si
SLV 7	14	0.31	3.68	-11761	10223	57556	5.63	Si
SLV 8	14	0.31	3.68	-11761	10223	57556	5.63	Si
SLV 16	14	0.31	3.68	-11763	10223	57563	5.63	Si
SLV 15	14	0.31	3.68	-11763	10223	57563	5.63	Si
SLV 13	14	0.31	4.09	-13070	10223	60898	5.96	Si
SLV 14	14	0.31	4.09	-13070	10223	60898	5.96	Si
SLV 3	14	0.31	4.41	-14105	10223	63106	6.17	Si
SLV 4	14	0.31	4.41	-14105	10223	63106	6.17	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 295.5 Wa = 0.03 Ta = 0.166

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	a <sub>lim</sub>	Verifica
SLV 14	-15678	-7057	133	0.012	17.642	0.971	18.049	1400.956	No
SLV 13	-15678	-7057	133	0.012	17.642	0.971	18.049	1400.956	No
SLV 16	-12281	-9907	105	0.012	14.183	0.964	18.699	1400.956	No
SLV 15	-12281	-9907	105	0.012	14.183	0.964	18.699	1400.956	No
SLV 4	-8856	-15555	-80	0.013	10.701	0.954	19.406	1400.956	No
SLV 3	-8856	-15555	-80	0.013	10.701	0.954	19.406	1400.956	No
SLV 10	-18443	-5709	100	0.015	20.458	0.975	21.899	1400.956	No
SLV 9	-18443	-5709	100	0.015	20.458	0.975	21.899	1400.956	No
SLV 8	-6091	-16903	-47	0.015	7.896	0.94	23.162	1400.956	No
SLV 7	-6091	-16903	-47	0.015	7.896	0.94	23.162	1400.956	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0.846	SLU 82	No
V_SLU	18.34	SLU 60	Si
PF_SLV	0.676	SLV 7	No
V_SLV	0.149	SLV 7	No
PFFP_SLV	5.43	SLV 11	Si
R_SLV	0.013	SLV 13	No

## Maschio 80

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	I	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-1969.3	666.1	-1776.8	666.1	L3	L4	192.5	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>k</sub>	f <sub>vk0</sub>	f <sub>medio</sub>	$\tau_0$	f <sub>v0</sub>	$\mu$	$\phi$	f <sub>v,lim</sub>	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2





Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 82	199	-21887	-377250	4.06	1056480	2.8	Si
SLU 82	389	-25270	-7023	4.69	1032374	146.989	Si
SLU 84	199	-22181	-383129	4.12	1056375	2.757	Si
SLU 84	389	-25464	-12167	4.72	1029469	84.609	Si
SLU 77	199	-21743	-378689	4.03	1056392	2.79	Si
SLU 77	389	-24706	-21722	4.58	1039878	47.872	Si
SLU 78	199	-21709	-378422	4.03	1056358	2.791	Si
SLU 78	389	-24683	-20864	4.58	1040149	49.855	Si
SLU 80	199	-21498	-375391	3.99	1056035	2.813	Si
SLU 80	389	-24376	-21806	4.52	1043624	47.859	Si
SLU 74	199	-21449	-372810	3.98	1055932	2.832	Si
SLU 74	389	-24512	-16578	4.55	1042137	62.863	Si
SLU 81	199	-21921	-377517	4.07	1056487	2.799	Si
SLU 81	389	-25292	-7882	4.69	1032045	130.941	Si
SLU 83	199	-22215	-383396	4.12	1056339	2.755	Si
SLU 83	389	-25486	-13026	4.73	1029122	79.007	Si
SLU 79	199	-21532	-375658	3.99	1056101	2.811	Si
SLU 79	389	-24398	-22665	4.53	1043384	46.036	Si
SLU 75	199	-21415	-372543	3.97	1055854	2.834	Si
SLU 75	389	-24489	-15720	4.54	1042389	66.311	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 6	199	-8124	-278655	1.51	685497	2.46	Si
SLV 6	389	-14242	149755	2.64	1074376	7.174	Si
SLV 2	199	-13575	-635783	2.52	1037249	1.631	Si
SLV 2	389	-25042	458141	4.65	1493818	3.261	Si
SLV 16	199	-15472	120974	2.87	1139329	9.418	Si
SLV 16	389	-7793	-489274	1.45	661293	1.352	Si
SLV 15	199	-15472	120974	2.87	1139329	9.418	Si
SLV 15	389	-7793	-489274	1.45	661293	1.352	Si
SLV 5	199	-8124	-278655	1.51	685497	2.46	Si
SLV 5	389	-14242	149755	2.64	1074376	7.174	Si
SLV 4	199	-17606	-696616	3.27	1241568	1.782	Si
SLV 4	389	-28182	442838	5.23	1551800	3.504	Si
SLV 1	199	-13575	-635783	2.52	1037249	1.631	Si
SLV 1	389	-25042	458141	4.65	1493818	3.261	Si
SLV 14	199	-11440	181807	2.12	909864	5.005	Si
SLV 14	389	-4652	-473971	0	0	0	No, $e \geq l/2$
SLV 3	199	-17606	-696616	3.27	1241568	1.782	Si
SLV 3	389	-28182	442838	5.23	1551800	3.504	Si
SLV 13	199	-11440	181807	2.12	909864	5.005	Si
SLV 13	389	-4652	-473971	0	0	0	No, $e \geq l/2$

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 78	199	-21709	-4432	-378422		4.03	192.5	1.08	5839			1.32	Si
SLU 78	389	-24683	-4439	-20864		4.58	192.5	1.08	5839			1.32	Si
SLU 75	199	-21415	-4475	-372543		3.97	192.5	1.08	5839			1.3	Si
SLU 75	389	-24489	-4482	-15720		4.54	192.5	1.08	5839			1.3	Si
SLU 81	199	-21921	-4680	-377517		4.07	192.5	1.08	5839			1.25	Si
SLU 81	389	-25292	-4689	-7882		4.69	192.5	1.08	5839			1.25	Si
SLU 74	199	-21449	-4466	-372810		3.98	192.5	1.08	5839			1.31	Si
SLU 74	389	-24512	-4474	-16578		4.55	192.5	1.08	5839			1.31	Si
SLU 77	199	-21743	-4423	-378689		4.03	192.5	1.08	5839			1.32	Si
SLU 77	389	-24706	-4431	-21722		4.58	192.5	1.08	5839			1.32	Si
SLU 84	199	-22181	-4647	-383129		4.12	192.5	1.08	5839			1.26	Si
SLU 84	389	-25464	-4654	-12167		4.72	192.5	1.08	5839			1.25	Si
SLU 82	199	-21887	-4690	-377250		4.06	192.5	1.08	5839			1.25	Si
SLU 82	389	-25270	-4696	-7023		4.69	192.5	1.08	5839			1.24	Si
SLU 73	199	-20888	-4458	-363455		3.88	192.5	1.07	5779			1.3	Si
SLU 73	389	-23972	-4463	-10946		4.45	192.5	1.08	5839			1.31	Si
SLU 76	199	-21182	-4415	-369334		3.93	192.5	1.08	5819			1.32	Si
SLU 76	389	-24167	-4421	-16090		4.48	192.5	1.08	5839			1.32	Si
SLU 83	199	-22215	-4638	-383396		4.12	192.5	1.08	5839			1.26	Si
SLU 83	389	-25486	-4646	-13026		4.73	192.5	1.08	5839			1.26	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 6	199	-8124	-6606	-278655		1.56	185.85	1.15	5961			0.9	No, $V_u < V$
SLV 6	389	-14242	-5684	149755		2.64	192.5	1.36	7340			1.29	Si
SLV 2	199	-13575	-12165	-635783		3.27	148.24	1.49	6174			0.51	No, $V_u < V$
SLV 2	389	-25042	-11980	458141		4.65	192.5	1.63	8759			0.73	No, $V_u < V$
SLV 16	199	-15472	6071	120974		2.87	192.5	1.41	7586			1.25	Si
SLV 16	389	-7793	5873	-489274		2.77	100.39	1.39	3901			0.66	No, $V_u < V$
SLV 3	199	-17606	-11622	-696616		3.7	170.05	1.57	7489			0.64	No, $V_u < V$
SLV 3	389	-28182	-12011	442838		5.23	192.5	1.63	8759			0.73	No, $V_u < V$
SLV 1	199	-13575	-12165	-635783		3.27	148.24	1.49	6174			0.51	No, $V_u < V$
SLV 1	389	-25042	-11980	458141		4.65	192.5	1.63	8759			0.73	No, $V_u < V$
SLV 5	199	-8124	-6606	-278655		1.56	185.85	1.15	5961			0.9	No, $V_u < V$
SLV 5	389	-14242	-5684	149755		2.64	192.5	1.36	7340			1.29	Si
SLV 13	199	-11440	5528	181807		2.12	192.5	1.26	6780			1.23	Si
SLV 13	389	-4652	5905	-473971		0	0	0.83	0			0	No, $V_u < V$
SLV 14	199	-11440	5528	181807		2.12	192.5	1.26	6780			1.23	Si
SLV 14	389	-4652	5905	-473971		0	0	0.83	0			0	No, $V_u < V$
SLV 15	199	-15472	6071	120974		2.87	192.5	1.41	7586			1.25	Si
SLV 15	389	-7793	5873	-489274		2.77	100.39	1.39	3901			0.66	No, $V_u < V$



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	199	-17606	-11622	-696616		3.7	170.05	1.57	7489			0.64	No, Vu<V
SLV 4	389	-28182	-12011	442838		5.23	192.5	1.63	8759			0.73	No, Vu<V

#### Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 13	14	0.31	1.47	-7938	17636	97742	5.54	Si
SLV 14	14	0.31	1.47	-7938	17636	97742	5.54	Si
SLV 9	14	0.31	1.57	-8449	17636	103116	5.85	Si
SLV 10	14	0.31	1.57	-8449	17636	103116	5.85	Si
SLV 15	14	0.31	2.12	-11425	17636	132201	7.5	Si
SLV 16	14	0.31	2.12	-11425	17636	132201	7.5	Si
SLV 5	14	0.31	2.3	-12374	17636	140685	7.98	Si
SLV 6	14	0.31	2.3	-12374	17636	140685	7.98	Si
SLV 12	14	0.31	3.72	-20070	17636	195356	11.08	Si
SLV 11	14	0.31	3.72	-20070	17636	195356	11.08	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 295.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 3	-25914	-17376	-19	0.039	29.214	0.97	58.853	924.595	No
SLV 4	-25914	-17376	-19	0.039	29.214	0.97	58.853	924.595	No
SLV 1	-24227	-13784	-17	0.04	27.497	0.969	59.274	924.595	No
SLV 2	-24227	-13784	-17	0.04	27.497	0.969	59.274	924.595	No
SLV 8	-20824	-19803	-7	0.04	24.032	0.965	60.632	844.398	No
SLV 7	-20824	-19803	-7	0.04	24.032	0.965	60.632	844.398	No
SLV 15	-5749	-12335	25	0.043	8.753	0.917	68.592	924.595	No
SLV 16	-5749	-12335	25	0.043	8.753	0.917	68.592	924.595	No
SLV 12	-14774	-18290	6	0.041	17.88	0.954	62.851	844.398	No
SLV 11	-14774	-18290	6	0.041	17.88	0.954	62.851	844.398	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF SLU	2.755	SLU 83	Si
V SLU	1.243	SLU 82	Si
PF SLV	0	SLV 13	No
V SLV	0	SLV 13	No
PFFP SLV	5.542	SLV 13	Si
R SLV	0.064	SLV 3	No

## Maschio 81

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1676.8	666.1	-1288.8	666.1	L3	L4	388	28	373	373	373			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedlo	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 81	199	-53286	-548849	4.9	4113028	7.494	Si
SLU 81	389	-55313	-367563	5.09	4023684	10.947	Si
SLU 79	199	-52703	-528486	4.85	4135383	7.825	Si
SLU 79	389	-54259	-333938	4.99	4072385	12.195	Si
SLU 80	199	-52654	-528784	4.85	4137162	7.824	Si
SLU 80	389	-54204	-332711	4.99	4074805	12.247	Si
SLU 75	199	-52210	-531136	4.81	4153107	7.819	Si
SLU 75	389	-53917	-345935	4.96	4087145	11.815	Si
SLU 74	199	-52258	-530837	4.81	4151422	7.821	Si
SLU 74	389	-53972	-347162	4.97	4084795	11.766	Si
SLU 78	199	-53124	-534534	4.89	4119381	7.706	Si
SLU 78	389	-54762	-338230	5.04	4049763	11.973	Si
SLU 83	199	-54199	-552247	4.99	4074993	7.379	Si
SLU 83	389	-56158	-359858	5.17	3981130	11.063	Si
SLU 77	199	-53172	-534235	4.89	4117503	7.707	Si
SLU 77	389	-54817	-339457	5.05	4047208	11.923	Si
SLU 82	199	-53237	-549148	4.9	4114930	7.493	Si
SLU 82	389	-55258	-366335	5.09	4026360	10.991	Si
SLU 84	199	-54151	-552545	4.98	4077088	7.379	Si
SLU 84	389	-56103	-358630	5.16	3984010	11.109	Si

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 1	199	-31893	-1906417	2.94	4700705	2.466	Si
SLV 1	389	-35885	1401720	3.3	5079706	3.624	Si
SLV 14	199	-26793	1044332	2.47	4148712	3.973	Si
SLV 14	389	-28271	-1864038	2.6	4316460	2.316	Si
SLV 13	199	-26793	1044332	2.47	4148712	3.973	Si
SLV 13	389	-28271	-1864038	2.6	4316460	2.316	Si
SLV 3	199	-43635	-1760873	4.02	5682580	3.227	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 3	389	-43753	1384384	4.03	5690396	4.11	Si
SLV 6	199	-16409	-1043457	1.51	2789797	2.674	Si
SLV 6	389	-24040	278930	2.21	3819150	13.692	Si
SLV 5	199	-16409	-1043457	1.51	2789797	2.674	Si
SLV 5	389	-24040	278930	2.21	3819150	13.692	Si
SLV 16	199	-38535	1189876	3.55	5305628	4.459	Si
SLV 16	389	-36139	-1881374	3.33	5102267	2.712	Si
SLV 4	199	-43635	-1760873	4.02	5682580	3.227	Si
SLV 4	389	-43753	1384384	4.03	5690396	4.11	Si
SLV 15	199	-38535	1189876	3.55	5305628	4.459	Si
SLV 15	389	-36139	-1881374	3.33	5102267	2.712	Si
SLV 2	199	-31893	-1906417	2.94	4700705	2.466	Si
SLV 2	389	-35885	1401720	3.3	5079706	3.624	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 78	199	-53124	-1794	-534534		4.89	388	1.08	11769			6.56	Si
SLU 78	389	-54762	-1793	-338230		5.04	388	1.08	11769			6.56	Si
SLU 80	199	-52654	-1782	-528784		4.85	388	1.08	11769			6.6	Si
SLU 80	389	-54204	-1781	-332711		4.99	388	1.08	11769			6.61	Si
SLU 75	199	-52210	-1744	-531136		4.81	388	1.08	11769			6.75	Si
SLU 75	389	-53917	-1743	-345935		4.96	388	1.08	11769			6.75	Si
SLU 82	199	-53237	-1769	-549148		4.9	388	1.08	11769			6.65	Si
SLU 82	389	-55258	-1769	-366335		5.09	388	1.08	11769			6.65	Si
SLU 83	199	-54199	-1812	-552247		4.99	388	1.08	11769			6.49	Si
SLU 83	389	-56158	-1812	-359858		5.17	388	1.08	11769			6.5	Si
SLU 77	199	-53172	-1787	-534235		4.89	388	1.08	11769			6.59	Si
SLU 77	389	-54817	-1786	-339457		5.05	388	1.08	11769			6.59	Si
SLU 74	199	-52258	-1737	-530837		4.81	388	1.08	11769			6.78	Si
SLU 74	389	-53972	-1736	-347162		4.97	388	1.08	11769			6.78	Si
SLU 79	199	-52703	-1775	-528486		4.85	388	1.08	11769			6.63	Si
SLU 79	389	-54259	-1774	-333938		4.99	388	1.08	11769			6.63	Si
SLU 84	199	-54151	-1820	-552545		4.98	388	1.08	11769			6.47	Si
SLU 84	389	-56103	-1819	-358630		5.16	388	1.08	11769			6.47	Si
SLU 81	199	-53286	-1762	-548849		4.9	388	1.08	11769			6.68	Si
SLU 81	389	-55313	-1761	-367563		5.09	388	1.08	11769			6.68	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	199	-31893	-17739	-1906417		2.94	388	1.42	15432			0.87	No, Vu<V
SLV 2	389	-35885	-17772	1401720		3.3	388	1.49	16230			0.91	No, Vu<V
SLV 1	199	-31893	-17739	-1906417		2.94	388	1.42	15432			0.87	No, Vu<V
SLV 1	389	-35885	-17772	1401720		3.3	388	1.49	16230			0.91	No, Vu<V
SLD 1	199	-33851	-8238	-1018398		3.12	388	1.46	15823			1.92	Si
SLD 1	389	-35983	-8251	461161		3.31	388	1.5	16250			1.97	Si
SLV 15	199	-38535	15437	1189876		3.55	388	1.54	16760			1.09	Si
SLV 15	389	-36139	15470	-1881374		3.33	388	1.5	16281			1.05	Si
SLV 14	199	-26793	15439	1044332		2.47	388	1.33	14412			0.93	No, Vu<V
SLV 14	389	-28271	15109	-1864038		2.63	384.19	1.36	14619			0.97	No, Vu<V
SLV 13	199	-26793	15439	1044332		2.47	388	1.33	14412			0.93	No, Vu<V
SLV 13	389	-28271	15109	-1864038		2.63	384.19	1.36	14619			0.97	No, Vu<V
SLV 4	199	-43635	-17742	-1760873		4.02	388	1.63	17654			1	No, Vu<V
SLV 4	389	-43753	-17410	1384384		4.03	388	1.63	17654			1.01	Si
SLV 16	199	-38535	15437	1189876		3.55	388	1.54	16760			1.09	Si
SLV 16	389	-36139	15470	-1881374		3.33	388	1.5	16281			1.05	Si
SLV 3	199	-43635	-17742	-1760873		4.02	388	1.63	17654			1	No, Vu<V
SLV 3	389	-43753	-17410	1384384		4.03	388	1.63	17654			1.01	Si
SLD 2	199	-33851	-8238	-1018398		3.12	388	1.46	15823			1.92	Si
SLD 2	389	-35983	-8251	461161		3.31	388	1.5	16250			1.97	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.31	1.83	-19840	35546	236249	6.65	Si
SLV 9	14	0.31	1.83	-19840	35546	236249	6.65	Si
SLV 6	14	0.31	1.98	-21475	35546	252011	7.09	Si
SLV 5	14	0.31	1.98	-21475	35546	252011	7.09	Si
SLV 14	14	0.31	2.67	-29008	35546	317363	8.93	Si
SLV 13	14	0.31	2.67	-29008	35546	317363	8.93	Si
SLV 2	14	0.31	3.17	-34456	35546	357175	10.05	Si
SLV 1	14	0.31	3.17	-34456	35546	357175	10.05	Si
SLV 16	14	0.31	3.54	-38500	35546	382672	10.77	Si
SLV 15	14	0.31	3.54	-38500	35546	382672	10.77	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 295.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 10	-19729	-13091	-201	0.035	25.845	0.938	53.906	844.398	No
SLV 9	-19729	-13091	-201	0.035	25.845	0.938	53.906	844.398	No
SLV 3	-35669	-38685	69	0.039	42.027	0.96	59.453	924.595	No
SLV 4	-35669	-38685	69	0.039	42.027	0.96	59.453	924.595	No
SLV 6	-21380	-13700	-196	0.035	27.517	0.941	54.309	844.398	No
SLV 5	-21380	-13700	-196	0.035	27.517	0.941	54.309	844.398	No
SLV 7	-40399	-51045	203	0.036	46.838	0.963	54.359	844.398	No
SLV 8	-40399	-51045	203	0.036	46.838	0.963	54.359	844.398	No
SLV 12	-38747	-50436	198	0.036	45.158	0.962	54.518	844.398	No
SLV 11	-38747	-50436	198	0.036	45.158	0.962	54.518	844.398	No



## Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.379	SLU 84	Si
V_SLU	6.468	SLU 84	Si
PF_SLV	2.316	SLV 13	Si
V_SLV	0.87	SLV 1	No
PFFP_SLV	6.646	SLV 9	Si
R_SLV	0.064	SLV 9	No

## Maschio 82

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1188.8	666.1	-800.8	666.1	L3	L4	388	28	373	373	373			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 78	199	-53124	502722	4.89	4119365	8.194	Si
SLU 78	389	-55616	445209	5.12	4008796	9.004	Si
SLU 82	199	-52461	483925	4.83	4144204	8.564	Si
SLU 82	389	-55322	441991	5.09	4023242	9.103	Si
SLU 83	199	-53844	503734	4.96	4090223	8.12	Si
SLU 83	389	-56662	454517	5.22	3954265	8.7	Si
SLU 84	199	-53782	503973	4.95	4092801	8.121	Si
SLU 84	389	-56592	452430	5.21	3958026	8.748	Si
SLU 77	199	-53186	502483	4.9	4116965	8.193	Si
SLU 77	389	-55685	447296	5.13	4005331	8.955	Si
SLU 74	199	-51864	482434	4.77	4164912	8.633	Si
SLU 74	389	-54415	436857	5.01	4065493	9.306	Si
SLU 79	199	-52791	500539	4.86	4132075	8.255	Si
SLU 79	389	-55198	443718	5.08	4029214	9.081	Si
SLU 75	199	-51803	482673	4.77	4166956	8.633	Si
SLU 75	389	-54345	434770	5	4068571	9.358	Si
SLU 81	199	-52523	483685	4.83	4141983	8.563	Si
SLU 81	389	-55391	444078	5.1	4019867	9.052	Si
SLU 80	199	-52730	500778	4.85	4134369	8.256	Si
SLU 80	389	-55129	441630	5.07	4032531	9.131	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 9	199	-16968	930530	1.56	2870982	3.085	Si
SLV 9	389	-25138	-226774	2.31	3953280	17.433	Si
SLV 3	199	-36098	-1249028	3.32	5098600	4.082	Si
SLV 3	389	-34440	1866843	3.17	4947887	2.65	Si
SLV 16	199	-44687	1784870	4.11	5750847	3.222	Si
SLV 16	389	-45211	-1255869	4.16	5783642	4.605	Si
SLV 13	199	-33281	1880650	3.06	4837759	2.572	Si
SLV 13	389	-37686	-1285340	3.47	5235500	4.073	Si
SLV 4	199	-36098	-1249028	3.32	5098600	4.082	Si
SLV 4	389	-34440	1866843	3.17	4947887	2.65	Si
SLV 15	199	-44687	1784870	4.11	5750847	3.222	Si
SLV 15	389	-45211	-1255869	4.16	5783642	4.605	Si
SLV 10	199	-16968	930530	1.56	2870982	3.085	Si
SLV 10	389	-25138	-226774	2.31	3953280	17.433	Si
SLV 14	199	-33281	1880650	3.06	4837759	2.572	Si
SLV 14	389	-37686	-1285340	3.47	5235500	4.073	Si
SLV 1	199	-24692	-1153248	2.27	3899160	3.381	Si
SLV 1	389	-26916	1837372	2.48	4162868	2.266	Si
SLV 2	199	-24692	-1153248	2.27	3899160	3.381	Si
SLV 2	389	-26916	1837372	2.48	4162868	2.266	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 77	199	-53186	1152	502483		4.9	388	1.08	11769			10.21	Si
SLU 77	389	-55685	1151	447296		5.13	388	1.08	11769			10.22	Si
SLU 76	199	-51368	1124	480889		4.73	388	1.08	11769			10.47	Si
SLU 76	389	-53813	1124	429800		4.95	388	1.08	11769			10.47	Si
SLU 82	199	-52461	1124	483925		4.83	388	1.08	11769			10.47	Si
SLU 82	389	-55322	1124	441991		5.09	388	1.08	11769			10.48	Si
SLU 80	199	-52730	1161	500778		4.85	388	1.08	11769			10.13	Si
SLU 80	389	-55129	1161	441630		5.07	388	1.08	11769			10.14	Si
SLU 83	199	-53844	1158	503734		4.96	388	1.08	11769			10.17	Si
SLU 83	389	-56662	1157	454517		5.22	388	1.08	11769			10.17	Si
SLU 84	199	-53782	1169	503973		4.95	388	1.08	11769			10.07	Si
SLU 84	389	-56592	1168	452430		5.21	388	1.08	11769			10.07	Si
SLU 79	199	-52791	1150	500539		4.86	388	1.08	11769			10.23	Si
SLU 79	389	-55198	1149	443718		5.08	388	1.08	11769			10.24	Si
SLU 75	199	-51803	1119	482673		4.77	388	1.08	11769			10.52	Si
SLU 75	389	-54345	1118	434770		5	388	1.08	11769			10.53	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 81	199	-52523	1113	483685		4.83	388	1.08	11769			10.57	Si
SLU 81	389	-55391	1112	444078		5.1	388	1.08	11769			10.58	Si
SLU 78	199	-53124	1164	502722		4.89	388	1.08	11769			10.11	Si
SLU 78	389	-55616	1163	445209		5.12	388	1.08	11769			10.12	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 1	199	-24692	-14526	-1153248		2.27	388	1.29	13992			0.96	No, Vu<V
SLV 1	389	-26916	-15223	1837372		2.55	377.21	1.34	14185			0.93	No, Vu<V
SLV 10	199	-16968	9009	930530		1.56	388	1.15	12447			1.38	Si
SLV 10	389	-25138	6622	-226774		2.31	388	1.3	14081			2.13	Si
SLV 13	199	-33281	18023	1880650		3.06	388	1.45	15710			0.87	No, Vu<V
SLV 13	389	-37686	17291	-1285340		3.47	388	1.53	16591			0.96	No, Vu<V
SLV 15	199	-44687	15985	1784870		4.11	388	1.63	17654			1.1	Si
SLV 15	389	-45211	16682	-1255869		4.16	388	1.63	17654			1.06	Si
SLV 4	199	-36098	-16564	-1249028		3.32	388	1.5	16273			0.98	No, Vu<V
SLV 4	389	-34440	-15833	1866843		3.17	388	1.47	15941			1.01	Si
SLV 2	199	-24692	-14526	-1153248		2.27	388	1.29	13992			0.96	No, Vu<V
SLV 2	389	-26916	-15223	1837372		2.55	377.21	1.34	14185			0.93	No, Vu<V
SLV 14	199	-33281	18023	1880650		3.06	388	1.45	15710			0.87	No, Vu<V
SLV 14	389	-37686	17291	-1285340		3.47	388	1.53	16591			0.96	No, Vu<V
SLV 3	199	-36098	-16564	-1249028		3.32	388	1.5	16273			0.98	No, Vu<V
SLV 3	389	-34440	-15833	1866843		3.17	388	1.47	15941			1.01	Si
SLV 9	199	-16968	9009	930530		1.56	388	1.15	12447			1.38	Si
SLV 9	389	-25138	6622	-226774		2.31	388	1.3	14081			2.13	Si
SLV 16	199	-44687	15985	1784870		4.11	388	1.63	17654			1.1	Si
SLV 16	389	-45211	16682	-1255869		4.16	388	1.63	17654			1.06	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.31	1.78	-19309	35546	231008	6.5	Si
SLV 5	14	0.31	1.78	-19309	35546	231008	6.5	Si
SLV 9	14	0.31	2.05	-22262	35546	259395	7.3	Si
SLV 10	14	0.31	2.05	-22262	35546	259395	7.3	Si
SLV 2	14	0.31	2.45	-26606	35546	297826	8.38	Si
SLV 1	14	0.31	2.45	-26606	35546	297826	8.38	Si
SLV 4	14	0.31	3.3	-35812	35546	366110	10.3	Si
SLV 3	14	0.31	3.3	-35812	35546	366110	10.3	Si
SLV 13	14	0.31	3.35	-36447	35546	370156	10.41	Si
SLV 14	14	0.31	3.35	-36447	35546	370156	10.41	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 295.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 5	-19635	-12818	-198	0.035	25.75	0.938	54.074	844.398	No
SLV 6	-19635	-12818	-198	0.035	25.75	0.938	54.074	844.398	No
SLV 16	-37150	-38205	71	0.039	43.533	0.961	59.222	924.595	No
SLV 15	-37150	-38205	71	0.039	43.533	0.961	59.222	924.595	No
SLV 12	-40458	-47817	203	0.036	46.898	0.963	54.351	844.398	No
SLV 11	-40458	-47817	203	0.036	46.898	0.963	54.351	844.398	No
SLV 7	-37834	-46078	198	0.036	44.228	0.961	54.514	844.398	No
SLV 8	-37834	-46078	198	0.036	44.228	0.961	54.514	844.398	No
SLV 9	-22259	-14557	-193	0.035	28.407	0.943	54.517	844.398	No
SLV 10	-22259	-14557	-193	0.035	28.407	0.943	54.517	844.398	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.12	SLU 83	Si
V_SLU	10.067	SLU 84	Si
PF_SLV	2.266	SLV 1	Si
V_SLV	0.872	SLV 13	No
PFFP_SLV	6.499	SLV 5	Si
R_SLV	0.064	SLV 5	No

## Maschio 83

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-700.8	666.1	-515.8	666.1	L3	L4	185	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 80	199	-21713	355332	4.19	974938	2.744	Si
SLU 80	389	-26900	71564	5.19	901955	12.604	Si
SLU 77	199	-21906	356986	4.23	974336	2.729	Si
SLU 77	389	-27159	72181	5.24	895231	12.403	Si
SLU 84	199	-22009	353925	4.25	973947	2.752	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 84	389	-27407	61189	5.29	888515	14.521	Si
SLU 75	199	-21204	342924	4.09	975744	2.845	Si
SLU 75	389	-26312	62901	5.08	916174	14.565	Si
SLU 81	199	-21400	340187	4.13	975569	2.868	Si
SLU 81	389	-26639	55009	5.14	908446	16.514	Si
SLU 83	199	-22056	354087	4.26	973758	2.75	Si
SLU 83	389	-27447	62739	5.3	887403	14.144	Si
SLU 79	199	-21760	355495	4.2	974808	2.742	Si
SLU 79	389	-26941	73114	5.2	900932	12.322	Si
SLU 74	199	-21250	343086	4.1	975718	2.844	Si
SLU 74	389	-26352	64451	5.09	915255	14.201	Si
SLU 78	199	-21860	356824	4.22	974496	2.731	Si
SLU 78	389	-27119	70631	5.24	896292	12.69	Si
SLU 76	199	-21027	341325	4.06	975758	2.859	Si
SLU 76	389	-26066	62800	5.03	921647	14.676	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 13	199	-14187	717717	2.74	1018145	1.419	Si
SLV 13	389	-25439	467682	4.91	1407342	3.009	Si
SLV 16	199	-17602	725192	3.4	1175370	1.621	Si
SLV 16	389	-28225	438983	5.45	1446544	3.295	Si
SLV 10	199	-8983	365550	1.73	713011	1.951	Si
SLV 10	389	-15536	150949	3	1084350	7.184	Si
SLV 2	199	-10702	263561	2.07	822541	3.121	Si
SLV 2	389	-6431	532936	1.24	534453	1.003	Si
SLV 3	199	-14117	256086	2.73	1014551	3.962	Si
SLV 3	389	-9217	561636	1.78	728430	1.297	Si
SLV 15	199	-17602	725192	3.4	1175370	1.621	Si
SLV 15	389	-28225	438983	5.45	1446544	3.295	Si
SLV 14	199	-14187	717717	2.74	1018145	1.419	Si
SLV 14	389	-25439	467682	4.91	1407342	3.009	Si
SLV 9	199	-8983	365550	1.73	713011	1.951	Si
SLV 9	389	-15536	150949	3	1084350	7.184	Si
SLV 1	199	-10702	263561	2.07	822541	3.121	Si
SLV 1	389	-6431	532936	1.24	534453	1.003	Si
SLV 4	199	-14117	256086	2.73	1014551	3.962	Si
SLV 4	389	-9217	561636	1.78	728430	1.297	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 81	199	-21400	5202	340187		4.13	185	1.08	5612			1.08	Si
SLU 81	389	-26639	5209	55009		5.14	185	1.08	5612			1.08	Si
SLU 83	199	-22056	5308	354087		4.26	185	1.08	5612			1.06	Si
SLU 83	389	-27447	5315	62739		5.3	185	1.08	5612			1.06	Si
SLU 77	199	-21906	5206	356986		4.23	185	1.08	5612			1.08	Si
SLU 77	389	-27159	5213	72181		5.24	185	1.08	5612			1.08	Si
SLU 84	199	-22009	5319	353925		4.25	185	1.08	5612			1.06	Si
SLU 84	389	-27407	5325	61189		5.29	185	1.08	5612			1.05	Si
SLU 74	199	-21250	5100	343086		4.1	185	1.08	5612			1.1	Si
SLU 74	389	-26352	5107	64451		5.09	185	1.08	5612			1.1	Si
SLU 79	199	-21760	5158	355495		4.2	185	1.08	5612			1.09	Si
SLU 79	389	-26941	5165	73114		5.2	185	1.08	5612			1.09	Si
SLU 82	199	-21353	5213	340025		4.12	185	1.08	5612			1.08	Si
SLU 82	389	-26599	5219	53459		5.14	185	1.08	5612			1.08	Si
SLU 75	199	-21204	5111	342924		4.09	185	1.08	5612			1.1	Si
SLU 75	389	-26312	5117	62901		5.08	185	1.08	5612			1.1	Si
SLU 80	199	-21713	5169	355332		4.19	185	1.08	5612			1.09	Si
SLU 80	389	-26900	5175	71564		5.19	185	1.08	5612			1.08	Si
SLU 78	199	-21860	5217	356824		4.22	185	1.08	5612			1.08	Si
SLU 78	389	-27119	5223	70631		5.24	185	1.08	5612			1.07	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 15	199	-17602	12184	725192		4.08	153.9	1.63	7002			0.57	No, Vu<V
SLV 15	389	-28225	12492	438983		5.45	185	1.63	8417			0.67	No, Vu<V
SLV 16	199	-17602	12184	725192		4.08	153.9	1.63	7002			0.57	No, Vu<V
SLV 16	389	-28225	12492	438983		5.45	185	1.63	8417			0.67	No, Vu<V
SLV 3	199	-14117	-5539	256086		2.73	185	1.38	7140			1.29	Si
SLV 3	389	-9217	-5760	561636		3.48	94.7	1.53	4053			0.7	No, Vu<V
SLV 10	199	-8983	6297	365550		2.06	155.42	1.25	5423			0.86	No, Vu<V
SLV 10	389	-15536	6254	150949		3	185	1.43	7424			1.19	Si
SLV 9	199	-8983	6297	365550		2.06	155.42	1.25	5423			0.86	No, Vu<V
SLV 9	389	-15536	6254	150949		3	185	1.43	7424			1.19	Si
SLV 2	199	-10702	-5394	263561		2.07	185	1.25	6457			1.2	Si
SLV 2	389	-6431	-5691	532936		7.95	28.9	1.63	1315			0.23	No, Vu<V
SLV 4	199	-14117	-5539	256086		2.73	185	1.38	7140			1.29	Si
SLV 4	389	-9217	-5760	561636		3.48	94.7	1.53	4053			0.7	No, Vu<V
SLV 1	199	-10702	-5394	263561		2.07	185	1.25	6457			1.2	Si
SLV 1	389	-6431	-5691	532936		7.95	28.9	1.63	1315			0.23	No, Vu<V
SLV 14	199	-14187	12330	717717		4.03	125.73	1.63	5721			0.46	No, Vu<V
SLV 14	389	-25439	12561	467682		4.91	185	1.63	8417			0.67	No, Vu<V
SLV 13	199	-14187	12330	717717		4.03	125.73	1.63	5721			0.46	No, Vu<V
SLV 13	389	-25439	12561	467682		4.91	185	1.63	8417			0.67	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.31	1.78	-9209	16948	110170	6.5	Si



Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.31	1.78	-9209	16948	110170	6.5	Si
SLV 1	14	0.31	1.8	-9301	16948	111076	6.55	Si
SLV 2	14	0.31	1.8	-9301	16948	111076	6.55	Si
SLV 10	14	0.31	2.4	-12411	16948	139683	8.24	Si
SLV 9	14	0.31	2.4	-12411	16948	139683	8.24	Si
SLV 3	14	0.31	2.43	-12581	16948	141121	8.33	Si
SLV 4	14	0.31	2.43	-12581	16948	141121	8.33	Si
SLV 14	14	0.31	3.86	-19973	16948	191384	11.29	Si
SLV 13	14	0.31	3.86	-19973	16948	191384	11.29	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 295.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 14	-22925	-9605	-22	0.039	26.061	0.968	58.95	924.595	No
SLV 13	-22925	-9605	-22	0.039	26.061	0.968	58.95	924.595	No
SLV 15	-24974	-12471	2	0.04	28.147	0.97	59.774	924.595	No
SLV 16	-24974	-12471	2	0.04	28.147	0.97	59.774	924.595	No
SLV 12	-20911	-14815	40	0.039	24.01	0.966	58.185	844.398	No
SLV 11	-20911	-14815	40	0.039	24.01	0.966	58.185	844.398	No
SLV 7	-15379	-13959	48	0.039	18.384	0.956	58.556	844.398	No
SLV 8	-15379	-13959	48	0.039	18.384	0.956	58.556	844.398	No
SLV 9	-14082	-5264	-40	0.039	17.065	0.953	59.618	844.398	No
SLV 10	-14082	-5264	-40	0.039	17.065	0.953	59.618	844.398	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.729	SLU 77	Si
V_SLU	1.054	SLU 84	Si
PF_SLV	1.003	SLV 1	Si
V_SLV	0.231	SLV 1	No
PFFP_SLV	6.5	SLV 5	Si
R_SLV	0.064	SLV 13	No

## Maschio 84

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1100.3	-470.9	-1100.3	-331.4	L3	Z medio 312 cm	139.5	28	203	203	203			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>k</sub>	f <sub>vk0</sub>	f <sub>medio</sub>	$\tau_0$	f <sub>v0</sub>	$\mu$	$\phi$	f <sub>v,lim</sub>	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 82	109	-25429	-219956	6.51	356145	1.619	Si
SLU 82	312	-16848	48299	4.31	552885	11.447	Si
SLU 83	109	-26304	-235086	6.73	317954	1.353	Si
SLU 83	312	-17467	50281	4.47	549495	10.928	Si
SLU 77	109	-26050	-238860	6.67	329345	1.379	Si
SLU 77	312	-17299	45660	4.43	550585	12.058	Si
SLU 80	109	-26010	-238598	6.66	331163	1.388	Si
SLU 80	312	-17263	44400	4.42	550800	12.405	Si
SLU 78	109	-25980	-236637	6.65	332455	1.405	Si
SLU 78	312	-17246	44914	4.42	550897	12.266	Si
SLU 74	109	-25246	-225952	6.46	363704	1.61	Si
SLU 74	312	-16732	44424	4.28	553335	12.456	Si
SLU 76	109	-25158	-224209	6.44	367279	1.638	Si
SLU 76	312	-16661	42667	4.27	553579	12.975	Si
SLU 84	109	-26233	-232863	6.72	321142	1.379	Si
SLU 84	312	-17415	49535	4.46	549845	11.1	Si
SLU 81	109	-25499	-222179	6.53	353205	1.59	Si
SLU 81	312	-16900	49045	4.33	552664	11.268	Si
SLU 79	109	-26080	-240821	6.68	328044	1.362	Si
SLU 79	312	-17315	45146	4.43	550484	12.194	Si

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLD 14	109	-18987	-294502	4.86	797482	2.708	Si
SLD 14	312	-11720	14206	3	616737	43.415	Si
SLV 9	109	-27530	-450314	7.05	812577	1.804	Si
SLV 9	312	-17481	28556	4.48	772691	27.059	Si
SLV 16	109	-15288	-354167	3.91	724756	2.046	Si
SLV 16	312	-8314	-6813	2.13	478888	70.289	Si
SLV 15	109	-15288	-354167	3.91	724756	2.046	Si
SLV 15	312	-8314	-6813	2.13	478888	70.289	Si
SLV 14	109	-21242	-483919	5.44	822185	1.699	Si
SLV 14	312	-12171	664	3.12	632438	952.377	Si
SLV 13	109	-21242	-483919	5.44	822185	1.699	Si
SLV 13	312	-12171	664	3.12	632438	952.377	Si
SLV 10	109	-27530	-450314	7.05	812577	1.804	Si
SLV 10	312	-17481	28556	4.48	772691	27.059	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLD 13	109	-18987	-294502	4.86	797482	2.708	Si
SLD 13	312	-11720	14206	3	616737	43.415	Si
SLV 5	109	-26967	-291757	6.9	818154	2.804	Si
SLV 5	312	-18175	44986	4.65	784936	17.448	Si
SLV 6	109	-26967	-291757	6.9	818154	2.804	Si
SLV 6	312	-18175	44986	4.65	784936	17.448	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 71	109	-23680	-1877	-224086		6.06	139.5	1.08	4231			2.25	Si
SLU 71	312	-15637	-1123	30278		4	139.5	1.08	4231			3.77	Si
SLU 79	109	-26080	-2086	-240821		6.68	139.5	1.08	4231			2.03	Si
SLU 79	312	-17315	-1405	45146		4.43	139.5	1.08	4231			3.01	Si
SLU 74	109	-25246	-1906	-225952		6.46	139.5	1.08	4231			2.22	Si
SLU 74	312	-16732	-1278	44424		4.28	139.5	1.08	4231			3.31	Si
SLU 84	109	-26233	-1969	-232863		6.72	139.5	1.08	4231			2.15	Si
SLU 84	312	-17415	-1381	49535		4.46	139.5	1.08	4231			3.06	Si
SLU 58	109	-24543	-1884	-229368		6.28	139.5	1.08	4231			2.25	Si
SLU 58	312	-16240	-1240	39103		4.16	139.5	1.08	4231			3.41	Si
SLU 56	109	-24514	-1873	-227406		6.28	139.5	1.08	4231			2.26	Si
SLU 56	312	-16224	-1234	39617		4.15	139.5	1.08	4231			3.43	Si
SLU 80	109	-26010	-2048	-238598		6.66	139.5	1.08	4231			2.07	Si
SLU 80	312	-17263	-1381	44400		4.42	139.5	1.08	4231			3.06	Si
SLU 77	109	-26050	-2074	-238860		6.67	139.5	1.08	4231			2.04	Si
SLU 77	312	-17299	-1399	45660		4.43	139.5	1.08	4231			3.02	Si
SLU 78	109	-25980	-2036	-236637		6.65	139.5	1.08	4231			2.08	Si
SLU 78	312	-17246	-1375	44914		4.42	139.5	1.08	4231			3.08	Si
SLU 83	109	-26304	-2007	-235086		6.73	139.5	1.08	4231			2.11	Si
SLU 83	312	-17467	-1405	50281		4.47	139.5	1.08	4231			3.01	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 10	109	-27530	-4821	-450314		7.05	139.5	1.63	6347			1.32	Si
SLV 10	312	-17481	-2507	28556		4.48	139.5	1.63	6347			2.53	Si
SLV 8	109	-7121	2420	140752		1.82	139.5	1.2	4679			1.93	Si
SLV 8	312	-5318	1063	20062		1.36	139.5	1.11	4319			4.06	Si
SLV 2	109	-19363	-1884	44605		4.96	139.5	1.63	6347			3.37	Si
SLV 2	312	-14485	-3448	55431		3.71	139.5	1.57	6152			1.78	Si
SLV 9	109	-27530	-4821	-450314		7.05	139.5	1.63	6347			1.32	Si
SLV 9	312	-17481	-2507	28556		4.48	139.5	1.63	6347			2.53	Si
SLV 12	109	-7684	2198	-17805		1.97	139.5	1.23	4792			2.18	Si
SLV 12	312	-4624	2269	3632		1.18	139.5	1.07	4180			1.84	Si
SLV 5	109	-26967	-4600	-291757		6.9	139.5	1.63	6347			1.38	Si
SLV 5	312	-18175	-3713	44986		4.65	139.5	1.63	6347			1.71	Si
SLV 7	109	-7121	2420	140752		1.82	139.5	1.2	4679			1.93	Si
SLV 7	312	-5318	1063	20062		1.36	139.5	1.11	4319			4.06	Si
SLV 1	109	-19363	-1884	44605		4.96	139.5	1.63	6347			3.37	Si
SLV 1	312	-14485	-3448	55431		3.71	139.5	1.57	6152			1.78	Si
SLV 11	109	-7684	2198	-17805		1.97	139.5	1.23	4792			2.18	Si
SLV 11	312	-4624	2269	3632		1.18	139.5	1.07	4180			1.84	Si
SLV 6	109	-26967	-4600	-291757		6.9	139.5	1.63	6347			1.38	Si
SLV 6	312	-18175	-3713	44986		4.65	139.5	1.63	6347			1.71	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 210.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.29	1.72	-6714	3648	80776	22.14	Si
SLV 7	14	0.29	1.72	-6714	3648	80776	22.14	Si
SLV 11	14	0.29	1.75	-6844	3648	82078	22.5	Si
SLV 12	14	0.29	1.75	-6844	3648	82078	22.5	Si
SLV 4	14	0.29	3.26	-12746	3648	130788	35.85	Si
SLV 3	14	0.29	3.26	-12746	3648	130788	35.85	Si
SLV 16	14	0.29	3.37	-13179	3648	133556	36.61	Si
SLV 15	14	0.29	3.37	-13179	3648	133556	36.61	Si
SLV 2	14	0.29	4.62	-18046	3648	157116	43.07	Si
SLV 1	14	0.29	4.62	-18046	3648	157116	43.07	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 210.5 Wa = 0.05 Ta = 0.0246

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 8	-5318	-7121	-171	0.049	6.535	0.95	74.489	361.308	No
SLV 7	-5318	-7121	-171	0.049	6.535	0.95	74.489	361.308	No
SLV 11	-4624	-7684	-157	0.049	5.831	0.945	75.012	361.308	No
SLV 12	-4624	-7684	-157	0.049	5.831	0.945	75.012	361.308	No
SLV 3	-10628	-13409	-116	0.063	11.937	0.971	94.44	370.385	No
SLV 4	-10628	-13409	-116	0.063	11.937	0.971	94.44	370.385	No
SLV 16	-8314	-15288	-67	0.067	9.581	0.965	100.861	370.385	No
SLV 15	-8314	-15288	-67	0.067	9.581	0.965	100.861	370.385	No
SLV 2	-14485	-19363	-53	0.069	15.865	0.978	102.088	370.385	No
SLV 1	-14485	-19363	-53	0.069	15.865	0.978	102.088	370.385	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.353	SLU 83	Si
V_SLU	2.029	SLU 79	Si
PF_SLV	1.699	SLV 13	Si
V_SLV	1.317	SLV 9	Si
PFFP_SLV	22.143	SLV 7	Si





Stato limite	Coeff.s.	Comb.	Verifica
R SLV	0.206	SLV 7	No

## Maschio 85

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1100.3	-331.4	-1100.3	-35.4	L3	Z medio 397 cm	296	28	288	203	373			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 74	109	-45353	83581	5.47	2203166	26.36	Si
SLU 74	312	-41358	436739	4.99	2371291	5.43	Si
SLU 77	109	-46232	61965	5.58	2156760	34.806	Si
SLU 77	312	-42247	434825	5.1	2339931	5.381	Si
SLU 80	109	-46002	58082	5.55	2169245	37.348	Si
SLU 80	312	-41977	425519	5.06	2349828	5.522	Si
SLU 79	109	-45992	52170	5.55	2169775	41.591	Si
SLU 79	312	-41982	423990	5.07	2349616	5.542	Si
SLU 83	109	-47227	85845	5.7	2100185	24.465	Si
SLU 83	312	-43143	456937	5.21	2304804	5.044	Si
SLU 81	109	-46347	107461	5.59	2150427	20.011	Si
SLU 81	312	-42254	458851	5.1	2339657	5.099	Si
SLU 75	109	-45362	89493	5.47	2202664	24.613	Si
SLU 75	312	-41352	438269	4.99	2371486	5.411	Si
SLU 84	109	-47237	91757	5.7	2099602	22.882	Si
SLU 84	312	-43137	458467	5.2	2305045	5.028	Si
SLU 82	109	-46357	113373	5.59	2149882	18.963	Si
SLU 82	312	-42248	460381	5.1	2339876	5.082	Si
SLU 78	109	-46242	67878	5.58	2156220	31.766	Si
SLU 78	312	-42241	436355	5.1	2340149	5.363	Si

### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 5	109	-36514	-487089	4.41	3455537	7.094	Si
SLV 5	312	-30404	55698	3.67	3148807	56.533	Si
SLV 11	109	-25148	592330	3.03	2797679	4.723	Si
SLV 11	312	-25292	505784	3.05	2808350	5.552	Si
SLV 9	109	-30682	-487704	3.7	3165141	6.49	Si
SLV 9	312	-29835	-18709	3.6	3114674	166.478	Si
SLV 6	109	-36514	-487089	4.41	3455537	7.094	Si
SLV 6	312	-30404	55698	3.67	3148807	56.533	Si
SLV 7	109	-30980	592945	3.74	3182398	5.367	Si
SLV 7	312	-25861	580191	3.12	2850041	4.912	Si
SLV 4	109	-39721	215651	4.79	3572865	16.568	Si
SLV 4	312	-28115	483427	3.39	3005825	6.218	Si
SLV 12	109	-25148	592330	3.03	2797679	4.723	Si
SLV 12	312	-25292	505784	3.05	2808350	5.552	Si
SLV 3	109	-39721	215651	4.79	3572865	16.568	Si
SLV 3	312	-28115	483427	3.39	3005825	6.218	Si
SLV 10	109	-30682	-487704	3.7	3165141	6.49	Si
SLV 10	312	-29835	-18709	3.6	3114674	166.478	Si
SLV 8	109	-30980	592945	3.74	3182398	5.367	Si
SLV 8	312	-25861	580191	3.12	2850041	4.912	Si

### Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 40	109	-39108	869	113959		4.72	296	1.08	8979			10.33	Si
SLU 40	312	-35798	524	408374		4.32	296	1.08	8979			17.13	Si
SLU 10	109	-33320	967	73267		4.02	296	1.08	8979			9.29	Si
SLU 10	312	-30258	642	317674		3.65	296	1.04	8639			13.46	Si
SLU 73	109	-44249	1089	105255		5.34	296	1.08	8979			8.25	Si
SLU 73	312	-40195	655	430367		4.85	296	1.08	8979			13.71	Si
SLU 65	109	-39316	931	77115		4.74	296	1.08	8979			9.64	Si
SLU 65	312	-35412	498	357956		4.27	296	1.08	8979			18.02	Si
SLU 61	109	-42677	1054	80800		5.15	296	1.08	8979			8.52	Si
SLU 61	312	-38762	662	399694		4.68	296	1.08	8979			13.57	Si
SLU 44	109	-35636	963	44542		4.3	296	1.08	8979			9.33	Si
SLU 44	312	-31926	561	297270		3.85	296	1.07	8861			15.8	Si
SLU 19	109	-35428	901	81386		4.27	296	1.08	8979			9.97	Si
SLU 19	312	-32312	587	347687		3.9	296	1.08	8913			15.19	Si
SLU 31	109	-37000	935	105840		4.46	296	1.08	8979			9.6	Si
SLU 31	312	-33744	579	378361		4.07	296	1.08	8979			15.5	Si
SLU 52	109	-40569	1120	72682		4.89	296	1.08	8979			8.01	Si
SLU 52	312	-36709	717	369681		4.43	296	1.08	8979			12.52	Si
SLU 82	109	-46357	1023	113373		5.59	296	1.08	8979			8.78	Si
SLU 82	312	-42248	599	460381		5.1	296	1.08	8979			14.98	Si



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 10	109	-30682	-11291	-487704		3.7	296	1.57	13043			1.16	Si
SLV 10	312	-29835	-9911	-18709		3.6	296	1.55	12874			1.3	Si
SLV 4	109	-39721	9261	215651		4.79	296	1.63	13468			1.45	Si
SLV 4	312	-28115	5873	483427		3.39	296	1.51	12530			2.13	Si
SLV 9	109	-30682	-11291	-487704		3.7	296	1.57	13043			1.16	Si
SLV 9	312	-29835	-9911	-18709		3.6	296	1.55	12874			1.3	Si
SLV 3	109	-39721	9261	215651		4.79	296	1.63	13468			1.45	Si
SLV 3	312	-28115	5873	483427		3.39	296	1.51	12530			2.13	Si
SLV 14	109	-21942	-8238	-110410		2.65	296	1.36	11295			1.37	Si
SLV 14	312	-27581	-5460	78055		3.33	296	1.5	12423			2.28	Si
SLV 7	109	-30980	12314	592945		3.74	296	1.58	13103			1.06	Si
SLV 7	312	-25861	10323	580191		3.12	296	1.46	12079			1.17	Si
SLV 11	109	-25148	8880	592330		3.03	296	1.44	11936			1.34	Si
SLV 11	312	-25292	8588	505784		3.05	296	1.44	11965			1.39	Si
SLV 12	109	-25148	8880	592330		3.03	296	1.44	11936			1.34	Si
SLV 12	312	-25292	8588	505784		3.05	296	1.44	11965			1.39	Si
SLV 8	109	-30980	12314	592945		3.74	296	1.58	13103			1.06	Si
SLV 8	312	-25861	10323	580191		3.12	296	1.46	12079			1.17	Si
SLV 13	109	-21942	-8238	-110410		2.65	296	1.36	11295			1.37	Si
SLV 13	312	-27581	-5460	78055		3.33	296	1.5	12423			2.28	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 210.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.29	3.27	-27104	15580	277894	17.84	Si
SLV 12	14	0.29	3.27	-27104	15580	277894	17.84	Si
SLV 16	14	0.29	3.32	-27485	15580	280352	17.99	Si
SLV 15	14	0.29	3.32	-27485	15580	280352	17.99	Si
SLV 8	14	0.29	3.51	-29085	15580	290243	18.63	Si
SLV 7	14	0.29	3.51	-29085	15580	290243	18.63	Si
SLV 14	14	0.29	3.59	-29793	15580	294389	18.9	Si
SLV 13	14	0.29	3.59	-29793	15580	294389	18.9	Si
SLV 3	14	0.29	4.11	-34090	15580	316598	20.32	Si
SLV 4	14	0.29	4.11	-34090	15580	316598	20.32	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 210.5 Wa = 0.05 Ta = 0.0495

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 4	-28115	-39721	249	0.044	31.985	0.968	65.803	531.404	No
SLV 3	-28115	-39721	249	0.044	31.985	0.968	65.803	531.404	No
SLV 2	-29478	-41381	244	0.044	33.372	0.969	66.269	531.404	No
SLV 1	-29478	-41381	244	0.044	33.372	0.969	66.269	531.404	No
SLV 13	-27581	-21942	-213	0.045	31.441	0.968	67.533	531.404	No
SLV 14	-27581	-21942	-213	0.045	31.441	0.968	67.533	531.404	No
SLV 16	-26218	-20282	-208	0.045	30.054	0.966	67.636	531.404	No
SLV 15	-26218	-20282	-208	0.045	30.054	0.966	67.636	531.404	No
SLV 7	-25861	-30980	95	0.049	29.691	0.966	73.651	503.176	No
SLV 8	-25861	-30980	95	0.049	29.691	0.966	73.651	503.176	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.028	SLU 84	Si
V_SLU	8.014	SLU 52	Si
PF_SLV	4.723	SLV 11	Si
V_SLV	1.064	SLV 7	Si
PFFP_SLV	17.837	SLV 11	Si
R_SLV	0.124	SLV 3	No

## Maschio 86

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-972.8	220.1	-972.8	666.1	L3	L4	446	14	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 55	109	-51023	3152201	8.17	0	0	No, Rottura per schiacciamento
SLU 55	482	-31704	-176439	5.08	2663099	15.094	Si
SLU 57	109	-51015	3439970	8.17	0	0	No, Rottura per schiacciamento
SLU 57	482	-31527	-77051	5.05	2672676	34.687	Si
SLU 56	109	-51010	3450824	8.17	0	0	No, Rottura per schiacciamento
SLU 56	482	-31505	-72383	5.05	2673873	36.94	Si
SLU 54	109	-51993	3136016	8.33	0	0	No, Rottura per schiacciamento



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 54	482	-32484	-208051	5.2	2617498	12.581	Si
SLU 53	109	-51987	3146870	8.33	0	0	No, Rottura per schiacciamento
SLU 53	482	-32462	-203383	5.2	2618883	12.877	Si
SLU 63	109	-53439	3309521	8.56	0	0	No, Rottura per schiacciamento
SLU 63	482	-33361	-184820	5.34	2559903	13.851	Si
SLU 62	109	-53433	3320375	8.56	0	0	No, Rottura per schiacciamento
SLU 62	482	-33339	-180152	5.34	2561461	14.218	Si
SLU 84	109	-57884	3772492	9.27	0	0	No, Rottura per schiacciamento
SLU 84	482	-36231	-136067	5.8	2324209	17.081	Si
SLU 52	109	-52000	2848247	8.33	0	0	No, Rottura per schiacciamento
SLU 52	482	-32661	-307439	5.23	2606438	8.478	Si
SLU 61	109	-54416	3005566	8.71	0	0	No, Rottura per schiacciamento
SLU 61	482	-34318	-315820	5.5	2489333	7.882	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLD 8	109	-36988	3449401	5.92	4249459	1.232	Si
SLD 8	482	-23487	55894	3.76	3625196	64.858	Si
SLV 8	109	-33090	5071523	5.3	4178623	0.824	No, M>Mu
SLV 8	482	-21572	398839	3.45	3450388	8.651	Si
SLV 12	109	-37816	5178402	6.06	4253064	0.821	No, M>Mu
SLV 12	482	-22090	405956	3.54	3499768	8.621	Si
SLV 11	109	-37816	5178402	6.06	4253064	0.821	No, M>Mu
SLV 11	482	-22090	405956	3.54	3499768	8.621	Si
SLD 7	109	-36988	3449401	5.92	4249459	1.232	Si
SLD 7	482	-23487	55894	3.76	3625196	64.858	Si
SLV 16	109	-46307	3318571	7.42	4058750	1.223	Si
SLV 16	482	-24762	-947	3.97	3729715	1000	Si
SLD 12	109	-38986	3497713	6.24	4251328	1.215	Si
SLD 12	482	-23703	58966	3.8	3643544	61.79	Si
SLV 7	109	-33090	5071523	5.3	4178623	0.824	No, M>Mu
SLV 7	482	-21572	398839	3.45	3450388	8.651	Si
SLV 15	109	-46307	3318571	7.42	4058750	1.223	Si
SLV 15	482	-24762	-947	3.97	3729715	1000	Si
SLD 11	109	-38986	3497713	6.24	4251328	1.215	Si
SLD 11	482	-23703	58966	3.8	3643544	61.79	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 37	109	-44958	2147	3478671		7.35	436.87	1.08	6626			3.09	Si
SLU 37	482	-27708	1102	86916		4.44	446	1.08	6764			6.14	Si
SLU 77	109	-55455	2228	3913795		8.88	446	1.08	6764			3.04	Si
SLU 77	482	-34375	993	-23630		5.51	446	1.08	6764			6.81	Si
SLU 72	109	-48840	2221	3576167		7.82	446	1.08	6764			3.05	Si
SLU 72	482	-29700	1118	33242		4.76	446	1.08	6764			6.05	Si
SLU 78	109	-55460	2220	3902941		8.88	446	1.08	6764			3.05	Si
SLU 78	482	-34397	987	-28298		5.51	446	1.08	6764			6.85	Si
SLU 80	109	-54486	2289	3926362		8.73	446	1.08	6764			2.95	Si
SLU 80	482	-33602	1065	6426		5.38	446	1.08	6764			6.35	Si
SLU 38	109	-44964	2139	3467817		7.34	437.62	1.08	6637			3.1	Si
SLU 38	482	-27731	1095	82248		4.44	446	1.08	6764			6.17	Si
SLU 29	109	-39311	2079	3128475		6.53	430.25	1.08	6526			3.14	Si
SLU 29	482	-23806	1155	113732		3.81	446	1.06	6643			5.75	Si
SLU 71	109	-48834	2229	3587021		7.82	446	1.08	6764			3.03	Si
SLU 71	482	-29677	1125	37910		4.75	446	1.08	6764			6.01	Si
SLU 79	109	-54480	2297	3937217		8.73	446	1.08	6764			2.94	Si
SLU 79	482	-33579	1071	11094		5.38	446	1.08	6764			6.31	Si
SLU 69	109	-49808	2160	3563599		7.98	446	1.08	6764			3.13	Si
SLU 69	482	-30473	1047	3186		4.88	446	1.08	6764			6.46	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 8	109	-33090	10010	5071523		11.3	209.2	1.63	4759			0.48	No, Vu<V
SLV 8	482	-21572	7722	398839		3.45	446	1.52	9518			1.23	Si
SLV 12	109	-37816	9934	5178402		10.46	258.19	1.63	5874			0.59	No, Vu<V
SLV 12	482	-22090	7450	405956		3.54	446	1.54	9621			1.29	Si
SLD 8	109	-36988	4725	3449401		6.79	389.23	1.63	8855			1.87	Si
SLD 8	482	-23487	3293	55894		3.76	446	1.59	9901			3.01	Si
SLV 5	109	-41594	-8126	-598545		6.66	446	1.63	10146			1.25	Si
SLV 5	482	-27481	-7261	-787462		4.4	446	1.63	10146			1.4	Si
SLV 11	109	-37816	9934	5178402		10.46	258.19	1.63	5874			0.59	No, Vu<V
SLV 11	482	-22090	7450	405956		3.54	446	1.54	9621			1.29	Si
SLD 7	109	-36988	4725	3449401		6.79	389.23	1.63	8855			1.87	Si
SLD 7	482	-23487	3293	55894		3.76	446	1.59	9901			3.01	Si
SLV 7	109	-33090	10010	5071523		11.3	209.2	1.63	4759			0.48	No, Vu<V
SLV 7	482	-21572	7722	398839		3.45	446	1.52	9518			1.23	Si
SLV 6	109	-41594	-8126	-598545		6.66	446	1.63	10146			1.25	Si
SLV 6	482	-27481	-7261	-787462		4.4	446	1.63	10146			1.4	Si
SLV 10	109	-46320	-8201	-491666		7.42	446	1.63	10146			1.24	Si
SLV 10	482	-27998	-7534	-780346		4.48	446	1.63	10146			1.35	Si
SLV 9	109	-46320	-8201	-491666		7.42	446	1.63	10146			1.24	Si
SLV 9	482	-27998	-7534	-780346		4.48	446	1.63	10146			1.35	Si



## Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.03 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 4	14	0.31	3.56	-22207	19955	110201	5.52	Si
SLV 3	14	0.31	3.56	-22207	19955	110201	5.52	Si
SLV 7	14	0.31	3.72	-23221	19955	113075	5.67	Si
SLV 8	14	0.31	3.72	-23221	19955	113075	5.67	Si
SLV 2	14	0.31	3.97	-24799	19955	117166	5.87	Si
SLV 1	14	0.31	3.97	-24799	19955	117166	5.87	Si
SLV 11	14	0.31	4.27	-26683	19955	121456	6.09	Si
SLV 12	14	0.31	4.27	-26683	19955	121456	6.09	Si
SLV 5	14	0.31	5.1	-31861	19955	129889	6.51	Si
SLV 6	14	0.31	5.1	-31861	19955	129889	6.51	Si

## Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 295.5 Wa = 0.03 Ta = 0.166

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 4	-23036	-30551	120	0.016	26.734	0.963	23.492	1400.956	No
SLV 3	-23036	-30551	120	0.016	26.734	0.963	23.492	1400.956	No
SLV 15	-24762	-46307	-121	0.016	28.49	0.965	23.701	1400.956	No
SLV 16	-24762	-46307	-121	0.016	28.49	0.965	23.701	1400.956	No
SLV 13	-26534	-48858	-125	0.016	30.294	0.967	23.708	1400.956	No
SLV 14	-26534	-48858	-125	0.016	30.294	0.967	23.708	1400.956	No
SLV 1	-24809	-33103	115	0.016	28.538	0.965	24	1400.956	No
SLV 2	-24809	-33103	115	0.016	28.538	0.965	24	1400.956	No
SLV 10	-27998	-46320	-46	0.019	31.784	0.969	27.831	1400.956	No
SLV 9	-27998	-46320	-46	0.019	31.784	0.969	27.831	1400.956	No

## Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 52	No
V_SLU	2.945	SLU 79	Si
PF_SLV	0.821	SLV 11	No
V_SLV	0.475	SLV 7	No
PFFP_SLV	5.523	SLV 3	Si
R_SLV	0.017	SLV 3	No

## Maschio 87

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-944.8	-335.9	-1100.3	-335.9	L3	L4	155.5	28	373	373	373			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

## Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 78	109	-9952	449174	2.29	556639	1.239	Si
SLU 78	319	-14466	164739	3.32	665990	4.043	Si
SLU 75	109	-9668	443014	2.22	546783	1.234	Si
SLU 75	319	-14138	154706	3.25	661046	4.273	Si
SLU 40	109	-8017	391614	1.84	482433	1.232	Si
SLU 40	319	-12092	120981	2.78	619616	5.122	Si
SLU 76	109	-9664	444473	2.22	546639	1.23	Si
SLU 76	319	-14162	149851	3.25	661425	4.414	Si
SLU 73	109	-9380	438313	2.15	536426	1.224	Si
SLU 73	319	-13833	139818	3.18	656042	4.692	Si
SLU 83	109	-9977	460902	2.29	557486	1.21	Si
SLU 83	319	-14573	170942	3.35	667487	3.905	Si
SLU 84	109	-9999	465026	2.3	558264	1.201	Si
SLU 84	319	-14690	161295	3.37	669077	4.148	Si
SLU 81	109	-9693	454742	2.23	547661	1.204	Si
SLU 81	319	-14244	160908	3.27	662696	4.118	Si
SLU 82	109	-9716	458866	2.23	548467	1.195	Si
SLU 82	319	-14361	151262	3.3	664454	4.393	Si
SLU 80	109	-9932	447884	2.28	555979	1.241	Si
SLU 80	319	-14413	166315	3.31	665213	4	Si

## Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 12	109	-2385	236690	0	0	0	No, $e \geq l/2$
SLV 12	319	-1349	344419	0	0	0	No, $e \geq l/2$
SLV 11	109	-2385	236690	0	0	0	No, $e \geq l/2$
SLV 11	319	-1349	344419	0	0	0	No, $e \geq l/2$
SLV 3	109	-6342	652780	0	0	0	No, $e \geq l/2$
SLV 3	319	-16329	-282037	3.75	879890	3.12	Si
SLV 8	109	-2911	442567	0	0	0	No, $e \geq l/2$
SLV 8	319	-6430	88777	1.48	439487	4.95	Si
SLV 14	109	-7001	-59172	1.61	472675	7.988	Si
SLV 14	319	-2796	507903	0	0	0	No, $e \geq l/2$



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 16	109	-4587	-33477	1.05	325865	9.734	Si
SLV 16	319	608	570102	0	0	0	No, Trazione
SLV 15	109	-4587	-33477	1.05	325865	9.734	Si
SLV 15	319	608	570102	0	0	0	No, Trazione
SLV 4	109	-6342	652780	0	0	0	No, $e \geq l/2$
SLV 4	319	-16329	-282037	3.75	879890	3.12	Si
SLV 13	109	-7001	-59172	1.61	472675	7.988	Si
SLV 13	319	-2796	507903	0	0	0	No, $e \geq l/2$
SLV 7	109	-2911	442567	0	0	0	No, $e \geq l/2$
SLV 7	319	-6430	88777	1.48	439487	4.95	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 31	109	-7682	2989	371062	3.11	88.34	0.97	2398				0.8	No, Vu<V
SLU 31	319	-11564	3843	109537	2.66	155.5	0.91	3961				1.03	Si
SLU 81	109	-9693	3490	454742	3.74	92.5	1.05	2731				0.78	No, Vu<V
SLU 81	319	-14244	4558	160908	3.27	155.5	0.99	4318				0.95	No, Vu<V
SLU 82	109	-9716	3587	458866	3.79	91.56	1.06	2720				0.76	No, Vu<V
SLU 82	319	-14361	4670	151262	3.3	155.5	1	4334				0.93	No, Vu<V
SLU 73	109	-9380	3501	438313	3.6	93.07	1.04	2698				0.77	No, Vu<V
SLU 73	319	-13833	4472	139818	3.18	155.5	0.98	4263				0.95	No, Vu<V
SLU 75	109	-9668	3452	443014	3.6	95.78	1.04	2779				0.8	No, Vu<V
SLU 75	319	-14138	4414	154706	3.25	155.5	0.99	4304				0.98	No, Vu<V
SLU 76	109	-9664	3492	444473	3.62	95.27	1.04	2771				0.79	No, Vu<V
SLU 76	319	-14162	4457	149851	3.25	155.5	0.99	4307				0.97	No, Vu<V
SLU 42	109	-8301	3067	397774	3.31	89.49	1	2499				0.81	No, Vu<V
SLU 42	319	-12421	4026	131014	2.85	155.5	0.94	4075				1.01	Si
SLU 83	109	-9977	3481	460902	3.76	94.65	1.06	2803				0.81	No, Vu<V
SLU 83	319	-14573	4543	170942	3.35	155.5	1	4362				0.96	No, Vu<V
SLU 40	109	-8017	3075	391614	3.3	86.71	1	2418				0.79	No, Vu<V
SLU 40	319	-12092	4040	120981	2.78	155.5	0.93	4031				1	No, Vu<V
SLU 84	109	-9999	3579	465026	3.81	93.73	1.06	2791				0.78	No, Vu<V
SLU 84	319	-14690	4655	161295	3.37	155.5	1.01	4377				0.94	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 11	109	-2385	-1601	236690	0	0	0.83	0				0	No, Vu<V
SLV 11	319	-1349	-1094	344419	0	0	0.83	0				0	No, Vu<V
SLV 13	109	-7001	-5576	-59172	1.61	155.5	1.15	5028				0.9	No, Vu<V
SLV 13	319	-2796	-2359	507903	0	0	0.83	0				0	No, Vu<V
SLV 4	109	-6342	10212	652780	0	0	0.83	0				0	No, Vu<V
SLV 4	319	-16329	8148	-282037	3.75	155.5	1.58	6894				0.85	No, Vu<V
SLV 3	109	-6342	10212	652780	0	0	0.83	0				0	No, Vu<V
SLV 3	319	-16329	8148	-282037	3.75	155.5	1.58	6894				0.85	No, Vu<V
SLV 7	109	-2911	3392	442567	0	0	0.83	0				0	No, Vu<V
SLV 7	319	-6430	2456	88777	1.48	155.5	1.13	4914				2	Si
SLV 12	109	-2385	-1601	236690	0	0	0.83	0				0	No, Vu<V
SLV 12	319	-1349	-1094	344419	0	0	0.83	0				0	No, Vu<V
SLV 8	109	-2911	3392	442567	0	0	0.83	0				0	No, Vu<V
SLV 8	319	-6430	2456	88777	1.48	155.5	1.13	4914				2	Si
SLV 15	109	-4587	-6429	-33477	1.05	155.5	1.04	4546				0.71	No, Vu<V
SLV 15	319	608	-3687	570102	0	0	0.83	0				0	No, Vu<V
SLV 14	109	-7001	-5576	-59172	1.61	155.5	1.15	5028				0.9	No, Vu<V
SLV 14	319	-2796	-2359	507903	0	0	0.83	0				0	No, Vu<V
SLV 16	109	-4587	-6429	-33477	1.05	155.5	1.04	4546				0.71	No, Vu<V
SLV 16	319	608	-3687	570102	0	0	0.83	0				0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 16	14	0.31	0	93	14246	0	0	No, Trazione
SLV 15	14	0.31	0	93	14246	0	0	No, Trazione
SLV 12	14	0.31	0.26	-1126	14246	15437	1.08	Si
SLV 11	14	0.31	0.26	-1126	14246	15437	1.08	Si
SLV 13	14	0.31	0.76	-3301	14246	43343	3.04	Si
SLV 14	14	0.31	0.76	-3301	14246	43343	3.04	Si
SLV 8	14	0.31	1.28	-5565	14246	69765	4.9	Si
SLV 7	14	0.31	1.28	-5565	14246	69765	4.9	Si
SLV 9	14	0.31	2.86	-12439	14246	133427	9.37	Si
SLV 10	14	0.31	2.86	-12439	14246	133427	9.37	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 295.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	$\alpha_{lim}$	Verifica
SLV 7	-5451	-2911	-151	0.024	7.88	0.923	37.193	844.398	No
SLV 8	-5451	-2911	-151	0.024	7.88	0.923	37.193	844.398	No
SLV 12	-6151	-2385	-123	0.029	8.585	0.928	44.846	844.398	No
SLV 11	-6151	-2385	-123	0.029	8.585	0.928	44.846	844.398	No
SLV 10	-14119	-10431	156	0.031	16.664	0.959	47.041	844.398	No
SLV 9	-14119	-10431	156	0.031	16.664	0.959	47.041	844.398	No
SLV 4	-7423	-6342	-87	0.034	9.869	0.936	52.727	924.595	No
SLV 3	-7423	-6342	-87	0.034	9.869	0.936	52.727	924.595	No
SLV 14	-12147	-7001	92	0.035	14.66	0.954	53.051	924.595	No
SLV 13	-12147	-7001	92	0.035	14.66	0.954	53.051	924.595	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.195	SLU 82	Si



Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	0.758	SLV 82	No
PF_SLV	0	SLV 16	No
V_SLV	0	SLV 3	No
PFFP_SLV	0	SLV 16	No
R_SLV	0.044	SLV 7	No

## Maschio 88

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-626.8	-335.9	-626.8	104.6	L3	L4	440.5	14	373	373	373			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 84	109	-56353	-1143508	9.14	0	0	No, Rottura per schiacciamento
SLU 84	482	-34482	253084	5.59	2381589	9.41	Si
SLU 76	109	-54696	-1241026	8.87	0	0	No, Rottura per schiacciamento
SLU 76	482	-33182	231803	5.38	2480939	10.703	Si
SLU 83	109	-55260	-970700	8.96	0	0	No, Rottura per schiacciamento
SLU 83	482	-34133	252249	5.53	2409727	9.553	Si
SLU 73	109	-53877	-1252697	8.74	0	0	No, Rottura per schiacciamento
SLU 73	482	-32481	221179	5.27	2528365	11.431	Si
SLU 74	109	-53288	-959855	8.64	0	0	No, Rottura per schiacciamento
SLU 74	482	-32945	237282	5.34	2497498	10.525	Si
SLU 61	109	-50257	-1133390	8.15	0	0	No, Rottura per schiacciamento
SLU 61	482	-30302	181481	4.91	2648250	14.592	Si
SLU 79	109	-53692	-941342	8.71	0	0	No, Rottura per schiacciamento
SLU 79	482	-33301	241034	5.4	2472450	10.258	Si
SLU 75	109	-54381	-1132663	8.82	0	0	No, Rottura per schiacciamento
SLU 75	482	-33294	238118	5.4	2472999	10.386	Si
SLU 78	109	-55199	-1120992	8.95	0	0	No, Rottura per schiacciamento
SLU 78	482	-33995	248741	5.51	2420577	9.731	Si
SLU 63	109	-51076	-1121719	8.28	0	0	No, Rottura per schiacciamento
SLU 63	482	-31003	192104	5.03	2614221	13.608	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 5	109	-46322	-2063772	7.51	3930679	1.905	Si
SLV 5	482	-26052	250123	4.22	3754175	15.009	Si
SLD 10	109	-38856	-1215625	6.3	4145060	3.41	Si
SLD 10	482	-22904	54490	3.71	3511269	64.439	Si
SLV 1	109	-44926	-1352023	7.28	3995506	2.955	Si
SLV 1	482	-26239	618191	4.25	3766742	6.093	Si
SLV 10	109	-42566	-1911618	6.9	4079249	2.134	Si
SLV 10	482	-24079	-47527	3.9	3608721	75.93	Si
SLD 9	109	-38856	-1215625	6.3	4145060	3.41	Si
SLD 9	482	-22904	54490	3.71	3511269	64.439	Si
SLV 2	109	-44926	-1352023	7.28	3995506	2.955	Si
SLV 2	482	-26239	618191	4.25	3766742	6.093	Si
SLV 6	109	-46322	-2063772	7.51	3930679	1.905	Si
SLV 6	482	-26052	250123	4.22	3754175	15.009	Si
SLV 9	109	-42566	-1911618	6.9	4079249	2.134	Si
SLV 9	482	-24079	-47527	3.9	3608721	75.93	Si
SLD 5	109	-40427	-1281222	6.56	4127013	3.221	Si
SLD 5	482	-23733	180114	3.85	3580820	19.881	Si
SLD 6	109	-40427	-1281222	6.56	4127013	3.221	Si
SLD 6	482	-23733	180114	3.85	3580820	19.881	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 31	109	-45759	-2275	-1050376		7.42	440.5	1.08	6681			2.94	Si
SLU 31	482	-27666	-1403	212373		4.49	440.5	1.08	6681			4.76	Si
SLU 44	109	-43033	-2294	-1189637		6.98	440.5	1.08	6681			2.91	Si
SLU 44	482	-25425	-1424	109244		4.12	440.5	1.08	6681			4.69	Si
SLU 13	109	-41300	-2026	-1016916		6.7	440.5	1.08	6681			3.3	Si
SLU 13	482	-24888	-1191	162017		4.04	440.5	1.08	6681			5.61	Si
SLU 2	109	-34915	-2266	-987316		5.66	440.5	1.08	6681			2.95	Si
SLU 2	482	-20610	-1482	100438		3.34	440.5	1	6174			4.16	Si
SLU 65	109	-48310	-2236	-1211426		7.83	440.5	1.08	6681			2.99	Si
SLU 65	482	-28904	-1323	170224		4.69	440.5	1.08	6681			5.05	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 52	109	-48600	-2361	-1230907		7.88	440.5	1.08	6681			2.83	Si
SLU 52	482	-29002	-1447	160200		4.7	440.5	1.08	6681			4.62	Si
SLU 10	109	-40482	-2333	-1028587		6.56	440.5	1.08	6681			2.86	Si
SLU 10	482	-24186	-1505	151393		3.92	440.5	1.08	6651			4.42	Si
SLU 73	109	-53877	-2303	-1252697		8.74	440.5	1.08	6681			2.9	Si
SLU 73	482	-32481	-1345	221179		5.27	440.5	1.08	6681			4.97	Si
SLU 55	109	-49419	-2054	-1219236		8.01	440.5	1.08	6681			3.25	Si
SLU 55	482	-29703	-1133	170823		4.82	440.5	1.08	6681			5.9	Si
SLU 23	109	-40191	-2208	-1009106		6.52	440.5	1.08	6681			3.03	Si
SLU 23	482	-24089	-1381	161418		3.91	440.5	1.08	6638			4.81	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 12	109	-31955	4764	-153419		5.18	440.5	1.63	10021			2.1	Si
SLD 12	482	-20355	4674	81940		3.3	440.5	1.49	9210			1.97	Si
SLV 12	109	-26061	11389	629130		4.23	440.5	1.63	10021			0.88	No, Vu<V
SLV 12	482	-18035	10633	11932		2.92	440.5	1.42	8746			0.82	No, Vu<V
SLV 7	109	-29816	10330	476976		4.83	440.5	1.63	10021			0.97	No, Vu<V
SLV 7	482	-20008	10536	309581		3.24	440.5	1.48	9141			0.87	No, Vu<V
SLD 11	109	-31955	4764	-153419		5.18	440.5	1.63	10021			2.1	Si
SLD 11	482	-20355	4674	81940		3.3	440.5	1.49	9210			1.97	Si
SLV 5	109	-46322	-11449	-2063772		7.51	440.5	1.63	10021			0.88	No, Vu<V
SLV 5	482	-26052	-9969	250123		4.22	440.5	1.63	10021			1.01	Si
SLV 11	109	-26061	11389	629130		4.23	440.5	1.63	10021			0.88	No, Vu<V
SLV 11	482	-18035	10633	11932		2.92	440.5	1.42	8746			0.82	No, Vu<V
SLV 6	109	-46322	-11449	-2063772		7.51	440.5	1.63	10021			0.88	No, Vu<V
SLV 6	482	-26052	-9969	250123		4.22	440.5	1.63	10021			1.01	Si
SLV 9	109	-42566	-10389	-1911618		6.9	440.5	1.63	10021			0.96	No, Vu<V
SLV 9	482	-24079	-9871	-47527		3.9	440.5	1.61	9955			1.01	Si
SLV 8	109	-29816	10330	476976		4.83	440.5	1.63	10021			0.97	No, Vu<V
SLV 8	482	-20008	10536	309581		3.24	440.5	1.48	9141			0.87	No, Vu<V
SLV 10	109	-42566	-10389	-1911618		6.9	440.5	1.63	10021			0.96	No, Vu<V
SLV 10	482	-24079	-9871	-47527		3.9	440.5	1.61	9955			1.01	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.03 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.31	3.46	-21307	21586	106975	4.96	Si
SLV 12	14	0.31	3.46	-21307	21586	106975	4.96	Si
SLV 15	14	0.31	3.56	-21970	21586	108952	5.05	Si
SLV 16	14	0.31	3.56	-21970	21586	108952	5.05	Si
SLV 8	14	0.31	3.9	-24030	21586	114568	5.31	Si
SLV 7	14	0.31	3.9	-24030	21586	114568	5.31	Si
SLV 14	14	0.31	4.1	-25262	21586	117551	5.45	Si
SLV 13	14	0.31	4.1	-25262	21586	117551	5.45	Si
SLV 3	14	0.31	5.03	-31047	21586	127785	5.92	Si
SLV 4	14	0.31	5.03	-31047	21586	127785	5.92	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzaria = 295.5 Wa = 0.03 Ta = 0.166

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 4	-24425	-39975	24	0.019	28.107	0.965	29.108	1400.956	No
SLV 3	-24425	-39975	24	0.019	28.107	0.965	29.108	1400.956	No
SLV 2	-26239	-44926	20	0.019	29.952	0.967	29.212	1400.956	No
SLV 1	-26239	-44926	20	0.019	29.952	0.967	29.212	1400.956	No
SLV 14	-19662	-32408	-23	0.019	23.261	0.959	29.549	1400.956	No
SLV 13	-19662	-32408	-23	0.019	23.261	0.959	29.549	1400.956	No
SLV 9	-24079	-42566	-13	0.02	27.755	0.965	29.764	1400.956	No
SLV 10	-24079	-42566	-13	0.02	27.755	0.965	29.764	1400.956	No
SLV 16	-17849	-27456	-19	0.02	21.418	0.956	30.062	1400.956	No
SLV 15	-17849	-27456	-19	0.02	21.418	0.956	30.062	1400.956	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 61	No
V_SLU	2.829	SLU 52	Si
PF_SLV	1.905	SLV 5	Si
V_SLV	0.823	SLV 11	No
PFFP_SLV	4.956	SLV 11	Si
R_SLV	0.021	SLV 3	No

## Maschio 89

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-746.3	-335.9	-854.8	-335.9	L3	L4	108.5	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2



Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 80	199	-18736	-344452	6.17	246889	0.717	No, M>Mu
SLU 80	389	-13238	-87343	4.36	333993	3.824	Si
SLU 83	199	-18426	-323954	6.07	255328	0.788	No, M>Mu
SLU 83	389	-13838	-100062	4.56	330929	3.307	Si
SLU 76	199	-18754	-352627	6.17	246382	0.699	No, M>Mu
SLU 76	389	-12950	-83208	4.26	334904	4.025	Si
SLU 77	199	-18181	-319261	5.98	261708	0.82	No, M>Mu
SLU 77	389	-13508	-96542	4.45	332812	3.447	Si
SLU 82	199	-18654	-340664	6.14	249160	0.731	No, M>Mu
SLU 82	389	-13497	-93414	4.44	332867	3.563	Si
SLU 75	199	-18409	-335970	6.06	255786	0.761	No, M>Mu
SLU 75	389	-13166	-89893	4.33	334255	3.718	Si
SLU 84	199	-19056	-349558	6.27	237740	0.68	No, M>Mu
SLU 84	389	-13679	-92522	4.5	331895	3.587	Si
SLU 78	199	-18811	-344865	6.19	244799	0.71	No, M>Mu
SLU 78	389	-13349	-89001	4.39	333547	3.748	Si
SLU 79	199	-18106	-318848	5.96	263593	0.827	No, M>Mu
SLU 79	389	-13397	-94884	4.41	333335	3.513	Si
SLU 73	199	-18352	-343732	6.04	257270	0.748	No, M>Mu
SLU 73	389	-12767	-84100	4.2	335292	3.987	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLD 16	199	-13670	-332620	4.5	468504	1.409	Si
SLD 16	389	-6705	33073	2.21	298048	9.012	Si
SLV 8	199	-3849	-67529	1.27	187156	2.772	Si
SLV 8	389	618	106565	0	0	0	No, Trazione
SLV 13	199	-19623	-527844	6.46	501798	0.951	No, M>Mu
SLV 13	389	-9609	37894	3.16	386350	10.196	Si
SLV 15	199	-15595	-496854	5.13	490600	0.987	No, M>Mu
SLV 15	389	-3345	173560	1.1	165103	0.951	No, M>Mu
SLD 15	199	-13670	-332620	4.5	468504	1.409	Si
SLD 15	389	-6705	33073	2.21	298048	9.012	Si
SLV 7	199	-3849	-67529	1.27	187156	2.772	Si
SLV 7	389	618	106565	0	0	0	No, Trazione
SLV 14	199	-19623	-527844	6.46	501798	0.951	No, M>Mu
SLV 14	389	-9609	37894	3.16	386350	10.196	Si
SLV 12	199	-7102	-248992	2.34	311561	1.251	Si
SLV 12	389	2162	210537	0	0	0	No, Trazione
SLV 11	199	-7102	-248992	2.34	311561	1.251	Si
SLV 11	389	2162	210537	0	0	0	No, Trazione
SLV 16	199	-15595	-496854	5.13	490600	0.987	No, M>Mu
SLV 16	389	-3345	173560	1.1	165103	0.951	No, M>Mu

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 78	199	-18811	-3447	-344865	6.23	107.75	1.08	3268				0.95	No, Vu<V
SLU 78	389	-13349	-623	-89001	4.39	108.5	1.08	3291				5.28	Si
SLU 75	199	-18409	-3313	-335970	6.09	108	1.08	3276				0.99	No, Vu<V
SLU 75	389	-13166	-587	-89893	4.33	108.5	1.08	3291				5.61	Si
SLU 83	199	-18426	-3405	-323954	6.07	108.5	1.08	3291				0.97	No, Vu<V
SLU 83	389	-13838	-639	-100062	4.56	108.5	1.08	3291				5.15	Si
SLU 84	199	-19056	-3477	-349558	6.32	107.72	1.08	3267				0.94	No, Vu<V
SLU 84	389	-13679	-632	-92522	4.5	108.5	1.08	3291				5.21	Si
SLU 79	199	-18106	-3385	-318848	5.96	108.5	1.08	3291				0.97	No, Vu<V
SLU 79	389	-13397	-637	-94884	4.41	108.5	1.08	3291				5.17	Si
SLU 73	199	-18352	-3235	-343732	6.15	106.56	1.08	3232				1	No, Vu<V
SLU 73	389	-12767	-553	-84100	4.2	108.5	1.08	3291				5.96	Si
SLU 80	199	-18736	-3456	-344452	6.22	107.6	1.08	3264				0.94	No, Vu<V
SLU 80	389	-13238	-630	-87343	4.36	108.5	1.08	3291				5.22	Si
SLU 77	199	-18181	-3376	-319261	5.98	108.5	1.08	3291				0.97	No, Vu<V
SLU 77	389	-13508	-630	-96542	4.45	108.5	1.08	3291				5.23	Si
SLU 76	199	-18754	-3369	-352627	6.3	106.34	1.08	3226				0.96	No, Vu<V
SLU 76	389	-12950	-589	-83208	4.26	108.5	1.08	3291				5.59	Si
SLU 82	199	-18654	-3342	-340664	6.17	107.96	1.08	3275				0.98	No, Vu<V
SLU 82	389	-13497	-596	-93414	4.44	108.5	1.08	3291				5.52	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 8	199	-3849	-768	-67529	1.27	108.5	1.09	3301				4.3	Si
SLV 8	389	618	-969	106565	0	0	0.83	0				0	No, Vu<V
SLV 7	199	-3849	-768	-67529	1.27	108.5	1.09	3301				4.3	Si
SLV 7	389	618	-969	106565	0	0	0.83	0				0	No, Vu<V
SLV 3	199	-4753	3816	108024	1.79	94.56	1.19	3157				0.83	No, Vu<V
SLV 3	389	-8492	1834	-173012	2.98	101.63	1.43	4070				2.22	Si
SLV 16	199	-15595	-8413	-496854	8.29	67.17	1.63	3056				0.36	No, Vu<V
SLV 16	389	-3345	-3404	173560	16.87	7.08	1.63	322				0.09	No, Vu<V
SLV 4	199	-4753	3816	108024	1.79	94.56	1.19	3157				0.83	No, Vu<V
SLV 4	389	-8492	1834	-173012	2.98	101.63	1.43	4070				2.22	Si
SLV 11	199	-7102	-4437	-248992	4.41	57.57	1.63	2619				0.59	No, Vu<V
SLV 11	389	2162	-2540	210537	0	0	0.83	0				0	No, Vu<V
SLV 14	199	-19623	-8152	-527844	8.54	82.05	1.63	3733				0.46	No, Vu<V
SLV 14	389	-9609	-2573	37894	3.16	108.5	1.47	4453				1.73	Si
SLV 13	199	-19623	-8152	-527844	8.54	82.05	1.63	3733				0.46	No, Vu<V
SLV 13	389	-9609	-2573	37894	3.16	108.5	1.47	4453				1.73	Si
SLV 12	199	-7102	-4437	-248992	4.41	57.57	1.63	2619				0.59	No, Vu<V
SLV 12	389	2162	-2540	210537	0	0	0.83	0				0	No, Vu<V





Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 15	199	-15595	-8413	-496854		8.29	67.17	1.63	3056			0.36	No, Vu<V
SLV 15	389	-3345	-3404	173560		16.87	7.08	1.63	322			0.09	No, Vu<V

#### Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.31	1.06	-3208	9940	41034	4.13	Si
SLV 8	14	0.31	1.06	-3208	9940	41034	4.13	Si
SLV 3	14	0.31	1.55	-4710	9940	57578	5.79	Si
SLV 4	14	0.31	1.55	-4710	9940	57578	5.79	Si
SLV 11	14	0.31	2.06	-6266	9940	72920	7.34	Si
SLV 12	14	0.31	2.06	-6266	9940	72920	7.34	Si
SLV 2	14	0.31	2.98	-9056	9940	95855	9.64	Si
SLV 1	14	0.31	2.98	-9056	9940	95855	9.64	Si
SLV 16	14	0.31	4.91	-14904	9940	124881	12.56	Si
SLV 15	14	0.31	4.91	-14904	9940	124881	12.56	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 295.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 11	-2500	-2873	55	0.033	4.196	0.907	52.399	844.398	No
SLV 12	-2500	-2873	55	0.033	4.196	0.907	52.399	844.398	No
SLV 8	-4541	-2837	60	0.034	6.241	0.93	52.578	844.398	No
SLV 7	-4541	-2837	60	0.034	6.241	0.93	52.578	844.398	No
SLV 3	-9604	-7616	26	0.039	11.376	0.958	58.607	924.595	No
SLV 4	-9604	-7616	26	0.039	11.376	0.958	58.607	924.595	No
SLV 10	-10164	-16647	-55	0.036	11.945	0.96	54.525	844.398	No
SLV 9	-10164	-16647	-55	0.036	11.945	0.96	54.525	844.398	No
SLV 1	-11903	-11749	-7	0.04	13.715	0.965	60.21	924.595	No
SLV 2	-11903	-11749	-7	0.04	13.715	0.965	60.21	924.595	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF SLU	0.68	SLU 84	No
V SLU	0.94	SLU 84	No
PF SLV	0	SLV 12	No
V SLV	0	SLV 7	No
PFFP SLV	4.128	SLV 7	Si
R SLV	0.062	SLV 11	No

## Maschio 90

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-515.8	104.6	-515.8	581.1	L3	L4	476.5	14	373	373	373			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedlo	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 82	109	-55416	2284039	8.31	0	0	No, Rottura per schiacciamento
SLU 82	482	-36681	-70400	5.5	2840134	40.343	Si
SLU 80	109	-56870	2376183	8.52	0	0	No, Rottura per schiacciamento
SLU 80	482	-38748	26131	5.81	2648999	101.374	Si
SLU 76	109	-54810	2289885	8.22	0	0	No, Rottura per schiacciamento
SLU 76	482	-36876	-14636	5.53	2823720	192.934	Si
SLU 77	109	-57519	2378344	8.62	0	0	No, Rottura per schiacciamento
SLU 77	482	-39058	15492	5.85	2617155	168.933	Si
SLU 78	109	-57212	2382097	8.58	0	0	No, Rottura per schiacciamento
SLU 78	482	-38969	11968	5.84	2626302	219.45	Si
SLU 84	109	-57272	2372840	8.59	0	0	No, Rottura per schiacciamento
SLU 84	482	-38494	-31983	5.77	2674457	83.62	Si
SLU 75	109	-55356	2293297	8.3	0	0	No, Rottura per schiacciamento
SLU 75	482	-37156	-26449	5.57	2799533	105.845	Si
SLU 79	109	-57176	2372430	8.57	0	0	No, Rottura per schiacciamento
SLU 79	482	-38836	29656	5.82	2640024	89.023	Si
SLU 74	109	-55662	2289544	8.34	0	0	No, Rottura per schiacciamento
SLU 74	482	-37244	-22925	5.58	2791788	121.78	Si
SLU 81	109	-55722	2280286	8.35	0	0	No, Rottura per schiacciamento
SLU 81	482	-36769	-66876	5.51	2832755	42.358	Si



Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 1	109	-35632	2002028	5.34	4778283	2.387	Si
SLV 1	482	-21558	446572	3.23	3777793	8.46	Si
SLV 12	109	-47632	2089127	7.14	4716815	2.258	Si
SLV 12	482	-30231	-152026	4.53	4531220	29.806	Si
SLV 11	109	-47632	2089127	7.14	4716815	2.258	Si
SLV 11	482	-30231	-152026	4.53	4531220	29.806	Si
SLD 8	109	-42059	1943744	6.3	4850051	2.495	Si
SLD 8	482	-26562	46459	3.98	4266135	91.826	Si
SLV 8	109	-48582	2500082	7.28	4675989	1.87	Si
SLV 8	482	-29515	121044	4.42	4485702	37.058	Si
SLV 2	109	-35632	2002028	5.34	4778283	2.387	Si
SLV 2	482	-21558	446572	3.23	3777793	8.46	Si
SLV 7	109	-48582	2500082	7.28	4675989	1.87	Si
SLV 7	482	-29515	121044	4.42	4485702	37.058	Si
SLV 4	109	-42120	2453182	6.31	4849572	1.977	Si
SLV 4	482	-24845	443366	3.72	4115112	9.282	Si
SLV 3	109	-42120	2453182	6.31	4849572	1.977	Si
SLV 3	482	-24845	443366	3.72	4115112	9.282	Si
SLD 7	109	-42059	1943744	6.3	4850051	2.495	Si
SLD 7	482	-26562	46459	3.98	4266135	91.826	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 78	109	-57212	2251	2382097		8.58	476.5	1.08	7227			3.21	Si
SLU 78	482	-38969	967	11968		5.84	476.5	1.08	7227			7.48	Si
SLU 75	109	-55356	2190	2293297		8.3	476.5	1.08	7227			3.3	Si
SLU 75	482	-37156	1006	-26449		5.57	476.5	1.08	7227			7.18	Si
SLU 83	109	-57578	2378	2369086		8.63	476.5	1.08	7227			3.04	Si
SLU 83	482	-38583	1156	-28459		5.78	476.5	1.08	7227			6.25	Si
SLU 84	109	-57272	2314	2372840		8.59	476.5	1.08	7227			3.12	Si
SLU 84	482	-38494	1095	-31983		5.77	476.5	1.08	7227			6.6	Si
SLU 74	109	-55662	2254	2289544		8.34	476.5	1.08	7227			3.21	Si
SLU 74	482	-37244	1067	-22925		5.58	476.5	1.08	7227			6.77	Si
SLU 77	109	-57519	2315	2378344		8.62	476.5	1.08	7227			3.12	Si
SLU 77	482	-39058	1027	15492		5.85	476.5	1.08	7227			7.03	Si
SLU 79	109	-57176	2276	2372430		8.57	476.5	1.08	7227			3.18	Si
SLU 79	482	-38836	975	29656		5.82	476.5	1.08	7227			7.42	Si
SLU 80	109	-56870	2211	2376183		8.52	476.5	1.08	7227			3.27	Si
SLU 80	482	-38748	914	26131		5.81	476.5	1.08	7227			7.91	Si
SLU 82	109	-55416	2253	2284039		8.31	476.5	1.08	7227			3.21	Si
SLU 82	482	-36681	1135	-70400		5.5	476.5	1.08	7227			6.37	Si
SLU 81	109	-55722	2317	2280286		8.35	476.5	1.08	7227			3.12	Si
SLU 81	482	-36769	1195	-66876		5.51	476.5	1.08	7227			6.05	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 15	109	-38954	8733	1083334		5.84	476.5	1.63	10840			1.24	Si
SLV 15	482	-27230	8731	-466867		4.08	476.5	1.63	10840			1.24	Si
SLV 16	109	-38954	8733	1083334		5.84	476.5	1.63	10840			1.24	Si
SLV 16	482	-27230	8731	-466867		4.08	476.5	1.63	10840			1.24	Si
SLV 6	109	-26954	-11099	996234		4.04	476.5	1.63	10840			0.98	No, Vu<V
SLV 6	482	-18558	-11315	131731		2.78	476.5	1.39	9271			0.82	No, Vu<V
SLV 7	109	-48582	11522	2500082		7.28	476.5	1.63	10840			0.94	No, Vu<V
SLV 7	482	-29515	9503	121044		4.42	476.5	1.63	10840			1.14	Si
SLV 11	109	-47632	13889	2089127		7.14	476.5	1.63	10840			0.78	No, Vu<V
SLV 11	482	-30231	12510	-152026		4.53	476.5	1.63	10840			0.87	No, Vu<V
SLV 8	109	-48582	11522	2500082		7.28	476.5	1.63	10840			0.94	No, Vu<V
SLV 8	482	-29515	9503	121044		4.42	476.5	1.63	10840			1.14	Si
SLV 12	109	-47632	13889	2089127		7.14	476.5	1.63	10840			0.78	No, Vu<V
SLV 12	482	-30231	12510	-152026		4.53	476.5	1.63	10840			0.87	No, Vu<V
SLV 5	109	-26954	-11099	996234		4.04	476.5	1.63	10840			0.98	No, Vu<V
SLV 5	482	-18558	-11315	131731		2.78	476.5	1.39	9271			0.82	No, Vu<V
SLV 9	109	-26004	-8732	585280		3.9	476.5	1.61	10760			1.23	Si
SLV 9	482	-19273	-8309	-141340		2.89	476.5	1.41	9414			1.13	Si
SLV 10	109	-26004	-8732	585280		3.9	476.5	1.61	10760			1.23	Si
SLV 10	482	-19273	-8309	-141340		2.89	476.5	1.41	9414			1.13	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.03 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.31	3.43	-22897	23350	115255	4.94	Si
SLV 9	14	0.31	3.43	-22897	23350	115255	4.94	Si
SLV 5	14	0.31	3.47	-23176	23350	116104	4.97	Si
SLV 6	14	0.31	3.47	-23176	23350	116104	4.97	Si
SLV 13	14	0.31	4.21	-28091	23350	128870	5.52	Si
SLV 14	14	0.31	4.21	-28091	23350	128870	5.52	Si
SLV 2	14	0.31	4.35	-29021	23350	130819	5.6	Si
SLV 1	14	0.31	4.35	-29021	23350	130819	5.6	Si
SLV 16	14	0.31	4.92	-32822	23350	137239	5.88	Si
SLV 15	14	0.31	4.92	-32822	23350	137239	5.88	Si

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 295.5 Wa = 0.03 Ta = 0.166

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 12	-30231	-47632	-36	0.019	34.281	0.969	28.409	1400.956	No
SLV 11	-30231	-47632	-36	0.019	34.281	0.969	28.409	1400.956	No
SLV 6	-18558	-26954	39	0.019	22.406	0.954	28.816	1400.956	No



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 5	-18558	-26954	39	0.019	22.406	0.954	28.816	1400.956	No
SLV 8	-29515	-48582	-27	0.019	33.553	0.968	28.892	1400.956	No
SLV 7	-29515	-48582	-27	0.019	33.553	0.968	28.892	1400.956	No
SLV 16	-27230	-38954	-25	0.019	31.227	0.966	29.112	1400.956	No
SLV 15	-27230	-38954	-25	0.019	31.227	0.966	29.112	1400.956	No
SLV 2	-21558	-35632	27	0.019	25.456	0.959	29.379	1400.956	No
SLV 1	-21558	-35632	27	0.019	25.456	0.959	29.379	1400.956	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 74	No
V_SLU	3.039	SLU 83	Si
PF_SLV	1.87	SLV 7	Si
V_SLV	0.781	SLV 11	No
PFFP_SLV	4.936	SLV 9	Si
R_SLV	0.02	SLV 11	No

## Maschio 91

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-515.8	595.1	-515.8	600.6	L3	L4	5.5	28	373	373	373			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 53	309	-1165	2089	7.57	228	0.109	No, M>Mu
SLU 53	389	-1368	3880	0	0	0	No, e>l/2
SLU 61	309	-1141	2021	7.41	284	0.141	No, M>Mu
SLU 61	389	-1365	3934	0	0	0	No, e>l/2
SLU 57	309	-1222	2204	7.94	86	0.039	No, M>Mu
SLU 57	389	-1424	3993	0	0	0	No, e>l/2
SLU 54	309	-1159	2073	7.53	242	0.117	No, M>Mu
SLU 54	389	-1366	3879	0	0	0	No, e>l/2
SLU 59	309	-1218	2197	7.91	96	0.044	No, M>Mu
SLU 59	389	-1414	3953	0	0	0	No, e>l/2
SLU 1	309	-794	1417	5.16	801	0.565	No, M>Mu
SLU 1	389	-924	2617	0	0	0	No, e>l/2
SLU 56	309	-1228	2219	7.98	70	0.032	No, M>Mu
SLU 56	389	-1426	3994	0	0	0	No, e>l/2
SLU 55	309	-1151	2057	7.48	260	0.127	No, M>Mu
SLU 55	389	-1355	3838	0	0	0	No, e>l/2
SLU 60	309	-1147	2037	7.45	271	0.133	No, M>Mu
SLU 60	389	-1367	3935	0	0	0	No, e>l/2
SLU 58	309	-1225	2213	7.95	80	0.036	No, M>Mu
SLU 58	389	-1416	3954	0	0	0	No, e>l/2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLD 15	309	-729	963	4.73	1228	1.276	Si
SLD 15	389	-1271	3859	0	0	0	No, e>l/2
SLV 6	309	-470	715	3.05	970	1.355	Si
SLV 6	389	-551	2358	0	0	0	No, e>l/2
SLV 13	309	-226	-628	0	0	0	No, e>l/2
SLV 13	389	-1425	5236	0	0	0	No, e>l/2
SLV 5	309	-470	715	3.05	970	1.355	Si
SLV 5	389	-551	2358	0	0	0	No, e>l/2
SLV 14	309	-226	-628	0	0	0	No, e>l/2
SLV 14	389	-1425	5236	0	0	0	No, e>l/2
SLV 10	309	-183	-344	1.19	454	1.319	Si
SLV 10	389	-853	3736	0	0	0	No, e>l/2
SLD 14	309	-595	618	3.86	1118	1.809	Si
SLD 14	389	-1192	3892	0	0	0	No, e>l/2
SLV 9	309	-183	-344	1.19	454	1.319	Si
SLV 9	389	-853	3736	0	0	0	No, e>l/2
SLV 15	309	-549	189	3.57	1070	5.657	Si
SLV 15	389	-1614	5144	0	0	0	No, e>l/2
SLD 16	309	-729	963	4.73	1228	1.276	Si
SLD 16	389	-1271	3859	0	0	0	No, e>l/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	$\sigma N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 53	309	-1165	106	2089		14.49	2.87	1.08	87			0.82	No, Vu<V
SLU 53	389	-1368	-185	3880		0	0	0.56	0			0	No, Vu<V
SLU 54	309	-1159	106	2073		14.35	2.88	1.08	87			0.83	No, Vu<V
SLU 54	389	-1366	-185	3879		0	0	0.56	0			0	No, Vu<V
SLU 1	309	-794	72	1417		9.8	2.9	1.08	88			1.22	Si
SLU 1	389	-924	-125	2617		0	0	0.56	0			0	No, Vu<V
SLU 61	309	-1141	103	2021		13.88	2.93	1.08	89			0.86	No, Vu<V
SLU 61	389	-1365	-187	3934		0	0	0.56	0			0	No, Vu<V



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 60	309	-1147	104	2037		14.02	2.92	1.08	89			0.85	No, Vu<V
SLU 60	389	-1367	-187	3935		0	0	0.56	0			0	No, Vu<V
SLU 57	309	-1222	112	2204		15.36	2.84	1.08	86			0.77	No, Vu<V
SLU 57	389	-1424	-190	3993		0	0	0.56	0			0	No, Vu<V
SLU 56	309	-1228	113	2219		15.5	2.83	1.08	86			0.76	No, Vu<V
SLU 56	389	-1426	-191	3994		0	0	0.56	0			0	No, Vu<V
SLU 59	309	-1218	111	2197		15.32	2.84	1.08	86			0.77	No, Vu<V
SLU 59	389	-1414	-189	3953		0	0	0.56	0			0	No, Vu<V
SLU 58	309	-1225	112	2213		15.46	2.83	1.08	86			0.77	No, Vu<V
SLU 58	389	-1416	-189	3954		0	0	0.56	0			0	No, Vu<V
SLU 55	309	-1151	105	2057		14.22	2.89	1.08	88			0.84	No, Vu<V
SLU 55	389	-1355	-183	3838		0	0	0.56	0			0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	309	-226	-32	-628		0	0	0.83	0			0	No, Vu<V
SLV 13	389	-1425	-248	5236		0	0	0.83	0			0	No, Vu<V
SLD 14	309	-595	31	618		4.14	5.13	1.63	233			7.43	Si
SLD 14	389	-1192	-185	3892		0	0	0.83	0			0	No, Vu<V
SLV 10	309	-183	-16	-344		2.51	2.6	1.34	97			6.1	Si
SLV 10	389	-853	-186	3736		0	0	0.83	0			0	No, Vu<V
SLV 6	309	-470	38	715		4.56	3.68	1.63	168			4.36	Si
SLV 6	389	-551	-123	2358		0	0	0.83	0			0	No, Vu<V
SLD 15	309	-729	49	963		6.07	4.29	1.63	195			4.02	Si
SLD 15	389	-1271	-181	3859		0	0	0.83	0			0	No, Vu<V
SLD 16	309	-729	49	963		6.07	4.29	1.63	195			4.02	Si
SLD 16	389	-1271	-181	3859		0	0	0.83	0			0	No, Vu<V
SLV 15	309	-549	8	189		3.57	5.5	1.55	238			28.89	Si
SLV 15	389	-1614	-238	5144		0	0	0.83	0			0	No, Vu<V
SLV 9	309	-183	-16	-344		2.51	2.6	1.34	97			6.1	Si
SLV 9	389	-853	-186	3736		0	0	0.83	0			0	No, Vu<V
SLV 5	309	-470	38	715		4.56	3.68	1.63	168			4.36	Si
SLV 5	389	-551	-123	2358		0	0	0.83	0			0	No, Vu<V
SLV 14	309	-226	-32	-628		0	0	0.83	0			0	No, Vu<V
SLV 14	389	-1425	-248	5236		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 13	14	0.31	0.42	-65	516	884	1.71	Si
SLV 14	14	0.31	0.42	-65	516	884	1.71	Si
SLV 10	14	0.31	0.48	-74	516	990	1.92	Si
SLV 9	14	0.31	0.48	-74	516	990	1.92	Si
SLV 16	14	0.31	1.52	-234	516	2867	5.56	Si
SLV 15	14	0.31	1.52	-234	516	2867	5.56	Si
SLV 6	14	0.31	1.62	-249	516	3026	5.87	Si
SLV 5	14	0.31	1.62	-249	516	3026	5.87	Si
SLV 12	14	0.31	4.12	-635	516	5890	11.42	Si
SLV 11	14	0.31	4.12	-635	516	5890	11.42	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 295.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 1	-372	-1386	-1	0.04	0.46	0.949	60.513	924.595	No
SLV 2	-372	-1386	-1	0.04	0.46	0.949	60.513	924.595	No
SLV 15	-359	-1885	1	0.04	0.446	0.948	61.148	924.595	No
SLV 16	-359	-1885	1	0.04	0.446	0.948	61.148	924.595	No
SLV 3	-453	-1757	0	0.041	0.542	0.956	62.179	924.595	No
SLV 4	-453	-1757	0	0.041	0.542	0.956	62.179	924.595	No
SLV 12	-486	-2273	2	0.038	0.575	0.958	58.015	844.398	No
SLV 11	-486	-2273	2	0.038	0.575	0.958	58.015	844.398	No
SLV 8	-514	-2235	1	0.039	0.604	0.96	58.83	844.398	No
SLV 7	-514	-2235	1	0.039	0.604	0.96	58.83	844.398	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 1	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLD 5	No
V_SLV	0	SLD 5	No
PFFP_SLV	1.714	SLV 13	Si
R_SLV	0.065	SLV 1	No

## Maschio 92

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-515.8	650.6	-515.8	666.1	L3	L4	15.5	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2



Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 42	309	-4005	-11132	9.23	0	0	No, Rottura per schiacciamento
SLU 42	389	-2623	7367	6.04	5247	0.712	No, M>Mu
SLU 58	309	-4134	-10932	9.53	0	0	No, Rottura per schiacciamento
SLU 58	389	-2769	6981	6.38	4651	0.666	No, M>Mu
SLU 54	309	-4011	-11067	9.24	0	0	No, Rottura per schiacciamento
SLU 54	389	-2620	7291	6.04	5257	0.721	No, M>Mu
SLU 57	309	-4158	-11140	9.58	0	0	No, Rottura per schiacciamento
SLU 57	389	-2766	7182	6.37	4664	0.649	No, M>Mu
SLU 61	309	-4030	-11499	9.29	0	0	No, Rottura per schiacciamento
SLU 61	389	-2579	7754	5.94	5408	0.697	No, M>Mu
SLU 56	309	-4166	-11099	9.6	0	0	No, Rottura per schiacciamento
SLU 56	389	-2780	7128	6.4	4605	0.646	No, M>Mu
SLU 59	309	-4127	-10974	9.51	0	0	No, Rottura per schiacciamento
SLU 59	389	-2756	7036	6.35	4709	0.669	No, M>Mu
SLU 60	309	-4038	-11458	9.3	0	0	No, Rottura per schiacciamento
SLU 60	389	-2592	7700	5.97	5359	0.696	No, M>Mu
SLU 55	309	-3975	-10928	9.16	0	0	No, Rottura per schiacciamento
SLU 55	389	-2601	7180	5.99	5329	0.742	No, M>Mu
SLU 62	309	-4185	-11531	9.64	0	0	No, Rottura per schiacciamento
SLU 62	389	-2738	7592	6.31	4784	0.63	No, M>Mu

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLD 14	309	-3525	-17089	8.12	9160	0.536	No, M>Mu
SLD 14	389	-1288	14617	0	0	0	No, e>l/2
SLV 1	309	-1172	11760	0	0	0	No, e>l/2
SLV 1	389	-2791	-13243	6.43	10246	0.774	No, M>Mu
SLV 13	309	-4230	-28934	9.75	6632	0.229	No, M>Mu
SLV 13	389	-392	26928	0	0	0	No, e>l/2
SLD 15	309	-3772	-16834	8.69	8440	0.501	No, M>Mu
SLD 15	389	-1591	13453	0	0	0	No, e>l/2
SLV 2	309	-1172	11760	0	0	0	No, e>l/2
SLV 2	389	-2791	-13243	6.43	10246	0.774	No, M>Mu
SLV 10	309	-2475	-15431	5.7	10229	0.663	No, M>Mu
SLV 10	389	-390	16107	0	0	0	No, e>l/2
SLV 15	309	-4817	-28300	11.1	3419	0.121	No, M>Mu
SLV 15	389	-1113	24151	0	0	0	No, e>l/2
SLV 14	309	-4230	-28934	9.75	6632	0.229	No, M>Mu
SLV 14	389	-392	26928	0	0	0	No, e>l/2
SLV 9	309	-2475	-15431	5.7	10229	0.663	No, M>Mu
SLV 9	389	-390	16107	0	0	0	No, e>l/2
SLD 16	309	-3772	-16834	8.69	8440	0.501	No, M>Mu
SLD 16	389	-1591	13453	0	0	0	No, e>l/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 78	309	-4639	-404	-12474		10.91	15.18	1.08	461			1.14	Si
SLU 78	389	-3088	-394	8062		7.15	15.42	1.08	468			1.19	Si
SLU 81	309	-4519	-419	-12791		10.94	14.76	1.08	448			1.07	Si
SLU 81	389	-2914	-410	8580		7.22	14.42	1.08	437			1.07	Si
SLU 73	309	-4309	-399	-12188		10.42	14.76	1.08	448			1.12	Si
SLU 73	389	-2777	-390	8168		6.87	14.42	1.08	438			1.12	Si
SLU 74	309	-4500	-402	-12359		10.71	15.01	1.08	455			1.13	Si
SLU 74	389	-2956	-393	8117		7.03	15.01	1.08	455			1.16	Si
SLU 82	309	-4511	-421	-12833		10.95	14.72	1.08	446			1.06	Si
SLU 82	389	-2901	-412	8634		7.23	14.32	1.08	434			1.06	Si
SLU 83	309	-4666	-419	-12865		11.13	14.98	1.08	454			1.08	Si
SLU 83	389	-3061	-409	8472		7.31	14.95	1.08	453			1.11	Si
SLU 84	309	-4658	-421	-12907		11.14	14.94	1.08	453			1.08	Si
SLU 84	389	-3047	-411	8526		7.33	14.86	1.08	451			1.1	Si
SLU 76	309	-4456	-399	-12262		10.61	14.99	1.08	455			1.14	Si
SLU 76	389	-2923	-390	8060		6.97	14.98	1.08	454			1.17	Si
SLU 75	309	-4492	-404	-12401		10.72	14.97	1.08	454			1.12	Si
SLU 75	389	-2942	-395	8171		7.04	14.92	1.08	453			1.15	Si
SLU 77	309	-4647	-402	-12432		10.9	15.22	1.08	462			1.15	Si
SLU 77	389	-3102	-392	8008		7.15	15.5	1.08	470			1.2	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 16	309	-3772	-581	-16834		13.66	9.86	1.63	449			0.77	No, Vu<V
SLD 16	389	-1591	-561	13453		0	0	0.83	0			0	No, Vu<V
SLV 1	309	-1172	460	11760		0	0	0.83	0			0	No, Vu<V
SLV 1	389	-2791	433	-13243		11.06	9.02	1.63	410			0.95	No, Vu<V
SLV 2	309	-1172	460	11760		0	0	0.83	0			0	No, Vu<V
SLV 2	389	-2791	433	-13243		11.06	9.02	1.63	410			0.95	No, Vu<V
SLV 15	309	-4817	-999	-28300		30.58	5.63	1.63	256			0.26	No, Vu<V
SLV 15	389	-1113	-960	24151		0	0	0.83	0			0	No, Vu<V
SLV 14	309	-4230	-1077	-28934		55.34	2.73	1.63	124			0.12	No, Vu<V



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	389	-392	-1100	26928		0	0	0.83	0			0	No, Vu<V
SLV 13	309	-4230	-1077	-28934		55.34	2.73	1.63	124			0.12	No, Vu<V
SLV 13	389	-392	-1100	26928		0	0	0.83	0			0	No, Vu<V
SLV 9	309	-2475	-630	-15431		19.45	4.55	1.63	207			0.33	No, Vu<V
SLV 9	389	-390	-727	16107		0	0	0.83	0			0	No, Vu<V
SLV 10	309	-2475	-630	-15431		19.45	4.55	1.63	207			0.33	No, Vu<V
SLV 10	389	-390	-727	16107		0	0	0.83	0			0	No, Vu<V
SLD 14	309	-3525	-615	-17089		14.46	8.7	1.63	396			0.64	No, Vu<V
SLD 14	389	-1288	-620	14617		0	0	0.83	0			0	No, Vu<V
SLD 15	309	-3772	-581	-16834		13.66	9.86	1.63	449			0.77	No, Vu<V
SLD 15	389	-1591	-561	13453		0	0	0.83	0			0	No, Vu<V

#### Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.05 denominatore  $8\gamma M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 2	14	0.31	1.67	-726	1453	8773	6.04	Si
SLV 1	14	0.31	1.67	-726	1453	8773	6.04	Si
SLV 5	14	0.31	2.57	-1113	1453	12314	8.47	Si
SLV 6	14	0.31	2.57	-1113	1453	12314	8.47	Si
SLV 3	14	0.31	2.58	-1118	1453	12351	8.5	Si
SLV 4	14	0.31	2.58	-1118	1453	12351	8.5	Si
SLV 16	14	0.31	8.13	-3531	1453	16520	11.37	Si
SLV 15	14	0.31	8.13	-3531	1453	16520	11.37	Si
SLV 10	14	0.31	4.23	-1837	1453	16810	11.57	Si
SLV 9	14	0.31	4.23	-1837	1453	16810	11.57	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 295.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 14	-27	-4423	12	0	0.305	0.938	0.183	924.595	No
SLV 13	-27	-4423	12	0	0.305	0.938	0.183	924.595	No
SLV 10	-10	-2411	-11	0.003	0.298	0.971	5.069	844.398	No
SLV 9	-10	-2411	-11	0.003	0.298	0.971	5.069	844.398	No
SLV 15	-433	-5294	22	0.009	0.675	0.914	14.557	924.595	No
SLV 16	-433	-5294	22	0.009	0.675	0.914	14.557	924.595	No
SLV 6	-401	-1558	-20	0.01	0.643	0.911	16.582	844.398	No
SLV 5	-401	-1558	-20	0.01	0.643	0.911	16.582	844.398	No
SLV 2	-1331	-1580	-20	0.028	1.583	0.957	42.239	924.595	No
SLV 1	-1331	-1580	-20	0.028	1.583	0.957	42.239	924.595	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 31	No
V_SLU	1.055	SLU 82	Si
PF_SLV	0	SLD 13	No
V_SLV	0	SLD 9	No
PFFP_SLV	6.037	SLV 1	Si
R_SLV	0	SLV 13	No

## Maschio 93

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X inl.	Y inl.	X fin.	Y fin.	Quota l.	Quota.s	l	Sp.	h netta	h inl.	h fin.	a	a.s.,sx	a.s.,dx
-600.8	-335.9	-646.3	-335.9	L3	L4	45.5	28	373	373	373			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 74	309	-9802	16826	7.69	12376	0.736	No, M>Mu
SLU 74	389	-10850	-27728	8.52	0	0	No, Rottura per schiacciamento
SLU 63	309	-9592	19021	7.53	16533	0.869	No, M>Mu
SLU 63	389	-10557	-28990	8.29	0	0	No, Rottura per schiacciamento
SLU 79	309	-9898	16458	7.77	10402	0.632	No, M>Mu
SLU 79	389	-10983	-26719	8.62	0	0	No, Rottura per schiacciamento
SLU 73	309	-10097	22498	7.93	6214	0.276	No, M>Mu
SLU 73	389	-11080	-33500	8.7	0	0	No, Rottura per schiacciamento
SLU 75	309	-10118	20275	7.94	5759	0.284	No, M>Mu
SLU 75	389	-11152	-31190	8.75	0	0	No, Rottura per schiacciamento
SLU 78	309	-10282	20128	8.07	2149	0.107	No, M>Mu
SLU 78	389	-11355	-30684	8.91	0	0	No, Rottura per schiacciamento
SLU 80	309	-10215	19906	8.02	3651	0.183	No, M>Mu
SLU 80	389	-11285	-30180	8.86	0	0	No, Rottura per schiacciamento
SLU 83	309	-10162	17184	7.98	4817	0.28	No, M>Mu



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 83	389	-11270	-28211	8.85	0	0	No, Rottura per schiacciamento
SLU 84	309	-10478	20632	8.22	0	0	No, Rottura per schiacciamento
SLU 84	389	-11572	-31673	9.08	0	0	No, Rottura per schiacciamento
SLU 76	309	-10261	22351	8.05	2620	0.117	No, M>Mu
SLU 76	389	-11283	-32994	8.86	0	0	No, Rottura per schiacciamento

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 6	309	-9168	42256	7.2	85732	2.029	Si
SLV 6	389	-9997	-68021	7.85	81373	1.196	Si
SLV 15	309	-7707	-64979	6.05	88527	1.362	Si
SLV 15	389	-8076	92177	6.34	88410	0.959	No, M>Mu
SLV 14	309	-9547	-60152	7.49	83989	1.396	Si
SLV 14	389	-9957	82386	7.82	81630	0.991	No, M>Mu
SLV 3	309	-3821	83908	3	65595	0.782	No, M>Mu
SLV 3	389	-4762	-121642	0	0	0	No, e>l/2
SLV 5	309	-9168	42256	7.2	85732	2.029	Si
SLV 5	389	-9997	-68021	7.85	81373	1.196	Si
SLV 4	309	-3821	83908	3	65595	0.782	No, M>Mu
SLV 4	389	-4762	-121642	0	0	0	No, e>l/2
SLV 13	309	-9547	-60152	7.49	83989	1.396	Si
SLV 13	389	-9957	82386	7.82	81630	0.991	No, M>Mu
SLV 2	309	-5662	88735	4.44	81956	0.924	No, M>Mu
SLV 2	389	-6643	-131434	5.21	86636	0.659	No, M>Mu
SLV 1	309	-5662	88735	4.44	81956	0.924	No, M>Mu
SLV 1	389	-6643	-131434	5.21	86636	0.659	No, M>Mu
SLV 16	309	-7707	-64979	6.05	88527	1.362	Si
SLV 16	389	-8076	92177	6.34	88410	0.959	No, M>Mu

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 82	309	-10314	715	20779		8.1	45.5	1.08	1380			1.93	Si
SLU 82	389	-11369	714	-32179		8.92	45.5	1.08	1380			1.93	Si
SLU 78	309	-10282	689	20128		8.07	45.5	1.08	1380			2	Si
SLU 78	389	-11355	688	-30684		8.91	45.5	1.08	1380			2.01	Si
SLU 73	309	-10097	751	22498		7.93	45.5	1.08	1380			1.84	Si
SLU 73	389	-11080	749	-33500		8.7	45.5	1.08	1380			1.84	Si
SLU 76	309	-10261	744	22351		8.05	45.5	1.08	1380			1.85	Si
SLU 76	389	-11283	742	-32994		8.86	45.5	1.08	1380			1.86	Si
SLU 65	309	-9100	699	21146		7.14	45.5	1.08	1380			1.97	Si
SLU 65	389	-9936	697	-31198		7.8	45.5	1.08	1380			1.98	Si
SLU 75	309	-10118	696	20275		7.94	45.5	1.08	1380			1.98	Si
SLU 75	389	-11152	694	-31190		8.75	45.5	1.08	1380			1.99	Si
SLU 52	309	-9211	692	20887		7.23	45.5	1.08	1380			1.99	Si
SLU 52	389	-10065	690	-30817		7.9	45.5	1.08	1380			2	Si
SLU 84	309	-10478	709	20632		8.22	45.5	1.08	1380			1.95	Si
SLU 84	389	-11572	707	-31673		9.08	45.5	1.08	1380			1.95	Si
SLU 55	309	-9375	685	20740		7.36	45.5	1.08	1380			2.01	Si
SLU 55	389	-10268	683	-30311		8.06	45.5	1.08	1380			2.02	Si
SLU 68	309	-9264	693	20999		7.27	45.5	1.08	1380			1.99	Si
SLU 68	389	-10139	691	-30692		7.96	45.5	1.08	1380			2	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	309	-3821	2456	83908		57.4	2.38	1.63	108			0.04	No, Vu<V
SLV 3	389	-4762	2624	-121642		0	0	0.83	0			0	No, Vu<V
SLV 4	309	-3821	2456	83908		57.4	2.38	1.63	108			0.04	No, Vu<V
SLV 4	389	-4762	2624	-121642		0	0	0.83	0			0	No, Vu<V
SLV 1	309	-5662	2956	88735		9.52	21.23	1.63	966			0.33	No, Vu<V
SLV 1	389	-6643	2820	-131434		26.67	8.9	1.63	405			0.14	No, Vu<V
SLV 15	309	-7707	-2098	-64979		6.41	42.96	1.63	1955			0.93	No, Vu<V
SLV 15	389	-8076	-1963	92177		8.48	34.01	1.63	1547			0.79	No, Vu<V
SLV 6	309	-9168	1946	42256		7.2	45.5	1.63	2070			1.06	Si
SLV 6	389	-9997	1445	-68021		7.85	45.5	1.63	2070			1.43	Si
SLV 16	309	-7707	-2098	-64979		6.41	42.96	1.63	1955			0.93	No, Vu<V
SLV 16	389	-8076	-1963	92177		8.48	34.01	1.63	1547			0.79	No, Vu<V
SLV 5	309	-9168	1946	42256		7.2	45.5	1.63	2070			1.06	Si
SLV 5	389	-9997	1445	-68021		7.85	45.5	1.63	2070			1.43	Si
SLV 2	309	-5662	2956	88735		9.52	21.23	1.63	966			0.33	No, Vu<V
SLV 2	389	-6643	2820	-131434		26.67	8.9	1.63	405			0.14	No, Vu<V
SLV 13	309	-9547	-1598	-60152		7.49	45.5	1.63	2070			1.3	Si
SLV 13	389	-9957	-1766	82386		8.19	43.43	1.63	1976			1.12	Si
SLV 14	309	-9547	-1598	-60152		7.49	45.5	1.63	2070			1.3	Si
SLV 14	389	-9957	-1766	82386		8.19	43.43	1.63	1976			1.12	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.31	1.86	-2367	4168	28101	6.74	Si
SLV 8	14	0.31	1.86	-2367	4168	28101	6.74	Si
SLV 11	14	0.31	2.04	-2600	4168	30320	7.27	Si
SLV 12	14	0.31	2.04	-2600	4168	30320	7.27	Si
SLV 4	14	0.31	3.21	-4095	4168	42252	10.14	Si
SLV 3	14	0.31	3.21	-4095	4168	42252	10.14	Si
SLV 15	14	0.31	3.82	-4872	4168	46859	11.24	Si



Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 16	14	0.31	3.82	-4872	4168	46859	11.24	Si
SLV 1	14	0.31	4.56	-5810	4168	50981	12.23	Si
SLV 2	14	0.31	4.56	-5810	4168	50981	12.23	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeraia = 295.5  $W_a = 0.05$   $T_a = 0.083$

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 16	-2961	-3251	-4	0.041	3.687	0.948	62.867	924.595	No
SLV 15	-2961	-3251	-4	0.041	3.687	0.948	62.867	924.595	No
SLV 13	-3447	-5219	0	0.042	4.181	0.953	63.443	924.595	No
SLV 14	-3447	-5219	0	0.042	4.181	0.953	63.443	924.595	No
SLV 4	-2059	-5312	-5	0.042	2.773	0.934	65.173	924.595	No
SLV 3	-2059	-5312	-5	0.042	2.773	0.934	65.173	924.595	No
SLV 1	-2545	-7279	-1	0.043	3.265	0.942	65.868	924.595	No
SLV 2	-2545	-7279	-1	0.043	3.265	0.942	65.868	924.595	No
SLV 9	-3699	-8236	5	0.04	4.437	0.956	61.064	844.398	No
SLV 10	-3699	-8236	5	0.04	4.437	0.956	61.064	844.398	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 63	No
V_SLU	1.838	SLU 73	Si
PF_SLV	0	SLV 3	No
V_SLV	0	SLV 3	No
PFFP_SLV	6.741	SLV 7	Si
R_SLV	0.068	SLV 15	No

## Maschio 94

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-323.3	-335.9	-550.8	-335.9	L3	L4	227.5	28	373	373	373			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.l) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>k</sub>	f <sub>vk0</sub>	f <sub>medio</sub>	$\tau_0$	f <sub>v0</sub>	$\mu$	$\phi$	f <sub>v,lim</sub>	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 44	309	-13203	714866	2.07	1119677	1.566	Si
SLU 44	389	-12073	322404	1.9	1053762	3.268	Si
SLU 47	309	-13521	723859	2.12	1137248	1.571	Si
SLU 47	389	-12391	325160	1.95	1072911	3.3	Si
SLU 52	309	-15453	780653	2.43	1234316	1.581	Si
SLU 52	389	-14324	351098	2.25	1179551	3.36	Si
SLU 2	309	-10093	601125	1.58	924732	1.538	Si
SLU 2	389	-9220	274241	1.45	862392	3.145	Si
SLU 65	309	-15276	773490	2.4	1226105	1.585	Si
SLU 65	389	-14132	345540	2.22	1169706	3.385	Si
SLU 68	309	-15595	782483	2.45	1240780	1.586	Si
SLU 68	389	-14450	348297	2.27	1185979	3.405	Si
SLU 55	309	-15772	789646	2.48	1248744	1.581	Si
SLU 55	389	-14642	353855	2.3	1195556	3.379	Si
SLU 73	309	-17527	839277	2.75	1320278	1.573	Si
SLU 73	389	-16383	374235	2.57	1275173	3.407	Si
SLU 76	309	-17846	848270	2.8	1331810	1.57	Si
SLU 76	389	-16701	376992	2.62	1288303	3.417	Si
SLU 5	309	-10411	610118	1.63	946647	1.552	Si
SLU 5	389	-9538	276997	1.5	885525	3.197	Si

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 15	309	-9607	86318	1.51	957887	11.097	Si
SLV 15	389	-7668	1012460	0	0	0	No, e>1/2
SLV 12	309	-7584	-59907	1.19	778627	12.997	Si
SLV 12	389	-2726	580871	0	0	0	No, e>1/2
SLV 14	309	-12955	365205	2.03	1228373	3.364	Si
SLV 14	389	-13432	922870	2.11	1264208	1.37	Si
SLV 16	309	-9607	86318	1.51	957887	11.097	Si
SLV 16	389	-7668	1012460	0	0	0	No, e>1/2
SLV 2	309	-18338	877045	2.88	1594500	1.818	Si
SLV 2	389	-18522	-608872	2.91	1605526	2.637	Si
SLV 1	309	-18338	877045	2.88	1594500	1.818	Si
SLV 1	389	-18522	-608872	2.91	1605526	2.637	Si
SLV 6	309	-20361	1023269	3.2	1710181	1.671	Si
SLV 6	389	-23465	-177283	3.68	1864451	10.517	Si
SLV 5	309	-20361	1023269	3.2	1710181	1.671	Si
SLV 5	389	-23465	-177283	3.68	1864451	10.517	Si
SLV 13	309	-12955	365205	2.03	1228373	3.364	Si
SLV 13	389	-13432	922870	2.11	1264208	1.37	Si
SLV 11	309	-7584	-59907	1.19	778627	12.997	Si
SLV 11	389	-2726	580871	0	0	0	No, e>1/2





Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 5	309	-10411	4157	610118		2.25	165.44	0.86	3962			0.95	No, Vu<V
SLU 5	389	-9538	4157	276997		1.5	227.5	0.76	4811			1.16	Si
SLU 52	309	-15453	5360	780653		2.91	189.7	0.94	5011			0.93	No, Vu<V
SLU 52	389	-14324	5360	351098		2.25	227.5	0.86	5449			1.02	Si
SLU 55	309	-15772	5438	789646		2.95	191.05	0.95	5075			0.93	No, Vu<V
SLU 55	389	-14642	5438	353855		2.3	227.5	0.86	5491			1.01	Si
SLU 44	309	-13203	4896	714866		2.64	178.81	0.91	4542			0.93	No, Vu<V
SLU 44	389	-12073	4896	322404		1.9	227.5	0.81	5149			1.05	Si
SLU 76	309	-17846	5884	848270		3.21	198.65	0.98	5470			0.93	No, Vu<V
SLU 76	389	-16701	5884	376992		2.62	227.5	0.91	5766			0.98	No, Vu<V
SLU 47	309	-13521	4974	723859		2.67	180.64	0.91	4613			0.93	No, Vu<V
SLU 47	389	-12391	4974	325160		1.95	227.5	0.81	5191			1.04	Si
SLU 73	309	-17527	5806	839277		3.17	197.6	0.98	5411			0.93	No, Vu<V
SLU 73	389	-16383	5806	374235		2.57	227.5	0.9	5723			0.99	No, Vu<V
SLU 65	309	-15276	5342	773490		2.88	189.35	0.94	4982			0.93	No, Vu<V
SLU 65	389	-14132	5342	345540		2.22	227.5	0.85	5423			1.02	Si
SLU 68	309	-15595	5420	782483		2.92	190.72	0.94	5046			0.93	No, Vu<V
SLU 68	389	-14450	5420	348297		2.27	227.5	0.86	5466			1.01	Si
SLU 2	309	-10093	4079	601125		2.22	162.57	0.85	3874			0.95	No, Vu<V
SLU 2	389	-9220	4079	274241		1.45	227.5	0.75	4768			1.17	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	309	-12955	-8197	365205		2.03	227.5	1.24	7899			0.96	No, Vu<V
SLV 14	389	-13432	-7895	922870		3.55	135.13	1.54	5839			0.74	No, Vu<V
SLV 12	309	-7584	-4439	-59907		1.19	227.5	1.07	6825			1.54	Si
SLV 12	389	-2726	-5442	580871		0	0	0.83	0			0	No, Vu<V
SLV 13	309	-12955	-8197	365205		2.03	227.5	1.24	7899			0.96	No, Vu<V
SLV 13	389	-13432	-7895	922870		3.55	135.13	1.54	5839			0.74	No, Vu<V
SLV 1	309	-18338	17618	877045		3.31	197.77	1.5	8282			0.47	No, Vu<V
SLV 1	389	-18522	17917	-608872		2.91	227.5	1.41	9013			0.5	No, Vu<V
SLV 16	309	-9607	-10632	86318		1.51	227.5	1.13	7230			0.68	No, Vu<V
SLV 16	389	-7668	-10932	1012460		0	0	0.83	0			0	No, Vu<V
SLV 3	309	-14990	15182	598157		2.42	221.54	1.32	8167			0.54	No, Vu<V
SLV 3	389	-12759	14880	-519282		2.08	219.15	1.25	7665			0.52	No, Vu<V
SLV 15	309	-9607	-10632	86318		1.51	227.5	1.13	7230			0.68	No, Vu<V
SLV 15	389	-7668	-10932	1012460		0	0	0.83	0			0	No, Vu<V
SLV 2	309	-18338	17618	877045		3.31	197.77	1.5	8282			0.47	No, Vu<V
SLV 2	389	-18522	17917	-608872		2.91	227.5	1.41	9013			0.5	No, Vu<V
SLV 11	309	-7584	-4439	-59907		1.19	227.5	1.07	6825			1.54	Si
SLV 11	389	-2726	-5442	580871		0	0	0.83	0			0	No, Vu<V
SLV 4	309	-14990	15182	598157		2.42	221.54	1.32	8167			0.54	No, Vu<V
SLV 4	389	-12759	14880	-519282		2.08	219.15	1.25	7665			0.52	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295,5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.31	1.46	-9329	20842	114955	5.52	Si
SLV 11	14	0.31	1.46	-9329	20842	114955	5.52	Si
SLV 8	14	0.31	1.5	-9584	20842	117653	5.64	Si
SLV 7	14	0.31	1.5	-9584	20842	117653	5.64	Si
SLV 15	14	0.31	1.62	-10330	20842	125425	6.02	Si
SLV 16	14	0.31	1.62	-10330	20842	125425	6.02	Si
SLV 4	14	0.31	1.75	-11178	20842	134021	6.43	Si
SLV 3	14	0.31	1.75	-11178	20842	134021	6.43	Si
SLV 14	14	0.31	1.8	-11442	20842	136639	6.56	Si
SLV 13	14	0.31	1.8	-11442	20842	136639	6.56	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 295.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 12	-5576	-4651	-118	0.033	9.129	0.909	52.143	844.398	No
SLV 11	-5576	-4651	-118	0.033	9.129	0.909	52.143	844.398	No
SLV 5	-17899	-13001	118	0.036	21.577	0.955	54.301	844.398	No
SLV 6	-17899	-13001	118	0.036	21.577	0.955	54.301	844.398	No
SLV 1	-13759	-8361	58	0.039	17.374	0.945	59.854	924.595	No
SLV 2	-13759	-8361	58	0.039	17.374	0.945	59.854	924.595	No
SLV 7	-5690	-3519	-103	0.035	9.242	0.91	55.323	844.398	No
SLV 8	-5690	-3519	-103	0.035	9.242	0.91	55.323	844.398	No
SLV 9	-17785	-14132	103	0.036	21.461	0.954	55.461	844.398	No
SLV 10	-17785	-14132	103	0.036	21.461	0.954	55.461	844.398	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.538	SLU 2	Si
V_SLU	0.927	SLU 47	No
PF_SLV	0	SLV 11	No
V_SLV	0	SLV 11	No
PFFP_SLV	5.516	SLV 11	Si
R_SLV	0.062	SLV 11	No

## Maschio 95

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



## Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.3	-335.9	-223.3	-335.9	L3	L4	211	28	373	373	373			

## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 10	199	-11041	-669138	1.87	897593	1.341	Si
SLU 10	389	-15682	-95625	2.65	1115344	11.664	Si
SLU 44	199	-12246	-714902	2.07	963214	1.347	Si
SLU 44	389	-16723	-117113	2.83	1151219	9.83	Si
SLU 2	199	-9544	-618630	1.62	807207	1.305	Si
SLU 2	389	-13395	-108781	2.27	1019858	9.375	Si
SLU 23	199	-11128	-671905	1.88	902554	1.343	Si
SLU 23	389	-15715	-102363	2.66	1116563	10.908	Si
SLU 76	199	-15676	-828810	2.65	1115107	1.345	Si
SLU 76	389	-21773	-100795	3.69	1257817	12.479	Si
SLU 73	199	-15328	-818686	2.59	1102040	1.346	Si
SLU 73	389	-21330	-97538	3.61	1252938	12.846	Si
SLU 26	199	-11476	-682029	1.94	922030	1.352	Si
SLU 26	389	-16158	-105619	2.74	1132347	10.721	Si
SLU 47	199	-12594	-725026	2.13	980984	1.353	Si
SLU 47	389	-17166	-120369	2.91	1165046	9.679	Si
SLU 5	199	-9892	-628754	1.67	829101	1.319	Si
SLU 5	389	-13838	-112037	2.34	1040149	9.284	Si
SLU 13	199	-11389	-679262	1.93	917202	1.35	Si
SLU 13	389	-16125	-98881	2.73	1131193	11.44	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 14	199	-17294	-1231264	2.93	1387415	1.127	Si
SLV 14	389	-28599	468513	4.84	1821858	3.889	Si
SLV 4	199	-6103	408373	1.03	589450	1.443	Si
SLV 4	389	-1521	-498203	0	0	0	No, e>l/2
SLV 7	199	-4840	275824	0.82	476424	1.727	Si
SLV 7	389	-2422	-187510	0.41	246979	1.317	Si
SLV 10	199	-18557	-1098715	3.14	1454476	1.324	Si
SLV 10	389	-27698	157820	4.69	1800932	11.411	Si
SLV 15	199	-13879	-940282	2.35	1182707	1.258	Si
SLV 15	389	-22944	450276	3.88	1651244	3.667	Si
SLV 9	199	-18557	-1098715	3.14	1454476	1.324	Si
SLV 9	389	-27698	157820	4.69	1800932	11.411	Si
SLV 8	199	-4840	275824	0.82	476424	1.727	Si
SLV 8	389	-2422	-187510	0.41	246979	1.317	Si
SLV 13	199	-17294	-1231264	2.93	1387415	1.127	Si
SLV 13	389	-28599	468513	4.84	1821858	3.889	Si
SLV 3	199	-6103	408373	1.03	589450	1.443	Si
SLV 3	389	-1521	-498203	0	0	0	No, e>l/2
SLV 16	199	-13879	-940282	2.35	1182707	1.258	Si
SLV 16	389	-22944	450276	3.88	1651244	3.667	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 55	199	-14091	-7999	-775534		3.32	151.39	1	4234			0.53	No, Vu<V
SLU 55	389	-19453	-7947	-107213		3.29	211	0.99	5876			0.74	No, Vu<V
SLU 23	199	-11128	-6732	-671905		2.94	135.36	0.95	3589			0.53	No, Vu<V
SLU 23	389	-15715	-6684	-102363		2.66	211	0.91	5378			0.8	No, Vu<V
SLU 34	199	-12973	-7595	-732537		3.15	147.11	0.98	4018			0.53	No, Vu<V
SLU 34	389	-18445	-7545	-92463		3.12	211	0.97	5742			0.76	No, Vu<V
SLU 76	199	-15676	-8740	-828810		3.55	157.88	1.03	4546			0.52	No, Vu<V
SLU 76	389	-21773	-8687	-100795		3.69	211	1.05	6185			0.71	No, Vu<V
SLU 52	199	-13743	-7910	-765411		3.28	149.42	0.99	4157			0.53	No, Vu<V
SLU 52	389	-19010	-7859	-103957		3.22	211	0.98	5817			0.74	No, Vu<V
SLU 2	199	-9544	-5990	-618630		2.79	122.04	0.93	3171			0.53	No, Vu<V
SLU 2	389	-13395	-5944	-108781		2.27	211	0.86	5068			0.85	No, Vu<V
SLU 10	199	-11041	-6765	-669138		2.93	134.69	0.95	3567			0.53	No, Vu<V
SLU 10	389	-15682	-6717	-95625		2.65	211	0.91	5373			0.8	No, Vu<V
SLU 31	199	-12625	-7506	-722414		3.11	144.84	0.97	3936			0.52	No, Vu<V
SLU 31	389	-18002	-7456	-89207		3.05	211	0.96	5683			0.76	No, Vu<V
SLU 73	199	-15328	-8651	-818686		3.5	156.26	1.02	4474			0.52	No, Vu<V
SLU 73	389	-21330	-8598	-97538		3.61	211	1.04	6126			0.71	No, Vu<V
SLU 65	199	-13830	-7877	-768178		3.3	149.87	0.99	4175			0.53	No, Vu<V
SLU 65	389	-19043	-7826	-110695		3.22	211	0.99	5821			0.74	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	199	-6103	6229	408373		1.88	115.77	1.21	3922			0.63	No, Vu<V
SLV 3	389	-1521	5615	-498203		0	0	0.83	0			0	No, Vu<V
SLV 10	199	-18557	-13134	-1098715		4.77	138.87	1.63	6319			0.48	No, Vu<V
SLV 10	389	-27698	-11367	157820		4.69	211	1.63	9601			0.84	No, Vu<V
SLV 16	199	-13879	-13365	-940282		4.38	113.25	1.63	5153			0.39	No, Vu<V
SLV 16	389	-22944	-13756	450276		3.88	211	1.61	9512			0.69	No, Vu<V
SLV 13	199	-17294	-16424	-1231264		6	102.91	1.63	4682			0.29	No, Vu<V
SLV 13	389	-28599	-15783	468513		4.84	211	1.63	9601			0.61	No, Vu<V



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 13	199	-14059	-9890	-758793		3.25	154.58	1.48	6419			0.65	No, Vu<V
SLD 13	389	-20794	-9633	189652		3.52	211	1.54	9082			0.94	No, Vu<V
SLV 14	199	-17294	-16424	-1231264		6	102.91	1.63	4682			0.29	No, Vu<V
SLV 14	389	-28599	-15783	468513		4.84	211	1.63	9601			0.61	No, Vu<V
SLV 9	199	-18557	-13134	-1098715		4.77	138.87	1.63	6319			0.48	No, Vu<V
SLV 9	389	-27698	-11367	157820		4.69	211	1.63	9601			0.84	No, Vu<V
SLV 4	199	-6103	6229	408373		1.88	115.77	1.21	3922			0.63	No, Vu<V
SLV 4	389	-1521	5615	-498203		0	0	0.83	0			0	No, Vu<V
SLD 14	199	-14059	-9890	-758793		3.25	154.58	1.48	6419			0.65	No, Vu<V
SLD 14	389	-20794	-9633	189652		3.52	211	1.54	9082			0.94	No, Vu<V
SLV 15	199	-13879	-13365	-940282		4.38	113.25	1.63	5153			0.39	No, Vu<V
SLV 15	389	-22944	-13756	450276		3.88	211	1.61	9512			0.69	No, Vu<V

#### Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.31	0	-416	19330	0	0	No, e>t/2
SLV 8	14	0.31	0	-416	19330	0	0	No, e>t/2
SLV 3	14	0.31	0.41	-2431	19330	32883	1.7	Si
SLV 4	14	0.31	0.41	-2431	19330	32883	1.7	Si
SLV 11	14	0.31	0.9	-5336	19330	69184	3.58	Si
SLV 12	14	0.31	0.9	-5336	19330	69184	3.58	Si
SLV 1	14	0.31	1.54	-9078	19330	111113	5.75	Si
SLV 2	14	0.31	1.54	-9078	19330	111113	5.75	Si
SLV 16	14	0.31	3.19	-18832	19330	194873	10.08	Si
SLV 15	14	0.31	3.19	-18832	19330	194873	10.08	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 295.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 7	-3665	500	-66	0	0	0	0	844.398	No, Trazione
SLV 8	-3665	500	-66	0	0	0	0	844.398	No, Trazione
SLV 15	-17543	-11829	-74	0.038	20.969	0.956	57.077	924.595	No
SLV 16	-17543	-11829	-74	0.038	20.969	0.956	57.077	924.595	No
SLV 13	-21951	-17277	-32	0.039	25.452	0.963	59.305	924.595	No
SLV 14	-21951	-17277	-32	0.039	25.452	0.963	59.305	924.595	No
SLV 11	-7697	-2257	-92	0.036	10.994	0.925	56.076	844.398	No
SLV 12	-7697	-2257	-92	0.036	10.994	0.925	56.076	844.398	No
SLV 2	-8512	-8087	56	0.039	11.815	0.929	61.536	924.595	No
SLV 1	-8512	-8087	56	0.039	11.815	0.929	61.536	924.595	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.305	SLU 2	Si
V_SLU	0.517	SLU 73	No
PF_SLV	0	SLV 3	No
V_SLV	0	SLV 3	No
PFFP_SLV	0	SLV 7	No
R_SLV	0	SLV 8	No

## Maschio 96

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-301.3	595.1	-515.8	595.1	L3	L4	214.5	28	373	373	373			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 75	199	-22298	555461	3.71	1301502	2.343	Si
SLU 75	389	-26116	403751	4.35	1305773	3.234	Si
SLU 81	199	-22442	553878	3.74	1302823	2.352	Si
SLU 81	389	-26349	384882	4.39	1303964	3.388	Si
SLU 78	199	-23053	578599	3.84	1307417	2.26	Si
SLU 78	389	-27079	429249	4.51	1296752	3.021	Si
SLU 83	199	-23197	577016	3.86	1308262	2.267	Si
SLU 83	389	-27312	410381	4.55	1293959	3.153	Si
SLU 74	199	-22402	559120	3.73	1302471	2.33	Si
SLU 74	389	-26278	398489	4.38	1304541	3.274	Si
SLU 77	199	-23157	582259	3.86	1308040	2.246	Si
SLU 77	389	-27241	423987	4.54	1294836	3.054	Si
SLU 80	199	-22919	577170	3.82	1306555	2.264	Si
SLU 80	389	-26923	427794	4.48	1298495	3.035	Si
SLU 79	199	-23024	580829	3.83	1307239	2.251	Si
SLU 79	389	-27085	422532	4.51	1296690	3.069	Si
SLU 76	199	-22094	551592	3.68	1299484	2.356	Si
SLU 76	389	-25852	405804	4.3	1307538	3.222	Si
SLU 84	199	-23092	573357	3.84	1307657	2.281	Si
SLU 84	389	-27150	415643	4.52	1295926	3.118	Si



Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 1	199	-8345	912098	0	0	0	No, $e \geq l/2$
SLV 1	389	-17283	-185582	2.88	1417079	7.636	Si
SLV 14	199	-14677	-15368	2.44	1259287	81.941	Si
SLV 14	389	-11729	796668	1.95	1056916	1.327	Si
SLV 2	199	-8345	912098	0	0	0	No, $e \geq l/2$
SLV 2	389	-17283	-185582	2.88	1417079	7.636	Si
SLV 10	199	-4351	474156	0	0	0	No, $e \geq l/2$
SLV 10	389	-7024	555774	1.17	681213	1.226	Si
SLV 5	199	-2451	752396	0	0	0	No, $e \geq l/2$
SLV 5	389	-8690	261099	1.45	821645	3.147	Si
SLV 4	199	-15296	770745	2.55	1298579	1.685	Si
SLV 4	389	-22983	-273776	3.83	1692951	6.184	Si
SLV 3	199	-15296	770745	2.55	1298579	1.685	Si
SLV 3	389	-22983	-273776	3.83	1692951	6.184	Si
SLV 9	199	-4351	474156	0	0	0	No, $e \geq l/2$
SLV 9	389	-7024	555774	1.17	681213	1.226	Si
SLV 13	199	-14677	-15368	2.44	1259287	81.941	Si
SLV 13	389	-11729	796668	1.95	1056916	1.327	Si
SLV 6	199	-2451	752396	0	0	0	No, $e \geq l/2$
SLV 6	389	-8690	261099	1.45	821645	3.147	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLU 79	199	-23024	4674	580829		3.83	214.5	1.07	6407			1.37	Si
SLU 79	389	-27085	4666	422532		4.51	214.5	1.08	6507			1.39	Si
SLU 84	199	-23092	4671	573357		3.84	214.5	1.07	6416			1.37	Si
SLU 84	389	-27150	4662	415643		4.52	214.5	1.08	6507			1.4	Si
SLU 75	199	-22298	4503	555461		3.71	214.5	1.05	6310			1.4	Si
SLU 75	389	-26116	4495	403751		4.35	214.5	1.08	6507			1.45	Si
SLU 81	199	-22442	4644	553878		3.74	214.5	1.05	6329			1.36	Si
SLU 81	389	-26349	4636	384882		4.39	214.5	1.08	6507			1.4	Si
SLU 80	199	-22919	4596	577170		3.82	214.5	1.06	6393			1.39	Si
SLU 80	389	-26923	4587	427794		4.48	214.5	1.08	6507			1.42	Si
SLU 83	199	-23197	4749	577016		3.86	214.5	1.07	6430			1.35	Si
SLU 83	389	-27312	4741	410381		4.55	214.5	1.08	6507			1.37	Si
SLU 74	199	-22402	4582	559120		3.73	214.5	1.05	6324			1.38	Si
SLU 74	389	-26278	4574	398489		4.38	214.5	1.08	6507			1.42	Si
SLU 77	199	-23157	4687	582259		3.86	214.5	1.07	6424			1.37	Si
SLU 77	389	-27241	4679	423987		4.54	214.5	1.08	6507			1.39	Si
SLU 78	199	-23053	4609	578599		3.84	214.5	1.07	6410			1.39	Si
SLU 78	389	-27079	4600	429249		4.51	214.5	1.08	6507			1.41	Si
SLU 82	199	-22337	4565	550218		3.72	214.5	1.05	6315			1.38	Si
SLU 82	389	-26187	4557	390145		4.36	214.5	1.08	6507			1.43	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLD 2	199	-12215	6724	602357		2.51	173.82	1.34	6499			0.97	No, Vu<V
SLD 2	389	-17361	6679	68805		2.89	214.5	1.41	8477			1.27	Si
SLV 5	199	-2451	5554	752396		0	0	0.83	0			0	No, Vu<V
SLV 5	389	-8690	5586	261099		1.45	214.5	1.12	6743			1.21	Si
SLV 6	199	-2451	5554	752396		0	0	0.83	0			0	No, Vu<V
SLV 6	389	-8690	5586	261099		1.45	214.5	1.12	6743			1.21	Si
SLV 2	199	-8345	11569	912098		0	0	0.83	0			0	No, Vu<V
SLV 2	389	-17283	11461	-185582		2.88	214.5	1.41	8462			0.74	No, Vu<V
SLD 1	199	-12215	6724	602357		2.51	173.82	1.34	6499			0.97	No, Vu<V
SLD 1	389	-17361	6679	68805		2.89	214.5	1.41	8477			1.27	Si
SLV 10	199	-4351	472	474156		0	0	0.83	0			0	No, Vu<V
SLV 10	389	-7024	580	555774		2.97	84.37	1.43	3373			5.82	Si
SLV 1	199	-8345	11569	912098		0	0	0.83	0			0	No, Vu<V
SLV 1	389	-17283	11461	-185582		2.88	214.5	1.41	8462			0.74	No, Vu<V
SLV 3	199	-15296	11643	770745		3.2	170.59	1.47	7040			0.6	No, Vu<V
SLV 3	389	-22983	11490	-273776		3.83	214.5	1.6	9602			0.84	No, Vu<V
SLV 9	199	-4351	472	474156		0	0	0.83	0			0	No, Vu<V
SLV 9	389	-7024	580	555774		2.97	84.37	1.43	3373			5.82	Si
SLV 4	199	-15296	11643	770745		3.2	170.59	1.47	7040			0.6	No, Vu<V
SLV 4	389	-22983	11490	-273776		3.83	214.5	1.6	9602			0.84	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.31	0.74	-4472	19651	58792	2.99	Si
SLV 9	14	0.31	0.74	-4472	19651	58792	2.99	Si
SLV 6	14	0.31	0.85	-5076	19651	66148	3.37	Si
SLV 5	14	0.31	0.85	-5076	19651	66148	3.37	Si
SLV 14	14	0.31	1.94	-11644	19651	137152	6.98	Si
SLV 13	14	0.31	1.94	-11644	19651	137152	6.98	Si
SLV 2	14	0.31	2.27	-13657	19651	155620	7.92	Si
SLV 1	14	0.31	2.27	-13657	19651	155620	7.92	Si
SLV 16	14	0.31	3.06	-18396	19651	192982	9.82	Si
SLV 15	14	0.31	3.06	-18396	19651	192982	9.82	Si

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 295.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 9	-7606	923	81	0	0	0	0	844.398	No, Trazione
SLV 5	-8980	2145	128	0	0	0	0	844.398	No, Trazione
SLV 6	-8980	2145	128	0	0	0	0	844.398	No, Trazione



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 10	-7606	923	81	0	0	0	0	844.398	No, Trazione
SLV 2	-14732	-5533	113	0.035	18.166	0.95	54.053	924.595	No
SLV 1	-14732	-5533	113	0.035	18.166	0.95	54.053	924.595	No
SLV 16	-13709	-17410	-106	0.036	17.128	0.947	54.678	924.595	No
SLV 15	-13709	-17410	-106	0.036	17.128	0.947	54.678	924.595	No
SLV 4	-18289	-13336	52	0.039	21.779	0.957	58.749	924.595	No
SLV 3	-18289	-13336	52	0.039	21.779	0.957	58.749	924.595	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.246	SLU 77	Si
V_SLU	1.354	SLU 83	Si
PF_SLV	0	SLV 1	No
V_SLV	0	SLV 1	No
PFFP_SLV	2.992	SLV 9	Si
R_SLV	0	SLV 10	No

## Maschio 97

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.3	595.1	-201.3	595.1	L3	L4	189	28	373	373	373			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 83	199	-15220	-423969	2.88	930479	2.195	Si
SLU 83	389	-19705	92389	3.72	1010931	10.942	Si
SLU 73	199	-13833	-390504	2.61	887756	2.273	Si
SLU 73	389	-18019	89841	3.4	991027	11.031	Si
SLU 84	199	-14765	-411484	2.79	917378	2.229	Si
SLU 84	389	-19261	100174	3.64	1006898	10.052	Si
SLU 77	199	-14862	-411127	2.81	920238	2.238	Si
SLU 77	389	-19115	91841	3.61	1005379	10.947	Si
SLU 75	199	-14346	-401108	2.71	904530	2.255	Si
SLU 75	389	-18598	92193	3.51	999265	10.839	Si
SLU 79	199	-14713	-406380	2.78	915820	2.254	Si
SLU 79	389	-18905	91732	3.57	1003036	10.934	Si
SLU 82	199	-14705	-413950	2.78	915582	2.212	Si
SLU 82	389	-19189	92741	3.63	1006156	10.849	Si
SLU 81	199	-15160	-426435	2.86	928803	2.178	Si
SLU 81	389	-19633	84957	3.71	1010330	11.892	Si
SLU 60	199	-13904	-394503	2.63	890117	2.256	Si
SLU 60	389	-17761	65399	3.36	986888	15.09	Si
SLU 74	199	-14801	-413593	2.8	918468	2.221	Si
SLU 74	389	-19042	84408	3.6	1004590	11.902	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 14	199	-11948	-661089	2.26	920441	1.392	Si
SLV 14	389	-20056	314205	3.79	1307421	4.161	Si
SLV 12	199	-16886	-910006	3.19	1179008	1.296	Si
SLV 12	389	-25593	202139	4.84	1461277	7.229	Si
SLV 11	199	-16886	-910006	3.19	1179008	1.296	Si
SLV 11	389	-25593	202139	4.84	1461277	7.229	Si
SLV 2	199	-5319	355575	1.01	461314	1.297	Si
SLV 2	389	-257	-264572	0	0	0	No, e>/2
SLV 15	199	-15298	-940204	2.89	1103621	1.174	Si
SLV 15	389	-25809	355977	4.88	1465477	4.117	Si
SLV 5	199	-3731	325377	0.71	332232	1.021	Si
SLV 5	389	-474	-110734	0	0	0	No, e>/2
SLV 6	199	-3731	325377	0.71	332232	1.021	Si
SLV 6	389	-474	-110734	0	0	0	No, e>/2
SLV 1	199	-5319	355575	1.01	461314	1.297	Si
SLV 1	389	-257	-264572	0	0	0	No, e>/2
SLV 16	199	-15298	-940204	2.89	1103621	1.174	Si
SLV 16	389	-25809	355977	4.88	1465477	4.117	Si
SLV 13	199	-11948	-661089	2.26	920441	1.392	Si
SLV 13	389	-20056	314205	3.79	1307421	4.161	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	$\sigma N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 83	199	-15220	-6148	-423969		2.88	189	0.94	4969			0.81	No, Vu<V
SLU 83	389	-19705	-6134	92389		3.72	189	1.05	5567			0.91	No, Vu<V
SLU 81	199	-15160	-6116	-426435		2.86	189	0.94	4961			0.81	No, Vu<V
SLU 81	389	-19633	-6101	84957		3.71	189	1.05	5558			0.91	No, Vu<V
SLU 77	199	-14862	-5962	-411127		2.81	189	0.93	4922			0.83	No, Vu<V
SLU 77	389	-19115	-5948	91841		3.61	189	1.04	5489			0.92	No, Vu<V
SLU 76	199	-13894	-5843	-388038		2.63	189	0.91	4792			0.82	No, Vu<V
SLU 76	389	-18092	-5826	97273		3.42	189	1.01	5352			0.92	No, Vu<V



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 75	199	-14346	-5911	-401108		2.71	189	0.92	4853			0.82	No, Vu<V
SLU 75	389	-18598	-5896	92193		3.51	189	1.02	5420			0.92	No, Vu<V
SLU 82	199	-14705	-6097	-413950		2.78	189	0.93	4901			0.8	No, Vu<V
SLU 82	389	-19189	-6081	92741		3.63	189	1.04	5498			0.9	No, Vu<V
SLU 78	199	-14406	-5944	-398642		2.72	189	0.92	4861			0.82	No, Vu<V
SLU 78	389	-18671	-5928	99625		3.53	189	1.03	5429			0.92	No, Vu<V
SLU 80	199	-14257	-5888	-393895		2.69	189	0.91	4841			0.82	No, Vu<V
SLU 80	389	-18460	-5872	99516		3.49	189	1.02	5401			0.92	No, Vu<V
SLU 84	199	-14765	-6130	-411484		2.79	189	0.93	4909			0.8	No, Vu<V
SLU 84	389	-19261	-6114	100174		3.64	189	1.04	5508			0.9	No, Vu<V
SLU 73	199	-13833	-5810	-390504		2.61	189	0.9	4784			0.82	No, Vu<V
SLU 73	389	-18019	-5794	89841		3.4	189	1.01	5343			0.92	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	199	-15298	-13036	-940204		5.51	99.12	1.63	4510			0.35	No, Vu<V
SLV 16	389	-25809	-12162	355977		4.88	189	1.63	8599			0.71	No, Vu<V
SLV 15	199	-15298	-13036	-940204		5.51	99.12	1.63	4510			0.35	No, Vu<V
SLV 15	389	-25809	-12162	355977		4.88	189	1.63	8599			0.71	No, Vu<V
SLV 6	199	-3731	4032	325377		6.09	21.87	1.63	995			0.25	No, Vu<V
SLV 6	389	-474	1761	-110734		0	0	0.83	0			0	No, Vu<V
SLV 1	199	-5319	4929	355575		2.29	82.96	1.29	3000			0.61	No, Vu<V
SLV 1	389	-257	4075	-264572		0	0	0.83	0			0	No, Vu<V
SLV 11	199	-16886	-12139	-910006		4.95	121.83	1.63	5543			0.46	No, Vu<V
SLV 11	389	-25593	-9849	202139		4.84	189	1.63	8599			0.87	No, Vu<V
SLV 14	199	-11948	-9482	-661089		3.63	117.5	1.56	5131			0.54	No, Vu<V
SLV 14	389	-20056	-9941	314205		3.79	189	1.59	8421			0.85	No, Vu<V
SLV 5	199	-3731	4032	325377		6.09	21.87	1.63	995			0.25	No, Vu<V
SLV 5	389	-474	1761	-110734		0	0	0.83	0			0	No, Vu<V
SLV 2	199	-5319	4929	355575		2.29	82.96	1.29	3000			0.61	No, Vu<V
SLV 2	389	-257	4075	-264572		0	0	0.83	0			0	No, Vu<V
SLV 13	199	-11948	-9482	-661089		3.63	117.5	1.56	5131			0.54	No, Vu<V
SLV 13	389	-20056	-9941	314205		3.79	189	1.59	8421			0.85	No, Vu<V
SLV 12	199	-16886	-12139	-910006		4.95	121.83	1.63	5543			0.46	No, Vu<V
SLV 12	389	-25593	-9849	202139		4.84	189	1.63	8599			0.87	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.31	0	1594	17315	0	0	No, Trazione
SLV 6	14	0.31	0	1594	17315	0	0	No, Trazione
SLV 2	14	0.31	0.31	-1661	17315	22659	1.31	Si
SLV 1	14	0.31	0.31	-1661	17315	22659	1.31	Si
SLV 9	14	0.31	0.49	-2594	17315	34859	2.01	Si
SLV 10	14	0.31	0.49	-2594	17315	34859	2.01	Si
SLV 3	14	0.31	1.63	-8639	17315	104790	6.05	Si
SLV 4	14	0.31	1.63	-8639	17315	104790	6.05	Si
SLV 13	14	0.31	2.95	-15621	17315	165862	9.58	Si
SLV 14	14	0.31	2.95	-15621	17315	165862	9.58	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 295.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 10	-5780	902	79	0	0	0	0	844.398	No, Trazione
SLV 6	-2254	3298	71	0	0	0	0	844.398	No, Trazione
SLV 9	-5780	902	79	0	0	0	0	844.398	No, Trazione
SLV 5	-2254	3298	71	0	0	0	0	844.398	No, Trazione
SLV 13	-14767	-9826	37	0.039	17.821	0.954	59.856	924.595	No
SLV 14	-14767	-9826	37	0.039	17.821	0.954	59.856	924.595	No
SLV 16	-18944	-16626	-6	0.04	22.068	0.962	61.116	924.595	No
SLV 15	-18944	-16626	-6	0.04	22.068	0.962	61.116	924.595	No
SLV 8	-16177	-19367	-74	0.037	19.254	0.957	56.371	844.398	No
SLV 7	-16177	-19367	-74	0.037	19.254	0.957	56.371	844.398	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.178	SLU 81	Si
V_SLU	0.801	SLU 84	No
PF_SLV	0	SLV 1	No
V_SLV	0	SLV 1	No
PFFP_SLV	0	SLV 6	No
R_SLV	0	SLV 10	No

## Maschio 98

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-12.3	-328.4	-12.3	595.1	L3	L4	923.5	28	373	373	373			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fk0	fmedio	t0	f0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2



Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 82	109	-172233	-4163208	6.66	14498788	3.483	Si
SLU 82	482	-113291	-1910044	4.38	24175469	12.657	Si
SLU 76	109	-169156	-5339225	6.54	15380638	2.881	Si
SLU 76	482	-111214	-2514016	4.3	24238643	9.641	Si
SLU 65	109	-153123	-4752048	5.92	19304782	4.062	Si
SLU 65	482	-100122	-2182799	3.87	24255712	11.112	Si
SLU 80	109	-169862	-4745750	6.57	15181975	3.199	Si
SLU 80	482	-111973	-2291224	4.33	24217747	10.57	Si
SLU 84	109	-174086	-4506698	6.73	13947534	3.095	Si
SLU 84	482	-114706	-2125451	4.44	24121628	11.349	Si
SLU 75	109	-169523	-4392366	6.56	15277883	3.478	Si
SLU 75	482	-111764	-2068357	4.32	24223761	11.712	Si
SLU 73	109	-167303	-4995735	6.47	15891835	3.181	Si
SLU 73	482	-109799	-2298610	4.25	24270827	10.559	Si
SLU 78	109	-171376	-4735856	6.63	14748652	3.114	Si
SLU 78	482	-113178	-2283764	4.38	24179393	10.588	Si
SLU 68	109	-154976	-5095537	5.99	18908805	3.711	Si
SLU 68	482	-101537	-2398206	3.93	24283543	10.126	Si
SLU 55	109	-154887	-4916467	5.99	18928246	3.85	Si
SLU 55	482	-101315	-2270597	3.92	24279754	10.693	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 11	109	-140948	12575383	5.45	36048609	2.867	Si
SLV 11	482	-90310	6692088	3.49	29780844	4.45	Si
SLV 10	109	-138015	-16946143	5.34	35890047	2.118	Si
SLV 10	482	-88113	-8212717	3.41	29339372	3.572	Si
SLV 2	109	-39436	-5074831	1.53	15936469	3.14	Si
SLV 2	482	-33133	-3237239	1.28	13694675	4.23	Si
SLV 1	109	-39436	-5074831	1.53	15936469	3.14	Si
SLV 1	482	-33133	-3237239	1.28	13694675	4.23	Si
SLV 7	109	-94976	13285588	3.67	30671997	2.309	Si
SLV 7	482	-64579	6580763	2.5	23724346	3.605	Si
SLV 6	109	-92043	-16235938	3.56	30119274	1.855	Si
SLV 6	482	-62383	-8324041	2.41	23117682	2.777	Si
SLV 5	109	-92043	-16235938	3.56	30119274	1.855	Si
SLV 5	482	-62383	-8324041	2.41	23117682	2.777	Si
SLV 9	109	-138015	-16946143	5.34	35890047	2.118	Si
SLV 9	482	-88113	-8212717	3.41	29339372	3.572	Si
SLV 12	109	-140948	12575383	5.45	36048609	2.867	Si
SLV 12	482	-90310	6692088	3.49	29780844	4.45	Si
SLV 8	109	-94976	13285588	3.67	30671997	2.309	Si
SLV 8	482	-64579	6580763	2.5	23724346	3.605	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 34	109	-141539	-1204	-4992211		5.47	923.49	1.08	28013			23.26	Si
SLU 34	482	-93382	-903	-2383473		3.61	923.49	1.04	26816			29.71	Si
SLU 10	109	-125416	-1158	-4225963		4.85	923.49	1.08	28013			24.18	Si
SLU 10	482	-82068	-865	-1924646		3.17	923.49	0.98	25308			29.26	Si
SLU 26	109	-127359	-1267	-4748524		4.93	923.49	1.08	28013			22.1	Si
SLU 26	482	-83705	-971	-2267662		3.24	923.49	0.99	25526			26.3	Si
SLU 55	109	-154887	-1136	-4916467		5.99	923.49	1.08	28013			24.66	Si
SLU 55	482	-101315	-832	-2270597		3.92	923.49	1.08	27874			33.51	Si
SLU 23	109	-125505	-1179	-4405034		4.85	923.49	1.08	28013			23.77	Si
SLU 23	482	-82290	-884	-2052255		3.18	923.49	0.98	25337			28.65	Si
SLU 68	109	-154976	-1156	-5095537		5.99	923.49	1.08	28013			24.22	Si
SLU 68	482	-101537	-851	-2398206		3.93	923.49	1.08	27904			32.78	Si
SLU 5	109	-113089	-1310	-4325766		4.37	923.49	1.08	28013			21.38	Si
SLU 5	482	-73806	-1019	-2024243		2.85	923.49	0.94	24206			23.76	Si
SLU 2	109	-111236	-1221	-3982276		4.3	923.49	1.08	28013			22.93	Si
SLU 2	482	-72391	-933	-1808836		2.8	923.49	0.93	24018			25.75	Si
SLU 13	109	-127269	-1247	-4569453		4.92	923.49	1.08	28013			22.46	Si
SLU 13	482	-83483	-951	-2140053		3.23	923.49	0.99	25496			26.81	Si
SLU 47	109	-140707	-1199	-4672779		5.44	923.49	1.08	28013			23.36	Si
SLU 47	482	-91638	-900	-2154786		3.54	923.49	1.03	26584			29.55	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 6	109	-92043	-22941	-16235938		3.84	856.06	1.6	38383			1.67	Si
SLV 6	482	-62383	-17238	-8324041		2.41	923.49	1.32	34025			1.97	Si
SLD 11	109	-126934	10416	4219810		4.91	923.49	1.63	42019			4.03	Si
SLD 11	482	-82331	7993	2332738		3.18	923.49	1.47	38014			4.76	Si
SLV 7	109	-94976	23564	13285588		3.67	923.49	1.57	40543			1.72	Si
SLV 7	482	-64579	17876	6580763		2.5	923.49	1.33	34464			1.93	Si
SLV 11	109	-140948	23839	12575383		5.45	923.49	1.63	42019			1.76	Si
SLV 11	482	-90310	18211	6692088		3.49	923.49	1.53	39610			2.18	Si
SLV 5	109	-92043	-22941	-16235938		3.84	856.06	1.6	38383			1.67	Si
SLV 5	482	-62383	-17238	-8324041		2.41	923.49	1.32	34025			1.97	Si
SLV 8	109	-94976	23564	13285588		3.67	923.49	1.57	40543			1.72	Si
SLV 8	482	-64579	17876	6580763		2.5	923.49	1.33	34464			1.93	Si
SLV 10	109	-138015	-22666	-16946143		5.34	923.49	1.63	42019			1.85	Si
SLV 10	482	-88113	-16903	-8212717		3.41	923.49	1.51	39171			2.32	Si
SLV 9	109	-138015	-22666	-16946143		5.34	923.49	1.63	42019			1.85	Si
SLV 9	482	-88113	-16903	-8212717		3.41	923.49	1.51	39171			2.32	Si
SLV 12	109	-140948	23839	12575383		5.45	923.49	1.63	42019			1.76	Si
SLV 12	482	-90310	18211	6692088		3.49	923.49	1.53	39610			2.18	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 12	109	-126934	10416	4219810		4.91	923.49	1.63	42019			4.03	Si
SLD 12	482	-82331	7993	2332738		3.18	923.49	1.47	38014			4.76	Si

#### Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 295.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 2	14	0.31	1.44	-37244	84604	459953	5.44	Si
SLV 1	14	0.31	1.44	-37244	84604	459953	5.44	Si
SLV 3	14	0.31	1.47	-38008	84604	468099	5.53	Si
SLV 4	14	0.31	1.47	-38008	84604	468099	5.53	Si
SLV 6	14	0.31	2.92	-75502	84604	804431	9.51	Si
SLV 5	14	0.31	2.92	-75502	84604	804431	9.51	Si
SLV 8	14	0.31	3.02	-78048	84604	822751	9.72	Si
SLV 7	14	0.31	3.02	-78048	84604	822751	9.72	Si
SLV 9	14	0.31	4.22	-109058	84604	999795	11.82	Si
SLV 10	14	0.31	4.22	-109058	84604	999795	11.82	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 295.5 Wa = 0.05 Ta = 0.083

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 15	-119560	-193556	-160	0.039	135.303	0.969	58.207	924.595	No
SLV 16	-119560	-193556	-160	0.039	135.303	0.969	58.207	924.595	No
SLV 13	-118901	-192676	-48	0.04	134.632	0.969	59.547	924.595	No
SLV 14	-118901	-192676	-48	0.04	134.632	0.969	59.547	924.595	No
SLV 11	-90310	-140948	-227	0.039	105.535	0.962	58.242	844.398	No
SLV 12	-90310	-140948	-227	0.039	105.535	0.962	58.242	844.398	No
SLV 10	-88113	-138015	148	0.039	103.3	0.961	59.552	844.398	No
SLV 9	-88113	-138015	148	0.039	103.3	0.961	59.552	844.398	No
SLV 5	-62383	-92043	203	0.039	77.152	0.949	60.109	844.398	No
SLV 6	-62383	-92043	203	0.039	77.152	0.949	60.109	844.398	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF SLU	2.881	SLU 76	Si
V SLU	21.381	SLU 5	Si
PF SLV	1.855	SLV 5	Si
V SLV	1.673	SLV 5	Si
PFFP SLV	5.437	SLV 1	Si
R SLV	0.063	SLV 15	No

## Maschio 99

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2467.8	-335.9	-2467.8	126.6	L4	L5	462.6	28	352	352	352			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedlo	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 18	482	-43031	355788	3.32	5893228	16.564	Si
SLU 18	692	-33611	232002	2.6	5297225	22.833	Si
SLU 32	482	-48140	384975	3.72	6053754	15.725	Si
SLU 32	692	-37841	229959	2.92	5612941	24.408	Si
SLU 79	482	-57551	368032	4.44	6049896	16.438	Si
SLU 79	692	-45490	270170	3.51	5984754	22.152	Si
SLU 83	482	-58576	445214	4.52	6026032	13.535	Si
SLU 83	692	-45989	289229	3.55	6000113	20.745	Si
SLU 81	482	-57338	469318	4.43	6054283	12.9	Si
SLU 81	692	-44834	301033	3.46	5962946	19.808	Si
SLU 77	482	-58115	383292	4.49	6037333	15.751	Si
SLU 77	692	-45967	277012	3.55	5999451	21.658	Si
SLU 74	482	-56877	407397	4.39	6063083	14.883	Si
SLU 74	692	-44812	288816	3.46	5962170	20.643	Si
SLU 41	482	-49839	422793	3.85	6081778	14.385	Si
SLU 41	692	-39018	230372	3.01	5686864	24.686	Si
SLU 60	482	-51768	378209	4	6098260	16.124	Si
SLU 60	692	-40583	290859	3.13	5775722	19.857	Si
SLU 39	482	-48601	446897	3.75	6062606	13.566	Si
SLU 39	692	-37863	242176	2.92	5614398	23.183	Si

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 10	482	-40831	-1535860	3.15	7007112	4.562	Si
SLV 10	692	-35109	-60199	2.71	6318781	104.964	Si
SLV 14	482	-18028	-1168518	1.39	3694622	3.162	Si
SLV 14	692	-19846	107161	1.53	4014495	37.462	Si
SLV 11	482	-22346	1438864	1.73	4438498	3.085	Si
SLV 11	692	-17822	474396	1.38	3657847	7.711	Si
SLV 8	482	-36346	2016417	2.81	6475624	3.211	Si





Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 8	692	-25719	491323	1.99	4981732	10.139	Si
SLV 7	482	-36346	2016417	2.81	6475624	3.211	Si
SLV 7	692	-25719	491323	1.99	4981732	10.139	Si
SLV 9	482	-40831	-1535860	3.15	7007112	4.562	Si
SLV 9	692	-35109	-60199	2.71	6318781	104.964	Si
SLV 13	482	-18028	-1168518	1.39	3694622	3.162	Si
SLV 13	692	-19846	107161	1.53	4014495	37.462	Si
SLV 4	482	-59149	1649075	4.57	8567205	5.195	Si
SLV 4	692	-40982	323963	3.16	7024007	21.682	Si
SLV 12	482	-22346	1438864	1.73	4438498	3.085	Si
SLV 12	692	-17822	474396	1.38	3657847	7.711	Si
SLV 3	482	-59149	1649075	4.57	8567205	5.195	Si
SLV 3	692	-40982	323963	3.16	7024007	21.682	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 79	482	-57551	3774	368032		4.44	462.57	1.08	14031			3.72	Si
SLU 79	692	-45490	3774	270170		3.51	462.57	1.02	13261			3.51	Si
SLU 82	482	-58848	3689	341722		4.54	462.57	1.08	14031			3.8	Si
SLU 82	692	-45937	3835	292429		3.55	462.57	1.03	13320			3.47	Si
SLU 74	482	-56877	3838	407397		4.39	462.57	1.08	14031			3.66	Si
SLU 74	692	-44812	3837	288816		3.46	462.57	1.02	13170			3.43	Si
SLU 53	482	-51307	3597	316288		3.96	462.57	1.08	14031			3.9	Si
SLU 53	692	-40560	3597	278642		3.13	462.57	0.97	12604			3.5	Si
SLU 83	482	-58576	3922	445214		4.52	462.57	1.08	14031			3.58	Si
SLU 83	692	-45989	3922	289229		3.55	462.57	1.03	13327			3.4	Si
SLU 64	482	-49795	3590	292392		3.84	462.57	1.07	13835			3.85	Si
SLU 64	692	-39320	3590	276850		3.04	462.57	0.96	12438			3.46	Si
SLU 81	482	-57338	3960	469318		4.43	462.57	1.08	14031			3.54	Si
SLU 81	692	-44834	3959	301033		3.46	462.57	1.02	13173			3.33	Si
SLU 77	482	-58115	3800	383292		4.49	462.57	1.08	14031			3.69	Si
SLU 77	692	-45967	3800	277012		3.55	462.57	1.03	13324			3.51	Si
SLU 62	482	-53006	3682	354105		4.09	462.57	1.08	14031			3.81	Si
SLU 62	692	-41737	3682	279055		3.22	462.57	0.99	12761			3.47	Si
SLU 60	482	-51768	3720	378209		4	462.57	1.08	14031			3.77	Si
SLU 60	692	-40583	3719	290859		3.13	462.57	0.97	12607			3.39	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 9	482	-40831	-7026	-1535860		3.15	462.57	1.46	18960			2.7	Si
SLV 9	692	-35109	-6176	-60199		2.71	462.57	1.38	17815			2.88	Si
SLV 12	482	-22346	10619	1438864		1.73	462.57	1.18	15262			1.44	Si
SLV 12	692	-17822	9896	474396		1.38	462.57	1.11	14358			1.45	Si
SLV 7	482	-36346	12591	2016417		2.81	462.57	1.39	18062			1.43	Si
SLV 7	692	-25719	11741	491323		1.99	462.57	1.23	15937			1.36	Si
SLV 4	482	-59149	8717	1649075		4.57	462.57	1.63	21047			2.41	Si
SLV 4	692	-40982	8269	323963		3.16	462.57	1.47	18990			2.3	Si
SLV 3	482	-59149	8717	1649075		4.57	462.57	1.63	21047			2.41	Si
SLV 3	692	-40982	8269	323963		3.16	462.57	1.47	18990			2.3	Si
SLD 7	482	-37743	6922	986930		2.91	462.57	1.42	18342			2.65	Si
SLD 7	692	-28474	6574	330352		2.2	462.57	1.27	16488			2.51	Si
SLV 8	482	-36346	12591	2016417		2.81	462.57	1.39	18062			1.43	Si
SLV 8	692	-25719	11741	491323		1.99	462.57	1.23	15937			1.36	Si
SLV 11	482	-22346	10619	1438864		1.73	462.57	1.18	15262			1.44	Si
SLV 11	692	-17822	9896	474396		1.38	462.57	1.11	14358			1.45	Si
SLD 8	482	-37743	6922	986930		2.91	462.57	1.42	18342			2.65	Si
SLD 8	692	-28474	6574	330352		2.2	462.57	1.27	16488			2.51	Si
SLV 10	482	-40831	-7026	-1535860		3.15	462.57	1.46	18960			2.7	Si
SLV 10	692	-35109	-6176	-60199		2.71	462.57	1.38	17815			2.88	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 16	14	0.38	1.17	-15117	47105	191423	4.06	Si
SLV 15	14	0.38	1.17	-15117	47105	191423	4.06	Si
SLV 11	14	0.38	1.43	-18477	47105	228480	4.85	Si
SLV 12	14	0.38	1.43	-18477	47105	228480	4.85	Si
SLV 14	14	0.38	1.57	-20340	47105	248164	5.27	Si
SLV 13	14	0.38	1.57	-20340	47105	248164	5.27	Si
SLV 8	14	0.38	2.05	-26581	47105	309627	6.57	Si
SLV 7	14	0.38	2.05	-26581	47105	309627	6.57	Si
SLV 9	14	0.38	2.77	-35888	47105	388495	8.25	Si
SLV 10	14	0.38	2.77	-35888	47105	388495	8.25	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 658 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 4	-30932	-59149	57	0.043	37.935	0.951	65.445	949.98	No
SLV 3	-30932	-59149	57	0.043	37.935	0.951	65.445	949.98	No
SLV 2	-34457	-64695	-6	0.044	41.516	0.955	66.756	949.98	No
SLV 1	-34457	-64695	-6	0.044	41.516	0.955	66.756	949.98	No
SLV 6	-32583	-54831	-95	0.042	39.612	0.953	63.495	874.063	No
SLV 5	-32583	-54831	-95	0.042	39.612	0.953	63.495	874.063	No
SLV 10	-27451	-40831	-109	0.041	34.402	0.946	63.692	874.063	No
SLV 9	-27451	-40831	-109	0.041	34.402	0.946	63.692	874.063	No
SLV 14	-17350	-18028	-53	0.045	24.181	0.928	70.336	949.98	No
SLV 13	-17350	-18028	-53	0.045	24.181	0.928	70.336	949.98	No



Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	12.9	SLU 81	Si
V_SLU	3.327	SLU 81	Si
PF_SLV	3.085	SLV 11	Si
V_SLV	1.357	SLV 7	Si
PFFP_SLV	4.064	SLV 15	Si
R_SLV	0.069	SLV 3	No

## Maschio 100

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-2467.8	206.6	-2467.8	595.1	L4	L5	388.5	28	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 78	482	-42428	-746884	3.9	4295416	5.751	Si
SLU 78	692	-34099	-345845	3.13	4074772	11.782	Si
SLU 68	482	-37716	-739759	3.47	4207975	5.688	Si
SLU 68	692	-29751	-7272105	2.73	3838775	14.108	Si
SLU 84	482	-42807	-716074	3.94	4298223	6.002	Si
SLU 84	692	-34243	-372726	3.15	4081201	10.95	Si
SLU 80	482	-42040	-748885	3.86	4291894	5.731	Si
SLU 80	692	-33753	-337230	3.1	4059036	12.036	Si
SLU 47	482	-34231	-692920	3.15	4080648	5.889	Si
SLU 47	692	-26684	-214909	2.45	3622443	16.856	Si
SLU 72	482	-38665	-725675	3.55	4233405	5.834	Si
SLU 72	692	-30848	-271821	2.84	3906122	14.37	Si
SLU 73	482	-40412	-720210	3.72	4269919	5.929	Si
SLU 73	692	-31901	-344978	2.93	3965870	11.496	Si
SLU 55	482	-37606	-716130	3.46	4204754	5.871	Si
SLU 55	692	-29589	-280318	2.72	3828393	13.657	Si
SLU 76	482	-41092	-762969	3.78	4280501	5.61	Si
SLU 76	692	-32656	-337514	3	4005658	11.868	Si
SLU 70	482	-39053	-723674	3.59	4242665	5.863	Si
SLU 70	692	-31193	-280436	2.87	3926263	14.001	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 10	482	-16882	-1419998	1.55	2862802	2.016	Si
SLV 10	692	-11218	-146027	1.03	1995235	13.663	Si
SLD 6	482	-28382	-884182	2.61	4335969	4.904	Si
SLD 6	692	-21612	-265800	1.99	3515462	13.226	Si
SLV 14	482	-9948	-579794	0.91	1787840	3.084	Si
SLV 14	692	-6968	36112	0.64	1282576	35.517	Si
SLD 9	482	-24005	-843999	2.21	3820857	4.527	Si
SLD 9	692	-18070	-197225	1.66	3032899	15.378	Si
SLV 5	482	-27142	-1513909	2.5	4195664	2.771	Si
SLV 5	692	-19513	-307173	1.79	3233974	10.528	Si
SLV 13	482	-9948	-579794	0.91	1787840	3.084	Si
SLV 13	692	-6968	36112	0.64	1282576	35.517	Si
SLV 9	482	-16882	-1419998	1.55	2862802	2.016	Si
SLV 9	692	-11218	-146027	1.03	1995235	13.663	Si
SLD 5	482	-28382	-884182	2.61	4335969	4.904	Si
SLD 5	692	-21612	-265800	1.99	3515462	13.226	Si
SLV 6	482	-27142	-1513909	2.5	4195664	2.771	Si
SLV 6	692	-19513	-307173	1.79	3233974	10.528	Si
SLD 10	482	-24005	-843999	2.21	3820857	4.527	Si
SLD 10	692	-18070	-197225	1.66	3032899	15.378	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 73	482	-40412	-4584	-720210		3.72	388.5	1.05	11432			2.49	Si
SLU 73	692	-31901	-4583	-344978		2.93	388.5	0.95	10297			2.25	Si
SLU 76	482	-41092	-4754	-762969		3.78	388.5	1.06	11522			2.42	Si
SLU 76	692	-32656	-4752	-337514		3	388.5	0.96	10397			2.19	Si
SLU 52	482	-36927	-4299	-673371		3.39	388.5	1.01	10967			2.55	Si
SLU 52	692	-28834	-4299	-287782		2.65	388.5	0.91	9888			2.3	Si
SLU 78	482	-42428	-4540	-746884		3.9	388.5	1.08	11700			2.58	Si
SLU 78	692	-34099	-4537	-345845		3.13	388.5	0.97	10590			2.33	Si
SLU 65	482	-37037	-4350	-697000		3.4	388.5	1.01	10982			2.52	Si
SLU 65	692	-28996	-4350	-279569		2.67	388.5	0.91	9910			2.28	Si
SLU 80	482	-42040	-4551	-748885		3.86	388.5	1.07	11649			2.56	Si
SLU 80	692	-33753	-4549	-337230		3.1	388.5	0.97	10544			2.32	Si
SLU 44	482	-33552	-4065	-650161		3.08	388.5	0.97	10517			2.59	Si
SLU 44	692	-25929	-4065	-222373		2.38	388.5	0.87	9501			2.34	Si
SLU 47	482	-34231	-4235	-692920		3.15	388.5	0.98	10607			2.5	Si
SLU 47	692	-26684	-4234	-214909		2.45	388.5	0.88	9601			2.27	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 68	482	-37716	-4520	-739759		3.47	388.5	1.02	11072			2.45	Si
SLU 68	692	-29751	-4519	-272105		2.73	388.5	0.92	10010			2.22	Si
SLU 55	482	-37606	-4469	-716130		3.46	388.5	1.02	11057			2.47	Si
SLU 55	692	-29589	-4468	-280318		2.72	388.5	0.92	9989			2.24	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 5	482	-27142	-10532	-1513909		2.5	388.5	1.33	14493			1.38	Si
SLV 5	692	-19513	-9802	-307173		1.79	388.5	1.19	12968			1.32	Si
SLV 6	482	-27142	-10532	-1513909		2.5	388.5	1.33	14493			1.38	Si
SLV 6	692	-19513	-9802	-307173		1.79	388.5	1.19	12968			1.32	Si
SLV 10	482	-16882	-8945	-1419998		1.82	330.41	1.2	11086			1.24	Si
SLV 10	692	-11218	-8276	-146027		1.03	388.5	1.04	11309			1.37	Si
SLV 2	482	-44148	-7412	-892830		4.06	388.5	1.63	17677			2.38	Si
SLV 2	692	-34618	-7098	-501041		3.18	388.5	1.47	15989			2.25	Si
SLD 6	482	-28382	-5967	-884182		2.61	388.5	1.36	14741			2.47	Si
SLD 6	692	-21612	-5672	-265800		1.99	388.5	1.23	13387			2.36	Si
SLV 9	482	-16882	-8945	-1419998		1.82	330.41	1.2	11086			1.24	Si
SLV 9	692	-11218	-8276	-146027		1.03	388.5	1.04	11309			1.37	Si
SLD 9	482	-24005	-5292	-843999		2.21	388.5	1.27	13866			2.62	Si
SLD 9	692	-18070	-5022	-197225		1.66	388.5	1.17	12679			2.52	Si
SLD 5	482	-28382	-5967	-884182		2.61	388.5	1.36	14741			2.47	Si
SLD 5	692	-21612	-5672	-265800		1.99	388.5	1.23	13387			2.36	Si
SLV 1	482	-44148	-7412	-892830		4.06	388.5	1.63	17677			2.38	Si
SLV 1	692	-34618	-7098	-501041		3.18	388.5	1.47	15989			2.25	Si
SLD 10	482	-24005	-5292	-843999		2.21	388.5	1.27	13866			2.62	Si
SLD 10	692	-18070	-5022	-197225		1.66	388.5	1.17	12679			2.52	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 14	14	0.38	0.7	-7618	39563	100535	2.54	Si
SLV 13	14	0.38	0.7	-7618	39563	100535	2.54	Si
SLV 9	14	0.38	1.09	-11828	39563	150854	3.81	Si
SLV 10	14	0.38	1.09	-11828	39563	150854	3.81	Si
SLV 16	14	0.38	1.13	-12314	39563	156425	3.95	Si
SLV 15	14	0.38	1.13	-12314	39563	156425	3.95	Si
SLV 6	14	0.38	1.85	-20133	39563	239167	6.05	Si
SLV 5	14	0.38	1.85	-20133	39563	239167	6.05	Si
SLV 12	14	0.38	2.53	-27483	39563	305202	7.71	Si
SLV 11	14	0.38	2.53	-27483	39563	305202	7.71	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 658 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 2	-25850	-44148	52	0.043	31.73	0.951	65.221	949.98	No
SLV 1	-25850	-44148	52	0.043	31.73	0.951	65.221	949.98	No
SLV 4	-28945	-48464	19	0.043	34.873	0.955	66.11	949.98	No
SLV 3	-28945	-48464	19	0.043	34.873	0.955	66.11	949.98	No
SLV 7	-26210	-41531	-45	0.043	32.095	0.951	65.528	874.063	No
SLV 8	-26210	-41531	-45	0.043	32.095	0.951	65.528	874.063	No
SLV 12	-20771	-31271	-66	0.043	26.577	0.942	65.882	874.063	No
SLV 11	-20771	-31271	-66	0.043	26.577	0.942	65.882	874.063	No
SLV 16	-10815	-14265	-51	0.046	16.536	0.916	72.707	949.98	No
SLV 15	-10815	-14265	-51	0.046	16.536	0.916	72.707	949.98	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.61	SLU 76	Si
V_SLU	2.188	SLU 76	Si
PF_SLV	2.016	SLV 9	Si
V_SLV	1.239	SLV 9	Si
PFFP_SLV	2.541	SLV 13	Si
R_SLV	0.069	SLV 1	No

## Maschio 101

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2271.3	595.1	-2467.8	595.1	L4	L5	196.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 73	572	-14222	-27912	2.58	953903	34.175	Si
SLU 73	752	-14533	-133217	2.64	964874	7.243	Si
SLU 81	572	-15373	-22000	2.79	992313	45.106	Si
SLU 81	752	-15680	-141182	2.85	1001598	7.094	Si
SLU 60	572	-14176	-21718	2.58	952250	43.846	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 60	752	-14177	-127443	2.58	952292	7.472	Si
SLU 61	752	-13782	-24184	2.5	937688	38.773	Si
SLU 61	752	-13901	-129541	2.53	942156	7.273	Si
SLU 39	752	-12797	-15676	2.33	898318	57.307	Si
SLU 39	752	-13334	-124212	2.42	920287	7.409	Si
SLU 19	572	-11206	-17860	2.04	825729	46.233	Si
SLU 19	752	-11554	-112571	2.1	842535	7.484	Si
SLU 52	572	-13025	-27631	2.37	907800	32.855	Si
SLU 52	752	-13030	-119479	2.37	908008	7.6	Si
SLU 82	572	-14979	-24466	2.72	979818	40.049	Si
SLU 82	752	-15404	-143280	2.8	993283	6.932	Si
SLU 31	572	-11646	-21588	2.12	846911	39.23	Si
SLU 31	752	-12187	-116247	2.21	871761	7.499	Si
SLU 40	572	-12403	-18142	2.25	881374	48.583	Si
SLU 40	752	-13057	-126310	2.37	909130	7.198	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 1	572	-11056	333129	2.01	907635	2.725	Si
SLV 1	752	-14720	-286153	2.68	1129550	3.947	Si
SLV 13	572	-6310	-364209	1.15	561744	1.542	Si
SLV 13	752	-3028	133631	0.55	284140	2.126	Si
SLV 3	572	-14939	323647	2.72	1141591	3.527	Si
SLV 3	752	-17828	-301299	3.24	1287117	4.272	Si
SLV 16	572	-10192	-373691	1.85	849567	2.273	Si
SLV 16	752	-6137	118485	1.12	547944	4.625	Si
SLV 9	572	-3441	-109078	0.63	320812	2.941	Si
SLV 9	752	-3493	4377	0.63	325380	74.336	Si
SLV 4	572	-14939	323647	2.72	1141591	3.527	Si
SLV 4	752	-17828	-301299	3.24	1287117	4.272	Si
SLV 10	572	-3441	-109078	0.63	320812	2.941	Si
SLV 10	752	-3493	4377	0.63	325380	74.336	Si
SLV 14	572	-6310	-364209	1.15	561744	1.542	Si
SLV 14	752	-3028	133631	0.55	284140	2.126	Si
SLV 2	572	-11056	333129	2.01	907635	2.725	Si
SLV 2	752	-14720	-286153	2.68	1129550	3.947	Si
SLV 15	572	-10192	-373691	1.85	849567	2.273	Si
SLV 15	752	-6137	118485	1.12	547944	4.625	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 60	572	-14176	1901	-21718		2.58	196.5	0.9	4947			2.6	Si
SLU 60	752	-14177	1904	-127443		2.58	196.5	0.9	4947			2.6	Si
SLU 31	572	-11646	1850	-21588		2.12	196.5	0.84	4610			2.49	Si
SLU 31	752	-12187	1849	-116247		2.21	196.5	0.85	4682			2.53	Si
SLU 61	572	-13782	1965	-24184		2.5	196.5	0.89	4894			2.49	Si
SLU 61	752	-13901	1965	-129541		2.53	196.5	0.89	4910			2.5	Si
SLU 40	572	-12403	1987	-18142		2.25	196.5	0.86	4710			2.37	Si
SLU 40	752	-13057	1987	-126310		2.37	196.5	0.87	4798			2.41	Si
SLU 84	572	-15178	2016	-30705		2.76	196.5	0.92	5080			2.52	Si
SLU 84	752	-15511	2018	-121905		2.82	196.5	0.93	5125			2.54	Si
SLU 82	572	-14979	2221	-24466		2.72	196.5	0.92	5054			2.28	Si
SLU 82	752	-15404	2222	-143280		2.8	196.5	0.93	5111			2.3	Si
SLU 73	572	-14222	2084	-27912		2.58	196.5	0.9	4953			2.38	Si
SLU 73	752	-14533	2083	-133217		2.64	196.5	0.91	4994			2.4	Si
SLU 81	572	-15373	2157	-22000		2.79	196.5	0.93	5106			2.37	Si
SLU 81	752	-15680	2161	-141182		2.85	196.5	0.94	5147			2.38	Si
SLU 39	572	-12797	1923	-15676		2.33	196.5	0.87	4763			2.48	Si
SLU 39	752	-13334	1926	-124212		2.42	196.5	0.88	4834			2.51	Si
SLU 52	572	-13025	1828	-27631		2.37	196.5	0.87	4793			2.62	Si
SLU 52	752	-13030	1827	-119479		2.37	196.5	0.87	4794			2.62	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 1	572	-11056	7061	333129		2.01	196.5	1.24	6796			0.96	No, Vu<V
SLV 1	752	-14720	6206	-286153		2.68	196.5	1.37	7529			1.21	Si
SLV 3	572	-14939	5955	323647		2.72	196.5	1.38	7573			1.27	Si
SLV 3	752	-17828	6111	-301299		3.24	196.5	1.48	8151			1.33	Si
SLV 13	572	-6310	-3426	-364209		1.85	121.58	1.2	4099			1.2	Si
SLV 13	752	-3028	-3578	133631		0.67	162.37	0.97	4394			1.23	Si
SLV 15	572	-10192	-4533	-373691		1.97	184.76	1.23	6349			1.4	Si
SLV 15	752	-6137	-3672	118485		1.12	196.5	1.06	5812			1.58	Si
SLV 2	572	-11056	7061	333129		2.01	196.5	1.24	6796			0.96	No, Vu<V
SLV 2	752	-14720	6206	-286153		2.68	196.5	1.37	7529			1.21	Si
SLV 4	572	-14939	5955	323647		2.72	196.5	1.38	7573			1.27	Si
SLV 4	752	-17828	6111	-301299		3.24	196.5	1.48	8151			1.33	Si
SLV 16	572	-10192	-4533	-373691		1.97	184.76	1.23	6349			1.4	Si
SLV 16	752	-6137	-3672	118485		1.12	196.5	1.06	5812			1.58	Si
SLV 14	572	-6310	-3426	-364209		1.85	121.58	1.2	4099			1.2	Si
SLV 14	752	-3028	-3578	133631		0.67	162.37	0.97	4394			1.23	Si
SLV 6	572	-4865	4681	100124		0.88	196.5	1.01	5558			1.19	Si
SLV 6	752	-7001	2891	-121558		1.27	196.5	1.09	5985			2.07	Si
SLV 5	572	-4865	4681	100124		0.88	196.5	1.01	5558			1.19	Si
SLV 5	752	-7001	2891	-121558		1.27	196.5	1.09	5985			2.07	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.38	0.72	-3956	20010	52125	2.6	Si



Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.38	0.72	-3956	20010	52125	2.6	Si
SLV 13	14	0.38	0.9	-4930	20010	63961	3.2	Si
SLV 14	14	0.38	0.9	-4930	20010	63961	3.2	Si
SLV 6	14	0.38	1.18	-6503	20010	82232	4.11	Si
SLV 5	14	0.38	1.18	-6503	20010	82232	4.11	Si
SLV 15	14	0.38	1.51	-8312	20010	101979	5.1	Si
SLV 16	14	0.38	1.51	-8312	20010	101979	5.1	Si
SLV 2	14	0.38	2.44	-13419	20010	150368	7.51	Si
SLV 1	14	0.38	2.44	-13419	20010	150368	7.51	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeraia = 658 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 1	-11396	-13468	52	0.041	14.345	0.946	63.14	949.98	No
SLV 2	-11396	-13468	52	0.041	14.345	0.946	63.14	949.98	No
SLV 3	-13700	-17381	23	0.043	16.684	0.952	65.274	949.98	No
SLV 4	-13700	-17381	23	0.043	16.684	0.952	65.274	949.98	No
SLV 16	-6217	-6656	-51	0.042	9.112	0.921	66.295	949.98	No
SLV 15	-6217	-6656	-51	0.042	9.112	0.921	66.295	949.98	No
SLV 12	-11524	-14976	-59	0.041	14.475	0.946	62.256	874.063	No
SLV 11	-11524	-14976	-59	0.041	14.475	0.946	62.256	874.063	No
SLV 8	-13769	-18193	-37	0.042	16.754	0.952	63.863	874.063	No
SLV 7	-13769	-18193	-37	0.042	16.754	0.952	63.863	874.063	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.932	SLU 82	Si
V_SLU	2.276	SLU 82	Si
PF_SLV	1.542	SLV 13	Si
V_SLV	0.962	SLV 1	No
PFFP_SLV	2.605	SLV 9	Si
R_SLV	0.066	SLV 1	No

## Maschio 102

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1961.8	595.1	-2181.3	595.1	L4	L5	219.5	28	352	352	352			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 30	572	-15318	-86517	2.49	1166787	13.486	Si
SLU 30	752	-12414	-22668	2.02	1024590	45.2	Si
SLU 37	572	-17169	-80618	2.79	1238104	15.358	Si
SLU 37	752	-14539	-7453	2.37	1132288	151.93	Si
SLU 9	572	-13438	-73305	2.19	1078942	14.719	Si
SLU 9	752	-10614	-20501	1.73	917918	44.775	Si
SLU 38	572	-17036	-83955	2.77	1233476	14.692	Si
SLU 38	752	-14429	-10511	2.35	1127183	107.239	Si
SLU 28	572	-15568	-79242	2.53	1177299	14.857	Si
SLU 28	752	-12779	-17286	2.08	1044531	60.425	Si
SLU 72	572	-18457	-83142	3	1278879	15.382	Si
SLU 72	752	-15092	-11508	2.46	1157033	100.544	Si
SLU 29	572	-15451	-83180	2.51	1172418	14.095	Si
SLU 29	752	-12524	-19610	2.04	1030670	52.559	Si
SLU 71	572	-18591	-79806	3.02	1282678	16.073	Si
SLU 71	752	-15202	-8449	2.47	1161817	137.502	Si
SLU 27	572	-15701	-75906	2.55	1182784	15.582	Si
SLU 27	752	-12890	-14228	2.1	1050434	73.828	Si
SLU 8	572	-13571	-69968	2.21	1085671	15.517	Si
SLU 8	752	-10724	-17442	1.74	924869	53.024	Si

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 15	572	-15487	-424390	2.52	1349166	3.179	Si
SLV 15	752	-19104	333322	3.11	1563294	4.69	Si
SLV 9	572	-7749	-184926	1.26	762694	4.124	Si
SLV 9	752	-11467	28975	1.87	1066327	36.802	Si
SLV 14	572	-11939	-453445	1.94	1101962	2.43	Si
SLV 14	752	-17609	279748	2.87	1479420	5.288	Si
SLV 2	572	-11796	410601	1.92	1091233	2.658	Si
SLV 2	752	-5044	-258166	0.82	516428	2	Si
SLV 4	572	-15344	439656	2.5	1339919	3.048	Si
SLV 4	752	-6540	-204592	1.06	655213	3.203	Si
SLV 1	572	-11796	410601	1.92	1091233	2.658	Si
SLV 1	752	-5044	-258166	0.82	516428	2	Si
SLV 16	572	-15487	-424390	2.52	1349166	3.179	Si
SLV 16	752	-19104	333322	3.11	1563294	4.69	Si
SLV 10	572	-7749	-184926	1.26	762694	4.124	Si



Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 10	752	-11467	28975	1.87	1066327	36.802	Si
SLV 3	572	-15344	439656	2.5	1339919	3.048	Si
SLV 3	752	-6540	-204592	1.06	655213	3.203	Si
SLV 13	572	-11939	-453445	1.94	1101962	2.43	Si
SLV 13	752	-17609	279748	2.87	1479420	5.288	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLU 61	572	-18073	-966	-154		2.94	219.5	0.95	5824			6.03	Si
SLU 61	752	-16431	-965	60193		2.67	219.5	0.91	5605			5.81	Si
SLU 40	572	-16815	-862	-16740		2.74	219.5	0.92	5656			6.56	Si
SLU 40	752	-15553	-861	46865		2.53	219.5	0.89	5488			6.37	Si
SLU 73	572	-19129	-906	-16688		3.11	219.5	0.97	5965			6.59	Si
SLU 73	752	-17294	-905	50777		2.81	219.5	0.93	5720			6.32	Si
SLU 39	572	-16948	-847	-13403		2.76	219.5	0.92	5674			6.7	Si
SLU 39	752	-15663	-846	49924		2.55	219.5	0.9	5503			6.5	Si
SLU 82	572	-19954	-996	-13366		3.25	219.5	0.99	6075			6.1	Si
SLU 82	752	-18231	-995	58026		2.97	219.5	0.95	5845			5.87	Si
SLU 81	572	-20087	-981	-10029		3.27	219.5	0.99	6093			6.21	Si
SLU 81	752	-18341	-980	61084		2.98	219.5	0.95	5860			5.98	Si
SLU 19	572	-14934	-832	-3528		2.43	219.5	0.88	5406			6.5	Si
SLU 19	752	-13753	-831	49033		2.24	219.5	0.85	5248			6.31	Si
SLU 52	572	-17248	-876	-3476		2.81	219.5	0.93	5714			6.53	Si
SLU 52	752	-15494	-875	52944		2.52	219.5	0.89	5480			6.26	Si
SLU 18	572	-15067	-817	-192		2.45	219.5	0.88	5423			6.64	Si
SLU 18	752	-13863	-816	52091		2.26	219.5	0.86	5263			6.45	Si
SLU 60	572	-18206	-951	3183		2.96	219.5	0.95	5842			6.15	Si
SLU 60	752	-16541	-950	63251		2.69	219.5	0.91	5620			5.92	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLV 13	572	-11939	-9384	-453445		1.98	215.31	1.23	7412			0.79	No, Vu<V
SLV 13	752	-17609	-8926	279748		2.87	219.5	1.41	8643			0.97	No, Vu<V
SLV 16	572	-15487	-7791	-424390		2.52	219.5	1.34	8219			1.05	Si
SLV 16	752	-19104	-6934	333322		3.11	219.5	1.46	8942			1.29	Si
SLV 15	572	-15487	-7791	-424390		2.52	219.5	1.34	8219			1.05	Si
SLV 15	752	-19104	-6934	333322		3.11	219.5	1.46	8942			1.29	Si
SLV 4	572	-15344	8270	439656		2.5	219.5	1.33	8190			0.99	No, Vu<V
SLV 4	752	-6540	7813	-204592		1.06	219.5	1.05	6430			0.82	No, Vu<V
SLV 14	572	-11939	-9384	-453445		1.98	215.31	1.23	7412			0.79	No, Vu<V
SLV 14	752	-17609	-8926	279748		2.87	219.5	1.41	8643			0.97	No, Vu<V
SLV 10	572	-7749	-5622	-184926		1.26	219.5	1.09	6671			1.19	Si
SLV 10	752	-11467	-6088	28975		1.87	219.5	1.21	7415			1.22	Si
SLV 2	572	-11796	6677	410601		1.92	219.5	1.22	7481			1.12	Si
SLV 2	752	-5044	5822	-258166		1.03	175.71	1.04	5109			0.88	No, Vu<V
SLV 1	572	-11796	6677	410601		1.92	219.5	1.22	7481			1.12	Si
SLV 1	752	-5044	5822	-258166		1.03	175.71	1.04	5109			0.88	No, Vu<V
SLV 9	572	-7749	-5622	-184926		1.26	219.5	1.09	6671			1.19	Si
SLV 9	752	-11467	-6088	28975		1.87	219.5	1.21	7415			1.22	Si
SLV 3	572	-15344	8270	439656		2.5	219.5	1.33	8190			0.99	No, Vu<V
SLV 3	752	-6540	7813	-204592		1.06	219.5	1.05	6430			0.82	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.38	1.25	-7669	22353	96404	4.31	Si
SLV 6	14	0.38	1.25	-7669	22353	96404	4.31	Si
SLV 1	14	0.38	1.36	-8359	22353	104000	4.65	Si
SLV 2	14	0.38	1.36	-8359	22353	104000	4.65	Si
SLV 10	14	0.38	1.59	-9746	22353	118738	5.31	Si
SLV 9	14	0.38	1.59	-9746	22353	118738	5.31	Si
SLV 4	14	0.38	1.79	-11027	22353	131711	5.89	Si
SLV 3	14	0.38	1.79	-11027	22353	131711	5.89	Si
SLV 13	14	0.38	2.49	-15282	22353	170411	7.62	Si
SLV 14	14	0.38	2.49	-15282	22353	170411	7.62	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 658 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 5	-7672	-6216	-360	0.01	10.909	0.925	16.368	874.063	No
SLV 6	-7672	-6216	-360	0.01	10.909	0.925	16.368	874.063	No
SLV 7	-8124	-18051	333	0.014	11.365	0.928	22.558	874.063	No
SLV 8	-8124	-18051	333	0.014	11.365	0.928	22.558	874.063	No
SLV 12	-11828	-19991	369	0.019	15.11	0.943	28.636	874.063	No
SLV 11	-11828	-19991	369	0.019	15.11	0.943	28.636	874.063	No
SLV 9	-11376	-8156	-323	0.021	14.651	0.941	32.912	874.063	No
SLV 10	-11376	-8156	-323	0.021	14.651	0.941	32.912	874.063	No
SLV 1	-3509	-8095	-160	0.025	6.769	0.897	39.975	949.98	No
SLV 2	-3509	-8095	-160	0.025	6.769	0.897	39.975	949.98	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	13.486	SLU 30	Si
V_SLU	5.807	SLU 61	Si
PF_SLV	2	SLV 1	Si
V_SLV	0.79	SLV 13	No
PFFP_SLV	4.313	SLV 5	Si
R_SLV	0.019	SLV 5	No



## Maschio 103

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2249.3	-335.9	-2467.8	-335.9	L4	L5	218.5	28	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 10	572	-12335	228430	2.02	1014054	4.439	Si
SLU 10	752	-13695	-169720	2.24	1085024	6.393	Si
SLU 68	572	-15964	267126	2.61	1185389	4.438	Si
SLU 68	752	-17229	-198380	2.82	1231558	6.208	Si
SLU 73	572	-16738	284216	2.74	1214481	4.273	Si
SLU 73	752	-18499	-229574	3.02	1270834	5.536	Si
SLU 23	572	-12545	233143	2.05	1025566	4.399	Si
SLU 23	752	-13848	-167597	2.26	1092506	6.519	Si
SLU 65	572	-15434	260731	2.52	1163967	4.464	Si
SLU 65	752	-16652	-198245	2.72	1211375	6.11	Si
SLU 13	572	-12865	234825	2.1	1042677	4.44	Si
SLU 13	752	-14272	-169855	2.33	1112691	6.551	Si
SLU 34	572	-14380	263022	2.35	1117703	4.249	Si
SLU 34	752	-16272	-199060	2.66	1197282	6.015	Si
SLU 76	572	-17268	290611	2.82	1232871	4.242	Si
SLU 76	752	-19076	-229709	3.12	1286344	5.6	Si
SLU 31	572	-13850	256627	2.26	1092600	4.258	Si
SLU 31	752	-15695	-198926	2.57	1174676	5.905	Si
SLU 26	572	-13075	239538	2.14	1053700	4.399	Si
SLU 26	752	-14425	-167732	2.36	1119786	6.676	Si

### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 4	572	-12652	537789	2.07	1148289	2.135	Si
SLV 4	752	-17473	-566451	2.86	1462756	2.582	Si
SLV 16	572	-7272	-258961	1.19	717194	2.77	Si
SLV 16	752	-4512	276297	0.74	463136	1.676	Si
SLV 3	572	-12652	537789	2.07	1148289	2.135	Si
SLV 3	752	-17473	-566451	2.86	1462756	2.582	Si
SLV 15	572	-7272	-258961	1.19	717194	2.77	Si
SLV 15	752	-4512	276297	0.74	463136	1.676	Si
SLV 8	572	-5628	260001	0.92	568569	2.187	Si
SLV 8	752	-8876	-253388	1.45	854548	3.372	Si
SLV 2	572	-17059	536868	2.79	1438372	2.679	Si
SLV 2	752	-20954	-581967	3.42	1647551	2.831	Si
SLV 14	572	-11679	-259882	1.91	1076570	4.143	Si
SLV 14	752	-7992	260781	1.31	779804	2.99	Si
SLV 1	572	-17059	536868	2.79	1438372	2.679	Si
SLV 1	752	-20954	-581967	3.42	1647551	2.831	Si
SLV 7	572	-5628	260001	0.92	568569	2.187	Si
SLV 7	752	-8876	-253388	1.45	854548	3.372	Si
SLV 13	572	-11679	-259882	1.91	1076570	4.143	Si
SLV 13	752	-7992	260781	1.31	779804	2.99	Si

### Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 34	572	-14380	5013	263022		2.35	218.5	0.87	5316			1.06	Si
SLU 34	752	-16272	4964	-199060		2.66	218.5	0.91	5569			1.12	Si
SLU 42	572	-15071	4956	240784		2.46	218.5	0.88	5408			1.09	Si
SLU 42	752	-16978	4928	-211346		2.78	218.5	0.93	5663			1.15	Si
SLU 82	572	-17429	5534	261977		2.85	218.5	0.94	5723			1.03	Si
SLU 82	752	-19205	5507	-241860		3.14	218.5	0.97	5960			1.08	Si
SLU 78	572	-18112	5443	265898		2.96	218.5	0.95	5814			1.07	Si
SLU 78	752	-19786	5416	-232753		3.23	218.5	0.99	6037			1.11	Si
SLU 73	572	-16738	5591	284216		2.74	218.5	0.92	5631			1.01	Si
SLU 73	752	-18499	5543	-229574		3.02	218.5	0.96	5865			1.06	Si
SLU 76	572	-17268	5656	290611		2.82	218.5	0.93	5701			1.01	Si
SLU 76	752	-19076	5608	-229709		3.12	218.5	0.97	5942			1.06	Si
SLU 84	572	-17959	5599	268372		2.94	218.5	0.95	5793			1.03	Si
SLU 84	752	-19782	5572	-241995		3.23	218.5	0.99	6037			1.08	Si
SLU 75	572	-17582	5378	259503		2.87	218.5	0.94	5743			1.07	Si
SLU 75	752	-19209	5351	-232618		3.14	218.5	0.97	5960			1.11	Si
SLU 80	572	-17930	5392	264702		2.93	218.5	0.95	5790			1.07	Si
SLU 80	752	-19568	5365	-228703		3.2	218.5	0.98	6008			1.12	Si
SLU 31	572	-13850	4948	256627		2.26	218.5	0.86	5246			1.06	Si
SLU 31	752	-15695	4900	-198926		2.57	218.5	0.9	5492			1.12	Si

### Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	572	-17059	11219	536868		2.79	218.5	1.39	8510			0.76	No, Vu<V
SLV 2	752	-20954	10247	-581967		3.42	218.5	1.52	9289			0.91	No, Vu<V



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 3	572	-12377	6244	308305		2.02	218.5	1.24	7574			1.21	Si
SLD 3	752	-14768	6141	-329543		2.41	218.5	1.32	8052			1.31	Si
SLD 2	572	-14217	6623	309646		2.32	218.5	1.3	7942			1.2	Si
SLD 2	752	-16235	6220	-335785		2.65	218.5	1.36	8345			1.34	Si
SLV 3	572	-12652	10276	537789		2.26	200.23	1.28	7202			0.7	No, Vu<V
SLV 3	752	-17473	10041	-566451		2.86	218.5	1.4	8593			0.86	No, Vu<V
SLV 4	572	-12652	10276	537789		2.26	200.23	1.28	7202			0.7	No, Vu<V
SLV 4	752	-17473	10041	-566451		2.86	218.5	1.4	8593			0.86	No, Vu<V
SLV 15	572	-7272	-4770	-258961		1.19	218.5	1.07	6553			1.37	Si
SLV 15	752	-4512	-3793	276297		1.12	144.02	1.06	4263			1.12	Si
SLV 1	572	-17059	11219	536868		2.79	218.5	1.39	8510			0.76	No, Vu<V
SLV 1	752	-20954	10247	-581967		3.42	218.5	1.52	9289			0.91	No, Vu<V
SLD 4	572	-12377	6244	308305		2.02	218.5	1.24	7574			1.21	Si
SLD 4	752	-14768	6141	-329543		2.41	218.5	1.32	8052			1.31	Si
SLV 16	572	-7272	-4770	-258961		1.19	218.5	1.07	6553			1.37	Si
SLV 16	752	-4512	-3793	276297		1.12	144.02	1.06	4263			1.12	Si
SLD 1	572	-14217	6623	309646		2.32	218.5	1.3	7942			1.2	Si
SLD 1	752	-16235	6220	-335785		2.65	218.5	1.36	8345			1.34	Si

#### Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.38	0.81	-4975	22251	65015	2.92	Si
SLV 12	14	0.38	0.81	-4975	22251	65015	2.92	Si
SLV 15	14	0.38	0.98	-5986	22251	77093	3.46	Si
SLV 16	14	0.38	0.98	-5986	22251	77093	3.46	Si
SLV 7	14	0.38	1.3	-7966	22251	99639	4.48	Si
SLV 8	14	0.38	1.3	-7966	22251	99639	4.48	Si
SLV 14	14	0.38	1.61	-9843	22251	119661	5.38	Si
SLV 13	14	0.38	1.61	-9843	22251	119661	5.38	Si
SLV 4	14	0.38	2.61	-15956	22251	175700	7.9	Si
SLV 3	14	0.38	2.61	-15956	22251	175700	7.9	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 658 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 7	-7273	-7035	-125	0.035	10.493	0.923	54.427	874.063	No
SLV 8	-7273	-7035	-125	0.035	10.493	0.923	54.427	874.063	No
SLV 4	-13031	-16077	-94	0.039	16.315	0.947	59.325	949.98	No
SLV 3	-13031	-16077	-94	0.039	16.315	0.947	59.325	949.98	No
SLV 13	-7758	-8847	92	0.038	10.981	0.926	60.013	949.98	No
SLV 14	-7758	-8847	92	0.038	10.981	0.926	60.013	949.98	No
SLV 10	-13515	-17889	123	0.037	16.807	0.948	56.426	874.063	No
SLV 9	-13515	-17889	123	0.037	16.807	0.948	56.426	874.063	No
SLV 2	-15610	-20370	-31	0.042	18.934	0.953	64.674	949.98	No
SLV 1	-15610	-20370	-31	0.042	18.934	0.953	64.674	949.98	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.242	SLU 76	Si
V_SLU	1.007	SLU 73	Si
PF_SLV	1.676	SLV 15	Si
V_SLV	0.701	SLV 3	No
PFFP_SLV	2.922	SLV 11	Si
R_SLV	0.062	SLV 7	No

## Maschio 104

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1936.8	-335.9	-2159.3	-335.9	L4	L5	222.5	28	352	352	352			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>k</sub>	f <sub>vk0</sub>	f <sub>medio</sub>	$\tau_0$	f <sub>v0</sub>	$\mu$	$\phi$	f <sub>v,lim</sub>	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 83	682	-17670	-147655	2.84	1281316	8.678	Si
SLU 83	762	-15945	-189589	2.56	1216524	6.417	Si
SLU 78	682	-16620	-147167	2.67	1243446	8.449	Si
SLU 78	762	-14999	-185026	2.41	1175448	6.353	Si
SLU 82	682	-16677	-164343	2.68	1245625	7.579	Si
SLU 82	762	-15051	-186614	2.42	1177808	6.311	Si
SLU 77	682	-17424	-136841	2.8	1272876	9.302	Si
SLU 77	762	-15710	-186782	2.52	1206678	6.46	Si
SLU 81	682	-17481	-154017	2.81	1274853	8.277	Si
SLU 81	762	-15762	-188370	2.53	1208875	6.418	Si
SLU 76	682	-15609	-157371	2.51	1202401	7.641	Si
SLU 76	762	-14061	-178967	2.26	1130851	6.319	Si
SLU 80	682	-16334	-144125	2.62	1232280	8.55	Si
SLU 80	762	-14718	-181356	2.36	1162500	6.41	Si





Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 75	682	-16431	-153529	2.64	1236114	8.051	Si
SLU 75	762	-14815	-183808	2.38	1167040	6.349	Si
SLU 84	682	-16866	-157982	2.71	1252753	7.93	Si
SLU 84	762	-15234	-187832	2.45	1186027	6.314	Si
SLU 73	682	-15420	-163733	2.48	1194231	7.294	Si
SLU 73	762	-13877	-177749	2.23	1121689	6.311	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 7	682	-6441	-75866	1.03	655961	8.646	Si
SLV 7	762	-6430	-196367	1.03	654935	3.335	Si
SLV 8	682	-6441	-75866	1.03	655961	8.646	Si
SLV 8	762	-6430	-196367	1.03	654935	3.335	Si
SLV 16	682	-11885	-273984	1.91	1115793	4.072	Si
SLV 16	762	-8817	261078	1.42	867288	3.322	Si
SLV 1	682	-11585	69896	1.86	1092672	15.633	Si
SLV 1	762	-12111	-514052	1.94	1132955	2.204	Si
SLD 4	682	-10462	-34966	1.68	1003931	28.712	Si
SLD 4	762	-10120	-281103	1.62	976200	3.473	Si
SLD 3	682	-10462	-34966	1.68	1003931	28.712	Si
SLD 3	762	-10120	-281103	1.62	976200	3.473	Si
SLV 15	682	-11885	-273984	1.91	1115793	4.072	Si
SLV 15	762	-8817	261078	1.42	867288	3.322	Si
SLV 2	682	-11585	69896	1.86	1092672	15.633	Si
SLV 2	762	-12111	-514052	1.94	1132955	2.204	Si
SLV 3	682	-8696	55912	1.4	856884	15.326	Si
SLV 3	762	-9618	-488517	1.54	934834	1.914	Si
SLV 4	682	-8696	55912	1.4	856884	15.326	Si
SLV 4	762	-9618	-488517	1.54	934834	1.914	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 81	682	-17481	-286	-154017		2.81	222.5	0.93	5792			20.22	Si
SLU 81	762	-15762	-615	-188370		2.53	222.5	0.89	5563			9.05	Si
SLU 61	682	-15115	-360	-154287		2.43	222.5	0.88	5476			15.21	Si
SLU 61	762	-13533	-650	-169262		2.17	222.5	0.85	5266			8.1	Si
SLU 44	682	-12176	-286	-136190		1.95	222.5	0.82	5085			17.76	Si
SLU 44	762	-10728	-531	-142443		1.72	222.5	0.79	4892			9.21	Si
SLU 60	682	-15919	-343	-143961		2.56	222.5	0.9	5584			16.28	Si
SLU 60	762	-14244	-604	-171018		2.29	222.5	0.86	5360			8.87	Si
SLU 10	682	-11151	-272	-128873		1.79	222.5	0.79	4948			18.22	Si
SLU 10	762	-10011	-534	-131426		1.61	222.5	0.77	4796			8.98	Si
SLU 52	682	-13858	-346	-153677		2.22	222.5	0.85	5309			15.34	Si
SLU 52	762	-12360	-636	-160397		1.98	222.5	0.82	5109			8.03	Si
SLU 31	682	-12713	-215	-138928		2.04	222.5	0.83	5156			23.96	Si
SLU 31	762	-11529	-545	-148778		1.85	222.5	0.8	4998			9.18	Si
SLU 19	682	-12408	-286	-129483		1.99	222.5	0.82	5116			17.9	Si
SLU 19	762	-11184	-548	-140291		1.8	222.5	0.79	4952			9.03	Si
SLU 73	682	-15420	-290	-163733		2.48	222.5	0.89	5517			19.06	Si
SLU 73	762	-13877	-647	-177749		2.23	222.5	0.85	5311			8.22	Si
SLU 82	682	-16677	-304	-164343		2.68	222.5	0.91	5685			18.72	Si
SLU 82	762	-15051	-661	-186614		2.42	222.5	0.88	5468			8.27	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	682	-7398	-5094	-174835		1.19	222.5	1.07	6671			1.31	Si
SLV 12	762	-6190	-2119	28511		0.99	222.5	1.03	6430			3.03	Si
SLV 3	682	-8696	9078	55912		1.4	222.5	1.11	6931			0.76	No, Vu<V
SLV 3	762	-9618	7327	-488517		1.89	181.38	1.21	6156			0.84	No, Vu<V
SLV 13	682	-14774	-9446	-260000		2.37	222.5	1.31	8147			0.86	No, Vu<V
SLV 13	762	-11309	-8097	235543		1.82	222.5	1.2	7454			0.92	No, Vu<V
SLV 14	682	-14774	-9446	-260000		2.37	222.5	1.31	8147			0.86	No, Vu<V
SLV 14	762	-11309	-8097	235543		1.82	222.5	1.2	7454			0.92	No, Vu<V
SLV 16	682	-11885	-10619	-273984		1.91	222.5	1.21	7569			0.71	No, Vu<V
SLV 16	762	-8817	-7778	261078		1.42	222.5	1.12	6955			0.89	No, Vu<V
SLV 15	682	-11885	-10619	-273984		1.91	222.5	1.21	7569			0.71	No, Vu<V
SLV 15	762	-8817	-7778	261078		1.42	222.5	1.12	6955			0.89	No, Vu<V
SLV 2	682	-11585	10251	69896		1.86	222.5	1.21	7509			0.73	No, Vu<V
SLV 2	762	-12111	7008	-514052		2.1	206.41	1.25	7238			1.03	Si
SLV 11	682	-7398	-5094	-174835		1.19	222.5	1.07	6671			1.31	Si
SLV 11	762	-6190	-2119	28511		0.99	222.5	1.03	6430			3.03	Si
SLV 1	682	-11585	10251	69896		1.86	222.5	1.21	7509			0.73	No, Vu<V
SLV 1	762	-12111	7008	-514052		2.1	206.41	1.25	7238			1.03	Si
SLV 4	682	-8696	9078	55912		1.4	222.5	1.11	6931			0.76	No, Vu<V
SLV 4	762	-9618	7327	-488517		1.89	181.38	1.21	6156			0.84	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.38	1.03	-6429	22658	82401	3.64	Si
SLV 7	14	0.38	1.03	-6429	22658	82401	3.64	Si
SLV 12	14	0.38	1.03	-6445	22658	82591	3.65	Si
SLV 11	14	0.38	1.03	-6445	22658	82591	3.65	Si
SLV 4	14	0.38	1.56	-9690	22658	118392	5.23	Si
SLV 3	14	0.38	1.56	-9690	22658	118392	5.23	Si
SLV 15	14	0.38	1.56	-9744	22658	118959	5.25	Si
SLV 16	14	0.38	1.56	-9744	22658	118959	5.25	Si
SLV 1	14	0.38	2.01	-12502	22658	146281	6.46	Si
SLV 2	14	0.38	2.01	-12502	22658	146281	6.46	Si



## Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 658 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 2	-9961	-12628	81	0.04	13.263	0.935	61.478	949.98	No
SLV 1	-9961	-12628	81	0.04	13.263	0.935	61.478	949.98	No
SLV 12	-5785	-3934	-109	0.036	9.061	0.913	57.069	874.063	No
SLV 11	-5785	-3934	-109	0.036	9.061	0.913	57.069	874.063	No
SLV 16	-7989	-6938	-78	0.04	11.272	0.926	62.411	949.98	No
SLV 15	-7989	-6938	-78	0.04	11.272	0.926	62.411	949.98	No
SLV 5	-12165	-15631	111	0.037	15.494	0.943	57.697	874.063	No
SLV 6	-12165	-15631	111	0.037	15.494	0.943	57.697	874.063	No
SLV 9	-12146	-14912	81	0.04	15.475	0.943	61.051	874.063	No
SLV 10	-12146	-14912	81	0.04	15.475	0.943	61.051	874.063	No

### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.311	SLU 73	Si
V_SLU	8.033	SLU 52	Si
PF_SLV	1.914	SLV 3	Si
V_SLV	0.713	SLV 15	No
PFFP_SLV	3.637	SLV 7	Si
R_SLV	0.065	SLV 1	No

## Maschio 105

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-1826.3	-335.9	-1886.8	-335.9	L4	L5	60.5	28	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 76	682	-5456	3455	3.22	99788	28.881	Si
SLU 76	762	-4821	35524	2.85	94889	2.671	Si
SLU 61	682	-5233	2712	3.09	98266	36.234	Si
SLU 61	762	-4639	35346	2.74	93158	2.636	Si
SLU 73	682	-5343	2015	3.15	99045	49.163	Si
SLU 73	762	-4737	37263	2.8	94103	2.525	Si
SLU 81	682	-5992	5336	3.54	102549	19.22	Si
SLU 81	762	-5374	37358	3.17	99254	2.657	Si
SLU 52	682	-4826	1405	2.85	94929	67.587	Si
SLU 52	762	-4235	34213	2.5	88791	2.595	Si
SLU 65	682	-4770	2096	2.82	94410	45.042	Si
SLU 65	762	-4155	33006	2.45	87839	2.661	Si
SLU 84	682	-5863	4763	3.46	102000	21.417	Si
SLU 84	762	-5226	36656	3.09	98216	2.679	Si
SLU 82	682	-5750	3322	3.39	101459	30.541	Si
SLU 82	762	-5141	38396	3.04	97580	2.541	Si
SLU 75	682	-5699	4710	3.36	101195	21.485	Si
SLU 75	762	-5054	35777	2.98	96889	2.708	Si
SLU 31	682	-4405	1058	2.6	90718	85.729	Si
SLU 31	762	-3937	31554	2.32	85115	2.697	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLD 16	682	-2649	-29975	1.56	69880	2.331	Si
SLD 16	762	-3472	61442	2.05	87420	1.423	Si
SLV 16	682	-778	-75539	0	0	0	No, e>l/2
SLV 16	762	-3391	111244	0	0	0	No, e>l/2
SLV 14	682	-1464	-69889	0	0	0	No, e>l/2
SLV 14	762	-2925	103074	0	0	0	No, e>l/2
SLV 2	682	-7280	83612	4.3	142767	1.708	Si
SLV 2	762	-3709	-62036	2.19	92089	1.484	Si
SLV 15	682	-778	-75539	0	0	0	No, e>l/2
SLV 15	762	-3391	111244	0	0	0	No, e>l/2
SLD 15	682	-2649	-29975	1.56	69880	2.331	Si
SLD 15	762	-3472	61442	2.05	87420	1.423	Si
SLV 13	682	-1464	-69889	0	0	0	No, e>l/2
SLV 13	762	-2925	103074	0	0	0	No, e>l/2
SLD 14	682	-2927	-27510	1.73	76021	2.763	Si
SLD 14	762	-3288	58257	1.94	83660	1.436	Si
SLV 1	682	-7280	83612	4.3	142767	1.708	Si
SLV 1	762	-3709	-62036	2.19	92089	1.484	Si
SLD 13	682	-2927	-27510	1.73	76021	2.763	Si
SLD 13	762	-3288	58257	1.94	83660	1.436	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 44	682	-4252	-254	1486		2.51	60.5	0.89	1508			5.94	Si
SLU 44	762	-3653	-94	29956		2.16	60.5	0.84	1428			15.26	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 10	682	-3888	-260	448		2.3	60.5	0.86	1460			5.61	Si
SLU 10	762	-3435	-125	28504		2.03	60.5	0.83	1399			11.23	Si
SLU 82	682	-5750	-267	3322		3.39	60.5	1.01	1708			6.39	Si
SLU 82	762	-5141	-197	38396		3.04	60.5	0.96	1627			8.27	Si
SLU 65	682	-4770	-262	2096		2.82	60.5	0.93	1577			6.01	Si
SLU 65	762	-4155	-121	33006		2.45	60.5	0.88	1495			12.37	Si
SLU 61	682	-5233	-259	2712		3.09	60.5	0.97	1639			6.33	Si
SLU 61	762	-4639	-170	35346		2.74	60.5	0.92	1560			9.2	Si
SLU 52	682	-4826	-290	1405		2.85	60.5	0.94	1585			5.47	Si
SLU 52	762	-4235	-143	34213		2.5	60.5	0.89	1506			10.57	Si
SLU 31	682	-4405	-269	1058		2.6	60.5	0.9	1528			5.69	Si
SLU 31	762	-3937	-152	31554		2.32	60.5	0.87	1466			9.65	Si
SLU 23	682	-3832	-233	1140		2.26	60.5	0.86	1452			6.24	Si
SLU 23	762	-3355	-103	27297		1.98	60.5	0.82	1388			13.49	Si
SLU 2	682	-3314	-224	530		1.96	60.5	0.82	1383			6.16	Si
SLU 2	762	-2853	-76	24247		1.68	60.5	0.78	1321			17.46	Si
SLU 73	682	-5343	-298	2015		3.15	60.5	0.98	1654			5.54	Si
SLU 73	762	-4737	-170	37263		2.8	60.5	0.93	1573			9.26	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	682	-778	-2866	-75539		0	0	0.83	0			0	No, Vu<V
SLV 16	762	-3391	-908	111244		0	0	0.83	0			0	No, Vu<V
SLV 9	682	-4301	-1811	-9572		2.54	60.5	1.34	2272			1.25	Si
SLV 9	762	-2656	345	35754		1.88	50.37	1.21	1706			4.95	Si
SLV 1	682	-7280	2624	83612		4.62	56.3	1.63	2561			0.98	No, Vu<V
SLV 1	762	-3709	683	-62036		3.26	40.57	1.49	1688			2.47	Si
SLV 15	682	-778	-2866	-75539		0	0	0.83	0			0	No, Vu<V
SLV 15	762	-3391	-908	111244		0	0	0.83	0			0	No, Vu<V
SLV 3	682	-6594	3101	77962		4.26	55.28	1.63	2515			0.81	No, Vu<V
SLV 3	762	-4175	300	-53866		2.86	52.04	1.41	2049			6.83	Si
SLV 4	682	-6594	3101	77962		4.26	55.28	1.63	2515			0.81	No, Vu<V
SLV 4	762	-4175	300	-53866		2.86	52.04	1.41	2049			6.83	Si
SLV 14	682	-1464	-3343	-69889		0	0	0.83	0			0	No, Vu<V
SLV 14	762	-2925	-525	103074		0	0	0.83	0			0	No, Vu<V
SLV 13	682	-1464	-3343	-69889		0	0	0.83	0			0	No, Vu<V
SLV 13	762	-2925	-525	103074		0	0	0.83	0			0	No, Vu<V
SLV 10	682	-4301	-1811	-9572		2.54	60.5	1.34	2272			1.25	Si
SLV 10	762	-2656	345	35754		1.88	50.37	1.21	1706			4.95	Si
SLV 2	682	-7280	2624	83612		4.62	56.3	1.63	2561			0.98	No, Vu<V
SLV 2	762	-3709	683	-62036		3.26	40.57	1.49	1688			2.47	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.38	1.01	-1708	6161	21942	3.56	Si
SLV 11	14	0.38	1.01	-1708	6161	21942	3.56	Si
SLV 16	14	0.38	1.07	-1813	6161	23160	3.76	Si
SLV 15	14	0.38	1.07	-1813	6161	23160	3.76	Si
SLV 7	14	0.38	1.48	-2501	6161	30783	5	Si
SLV 8	14	0.38	1.48	-2501	6161	30783	5	Si
SLV 13	14	0.38	1.59	-2696	6161	32823	5.33	Si
SLV 14	14	0.38	1.59	-2696	6161	32823	5.33	Si
SLV 4	14	0.38	2.63	-4455	6161	48949	7.94	Si
SLV 3	14	0.38	2.63	-4455	6161	48949	7.94	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 658 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 4	-2622	-2320	-7	0.044	3.519	0.934	68.87	949.98	No
SLV 3	-2622	-2320	-7	0.044	3.519	0.934	68.87	949.98	No
SLV 1	-2515	-3095	-2	0.046	3.411	0.932	71.746	949.98	No
SLV 2	-2515	-3095	-2	0.046	3.411	0.932	71.746	949.98	No
SLV 8	-2315	-1493	-10	0.044	3.208	0.929	68.3	874.063	No
SLV 7	-2315	-1493	-10	0.044	3.208	0.929	68.3	874.063	No
SLV 12	-1944	-1560	-8	0.045	2.835	0.922	71.17	874.063	No
SLV 11	-1944	-1560	-8	0.045	2.835	0.922	71.17	874.063	No
SLV 14	-1278	-3318	5	0.049	2.171	0.906	78.09	949.98	No
SLV 13	-1278	-3318	5	0.049	2.171	0.906	78.09	949.98	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.525	SLU 73	Si
V_SLU	5.465	SLU 52	Si
PF_SLV	0	SLV 13	No
V_SLV	0	SLV 13	No
PFFP_SLV	3.561	SLV 11	Si
R_SLV	0.072	SLV 3	No

## Maschio 106

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1961.8	104.6	-1961.8	581.1	L4	L5	476.5	14	352	352	352			



## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 50	482	-30469	-83384	4.57	3189215	38.247	Si
SLU 50	834	-24549	470039	3.68	3206728	6.822	Si
SLU 29	482	-29185	-95139	4.37	3219098	33.836	Si
SLU 29	834	-24477	545358	3.67	3205064	5.877	Si
SLU 9	482	-25182	-67072	3.77	3219525	48.001	Si
SLU 9	834	-21233	481704	3.18	3082274	6.399	Si
SLU 72	482	-34340	-115799	5.15	3011576	26.007	Si
SLU 72	834	-27771	505361	4.16	3235307	6.402	Si
SLU 28	482	-29367	-108555	4.4	3215751	29.623	Si
SLU 28	834	-24333	468208	3.65	3201559	6.838	Si
SLU 27	482	-29433	-106381	4.41	3214456	30.216	Si
SLU 27	834	-24344	482374	3.65	3201837	6.638	Si
SLU 37	482	-32593	-141581	4.89	3107998	21.952	Si
SLU 37	834	-26319	460984	3.95	3233700	7.015	Si
SLU 8	482	-25248	-64898	3.78	3220662	49.627	Si
SLU 8	834	-21244	495870	3.18	3082856	6.217	Si
SLU 71	482	-34406	-113625	5.16	3007393	26.468	Si
SLU 71	834	-27782	519527	4.16	3235248	6.227	Si
SLU 30	482	-29119	-97313	4.36	3220249	33.092	Si
SLU 30	834	-24466	531192	3.67	3204800	6.033	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 1	482	-25197	-635955	3.78	4147641	6.522	Si
SLV 1	834	-17311	-96990	2.59	3248520	33.493	Si
SLV 2	482	-25197	-635955	3.78	4147641	6.522	Si
SLV 2	834	-17311	-96990	2.59	3248520	33.493	Si
SLV 4	482	-27811	-433697	4.17	4365442	10.066	Si
SLV 4	834	-19974	36437	2.99	3592775	98.602	Si
SLV 6	482	-20395	-580209	3.06	3643512	6.28	Si
SLV 6	834	-12467	-259121	1.87	2516028	9.71	Si
SLV 10	482	-18894	-330168	2.83	3458199	10.474	Si
SLV 10	834	-10978	-264663	1.65	2263299	8.552	Si
SLV 15	482	-22806	399771	3.42	3913441	9.789	Si
SLV 15	834	-15010	17964	2.25	2917748	162.426	Si
SLV 9	482	-18894	-330168	2.83	3458199	10.474	Si
SLV 9	834	-10978	-264663	1.65	2263299	8.552	Si
SLV 3	482	-27811	-433697	4.17	4365442	10.066	Si
SLV 3	834	-19974	36437	2.99	3592775	98.602	Si
SLV 16	482	-22806	399771	3.42	3913441	9.789	Si
SLV 16	834	-15010	17964	2.25	2917748	162.426	Si
SLV 5	482	-20395	-580209	3.06	3643512	6.28	Si
SLV 5	834	-12467	-259121	1.87	2516028	9.71	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 39	482	-30709	910	-192770		4.6	476.52	1.08	7227			7.94	Si
SLU 39	834	-20575	411	-100592		3.08	476.52	0.97	6450			15.68	Si
SLU 83	482	-37602	772	-195614		5.64	476.52	1.08	7227			9.36	Si
SLU 83	834	-27146	200	136285		4.07	476.52	1.08	7227			36.12	Si
SLU 40	482	-30642	852	-194944		4.59	476.52	1.08	7227			8.49	Si
SLU 40	834	-20564	336	-114758		3.08	476.52	0.97	6448			19.18	Si
SLU 73	482	-34358	723	-194975		5.15	476.52	1.08	7227			10	Si
SLU 73	834	-23071	138	-113872		3.46	476.52	1.02	6782			49.3	Si
SLU 41	482	-32381	732	-177127		4.85	476.52	1.08	7227			9.87	Si
SLU 41	834	-23842	247	162116		3.57	476.52	1.03	6885			27.9	Si
SLU 60	482	-31992	791	-181015		4.8	476.52	1.08	7227			9.14	Si
SLU 60	834	-20646	259	-175911		3.09	476.52	0.97	6459			24.98	Si
SLU 61	482	-31926	732	-183189		4.79	476.52	1.08	7227			9.87	Si
SLU 61	834	-20635	183	-190077		3.09	476.52	0.97	6458			35.21	Si
SLU 82	482	-35863	892	-213430		5.38	476.52	1.08	7227			8.1	Si
SLU 82	834	-23868	290	-140589		3.58	476.52	1.03	6889			23.79	Si
SLU 81	482	-35929	951	-211256		5.39	476.52	1.08	7227			7.6	Si
SLU 81	834	-23879	365	-126423		3.58	476.52	1.03	6890			18.89	Si
SLU 18	482	-26771	751	-162529		4.01	476.52	1.08	7227			9.63	Si
SLU 18	834	-17342	305	-150080		2.6	476.52	0.9	6018			19.71	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	482	-20192	-6651	197513		3.03	476.52	1.44	9598			1.44	Si
SLV 14	834	-12347	-6850	-115464		1.85	476.52	1.2	8029			1.17	Si
SLV 8	482	-29109	12174	93985		4.36	476.52	1.63	10841			0.89	No, Vu<V
SLV 8	834	-21343	10423	185637		3.2	476.52	1.47	9828			0.94	No, Vu<V
SLV 9	482	-18894	-11275	-330168		2.83	476.52	1.4	9338			0.83	No, Vu<V
SLV 9	834	-10978	-10295	-264663		1.65	476.52	1.16	7755			0.75	No, Vu<V
SLV 6	482	-20395	-8912	-580209		3.06	476.52	1.44	9638			1.08	Si
SLV 6	834	-12467	-7786	-259121		1.87	476.52	1.21	8053			1.03	Si
SLV 7	482	-29109	12174	93985		4.36	476.52	1.63	10841			0.89	No, Vu<V
SLV 7	834	-21343	10423	185637		3.2	476.52	1.47	9828			0.94	No, Vu<V
SLV 13	482	-20192	-6651	197513		3.03	476.52	1.44	9598			1.44	Si
SLV 13	834	-12347	-6850	-115464		1.85	476.52	1.2	8029			1.17	Si
SLV 10	482	-18894	-11275	-330168		2.83	476.52	1.4	9338			0.83	No, Vu<V



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLV 10	834	-10978	-10295	-264663		1.65	476.52	1.16	7755			0.75	No, Vu<V
SLV 11	482	-27607	9811	344025		4.14	476.52	1.63	10841			1.1	Si
SLV 11	834	-19854	7914	180094		2.98	476.52	1.43	9530			1.2	Si
SLV 12	482	-27607	9811	344025		4.14	476.52	1.63	10841			1.1	Si
SLV 12	834	-19854	7914	180094		2.98	476.52	1.43	9530			1.2	Si
SLV 5	482	-20395	-8912	-580209		3.06	476.52	1.44	9638			1.08	Si
SLV 5	834	-12467	-7786	-259121		1.87	476.52	1.21	8053			1.03	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.03 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.38	2.29	-15295	25955	86974	3.35	Si
SLV 9	14	0.38	2.29	-15295	25955	86974	3.35	Si
SLV 5	14	0.38	2.32	-15459	25955	87689	3.38	Si
SLV 6	14	0.38	2.32	-15459	25955	87689	3.38	Si
SLV 13	14	0.38	2.68	-17896	25955	97768	3.77	Si
SLV 14	14	0.38	2.68	-17896	25955	97768	3.77	Si
SLV 1	14	0.38	2.76	-18443	25955	99889	3.85	Si
SLV 2	14	0.38	2.76	-18443	25955	99889	3.85	Si
SLV 15	14	0.38	3.04	-20289	25955	106675	4.11	Si
SLV 16	14	0.38	3.04	-20289	25955	106675	4.11	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 658 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 2	-17311	-25197	-54	0.019	20.939	0.954	29.354	1649.477	No
SLV 1	-17311	-25197	-54	0.019	20.939	0.954	29.354	1649.477	No
SLV 15	-15010	-22806	54	0.019	18.603	0.949	29.413	1649.477	No
SLV 16	-15010	-22806	54	0.019	18.603	0.949	29.413	1649.477	No
SLV 11	-19854	-27607	43	0.02	23.525	0.958	30.062	1649.477	No
SLV 12	-19854	-27607	43	0.02	23.525	0.958	30.062	1649.477	No
SLV 5	-12467	-20395	-44	0.02	16.024	0.942	30.51	1649.477	No
SLV 6	-12467	-20395	-44	0.02	16.024	0.942	30.51	1649.477	No
SLV 4	-19974	-27811	-36	0.02	23.646	0.959	30.562	1649.477	No
SLV 3	-19974	-27811	-36	0.02	23.646	0.959	30.562	1649.477	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.877	SLV 29	Si
V_SLV	7.601	SLV 81	Si
PF_SLV	6.28	SLV 5	Si
V_SLV	0.753	SLV 9	No
PFFP_SLV	3.351	SLV 9	Si
R_SLV	0.018	SLV 1	No

## Maschio 107

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1961.8	595.1	-1961.8	666.1	L4	L5	71	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv <sub>lim</sub>	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 39	482	-5677	-41117	2.86	130885	3.183	Si
SLV 39	834	-5204	22311	2.62	125375	5.619	Si
SLV 19	482	-4918	-36837	2.47	121572	3.3	Si
SLV 19	834	-4264	21867	2.14	111516	5.1	Si
SLV 18	482	-4950	-36515	2.49	122007	3.341	Si
SLV 18	834	-4304	21299	2.16	112181	5.267	Si
SLV 52	482	-5772	-39035	2.9	131870	3.378	Si
SLV 52	834	-4840	21413	2.43	120469	5.626	Si
SLV 73	482	-6499	-43637	3.27	138126	3.165	Si
SLV 73	834	-5740	22426	2.89	131546	5.866	Si
SLV 40	482	-5646	-41440	2.84	130550	3.15	Si
SLV 40	834	-5164	22880	2.6	124867	5.458	Si
SLV 60	482	-6005	-42194	3.02	134124	3.179	Si
SLV 60	834	-5096	23904	2.56	123984	5.187	Si
SLV 82	482	-6701	-47119	3.37	139448	2.959	Si
SLV 82	834	-5957	25484	3	133680	5.246	Si
SLV 61	482	-5973	-42516	3	133834	3.148	Si
SLV 61	834	-5057	24472	2.54	123457	5.045	Si
SLV 81	482	-6732	-46797	3.39	139638	2.984	Si
SLV 81	834	-5997	24916	3.02	134050	5.38	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 11	482	-10085	45020	5.07	209378	4.651	Si
SLV 11	834	-3305	-136184	0	0	0	No, e>1/2



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLD 1	482	-1626	-79605	0	0	0	No, $e \geq l/2$
SLD 1	834	-5690	97165	2.86	154688	1.592	Si
SLV 5	482	733	-100965	0	0	0	No, Trazione
SLV 5	834	-4804	161025	2.42	136806	0.85	No, $M > \mu$
SLV 3	482	331	-124751	0	0	0	No, Trazione
SLV 3	834	-8144	152449	4.1	192177	1.261	Si
SLV 6	482	733	-100965	0	0	0	No, Trazione
SLV 6	834	-4804	161025	2.42	136806	0.85	No, $M > \mu$
SLV 4	482	331	-124751	0	0	0	No, Trazione
SLV 4	834	-8144	152449	4.1	192177	1.261	Si
SLV 13	482	-9683	68806	4.87	206720	3.004	Si
SLV 13	834	35	-127608	0	0	0	No, Trazione
SLV 14	482	-9683	68806	4.87	206720	3.004	Si
SLV 14	834	35	-127608	0	0	0	No, Trazione
SLV 12	482	-10085	45020	5.07	209378	4.651	Si
SLV 12	834	-3305	-136184	0	0	0	No, $e \geq l/2$
SLV 2	482	2481	-148948	0	0	0	No, Trazione
SLV 2	834	-7881	211126	3.96	189001	0.895	No, $M > \mu$

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 82	482	-6701	-885	-47119		3.37	71	1	1998			2.26	Si
SLU 82	834	-5957	-284	25484		3	71	0.96	1899			6.68	Si
SLU 81	482	-6732	-880	-46797		3.39	71	1.01	2002			2.28	Si
SLU 81	834	-5997	-278	24916		3.02	71	0.96	1904			6.85	Si
SLU 61	482	-5973	-806	-42516		3	71	0.96	1901			2.36	Si
SLU 61	834	-5057	-262	24472		2.54	71	0.89	1779			6.8	Si
SLU 73	482	-6499	-826	-43637		3.27	71	0.99	1971			2.39	Si
SLU 73	834	-5740	-255	22426		2.89	71	0.94	1870			7.34	Si
SLU 19	482	-4918	-690	-36837		2.47	71	0.89	1760			2.55	Si
SLU 19	834	-4264	-235	21867		2.14	71	0.84	1673			7.13	Si
SLU 60	482	-6005	-800	-42194		3.02	71	0.96	1905			2.38	Si
SLU 60	834	-5096	-255	23904		2.56	71	0.9	1784			6.99	Si
SLU 40	482	-5646	-769	-41440		2.84	71	0.93	1857			2.41	Si
SLU 40	834	-5164	-257	22880		2.6	71	0.9	1793			6.97	Si
SLU 39	482	-5677	-764	-41117		2.86	71	0.94	1861			2.44	Si
SLU 39	834	-5204	-251	22311		2.62	71	0.9	1798			7.16	Si
SLU 18	482	-4950	-685	-36515		2.49	71	0.89	1764			2.58	Si
SLU 18	834	-4304	-228	21299		2.16	71	0.84	1678			7.35	Si
SLU 52	482	-5772	-747	-39035		2.9	71	0.94	1874			2.51	Si
SLU 52	834	-4840	-232	21413		2.43	71	0.88	1750			7.54	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	482	-10085	1920	45020		5.07	71	1.63	3230			1.68	Si
SLV 12	834	-3305	745	-136184		0	0	0.83	0			0	No, $V_u < V$
SLV 11	482	-10085	1920	45020		5.07	71	1.63	3230			1.68	Si
SLV 11	834	-3305	745	-136184		0	0	0.83	0			0	No, $V_u < V$
SLV 14	482	-9683	1451	68806		4.87	71	1.63	3230			2.23	Si
SLV 14	834	35	1958	-127608		0	0	0.83	0			0	No, $V_u < V$
SLV 3	482	331	-2532	-124751		0	0	0.83	0			0	No, $V_u < V$
SLV 3	834	-8144	-2248	152449		5.78	50.34	1.63	2290			1.02	Si
SLV 4	482	331	-2532	-124751		0	0	0.83	0			0	No, $V_u < V$
SLV 4	834	-8144	-2248	152449		5.78	50.34	1.63	2290			1.02	Si
SLV 5	482	733	-3001	-100965		0	0	0.83	0			0	No, $V_u < V$
SLV 5	834	-4804	-1035	161025		28.9	5.94	1.63	270			0.26	No, $V_u < V$
SLV 2	482	2481	-3557	-148948		0	0	0.83	0			0	No, $V_u < V$
SLV 2	834	-7881	-2390	211126		10.77	26.13	1.63	1189			0.5	No, $V_u < V$
SLV 6	482	733	-3001	-100965		0	0	0.83	0			0	No, $V_u < V$
SLV 6	834	-4804	-1035	161025		28.9	5.94	1.63	270			0.26	No, $V_u < V$
SLV 13	482	-9683	1451	68806		4.87	71	1.63	3230			2.23	Si
SLV 13	834	35	1958	-127608		0	0	0.83	0			0	No, $V_u < V$
SLD 1	482	-1626	-1819	-79605		0	0	0.83	0			0	No, $V_u < V$
SLD 1	834	-5690	-1097	97165		3.68	55.28	1.57	2428			2.21	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.38	1.31	-2605	7398	32557	4.4	Si
SLV 6	14	0.38	1.31	-2605	7398	32557	4.4	Si
SLV 10	14	0.38	1.47	-2920	7398	35968	4.86	Si
SLV 9	14	0.38	1.47	-2920	7398	35968	4.86	Si
SLV 2	14	0.38	1.72	-3412	7398	41056	5.55	Si
SLV 1	14	0.38	1.72	-3412	7398	41056	5.55	Si
SLV 3	14	0.38	2.22	-4419	7398	50609	6.84	Si
SLV 4	14	0.38	2.22	-4419	7398	50609	6.84	Si
SLV 14	14	0.38	2.24	-4463	7398	51001	6.89	Si
SLV 13	14	0.38	2.24	-4463	7398	51001	6.89	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 658 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 8	-5680	-6436	308	0	6.77	0.957	0	874.063	No
SLV 3	-8144	331	222	0	0	0	0	949.98	No, Trazione
SLV 2	-7881	2481	62	0	0	0	0	949.98	No, Trazione
SLV 10	-2429	-2916	-313	0	3.476	0.924	0	874.063	No
SLV 1	-7881	2481	62	0	0	0	0	949.98	No, Trazione
SLV 6	-4804	733	-226	0	0	0	0	874.063	No, Trazione
SLV 7	-5680	-6436	308	0	6.77	0.957	0	874.063	No



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 9	-2429	-2916	-313	0	3.476	0.924	0	874.063	No
SLV 5	-4804	733	-226	0	0	0	0	874.063	No, Trazione
SLV 4	-8144	331	222	0	0	0	0	949.98	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.959	SLU 82	Si
V_SLU	2.258	SLU 82	Si
PF_SLV	0	SLV 14	No
V_SLV	0	SLD 1	No
PFFP_SLV	4.401	SLV 5	Si
R_SLV	0	SLV 14	No

## Maschio 108

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X inl.	Y inl.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h inl.	h fin.	a	a.s.,sx	a.s.,dx
-1633.3	-335.9	-1736.3	-335.9	L4	L5	103	28	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 84	572	-11570	-59760	4.01	302399	5.06	Si
SLU 84	752	-9610	116771	3.33	292466	2.505	Si
SLU 81	572	-11468	-60096	3.98	302297	5.03	Si
SLU 81	752	-9862	120658	3.42	294680	2.442	Si
SLU 61	572	-10521	-65384	3.65	299177	4.576	Si
SLU 61	752	-8776	114304	3.04	283122	2.477	Si
SLU 60	572	-10664	-55141	3.7	299897	5.439	Si
SLU 60	752	-8997	111421	3.12	285897	2.566	Si
SLU 73	572	-10826	-74556	3.75	300609	4.032	Si
SLU 73	752	-9041	120341	3.13	286421	2.38	Si
SLU 82	572	-11326	-70338	3.93	302079	4.295	Si
SLU 82	752	-9640	123541	3.34	292744	2.37	Si
SLU 75	572	-11266	-60374	3.91	301962	5.002	Si
SLU 75	752	-9326	115042	3.23	289626	2.518	Si
SLU 76	572	-11070	-63977	3.84	301464	4.712	Si
SLU 76	752	-9011	113571	3.12	286065	2.519	Si
SLU 65	572	-9880	-68463	3.43	294830	4.306	Si
SLU 65	752	-7986	108390	2.77	271477	2.505	Si
SLU 52	572	-10021	-69601	3.47	295943	4.252	Si
SLU 52	752	-8176	111104	2.84	274527	2.471	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 15	572	-5666	-290024	1.96	244869	0.844	No, M>Mu
SLV 15	752	-6395	221141	2.22	269569	1.219	Si
SLV 16	572	-5666	-290024	1.96	244869	0.844	No, M>Mu
SLV 16	752	-6395	221141	2.22	269569	1.219	Si
SLV 7	572	-7763	196366	2.69	311718	1.587	Si
SLV 7	752	1113	-109297	0	0	0	No, Trazione
SLV 10	572	-7988	-276734	2.77	318140	1.15	Si
SLV 10	752	-14190	271426	4.92	436508	1.608	Si
SLV 9	572	-7988	-276734	2.77	318140	1.15	Si
SLV 9	752	-14190	271426	4.92	436508	1.608	Si
SLV 4	572	-9659	298608	3.35	361081	1.209	Si
SLV 4	752	-2447	-140665	0	0	0	No, e>l/2
SLV 3	572	-9659	298608	3.35	361081	1.209	Si
SLV 3	752	-2447	-140665	0	0	0	No, e>l/2
SLV 14	572	-6093	-378977	0	0	0	No, e>l/2
SLV 14	752	-10630	302795	3.69	382309	1.263	Si
SLV 13	572	-6093	-378977	0	0	0	No, e>l/2
SLV 13	752	-10630	302795	3.69	382309	1.263	Si
SLV 8	572	-7763	196366	2.69	311718	1.587	Si
SLV 8	752	1113	-109297	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma M = 3$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 73	572	-10826	-1136	-74556		3.75	103	1.06	3046			2.68	Si
SLU 73	752	-9041	-475	120341		3.13	103	0.97	2808			5.91	Si
SLU 65	572	-9880	-1075	-68463		3.43	103	1.01	2920			2.72	Si
SLU 65	752	-7986	-467	108390		2.77	103	0.92	2667			5.71	Si
SLU 61	572	-10521	-968	-65384		3.65	103	1.04	3005			3.1	Si
SLU 61	752	-8776	-448	114304		3.04	103	0.96	2772			6.19	Si
SLU 52	572	-10021	-1063	-69601		3.47	103	1.02	2938			2.76	Si
SLU 52	752	-8176	-506	111104		2.84	103	0.93	2692			5.32	Si
SLU 44	572	-9075	-1002	-63508		3.15	103	0.98	2812			2.81	Si
SLU 44	752	-7122	-497	99152		2.47	103	0.88	2552			5.13	Si
SLU 31	572	-8889	-994	-65146		3.08	103	0.97	2787			2.8	Si
SLU 31	752	-7540	-388	101005		2.61	103	0.9	2608			6.71	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 2	572	-7138	-859	-54098		2.48	103	0.89	2554			2.97	Si
SLU 2	752	-5621	-410	79816		1.95	103	0.82	2352			5.73	Si
SLU 82	572	-11326	-1042	-70338		3.93	103	1.08	3112			2.99	Si
SLU 82	752	-9640	-417	123541		3.34	103	1	2888			6.92	Si
SLU 10	572	-8084	-921	-60191		2.8	103	0.93	2680			2.91	Si
SLU 10	752	-6676	-419	91768		2.31	103	0.86	2492			5.95	Si
SLU 23	572	-7943	-933	-59053		2.75	103	0.92	2661			2.85	Si
SLU 23	752	-6486	-380	89054		2.25	103	0.86	2467			6.5	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	572	-6093	-6470	-378977		0	0	0.83	0			0	No, Vu<V
SLV 13	752	-10630	-2226	302795		5.5	69.05	1.63	3142			1.41	Si
SLV 16	572	-5666	-5608	-290024		217.43	0.93	1.63	42			0.01	No, Vu<V
SLV 16	752	-6395	-1739	221141		4.5	50.76	1.63	2309			1.33	Si
SLV 7	572	-7763	2472	196366		3.53	78.61	1.54	3387			1.37	Si
SLV 7	752	-1113	1083	-109297		0	0	0.83	0			0	No, Vu<V
SLV 15	572	-5666	-5608	-290024		217.43	0.93	1.63	42			0.01	No, Vu<V
SLV 15	752	-6395	-1739	221141		4.5	50.76	1.63	2309			1.33	Si
SLV 4	572	-9659	5277	298608		5.59	61.75	1.63	2810			0.53	No, Vu<V
SLV 4	752	-2447	1728	-140665		0	0	0.83	0			0	No, Vu<V
SLV 10	572	-7988	-3665	-276734		5.64	50.57	1.63	2301			0.63	No, Vu<V
SLV 10	752	-14190	-1581	271426		5.22	97.11	1.63	4419			2.79	Si
SLV 3	572	-9659	5277	298608		5.59	61.75	1.63	2810			0.53	No, Vu<V
SLV 3	752	-2447	1728	-140665		0	0	0.83	0			0	No, Vu<V
SLV 14	572	-6093	-6470	-378977		0	0	0.83	0			0	No, Vu<V
SLV 14	752	-10630	-2226	302795		5.5	69.05	1.63	3142			1.41	Si
SLV 8	572	-7763	2472	196366		3.53	78.61	1.54	3387			1.37	Si
SLV 8	752	-1113	1083	-109297		0	0	0.83	0			0	No, Vu<V
SLV 9	572	-7988	-3665	-276734		5.64	50.57	1.63	2301			0.63	No, Vu<V
SLV 9	752	-14190	-1581	271426		5.22	97.11	1.63	4419			2.79	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.38	0.62	-1798	10489	23887	2.28	Si
SLV 11	14	0.38	0.62	-1798	10489	23887	2.28	Si
SLV 15	14	0.38	1.01	-2913	10489	37410	3.57	Si
SLV 16	14	0.38	1.01	-2913	10489	37410	3.57	Si
SLV 8	14	0.38	1.28	-3705	10489	46411	4.42	Si
SLV 7	14	0.38	1.28	-3705	10489	46411	4.42	Si
SLV 13	14	0.38	2	-5775	10489	67602	6.45	Si
SLV 14	14	0.38	2	-5775	10489	67602	6.45	Si
SLV 4	14	0.38	3.21	-9268	10489	95628	9.12	Si
SLV 3	14	0.38	3.21	-9268	10489	95628	9.12	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 658 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 11	-406	-7106	-92	0	2.058	0.904	0	874.063	No
SLV 12	-406	-7106	-92	0	2.058	0.904	0	874.063	No
SLV 7	824	-5075	-75	0	0	0	0	874.063	No, Trazione
SLV 8	824	-5075	-75	0	0	0	0	874.063	No, Trazione
SLV 5	-9486	-8344	92	0.034	11.088	0.961	52.025	874.063	No
SLV 6	-9486	-8344	92	0.034	11.088	0.961	52.025	874.063	No
SLV 1	-4442	-4831	53	0.037	5.968	0.934	56.995	949.98	No
SLV 2	-4442	-4831	53	0.037	5.968	0.934	56.995	949.98	No
SLV 15	-5450	-10619	-53	0.037	6.989	0.942	57.397	949.98	No
SLV 16	-5450	-10619	-53	0.037	6.989	0.942	57.397	949.98	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.37	SLU 82	Si
V_SLU	2.68	SLU 73	Si
PF_SLV	0	SLV 8	No
V_SLV	0	SLV 3	No
PFFP_SLV	2.277	SLV 11	Si
R_SLV	0	SLV 8	No

## Maschio 109

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1844.8	-335.9	-1844.8	104.6	L4	L5	440.6	14	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 80	482	-25150	427972	4.08	2766950	6.465	Si





Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 80	834	-18565	487394	3.01	2578473	5.29	Si
SLU 75	482	-24966	396044	4.05	2766848	6.986	Si
SLU 75	834	-18392	471377	2.98	2568405	5.449	Si
SLU 84	482	-25765	417408	4.18	2765140	6.625	Si
SLU 84	834	-18837	484620	3.05	2593785	5.352	Si
SLU 36	482	-21785	392920	3.53	2718155	6.918	Si
SLU 36	834	-16194	446448	2.63	2417518	5.415	Si
SLU 76	482	-24902	367501	4.04	2766743	7.529	Si
SLU 76	834	-17994	492820	2.92	2544236	5.163	Si
SLU 78	482	-25460	432617	4.13	2766452	6.395	Si
SLU 78	834	-18911	495901	3.07	2597815	5.239	Si
SLU 73	482	-24408	330928	3.96	2764724	8.354	Si
SLU 73	834	-17476	468296	2.83	2510662	5.361	Si
SLU 34	482	-21227	327805	3.44	2700465	8.238	Si
SLU 34	834	-15278	443367	2.48	2342116	5.283	Si
SLU 68	482	-22316	306813	3.62	2732451	8.906	Si
SLU 68	834	-16150	442069	2.62	2414074	5.461	Si
SLU 38	482	-21476	388275	3.48	2708675	6.976	Si
SLU 38	834	-15849	437941	2.57	2389945	5.457	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 9	482	-17298	-72619	2.8	2935880	40.429	Si
SLV 9	834	-12256	446062	1.99	2260719	5.068	Si
SLV 10	482	-17298	-72619	2.8	2935880	40.429	Si
SLV 10	834	-12256	446062	1.99	2260719	5.068	Si
SLV 8	482	-15725	582562	2.55	2741242	4.705	Si
SLV 8	834	-12229	83788	1.98	2256815	26.935	Si
SLV 16	482	-13485	354806	2.19	2439050	6.874	Si
SLV 16	834	-9856	384244	1.6	1887235	4.912	Si
SLV 14	482	-14418	157994	2.34	2568429	16.256	Si
SLV 14	834	-10258	464249	1.66	1952043	4.205	Si
SLV 12	482	-14189	583419	2.3	2537182	4.349	Si
SLV 12	834	-10918	179381	1.77	2056659	11.465	Si
SLV 13	482	-14418	157994	2.34	2568429	16.256	Si
SLV 13	834	-10258	464249	1.66	1952043	4.205	Si
SLV 7	482	-15725	582562	2.55	2741242	4.705	Si
SLV 7	834	-12229	83788	1.98	2256815	26.935	Si
SLV 11	482	-14189	583419	2.3	2537182	4.349	Si
SLV 11	834	-10918	179381	1.77	2056659	11.465	Si
SLV 15	482	-13485	354806	2.19	2439050	6.874	Si
SLV 15	834	-9856	384244	1.6	1887235	4.912	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 10	482	-18267	-1311	217514		2.96	440.57	0.95	5862			4.47	Si
SLU 10	834	-12897	-607	358936		2.09	440.57	0.83	5146			8.48	Si
SLU 27	482	-18832	1149	368079		3.05	440.57	0.96	5938			5.17	Si
SLU 27	834	-14428	1143	350771		2.34	440.57	0.87	5350			4.68	Si
SLU 29	482	-18522	1216	363434		3	440.57	0.96	5896			4.85	Si
SLU 29	834	-14083	1209	342263		2.28	440.57	0.86	5304			4.39	Si
SLU 8	482	-16055	1077	289716		2.6	440.57	0.9	5567			5.17	Si
SLU 8	834	-12220	1071	282357		1.98	440.57	0.82	5056			4.72	Si
SLU 71	482	-22197	1280	403130		3.6	440.57	1.04	6386			4.99	Si
SLU 71	834	-16799	1271	391717		2.72	440.57	0.92	5667			4.46	Si
SLU 79	482	-24782	1277	463818		4.02	440.57	1.08	6682			5.23	Si
SLU 79	834	-18643	1267	442467		3.02	440.57	0.96	5912			4.67	Si
SLU 37	482	-21108	1213	424122		3.42	440.57	1.01	6241			5.14	Si
SLU 37	834	-15927	1206	393014		2.58	440.57	0.9	5550			4.6	Si
SLU 69	482	-22506	1213	407775		3.65	440.57	1.04	6428			5.3	Si
SLU 69	834	-17145	1205	400224		2.78	440.57	0.93	5713			4.74	Si
SLU 50	482	-19730	1140	329413		3.2	440.57	0.98	6057			5.31	Si
SLU 50	834	-14937	1132	331810		2.42	440.57	0.88	5418			4.78	Si
SLU 2	482	-15681	-1308	156826		2.54	440.57	0.89	5517			4.22	Si
SLU 2	834	-11053	-603	308185		1.79	440.57	0.79	4900			8.13	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	482	-14189	10749	583419		2.3	440.57	1.29	7978			0.74	No, Vu<V
SLV 12	834	-10918	8832	179381		1.77	440.57	1.19	7324			0.83	No, Vu<V
SLV 8	482	-15725	11073	582562		2.55	440.57	1.34	8285			0.75	No, Vu<V
SLV 8	834	-12229	9271	83788		1.98	440.57	1.23	7586			0.82	No, Vu<V
SLV 6	482	-18834	-9930	-73476		3.05	440.57	1.44	8907			0.9	No, Vu<V
SLV 6	834	-13567	-8025	350468		2.2	440.57	1.27	7853			0.98	No, Vu<V
SLV 10	482	-17298	-10254	-72619		2.8	440.57	1.39	8600			0.84	No, Vu<V
SLV 10	834	-12256	-8465	446062		1.99	440.57	1.23	7591			0.9	No, Vu<V
SLV 9	482	-17298	-10254	-72619		2.8	440.57	1.39	8600			0.84	No, Vu<V
SLV 9	834	-12256	-8465	446062		1.99	440.57	1.23	7591			0.9	No, Vu<V
SLD 8	482	-16181	4861	391364		2.62	440.57	1.36	8376			1.72	Si
SLD 8	834	-12245	4110	188812		1.99	440.57	1.23	7589			1.85	Si
SLV 7	482	-15725	11073	582562		2.55	440.57	1.34	8285			0.75	No, Vu<V
SLV 7	834	-12229	9271	83788		1.98	440.57	1.23	7586			0.82	No, Vu<V
SLV 5	482	-18834	-9930	-73476		3.05	440.57	1.44	8907			0.9	No, Vu<V
SLV 5	834	-13567	-8025	350468		2.2	440.57	1.27	7853			0.98	No, Vu<V
SLD 7	482	-16181	4861	391364		2.62	440.57	1.36	8376			1.72	Si
SLD 7	834	-12245	4110	188812		1.99	440.57	1.23	7589			1.85	Si
SLV 11	482	-14189	10749	583419		2.3	440.57	1.29	7978			0.74	No, Vu<V
SLV 11	834	-10918	8832	179381		1.77	440.57	1.19	7324			0.83	No, Vu<V



## Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.03 denominatore  $8 \gamma M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 16	14	0.38	1.83	-11261	23998	67050	2.79	Si
SLV 15	14	0.38	1.83	-11261	23998	67050	2.79	Si
SLV 14	14	0.38	1.96	-12082	23998	71014	2.96	Si
SLV 13	14	0.38	1.96	-12082	23998	71014	2.96	Si
SLV 12	14	0.38	2.07	-12785	23998	74315	3.1	Si
SLV 11	14	0.38	2.07	-12785	23998	74315	3.1	Si
SLV 8	14	0.38	2.42	-14912	23998	83731	3.49	Si
SLV 7	14	0.38	2.42	-14912	23998	83731	3.49	Si
SLV 10	14	0.38	2.52	-15520	23998	86267	3.59	Si
SLV 9	14	0.38	2.52	-15520	23998	86267	3.59	Si

## Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 658 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 2	-14629	-19538	21	0.021	17.962	0.951	32.032	1649.477	No
SLV 1	-14629	-19538	21	0.021	17.962	0.951	32.032	1649.477	No
SLV 3	-14228	-18605	22	0.021	17.555	0.95	32.057	1649.477	No
SLV 4	-14228	-18605	22	0.021	17.555	0.95	32.057	1649.477	No
SLV 13	-10258	-14418	-22	0.021	13.531	0.937	33.017	1649.477	No
SLV 14	-10258	-14418	-22	0.021	13.531	0.937	33.017	1649.477	No
SLV 15	-9856	-13485	-21	0.021	13.125	0.935	33.216	1649.477	No
SLV 16	-9856	-13485	-21	0.021	13.125	0.935	33.216	1649.477	No
SLV 5	-13567	-18834	6	0.022	16.885	0.948	33.781	1649.477	No
SLV 6	-13567	-18834	6	0.022	16.885	0.948	33.781	1649.477	No

## Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.163	SLU 76	Si
V_SLU	4.218	SLU 2	Si
PF_SLV	4.205	SLV 13	Si
V_SLV	0.742	SLV 11	No
PFFP_SLV	2.794	SLV 15	Si
R_SLV	0.019	SLV 1	No

## Maschio 110

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1389.3	-335.9	-1543.3	-335.9	L4	L5	154	28	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

## Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 40	482	-11659	-65027	2.7	599751	9.223	Si
SLU 40	692	-12481	141132	2.89	619543	4.39	Si
SLU 76	482	-14033	-63589	3.25	648847	10.204	Si
SLU 76	692	-14349	147053	3.33	653511	4.444	Si
SLU 65	482	-12699	-65843	2.95	624305	9.482	Si
SLU 65	692	-12848	143558	2.98	627440	4.371	Si
SLU 31	482	-11196	-66960	2.6	587289	8.771	Si
SLU 31	692	-11924	139845	2.77	606459	4.337	Si
SLU 84	482	-14496	-61655	3.36	655546	10.632	Si
SLU 84	692	-14905	148340	3.46	660676	4.454	Si
SLU 73	482	-13764	-74189	3.19	644532	8.688	Si
SLU 73	692	-14312	159712	3.32	652988	4.089	Si
SLU 82	482	-14228	-72256	3.3	651776	9.02	Si
SLU 82	692	-14869	160999	3.45	660244	4.101	Si
SLU 52	482	-13025	-64509	3.02	631026	9.782	Si
SLU 52	692	-13226	139470	3.07	634939	4.553	Si
SLU 81	482	-14238	-63990	3.3	651923	10.188	Si
SLU 81	692	-14763	152545	3.42	658974	4.32	Si
SLU 75	482	-14128	-60854	3.28	650291	10.686	Si
SLU 75	692	-14451	147167	3.35	654937	4.45	Si

## Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 2	482	-12946	350126	3	751918	2.148	Si
SLV 2	692	-5187	-320722	1.2	360073	1.123	Si
SLV 3	482	-11215	292323	2.6	679746	2.325	Si
SLV 3	692	-6406	-212102	1.49	433317	2.043	Si
SLV 1	482	-12946	350126	3	751918	2.148	Si
SLV 1	692	-5187	-320722	1.2	360073	1.123	Si
SLV 15	482	-6900	-430744	1.6	461748	1.072	Si
SLV 15	692	-14669	520236	3.4	815024	1.567	Si
SLV 12	482	-6391	-245108	1.48	432408	1.764	Si
SLV 12	692	-13200	390640	3.06	761744	1.95	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 4	482	-11215	292323	2.6	679746	2.325	Si
SLV 4	692	-6406	-212102	1.49	433317	2.043	Si
SLV 14	482	-8632	-372940	2	555753	1.49	Si
SLV 14	692	-13449	411617	3.12	771232	1.874	Si
SLV 13	482	-8632	-372940	2	555753	1.49	Si
SLV 13	692	-13449	411617	3.12	771232	1.874	Si
SLV 16	482	-6900	-430744	1.6	461748	1.072	Si
SLV 16	692	-14669	520236	3.4	815024	1.567	Si
SLV 11	482	-6391	-245108	1.48	432408	1.764	Si
SLV 11	692	-13200	390640	3.06	761744	1.95	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 81	482	-14238	-1797	-63990	3.3	154	1	4294				2.39	Si
SLU 81	692	-14763	-2491	152545	3.42	154	1.01	4364				1.75	Si
SLU 61	482	-13489	-1659	-62576	3.13	154	0.97	4194				2.53	Si
SLU 61	692	-13783	-2295	140758	3.2	154	0.98	4233				1.84	Si
SLU 52	482	-13025	-1657	-64509	3.02	154	0.96	4132				2.49	Si
SLU 52	692	-13226	-2182	139470	3.07	154	0.96	4159				1.91	Si
SLU 84	482	-14496	-1737	-61655	3.36	154	1	4328				2.49	Si
SLU 84	692	-14905	-2332	148340	3.46	154	1.02	4383				1.88	Si
SLU 39	482	-11669	-1578	-56761	2.71	154	0.92	3951				2.5	Si
SLU 39	692	-12375	-2187	132678	2.87	154	0.94	4046				1.85	Si
SLU 31	482	-11196	-1700	-66960	2.6	154	0.9	3888				2.29	Si
SLU 31	692	-11924	-2160	139845	2.77	154	0.92	3985				1.85	Si
SLU 73	482	-13764	-1920	-74189	3.19	154	0.98	4231				2.2	Si
SLU 73	692	-14312	-2464	159712	3.32	154	1	4304				1.75	Si
SLU 40	482	-11659	-1703	-65027	2.7	154	0.92	3950				2.32	Si
SLU 40	692	-12481	-2274	141132	2.89	154	0.94	4060				1.79	Si
SLU 60	482	-13499	-1535	-54311	3.13	154	0.97	4195				2.73	Si
SLU 60	692	-13678	-2209	132304	3.17	154	0.98	4219				1.91	Si
SLU 82	482	-14228	-1922	-72256	3.3	154	1	4293				2.23	Si
SLU 82	692	-14869	-2577	160999	3.45	154	1.02	4378				1.7	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	482	-6900	-7735	-430744	5.64	43.73	1.63	1990				0.26	No, Vu<V
SLV 16	692	-14669	-7250	520236	4.2	124.6	1.63	5669				0.78	No, Vu<V
SLD 16	482	-8642	-3964	-206443	2	154	1.23	5322				1.34	Si
SLD 16	692	-11951	-3963	279038	2.77	154	1.39	5984				1.51	Si
SLD 15	482	-8642	-3964	-206443	2	154	1.23	5322				1.34	Si
SLD 15	692	-11951	-3963	279038	2.77	154	1.39	5984				1.51	Si
SLV 1	482	-12946	5409	350126	3.09	149.87	1.45	6086				1.13	Si
SLV 1	692	-5187	4192	-320722	4.07	45.5	1.63	2070				0.49	No, Vu<V
SLV 11	482	-6391	-4916	-245108	1.97	115.94	1.23	3983				0.81	No, Vu<V
SLV 11	692	-13200	-5459	390640	3.31	142.22	1.5	5958				1.09	Si
SLV 15	482	-6900	-7735	-430744	5.64	43.73	1.63	1990				0.26	No, Vu<V
SLV 15	692	-14669	-7250	520236	4.2	124.6	1.63	5669				0.78	No, Vu<V
SLV 13	482	-8632	-6560	-372940	3.04	101.38	1.44	4092				0.62	No, Vu<V
SLV 13	692	-13449	-5790	411617	3.45	139.18	1.52	5937				1.03	Si
SLV 14	482	-8632	-6560	-372940	3.04	101.38	1.44	4092				0.62	No, Vu<V
SLV 14	692	-13449	-5790	411617	3.45	139.18	1.52	5937				1.03	Si
SLV 12	482	-6391	-4916	-245108	1.97	115.94	1.23	3983				0.81	No, Vu<V
SLV 12	692	-13200	-5459	390640	3.31	142.22	1.5	5958				1.09	Si
SLV 2	482	-12946	5409	350126	3.09	149.87	1.45	6086				1.13	Si
SLV 2	692	-5187	4192	-320722	4.07	45.5	1.63	2070				0.49	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 1	14	0.38	1.31	-5641	15682	70517	4.5	Si
SLV 2	14	0.38	1.31	-5641	15682	70517	4.5	Si
SLV 3	14	0.38	1.4	-6045	15682	74924	4.78	Si
SLV 4	14	0.38	1.4	-6045	15682	74924	4.78	Si
SLV 6	14	0.38	1.84	-7945	15682	94452	6.02	Si
SLV 5	14	0.38	1.84	-7945	15682	94452	6.02	Si
SLV 7	14	0.38	2.16	-9293	15682	107153	6.83	Si
SLV 8	14	0.38	2.16	-9293	15682	107153	6.83	Si
SLV 10	14	0.38	2.39	-10324	15682	116211	7.41	Si
SLV 9	14	0.38	2.39	-10324	15682	116211	7.41	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 658 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	$\alpha_{lim}$	Verifica
SLV 5	-3212	-13456	338	0	5.485	0.905	0	874.063	No
SLV 9	-2701	-12162	277	0	4.983	0.9	0	874.063	No
SLV 10	-2701	-12162	277	0	4.983	0.9	0	874.063	No
SLV 6	-3212	-13456	338	0	5.485	0.905	0	874.063	No
SLV 1	-7299	-12946	204	0.023	9.589	0.938	34.927	949.98	No
SLV 2	-7299	-12946	204	0.023	9.589	0.938	34.927	949.98	No
SLV 12	-12678	-6391	-311	0.022	15.047	0.958	32.637	874.063	No
SLV 11	-12678	-6391	-311	0.022	15.047	0.958	32.637	874.063	No
SLV 16	-8590	-6900	-177	0.027	10.897	0.944	42.325	949.98	No
SLV 15	-8590	-6900	-177	0.027	10.897	0.944	42.325	949.98	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.089	SLU 73	Si



Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	1.699	SLV 82	Si
PF_SLV	1.072	SLV 15	Si
V_SLV	0.257	SLV 15	No
PFFP_SLV	4.497	SLV 1	Si
R_SLV	0	SLV 5	No

## Maschio 111

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1505.8	220.1	-1505.8	666.1	L4	L5	446	14	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 60	482	-34311	-506501	5.5	2489841	4.916	Si
SLV 60	834	-19035	-210547	3.05	2656190	12.616	Si
SLV 52	482	-32759	-491517	5.25	2600165	5.29	Si
SLV 52	834	-18125	-200747	2.9	2601519	12.959	Si
SLV 83	482	-37075	-438745	5.94	2241190	5.108	Si
SLV 83	834	-20834	-189665	3.34	2742914	14.462	Si
SLV 82	482	-37636	-528776	6.03	2182480	4.127	Si
SLV 82	834	-21027	-228217	3.37	2750523	12.052	Si
SLV 74	482	-36210	-446385	5.8	2326227	5.211	Si
SLV 74	834	-20391	-186748	3.27	2724192	14.587	Si
SLV 61	482	-34318	-509228	5.5	2489326	4.888	Si
SLV 61	834	-19037	-212000	3.05	2656340	12.53	Si
SLV 75	482	-36216	-449112	5.8	2325602	5.178	Si
SLV 75	834	-20394	-188202	3.27	2724310	14.475	Si
SLV 73	482	-36077	-511064	5.78	2338684	4.576	Si
SLV 73	834	-20114	-216964	3.22	2711623	12.498	Si
SLV 84	482	-37081	-441472	5.94	2240515	5.075	Si
SLV 84	834	-20837	-191118	3.34	2743022	14.352	Si
SLV 81	482	-37630	-526049	6.03	2183187	4.15	Si
SLV 81	834	-21024	-226764	3.37	2750420	12.129	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 1	482	-30128	-833668	4.83	4065403	4.877	Si
SLV 1	834	-16699	-264114	2.67	2908842	11.014	Si
SLV 2	482	-30128	-833668	4.83	4065403	4.877	Si
SLV 2	834	-16699	-264114	2.67	2908842	11.014	Si
SLD 9	482	-26045	-650238	4.17	3825320	5.883	Si
SLD 9	834	-13890	-203181	2.22	2533528	12.469	Si
SLD 6	482	-27041	-711733	4.33	3892819	5.469	Si
SLD 6	834	-14536	-221453	2.33	2623893	11.849	Si
SLV 10	482	-27273	-1050428	4.37	3907786	3.72	Si
SLV 10	834	-13781	-275457	2.21	2518116	9.142	Si
SLD 10	482	-26045	-650238	4.17	3825320	5.883	Si
SLD 10	834	-13890	-203181	2.22	2533528	12.469	Si
SLV 9	482	-27273	-1050428	4.37	3907786	3.72	Si
SLV 9	834	-13781	-275457	2.21	2518116	9.142	Si
SLV 6	482	-29624	-1195875	4.74	4041066	3.379	Si
SLV 6	834	-15303	-318448	2.45	2728125	8.567	Si
SLD 5	482	-27041	-711733	4.33	3892819	5.469	Si
SLD 5	834	-14536	-221453	2.33	2623893	11.849	Si
SLV 5	482	-29624	-1195875	4.74	4041066	3.379	Si
SLV 5	834	-15303	-318448	2.45	2728125	8.567	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 28	482	-26173	757	-219532		4.19	446	1.08	6764			8.93	Si
SLV 28	834	-14905	774	-87676		2.39	446	0.87	5456			7.05	Si
SLV 71	482	-31308	784	-286343		5.01	446	1.08	6764			8.63	Si
SLV 71	834	-17596	802	-111826		2.82	446	0.93	5815			7.25	Si
SLV 9	482	-22156	712	-172815		3.55	446	1.03	6423			9.02	Si
SLV 9	834	-12444	727	-62153		1.99	446	0.82	5128			7.05	Si
SLV 37	482	-29116	754	-235204		4.66	446	1.08	6764			8.97	Si
SLV 37	834	-16565	772	-105435		2.65	446	0.91	5678			7.35	Si
SLV 27	482	-26166	759	-216805		4.19	446	1.08	6764			8.92	Si
SLV 27	834	-14903	776	-86222		2.39	446	0.87	5456			7.03	Si
SLV 8	482	-22150	713	-170088		3.55	446	1.03	6422			9.01	Si
SLV 8	834	-12442	728	-60700		1.99	446	0.82	5128			7.04	Si
SLV 38	482	-29123	753	-237931		4.66	446	1.08	6764			8.99	Si
SLV 38	834	-16568	771	-106888		2.65	446	0.91	5678			7.37	Si
SLV 29	482	-25468	819	-189636		4.08	446	1.08	6764			8.26	Si
SLV 29	834	-14431	837	-76917		2.31	446	0.86	5393			6.44	Si
SLV 30	482	-25474	818	-192362		4.08	446	1.08	6764			8.27	Si
SLV 30	834	-14434	836	-78370		2.31	446	0.86	5393			6.46	Si
SLV 72	482	-31315	782	-289069		5.02	446	1.08	6764			8.65	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 72	834	-17598	801	-113279		2.82	446	0.93	5815			7.26	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 12	482	-23459	3092	-14869		3.76	446	1.58	9895			3.2	Si
SLD 12	834	-13464	2359	-73905		2.16	446	1.26	7896			3.35	Si
SLV 9	482	-27273	-6915	-1050428		4.37	446	1.63	10146			1.47	Si
SLV 9	834	-13781	-5290	-275457		2.21	446	1.27	7960			1.5	Si
SLV 5	482	-29624	-7332	-1195875		4.74	446	1.63	10146			1.38	Si
SLV 5	834	-15303	-5527	-318448		2.45	446	1.32	8264			1.5	Si
SLV 6	482	-29624	-7332	-1195875		4.74	446	1.63	10146			1.38	Si
SLV 6	834	-15303	-5527	-318448		2.45	446	1.32	8264			1.5	Si
SLV 8	482	-23226	6946	323826		3.72	446	1.58	9849			1.42	Si
SLV 8	834	-14219	5331	-19901		2.28	446	1.29	8047			1.51	Si
SLV 12	482	-20875	7363	469273		3.34	446	1.5	9378			1.27	Si
SLV 12	834	-12697	5568	23091		2.03	446	1.24	7743			1.39	Si
SLV 11	482	-20875	7363	469273		3.34	446	1.5	9378			1.27	Si
SLV 11	834	-12697	5568	23091		2.03	446	1.24	7743			1.39	Si
SLD 11	482	-23459	3092	-14869		3.76	446	1.58	9895			3.2	Si
SLD 11	834	-13464	2359	-73905		2.16	446	1.26	7896			3.35	Si
SLV 10	482	-27273	-6915	-1050428		4.37	446	1.63	10146			1.47	Si
SLV 10	834	-13781	-5290	-275457		2.21	446	1.27	7960			1.5	Si
SLV 7	482	-23226	6946	323826		3.72	446	1.58	9849			1.42	Si
SLV 7	834	-14219	5331	-19901		2.28	446	1.29	8047			1.51	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.03 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 16	14	0.38	2.42	-15080	24293	84695	3.49	Si
SLV 15	14	0.38	2.42	-15080	24293	84695	3.49	Si
SLV 13	14	0.38	2.5	-15579	24293	86785	3.57	Si
SLV 14	14	0.38	2.5	-15579	24293	86785	3.57	Si
SLV 12	14	0.38	2.69	-16775	24293	91605	3.77	Si
SLV 11	14	0.38	2.69	-16775	24293	91605	3.77	Si
SLV 10	14	0.38	2.95	-18439	24293	97878	4.03	Si
SLV 9	14	0.38	2.95	-18439	24293	97878	4.03	Si
SLV 7	14	0.38	3	-18727	24293	98910	4.07	Si
SLV 8	14	0.38	3	-18727	24293	98910	4.07	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 658 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 5	-15303	-29624	-12	0.021	18.686	0.952	32.822	1649.477	No
SLV 6	-15303	-29624	-12	0.021	18.686	0.952	32.822	1649.477	No
SLV 7	-14219	-23226	13	0.021	17.584	0.949	32.911	1649.477	No
SLV 8	-14219	-23226	13	0.021	17.584	0.949	32.911	1649.477	No
SLV 4	-16374	-28208	5	0.022	19.773	0.954	33.103	1649.477	No
SLV 3	-16374	-28208	5	0.022	19.773	0.954	33.103	1649.477	No
SLV 9	-13781	-27273	-12	0.022	17.141	0.948	33.12	1649.477	No
SLV 10	-13781	-27273	-12	0.022	17.141	0.948	33.12	1649.477	No
SLV 2	-16699	-30128	-2	0.022	20.104	0.955	33.313	1649.477	No
SLV 1	-16699	-30128	-2	0.022	20.104	0.955	33.313	1649.477	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.127	SLU 82	Si
V_SLU	6.445	SLU 29	Si
PF_SLV	3.379	SLV 5	Si
V_SLV	1.274	SLV 11	Si
PFFP_SLV	3.486	SLV 15	Si
R_SLV	0.02	SLV 5	No

## Maschio 113

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	-35.4	-1375.3	-22.8	L4	L5	12.6	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 55	482	-1058	480	3.01	4195	8.738	Si
SLU 55	692	-620	-10883	0	0	0	No, e>l/2
SLU 61	482	-1097	1077	3.12	4256	3.952	Si
SLU 61	692	-613	-10944	0	0	0	No, e>l/2
SLU 59	482	-1018	133	2.89	4127	31.059	Si
SLU 59	692	-674	-11651	0	0	0	No, e>l/2
SLU 53	482	-1042	298	2.96	4169	14.002	Si
SLU 53	692	-644	-11223	0	0	0	No, e>l/2



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 58	482	-998	14	2.84	4090	300.089	Si
SLU 58	692	-686	-11813	0	0	0	No, $e>l/2$
SLU 54	482	-1062	417	3.02	4202	10.077	Si
SLU 54	692	-632	-11061	0	0	0	No, $e>l/2$
SLU 1	482	-779	-347	2.21	3565	10.283	Si
SLU 1	692	-418	-7303	0	0	0	No, $e>l/2$
SLU 60	482	-1077	958	3.06	4226	4.412	Si
SLU 60	692	-625	-11106	0	0	0	No, $e>l/2$
SLU 56	482	-1016	30	2.89	4122	137.376	Si
SLU 56	692	-691	-11882	0	0	0	No, $e>l/2$
SLU 57	482	-1036	149	2.94	4157	27.858	Si
SLU 57	692	-679	-11720	0	0	0	No, $e>l/2$

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLD 1	482	-447	-2022	1.27	2516	1.244	Si
SLD 1	692	-694	-11176	0	0	0	No, $e>l/2$
SLV 13	482	-936	482	2.66	4604	9.551	Si
SLV 13	692	-350	-6514	0	0	0	No, $e>l/2$
SLV 8	482	-1896	5615	5.39	6663	1.186	Si
SLV 8	692	156	182	0	0	0	No, Trazione
SLV 10	482	270	-5841	0	0	0	No, Trazione
SLV 10	692	-1082	-16319	0	0	0	No, $e>l/2$
SLV 9	482	270	-5841	0	0	0	No, Trazione
SLV 9	692	-1082	-16319	0	0	0	No, $e>l/2$
SLV 12	482	-2192	7141	6.23	6754	0.946	No, $M>Mu$
SLV 12	692	353	2839	0	0	0	No, Trazione
SLV 6	482	566	-7366	0	0	0	No, Trazione
SLV 6	692	-1279	-18976	0	0	0	No, $e>l/2$
SLV 7	482	-1896	5615	5.39	6663	1.186	Si
SLV 7	692	156	182	0	0	0	No, Trazione
SLV 14	482	-936	482	2.66	4604	9.551	Si
SLV 14	692	-350	-6514	0	0	0	No, $e>l/2$
SLV 11	482	-2192	7141	6.23	6754	0.946	No, $M>Mu$
SLV 11	692	353	2839	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 56	482	-1016	87	30		2.89	12.57	0.94	331			3.82	Si
SLU 56	692	-691	-247	-11882		0	0	0.56	0			0	No, $Vu<V$
SLU 55	482	-1058	123	480		3.01	12.57	0.96	337			2.73	Si
SLU 55	692	-620	-187	-10883		0	0	0.56	0			0	No, $Vu<V$
SLU 60	482	-1077	148	958		3.06	12.57	0.96	339			2.3	Si
SLU 60	692	-625	-170	-11106		0	0	0.56	0			0	No, $Vu<V$
SLU 53	482	-1042	109	298		2.96	12.57	0.95	335			3.08	Si
SLU 53	692	-644	-207	-11223		0	0	0.56	0			0	No, $Vu<V$
SLU 54	482	-1062	119	417		3.02	12.57	0.96	337			2.82	Si
SLU 54	692	-632	-196	-11061		0	0	0.56	0			0	No, $Vu<V$
SLU 57	482	-1036	97	149		2.94	12.57	0.95	334			3.43	Si
SLU 57	692	-679	-236	-11720		0	0	0.56	0			0	No, $Vu<V$
SLU 1	482	-779	60	-347		2.21	12.57	0.85	299			5.03	Si
SLU 1	692	-418	-133	-7303		0	0	0.56	0			0	No, $Vu<V$
SLU 59	482	-1018	94	133		2.89	12.57	0.94	331			3.52	Si
SLU 59	692	-674	-234	-11651		0	0	0.56	0			0	No, $Vu<V$
SLU 61	482	-1097	159	1077		3.12	12.57	0.97	342			2.16	Si
SLU 61	692	-613	-159	-10944		0	0	0.56	0			0	No, $Vu<V$
SLU 58	482	-998	83	14		2.84	12.57	0.93	329			3.94	Si
SLU 58	692	-686	-245	-11813		0	0	0.56	0			0	No, $Vu<V$

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 1	482	-447	-114	-2022		3.03	5.27	1.44	212			1.87	Si
SLD 1	692	-694	-368	-11176		0	0	0.83	0			0	No, $Vu<V$
SLV 14	482	-936	145	482		2.66	12.57	1.37	481			3.32	Si
SLV 14	692	-350	-49	-6514		0	0	0.83	0			0	No, $Vu<V$
SLV 6	482	566	-607	-7366		0	0	0.83	0			0	No, $Vu<V$
SLV 6	692	-1279	-932	-18976		0	0	0.83	0			0	No, $Vu<V$
SLV 13	482	-936	145	482		2.66	12.57	1.37	481			3.32	Si
SLV 13	692	-350	-49	-6514		0	0	0.83	0			0	No, $Vu<V$
SLV 8	482	-1896	597	5615		6.79	9.97	1.63	454			0.76	No, $Vu<V$
SLV 8	692	156	448	182		0	0	0.83	0			0	No, $Vu<V$
SLV 7	482	-1896	597	5615		6.79	9.97	1.63	454			0.76	No, $Vu<V$
SLV 7	692	156	448	182		0	0	0.83	0			0	No, $Vu<V$
SLV 10	482	270	-455	-5841		0	0	0.83	0			0	No, $Vu<V$
SLV 10	692	-1082	-747	-16319		0	0	0.83	0			0	No, $Vu<V$
SLV 11	482	-2192	750	7141		8.62	9.08	1.63	413			0.55	No, $Vu<V$
SLV 11	692	353	633	2839		0	0	0.83	0			0	No, $Vu<V$
SLV 9	482	270	-455	-5841		0	0	0.83	0			0	No, $Vu<V$
SLV 9	692	-1082	-747	-16319		0	0	0.83	0			0	No, $Vu<V$
SLV 12	482	-2192	750	7141		8.62	9.08	1.63	413			0.55	No, $Vu<V$
SLV 12	692	353	633	2839		0	0	0.83	0			0	No, $Vu<V$

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.38	0	319	1310	0	0	No, Trazione
SLV 8	14	0.38	0	-37	1310	0	0	No, $e>t/2$
SLV 7	14	0.38	0	-37	1310	0	0	No, $e>t/2$
SLV 11	14	0.38	0	319	1310	0	0	No, Trazione



Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 15	14	0.38	0.32	-111	1310	1516	1.16	Si
SLV 16	14	0.38	0.32	-111	1310	1516	1.16	Si
SLV 14	14	0.38	2.37	-835	1310	9423	7.19	Si
SLV 13	14	0.38	2.37	-835	1310	9423	7.19	Si
SLV 3	14	0.38	3.68	-1296	1310	12678	9.68	Si
SLV 4	14	0.38	3.68	-1296	1310	12678	9.68	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 658  $W_a = 0.05$   $T_a = 0.0739$

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 7	-17	-1896	29	0	0.231	0.946	0	874.063	No
SLV 1	-1956	49	146	0	0	0	0	949.98	No, Trazione
SLV 8	-17	-1896	29	0	0.231	0.946	0	874.063	No
SLV 4	-1200	-689	128	0	1.396	0.963	0	949.98	No
SLV 2	-1956	49	146	0	0	0	0	949.98	No, Trazione
SLV 6	-2538	566	87	0	0	0	0	874.063	No, Trazione
SLV 5	-2538	566	87	0	0	0	0	874.063	No, Trazione
SLV 3	-1200	-689	128	0	1.396	0.963	0	949.98	No
SLV 9	-2281	270	19	0	0	0	0	874.063	No, Trazione
SLV 10	-2281	270	19	0	0	0	0	874.063	No, Trazione

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 1	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 16	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 12	No
R_SLV	0	SLV 12	No

## Maschio 114

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	67.2	-1375.3	104.6	L4	L5	37.4	28	352	352	352			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 75	482	-6398	-21094	6.1	30008	1.423	Si
SLU 75	692	-4415	6566	4.21	39898	6.076	Si
SLU 83	482	-6648	-22436	6.34	27533	1.227	Si
SLU 83	692	-4529	7180	4.32	39796	5.543	Si
SLU 78	482	-6712	-23898	6.4	26860	1.124	Si
SLU 78	692	-4434	8796	4.23	39885	4.534	Si
SLU 71	482	-6085	-23737	5.81	32712	1.378	Si
SLU 71	692	-3735	10280	3.56	39321	3.825	Si
SLU 77	482	-6778	-24869	6.47	26142	1.051	Si
SLU 77	692	-4383	9659	4.18	39916	4.132	Si
SLU 74	482	-6464	-22065	6.17	29381	1.332	Si
SLU 74	692	-4364	7429	4.16	39925	5.374	Si
SLU 80	482	-6633	-23817	6.33	27691	1.163	Si
SLU 80	692	-4356	8808	4.16	39928	4.533	Si
SLU 69	482	-6164	-23817	5.88	32071	1.347	Si
SLU 69	692	-3814	10268	3.64	39491	3.846	Si
SLU 79	482	-6699	-24788	6.39	26996	1.089	Si
SLU 79	692	-4305	9671	4.11	39942	4.13	Si
SLU 84	482	-6582	-21465	6.28	28213	1.314	Si
SLU 84	692	-4580	6317	4.37	39732	6.29	Si

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 7	482	-1312	36952	0	0	0	No, $e \geq l/2$
SLV 7	692	-5769	-34801	5.5	59330	1.705	Si
SLV 9	482	-7093	-63473	6.77	59221	0.933	No, $M > Mu$
SLV 9	692	-110	42159	0	0	0	No, $e \geq l/2$
SLV 10	482	-7093	-63473	6.77	59221	0.933	No, $M > Mu$
SLV 10	692	-110	42159	0	0	0	No, $e \geq l/2$
SLV 2	482	-6484	-66444	6.19	59908	0.902	No, $M > Mu$
SLV 2	692	-552	29880	0	0	0	No, $e \geq l/2$
SLV 5	482	-7871	-84456	7.51	56766	0.672	No, $M > Mu$
SLV 5	692	737	50227	0	0	0	No, Trazione
SLV 12	482	-534	57935	0	0	0	No, $e \geq l/2$
SLV 12	692	-6616	-42868	6.31	59851	1.396	Si
SLV 8	482	-1312	36952	0	0	0	No, $e \geq l/2$
SLV 8	692	-5769	-34801	5.5	59330	1.705	Si
SLV 16	482	-1922	39923	0	0	0	No, $e \geq l/2$
SLV 16	692	-5327	-22521	5.08	58225	2.585	Si
SLV 11	482	-534	57935	0	0	0	No, $e \geq l/2$
SLV 11	692	-6616	-42868	6.31	59851	1.396	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 6	482	-7871	-84456	7.51	56766	0.672	No, M>Mu
SLV 6	692	737	50227	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLU 30	482	-5143	-291	-20800		4.91	37.43	1.08	1135			3.9	Si
SLU 30	692	-3085	-289	9477		2.94	37.43	0.95	994			3.43	Si
SLU 71	482	-6085	-324	-23737		5.81	37.43	1.08	1135			3.5	Si
SLU 71	692	-3735	-323	10280		3.56	37.43	1.03	1080			3.34	Si
SLU 27	482	-5288	-310	-21852		5.05	37.43	1.08	1135			3.66	Si
SLU 27	692	-3112	-310	10329		2.97	37.43	0.95	997			3.22	Si
SLU 37	482	-5823	-316	-22823		5.56	37.43	1.08	1135			3.6	Si
SLU 37	692	-3603	-315	9731		3.44	37.43	1.01	1063			3.37	Si
SLU 35	482	-5902	-316	-22904		5.63	37.43	1.08	1135			3.59	Si
SLU 35	692	-3681	-315	9719		3.51	37.43	1.02	1073			3.4	Si
SLU 79	482	-6699	-330	-24788		6.39	37.43	1.08	1135			3.44	Si
SLU 79	692	-4305	-329	9671		4.11	37.43	1.08	1135			3.45	Si
SLU 69	482	-6164	-325	-23817		5.88	37.43	1.08	1135			3.5	Si
SLU 69	692	-3814	-323	10268		3.64	37.43	1.04	1091			3.37	Si
SLU 28	482	-5222	-292	-20881		4.98	37.43	1.08	1135			3.89	Si
SLU 28	692	-3163	-290	9465		3.02	37.43	0.96	1004			3.46	Si
SLU 77	482	-6778	-330	-24869		6.47	37.43	1.08	1135			3.44	Si
SLU 77	692	-4383	-329	9659		4.18	37.43	1.08	1135			3.45	Si
SLU 29	482	-5209	-310	-21772		4.97	37.43	1.08	1135			3.66	Si
SLU 29	692	-3034	-309	10340		2.89	37.43	0.94	987			3.19	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLV 10	482	-7093	-1387	-63473		8.65	29.3	1.63	1333			0.96	No, Vu<V
SLV 10	692	-110	-1229	42159		0	0	0.83	0			0	No, Vu<V
SLV 1	482	-6484	-1082	-66444		9.12	25.4	1.63	1156			1.07	Si
SLV 1	692	-552	25	29880		0	0	0.83	0			0	No, Vu<V
SLV 16	482	-1922	768	39923		0	0	0.83	0			0	No, Vu<V
SLV 16	692	-5327	-336	-22521		5.08	37.43	1.63	1703			5.07	Si
SLV 8	482	-1312	1072	36952		0	0	0.83	0			0	No, Vu<V
SLV 8	692	-5769	917	-34801		5.5	37.43	1.63	1703			1.86	Si
SLV 5	482	-7871	-1693	-84456		11.73	23.96	1.63	1090			0.64	No, Vu<V
SLV 5	692	737	-952	50227		0	0	0.83	0			0	No, Vu<V
SLV 2	482	-6484	-1082	-66444		9.12	25.4	1.63	1156			1.07	Si
SLV 2	692	-552	25	29880		0	0	0.83	0			0	No, Vu<V
SLV 7	482	-1312	1072	36952		0	0	0.83	0			0	No, Vu<V
SLV 7	692	-5769	917	-34801		5.5	37.43	1.63	1703			1.86	Si
SLV 9	482	-7093	-1387	-63473		8.65	29.3	1.63	1333			0.96	No, Vu<V
SLV 9	692	-110	-1229	42159		0	0	0.83	0			0	No, Vu<V
SLV 15	482	-1922	768	39923		0	0	0.83	0			0	No, Vu<V
SLV 15	692	-5327	-336	-22521		5.08	37.43	1.63	1703			5.07	Si
SLV 6	482	-7871	-1693	-84456		11.73	23.96	1.63	1090			0.64	No, Vu<V
SLV 6	692	737	-952	50227		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.38	0.34	-361	3900	4913	1.26	Si
SLV 6	14	0.38	0.34	-361	3900	4913	1.26	Si
SLV 1	14	0.38	1	-1053	3900	13530	3.47	Si
SLV 2	14	0.38	1	-1053	3900	13530	3.47	Si
SLV 10	14	0.38	1.15	-1200	3900	15231	3.9	Si
SLV 9	14	0.38	1.15	-1200	3900	15231	3.9	Si
SLV 3	14	0.38	2.37	-2485	3900	28043	7.19	Si
SLV 4	14	0.38	2.37	-2485	3900	28043	7.19	Si
SLV 14	14	0.38	3.67	-3851	3900	37700	9.67	Si
SLV 13	14	0.38	3.67	-3851	3900	37700	9.67	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 658 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 2	-4166	-6484	-17	0.039	4.761	0.967	58.368	949.98	No
SLV 1	-4166	-6484	-17	0.039	4.761	0.967	58.368	949.98	No
SLV 4	-2891	-4516	-15	0.039	3.464	0.956	59.638	949.98	No
SLV 3	-2891	-4516	-15	0.039	3.464	0.956	59.638	949.98	No
SLV 16	-820	-1922	15	0.039	1.372	0.907	61.699	949.98	No
SLV 15	-820	-1922	15	0.039	1.372	0.907	61.699	949.98	No
SLV 13	-2095	-3890	12	0.04	2.655	0.944	61.844	949.98	No
SLV 14	-2095	-3890	12	0.04	2.655	0.944	61.844	949.98	No
SLV 6	-4928	-7871	-10	0.04	5.537	0.971	60.448	874.063	No
SLV 5	-4928	-7871	-10	0.04	5.537	0.971	60.448	874.063	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.051	SLU 77	Si
V_SLV	3.189	SLU 29	Si
PF_SLV	0	SLV 6	No
V_SLV	0	SLV 1	No
PFFP_SLV	1.26	SLV 5	Si
R_SLV	0.061	SLV 1	No





## Maschio 115

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1239.3	333.1	-1239.3	104.6	L4	L5	228.5	14	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 71	482	-13551	-10733	4.24	743102	69.234	Si
SLU 71	834	-7293	150784	2.28	600023	3.979	Si
SLU 79	482	-15386	-24768	4.81	719943	29.067	Si
SLU 79	834	-8185	158370	2.56	641426	4.05	Si
SLU 77	482	-15726	-29602	4.92	712420	24.067	Si
SLU 77	834	-8417	159384	2.63	651022	4.085	Si
SLU 80	482	-15390	-24975	4.81	719862	28.823	Si
SLU 80	834	-8172	157844	2.55	640840	4.06	Si
SLU 72	482	-13555	-10940	4.24	743084	67.921	Si
SLU 72	834	-7279	150259	2.28	599330	3.989	Si
SLU 51	482	-12050	-8169	3.77	740095	90.604	Si
SLU 51	834	-6421	136709	2.01	552813	4.044	Si
SLU 69	482	-13891	-15567	4.34	741043	47.604	Si
SLU 69	834	-7524	151799	2.35	611431	4.028	Si
SLU 70	482	-13895	-15774	4.34	741013	46.977	Si
SLU 70	834	-7511	151273	2.35	610766	4.038	Si
SLU 78	482	-15730	-29809	4.92	712327	23.897	Si
SLU 78	834	-8403	158858	2.63	650465	4.095	Si
SLU 50	482	-12046	-7961	3.77	740062	92.957	Si
SLU 50	834	-6434	137235	2.01	553610	4.034	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 7	482	-6162	129780	1.93	593027	4.569	Si
SLV 7	834	-3818	303097	1.19	393615	1.299	Si
SLV 12	482	-6975	135999	2.18	654702	4.814	Si
SLV 12	834	-3987	252582	1.25	409082	1.62	Si
SLD 11	482	-9211	29020	2.88	804344	27.717	Si
SLD 11	834	-4831	160898	1.51	483683	3.006	Si
SLV 3	482	-8213	-5204	2.57	741154	142.412	Si
SLV 3	834	-4708	232741	1.47	473124	2.033	Si
SLD 8	482	-8867	26419	2.77	783234	29.646	Si
SLD 8	834	-4759	182409	1.49	477524	2.618	Si
SLD 7	482	-8867	26419	2.77	783234	29.646	Si
SLD 7	834	-4759	182409	1.49	477524	2.618	Si
SLD 12	482	-9211	29020	2.88	804344	27.717	Si
SLD 12	834	-4831	160898	1.51	483683	3.006	Si
SLV 8	482	-6162	129780	1.93	593027	4.569	Si
SLV 8	834	-3818	303097	1.19	393615	1.299	Si
SLV 4	482	-8213	-5204	2.57	741154	142.412	Si
SLV 4	834	-4708	232741	1.47	473124	2.033	Si
SLV 11	482	-6975	135999	2.18	654702	4.814	Si
SLV 11	834	-3987	252582	1.25	409082	1.62	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 81	482	-16479	131	-80083		5.15	228.5	1.08	3466			26.42	Si
SLU 81	834	-8282	84	132972		2.59	228.5	0.9	2881			34.38	Si
SLU 1	482	-9899	111	-44778		3.09	228.5	0.97	3097			27.8	Si
SLU 1	834	-4956	84	87102		1.55	228.5	0.76	2438			28.92	Si
SLU 44	482	-12359	136	-57606		3.86	228.5	1.07	3425			25.21	Si
SLU 44	834	-6125	104	107711		1.91	228.5	0.81	2594			24.89	Si
SLU 52	482	-14194	133	-71641		4.44	228.5	1.08	3466			26.05	Si
SLU 52	834	-7018	93	115296		2.19	228.5	0.85	2713			29.19	Si
SLU 64	482	-13858	135	-60033		4.33	228.5	1.08	3466			25.62	Si
SLU 64	834	-7007	100	122136		2.19	228.5	0.85	2711			27.14	Si
SLU 61	482	-14978	137	-77518		4.68	228.5	1.08	3466			25.23	Si
SLU 61	834	-7410	92	118897		2.32	228.5	0.86	2765			29.96	Si
SLU 43	482	-12353	150	-57261		3.86	228.5	1.07	3424			22.86	Si
SLU 43	834	-6148	115	108587		1.92	228.5	0.81	2597			22.66	Si
SLU 60	482	-14974	146	-77311		4.68	228.5	1.08	3466			23.78	Si
SLU 60	834	-7423	99	119423		2.32	228.5	0.86	2767			28.08	Si
SLU 45	482	-12539	130	-37445		3.92	228.5	1.08	3449			26.59	Si
SLU 45	834	-6523	98	123925		2.04	228.5	0.83	2647			27.14	Si
SLU 53	482	-14374	127	-51480		4.49	228.5	1.08	3466			27.32	Si
SLU 53	834	-7415	86	131510		2.32	228.5	0.86	2766			32.07	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 11	482	-6975	-5224	135999		2.18	228.5	1.27	4061			0.78	No, Vu<V
SLV 11	834	-3987	-3879	252582		1.87	152.71	1.21	2579			0.66	No, Vu<V
SLV 3	482	-8213	-3330	-5204		2.57	228.5	1.35	4308			1.29	Si
SLV 3	834	-4708	-3639	232741		1.73	194.45	1.18	3210			0.88	No, Vu<V



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	482	-8213	-3330	-5204		2.57	228.5	1.35	4308			1.29	Si
SLV 4	834	-4708	-3639	232741		1.73	194.45	1.18	3210			0.88	No, Vu<V
SLV 7	482	-6162	-6235	129780		1.93	228.5	1.22	3898			0.63	No, Vu<V
SLV 7	834	-3818	-5271	303097		2.61	104.6	1.35	1984			0.38	No, Vu<V
SLV 10	482	-15545	6448	-228940		4.86	228.5	1.63	5198			0.81	No, Vu<V
SLV 10	834	-7094	5424	-116817		2.22	228.5	1.28	4085			0.75	No, Vu<V
SLV 5	482	-14731	5437	-235159		4.61	228.5	1.63	5198			0.96	No, Vu<V
SLV 5	834	-6925	4032	-66302		2.16	228.5	1.27	4051			1	Si
SLV 6	482	-14731	5437	-235159		4.61	228.5	1.63	5198			0.96	No, Vu<V
SLV 6	834	-6925	4032	-66302		2.16	228.5	1.27	4051			1	Si
SLV 12	482	-6975	-5224	135999		2.18	228.5	1.27	4061			0.78	No, Vu<V
SLV 12	834	-3987	-3879	252582		1.87	152.71	1.21	2579			0.66	No, Vu<V
SLV 8	482	-6162	-6235	129780		1.93	228.5	1.22	3898			0.63	No, Vu<V
SLV 8	834	-3818	-5271	303097		2.61	104.6	1.35	1984			0.38	No, Vu<V
SLV 9	482	-15545	6448	-228940		4.86	228.5	1.63	5198			0.81	No, Vu<V
SLV 9	834	-7094	5424	-116817		2.22	228.5	1.28	4085			0.75	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.03 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.38	1.72	-5493	11364	33049	2.91	Si
SLV 11	14	0.38	1.72	-5493	11364	33049	2.91	Si
SLV 7	14	0.38	1.72	-5498	11364	33071	2.91	Si
SLV 8	14	0.38	1.72	-5498	11364	33071	2.91	Si
SLV 15	14	0.38	2.14	-6832	11364	39465	3.47	Si
SLV 16	14	0.38	2.14	-6832	11364	39465	3.47	Si
SLV 3	14	0.38	2.14	-6846	11364	39531	3.48	Si
SLV 4	14	0.38	2.14	-6846	11364	39531	3.48	Si
SLV 14	14	0.38	2.5	-7984	11364	44472	3.91	Si
SLV 13	14	0.38	2.5	-7984	11364	44472	3.91	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 658 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 10	-7094	-15545	8	0.021	8.816	0.948	32.717	1649.477	No
SLV 9	-7094	-15545	8	0.021	8.816	0.948	32.717	1649.477	No
SLV 5	-6925	-14731	8	0.021	8.644	0.947	32.928	1649.477	No
SLV 6	-6925	-14731	8	0.021	8.644	0.947	32.928	1649.477	No
SLV 13	-6204	-13494	3	0.022	7.913	0.943	34.247	1649.477	No
SLV 14	-6204	-13494	3	0.022	7.913	0.943	34.247	1649.477	No
SLV 8	-3818	-6162	-9	0.022	5.502	0.923	34.907	1649.477	No
SLV 7	-3818	-6162	-9	0.022	5.502	0.923	34.907	1649.477	No
SLV 12	-3987	-6975	-8	0.022	5.672	0.925	34.935	1649.477	No
SLV 11	-3987	-6975	-8	0.022	5.672	0.925	34.935	1649.477	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.979	SLU 71	Si
V_SLU	22.656	SLU 43	Si
PF_SLV	1.299	SLV 7	Si
V_SLV	0.376	SLV 7	No
PFFP_SLV	2.908	SLV 11	Si
R_SLV	0.02	SLV 9	No

## Maschio 116

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1505.8	333.1	-1074.8	333.1	L4	L5	431	14	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 7	482	-2108	-132627	0.35	434781	3.278	Si
SLU 7	672	-4442	-696620	0.74	870804	1.25	Si
SLU 9	482	-2018	-128786	0.33	417010	3.238	Si
SLU 9	672	-4190	-676493	0.69	825955	1.221	Si
SLU 72	482	-2921	-180819	0.48	592011	3.274	Si
SLU 72	672	-6334	-952023	1.05	1189131	1.249	Si
SLU 51	482	-2603	-162234	0.43	531265	3.275	Si
SLU 51	672	-5318	-845364	0.88	1021988	1.209	Si
SLU 50	482	-2602	-162051	0.43	531059	3.277	Si
SLU 50	672	-5316	-844438	0.88	1021640	1.21	Si
SLU 49	482	-2693	-166075	0.45	548575	3.303	Si
SLU 49	672	-5570	-865491	0.92	1064341	1.23	Si
SLU 71	482	-2920	-180637	0.48	591808	3.276	Si
SLU 71	672	-6332	-951098	1.05	1188802	1.25	Si
SLU 8	482	-2017	-128604	0.33	416798	3.241	Si
SLU 8	672	-4188	-675567	0.69	825587	1.222	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 6	482	-2107	-132445	0.35	434570	3.281	Si
SLU 6	672	-4440	-695694	0.74	870441	1.251	Si
SLU 48	482	-2692	-165892	0.45	548369	3.306	Si
SLU 48	672	-5568	-864565	0.92	1063998	1.231	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLD 8	482	-1544	-178689	0.26	325685	1.823	Si
SLD 8	672	-2193	-1018458	0	0	0	No, $e \geq l/2$
SLV 7	482	-214	-224690	0	0	0	No, $e \geq l/2$
SLV 7	672	2399	-1382066	0	0	0	No, Trazione
SLV 12	482	-2	-184913	0	0	0	No, $e \geq l/2$
SLV 12	672	1504	-1154585	0	0	0	No, Trazione
SLD 3	482	-2363	-178580	0.39	492806	2.76	Si
SLD 3	672	-3990	-975883	0	0	0	No, $e \geq l/2$
SLD 12	482	-1456	-162448	0.24	307567	1.893	Si
SLD 12	672	-2573	-921937	0	0	0	No, $e \geq l/2$
SLD 4	482	-2363	-178580	0.39	492806	2.76	Si
SLD 4	672	-3990	-975883	0	0	0	No, $e \geq l/2$
SLD 7	482	-1544	-178689	0.26	325685	1.823	Si
SLD 7	672	-2193	-1018458	0	0	0	No, $e \geq l/2$
SLV 8	482	-214	-224690	0	0	0	No, $e \geq l/2$
SLV 8	672	2399	-1382066	0	0	0	No, Trazione
SLD 11	482	-1456	-162448	0.24	307567	1.893	Si
SLD 11	672	-2573	-921937	0	0	0	No, $e \geq l/2$
SLV 11	482	-2	-184913	0	0	0	No, $e \geq l/2$
SLV 11	672	1504	-1154585	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 61	482	-3496	-3	-192868		0.58	431	0.63	3818			1000	Si
SLU 61	672	-7916	-1	-1020754		2.18	259.68	0.85	3075			1000	Si
SLU 55	482	-3169	-3	-182974		0.53	431	0.63	3775			1000	Si
SLU 55	672	-6992	-1	-966907		2.16	231.61	0.84	2734			1000	Si
SLU 53	482	-3258	-3	-186511		0.54	431	0.63	3787			1000	Si
SLU 53	672	-7241	-1	-985492		2.17	238.18	0.85	2818			1000	Si
SLU 54	482	-3259	-3	-186693		0.54	431	0.63	3787			1000	Si
SLU 54	672	-7243	-1	-986417		2.17	237.91	0.85	2816			1000	Si
SLU 56	482	-3109	-3	-184446		0.52	431	0.62	3767			1000	Si
SLU 56	672	-6874	-1	-980875		2.25	218.41	0.86	2615			1000	Si
SLU 59	482	-3020	-3	-180787		0.5	431	0.62	3755			1000	Si
SLU 59	672	-6623	-1	-961673		2.24	210.92	0.85	2524			1000	Si
SLU 1	482	-2314	-2	-132733		0.38	431	0.61	3661			1000	Si
SLU 1	672	-4921	-1	-684801		1.53	229.04	0.76	2438			1000	Si
SLU 58	482	-3019	-3	-180605		0.5	431	0.62	3755			1000	Si
SLU 58	672	-6621	-1	-960747		2.24	211.21	0.85	2526			1000	Si
SLU 60	482	-3495	-3	-192686		0.58	431	0.63	3818			1000	Si
SLU 60	672	-7914	-1	-1019828		2.17	259.93	0.85	3077			1000	Si
SLU 57	482	-3110	-3	-184628		0.52	431	0.62	3767			1000	Si
SLU 57	672	-6876	-1	-981800		2.25	218.13	0.86	2613			1000	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 12	482	-1456	95	-162448		0.33	311.78	0.9	3929			41.41	Si
SLD 12	672	-2573	41	-921937		0	0	0.83	0			0	No, $V_u < V$
SLV 11	482	-2	226	-184913		0	0	0.83	0			0	No, $V_u < V$
SLV 11	672	1504	98	-1154585		0	0	0.83	0			0	No, $V_u < V$
SLV 8	482	-214	-479	-224690		0	0	0.83	0			0	No, $V_u < V$
SLV 8	672	2399	36	-1382066		0	0	0.83	0			0	No, $V_u < V$
SLD 4	482	-2363	-509	-178580		0.4	419.73	0.91	5369			10.54	Si
SLD 4	672	-3990	-35	-975883		0	0	0.83	0			0	No, $V_u < V$
SLD 11	482	-1456	95	-162448		0.33	311.78	0.9	3929			41.41	Si
SLD 11	672	-2573	41	-921937		0	0	0.83	0			0	No, $V_u < V$
SLD 8	482	-1544	-200	-178689		0.37	299.22	0.91	3800			18.97	Si
SLD 8	672	-2193	15	-1018458		0	0	0.83	0			0	No, $V_u < V$
SLV 3	482	-2151	-1216	-228077		0.47	328.41	0.93	4262			3.51	Si
SLV 3	672	-1832	-84	-1283586		0	0	0.83	0			0	No, $V_u < V$
SLV 7	482	-214	-479	-224690		0	0	0.83	0			0	No, $V_u < V$
SLV 7	672	2399	36	-1382066		0	0	0.83	0			0	No, $V_u < V$
SLV 4	482	-2151	-1216	-228077		0.47	328.41	0.93	4262			3.51	Si
SLV 4	672	-1832	-84	-1283586		0	0	0.83	0			0	No, $V_u < V$
SLV 12	482	-2	226	-184913		0	0	0.83	0			0	No, $V_u < V$
SLV 12	672	1504	98	-1154585		0	0	0.83	0			0	No, $V_u < V$

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.03 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 4	14	0.38	0	-1933	21435	0	0	No, $e \geq t/2$
SLV 8	14	0.38	0	2295	21435	0	0	No, Trazione
SLV 3	14	0.38	0	-1933	21435	0	0	No, $e \geq t/2$
SLV 11	14	0.38	0	1404	21435	0	0	No, Trazione
SLV 12	14	0.38	0	1404	21435	0	0	No, Trazione
SLV 7	14	0.38	0	2295	21435	0	0	No, Trazione
SLV 16	14	0.38	0.81	-4903	21435	32038	1.49	Si
SLV 15	14	0.38	0.81	-4903	21435	32038	1.49	Si
SLV 1	14	0.38	1.07	-6447	21435	41184	1.92	Si
SLV 2	14	0.38	1.07	-6447	21435	41184	1.92	Si



## Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 658 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 12	-5066	-2	297	0	8.242	0.91	0	1649.477	No
SLV 8	-4435	-214	314	0	7.617	0.905	0	1649.477	No
SLV 11	-5066	-2	297	0	8.242	0.91	0	1649.477	No
SLV 7	-4435	-214	314	0	7.617	0.905	0	1649.477	No
SLV 10	-13317	-4834	-314	0.002	16.563	0.948	2.713	1649.477	No
SLV 9	-13317	-4834	-314	0.002	16.563	0.948	2.713	1649.477	No
SLV 6	-12686	-5045	-297	0.002	15.923	0.946	3.28	1649.477	No
SLV 5	-12686	-5045	-297	0.002	15.923	0.946	3.28	1649.477	No
SLV 4	-6587	-2151	120	0.01	9.761	0.92	16.269	1649.477	No
SLV 3	-6587	-2151	120	0.01	9.761	0.92	16.269	1649.477	No

### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.209	SLU 51	Si
V_SLU	1000	SLU 1	Si
PF_SLV	0	SLV 12	No
V_SLV	0	SLD 3	No
PFFP_SLV	0	SLV 12	No
R_SLV	0	SLV 7	No

## Maschio 117

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-994.8	333.1	-972.8	333.1	L4	L5	22	14	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 1	482	-302	3199	0.98	2921	0.913	No, M>Mu
SLU 1	672	-314	3592	0	0	0	No, e>l/2
SLU 29	482	-293	3092	0.95	2843	0.92	No, M>Mu
SLU 29	672	-330	3699	0	0	0	No, e>l/2
SLU 27	482	-305	3225	0.99	2948	0.914	No, M>Mu
SLU 27	672	-346	3833	0	0	0	No, e>l/2
SLU 57	482	-404	4270	1.31	3725	0.872	No, M>Mu
SLU 57	672	-445	4953	0	0	0	No, e>l/2
SLU 55	482	-413	4370	1.34	3793	0.868	No, M>Mu
SLU 55	672	-448	4993	0	0	0	No, e>l/2
SLU 28	482	-306	3233	0.99	2954	0.914	No, M>Mu
SLU 28	672	-347	3838	0	0	0	No, e>l/2
SLU 30	482	-293	3099	0.95	2849	0.919	No, M>Mu
SLU 30	672	-331	3704	0	0	0	No, e>l/2
SLU 58	482	-390	4130	1.27	3626	0.878	No, M>Mu
SLU 58	672	-428	4814	0	0	0	No, e>l/2
SLU 56	482	-403	4263	1.31	3720	0.873	No, M>Mu
SLU 56	672	-444	4948	0	0	0	No, e>l/2
SLU 59	482	-391	4137	1.27	3631	0.878	No, M>Mu
SLU 59	672	-429	4819	0	0	0	No, e>l/2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 4	482	389	90	0	0	0	No, Trazione
SLV 4	672	1760	12925	0	0	0	No, Trazione
SLV 2	482	218	617	0	0	0	No, Trazione
SLV 2	672	2131	20261	0	0	0	No, Trazione
SLV 11	482	-231	3508	0	0	0	No, e>l/2
SLV 11	672	-1658	-12131	5.38	10203	0.841	No, M>Mu
SLV 9	482	-799	5263	2.59	6921	1.315	Si
SLV 9	672	-423	12322	0	0	0	No, e>l/2
SLV 10	482	-799	5263	2.59	6921	1.315	Si
SLV 10	672	-423	12322	0	0	0	No, e>l/2
SLV 6	482	-421	3402	1.37	4112	1.209	Si
SLV 6	672	956	19936	0	0	0	No, Trazione
SLV 5	482	-421	3402	1.37	4112	1.209	Si
SLV 5	672	956	19936	0	0	0	No, Trazione
SLV 3	482	389	90	0	0	0	No, Trazione
SLV 3	672	1760	12925	0	0	0	No, Trazione
SLD 1	482	-112	2281	0	0	0	No, e>l/2
SLD 1	672	635	10378	0	0	0	No, Trazione
SLV 1	482	218	617	0	0	0	No, Trazione
SLV 1	672	2131	20261	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma M = 3$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 30	482	-293	10	3099		16.12	1.3	1.08	20			2.02	Si
SLU 30	672	-331	3	3704		0	0	0.56	0			0	No, Vu<V



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 59	482	-391	13	4137		22.15	1.26	1.08	19			1.52	Si
SLU 59	672	-429	3	4819		0	0	0.56	0			0	No, Vu<V
SLU 68	482	-394	12	4172		22.56	1.25	1.08	19			1.51	Si
SLU 68	672	-426	3	4802		0	0	0.56	0			0	No, Vu<V
SLU 65	482	-415	13	4400		24.21	1.23	1.08	19			1.44	Si
SLU 65	672	-445	3	4973		0	0	0.56	0			0	No, Vu<V
SLU 62	482	-434	14	4592		24.95	1.24	1.08	19			1.38	Si
SLU 62	672	-480	4	5258		0	0	0.56	0			0	No, Vu<V
SLU 64	482	-414	13	4388		24.21	1.22	1.08	19			1.45	Si
SLU 64	672	-444	3	4964		0	0	0.56	0			0	No, Vu<V
SLU 67	482	-406	13	4300		23.36	1.24	1.08	19			1.47	Si
SLU 67	672	-441	3	4933		0	0	0.56	0			0	No, Vu<V
SLU 63	482	-435	14	4600		24.95	1.24	1.08	19			1.37	Si
SLU 63	672	-481	4	5263		0	0	0.56	0			0	No, Vu<V
SLU 1	482	-302	9	3199		17.87	1.21	1.08	18			1.99	Si
SLU 1	672	-314	2	3592		0	0	0.56	0			0	No, Vu<V
SLU 66	482	-406	13	4293		23.36	1.24	1.08	19			1.47	Si
SLU 66	672	-440	3	4928		0	0	0.56	0			0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 1	482	218	-229	617		0	0	0.83	0			0	No, Vu<V
SLV 1	672	2131	-134	20261		0	0	0.83	0			0	No, Vu<V
SLV 6	482	-421	56	3402		3.43	8.75	1.52	186			3.32	Si
SLV 6	672	956	-57	19936		0	0	0.83	0			0	No, Vu<V
SLV 3	482	389	-307	90		0	0	0.83	0			0	No, Vu<V
SLV 3	672	1760	-122	12925		0	0	0.83	0			0	No, Vu<V
SLD 1	482	-112	-86	2281		0	0	0.83	0			0	No, Vu<V
SLD 1	672	635	-51	10378		0	0	0.83	0			0	No, Vu<V
SLV 8	482	146	-203	1647		0	0	0.83	0			0	No, Vu<V
SLV 8	672	-280	-16	-4517		0	0	0.83	0			0	No, Vu<V
SLV 7	482	146	-203	1647		0	0	0.83	0			0	No, Vu<V
SLV 7	672	-280	-16	-4517		0	0	0.83	0			0	No, Vu<V
SLV 2	482	218	-229	617		0	0	0.83	0			0	No, Vu<V
SLV 2	672	2131	-134	20261		0	0	0.83	0			0	No, Vu<V
SLV 5	482	-421	56	3402		3.43	8.75	1.52	186			3.32	Si
SLV 5	672	956	-57	19936		0	0	0.83	0			0	No, Vu<V
SLV 4	482	389	-307	90		0	0	0.83	0			0	No, Vu<V
SLV 4	672	1760	-122	12925		0	0	0.83	0			0	No, Vu<V
SLV 11	482	-231	-36	3508		0	0	0.83	0			0	No, Vu<V
SLV 11	672	-1658	62	-12131		10.72	11.05	1.63	251			4.05	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.03 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.38	0	956	1094	0	0	No, Trazione
SLV 1	14	0.38	0	2131	1094	0	0	No, Trazione
SLV 3	14	0.38	0	1760	1094	0	0	No, Trazione
SLV 4	14	0.38	0	1760	1094	0	0	No, Trazione
SLV 2	14	0.38	0	2131	1094	0	0	No, Trazione
SLV 5	14	0.38	0	956	1094	0	0	No, Trazione
SLV 8	14	0.38	0.91	-280	1094	1812	1.66	Si
SLV 7	14	0.38	0.91	-280	1094	1812	1.66	Si
SLV 9	14	0.38	1.37	-423	1094	2626	2.4	Si
SLV 10	14	0.38	1.37	-423	1094	2626	2.4	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 658 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 12	37	-231	8	0	0	0	0	1649.477	No, Trazione
SLV 1	-387	218	1	0	0	0	0	1649.477	No, Trazione
SLV 8	84	146	10	0	0	0	0	1649.477	No, Trazione
SLV 11	37	-231	8	0	0	0	0	1649.477	No, Trazione
SLV 7	84	146	10	0	0	0	0	1649.477	No, Trazione
SLV 3	-144	389	6	0	0	0	0	1649.477	No, Trazione
SLV 4	-144	389	6	0	0	0	0	1649.477	No, Trazione
SLV 2	-387	218	1	0	0	0	0	1649.477	No, Trazione
SLV 10	-774	-799	-10	0.011	0.941	0.953	16.05	1649.477	No
SLV 9	-774	-799	-10	0.011	0.941	0.953	16.05	1649.477	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 1	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 8	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 6	No
R_SLV	0	SLV 12	No

## Maschio 118

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1975.8	666.1	-1771.8	666.1	L4	L5	204	28	352	352	352			



## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 82	572	-21451	19952	3.76	1179282	59.106	Si
SLU 82	752	-18935	206974	3.31	1145391	5.534	Si
SLU 40	572	-18216	11367	3.19	1130623	99.466	Si
SLU 40	752	-16266	179630	2.85	1079110	6.007	Si
SLU 81	572	-21471	21247	3.76	1179436	55.51	Si
SLU 81	752	-18954	205743	3.32	1145761	5.569	Si
SLU 84	572	-21228	23751	3.72	1177400	49.572	Si
SLU 84	752	-18712	196902	3.28	1141050	5.795	Si
SLU 61	572	-19480	22376	3.41	1155089	51.622	Si
SLU 61	752	-16993	186435	2.97	1100267	5.902	Si
SLU 75	572	-20706	27309	3.63	1172141	42.922	Si
SLU 75	752	-18190	188918	3.18	1130029	5.982	Si
SLU 60	572	-19499	23671	3.41	1155413	48.811	Si
SLU 60	752	-17013	185204	2.98	1100803	5.944	Si
SLU 83	572	-21248	25047	3.72	1177574	47.015	Si
SLU 83	752	-18731	195671	3.28	1141439	5.833	Si
SLU 73	572	-20470	22317	3.58	1169368	52.399	Si
SLU 73	752	-17953	194824	3.14	1124648	5.773	Si
SLU 74	572	-20726	28604	3.63	1172360	40.986	Si
SLU 74	752	-18209	187686	3.19	1130463	6.023	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 2	572	-20246	-585640	3.54	1466026	2.503	Si
SLV 2	752	-18615	658948	3.26	1392308	2.113	Si
SLV 10	572	-7164	229888	1.25	655743	2.852	Si
SLV 10	752	-6441	-85914	1.13	596353	6.941	Si
SLV 13	572	-5338	645017	0	0	0	No, e>l/2
SLV 13	752	-3823	-431559	0	0	0	No, e>l/2
SLV 1	572	-20246	-585640	3.54	1466026	2.503	Si
SLV 1	752	-18615	658948	3.26	1392308	2.113	Si
SLV 3	572	-23152	-599013	4.05	1578159	2.635	Si
SLV 3	752	-20809	689833	3.64	1489670	2.159	Si
SLV 4	572	-23152	-599013	4.05	1578159	2.635	Si
SLV 4	752	-20809	689833	3.64	1489670	2.159	Si
SLV 9	572	-7164	229888	1.25	655743	2.852	Si
SLV 9	752	-6441	-85914	1.13	596353	6.941	Si
SLV 14	572	-5338	645017	0	0	0	No, e>l/2
SLV 14	752	-3823	-431559	0	0	0	No, e>l/2
SLV 15	572	-8245	631644	1.44	741614	1.174	Si
SLV 15	752	-6017	-400674	1.05	560799	1.4	Si
SLV 16	572	-8245	631644	1.44	741614	1.174	Si
SLV 16	752	-6017	-400674	1.05	560799	1.4	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 84	572	-21228	-973	23751		3.72	204	1.05	6004			6.17	Si
SLU 84	752	-18712	-973	196902		3.28	204	0.99	5668			5.83	Si
SLU 31	572	-17235	-862	13732		3.02	204	0.96	5471			6.35	Si
SLU 31	752	-15284	-862	167479		2.68	204	0.91	5211			6.04	Si
SLU 40	572	-18216	-943	11367		3.19	204	0.98	5602			5.94	Si
SLU 40	752	-16266	-943	179630		2.85	204	0.94	5342			5.67	Si
SLU 73	572	-20470	-969	22317		3.58	204	1.03	5903			6.09	Si
SLU 73	752	-17953	-969	194824		3.14	204	0.97	5567			5.74	Si
SLU 61	572	-19480	-923	22376		3.41	204	1.01	5771			6.25	Si
SLU 61	752	-16993	-923	186435		2.97	204	0.95	5439			5.89	Si
SLU 82	572	-21451	-1050	19952		3.76	204	1.06	6033			5.75	Si
SLU 82	752	-18935	-1050	206974		3.31	204	1	5698			5.43	Si
SLU 83	572	-21248	-959	25047		3.72	204	1.05	6006			6.26	Si
SLU 83	752	-18731	-959	195671		3.28	204	0.99	5671			5.91	Si
SLU 39	572	-18236	-929	12662		3.19	204	0.98	5605			6.03	Si
SLU 39	752	-16285	-929	178398		2.85	204	0.94	5345			5.75	Si
SLU 60	572	-19499	-909	23671		3.41	204	1.01	5773			6.35	Si
SLU 60	752	-17013	-909	185204		2.98	204	0.95	5442			5.99	Si
SLU 81	572	-21471	-1036	21247		3.76	204	1.06	6036			5.83	Si
SLU 81	752	-18954	-1036	205743		3.32	204	1	5701			5.5	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	572	-23152	-6705	-599013		4.05	204	1.63	9282			1.38	Si
SLV 4	752	-20809	-6637	689833		3.64	204	1.56	8922			1.34	Si
SLV 13	572	-5338	5509	645017		0	0	0.83	0			0	No, Vu<V
SLV 13	752	-3823	5440	-431559		0	0	0.83	0			0	No, Vu<V
SLV 3	572	-23152	-6705	-599013		4.05	204	1.63	9282			1.38	Si
SLV 3	752	-20809	-6637	689833		3.64	204	1.56	8922			1.34	Si
SLV 16	572	-8245	6394	631644		3.87	76.16	1.61	3426			0.54	No, Vu<V
SLV 16	752	-6017	5563	-400674		2.02	106.22	1.24	3682			0.66	No, Vu<V
SLV 14	572	-5338	5509	645017		0	0	0.83	0			0	No, Vu<V
SLV 14	752	-3823	5440	-431559		0	0	0.83	0			0	No, Vu<V
SLV 15	572	-8245	6394	631644		3.87	76.16	1.61	3426			0.54	No, Vu<V
SLV 15	752	-6017	5563	-400674		2.02	106.22	1.24	3682			0.66	No, Vu<V
SLV 5	572	-11637	-4038	-139309		2.04	204	1.24	7087			1.76	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 5	752	-10879	-2633	241238		1.9	204	1.21	6936			2.63	Si
SLV 1	572	-20246	-7590	-585640		3.54	204	1.54	8809			1.16	Si
SLV 1	752	-18615	-6760	658948		3.33	199.8	1.5	8385			1.24	Si
SLV 2	572	-20246	-7590	-585640		3.54	204	1.54	8809			1.16	Si
SLV 2	752	-18615	-6760	658948		3.33	199.8	1.5	8385			1.24	Si
SLV 6	572	-11637	-4038	-139309		2.04	204	1.24	7087			1.76	Si
SLV 6	752	-10879	-2633	241238		1.9	204	1.21	6936			2.63	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 14	14	0.38	0.8	-4560	20774	59669	2.87	Si
SLV 13	14	0.38	0.8	-4560	20774	59669	2.87	Si
SLV 15	14	0.38	1.17	-6680	20774	84570	4.07	Si
SLV 16	14	0.38	1.17	-6680	20774	84570	4.07	Si
SLV 10	14	0.38	1.3	-7440	20774	93059	4.48	Si
SLV 9	14	0.38	1.3	-7440	20774	93059	4.48	Si
SLV 6	14	0.38	2.11	-12029	20774	139381	6.71	Si
SLV 5	14	0.38	2.11	-12029	20774	139381	6.71	Si
SLV 12	14	0.38	2.54	-14507	20774	160883	7.74	Si
SLV 11	14	0.38	2.54	-14507	20774	160883	7.74	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 658 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 10	-5191	-7414	276	0.011	8.195	0.913	16.929	874.063	No
SLV 9	-5191	-7414	276	0.011	8.195	0.913	16.929	874.063	No
SLV 14	-5474	-1126	178	0.025	8.477	0.915	40.035	949.98	No
SLV 13	-5474	-1126	178	0.025	8.477	0.915	40.035	949.98	No
SLV 6	-6739	-14539	211	0.023	9.745	0.923	36.997	874.063	No
SLV 5	-6739	-14539	211	0.023	9.745	0.923	36.997	874.063	No
SLV 7	-12704	-20321	-285	0.025	15.779	0.948	38.488	874.063	No
SLV 8	-12704	-20321	-285	0.025	15.779	0.948	38.488	874.063	No
SLV 11	-11157	-13197	-220	0.028	14.209	0.943	43.702	874.063	No
SLV 12	-11157	-13197	-220	0.028	14.209	0.943	43.702	874.063	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.534	SLU 82	Si
V_SLU	5.427	SLU 82	Si
PF_SLV	0	SLV 13	No
V_SLV	0	SLV 13	No
PFFP_SLV	2.872	SLV 13	Si
R_SLV	0.019	SLV 9	No

## Maschio 119

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1681.8	666.1	-1283.8	666.1	L4	L5	398	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 83	572	-42017	-175543	3.77	4491251	25.585	Si
SLU 83	752	-38185	-56716	3.43	4402406	77.622	Si
SLU 82	572	-41217	-193053	3.7	4478020	23.196	Si
SLU 82	752	-37597	-105270	3.37	4383067	41.636	Si
SLU 75	572	-40964	-169585	3.68	4473255	26.378	Si
SLU 75	752	-37059	-48600	3.33	4364064	89.796	Si
SLU 73	572	-39581	-180878	3.55	4442215	24.559	Si
SLU 73	752	-35836	-86037	3.22	4316127	50.166	Si
SLU 84	572	-41978	-176703	3.77	4490663	25.414	Si
SLU 84	752	-38145	-55723	3.42	4401128	78.983	Si
SLU 81	572	-41257	-191893	3.7	4478739	23.34	Si
SLU 81	752	-37637	-106264	3.38	4384443	41.26	Si
SLU 61	572	-37363	-175546	3.35	4374956	24.922	Si
SLU 61	752	-33679	-88200	3.02	4215578	47.796	Si
SLU 60	572	-37402	-174387	3.36	4376344	25.096	Si
SLU 60	752	-33719	-89193	3.03	4217647	47.287	Si
SLU 39	572	-34881	-166227	3.13	4274116	25.713	Si
SLU 39	752	-32222	-104469	2.89	4136158	39.592	Si
SLU 40	572	-34841	-167386	3.13	4272291	25.524	Si
SLU 40	752	-32182	-103475	2.89	4133824	39.95	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 4	572	-33348	-1744823	2.99	5010995	2.872	Si
SLV 4	752	-30133	1252141	2.7	4669461	3.729	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 15	572	-27544	1486546	2.47	4372465	2.941	Si
SLV 15	752	-22846	-1318325	2.05	3783609	2.87	Si
SLV 1	572	-28123	-1724936	2.52	4440596	2.574	Si
SLV 1	752	-26756	1232822	2.4	4278173	3.47	Si
SLD 2	572	-27969	-805275	2.51	4422621	5.492	Si
SLD 2	752	-25639	501869	2.3	4141499	8.252	Si
SLD 1	572	-27969	-805275	2.51	4422621	5.492	Si
SLD 1	752	-25639	501869	2.3	4141499	8.252	Si
SLV 2	572	-28123	-1724936	2.52	4440596	2.574	Si
SLV 2	752	-26756	1232822	2.4	4278173	3.47	Si
SLV 13	572	-22319	1506433	2	3713417	2.465	Si
SLV 13	752	-19469	-1337644	1.75	3320392	2.482	Si
SLV 16	572	-27544	1486546	2.47	4372465	2.941	Si
SLV 16	752	-22846	-1318325	2.05	3783609	2.87	Si
SLV 3	572	-33348	-1744823	2.99	5010995	2.872	Si
SLV 3	752	-30133	1252141	2.7	4669461	3.729	Si
SLV 14	572	-22319	1506433	2	3713417	2.465	Si
SLV 14	752	-19469	-1337644	1.75	3320392	2.482	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 48	572	-34153	-915	-104358		3.06	398	0.96	10745			11.74	Si
SLU 48	752	-29684	-915	60358		2.66	398	0.91	10149			11.1	Si
SLU 9	572	-27140	-812	-74022		2.44	398	0.88	9810			12.08	Si
SLU 9	752	-23581	-812	74595		2.12	398	0.84	9335			11.5	Si
SLU 49	572	-34113	-927	-105518		3.06	398	0.96	10740			11.59	Si
SLU 49	752	-29644	-926	61352		2.66	398	0.91	10144			10.95	Si
SLU 69	572	-38007	-933	-121864		3.41	398	1.01	11259			12.07	Si
SLU 69	752	-33602	-932	43288		3.02	398	0.96	10671			11.45	Si
SLU 50	572	-33556	-940	-98529		3.01	398	0.96	10665			11.35	Si
SLU 50	752	-29036	-939	71807		2.61	398	0.9	10063			10.71	Si
SLU 71	572	-37410	-957	-116035		3.36	398	1	11179			11.68	Si
SLU 71	752	-32954	-957	54736		2.96	398	0.95	10585			11.06	Si
SLU 59	572	-37274	-915	-129899		3.34	398	1	11161			12.19	Si
SLU 59	752	-33041	-915	29467		2.96	398	0.95	10597			11.58	Si
SLU 51	572	-33516	-951	-99688		3.01	398	0.96	10660			11.2	Si
SLU 51	752	-28996	-951	72800		2.6	398	0.9	10057			10.57	Si
SLU 70	572	-37968	-945	-123024		3.41	398	1.01	11253			11.91	Si
SLU 70	752	-33562	-944	44281		3.01	398	0.96	10666			11.3	Si
SLU 72	572	-37371	-969	-117194		3.35	398	1	11174			11.53	Si
SLU 72	752	-32914	-969	55729		2.95	398	0.95	10580			10.92	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 15	572	-27544	16343	1486546		2.47	398	1.33	14795			0.91	No, Vu<V
SLV 15	752	-22846	15208	-1318325		2.05	398	1.24	13856			0.91	No, Vu<V
SLV 1	572	-28123	-17304	-1724936		2.52	398	1.34	14911			0.86	No, Vu<V
SLV 1	752	-26756	-16168	1232822		2.4	398	1.31	14638			0.91	No, Vu<V
SLV 2	572	-28123	-17304	-1724936		2.52	398	1.34	14911			0.86	No, Vu<V
SLV 2	752	-26756	-16168	1232822		2.4	398	1.31	14638			0.91	No, Vu<V
SLD 1	572	-27969	-7666	-805275		2.51	398	1.34	14881			1.94	Si
SLD 1	752	-25639	-7182	501869		2.3	398	1.29	14415			2.01	Si
SLV 14	572	-22319	16085	1506433		2.02	394.51	1.24	13669			0.85	No, Vu<V
SLV 14	752	-19469	15309	-1337644		1.78	390.88	1.19	13014			0.85	No, Vu<V
SLV 16	572	-27544	16343	1486546		2.47	398	1.33	14795			0.91	No, Vu<V
SLV 16	752	-22846	15208	-1318325		2.05	398	1.24	13856			0.91	No, Vu<V
SLD 2	572	-27969	-7666	-805275		2.51	398	1.34	14881			1.94	Si
SLD 2	752	-25639	-7182	501869		2.3	398	1.29	14415			2.01	Si
SLV 3	572	-33348	-17046	-1744823		2.99	398	1.43	15956			0.94	No, Vu<V
SLV 3	752	-30133	-16269	1252141		2.7	398	1.37	15313			0.94	No, Vu<V
SLV 13	572	-22319	16085	1506433		2.02	394.51	1.24	13669			0.85	No, Vu<V
SLV 13	752	-19469	15309	-1337644		1.78	390.88	1.19	13014			0.85	No, Vu<V
SLV 4	572	-33348	-17046	-1744823		2.99	398	1.43	15956			0.94	No, Vu<V
SLV 4	752	-30133	-16269	1252141		2.7	398	1.37	15313			0.94	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.38	1.65	-18362	40530	222401	5.49	Si
SLV 10	14	0.38	1.65	-18362	40530	222401	5.49	Si
SLV 5	14	0.38	1.83	-20375	40530	242571	5.98	Si
SLV 6	14	0.38	1.83	-20375	40530	242571	5.98	Si
SLV 14	14	0.38	1.88	-20994	40530	248600	6.13	Si
SLV 13	14	0.38	1.88	-20994	40530	248600	6.13	Si
SLV 15	14	0.38	2.27	-25264	40530	288069	7.11	Si
SLV 16	14	0.38	2.27	-25264	40530	288069	7.11	Si
SLV 2	14	0.38	2.49	-27706	40530	308959	7.62	Si
SLV 1	14	0.38	2.49	-27706	40530	308959	7.62	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 658 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 3	-23542	-29796	-65	0.043	29.521	0.946	65.369	949.98	No
SLV 4	-23542	-29796	-65	0.043	29.521	0.946	65.369	949.98	No
SLV 14	-16315	-21553	59	0.044	22.205	0.932	68.441	949.98	No
SLV 13	-16315	-21553	59	0.044	22.205	0.932	68.441	949.98	No
SLV 7	-24677	-35033	-96	0.041	30.673	0.948	63.406	874.063	No
SLV 8	-24677	-35033	-96	0.041	30.673	0.948	63.406	874.063	No
SLV 2	-21125	-24441	-16	0.045	27.071	0.942	69.13	949.98	No





Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 1	-21125	-24441	-16	0.045	27.071	0.942	69.13	949.98	No
SLV 11	-23234	-34167	-73	0.042	29.209	0.946	64.978	874.063	No
SLV 12	-23234	-34167	-73	0.042	29.209	0.946	64.978	874.063	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	23.196	SLU 82	Si
V_SLU	10.575	SLU 51	Si
PF_SLV	2.465	SLV 13	Si
V_SLV	0.85	SLV 13	No
PFFP_SLV	5.487	SLV 9	Si
R_SLV	0.069	SLV 3	No

## Maschio 120

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1193.8	666.1	-795.8	666.1	L4	L5	398	28	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 37	572	-36165	261664	3.25	4329653	16.547	Si
SLU 37	752	-32829	88190	2.95	4170370	47.288	Si
SLU 84	572	-42902	285587	3.85	4502611	15.766	Si
SLU 84	752	-38993	141159	3.5	4426502	31.358	Si
SLU 38	572	-36114	262483	3.24	4327611	16.487	Si
SLU 38	752	-32781	86770	2.94	4167693	48.032	Si
SLU 78	572	-43031	293671	3.86	4503980	15.337	Si
SLU 78	752	-38790	103393	3.48	4420707	42.756	Si
SLU 79	572	-42557	292878	3.82	4498585	15.36	Si
SLU 79	752	-38255	96649	3.43	4404603	45.573	Si
SLU 80	572	-42506	293697	3.81	4497954	15.315	Si
SLU 80	752	-38206	95229	3.43	4403080	46.237	Si
SLU 83	572	-42952	284768	3.85	4503154	15.813	Si
SLU 83	752	-39042	142580	3.5	4427858	31.055	Si
SLU 75	572	-41803	271260	3.75	4487975	16.545	Si
SLU 75	752	-37834	128400	3.4	4391051	34.198	Si
SLU 77	572	-43081	292852	3.87	4504494	15.381	Si
SLU 77	752	-38838	104813	3.49	4422106	42.19	Si
SLU 76	572	-41245	271831	3.7	4478517	16.475	Si
SLU 76	752	-37218	119289	3.34	4369823	36.632	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 4	572	-26613	-1489998	2.39	4260912	2.86	Si
SLV 4	752	-22512	1380558	2.02	3739203	2.708	Si
SLV 3	572	-26613	-1489998	2.39	4260912	2.86	Si
SLV 3	752	-22512	1380558	2.02	3739203	2.708	Si
SLV 1	572	-21280	-1482397	1.91	3572959	2.41	Si
SLV 1	752	-19202	1368272	1.72	3282289	2.399	Si
SLV 16	572	-34981	1815460	3.14	5172879	2.849	Si
SLV 16	752	-30981	-1202399	2.78	4762444	3.961	Si
SLV 9	572	-20498	675018	1.84	3465043	5.133	Si
SLV 9	752	-20845	-324983	1.87	3513094	10.81	Si
SLV 13	572	-29648	1823061	2.66	4615358	2.532	Si
SLV 13	752	-27671	-1214685	2.48	4387467	3.612	Si
SLV 10	572	-20498	675018	1.84	3465043	5.133	Si
SLV 10	752	-20845	-324983	1.87	3513094	10.81	Si
SLV 2	572	-21280	-1482397	1.91	3572959	2.41	Si
SLV 2	752	-19202	1368272	1.72	3282289	2.399	Si
SLV 15	572	-34981	1815460	3.14	5172879	2.849	Si
SLV 15	752	-30981	-1202399	2.78	4762444	3.961	Si
SLV 14	572	-29648	1823061	2.66	4615358	2.532	Si
SLV 14	752	-27671	-1214685	2.48	4387467	3.612	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	$\sigma N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 71	572	-38767	1172	259509		3.48	398	1.02	11360			9.69	Si
SLU 71	752	-34188	1172	47828		3.07	398	0.96	10750			9.17	Si
SLU 50	572	-34749	1109	222442		3.12	398	0.97	10824			9.76	Si
SLU 50	752	-30098	1110	19274		2.7	398	0.92	10204			9.2	Si
SLU 30	572	-32325	1052	229114		2.9	398	0.94	10501			9.99	Si
SLU 30	752	-28714	1052	37949		2.58	398	0.9	10020			9.53	Si
SLU 51	572	-34698	1122	223261		3.11	398	0.97	10818			9.64	Si
SLU 51	752	-30049	1122	17854		2.7	398	0.92	10198			9.09	Si
SLU 69	572	-39292	1134	259483		3.53	398	1.03	11430			10.08	Si
SLU 69	752	-34772	1134	55992		3.12	398	0.97	10827			9.55	Si
SLU 49	572	-35223	1084	223235		3.16	398	0.98	10887			10.05	Si
SLU 49	752	-30633	1084	26018		2.75	398	0.92	10275			9.48	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 70	572	-39241	1147	260301		3.52	398	1.03	11423			9.96	Si
SLU 70	752	-34723	1147	54572		3.12	398	0.97	10821			9.44	Si
SLU 72	572	-38717	1185	260327		3.47	398	1.02	11353			9.58	Si
SLU 72	752	-34140	1185	46407		3.06	398	0.96	10743			9.06	Si
SLU 48	572	-35273	1071	222417		3.17	398	0.98	10894			10.17	Si
SLU 48	752	-30681	1071	27438		2.75	398	0.92	10282			9.6	Si
SLU 9	572	-28306	989	192047		2.54	398	0.89	9965			10.08	Si
SLU 9	752	-24624	989	9395		2.21	398	0.85	9474			9.58	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 14	572	-28791	7809	873945		2.58	398	1.35	15045			1.93	Si
SLD 14	752	-26198	7405	-471319		2.35	398	1.3	14526			1.96	Si
SLV 3	572	-26613	-16551	-1489998		2.39	398	1.31	14609			0.88	No, Vu<V
SLV 3	752	-22512	-15606	1380558		2.02	398	1.24	13789			0.88	No, Vu<V
SLD 13	572	-28791	7809	873945		2.58	398	1.35	15045			1.93	Si
SLD 13	752	-26198	7405	-471319		2.35	398	1.3	14526			1.96	Si
SLV 14	572	-29648	17589	1823061		2.66	398	1.37	15216			0.87	No, Vu<V
SLV 14	752	-27671	16645	-1214685		2.48	398	1.33	14821			0.89	No, Vu<V
SLV 15	572	-34981	17098	1815460		3.14	398	1.46	16283			0.95	No, Vu<V
SLV 15	752	-30981	16165	-1202399		2.78	398	1.39	15483			0.96	No, Vu<V
SLV 16	572	-34981	17098	1815460		3.14	398	1.46	16283			0.95	No, Vu<V
SLV 16	752	-30981	16165	-1202399		2.78	398	1.39	15483			0.96	No, Vu<V
SLV 13	572	-29648	17589	1823061		2.66	398	1.37	15216			0.87	No, Vu<V
SLV 13	752	-27671	16645	-1214685		2.48	398	1.33	14821			0.89	No, Vu<V
SLV 2	572	-21280	-16060	-1482397		1.96	388.02	1.23	13310			0.83	No, Vu<V
SLV 2	752	-19202	-15127	1368272		1.79	383.23	1.19	12782			0.85	No, Vu<V
SLV 4	572	-26613	-16551	-1489998		2.39	398	1.31	14609			0.88	No, Vu<V
SLV 4	752	-22512	-15606	1380558		2.02	398	1.24	13789			0.88	No, Vu<V
SLV 1	572	-21280	-16060	-1482397		1.96	388.02	1.23	13310			0.83	No, Vu<V
SLV 1	752	-19202	-15127	1368272		1.79	383.23	1.19	12782			0.85	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.38	1.67	-18655	40530	225384	5.56	Si
SLV 6	14	0.38	1.67	-18655	40530	225384	5.56	Si
SLV 1	14	0.38	1.83	-20417	40530	242982	6	Si
SLV 2	14	0.38	1.83	-20417	40530	242982	6	Si
SLV 9	14	0.38	1.9	-21153	40530	250137	6.17	Si
SLV 10	14	0.38	1.9	-21153	40530	250137	6.17	Si
SLV 3	14	0.38	2.19	-24427	40530	280628	6.92	Si
SLV 4	14	0.38	2.19	-24427	40530	280628	6.92	Si
SLV 14	14	0.38	2.58	-28746	40530	317481	7.83	Si
SLV 13	14	0.38	2.58	-28746	40530	317481	7.83	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 658 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 16	-24369	-32637	-113	0.041	30.36	0.948	62.505	949.98	No
SLV 15	-24369	-32637	-113	0.041	30.36	0.948	62.505	949.98	No
SLV 11	-25080	-36432	-187	0.038	31.083	0.949	58.449	874.063	No
SLV 12	-25080	-36432	-187	0.038	31.083	0.949	58.449	874.063	No
SLV 5	-15054	-16393	181	0.038	20.932	0.929	58.851	874.063	No
SLV 6	-15054	-16393	181	0.038	20.932	0.929	58.851	874.063	No
SLV 1	-15765	-20189	107	0.042	21.65	0.93	64.826	949.98	No
SLV 2	-15765	-20189	107	0.042	21.65	0.93	64.826	949.98	No
SLV 7	-23236	-34310	-151	0.039	29.211	0.946	60.531	874.063	No
SLV 8	-23236	-34310	-151	0.039	29.211	0.946	60.531	874.063	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	15.315	SLU 80	Si
V_SLU	9.065	SLU 72	Si
PF_SLV	2.399	SLV 1	Si
V_SLV	0.829	SLV 1	No
PFFP_SLV	5.561	SLV 5	Si
R_SLV	0.066	SLV 15	No

## Maschio 121

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-705.8	666.1	-501.8	666.1	L4	L5	204	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 84	572	-22296	-63772	3.9	1184435	18.573	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 84	752	-19666	-222127	3.44	1158099	5.214	Si
SLU 81	752	-21901	-67019	3.83	1182416	17.643	Si
SLU 81	752	-19271	-223047	3.37	1151527	5.163	Si
SLU 74	752	-21692	-67993	3.8	1181066	17.37	Si
SLU 74	752	-19061	-210776	3.34	1147758	5.445	Si
SLU 73	752	-20884	-64779	3.66	1174067	18.124	Si
SLU 73	752	-18253	-211918	3.2	1131443	5.339	Si
SLU 78	752	-22087	-64745	3.87	1183448	18.279	Si
SLU 78	752	-19456	-209856	3.41	1154693	5.502	Si
SLU 75	752	-21668	-66274	3.79	1180900	17.818	Si
SLU 75	752	-19037	-212318	3.33	1147316	5.404	Si
SLU 76	752	-21303	-63250	3.73	1178054	18.625	Si
SLU 76	752	-18672	-209456	3.27	1140260	5.444	Si
SLU 82	752	-21877	-65301	3.83	1182272	18.105	Si
SLU 82	752	-19247	-224589	3.37	1151107	5.125	Si
SLU 61	752	-19649	-63129	3.44	1157841	18.341	Si
SLU 61	752	-17048	-200615	2.98	1101761	5.492	Si
SLU 83	752	-22320	-65490	3.91	1184535	18.087	Si
SLU 83	752	-19690	-220585	3.45	1158475	5.252	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 15	752	-23810	548970	4.17	1600112	2.915	Si
SLV 15	752	-21513	-697076	3.77	1517956	2.178	Si
SLD 2	752	-10533	-309161	1.84	912215	2.951	Si
SLD 2	752	-8635	97587	1.51	771832	7.909	Si
SLV 4	752	-7335	-666636	1.28	669572	1.004	Si
SLV 4	752	-5197	408969	0.91	490638	1.2	Si
SLV 1	752	-5195	-653489	0	0	0	No, $e > l/2$
SLV 1	752	-3458	416450	0	0	0	No, $e > l/2$
SLV 16	752	-23810	548970	4.17	1600112	2.915	Si
SLV 16	752	-21513	-697076	3.77	1517956	2.178	Si
SLV 3	752	-7335	-666636	1.28	669572	1.004	Si
SLV 3	752	-5197	408969	0.91	490638	1.2	Si
SLV 13	752	-21670	562116	3.79	1524061	2.711	Si
SLV 13	752	-19774	-689594	3.46	1445500	2.096	Si
SLV 2	752	-5195	-653489	0	0	0	No, $e > l/2$
SLV 2	752	-3458	416450	0	0	0	No, $e > l/2$
SLD 1	752	-10533	-309161	1.84	912215	2.951	Si
SLD 1	752	-8635	97587	1.51	771832	7.909	Si
SLV 14	752	-21670	562116	3.79	1524061	2.711	Si
SLV 14	752	-19774	-689594	3.46	1445500	2.096	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 39	752	-18701	795	-52147		3.27	204	0.99	5667			7.13	Si
SLU 39	752	-16663	795	-193968		2.92	204	0.94	5395			6.78	Si
SLU 40	752	-18677	813	-50429		3.27	204	0.99	5664			6.96	Si
SLU 40	752	-16639	813	-195510		2.91	204	0.94	5392			6.63	Si
SLU 73	752	-20884	827	-64779		3.66	204	1.04	5958			7.2	Si
SLU 73	752	-18253	827	-211918		3.2	204	0.98	5607			6.78	Si
SLU 42	752	-19096	808	-48900		3.34	204	1	5719			7.08	Si
SLU 42	752	-17058	808	-193048		2.99	204	0.95	5448			6.74	Si
SLU 84	752	-22296	889	-63772		3.9	204	1.08	6146			6.91	Si
SLU 84	752	-19666	889	-222127		3.44	204	1.01	5795			6.52	Si
SLU 81	752	-21901	877	-67019		3.83	204	1.07	6094			6.95	Si
SLU 81	752	-19271	877	-223047		3.37	204	1.01	5743			6.55	Si
SLU 82	752	-21877	895	-65301		3.83	204	1.07	6090			6.81	Si
SLU 82	752	-19247	895	-224589		3.37	204	1	5740			6.42	Si
SLU 76	752	-21303	822	-63250		3.73	204	1.05	6014			7.32	Si
SLU 76	752	-18672	822	-209456		3.27	204	0.99	5663			6.89	Si
SLU 83	752	-22320	871	-65490		3.91	204	1.08	6149			7.06	Si
SLU 83	752	-19690	871	-220585		3.45	204	1.02	5799			6.65	Si
SLU 41	752	-19120	790	-50618		3.35	204	1	5723			7.24	Si
SLU 41	752	-17082	790	-191506		2.99	204	0.95	5451			6.9	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	752	-5195	-5738	-653489		0	0	0.83	0			0	No, $V_u < V$
SLV 2	752	-3458	-5347	416450		0	0	0.83	0			0	No, $V_u < V$
SLV 13	752	-21670	7523	562116		3.79	204	1.59	9094			1.21	Si
SLV 13	752	-19774	6984	-689594		3.51	201.38	1.53	8654			1.24	Si
SLV 4	752	-7335	-6529	-666636		7.85	33.36	1.63	1518			0.23	No, $V_u < V$
SLV 4	752	-5197	-5990	408969		2.65	69.93	1.36	2671			0.45	No, $V_u < V$
SLV 15	752	-23810	6732	548970		4.17	204	1.63	9282			1.38	Si
SLV 15	752	-21513	6341	-697076		3.77	204	1.59	9063			1.43	Si
SLV 14	752	-21670	7523	562116		3.79	204	1.59	9094			1.21	Si
SLV 14	752	-19774	6984	-689594		3.51	201.38	1.53	8654			1.24	Si
SLV 1	752	-5195	-5738	-653489		0	0	0.83	0			0	No, $V_u < V$
SLV 1	752	-3458	-5347	416450		0	0	0.83	0			0	No, $V_u < V$
SLV 3	752	-7335	-6529	-666636		7.85	33.36	1.63	1518			0.23	No, $V_u < V$
SLV 3	752	-5197	-5990	408969		2.65	69.93	1.36	2671			0.45	No, $V_u < V$
SLV 10	752	-13407	3804	151991		2.35	204	1.3	7441			1.96	Si
SLV 10	752	-12034	3418	-293750		2.11	204	1.25	7167			2.1	Si
SLV 16	752	-23810	6732	548970		4.17	204	1.63	9282			1.38	Si
SLV 16	752	-21513	6341	-697076		3.77	204	1.59	9063			1.43	Si
SLV 9	752	-13407	3804	151991		2.35	204	1.3	7441			1.96	Si
SLV 9	752	-12034	3418	-293750		2.11	204	1.25	7167			2.1	Si



## Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 1	14	0.38	0.78	-4462	20774	58469	2.81	Si
SLV 2	14	0.38	0.78	-4462	20774	58469	2.81	Si
SLV 3	14	0.38	1.09	-6218	20774	79293	3.82	Si
SLV 4	14	0.38	1.09	-6218	20774	79293	3.82	Si
SLV 6	14	0.38	1.43	-8195	20774	101260	4.87	Si
SLV 5	14	0.38	1.43	-8195	20774	101260	4.87	Si
SLV 10	14	0.38	2.3	-13152	20774	149426	7.19	Si
SLV 9	14	0.38	2.3	-13152	20774	149426	7.19	Si
SLV 7	14	0.38	2.46	-14049	20774	157093	7.56	Si
SLV 8	14	0.38	2.46	-14049	20774	157093	7.56	Si

## Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 658 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 10	-7691	-16123	551	0	10.704	0.928	0	874.063	No
SLV 9	-7691	-16123	551	0	10.704	0.928	0	874.063	No
SLV 6	-5998	-8392	605	0	9.002	0.918	0	874.063	No
SLV 5	-5998	-8392	605	0	9.002	0.918	0	874.063	No
SLV 7	-10799	-12240	-560	0.001	13.846	0.942	1.654	874.063	No
SLV 8	-10799	-12240	-560	0.001	13.846	0.942	1.654	874.063	No
SLV 11	-12492	-19971	-614	0.002	15.563	0.948	2.829	874.063	No
SLV 12	-12492	-19971	-614	0.002	15.563	0.948	2.829	874.063	No
SLV 2	-5703	-718	261	0.015	8.707	0.916	23.14	949.98	No
SLV 1	-5703	-718	261	0.015	8.707	0.916	23.14	949.98	No

## Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.125	SLU 82	Si
V_SLU	6.415	SLU 82	Si
PF_SLV	0	SLV 1	No
V_SLV	0	SLV 1	No
PFFP_SLV	2.815	SLV 1	Si
R_SLV	0	SLV 5	No

## Maschio 122

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2066.8	104.6	-2467.8	104.6	L4	L5	401	28	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

## Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 81	482	-54611	-486600	4.86	4411639	9.066	Si
SLU 81	692	-50459	-830837	4.49	4535487	5.459	Si
SLU 83	482	-55703	-488131	4.96	4366489	8.945	Si
SLU 83	692	-51585	-876992	4.59	4509361	5.142	Si
SLU 82	482	-54753	-498368	4.88	4406063	8.841	Si
SLU 82	692	-50638	-800516	4.51	4531704	5.661	Si
SLU 84	482	-55845	-499898	4.97	4360232	8.722	Si
SLU 84	692	-51764	-846671	4.61	4504694	5.32	Si
SLU 77	482	-55649	-455542	4.96	4368847	9.59	Si
SLU 77	692	-51247	-879825	4.56	4517807	5.135	Si
SLU 74	482	-54557	-454011	4.86	4413738	9.722	Si
SLU 74	692	-50120	-833669	4.46	4542260	5.449	Si
SLU 75	482	-54699	-465778	4.87	4408195	9.464	Si
SLU 75	692	-50300	-803348	4.48	4538743	5.65	Si
SLU 79	482	-54941	-445428	4.89	4398530	9.875	Si
SLU 79	692	-50487	-861114	4.5	4534920	5.266	Si
SLU 78	482	-55791	-467309	4.97	4362624	9.336	Si
SLU 78	692	-51426	-849503	4.58	4513406	5.313	Si
SLU 80	482	-55083	-457195	4.91	4392748	9.608	Si
SLU 80	692	-50666	-830793	4.51	4531116	5.454	Si

## Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 13	482	-26996	-1526440	2.4	4347625	2.848	Si
SLV 13	692	-20334	669088	1.81	3472689	5.19	Si
SLV 15	482	-28239	-1553693	2.52	4496543	2.894	Si
SLV 15	692	-20724	522668	1.85	3527455	6.749	Si
SLV 1	482	-46670	1008522	4.16	6174180	6.122	Si
SLV 1	692	-46126	-1501661	4.11	6138877	4.088	Si
SLV 4	482	-47914	981269	4.27	6251600	6.371	Si
SLV 4	692	-46516	-1648082	4.14	6164256	3.74	Si
SLV 7	482	-42478	62237	3.78	5879833	94.475	Si
SLV 7	692	-37943	-1059144	3.38	5503602	5.196	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 2	482	-46670	1008522	4.16	6174180	6.122	Si
SLV 2	692	-46126	-1501661	4.11	6138877	4.088	Si
SLV 3	482	-47914	981269	4.27	6251600	6.371	Si
SLV 3	692	-46516	-1648082	4.14	6164256	3.74	Si
SLV 16	482	-28239	-1553693	2.52	4496543	2.894	Si
SLV 16	692	-20724	522668	1.85	3527455	6.749	Si
SLV 14	482	-26996	-1526440	2.4	4347625	2.848	Si
SLV 14	692	-20334	669088	1.81	3472689	5.19	Si
SLV 8	482	-42478	62237	3.78	5879833	94.475	Si
SLV 8	692	-37943	-1059144	3.38	5503602	5.196	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 41	482	-46855	3455	-449896		4.17	401	1.08	12164			3.52	Si
SLU 41	692	-44281	3555	-804760		3.94	401	1.08	12142			3.42	Si
SLU 35	482	-46801	3353	-417307		4.17	401	1.08	12164			3.63	Si
SLU 35	692	-43942	3452	-807592		3.91	401	1.08	12097			3.5	Si
SLU 37	482	-46094	3263	-407193		4.11	401	1.08	12164			3.73	Si
SLU 37	692	-43182	3361	-788882		3.85	401	1.07	11995			3.57	Si
SLU 77	482	-55649	3245	-455542		4.96	401	1.08	12164			3.75	Si
SLU 77	692	-51247	3363	-879825		4.56	401	1.08	12164			3.62	Si
SLU 84	482	-55845	3176	-499898		4.97	401	1.08	12164			3.83	Si
SLU 84	692	-51764	3312	-846671		4.61	401	1.08	12164			3.67	Si
SLU 39	482	-45763	3212	-448365		4.08	401	1.08	12164			3.79	Si
SLU 39	692	-43155	3310	-758604		3.84	401	1.07	11992			3.62	Si
SLU 79	482	-54941	3155	-445428		4.89	401	1.08	12164			3.86	Si
SLU 79	692	-50487	3272	-861114		4.5	401	1.08	12164			3.72	Si
SLU 83	482	-55703	3347	-488131		4.96	401	1.08	12164			3.63	Si
SLU 83	692	-51585	3466	-876992		4.59	401	1.08	12164			3.51	Si
SLU 42	482	-46998	3284	-461663		4.19	401	1.08	12164			3.7	Si
SLU 42	692	-44460	3401	-774439		3.96	401	1.08	12164			3.58	Si
SLU 36	482	-46943	3181	-429074		4.18	401	1.08	12164			3.82	Si
SLU 36	692	-44121	3298	-777271		3.93	401	1.08	12121			3.68	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	482	-46670	17874	1008522		4.16	401	1.63	18245			1.02	Si
SLV 2	692	-46126	16847	-1501661		4.11	401	1.63	18245			1.08	Si
SLV 15	482	-28239	-15185	-1553693		2.52	401	1.34	15005			0.99	No, Vu<V
SLV 15	692	-20724	-13996	522668		1.85	401	1.2	13501			0.96	No, Vu<V
SLV 16	482	-28239	-15185	-1553693		2.52	401	1.34	15005			0.99	No, Vu<V
SLV 16	692	-20724	-13996	522668		1.85	401	1.2	13501			0.96	No, Vu<V
SLV 4	482	-47914	17313	981269		4.27	401	1.63	18245			1.05	Si
SLV 4	692	-46516	15983	-1648082		4.14	401	1.63	18245			1.14	Si
SLV 14	482	-26996	-14625	-1526440		2.4	401	1.31	14756			1.01	Si
SLV 14	692	-20334	-13133	669088		1.81	401	1.2	13423			1.02	Si
SLD 1	482	-41340	8377	269483		3.68	401	1.57	17625			2.1	Si
SLD 1	692	-38869	8003	-922759		3.46	401	1.53	17131			2.14	Si
SLD 2	482	-41340	8377	269483		3.68	401	1.57	17625			2.1	Si
SLD 2	692	-38869	8003	-922759		3.46	401	1.53	17131			2.14	Si
SLV 1	482	-46670	17874	1008522		4.16	401	1.63	18245			1.02	Si
SLV 1	692	-46126	16847	-1501661		4.11	401	1.63	18245			1.08	Si
SLV 3	482	-47914	17313	981269		4.27	401	1.63	18245			1.05	Si
SLV 3	692	-46516	15983	-1648082		4.14	401	1.63	18245			1.14	Si
SLV 13	482	-26996	-14625	-1526440		2.4	401	1.31	14756			1.01	Si
SLV 13	692	-20334	-13133	669088		1.81	401	1.2	13423			1.02	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 13	14	0.38	1.88	-21069	41785	249672	5.98	Si
SLV 14	14	0.38	1.88	-21069	41785	249672	5.98	Si
SLV 15	14	0.38	1.91	-21445	41785	253301	6.06	Si
SLV 16	14	0.38	1.91	-21445	41785	253301	6.06	Si
SLV 10	14	0.38	2.64	-29646	41785	325359	7.79	Si
SLV 9	14	0.38	2.64	-29646	41785	325359	7.79	Si
SLV 12	14	0.38	2.75	-30898	41785	335153	8.02	Si
SLV 11	14	0.38	2.75	-30898	41785	335153	8.02	Si
SLV 5	14	0.38	3.33	-37373	41785	380692	9.11	Si
SLV 6	14	0.38	3.33	-37373	41785	380692	9.11	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 658 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	$\alpha_{lim}$	Verifica
SLV 12	-27048	-36576	-596	0.025	33.122	0.951	38.095	874.063	No
SLV 11	-27048	-36576	-596	0.025	33.122	0.951	38.095	874.063	No
SLV 6	-29790	-38334	597	0.026	35.908	0.955	39.764	874.063	No
SLV 5	-29790	-38334	597	0.026	35.908	0.955	39.764	874.063	No
SLV 10	-25529	-32432	487	0.028	31.58	0.949	42.717	874.063	No
SLV 9	-25529	-32432	487	0.028	31.58	0.949	42.717	874.063	No
SLV 16	-21545	-28239	-345	0.032	27.54	0.943	48.816	949.98	No
SLV 15	-21545	-28239	-345	0.032	27.54	0.943	48.816	949.98	No
SLV 8	-31309	-42478	-486	0.03	37.452	0.956	45.443	874.063	No
SLV 7	-31309	-42478	-486	0.03	37.452	0.956	45.443	874.063	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.135	SLU 77	Si



Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	3.415	SLU 41	Si
PF_SLV	2.848	SLV 13	Si
V_SLV	0.965	SLV 15	No
PFFP_SLV	5.975	SLV 13	Si
R_SLV	0.044	SLV 11	No

## Maschio 123

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1228.3	104.6	-1986.8	104.6	L4	L5	758.5	28	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 74	482	-107074	1378244	5.04	15474818	11.228	Si
SLU 74	732	-96472	-178993	4.54	16184694	90.421	Si
SLU 84	482	-109854	1413262	5.17	15207141	10.76	Si
SLU 84	732	-99758	-72661	4.7	16017400	220.439	Si
SLU 77	482	-110440	1428187	5.2	15146347	10.605	Si
SLU 77	732	-99699	-201836	4.69	16020827	79.375	Si
SLU 78	482	-110403	1414841	5.2	15150222	10.708	Si
SLU 78	732	-99912	-143518	4.7	16008354	111.542	Si
SLU 79	482	-108924	1421936	5.13	15300389	10.76	Si
SLU 79	732	-98081	-178212	4.62	16108689	90.391	Si
SLU 83	482	-109891	1426608	5.17	15203355	10.657	Si
SLU 83	732	-99544	-130979	4.69	16029728	122.384	Si
SLU 75	482	-107037	1364898	5.04	15478148	11.34	Si
SLU 75	732	-96686	-120675	4.55	16175246	134.039	Si
SLU 81	482	-106524	1376665	5.02	15523717	11.276	Si
SLU 81	732	-96318	-108136	4.54	16191407	149.732	Si
SLU 80	482	-108887	1408590	5.13	15304019	10.865	Si
SLU 80	732	-98295	-119894	4.63	16097732	134.267	Si
SLU 82	482	-106487	1363319	5.01	15526957	11.389	Si
SLU 82	732	-96531	-49818	4.55	16182103	324.824	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLD 1	482	-70044	3544477	3.3	19394091	5.472	Si
SLD 1	732	-62729	-48047	2.95	18039284	375.452	Si
SLV 2	482	-68031	7080353	3.2	19036793	2.689	Si
SLV 2	732	-62577	85511	2.95	18009376	210.61	Si
SLV 4	482	-73506	6890424	3.46	19980796	2.9	Si
SLV 4	732	-67237	-336990	3.17	18892626	56.063	Si
SLV 16	482	-74859	-5258525	3.52	20200403	3.841	Si
SLV 16	732	-63018	-383084	2.97	18095759	47.237	Si
SLV 15	482	-74859	-5258525	3.52	20200403	3.841	Si
SLV 15	732	-63018	-383084	2.97	18095759	47.237	Si
SLV 13	482	-69383	-5068596	3.27	19278040	3.803	Si
SLV 13	732	-58358	39417	2.75	17155046	435.218	Si
SLV 3	482	-73506	6890424	3.46	19980796	2.9	Si
SLV 3	732	-67237	-336990	3.17	18892626	56.063	Si
SLV 1	482	-68031	7080353	3.2	19036793	2.689	Si
SLV 1	732	-62577	85511	2.95	18009376	210.61	Si
SLV 14	482	-69383	-5068596	3.27	19278040	3.803	Si
SLV 14	732	-58358	39417	2.75	17155046	435.218	Si
SLD 2	482	-70044	3544477	3.3	19394091	5.472	Si
SLD 2	732	-62729	-48047	2.95	18039284	375.452	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 61	482	-96128	3468	1161160		4.53	758.5	1.08	23008			6.63	Si
SLU 61	732	-85629	3120	-137759		4.03	758.5	1.08	23008			7.37	Si
SLU 73	482	-102130	3188	1299806		4.81	758.5	1.08	23008			7.22	Si
SLU 73	732	-91985	2774	-35329		4.33	758.5	1.08	23008			8.29	Si
SLU 81	482	-106524	3367	1376665		5.02	758.5	1.08	23008			6.83	Si
SLU 81	732	-96318	2806	-108136		4.54	758.5	1.08	23008			8.2	Si
SLU 82	482	-106487	3407	1363319		5.01	758.5	1.08	23008			6.75	Si
SLU 82	732	-96531	2916	-49818		4.55	758.5	1.08	23008			7.89	Si
SLU 84	482	-109854	3020	1413262		5.17	758.5	1.08	23008			7.62	Si
SLU 84	732	-99758	2396	-72661		4.7	758.5	1.08	23008			9.6	Si
SLU 54	482	-96677	3021	1162740		4.55	758.5	1.08	23008			7.62	Si
SLU 54	732	-85784	2558	-208617		4.04	758.5	1.08	23008			8.99	Si
SLU 52	482	-91771	3249	1097648		4.32	758.5	1.08	23008			7.08	Si
SLU 52	732	-81083	2978	-123270		3.82	758.5	1.06	22610			7.59	Si
SLU 60	482	-96165	3428	1174506		4.53	758.5	1.08	23008			6.71	Si
SLU 60	732	-85415	3010	-196077		4.02	758.5	1.08	23008			7.64	Si
SLU 63	482	-99494	3081	1211103		4.68	758.5	1.08	23008			7.47	Si
SLU 63	732	-88855	2600	-160603		4.18	758.5	1.08	23008			8.85	Si
SLU 62	482	-99531	3041	1224449		4.69	758.5	1.08	23008			7.57	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 62	732	-88642	2489	-218920		4.17	758.5	1.08	23008			9.24	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	482	-73506	47480	6890424		3.46	758.5	1.53	32400			0.68	No, Vu<V
SLV 3	732	-67237	41052	-336990		3.17	758.5	1.47	31146			0.76	No, Vu<V
SLV 2	482	-68031	44483	7080353		3.2	758.5	1.47	31304			0.7	No, Vu<V
SLV 2	732	-62577	37852	85511		2.95	758.5	1.42	30214			0.8	No, Vu<V
SLV 16	482	-74859	-40208	-5258525		3.52	758.5	1.54	32670			0.81	No, Vu<V
SLV 16	732	-63018	-34265	-383084		2.97	758.5	1.43	30302			0.88	No, Vu<V
SLD 3	482	-72293	21489	3462082		3.4	758.5	1.51	32157			1.5	Si
SLD 3	732	-64664	18552	-229541		3.04	758.5	1.44	30631			1.65	Si
SLV 4	482	-73506	47480	6890424		3.46	758.5	1.53	32400			0.68	No, Vu<V
SLV 4	732	-67237	41052	-336990		3.17	758.5	1.47	31146			0.76	No, Vu<V
SLD 4	482	-72293	21489	3462082		3.4	758.5	1.51	32157			1.5	Si
SLD 4	732	-64664	18552	-229541		3.04	758.5	1.44	30631			1.65	Si
SLV 14	482	-69383	-43205	-5068596		3.27	758.5	1.49	31575			0.73	No, Vu<V
SLV 14	732	-58358	-37464	39417		2.75	758.5	1.38	29370			0.78	No, Vu<V
SLV 15	482	-74859	-40208	-5258525		3.52	758.5	1.54	32670			0.81	No, Vu<V
SLV 15	732	-63018	-34265	-383084		2.97	758.5	1.43	30302			0.88	No, Vu<V
SLV 1	482	-68031	44483	7080353		3.2	758.5	1.47	31304			0.7	No, Vu<V
SLV 1	732	-62577	37852	85511		2.95	758.5	1.42	30214			0.8	No, Vu<V
SLV 13	482	-69383	-43205	-5068596		3.27	758.5	1.49	31575			0.73	No, Vu<V
SLV 13	732	-58358	-37464	39417		2.75	758.5	1.38	29370			0.78	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.38	2.79	-59207	79037	639781	8.09	Si
SLV 5	14	0.38	2.79	-59207	79037	639781	8.09	Si
SLV 9	14	0.38	2.83	-59998	79037	645766	8.17	Si
SLV 10	14	0.38	2.83	-59998	79037	645766	8.17	Si
SLV 1	14	0.38	2.95	-62736	79037	665968	8.43	Si
SLV 2	14	0.38	2.95	-62736	79037	665968	8.43	Si
SLV 14	14	0.38	3.08	-65372	79037	684653	8.66	Si
SLV 13	14	0.38	3.08	-65372	79037	684653	8.66	Si
SLV 3	14	0.38	3.13	-66551	79037	692771	8.77	Si
SLV 4	14	0.38	3.13	-66551	79037	692771	8.77	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 658 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 10	-51480	-62521	719	0.032	62.975	0.951	48.899	874.063	No
SLV 9	-51480	-62521	719	0.032	62.975	0.951	48.899	874.063	No
SLV 6	-53227	-62116	660	0.033	64.75	0.953	50.685	874.063	No
SLV 5	-53227	-62116	660	0.033	64.75	0.953	50.685	874.063	No
SLV 8	-66881	-80368	-724	0.034	78.628	0.96	50.824	874.063	No
SLV 7	-66881	-80368	-724	0.034	78.628	0.96	50.824	874.063	No
SLV 12	-65134	-80774	-665	0.034	76.851	0.959	51.883	874.063	No
SLV 11	-65134	-80774	-665	0.034	76.851	0.959	51.883	874.063	No
SLV 3	-64141	-73506	-308	0.039	75.842	0.959	59.421	949.98	No
SLV 4	-64141	-73506	-308	0.039	75.842	0.959	59.421	949.98	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.605	SLU 77	Si
V_SLU	6.635	SLU 61	Si
PF_SLV	2.689	SLV 1	Si
V_SLV	0.682	SLV 3	No
PFFP_SLV	8.095	SLV 5	Si
R_SLV	0.056	SLV 9	No

## Maschio 124

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1046.6	104.6	-1116.3	104.6	L4	L5	69.6	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 44	482	-9368	-20485	4.8	133796	6.531	Si
SLU 44	732	-7834	13887	4.02	138230	9.954	Si
SLU 51	482	-9645	-20341	4.95	131891	6.484	Si
SLU 51	732	-8584	13227	4.4	137350	10.384	Si
SLU 54	482	-11011	-17949	5.65	117595	6.552	Si
SLU 54	732	-9732	9890	4.99	131231	13.269	Si
SLU 47	482	-9520	-20918	4.88	132796	6.348	Si
SLU 47	732	-8195	14103	4.2	138115	9.794	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 55	482	-10815	-18386	5.55	120157	6.535	Si
SLU 55	732	-9530	10551	4.89	132723	12.58	Si
SLU 49	482	-9868	-20913	5.06	130119	6.222	Si
SLU 49	732	-8757	13657	4.49	136799	10.016	Si
SLU 46	482	-9716	-20480	4.98	131351	6.414	Si
SLU 46	732	-8396	13442	4.31	137802	10.252	Si
SLU 48	482	-9829	-19398	5.04	130446	6.725	Si
SLU 48	732	-8800	12021	4.51	136639	11.366	Si
SLU 57	482	-11163	-18381	5.73	115501	6.284	Si
SLU 57	732	-10092	10105	5.18	128117	12.678	Si
SLU 59	482	-10941	-17809	5.61	118537	6.656	Si
SLU 59	732	-9920	9675	5.09	129676	13.403	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 16	482	-11488	-261265	5.89	207120	0.793	No, M>Mu
SLV 16	732	-7081	268532	0	0	0	No, e>l/2
SLV 2	482	-4687	240739	0	0	0	No, e>l/2
SLV 2	732	-7294	-261079	0	0	0	No, e>l/2
SLV 4	482	-6890	243792	0	0	0	No, e>l/2
SLV 4	732	-7310	-247783	3.75	176426	0.712	No, M>Mu
SLV 14	482	-9285	-264319	4.76	197296	0.746	No, M>Mu
SLV 14	732	-7066	255236	0	0	0	No, e>l/2
SLD 16	482	-9532	-117279	4.89	199105	1.698	Si
SLD 16	732	-7142	116689	3.66	174125	1.492	Si
SLV 15	482	-11488	-261265	5.89	207120	0.793	No, M>Mu
SLV 15	732	-7081	268532	0	0	0	No, e>l/2
SLD 15	482	-9532	-117279	4.89	199105	1.698	Si
SLD 15	732	-7142	116689	3.66	174125	1.492	Si
SLV 13	482	-9285	-264319	4.76	197296	0.746	No, M>Mu
SLV 13	732	-7066	255236	0	0	0	No, e>l/2
SLV 1	482	-4687	240739	0	0	0	No, e>l/2
SLV 1	732	-7294	-261079	0	0	0	No, e>l/2
SLV 3	482	-6890	243792	0	0	0	No, e>l/2
SLV 3	732	-7310	-247783	3.75	176426	0.712	No, M>Mu

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 52	482	-10663	-123	-17954		5.47	69.64	1.08	2112			17.14	Si
SLU 52	732	-9170	-140	10335		4.7	69.64	1.08	2112			15.04	Si
SLU 55	482	-10815	-110	-18386		5.55	69.64	1.08	2112			19.21	Si
SLU 55	732	-9530	-127	10551		4.89	69.64	1.08	2112			16.67	Si
SLU 2	482	-7491	-114	-14982		3.84	69.64	1.07	2082			18.29	Si
SLU 2	732	-6357	-114	9467		3.26	69.64	0.99	1931			16.94	Si
SLU 47	482	-9520	-151	-20918		4.88	69.64	1.08	2112			14.03	Si
SLU 47	732	-8195	-150	14103		4.2	69.64	1.08	2112			14.07	Si
SLU 43	482	-9303	-132	-17960		4.77	69.64	1.08	2112			16.01	Si
SLU 43	732	-7907	-133	11160		4.06	69.64	1.08	2112			15.93	Si
SLU 51	482	-9645	-124	-20341		4.95	69.64	1.08	2112			16.97	Si
SLU 51	732	-8584	-124	13227		4.4	69.64	1.08	2112			17.04	Si
SLU 46	482	-9716	-146	-20480		4.98	69.64	1.08	2112			14.49	Si
SLU 46	732	-8396	-145	13442		4.31	69.64	1.08	2112			14.52	Si
SLU 45	482	-9677	-127	-18965		4.96	69.64	1.08	2112			16.69	Si
SLU 45	732	-8440	-127	11806		4.33	69.64	1.08	2112			16.67	Si
SLU 49	482	-9868	-132	-20913		5.06	69.64	1.08	2112			15.95	Si
SLU 49	732	-8757	-132	13657		4.49	69.64	1.08	2112			16.03	Si
SLU 44	482	-9368	-164	-20485		4.8	69.64	1.08	2112			12.89	Si
SLU 44	732	-7834	-164	13887		4.02	69.64	1.08	2112			12.89	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 6	482	-3727	874	60406		2.38	55.83	1.31	2048			2.34	Si
SLV 6	732	-7196	882	-95880		3.99	64.49	1.63	2934			3.33	Si
SLV 15	482	-11488	-2500	-261265		11.33	36.23	1.63	1648			0.66	No, Vu<V
SLV 15	732	-7081	-2322	268532		0	0	0.83	0			0	No, Vu<V
SLV 2	482	-4687	2402	240739		0	0	0.83	0			0	No, Vu<V
SLV 2	732	-7294	2212	-261079		0	0	0.83	0			0	No, Vu<V
SLV 5	482	-3727	874	60406		2.38	55.83	1.31	2048			2.34	Si
SLV 5	732	-7196	882	-95880		3.99	64.49	1.63	2934			3.33	Si
SLV 1	482	-4687	2402	240739		0	0	0.83	0			0	No, Vu<V
SLV 1	732	-7294	2212	-261079		0	0	0.83	0			0	No, Vu<V
SLV 16	482	-11488	-2500	-261265		11.33	36.23	1.63	1648			0.66	No, Vu<V
SLV 16	732	-7081	-2322	268532		0	0	0.83	0			0	No, Vu<V
SLV 3	482	-6890	2278	243792		0	0	0.83	0			0	No, Vu<V
SLV 3	732	-7310	2042	-247783		94.47	2.76	1.63	126			0.06	No, Vu<V
SLV 4	482	-6890	2278	243792		0	0	0.83	0			0	No, Vu<V
SLV 4	732	-7310	2042	-247783		94.47	2.76	1.63	126			0.06	No, Vu<V
SLV 13	482	-9285	-2376	-264319		17.4	19.05	1.63	867			0.36	No, Vu<V
SLV 13	732	-7066	-2153	255236		0	0	0.83	0			0	No, Vu<V
SLV 14	482	-9285	-2376	-264319		17.4	19.05	1.63	867			0.36	No, Vu<V
SLV 14	732	-7066	-2153	255236		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.38	3.38	-6596	7256	66779	9.2	Si
SLV 10	14	0.38	3.38	-6596	7256	66779	9.2	Si
SLV 6	14	0.38	3.43	-6692	7256	67373	9.28	Si
SLV 5	14	0.38	3.43	-6692	7256	67373	9.28	Si





Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 13	14	0.38	3.55	-6912	7256	68696	9.47	Si
SLV 14	14	0.38	3.55	-6912	7256	68696	9.47	Si
SLV 2	14	0.38	3.71	-7232	7256	70515	9.72	Si
SLV 1	14	0.38	3.71	-7232	7256	70515	9.72	Si
SLV 15	14	0.38	3.73	-7280	7256	70774	9.75	Si
SLV 16	14	0.38	3.73	-7280	7256	70774	9.75	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 658 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 9	-3347	-5106	184	0	4.383	0.938	0	874.063	No
SLV 10	-3347	-5106	184	0	4.383	0.938	0	874.063	No
SLV 6	-2635	-3727	151	0.001	3.663	0.929	1.198	874.063	No
SLV 5	-2635	-3727	151	0.001	3.663	0.929	1.198	874.063	No
SLV 7	-4935	-11069	-184	0.011	5.994	0.953	16.847	874.063	No
SLV 8	-4935	-11069	-184	0.011	5.994	0.953	16.847	874.063	No
SLV 3	-3299	-6890	-105	0.019	4.334	0.938	29.962	949.98	No
SLV 4	-3299	-6890	-105	0.019	4.334	0.938	29.962	949.98	No
SLV 11	-5647	-12449	-152	0.02	6.718	0.957	29.612	874.063	No
SLV 12	-5647	-12449	-152	0.02	6.718	0.957	29.612	874.063	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.222	SLU 49	Si
V_SLU	12.889	SLU 44	Si
PF_SLV	0	SLV 1	No
V_SLV	0	SLV 1	No
PFFP_SLV	9.203	SLV 9	Si
R_SLV	0	SLV 9	No

## Maschio 125

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-727.8	104.6	-938.6	104.6	L4	L5	210.9	28	352	352	352			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 84	482	-38314	-59640	6.49	821448	13.773	Si
SLU 84	732	-32429	327267	5.49	1113661	3.403	Si
SLU 75	482	-37079	-58698	6.28	895359	15.254	Si
SLU 75	732	-31266	315125	5.3	1153442	3.66	Si
SLU 82	482	-37277	-70125	6.31	883981	12.606	Si
SLU 82	732	-31500	326906	5.34	1145897	3.505	Si
SLU 74	482	-37082	-39065	6.28	895193	22.916	Si
SLU 74	732	-31199	307931	5.28	1155533	3.753	Si
SLU 77	482	-38120	-28579	6.46	833545	29.166	Si
SLU 77	732	-32128	308292	5.44	1124522	3.648	Si
SLU 78	482	-38117	-48212	6.46	833725	17.293	Si
SLU 78	732	-32194	315486	5.45	1122161	3.557	Si
SLU 83	482	-38317	-40006	6.49	821266	20.528	Si
SLU 83	732	-32362	320074	5.48	1116091	3.487	Si
SLU 76	482	-36533	-67350	6.19	925929	13.748	Si
SLU 76	732	-30781	312926	5.21	1168258	3.733	Si
SLU 81	482	-37280	-50492	6.31	883812	17.504	Si
SLU 81	732	-31434	319713	5.32	1148057	3.591	Si
SLU 80	482	-37572	-43775	6.36	866665	19.798	Si
SLU 80	732	-31666	308492	5.36	1140432	3.697	Si

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 15	482	-21069	-1279385	3.57	1572590	1.229	Si
SLV 15	732	-21533	746643	3.65	1592615	2.133	Si
SLV 2	482	-27681	1216998	4.69	1798633	1.478	Si
SLV 2	732	-18729	-339309	3.17	1461975	4.309	Si
SLV 16	482	-21069	-1279385	3.57	1572590	1.229	Si
SLV 16	732	-21533	746643	3.65	1592615	2.133	Si
SLD 16	482	-22955	-563758	3.89	1650086	2.927	Si
SLD 16	732	-20720	435156	3.51	1557116	3.578	Si
SLV 14	482	-19699	-1202053	3.34	1509760	1.256	Si
SLV 14	732	-19999	673736	3.39	1524025	2.262	Si
SLV 13	482	-19699	-1202053	3.34	1509760	1.256	Si
SLV 13	732	-19999	673736	3.39	1524025	2.262	Si
SLV 1	482	-27681	1216998	4.69	1798633	1.478	Si
SLV 1	732	-18729	-339309	3.17	1461975	4.309	Si
SLD 15	482	-22955	-563758	3.89	1650086	2.927	Si
SLD 15	732	-20720	435156	3.51	1557116	3.578	Si
SLV 3	482	-29051	1139665	4.92	1829491	1.605	Si
SLV 3	732	-20262	-266403	3.43	1536260	5.767	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 4	482	-29051	1139665	4.92	1829491	1.605	Si
SLV 4	732	-20262	-266403	3.43	1536260	5.767	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLU 55	482	-32324	-700	-79000		5.47	210.86	1.08	6396			9.14	Si
SLU 55	732	-26965	-499	285827		4.57	210.86	1.08	6396			12.82	Si
SLU 82	482	-37277	-694	-70125		6.31	210.86	1.08	6396			9.22	Si
SLU 82	732	-31500	-460	326906		5.34	210.86	1.08	6396			13.91	Si
SLU 61	482	-33068	-759	-81776		5.6	210.86	1.08	6396			8.43	Si
SLU 61	732	-27684	-555	299807		4.69	210.86	1.08	6396			11.51	Si
SLU 52	482	-31286	-787	-89486		5.3	210.86	1.08	6396			8.12	Si
SLU 52	732	-26036	-591	285466		4.41	210.86	1.08	6396			10.82	Si
SLU 54	482	-32870	-646	-70349		5.57	210.86	1.08	6396			9.9	Si
SLU 54	732	-27449	-453	288025		4.65	210.86	1.08	6396			14.13	Si
SLU 76	482	-36533	-635	-67350		6.19	210.86	1.08	6396			10.07	Si
SLU 76	732	-30781	-403	312926		5.21	210.86	1.08	6396			15.86	Si
SLU 19	482	-27915	-652	-68501		4.73	210.86	1.08	6396			9.81	Si
SLU 19	732	-23619	-443	254148		4	210.86	1.08	6396			14.45	Si
SLU 73	482	-35495	-723	-77835		6.01	210.86	1.08	6396			8.85	Si
SLU 73	732	-29852	-495	312565		5.06	210.86	1.08	6396			12.91	Si
SLU 10	482	-26134	-680	-76210		4.43	210.86	1.08	6396			9.4	Si
SLU 10	732	-21971	-478	239807		3.72	210.86	1.05	6210			12.98	Si
SLU 63	482	-34105	-671	-71291		5.78	210.86	1.08	6396			9.53	Si
SLU 63	732	-28613	-463	300168		4.85	210.86	1.08	6396			13.81	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLV 13	482	-19699	-9630	-1202053		5.28	133.23	1.63	6062			0.63	No, Vu<V
SLV 13	732	-19999	-5007	673736		3.39	210.86	1.51	8920			1.78	Si
SLV 4	482	-29051	9011	1139665		5.22	198.61	1.63	9037			1	Si
SLV 4	732	-20262	4495	-266403		3.43	210.86	1.52	8973			2	Si
SLD 15	482	-22955	-4585	-563758		3.89	210.86	1.61	9511			2.07	Si
SLD 15	732	-20720	-2538	435156		3.51	210.86	1.54	9064			3.57	Si
SLV 15	482	-21069	-10331	-1279385		5.61	134.12	1.63	6103			0.59	No, Vu<V
SLV 15	732	-21533	-5612	746643		3.65	210.86	1.56	9227			1.64	Si
SLD 16	482	-22955	-4585	-563758		3.89	210.86	1.61	9511			2.07	Si
SLD 16	732	-20720	-2538	435156		3.51	210.86	1.54	9064			3.57	Si
SLV 1	482	-27681	9713	1216998		5.36	184.4	1.63	8390			0.86	No, Vu<V
SLV 1	732	-18729	5099	-339309		3.17	210.86	1.47	8666			1.7	Si
SLV 16	482	-21069	-10331	-1279385		5.61	134.12	1.63	6103			0.59	No, Vu<V
SLV 16	732	-21533	-5612	746643		3.65	210.86	1.56	9227			1.64	Si
SLV 3	482	-29051	9011	1139665		5.22	198.61	1.63	9037			1	Si
SLV 3	732	-20262	4495	-266403		3.43	210.86	1.52	8973			2	Si
SLV 2	482	-27681	9713	1216998		5.36	184.4	1.63	8390			0.86	No, Vu<V
SLV 2	732	-18729	5099	-339309		3.17	210.86	1.47	8666			1.7	Si
SLV 14	482	-19699	-9630	-1202053		5.28	133.23	1.63	6062			0.63	No, Vu<V
SLV 14	732	-19999	-5007	673736		3.39	210.86	1.51	8920			1.78	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 14	14	0.38	2.99	-17632	21972	186519	8.49	Si
SLV 13	14	0.38	2.99	-17632	21972	186519	8.49	Si
SLV 10	14	0.38	3.14	-18540	21972	192857	8.78	Si
SLV 9	14	0.38	3.14	-18540	21972	192857	8.78	Si
SLV 16	14	0.38	3.27	-19294	21972	197878	9.01	Si
SLV 15	14	0.38	3.27	-19294	21972	197878	9.01	Si
SLV 5	14	0.38	3.55	-20981	21972	208305	9.48	Si
SLV 6	14	0.38	3.55	-20981	21972	208305	9.48	Si
SLV 12	14	0.38	4.08	-24081	21972	224596	10.22	Si
SLV 11	14	0.38	4.08	-24081	21972	224596	10.22	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 658 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 9	-17011	-20894	308	0.027	20.25	0.957	41.635	874.063	No
SLV 10	-17011	-20894	308	0.027	20.25	0.957	41.635	874.063	No
SLV 5	-16462	-23289	299	0.028	19.692	0.956	41.82	874.063	No
SLV 6	-16462	-23289	299	0.028	19.692	0.956	41.82	874.063	No
SLV 7	-18608	-27856	-308	0.028	21.874	0.96	42.915	874.063	No
SLV 8	-18608	-27856	-308	0.028	21.874	0.96	42.915	874.063	No
SLV 11	-19157	-25461	-300	0.029	22.432	0.961	43.933	874.063	No
SLV 12	-19157	-25461	-300	0.029	22.432	0.961	43.933	874.063	No
SLV 4	-17216	-29051	-106	0.038	20.459	0.958	57.881	949.98	No
SLV 3	-17216	-29051	-106	0.038	20.459	0.958	57.881	949.98	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.403	SLU 84	Si
V_SLV	8.123	SLU 52	Si
PF_SLV	1.229	SLV 15	Si
V_SLV	0.591	SLV 15	No
PFFP_SLV	8.489	SLV 13	Si
R_SLV	0.048	SLV 9	No



## Maschio 126

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-496.8	104.6	-647.8	104.6	L4	L5	151	28	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 78	482	-23995	-47003	5.68	549459	11.69	Si
SLU 78	692	-24144	126099	5.71	544972	4.322	Si
SLU 77	482	-24056	-47653	5.69	547634	11.492	Si
SLU 77	692	-23885	126049	5.65	552692	4.385	Si
SLU 84	482	-23789	-42524	5.63	555490	13.063	Si
SLU 84	692	-24422	122878	5.78	536367	4.365	Si
SLU 81	482	-23056	-37098	5.45	575410	15.511	Si
SLU 81	692	-23604	113831	5.58	560729	4.926	Si
SLU 83	482	-23850	-43174	5.64	553720	12.825	Si
SLU 83	692	-24163	122827	5.71	544402	4.432	Si
SLU 75	482	-23201	-40926	5.49	571653	13.968	Si
SLU 75	692	-23585	117103	5.58	561252	4.793	Si
SLU 74	482	-23262	-41577	5.5	570041	13.711	Si
SLU 74	692	-23326	117053	5.52	568337	4.855	Si
SLU 82	482	-22995	-36447	5.44	576966	15.83	Si
SLU 82	692	-23863	113882	5.64	553328	4.859	Si
SLU 80	482	-23689	-45181	5.6	558331	12.358	Si
SLU 80	692	-23777	122964	5.62	555815	4.52	Si
SLU 79	482	-23750	-45831	5.62	556588	12.144	Si
SLU 79	692	-23518	122913	5.56	563118	4.581	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 16	482	-15133	-765437	3.58	807861	1.055	Si
SLV 16	692	-15020	764002	3.55	804320	1.053	Si
SLV 15	482	-15133	-765437	3.58	807861	1.055	Si
SLV 15	692	-15020	764002	3.55	804320	1.053	Si
SLV 14	482	-14234	-734831	3.37	778564	1.06	Si
SLV 14	692	-14551	716637	3.44	789176	1.101	Si
SLV 2	482	-15896	723266	3.76	830869	1.149	Si
SLV 2	692	-15510	-629700	3.67	819429	1.301	Si
SLV 1	482	-15896	723266	3.76	830869	1.149	Si
SLV 1	692	-15510	-629700	3.67	819429	1.301	Si
SLV 4	482	-16795	692660	3.97	855798	1.236	Si
SLV 4	692	-15979	-582335	3.78	833259	1.431	Si
SLV 3	482	-16795	692660	3.97	855798	1.236	Si
SLV 3	692	-15979	-582335	3.78	833259	1.431	Si
SLD 15	482	-15348	-338776	3.63	814525	2.404	Si
SLD 15	692	-15159	364431	3.59	808660	2.219	Si
SLD 16	482	-15348	-338776	3.63	814525	2.404	Si
SLD 16	692	-15159	364431	3.59	808660	2.219	Si
SLV 13	482	-14234	-734831	3.37	778564	1.06	Si
SLV 13	692	-14551	716637	3.44	789176	1.101	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 56	482	-21662	-912	-43270		5.12	151	1.08	4580			5.02	Si
SLU 56	692	-21119	-912	110102		4.99	151	1.08	4580			5.02	Si
SLU 37	482	-20300	-920	-42068		4.8	151	1.08	4580			4.98	Si
SLU 37	692	-20365	-920	111384		4.82	151	1.08	4580			4.98	Si
SLU 77	482	-24056	-1045	-47653		5.69	151	1.08	4580			4.38	Si
SLU 77	692	-23885	-1045	126049		5.65	151	1.08	4580			4.39	Si
SLU 78	482	-23995	-920	-47003		5.68	151	1.08	4580			4.98	Si
SLU 78	692	-24144	-916	126099		5.71	151	1.08	4580			5	Si
SLU 74	482	-23262	-969	-41577		5.5	151	1.08	4580			4.73	Si
SLU 74	692	-23326	-969	117053		5.52	151	1.08	4580			4.73	Si
SLU 41	482	-20400	-925	-39411		4.82	151	1.08	4580			4.95	Si
SLU 41	692	-21010	-925	111299		4.97	151	1.08	4580			4.95	Si
SLU 81	482	-23056	-938	-37098		5.45	151	1.08	4580			4.88	Si
SLU 81	692	-23604	-938	113831		5.58	151	1.08	4580			4.88	Si
SLU 79	482	-23750	-1009	-45831		5.62	151	1.08	4580			4.54	Si
SLU 79	692	-23518	-1008	122913		5.56	151	1.08	4580			4.54	Si
SLU 35	482	-20606	-956	-43890		4.87	151	1.08	4580			4.79	Si
SLU 35	692	-20732	-956	114520		4.9	151	1.08	4580			4.79	Si
SLU 83	482	-23850	-1014	-43174		5.64	151	1.08	4580			4.52	Si
SLU 83	692	-24163	-1013	122827		5.71	151	1.08	4580			4.52	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	482	-15133	-9986	-765437		7.23	74.76	1.63	3402			0.34	No, Vu<V
SLV 16	692	-15020	-9631	764002		7.26	73.91	1.63	3363			0.35	No, Vu<V
SLV 1	482	-15896	8907	723266		6.31	90	1.63	4095			0.46	No, Vu<V
SLV 1	692	-15510	8552	-629700		5.29	104.7	1.63	4764			0.56	No, Vu<V



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	482	-16795	7101	692660		5.84	102.78	1.63	4676			0.66	No, Vu<V
SLV 3	692	-15979	6823	-582335		4.87	117.17	1.63	5331			0.78	No, Vu<V
SLV 13	482	-14234	-8180	-734831		7.1	71.62	1.63	3259			0.4	No, Vu<V
SLV 13	692	-14551	-7901	716637		6.6	78.75	1.63	3583			0.45	No, Vu<V
SLV 15	482	-15133	-9986	-765437		7.23	74.76	1.63	3402			0.34	No, Vu<V
SLV 15	692	-15020	-9631	764002		7.26	73.91	1.63	3363			0.35	No, Vu<V
SLV 11	482	-16764	-6112	-290810		3.96	151	1.63	6871			1.12	Si
SLV 11	692	-15903	-5890	348043		3.76	151	1.59	6704			1.14	Si
SLV 12	482	-16764	-6112	-290810		3.96	151	1.63	6871			1.12	Si
SLV 12	692	-15903	-5890	348043		3.76	151	1.59	6704			1.14	Si
SLV 2	482	-15896	8907	723266		6.31	90	1.63	4095			0.46	No, Vu<V
SLV 2	692	-15510	8552	-629700		5.29	104.7	1.63	4764			0.56	No, Vu<V
SLV 4	482	-16795	7101	692660		5.84	102.78	1.63	4676			0.66	No, Vu<V
SLV 4	692	-15979	6823	-582335		4.87	117.17	1.63	5331			0.78	No, Vu<V
SLV 14	482	-14234	-8180	-734831		7.1	71.62	1.63	3259			0.4	No, Vu<V
SLV 14	692	-14551	-7901	716637		6.6	78.75	1.63	3583			0.45	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.38	3.29	-13905	15735	142270	9.04	Si
SLV 9	14	0.38	3.29	-13905	15735	142270	9.04	Si
SLV 6	14	0.38	3.35	-14182	15735	144042	9.15	Si
SLV 5	14	0.38	3.35	-14182	15735	144042	9.15	Si
SLV 14	14	0.38	3.38	-14302	15735	144798	9.2	Si
SLV 13	14	0.38	3.38	-14302	15735	144798	9.2	Si
SLV 15	14	0.38	3.53	-14920	15735	148557	9.44	Si
SLV 16	14	0.38	3.53	-14920	15735	148557	9.44	Si
SLV 2	14	0.38	3.6	-15227	15735	150341	9.55	Si
SLV 1	14	0.38	3.6	-15227	15735	150341	9.55	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 658 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 10	-11769	-13767	162	0.032	14.082	0.956	47.894	874.063	No
SLV 9	-11769	-13767	162	0.032	14.082	0.956	47.894	874.063	No
SLV 6	-11687	-14265	161	0.032	13.999	0.956	47.928	874.063	No
SLV 5	-11687	-14265	161	0.032	13.999	0.956	47.928	874.063	No
SLV 7	-12403	-17263	-161	0.032	14.726	0.958	48.459	874.063	No
SLV 8	-12403	-17263	-161	0.032	14.726	0.958	48.459	874.063	No
SLV 11	-12485	-16764	-160	0.032	14.809	0.958	48.614	874.063	No
SLV 12	-12485	-16764	-160	0.032	14.809	0.958	48.614	874.063	No
SLV 13	-12114	-14234	50	0.04	14.433	0.957	60.761	949.98	No
SLV 14	-12114	-14234	50	0.04	14.433	0.957	60.761	949.98	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.322	SLV 78	Si
V_SLV	4.383	SLV 77	Si
PF_SLV	1.053	SLV 15	Si
V_SLV	0.341	SLV 15	No
PFFP_SLV	9.042	SLV 9	Si
R_SLV	0.055	SLV 9	No

## Maschio 127

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.3	104.6	-416.8	104.6	L4	L5	404.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 35	482	-42907	284477	3.79	4642110	16.318	Si
SLU 35	692	-41697	806812	3.68	4621800	5.728	Si
SLU 74	482	-50169	322547	4.43	4629123	14.352	Si
SLU 74	692	-47621	837615	4.2	4660008	5.563	Si
SLU 75	482	-50484	324170	4.46	4623322	14.262	Si
SLU 75	692	-47841	818663	4.22	4658462	5.69	Si
SLU 84	482	-51527	343496	4.55	4601017	13.395	Si
SLU 84	692	-49261	857311	4.35	4643384	5.416	Si
SLU 83	482	-51212	341874	4.52	4608261	13.479	Si
SLU 83	692	-49041	876263	4.33	4646301	5.302	Si
SLU 77	482	-51040	317470	4.51	4612025	14.527	Si
SLU 77	692	-48605	888970	4.29	4651450	5.232	Si
SLU 81	482	-50340	346950	4.44	4626016	13.333	Si
SLU 81	692	-48057	824908	4.24	4656740	5.645	Si
SLU 78	482	-51355	319093	4.53	4605019	14.432	Si
SLU 78	692	-48825	870018	4.31	4648954	5.344	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 80	482	-50688	312847	4.48	4619345	14.766	Si
SLU 80	692	-48098	853293	4.25	4656386	5.457	Si
SLU 79	482	-50372	311224	4.45	4625428	14.862	Si
SLU 79	692	-47878	872245	4.23	4658180	5.34	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 14	482	-39621	-1567317	3.5	5719089	3.649	Si
SLV 14	692	-42906	1215710	3.79	5987312	4.925	Si
SLV 15	482	-40330	-1477635	3.56	5779669	3.911	Si
SLV 15	692	-43658	1314226	3.85	6044297	4.599	Si
SLV 4	482	-29405	1979686	2.6	4683547	2.366	Si
SLV 4	692	-20631	-215076	1.82	3550537	16.508	Si
SLV 3	482	-29405	1979686	2.6	4683547	2.366	Si
SLV 3	692	-20631	-215076	1.82	3550537	16.508	Si
SLV 1	482	-28696	1890005	2.53	4600318	2.434	Si
SLV 1	692	-19878	-313592	1.76	3442911	10.979	Si
SLD 4	482	-32324	963299	2.85	5010496	5.201	Si
SLD 4	692	-27002	194260	2.38	4395568	22.627	Si
SLD 3	482	-32324	963299	2.85	5010496	5.201	Si
SLD 3	692	-27002	194260	2.38	4395568	22.627	Si
SLV 16	482	-40330	-1477635	3.56	5779669	3.911	Si
SLV 16	692	-43658	1314226	3.85	6044297	4.599	Si
SLV 13	482	-39621	-1567317	3.5	5719089	3.649	Si
SLV 13	692	-42906	1215710	3.79	5987312	4.925	Si
SLV 2	482	-28696	1890005	2.53	4600318	2.434	Si
SLV 2	692	-19878	-313592	1.76	3442911	10.979	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 42	482	-43394	-5400	310503		3.83	404.5	1.07	12078			2.24	Si
SLU 42	692	-42353	-5445	775153		3.74	404.5	1.05	11939			2.19	Si
SLU 79	482	-50372	-5659	311224		4.45	404.5	1.08	12270			2.17	Si
SLU 79	692	-47878	-5669	872245		4.23	404.5	1.08	12270			2.16	Si
SLU 37	482	-42239	-5422	278231		3.73	404.5	1.05	11924			2.2	Si
SLU 37	692	-40970	-5431	790087		3.62	404.5	1.04	11755			2.16	Si
SLU 78	482	-51355	-5560	319093		4.53	404.5	1.08	12270			2.21	Si
SLU 78	692	-48825	-5606	870018		4.31	404.5	1.08	12270			2.19	Si
SLU 84	482	-51527	-5637	343496		4.55	404.5	1.08	12270			2.18	Si
SLU 84	692	-49261	-5683	857311		4.35	404.5	1.08	12270			2.16	Si
SLU 35	482	-42907	-5529	284477		3.79	404.5	1.06	12013			2.17	Si
SLU 35	692	-41697	-5537	806812		3.68	404.5	1.05	11852			2.14	Si
SLU 36	482	-43222	-5323	286099		3.82	404.5	1.06	12055			2.26	Si
SLU 36	692	-41917	-5367	787860		3.7	404.5	1.05	11881			2.21	Si
SLU 41	482	-43079	-5606	308880		3.8	404.5	1.06	12036			2.15	Si
SLU 41	692	-42133	-5614	794105		3.72	404.5	1.05	11910			2.12	Si
SLU 83	482	-51212	-5843	341874		4.52	404.5	1.08	12270			2.1	Si
SLU 83	692	-49041	-5853	876263		4.33	404.5	1.08	12270			2.1	Si
SLU 77	482	-51040	-5765	317470		4.51	404.5	1.08	12270			2.13	Si
SLU 77	692	-48605	-5775	888970		4.29	404.5	1.08	12270			2.12	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 16	482	-36994	-10726	-513954		3.27	404.5	1.49	16837			1.57	Si
SLD 16	692	-36844	-10227	846488		3.25	404.5	1.48	16807			1.64	Si
SLD 15	482	-36994	-10726	-513954		3.27	404.5	1.49	16837			1.57	Si
SLD 15	692	-36844	-10227	846488		3.25	404.5	1.48	16807			1.64	Si
SLV 3	482	-29405	14823	1979686		2.6	404.5	1.35	15319			1.03	Si
SLV 3	692	-20631	13641	-215076		1.82	404.5	1.2	13564			0.99	No, Vu<V
SLV 4	482	-29405	14823	1979686		2.6	404.5	1.35	15319			1.03	Si
SLV 4	692	-20631	13641	-215076		1.82	404.5	1.2	13564			0.99	No, Vu<V
SLV 13	482	-39621	-20576	-1567317		3.5	404.5	1.53	17362			0.84	No, Vu<V
SLV 13	692	-42906	-19406	1215710		3.79	404.5	1.59	18020			0.93	No, Vu<V
SLV 14	482	-39621	-20576	-1567317		3.5	404.5	1.53	17362			0.84	No, Vu<V
SLV 14	692	-42906	-19406	1215710		3.79	404.5	1.59	18020			0.93	No, Vu<V
SLV 1	482	-28696	15526	1890005		2.53	404.5	1.34	15178			0.98	No, Vu<V
SLV 1	692	-19878	14323	-313592		1.76	404.5	1.18	13414			0.94	No, Vu<V
SLV 16	482	-40330	-21279	-1477635		3.56	404.5	1.55	17504			0.82	No, Vu<V
SLV 16	692	-43658	-20088	1314226		3.85	404.5	1.6	18170			0.9	No, Vu<V
SLV 2	482	-28696	15526	1890005		2.53	404.5	1.34	15178			0.98	No, Vu<V
SLV 2	692	-19878	14323	-313592		1.76	404.5	1.18	13414			0.94	No, Vu<V
SLV 15	482	-40330	-21279	-1477635		3.56	404.5	1.55	17504			0.82	No, Vu<V
SLV 15	692	-43658	-20088	1314226		3.85	404.5	1.6	18170			0.9	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 1	14	0.38	1.88	-21337	42150	252657	5.99	Si
SLV 2	14	0.38	1.88	-21337	42150	252657	5.99	Si
SLV 3	14	0.38	1.95	-22102	42150	260011	6.17	Si
SLV 4	14	0.38	1.95	-22102	42150	260011	6.17	Si
SLV 6	14	0.38	2.45	-27772	42150	310786	7.37	Si
SLV 5	14	0.38	2.45	-27772	42150	310786	7.37	Si
SLV 7	14	0.38	2.68	-30324	42150	331515	7.87	Si
SLV 8	14	0.38	2.68	-30324	42150	331515	7.87	Si
SLV 10	14	0.38	3.01	-34055	42150	359443	8.53	Si
SLV 9	14	0.38	3.01	-34055	42150	359443	8.53	Si



## Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 658 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 7	-26534	-34056	-535	0.027	32.65	0.95	40.939	874.063	No
SLV 8	-26534	-34056	-535	0.027	32.65	0.95	40.939	874.063	No
SLV 10	-28428	-34969	536	0.028	34.574	0.953	41.957	874.063	No
SLV 9	-28428	-34969	536	0.028	34.574	0.953	41.957	874.063	No
SLV 5	-25096	-31692	492	0.028	31.191	0.948	42.303	874.063	No
SLV 6	-25096	-31692	492	0.028	31.191	0.948	42.303	874.063	No
SLV 12	-29866	-37334	-491	0.029	36.034	0.954	44.719	874.063	No
SLV 11	-29866	-37334	-491	0.029	36.034	0.954	44.719	874.063	No
SLV 3	-22144	-29405	-226	0.037	28.196	0.943	56.274	949.98	No
SLV 4	-22144	-29405	-226	0.037	28.196	0.943	56.274	949.98	No

### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.232	SLU 77	Si
V_SLU	2.096	SLU 83	Si
PF_SLV	2.366	SLV 3	Si
V_SLV	0.823	SLV 15	No
PFFP_SLV	5.994	SLV 1	Si
R_SLV	0.047	SLV 7	No

## Maschio 129

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-972.8	220.1	-972.8	666.1	L4	L5	446	14	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 65	482	-30709	-298230	4.92	2713472	9.099	Si
SLU 65	834	-18422	-203794	2.95	2620213	12.857	Si
SLU 43	482	-27920	-324267	4.47	2808435	8.661	Si
SLU 43	834	-16664	-210084	2.67	2498557	11.893	Si
SLU 52	482	-31688	-379235	5.08	2663934	7.024	Si
SLU 52	834	-18968	-249730	3.04	2652459	10.621	Si
SLU 61	482	-33274	-396440	5.33	2565948	6.472	Si
SLU 61	834	-19938	-263257	3.19	2703280	10.269	Si
SLU 44	482	-27956	-331934	4.48	2807640	8.458	Si
SLU 44	834	-16686	-214266	2.67	2500249	11.669	Si
SLU 60	482	-33252	-391839	5.33	2567438	6.552	Si
SLU 60	834	-19925	-260748	3.19	2702642	10.365	Si
SLU 73	482	-34441	-345531	5.52	2479674	7.176	Si
SLU 73	834	-20705	-239258	3.32	2737659	11.442	Si
SLU 82	482	-36026	-362736	5.77	2343427	6.46	Si
SLU 82	834	-21675	-252784	3.47	2773716	10.973	Si
SLU 19	482	-27556	-312720	4.41	2815788	9.004	Si
SLU 19	834	-16550	-212014	2.65	2489799	11.744	Si
SLU 81	482	-36005	-358135	5.77	2345441	6.549	Si
SLU 81	834	-21661	-250275	3.47	2773279	11.081	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 9	482	-26248	-1006703	4.2	3839546	3.814	Si
SLV 9	834	-15022	-388552	2.41	2690287	6.924	Si
SLV 12	482	-21005	561865	3.36	3394522	6.042	Si
SLV 12	834	-13584	67886	2.18	2489861	36.677	Si
SLD 9	482	-24930	-564254	3.99	3742754	6.633	Si
SLD 9	834	-14664	-261455	2.35	2641499	10.103	Si
SLV 11	482	-21005	561865	3.36	3394522	6.042	Si
SLV 11	834	-13584	67886	2.18	2489861	36.677	Si
SLD 5	482	-25293	-582441	4.05	3770428	6.473	Si
SLD 5	834	-14769	-266242	2.37	2655916	9.976	Si
SLV 10	482	-26248	-1006703	4.2	3839546	3.814	Si
SLV 10	834	-15022	-388552	2.41	2690287	6.924	Si
SLD 6	482	-25293	-582441	4.05	3770428	6.473	Si
SLD 6	834	-14769	-266242	2.37	2655916	9.976	Si
SLV 6	482	-27106	-1050728	4.34	3897092	3.709	Si
SLV 6	834	-15265	-399850	2.44	2723063	6.81	Si
SLV 5	482	-27106	-1050728	4.34	3897092	3.709	Si
SLV 5	834	-15265	-399850	2.44	2723063	6.81	Si
SLD 10	482	-24930	-564254	3.99	3742754	6.633	Si
SLD 10	834	-14664	-261455	2.35	2641499	10.103	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma M = 3$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 27	482	-23933	1078	31970		3.83	446	1.07	6660			6.18	Si
SLU 27	834	-14700	1094	-25423		2.35	446	0.87	5429			4.96	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 72	482	-28901	1120	-20439		4.63	446	1.08	6764			6.04	Si
SLU 72	834	-17538	1136	-60747		2.81	446	0.93	5807			5.11	Si
SLU 8	482	-20409	1008	34177		3.27	446	0.99	6190			6.14	Si
SLU 8	834	-12400	1022	-17467		1.99	446	0.82	5122			5.01	Si
SLU 9	482	-20431	1002	29577		3.27	446	0.99	6193			6.18	Si
SLU 9	834	-12414	1016	-19976		1.99	446	0.82	5124			5.04	Si
SLU 29	482	-23162	1156	67881		3.71	446	1.05	6557			5.67	Si
SLU 29	834	-14137	1172	-6995		2.26	446	0.86	5354			4.57	Si
SLU 37	482	-26894	1103	20580		4.31	446	1.08	6764			6.13	Si
SLU 37	834	-16420	1119	-42459		2.63	446	0.91	5658			5.05	Si
SLU 38	482	-26916	1097	15980		4.31	446	1.08	6764			6.17	Si
SLU 38	834	-16433	1113	-44968		2.63	446	0.91	5660			5.08	Si
SLU 28	482	-23955	1072	27369		3.84	446	1.07	6663			6.22	Si
SLU 28	834	-14713	1087	-27932		2.36	446	0.87	5431			4.99	Si
SLU 30	482	-23183	1150	63281		3.71	446	1.05	6560			5.7	Si
SLU 30	834	-14150	1166	-9504		2.27	446	0.86	5356			4.59	Si
SLU 71	482	-28879	1126	-15838		4.63	446	1.08	6764			6.01	Si
SLU 71	834	-17525	1143	-58238		2.81	446	0.93	5805			5.08	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 8	482	-21863	7432	517840		3.5	446	1.53	9576			1.29	Si
SLV 8	834	-13828	5937	56588		2.21	446	1.28	7969			1.34	Si
SLD 7	482	-23182	3173	75391		3.71	446	1.58	9840			3.1	Si
SLD 7	834	-14186	2565	-70509		2.27	446	1.29	8040			3.13	Si
SLV 9	482	-26248	-7241	-1006703		4.2	446	1.63	10146			1.4	Si
SLV 9	834	-15022	-5737	-388552		2.41	446	1.31	8208			1.43	Si
SLD 8	482	-23182	3173	75391		3.71	446	1.58	9840			3.1	Si
SLD 8	834	-14186	2565	-70509		2.27	446	1.29	8040			3.13	Si
SLV 11	482	-21005	7113	561865		3.36	446	1.51	9404			1.32	Si
SLV 11	834	-13584	5503	67886		2.18	446	1.27	7920			1.44	Si
SLV 12	482	-21005	7113	561865		3.36	446	1.51	9404			1.32	Si
SLV 12	834	-13584	5503	67886		2.18	446	1.27	7920			1.44	Si
SLV 5	482	-27106	-6922	-1050728		4.34	446	1.63	10146			1.47	Si
SLV 5	834	-15265	-5303	-399850		2.44	446	1.32	8256			1.56	Si
SLV 10	482	-26248	-7241	-1006703		4.2	446	1.63	10146			1.4	Si
SLV 10	834	-15022	-5737	-388552		2.41	446	1.31	8208			1.43	Si
SLV 7	482	-21863	7432	517840		3.5	446	1.53	9576			1.29	Si
SLV 7	834	-13828	5937	56588		2.21	446	1.28	7969			1.34	Si
SLV 6	482	-27106	-6922	-1050728		4.34	446	1.63	10146			1.47	Si
SLV 6	834	-15265	-5303	-399850		2.44	446	1.32	8256			1.56	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.03 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 16	14	0.38	2.58	-16133	22181	89049	4.01	Si
SLV 15	14	0.38	2.58	-16133	22181	89049	4.01	Si
SLV 13	14	0.38	2.59	-16202	22181	89328	4.03	Si
SLV 14	14	0.38	2.59	-16202	22181	89328	4.03	Si
SLV 12	14	0.38	3.11	-19391	22181	101237	4.56	Si
SLV 11	14	0.38	3.11	-19391	22181	101237	4.56	Si
SLV 10	14	0.38	3.14	-19621	22181	102025	4.6	Si
SLV 9	14	0.38	3.14	-19621	22181	102025	4.6	Si
SLV 7	14	0.38	3.56	-22253	22181	110336	4.97	Si
SLV 8	14	0.38	3.56	-22253	22181	110336	4.97	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 658 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 16	-13803	-21839	-87	0.017	17.162	0.948	25.855	1649.477	No
SLV 15	-13803	-21839	-87	0.017	17.162	0.948	25.855	1649.477	No
SLV 1	-15047	-26273	88	0.017	18.425	0.951	25.977	1649.477	No
SLV 2	-15047	-26273	88	0.017	18.425	0.951	25.977	1649.477	No
SLV 3	-14615	-24700	75	0.018	17.987	0.95	27.146	1649.477	No
SLV 4	-14615	-24700	75	0.018	17.987	0.95	27.146	1649.477	No
SLV 14	-14234	-23412	-73	0.018	17.6	0.949	27.232	1649.477	No
SLV 13	-14234	-23412	-73	0.018	17.6	0.949	27.232	1649.477	No
SLV 6	-15265	-27106	48	0.019	18.647	0.952	29.63	1649.477	No
SLV 5	-15265	-27106	48	0.019	18.647	0.952	29.63	1649.477	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.46	SLU 82	Si
V_SLU	4.567	SLU 29	Si
PF_SLV	3.709	SLV 5	Si
V_SLV	1.289	SLV 7	Si
PFFP_SLV	4.015	SLV 15	Si
R_SLV	0.016	SLV 15	No

## Maschio 130

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-944.8	-335.9	-1100.3	-335.9	L4	L5	155.5	28	352	352	352			



## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 76	482	-14097	50608	3.24	660394	13.049	Si
SLU 76	692	-14095	-151945	3.24	660362	4.346	Si
SLU 83	482	-14625	44069	3.36	668201	15.162	Si
SLU 83	692	-14538	-152214	3.34	667006	4.382	Si
SLU 75	482	-14149	48215	3.25	661226	13.714	Si
SLU 75	692	-14131	-150970	3.25	660938	4.378	Si
SLU 31	482	-11052	53409	2.54	591519	11.075	Si
SLU 31	692	-11380	-140031	2.61	600903	4.291	Si
SLU 81	482	-14081	50015	3.23	660135	13.199	Si
SLU 81	692	-14100	-158129	3.24	660438	4.177	Si
SLU 40	482	-11544	52921	2.65	605407	11.44	Si
SLU 40	692	-11881	-146839	2.73	614291	4.183	Si
SLU 39	482	-11580	46871	2.66	606374	12.937	Si
SLU 39	692	-11824	-140300	2.72	612826	4.368	Si
SLU 73	482	-13553	56553	3.11	651069	11.513	Si
SLU 73	692	-13656	-157860	3.14	652941	4.136	Si
SLU 84	482	-14589	50120	3.35	667711	13.322	Si
SLU 84	692	-14595	-158754	3.35	667794	4.206	Si
SLU 82	482	-14045	56065	3.23	659560	11.764	Si
SLU 82	692	-14156	-164669	3.25	661336	4.016	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 8	482	-4244	232655	0.97	303632	1.305	Si
SLV 8	692	-7194	-225728	1.65	483698	2.143	Si
SLV 1	482	-8611	399495	1.98	561155	1.405	Si
SLV 1	692	-14950	-479364	3.43	835703	1.743	Si
SLV 16	482	-10929	-341044	2.51	675148	1.98	Si
SLV 16	692	-4199	287423	0.96	300680	1.046	Si
SLV 14	482	-13779	-391877	3.16	793849	2.026	Si
SLV 14	692	-6396	295537	1.47	437527	1.48	Si
SLV 15	482	-10929	-341044	2.51	675148	1.98	Si
SLV 15	692	-4199	287423	0.96	300680	1.046	Si
SLV 4	482	-5761	450329	0	0	0	No, e>l/2
SLV 4	692	-12752	-487478	2.93	753801	1.546	Si
SLV 13	482	-13779	-391877	3.16	793849	2.026	Si
SLV 13	692	-6396	295537	1.47	437527	1.48	Si
SLV 7	482	-4244	232655	0.97	303632	1.305	Si
SLV 7	692	-7194	-225728	1.65	483698	2.143	Si
SLV 2	482	-8611	399495	1.98	561155	1.405	Si
SLV 2	692	-14950	-479364	3.43	835703	1.743	Si
SLV 3	482	-5761	450329	0	0	0	No, e>l/2
SLV 3	692	-12752	-487478	2.93	753801	1.546	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 82	482	-14045	1804	56065		3.23	155.5	0.99	4292			2.38	Si
SLU 82	692	-14156	2377	-164669		3.25	155.5	0.99	4306			1.81	Si
SLU 40	482	-11544	1606	52921		2.65	155.5	0.91	3958			2.46	Si
SLU 40	692	-11881	2116	-146839		2.73	155.5	0.92	4003			1.89	Si
SLU 83	482	-14625	1624	44069		3.36	155.5	1	4369			2.69	Si
SLU 83	692	-14538	2173	-152214		3.34	155.5	1	4357			2.01	Si
SLU 61	482	-13260	1517	44598		3.05	155.5	0.96	4187			2.76	Si
SLU 61	692	-13016	2080	-144304		2.99	155.5	0.95	4154			2	Si
SLU 75	482	-14149	1690	48215		3.25	155.5	0.99	4305			2.55	Si
SLU 75	692	-14131	2109	-150970		3.25	155.5	0.99	4303			2.04	Si
SLU 81	482	-14081	1707	50015		3.23	155.5	0.99	4296			2.52	Si
SLU 81	692	-14100	2323	-158129		3.24	155.5	0.99	4299			1.85	Si
SLU 73	482	-13553	1800	56553		3.11	155.5	0.97	4226			2.35	Si
SLU 73	692	-13656	2245	-157860		3.14	155.5	0.97	4240			1.89	Si
SLU 39	482	-11580	1509	46871		2.66	155.5	0.91	3963			2.63	Si
SLU 39	692	-11824	2062	-140300		2.72	155.5	0.92	3995			1.94	Si
SLU 31	482	-11052	1602	53409		2.54	155.5	0.89	3892			2.43	Si
SLU 31	692	-11380	1984	-140031		2.61	155.5	0.9	3936			1.98	Si
SLU 84	482	-14589	1722	50120		3.35	155.5	1	4364			2.53	Si
SLU 84	692	-14595	2226	-158754		3.35	155.5	1	4365			1.96	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	482	-8611	7200	399495		3.27	94.07	1.49	3917			0.54	No, Vu<V
SLV 2	692	-14950	6083	-479364		3.9	137.05	1.61	6188			1.02	Si
SLV 4	482	-5761	7944	450329		0	0	0.83	0			0	No, Vu<V
SLV 4	692	-12752	7316	-487478		3.84	118.56	1.6	5317			0.73	No, Vu<V
SLV 3	482	-5761	7944	450329		0	0	0.83	0			0	No, Vu<V
SLV 3	692	-12752	7316	-487478		3.84	118.56	1.6	5317			0.73	No, Vu<V
SLV 13	482	-13779	-5708	-391877		3.33	147.93	1.5	6208			1.09	Si
SLV 13	692	-6396	-4509	295537		2.41	94.64	1.32	3488			0.77	No, Vu<V
SLV 14	482	-13779	-5708	-391877		3.33	147.93	1.5	6208			1.09	Si
SLV 14	692	-6396	-4509	295537		2.41	94.64	1.32	3488			0.77	No, Vu<V
SLV 8	482	-4244	4294	232655		2.2	68.78	1.27	2454			0.57	No, Vu<V
SLV 8	692	-7194	5047	-225728		1.85	139.12	1.2	4685			0.93	No, Vu<V
SLV 16	482	-10929	-4964	-341044		2.8	139.63	1.39	5444			1.1	Si





Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	692	-4199	-3276	287423		5.38	27.88	1.63	1269			0.39	No, Vu<V
SLV 15	482	-10929	-4964	-341044		2.8	139.63	1.39	5444			1.1	Si
SLV 15	692	-4199	-3276	287423		5.38	27.88	1.63	1269			0.39	No, Vu<V
SLV 1	482	-8611	7200	399495		3.27	94.07	1.49	3917			0.54	No, Vu<V
SLV 1	692	-14950	6083	-479364		3.9	137.05	1.61	6188			1.02	Si
SLV 7	482	-4244	4294	232655		2.2	68.78	1.27	2454			0.57	No, Vu<V
SLV 7	692	-7194	5047	-225728		1.85	139.12	1.2	4685			0.93	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 16	14	0.38	0.98	-4252	15835	54776	3.46	Si
SLV 15	14	0.38	0.98	-4252	15835	54776	3.46	Si
SLV 11	14	0.38	1.16	-5039	15835	63865	4.03	Si
SLV 12	14	0.38	1.16	-5039	15835	63865	4.03	Si
SLV 13	14	0.38	1.46	-6342	15835	78200	4.94	Si
SLV 14	14	0.38	1.46	-6342	15835	78200	4.94	Si
SLV 8	14	0.38	1.79	-7802	15835	93214	5.89	Si
SLV 7	14	0.38	1.79	-7802	15835	93214	5.89	Si
SLV 10	14	0.38	2.76	-12003	15835	130129	8.22	Si
SLV 9	14	0.38	2.76	-12003	15835	130129	8.22	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 658 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 7	-3394	-4244	-217	0.006	5.688	0.907	9.365	874.063	No
SLV 8	-3394	-4244	-217	0.006	5.688	0.907	9.365	874.063	No
SLV 12	-3882	-5794	-182	0.016	6.173	0.912	25.024	874.063	No
SLV 11	-3882	-5794	-182	0.016	6.173	0.912	25.024	874.063	No
SLV 10	-10786	-15296	268	0.022	13.146	0.952	34.02	874.063	No
SLV 9	-10786	-15296	268	0.022	13.146	0.952	34.02	874.063	No
SLV 5	-10298	-13746	232	0.025	12.65	0.95	37.583	874.063	No
SLV 6	-10298	-13746	232	0.025	12.65	0.95	37.583	874.063	No
SLV 13	-8939	-13779	152	0.03	11.272	0.945	46.74	949.98	No
SLV 14	-8939	-13779	152	0.03	11.272	0.945	46.74	949.98	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.016	SLU 82	Si
V_SLU	1.812	SLU 82	Si
PF_SLV	0	SLV 3	No
V_SLV	0	SLV 3	No
PFFP_SLV	3.459	SLV 15	Si
R_SLV	0.011	SLV 7	No

## Maschio 131

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-626.8	-335.9	-626.8	104.6	L4	L5	440.5	14	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 75	482	-32157	308700	5.21	2548846	8.257	Si
SLU 75	834	-20900	426688	3.39	2688091	6.3	Si
SLU 84	482	-33242	324772	5.39	2476693	7.626	Si
SLU 84	834	-21442	435323	3.48	2706858	6.218	Si
SLU 73	482	-31303	263260	5.08	2598357	9.87	Si
SLU 73	834	-19850	433227	3.22	2644423	6.104	Si
SLU 76	482	-31999	286549	5.19	2558459	8.929	Si
SLU 76	834	-20509	446060	3.33	2672974	5.992	Si
SLU 68	482	-28658	235514	4.65	2711126	11.512	Si
SLU 68	834	-18407	399387	2.98	2568617	6.431	Si
SLU 78	482	-32853	331989	5.33	2503734	7.542	Si
SLU 78	834	-21559	439522	3.5	2710571	6.167	Si
SLU 34	482	-27279	260926	4.42	2745607	10.523	Si
SLU 34	834	-17480	402189	2.83	2510316	6.242	Si
SLU 31	482	-26582	237637	4.31	2756678	11.6	Si
SLU 31	834	-16820	389356	2.73	2464249	6.329	Si
SLU 80	482	-32507	326188	5.27	2526716	7.746	Si
SLU 80	834	-21200	428154	3.44	2698809	6.303	Si
SLU 82	482	-32546	301483	5.28	2524181	8.373	Si
SLU 82	834	-20783	422489	3.37	2683701	6.352	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 5	482	-25139	-72523	4.08	3689656	50.876	Si
SLV 5	834	-14932	422318	2.42	2637012	6.244	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 6	482	-25139	-72523	4.08	3689656	50.876	Si
SLV 6	834	-14932	422318	2.42	2637012	6.244	Si
SLV 11	482	-17618	461928	2.86	2973160	6.436	Si
SLV 11	834	-12732	56287	2.06	2330367	41.401	Si
SLV 4	482	-24083	631004	3.91	3609005	5.719	Si
SLV 4	834	-13204	477547	2.14	2398602	5.023	Si
SLV 2	482	-25706	411858	4.17	3730296	9.057	Si
SLV 2	834	-13913	538946	2.26	2498577	4.636	Si
SLV 12	482	-17618	461928	2.86	2973160	6.436	Si
SLV 12	834	-12732	56287	2.06	2330367	41.401	Si
SLV 8	482	-19728	657965	3.2	3207506	4.875	Si
SLV 8	834	-12568	217654	2.04	2306405	10.597	Si
SLV 7	482	-19728	657965	3.2	3207506	4.875	Si
SLV 7	834	-12568	217654	2.04	2306405	10.597	Si
SLV 3	482	-24083	631004	3.91	3609005	5.719	Si
SLV 3	834	-13204	477547	2.14	2398602	5.023	Si
SLV 1	482	-25706	411858	4.17	3730296	9.057	Si
SLV 1	834	-13913	538946	2.26	2498577	4.636	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 71	482	-28882	1102	299677		4.68	440.5	1.08	6681			6.06	Si
SLU 71	834	-19145	1096	335371		3.1	440.5	0.97	5979			5.46	Si
SLU 31	482	-26582	-1293	237637		4.31	440.5	1.08	6681			5.17	Si
SLU 31	834	-16820	-603	389356		2.73	440.5	0.92	5669			9.41	Si
SLU 2	482	-19959	-1372	120304		3.24	440.5	0.99	6087			4.44	Si
SLU 2	834	-12525	-681	286871		2.03	440.5	0.83	5096			7.48	Si
SLU 65	482	-27962	-1212	212224		4.53	440.5	1.08	6681			5.51	Si
SLU 65	834	-17747	-522	386554		2.88	440.5	0.94	5792			11.11	Si
SLU 52	482	-28020	-1335	196963		4.54	440.5	1.08	6681			5	Si
SLU 52	834	-17657	-646	377414		2.86	440.5	0.94	5780			8.94	Si
SLU 29	482	-24161	1043	274054		3.92	440.5	1.08	6648			6.37	Si
SLU 29	834	-16116	1038	291500		2.61	440.5	0.9	5575			5.37	Si
SLU 23	482	-23241	-1271	186601		3.77	440.5	1.06	6525			5.14	Si
SLU 23	834	-14718	-579	342683		2.39	440.5	0.87	5388			9.3	Si
SLU 10	482	-23300	-1394	171340		3.78	440.5	1.06	6533			4.68	Si
SLU 10	834	-14628	-704	333544		2.37	440.5	0.87	5376			7.63	Si
SLU 44	482	-24679	-1313	145927		4	440.5	1.08	6681			5.09	Si
SLU 44	834	-15554	-623	330742		2.52	440.5	0.89	5500			8.82	Si
SLU 73	482	-31303	-1234	263260		5.08	440.5	1.08	6681			5.42	Si
SLU 73	834	-19850	-545	433227		3.22	440.5	0.98	6073			11.15	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 8	482	-19728	10197	657965		3.2	440.5	1.47	9085			0.89	No, Vu<V
SLV 8	834	-12568	8788	217654		2.04	440.5	1.24	7653			0.87	No, Vu<V
SLV 9	482	-23029	-9525	-268560		3.73	440.5	1.58	9745			1.02	Si
SLV 9	834	-15095	-8126	260951		2.45	440.5	1.32	8158			1	Si
SLD 12	482	-19794	4500	307221		3.21	440.5	1.48	9098			2.02	Si
SLD 12	834	-13373	3991	162179		2.17	440.5	1.27	7814			1.96	Si
SLV 11	482	-17618	10211	461928		2.86	440.5	1.4	8663			0.85	No, Vu<V
SLV 11	834	-12732	9024	56287		2.06	440.5	1.25	7686			0.85	No, Vu<V
SLV 6	482	-25139	-9539	-72523		4.08	440.5	1.63	10021			1.05	Si
SLV 6	834	-14932	-8361	422318		2.42	440.5	1.32	8125			0.97	No, Vu<V
SLD 11	482	-19794	4500	307221		3.21	440.5	1.48	9098			2.02	Si
SLD 11	834	-13373	3991	162179		2.17	440.5	1.27	7814			1.96	Si
SLV 5	482	-25139	-9539	-72523		4.08	440.5	1.63	10021			1.05	Si
SLV 5	834	-14932	-8361	422318		2.42	440.5	1.32	8125			0.97	No, Vu<V
SLV 12	482	-17618	10211	461928		2.86	440.5	1.4	8663			0.85	No, Vu<V
SLV 12	834	-12732	9024	56287		2.06	440.5	1.25	7686			0.85	No, Vu<V
SLV 10	482	-23029	-9525	-268560		3.73	440.5	1.58	9745			1.02	Si
SLV 10	834	-15095	-8126	260951		2.45	440.5	1.32	8158			1	Si
SLV 7	482	-19728	10197	657965		3.2	440.5	1.47	9085			0.89	No, Vu<V
SLV 7	834	-12568	8788	217654		2.04	440.5	1.24	7653			0.87	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.03 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.38	2.54	-15650	23994	86798	3.62	Si
SLV 8	14	0.38	2.54	-15650	23994	86798	3.62	Si
SLV 12	14	0.38	2.56	-15782	23994	87337	3.64	Si
SLV 11	14	0.38	2.56	-15782	23994	87337	3.64	Si
SLV 4	14	0.38	2.77	-17103	23994	92549	3.86	Si
SLV 3	14	0.38	2.77	-17103	23994	92549	3.86	Si
SLV 16	14	0.38	2.84	-17543	23994	94213	3.93	Si
SLV 15	14	0.38	2.84	-17543	23994	94213	3.93	Si
SLV 1	14	0.38	3	-18481	23994	97638	4.07	Si
SLV 2	14	0.38	3	-18481	23994	97638	4.07	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 658 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	$\alpha_{lim}$	Verifica
SLV 2	-13913	-25706	9	0.022	17.235	0.949	33.322	1649.477	No
SLV 1	-13913	-25706	9	0.022	17.235	0.949	33.322	1649.477	No
SLV 16	-13750	-17051	-9	0.022	17.07	0.948	33.355	1649.477	No
SLV 15	-13750	-17051	-9	0.022	17.07	0.948	33.355	1649.477	No
SLV 13	-14459	-18674	-7	0.022	17.79	0.95	33.359	1649.477	No
SLV 14	-14459	-18674	-7	0.022	17.79	0.95	33.359	1649.477	No
SLV 6	-14932	-25139	6	0.022	18.269	0.951	33.365	1649.477	No



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 5	-14932	-25139	6	0.022	18.269	0.951	33.365	1649.477	No
SLV 4	-13204	-24083	7	0.022	16.516	0.947	33.734	1649.477	No
SLV 3	-13204	-24083	7	0.022	16.516	0.947	33.734	1649.477	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.992	SLU 76	Si
V_SLU	4.435	SLU 2	Si
PF_SLV	4.636	SLV 1	Si
V_SLV	0.848	SLV 11	No
PFFP_SLV	3.618	SLV 7	Si
R_SLV	0.02	SLV 1	No

## Maschio 132

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X inl.	Y inl.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h inl.	h fin.	a	a.s.,sx	a.s.,dx
-741.3	-335.9	-854.8	-335.9	L4	L5	113.5	28	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 83	572	-12417	16551	3.91	366671	22.154	Si
SLU 83	752	-10133	-111336	3.19	349963	3.143	Si
SLU 65	572	-10427	36616	3.28	353391	9.651	Si
SLU 65	752	-8069	-103123	2.54	315181	3.056	Si
SLU 73	572	-11418	38415	3.59	362176	9.428	Si
SLU 73	752	-9100	-113470	2.86	334883	2.951	Si
SLU 52	572	-10530	35207	3.31	354506	10.069	Si
SLU 52	752	-8168	-103376	2.57	317281	3.069	Si
SLU 76	572	-11814	32087	3.72	364480	11.359	Si
SLU 76	752	-9307	-111175	2.93	338280	3.043	Si
SLU 61	572	-11026	29454	3.47	359218	12.196	Si
SLU 61	752	-8764	-106101	2.76	328976	3.101	Si
SLU 81	572	-12022	22878	3.78	365414	15.972	Si
SLU 81	752	-9926	-113631	3.12	347317	3.057	Si
SLU 84	572	-12310	26335	3.87	366398	13.913	Si
SLU 84	752	-9902	-113900	3.12	347001	3.047	Si
SLU 75	572	-11959	27755	3.76	365152	13.156	Si
SLU 75	752	-9585	-112160	3.02	342547	3.054	Si
SLU 82	572	-11914	32662	3.75	364955	11.174	Si
SLU 82	752	-9695	-116195	3.05	344145	2.962	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 12	572	-4012	-181115	1.26	204141	1.127	Si
SLV 12	752	1706	141831	0	0	0	No, Trazione
SLV 8	572	-2916	18573	0.92	153061	8.241	Si
SLV 8	752	382	8370	0	0	0	No, Trazione
SLV 15	572	-8637	-346393	2.72	381138	1.1	Si
SLV 15	752	-2095	191221	0	0	0	No, e>l/2
SLV 1	572	-7855	377255	2.47	355594	0.943	No, M>Mu
SLV 1	752	-11090	-344773	3.49	449623	1.304	Si
SLV 4	572	-4986	319234	0	0	0	No, e>l/2
SLV 4	752	-6508	-253647	2.05	307433	1.212	Si
SLV 7	572	-2916	18573	0.92	153061	8.241	Si
SLV 7	752	382	8370	0	0	0	No, Trazione
SLV 11	572	-4012	-181115	1.26	204141	1.127	Si
SLV 11	752	1706	141831	0	0	0	No, Trazione
SLV 3	572	-4986	319234	0	0	0	No, e>l/2
SLV 3	752	-6508	-253647	2.05	307433	1.212	Si
SLV 16	572	-8637	-346393	2.72	381138	1.1	Si
SLV 16	752	-2095	191221	0	0	0	No, e>l/2
SLV 2	572	-7855	377255	2.47	355594	0.943	No, M>Mu
SLV 2	752	-11090	-344773	3.49	449623	1.304	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma M = 3$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 73	572	-11418	776	38415		3.59	113.5	1.03	3288			4.24	Si
SLU 73	752	-9100	306	-113470		2.86	113.5	0.94	2979			9.72	Si
SLU 10	572	-8522	637	32106		2.68	113.5	0.91	2902			4.56	Si
SLU 10	752	-6678	283	-85556		2.1	113.5	0.84	2656			9.4	Si
SLU 76	572	-11814	669	32087		3.72	113.5	1.05	3341			5	Si
SLU 76	752	-9307	243	-111175		2.93	113.5	0.95	3006			12.39	Si
SLU 68	572	-10823	653	30289		3.41	113.5	1.01	3209			4.92	Si
SLU 68	752	-8276	260	-100828		2.6	113.5	0.9	2869			11.01	Si
SLU 52	572	-10530	706	35207		3.31	113.5	1	3170			4.49	Si
SLU 52	752	-8168	334	-103376		2.57	113.5	0.9	2855			8.55	Si
SLU 65	572	-10427	759	36616		3.28	113.5	0.99	3156			4.16	Si
SLU 65	752	-8069	324	-103123		2.54	113.5	0.89	2841			8.76	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 23	572	-8419	691	33516		2.65	113.5	0.91	2888			4.18	Si
SLU 23	752	-6579	273	-85303		2.07	113.5	0.83	2643			9.68	Si
SLU 44	572	-9539	690	33409		3	113.5	0.96	3037			4.4	Si
SLU 44	752	-7137	352	-93029		2.25	113.5	0.86	2717			7.73	Si
SLU 31	572	-9410	707	35314		2.96	113.5	0.95	3020			4.27	Si
SLU 31	752	-7609	255	-95650		2.39	113.5	0.87	2780			10.89	Si
SLU 2	572	-7530	621	30308		2.37	113.5	0.87	2770			4.46	Si
SLU 2	752	-5647	300	-75209		1.78	113.5	0.79	2518			8.38	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	572	-4986	6206	319234		0	0	0.83	0			0	No, Vu<V
SLV 4	752	-6508	2293	-253647		4.36	53.33	1.63	2426			1.06	Si
SLV 8	572	-2916	1376	18573		0.92	113.5	1.02	3232			2.35	Si
SLV 8	752	382	773	8370		0	0	0.83	0			0	No, Vu<V
SLV 3	572	-4986	6206	319234		0	0	0.83	0			0	No, Vu<V
SLV 3	752	-6508	2293	-253647		4.36	53.33	1.63	2426			1.06	Si
SLV 12	572	-4012	-2289	-181115		4.12	34.81	1.63	1584			0.69	No, Vu<V
SLV 12	752	1706	-528	141831		0	0	0.83	0			0	No, Vu<V
SLV 16	572	-8637	-6012	-346393		6.18	49.94	1.63	2272			0.38	No, Vu<V
SLV 16	752	-2095	-2042	191221		0	0	0.83	0			0	No, Vu<V
SLV 1	572	-7855	6681	377255		10.72	26.17	1.63	1191			0.18	No, Vu<V
SLV 1	752	-11090	2295	-344773		5.14	76.99	1.63	3503			1.53	Si
SLV 15	572	-8637	-6012	-346393		6.18	49.94	1.63	2272			0.38	No, Vu<V
SLV 15	752	-2095	-2042	191221		0	0	0.83	0			0	No, Vu<V
SLV 7	572	-2916	1376	18573		0.92	113.5	1.02	3232			2.35	Si
SLV 7	752	382	773	8370		0	0	0.83	0			0	No, Vu<V
SLV 11	572	-4012	-2289	-181115		4.12	34.81	1.63	1584			0.69	No, Vu<V
SLV 11	752	1706	-528	141831		0	0	0.83	0			0	No, Vu<V
SLV 2	572	-7855	6681	377255		10.72	26.17	1.63	1191			0.18	No, Vu<V
SLV 2	752	-11090	2295	-344773		5.14	76.99	1.63	3503			1.53	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.38	0.36	-1150	11558	15622	1.35	Si
SLV 8	14	0.38	0.36	-1150	11558	15622	1.35	Si
SLV 4	14	0.38	0.84	-2656	11558	34639	3	Si
SLV 3	14	0.38	0.84	-2656	11558	34639	3	Si
SLV 11	14	0.38	1.02	-3232	11558	41487	3.59	Si
SLV 12	14	0.38	1.02	-3232	11558	41487	3.59	Si
SLV 1	14	0.38	1.9	-6029	11558	71304	6.17	Si
SLV 2	14	0.38	1.9	-6029	11558	71304	6.17	Si
SLV 16	14	0.38	3.02	-9598	11558	101157	8.75	Si
SLV 15	14	0.38	3.02	-9598	11558	101157	8.75	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 658 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 12	1112	-5099	-84	0	0	0	0	874.063	No, Trazione
SLV 11	1112	-5099	-84	0	0	0	0	874.063	No, Trazione
SLV 8	-251	-7307	-88	0.002	2.137	0.926	2.444	874.063	No
SLV 7	-251	-7307	-88	0.002	2.137	0.926	2.444	874.063	No
SLV 9	-9873	-7965	84	0.036	11.629	0.96	54.097	874.063	No
SLV 10	-9873	-7965	84	0.036	11.629	0.96	54.097	874.063	No
SLV 5	-11236	-10172	80	0.037	13.015	0.964	55.055	874.063	No
SLV 6	-11236	-10172	80	0.037	13.015	0.964	55.055	874.063	No
SLV 3	-5686	-10884	-34	0.041	7.377	0.94	62.9	949.98	No
SLV 4	-5686	-10884	-34	0.041	7.377	0.94	62.9	949.98	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.951	SLU 73	Si
V_SLU	4.155	SLU 65	Si
PF_SLV	0	SLV 12	No
V_SLV	0	SLV 3	No
PFFP_SLV	1.352	SLV 7	Si
R_SLV	0	SLV 12	No

## Maschio 133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-515.8	104.6	-515.8	581.1	L4	L5	476.5	14	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 9	482	-25278	8441	3.79	3220973	381.593	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 9	834	-20676	297425	3.1	3051773	10.261	Si
SLU 60	482	-31626	-122030	4.74	3149655	25.811	Si
SLU 60	834	-20434	-264082	3.06	3037726	11.503	Si
SLU 61	482	-31553	-128329	4.73	3152484	24.566	Si
SLU 61	834	-20427	-282260	3.06	3037282	10.761	Si
SLU 29	482	-29403	1152	4.41	3214827	1000	Si
SLU 29	834	-23894	339336	3.58	3189623	9.4	Si
SLU 19	482	-26451	-115882	3.97	3234408	27.911	Si
SLU 19	834	-17175	-243326	2.57	2798667	11.502	Si
SLU 72	482	-34431	-17595	5.16	3005524	170.82	Si
SLU 72	834	-27138	282225	4.07	3236673	11.468	Si
SLU 71	482	-34504	-11295	5.17	3000851	265.673	Si
SLU 71	834	-27146	300403	4.07	3236674	10.774	Si
SLU 30	482	-29330	-5148	4.4	3216233	624.787	Si
SLU 30	834	-23887	321158	3.58	3189407	9.931	Si
SLU 27	482	-29611	-13677	4.44	3210559	234.748	Si
SLU 27	834	-23793	282116	3.57	3186666	11.296	Si
SLU 8	482	-25351	14740	3.8	3222161	218.596	Si
SLU 8	834	-20684	315603	3.1	3052200	9.671	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 13	482	-23714	-454305	3.55	4006171	8.818	Si
SLV 13	834	-16464	-128801	2.47	3130236	24.303	Si
SLV 4	482	-23829	311475	3.57	4017539	12.898	Si
SLV 4	834	-15455	-111943	2.32	2984033	26.657	Si
SLV 9	482	-19631	-410111	2.94	3550648	8.658	Si
SLV 9	834	-11846	-291704	1.78	2412119	8.269	Si
SLV 2	482	-21110	163896	3.16	3726910	22.74	Si
SLV 2	834	-12643	-223241	1.9	2545007	11.4	Si
SLV 3	482	-23829	311475	3.57	4017539	12.898	Si
SLV 3	834	-15455	-111943	2.32	2984033	26.657	Si
SLV 14	482	-23714	-454305	3.55	4006171	8.818	Si
SLV 14	834	-16464	-128801	2.47	3130236	24.303	Si
SLV 1	482	-21110	163896	3.16	3726910	22.74	Si
SLV 1	834	-12643	-223241	1.9	2545007	11.4	Si
SLV 6	482	-18850	-224651	2.83	3452383	15.368	Si
SLV 6	834	-10700	-320036	1.6	2214568	6.92	Si
SLV 5	482	-18850	-224651	2.83	3452383	15.368	Si
SLV 5	834	-10700	-320036	1.6	2214568	6.92	Si
SLV 10	482	-19631	-410111	2.94	3550648	8.658	Si
SLV 10	834	-11846	-291704	1.78	2412119	8.269	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 32	482	-31175	849	-86351		4.67	476.5	1.08	7227			8.51	Si
SLU 32	834	-22578	312	-12758		3.38	476.5	1.01	6716			21.53	Si
SLU 74	482	-36277	867	-98798		5.44	476.5	1.08	7227			8.33	Si
SLU 74	834	-25829	249	-51691		3.87	476.5	1.07	7150			28.67	Si
SLU 81	482	-35678	982	-135618		5.35	476.5	1.08	7227			7.36	Si
SLU 81	834	-23645	377	-240348		3.54	476.5	1.03	6859			18.17	Si
SLU 84	482	-37462	881	-106038		5.62	476.5	1.08	7227			8.2	Si
SLU 84	834	-26726	217	-49398		4.01	476.5	1.08	7227			33.27	Si
SLU 82	482	-35605	917	-141918		5.34	476.5	1.08	7227			7.88	Si
SLU 82	834	-23637	298	-258526		3.54	476.5	1.03	6858			23.01	Si
SLU 39	482	-30576	965	-123171		4.58	476.5	1.08	7227			7.49	Si
SLU 39	834	-20393	440	-201415		3.06	476.5	0.96	6425			14.6	Si
SLU 40	482	-30503	899	-129471		4.57	476.5	1.08	7227			8.04	Si
SLU 40	834	-20386	361	-219593		3.06	476.5	0.96	6424			17.82	Si
SLU 41	482	-32433	929	-87291		4.86	476.5	1.08	7227			7.78	Si
SLU 41	834	-23482	359	7714		3.52	476.5	1.02	6837			19.04	Si
SLU 42	482	-32360	864	-93591		4.85	476.5	1.08	7227			8.37	Si
SLU 42	834	-23474	280	-10464		3.52	476.5	1.02	6836			24.44	Si
SLU 83	482	-37535	947	-99738		5.63	476.5	1.08	7227			7.63	Si
SLU 83	834	-26733	297	-31220		4.01	476.5	1.08	7227			24.36	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 7	482	-27912	8946	267282		4.18	476.5	1.63	10840			1.21	Si
SLV 7	834	-20073	7790	50960		3.01	476.5	1.44	9574			1.23	Si
SLV 5	482	-18850	-10943	-224651		2.83	476.5	1.4	9329			0.85	No, Vu<V
SLV 5	834	-10700	-9801	-320036		1.6	476.5	1.15	7699			0.79	No, Vu<V
SLV 15	482	-26433	8320	-306725		3.96	476.5	1.63	10840			1.3	Si
SLV 15	834	-19276	6284	-17503		2.89	476.5	1.41	9414			1.5	Si
SLV 8	482	-27912	8946	267282		4.18	476.5	1.63	10840			1.21	Si
SLV 8	834	-20073	7790	50960		3.01	476.5	1.44	9574			1.23	Si
SLV 16	482	-26433	8320	-306725		3.96	476.5	1.63	10840			1.3	Si
SLV 16	834	-19276	6284	-17503		2.89	476.5	1.41	9414			1.5	Si
SLV 10	482	-19631	-8019	-410111		2.94	476.5	1.42	9485			1.18	Si
SLV 10	834	-11846	-7654	-291704		1.78	476.5	1.19	7928			1.04	Si
SLV 12	482	-28693	11870	81822		4.3	476.5	1.63	10840			0.91	No, Vu<V
SLV 12	834	-21219	9937	79291		3.18	476.5	1.47	9803			0.99	No, Vu<V
SLV 9	482	-19631	-8019	-410111		2.94	476.5	1.42	9485			1.18	Si
SLV 9	834	-11846	-7654	-291704		1.78	476.5	1.19	7928			1.04	Si
SLV 11	482	-28693	11870	81822		4.3	476.5	1.63	10840			0.91	No, Vu<V
SLV 11	834	-21219	9937	79291		3.18	476.5	1.47	9803			0.99	No, Vu<V
SLV 6	482	-18850	-10943	-224651		2.83	476.5	1.4	9329			0.85	No, Vu<V
SLV 6	834	-10700	-9801	-320036		1.6	476.5	1.15	7699			0.79	No, Vu<V



## Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.03 denominatore  $8 \gamma M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.38	2.16	-14439	25955	83167	3.2	Si
SLV 10	14	0.38	2.16	-14439	25955	83167	3.2	Si
SLV 5	14	0.38	2.28	-15216	25955	86627	3.34	Si
SLV 6	14	0.38	2.28	-15216	25955	86627	3.34	Si
SLV 14	14	0.38	2.51	-16724	25955	93047	3.58	Si
SLV 13	14	0.38	2.51	-16724	25955	93047	3.58	Si
SLV 1	14	0.38	2.9	-19313	25955	103161	3.97	Si
SLV 2	14	0.38	2.9	-19313	25955	103161	3.97	Si
SLV 15	14	0.38	2.92	-19459	25955	103696	4	Si
SLV 16	14	0.38	2.92	-19459	25955	103696	4	Si

## Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 658 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 10	-11846	-19631	73	0.018	15.395	0.94	27.308	1649.477	No
SLV 9	-11846	-19631	73	0.018	15.395	0.94	27.308	1649.477	No
SLV 7	-20073	-27912	-73	0.018	23.747	0.959	28.027	1649.477	No
SLV 8	-20073	-27912	-73	0.018	23.747	0.959	28.027	1649.477	No
SLV 3	-15455	-23829	-69	0.018	19.055	0.95	28.084	1649.477	No
SLV 4	-15455	-23829	-69	0.018	19.055	0.95	28.084	1649.477	No
SLV 14	-16464	-23714	69	0.018	20.079	0.952	28.134	1649.477	No
SLV 13	-16464	-23714	69	0.018	20.079	0.952	28.134	1649.477	No
SLV 12	-21219	-28693	-42	0.02	24.913	0.96	30.094	1649.477	No
SLV 11	-21219	-28693	-42	0.02	24.913	0.96	30.094	1649.477	No

## Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.4	SLU 29	Si
V_SLU	7.356	SLU 81	Si
PF_SLV	6.92	SLV 5	Si
V_SLV	0.786	SLV 5	No
PFFP_SLV	3.204	SLV 9	Si
R_SLV	0.017	SLV 9	No

## Maschio 134

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-515.8	595.1	-515.8	600.6	L4	L5	5.5	28	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

## Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 84	682	-831	542	5.4	771	1.422	Si
SLU 84	762	-935	1945	6.07	654	0.336	No, M>Mu
SLU 70	682	-837	756	5.43	766	1.014	Si
SLU 70	762	-951	1737	6.17	633	0.364	No, M>Mu
SLU 79	682	-901	753	5.85	698	0.927	No, M>Mu
SLU 79	762	-1028	1949	6.67	511	0.262	No, M>Mu
SLU 80	682	-895	737	5.81	705	0.957	No, M>Mu
SLU 80	762	-1023	1956	6.64	519	0.265	No, M>Mu
SLU 78	682	-891	709	5.79	709	1.001	Si
SLU 78	762	-1015	1968	6.59	532	0.27	No, M>Mu
SLU 72	682	-841	783	5.46	762	0.973	No, M>Mu
SLU 72	762	-958	1724	6.22	622	0.361	No, M>Mu
SLU 71	682	-846	800	5.49	757	0.947	No, M>Mu
SLU 71	762	-963	1717	6.25	615	0.358	No, M>Mu
SLU 77	682	-897	726	5.82	703	0.969	No, M>Mu
SLU 77	762	-1020	1962	6.63	524	0.267	No, M>Mu
SLU 83	682	-837	559	5.43	766	1.371	Si
SLU 83	762	-940	1938	6.1	648	0.334	No, M>Mu
SLU 69	682	-842	772	5.47	761	0.985	No, M>Mu
SLU 69	762	-956	1730	6.21	626	0.362	No, M>Mu

## Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 10	682	-35	-1836	0	0	0	No, e>l/2
SLV 10	762	-348	3172	0	0	0	No, e>l/2
SLV 13	682	40	-3213	0	0	0	No, Trazione
SLV 13	762	-904	5431	0	0	0	No, e>l/2
SLV 14	682	40	-3213	0	0	0	No, Trazione
SLV 14	762	-904	5431	0	0	0	No, e>l/2
SLV 4	682	-1062	3850	0	0	0	No, e>l/2
SLV 4	762	-209	-3095	0	0	0	No, e>l/2
SLV 5	682	-305	67	1.98	702	10.532	Si
SLV 5	762	-78	758	0	0	0	No, e>l/2



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 9	682	-35	-1836	0	0	0	No, $e>l/2$
SLV 9	762	-348	3172	0	0	0	No, $e>l/2$
SLV 2	682	-858	3128	0	0	0	No, $e>l/2$
SLV 2	762	-3	-2616	0	0	0	No, $e>l/2$
SLD 16	682	-362	-882	2.35	805	0.912	No, $M>Mu$
SLD 16	762	-792	2783	0	0	0	No, $e>l/2$
SLV 6	682	-305	67	1.98	702	10.532	Si
SLV 6	762	-78	758	0	0	0	No, $e>l/2$
SLV 3	682	-1062	3850	0	0	0	No, $e>l/2$
SLV 3	762	-209	-3095	0	0	0	No, $e>l/2$

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 82	682	-744	20	368	4.83	5.5	1.08	167	167			8.46	Si
SLU 82	762	-820	-125	1835	19.1	1.53	1.08	46	46			0.37	No, $Vu<V$
SLU 40	682	-637	16	299	4.13	5.5	1.08	167	167			10.63	Si
SLU 40	762	-707	-109	1603	17.46	1.45	1.08	44	44			0.4	No, $Vu<V$
SLU 39	682	-642	17	315	4.17	5.5	1.08	167	167			9.89	Si
SLU 39	762	-712	-109	1596	16.71	1.52	1.08	46	46			0.42	No, $Vu<V$
SLU 52	682	-621	16	306	4.03	5.5	1.08	167	167			10.17	Si
SLU 52	762	-675	-103	1511	15.7	1.54	1.08	47	47			0.45	No, $Vu<V$
SLU 61	682	-648	15	297	4.21	5.5	1.08	167	167			10.77	Si
SLU 61	762	-706	-109	1606	17.66	1.43	1.08	43	43			0.4	No, $Vu<V$
SLU 18	682	-546	13	245	3.55	5.5	1.03	158	158			12.54	Si
SLU 18	762	-598	-93	1367	15.31	1.39	1.08	42	42			0.45	No, $Vu<V$
SLU 19	682	-541	11	228	3.51	5.5	1.02	158	158			13.76	Si
SLU 19	762	-593	-94	1374	16.24	1.3	1.08	40	40			0.42	No, $Vu<V$
SLU 73	682	-717	21	377	4.66	5.5	1.08	167	167			8.08	Si
SLU 73	762	-789	-118	1741	17.29	1.63	1.08	49	49			0.42	No, $Vu<V$
SLU 60	682	-654	17	314	4.24	5.5	1.08	167	167			10.02	Si
SLU 60	762	-711	-109	1599	16.89	1.5	1.08	46	46			0.42	No, $Vu<V$
SLU 81	682	-750	21	385	4.87	5.5	1.08	167	167			7.98	Si
SLU 81	762	-824	-124	1828	18.44	1.6	1.08	48	48			0.39	No, $Vu<V$

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 5	682	-305	20	67	1.98	5.5	1.23	189	189			9.48	Si
SLV 5	762	-78	56	758	0	0	0.83	0	0			0	No, $Vu<V$
SLV 3	682	-1062	258	3850	0	0	0.83	0	0			0	No, $Vu<V$
SLV 3	762	-209	185	-3095	0	0	0.83	0	0			0	No, $Vu<V$
SLV 13	682	40	-221	-3213	0	0	0.83	0	0			0	No, $Vu<V$
SLV 13	762	-904	-343	5431	0	0	0.83	0	0			0	No, $Vu<V$
SLV 9	682	-35	-112	-1836	0	0	0.83	0	0			0	No, $Vu<V$
SLV 9	762	-348	-112	3172	0	0	0.83	0	0			0	No, $Vu<V$
SLD 16	682	-362	-67	-882	13.7	0.94	1.63	43	43			0.64	No, $Vu<V$
SLD 16	762	-792	-205	2783	0	0	0.83	0	0			0	No, $Vu<V$
SLV 10	682	-35	-112	-1836	0	0	0.83	0	0			0	No, $Vu<V$
SLV 10	762	-348	-112	3172	0	0	0.83	0	0			0	No, $Vu<V$
SLV 14	682	40	-221	-3213	0	0	0.83	0	0			0	No, $Vu<V$
SLV 14	762	-904	-343	5431	0	0	0.83	0	0			0	No, $Vu<V$
SLV 4	682	-1062	258	3850	0	0	0.83	0	0			0	No, $Vu<V$
SLV 4	762	-209	185	-3095	0	0	0.83	0	0			0	No, $Vu<V$
SLV 2	682	-858	219	3128	0	0	0.83	0	0			0	No, $Vu<V$
SLV 2	762	-3	215	-2616	0	0	0.83	0	0			0	No, $Vu<V$
SLV 6	682	-305	20	67	1.98	5.5	1.23	189	189			9.48	Si
SLV 6	762	-78	56	758	0	0	0.83	0	0			0	No, $Vu<V$

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 16	14	0.38	0	-11	573	0	0	No, $e>t/2$
SLV 14	14	0.38	0	51	573	0	0	No, Trazione
SLV 15	14	0.38	0	-11	573	0	0	No, $e>t/2$
SLV 13	14	0.38	0	51	573	0	0	No, Trazione
SLV 9	14	0.38	0.34	-52	573	703	1.23	Si
SLV 10	14	0.38	0.34	-52	573	703	1.23	Si
SLV 6	14	0.38	1.31	-201	573	2515	4.39	Si
SLV 5	14	0.38	1.31	-201	573	2515	4.39	Si
SLV 11	14	0.38	1.67	-257	573	3106	5.42	Si
SLV 12	14	0.38	1.67	-257	573	3106	5.42	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 658 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$a_0^*$	aLim	Verifica
SLV 9	54	-129	6	0	0	0	0	874.063	No, Trazione
SLV 1	10	-467	-23	0	0	0	0	949.98	No, Trazione
SLV 10	54	-129	6	0	0	0	0	874.063	No, Trazione
SLV 14	-157	-112	23	0	0.238	0.917	0	949.98	No
SLV 13	-157	-112	23	0	0.238	0.917	0	949.98	No
SLV 6	105	-235	-8	0	0	0	0	874.063	No, Trazione
SLV 4	-121	-559	-22	0	0.202	0.907	0	949.98	No
SLV 5	105	-235	-8	0	0	0	0	874.063	No, Trazione
SLV 3	-121	-559	-22	0	0.202	0.907	0	949.98	No
SLV 2	10	-467	-23	0	0	0	0	949.98	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0.262	SLU 79	No



Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	0.372	SLU 82	No
PF_SLV	0	SLV 14	No
V_SLV	0	SLD 5	No
PFFP_SLV	0	SLV 14	No
R_SLV	0	SLV 10	No

## Maschio 135

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-515.8	650.6	-515.8	666.1	L4	L5	15.5	28	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 84	682	-2617	-2031	6.03	5269	2.594	Si
SLU 84	762	-2533	-186	5.84	5564	29.945	Si
SLU 71	682	-2657	-1809	6.12	5115	2.828	Si
SLU 71	762	-2574	-440	5.93	5425	12.327	Si
SLU 78	682	-2811	-2063	6.48	4461	2.163	Si
SLU 78	762	-2728	-318	6.29	4828	15.176	Si
SLU 69	682	-2641	-1823	6.08	5179	2.841	Si
SLU 69	762	-2557	-414	5.89	5483	13.257	Si
SLU 79	682	-2843	-2040	6.55	4314	2.115	Si
SLU 79	762	-2760	-365	6.36	4692	12.852	Si
SLU 72	682	-2642	-1817	6.09	5173	2.847	Si
SLU 72	762	-2559	-420	5.9	5478	13.053	Si
SLU 77	682	-2827	-2054	6.51	4391	2.138	Si
SLU 77	762	-2743	-339	6.32	4764	14.07	Si
SLU 83	682	-2632	-2023	6.06	5212	2.577	Si
SLU 83	762	-2548	-206	5.87	5513	26.729	Si
SLU 80	682	-2828	-2048	6.52	4385	2.141	Si
SLU 80	762	-2745	-345	6.32	4757	13.804	Si
SLU 70	682	-2626	-1831	6.05	5236	2.859	Si
SLU 70	762	-2542	-393	5.86	5535	14.078	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 1	682	-814	6500	0	0	0	No, e>l/2
SLV 1	762	-764	-6631	0	0	0	No, e>l/2
SLV 13	682	-2015	-8785	4.64	9682	1.102	Si
SLV 13	762	-1923	7536	4.43	9499	1.26	Si
SLV 15	682	-2350	-8955	5.41	10142	1.132	Si
SLV 15	762	-2271	6399	5.23	10063	1.573	Si
SLV 16	682	-2350	-8955	5.41	10142	1.132	Si
SLV 16	762	-2271	6399	5.23	10063	1.573	Si
SLV 14	682	-2015	-8785	4.64	9682	1.102	Si
SLV 14	762	-1923	7536	4.43	9499	1.26	Si
SLV 2	682	-814	6500	0	0	0	No, e>l/2
SLV 2	762	-764	-6631	0	0	0	No, e>l/2
SLV 10	682	-1203	-3236	2.77	7210	2.228	Si
SLV 10	762	-1111	3905	2.56	6808	1.744	Si
SLV 4	682	-1149	6329	2.65	6975	1.102	Si
SLV 4	762	-1113	-7768	2.56	6813	0.877	No, M>Mu
SLV 3	682	-1149	6329	2.65	6975	1.102	Si
SLV 3	762	-1113	-7768	2.56	6813	0.877	No, M>Mu
SLV 9	682	-1203	-3236	2.77	7210	2.228	Si
SLV 9	762	-1111	3905	2.56	6808	1.744	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 75	682	-2521	-22	-1947		5.81	15.5	1.08	470			21.43	Si
SLU 75	762	-2437	-22	-191		5.62	15.5	1.08	470			21.43	Si
SLU 76	682	-2527	-22	-1938		5.82	15.5	1.08	470			21.7	Si
SLU 76	762	-2444	-22	-204		5.63	15.5	1.08	470			21.7	Si
SLU 77	682	-2827	-21	-2054		6.51	15.5	1.08	470			21.92	Si
SLU 77	762	-2743	-21	-339		6.32	15.5	1.08	470			21.92	Si
SLU 74	682	-2536	-22	-1938		5.84	15.5	1.08	470			21.79	Si
SLU 74	762	-2452	-22	-212		5.65	15.5	1.08	470			21.79	Si
SLU 83	682	-2632	-23	-2023		6.06	15.5	1.08	470			20.71	Si
SLU 83	762	-2548	-23	-206		5.87	15.5	1.08	470			20.71	Si
SLU 82	682	-2326	-23	-1915		5.36	15.5	1.08	470			20.27	Si
SLU 82	762	-2242	-23	-59		5.17	15.5	1.08	470			20.27	Si
SLU 84	682	-2617	-23	-2031		6.03	15.5	1.08	470			20.38	Si
SLU 84	762	-2533	-23	-186		5.84	15.5	1.08	470			20.38	Si
SLU 73	682	-2236	-22	-1822		5.15	15.5	1.08	470			21.57	Si
SLU 73	762	-2153	-22	-78		4.96	15.5	1.08	470			21.57	Si
SLU 78	682	-2811	-22	-2063		6.48	15.5	1.08	470			21.56	Si
SLU 78	762	-2728	-22	-318		6.29	15.5	1.08	470			21.56	Si
SLU 81	682	-2341	-23	-1907		5.39	15.5	1.08	470			20.58	Si





Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 81	762	-2257	-23	-80		5.2	15.5	1.08	470			20.58	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 8	682	-1960	191	780		4.52	15.5	1.63	705			3.7	Si
SLV 8	762	-1924	78	-4137		4.43	15.5	1.63	705			9.02	Si
SLV 2	682	-814	79	6500		0	0	0.83	0			0	No, Vu<V
SLV 2	762	-764	148	-6631		0	0	0.83	0			0	No, Vu<V
SLV 10	682	-1203	-219	-3236		2.83	15.18	1.4	595			2.72	Si
SLV 10	762	-1111	-106	3905		3.12	12.71	1.46	519			4.9	Si
SLV 13	682	-2015	-204	-8785		7.08	10.17	1.63	463			2.27	Si
SLV 13	762	-1923	-199	7536		5.98	11.49	1.63	523			2.62	Si
SLV 4	682	-1149	176	6329		6.1	6.72	1.63	306			1.74	Si
SLV 4	762	-1113	172	-7768		17.25	2.3	1.63	105			0.61	No, Vu<V
SLV 1	682	-814	79	6500		0	0	0.83	0			0	No, Vu<V
SLV 1	762	-764	148	-6631		0	0	0.83	0			0	No, Vu<V
SLV 9	682	-1203	-219	-3236		2.83	15.18	1.4	595			2.72	Si
SLV 9	762	-1111	-106	3905		3.12	12.71	1.46	519			4.9	Si
SLV 14	682	-2015	-204	-8785		7.08	10.17	1.63	463			2.27	Si
SLV 14	762	-1923	-199	7536		5.98	11.49	1.63	523			2.62	Si
SLV 3	682	-1149	176	6329		6.1	6.72	1.63	306			1.74	Si
SLV 3	762	-1113	172	-7768		17.25	2.3	1.63	105			0.61	No, Vu<V
SLV 7	682	-1960	191	780		4.52	15.5	1.63	705			3.7	Si
SLV 7	762	-1924	78	-4137		4.43	15.5	1.63	705			9.02	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.38	1.2	-520	1615	6570	4.07	Si
SLV 5	14	0.38	1.2	-520	1615	6570	4.07	Si
SLV 1	14	0.38	1.28	-554	1615	6943	4.3	Si
SLV 2	14	0.38	1.28	-554	1615	6943	4.3	Si
SLV 10	14	0.38	1.61	-698	1615	8484	5.25	Si
SLV 9	14	0.38	1.61	-698	1615	8484	5.25	Si
SLV 4	14	0.38	1.75	-760	1615	9114	5.64	Si
SLV 3	14	0.38	1.75	-760	1615	9114	5.64	Si
SLV 14	14	0.38	2.64	-1146	1615	12573	7.78	Si
SLV 13	14	0.38	2.64	-1146	1615	12573	7.78	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 658 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 3	3009	-3636	543	0	0	0	0	949.98	No, Trazione
SLV 10	-3248	1769	11	0	0	0	0	874.063	No, Trazione
SLV 9	-3248	1769	11	0	0	0	0	874.063	No, Trazione
SLV 7	797	-2281	-18	0	0	0	0	874.063	No, Trazione
SLV 1	2513	-2969	661	0	0	0	0	949.98	No, Trazione
SLV 5	-856	-59	374	0	1.088	0.944	0	874.063	No
SLV 8	797	-2281	-18	0	0	0	0	874.063	No, Trazione
SLV 6	-856	-59	374	0	1.088	0.944	0	874.063	No
SLV 2	2513	-2969	661	0	0	0	0	949.98	No, Trazione
SLV 4	3009	-3636	543	0	0	0	0	949.98	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.115	SLU 79	Si
V_SLU	20.265	SLU 82	Si
PF_SLV	0	SLV 1	No
V_SLV	0	SLV 1	No
PFFP_SLV	4.068	SLV 5	Si
R_SLV	0	SLV 16	No

## Maschio 136

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-600.8	-335.9	-651.3	-335.9	L4	L5	50.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 81	682	-5848	-3066	4.14	72691	23.709	Si
SLU 81	762	-5359	-34749	3.79	72358	2.082	Si
SLU 77	682	-6001	-4301	4.24	72581	16.876	Si
SLU 77	762	-5486	-34008	3.88	72545	2.133	Si
SLU 78	682	-5815	-2941	4.11	72702	24.717	Si
SLU 78	762	-5290	-34248	3.74	72226	2.109	Si
SLU 75	682	-5648	-2330	3.99	72682	31.2	Si
SLU 75	762	-5129	-34060	3.63	71839	2.109	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 84	682	-5829	-2318	4.12	72698	31.357	Si
SLU 84	762	-5324	-35177	3.77	72294	2.055	Si
SLU 74	682	-5834	-3689	4.13	72696	19.707	Si
SLU 74	762	-5325	-33820	3.77	72296	2.138	Si
SLU 82	682	-5663	-1707	4	72688	42.592	Si
SLU 82	762	-5164	-34989	3.65	71931	2.056	Si
SLU 83	682	-6015	-3678	4.25	72565	19.731	Si
SLU 83	762	-5520	-34937	3.9	72584	2.078	Si
SLU 73	682	-5297	-845	3.75	72241	85.475	Si
SLU 73	762	-4784	-33493	3.38	70625	2.109	Si
SLU 76	682	-5464	-1457	3.86	72518	49.774	Si
SLU 76	762	-4945	-33681	3.5	71256	2.116	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLD 1	682	-3007	25117	2.13	62713	2.497	Si
SLD 1	762	-3181	-48055	2.25	65534	1.364	Si
SLV 13	682	-6760	-72416	4.78	103902	1.435	Si
SLV 13	762	-3916	41383	2.77	76464	1.848	Si
SLV 2	682	-1794	62259	0	0	0	No, $e \geq l/2$
SLV 2	762	-2700	-81673	0	0	0	No, $e \geq l/2$
SLD 3	682	-2719	27519	1.92	57853	2.102	Si
SLD 3	762	-3363	-50116	2.38	68393	1.365	Si
SLV 14	682	-6760	-72416	4.78	103902	1.435	Si
SLV 14	762	-3916	41383	2.77	76464	1.848	Si
SLV 1	682	-1794	62259	0	0	0	No, $e \geq l/2$
SLV 1	762	-2700	-81673	0	0	0	No, $e \geq l/2$
SLV 3	682	-1090	67561	0	0	0	No, $e \geq l/2$
SLV 3	762	-3152	-87033	0	0	0	No, $e \geq l/2$
SLV 4	682	-1090	67561	0	0	0	No, $e \geq l/2$
SLV 4	762	-3152	-87033	0	0	0	No, $e \geq l/2$
SLD 2	682	-3007	25117	2.13	62713	2.497	Si
SLD 2	762	-3181	-48055	2.25	65534	1.364	Si
SLD 4	682	-2719	27519	1.92	57853	2.102	Si
SLD 4	762	-3363	-50116	2.38	68393	1.365	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 77	682	-6001	38	-4301		4.24	50.5	1.08	1532			39.79	Si
SLU 77	762	-5486	242	-34008		3.88	50.5	1.07	1517			6.27	Si
SLU 83	682	-6015	66	-3678		4.25	50.5	1.08	1532			23.1	Si
SLU 83	762	-5520	246	-34937		3.9	50.5	1.08	1522			6.18	Si
SLU 80	682	-5754	84	-2975		4.07	50.5	1.08	1532			18.3	Si
SLU 80	762	-5236	233	-33709		3.7	50.5	1.05	1484			6.38	Si
SLU 84	682	-5829	120	-2318		4.12	50.5	1.08	1532			12.78	Si
SLU 84	762	-5324	234	-35177		3.77	50.5	1.06	1495			6.4	Si
SLU 35	682	-5098	28	-3595		3.61	50.5	1.04	1465			51.71	Si
SLU 35	762	-4703	217	-28977		3.33	50.5	1	1413			6.51	Si
SLU 41	682	-5112	56	-2972		3.62	50.5	1.04	1467			26.13	Si
SLU 41	762	-4737	221	-29906		3.35	50.5	1	1417			6.42	Si
SLU 81	682	-5848	95	-3066		4.14	50.5	1.08	1532			16.07	Si
SLU 81	762	-5359	229	-34749		3.79	50.5	1.06	1500			6.54	Si
SLU 78	682	-5815	92	-2941		4.11	50.5	1.08	1532			16.64	Si
SLU 78	762	-5290	230	-34248		3.74	50.5	1.05	1491			6.49	Si
SLU 79	682	-5940	30	-4334		4.2	50.5	1.08	1532			50.79	Si
SLU 79	762	-5432	245	-33469		3.84	50.5	1.07	1510			6.16	Si
SLU 37	682	-5037	20	-3629		3.56	50.5	1.03	1457			72.87	Si
SLU 37	762	-4649	220	-28438		3.29	50.5	0.99	1405			6.39	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 1	682	-1794	2732	62259		0	0	0.83	0			0	No, $V_u < V$
SLV 1	762	-2700	395	-81673		0	0	0.83	0			0	No, $V_u < V$
SLV 11	682	-3497	-1399	-13791		2.47	50.5	1.33	1878			1.34	Si
SLV 11	762	-4471	462	-13301		3.16	50.5	1.47	2072			4.49	Si
SLV 14	682	-6760	-2187	-72416		5.54	43.61	1.63	1984			0.91	No, $V_u < V$
SLV 14	762	-3916	-386	41383		3.18	44.04	1.47	1811			4.69	Si
SLV 13	682	-6760	-2187	-72416		5.54	43.61	1.63	1984			0.91	No, $V_u < V$
SLV 13	762	-3916	-386	41383		3.18	44.04	1.47	1811			4.69	Si
SLV 3	682	-1090	2301	67561		0	0	0.83	0			0	No, $V_u < V$
SLV 3	762	-3152	660	-87033		0	0	0.83	0			0	No, $V_u < V$
SLV 4	682	-1090	2301	67561		0	0	0.83	0			0	No, $V_u < V$
SLV 4	762	-3152	660	-87033		0	0	0.83	0			0	No, $V_u < V$
SLV 16	682	-6056	-2618	-67113		5.09	42.5	1.63	1934			0.74	No, $V_u < V$
SLV 16	762	-4368	-121	36023		3.09	50.5	1.45	2052			16.94	Si
SLV 2	682	-1794	2732	62259		0	0	0.83	0			0	No, $V_u < V$
SLV 2	762	-2700	395	-81673		0	0	0.83	0			0	No, $V_u < V$
SLV 12	682	-3497	-1399	-13791		2.47	50.5	1.33	1878			1.34	Si
SLV 12	762	-4471	462	-13301		3.16	50.5	1.47	2072			4.49	Si
SLV 15	682	-6056	-2618	-67113		5.09	42.5	1.63	1934			0.74	No, $V_u < V$
SLV 15	762	-4368	-121	36023		3.09	50.5	1.45	2052			16.94	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.38	1	-1421	5143	18253	3.55	Si
SLV 8	14	0.38	1	-1421	5143	18253	3.55	Si
SLV 3	14	0.38	1.29	-1830	5143	22901	4.45	Si
SLV 4	14	0.38	1.29	-1830	5143	22901	4.45	Si



Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.38	1.35	-1907	5143	23747	4.62	Si
SLV 11	14	0.38	1.35	-1907	5143	23747	4.62	Si
SLV 2	14	0.38	1.89	-2666	5143	31565	6.14	Si
SLV 1	14	0.38	1.89	-2666	5143	31565	6.14	Si
SLV 16	14	0.38	2.44	-3450	5143	38652	7.52	Si
SLV 15	14	0.38	2.44	-3450	5143	38652	7.52	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 658 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 16	-2517	-2034	-8	0.043	3.269	0.94	66.531	949.98	No
SLV 15	-2517	-2034	-8	0.043	3.269	0.94	66.531	949.98	No
SLV 13	-2519	-2844	-2	0.045	3.271	0.94	69.846	949.98	No
SLV 14	-2519	-2844	-2	0.045	3.271	0.94	69.846	949.98	No
SLV 12	-1951	-1192	-13	0.042	2.697	0.929	65.185	874.063	No
SLV 11	-1951	-1192	-13	0.042	2.697	0.929	65.185	874.063	No
SLV 7	-1468	-1279	-11	0.043	2.211	0.918	68.474	874.063	No
SLV 8	-1468	-1279	-11	0.043	2.211	0.918	68.474	874.063	No
SLV 10	-1957	-3890	8	0.044	2.703	0.93	68.565	874.063	No
SLV 9	-1957	-3890	8	0.044	2.703	0.93	68.565	874.063	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.055	SLU 84	Si
V_SLU	6.16	SLU 79	Si
PF_SLV	0	SLV 1	No
V_SLV	0	SLV 1	No
PFFP_SLV	3.549	SLV 7	Si
R_SLV	0.07	SLV 15	No

## Maschio 137

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-318.3	-335.9	-550.8	-335.9	L4	L5	232.5	28	352	352	352			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 44	682	-13285	197928	2.04	1157506	5.848	Si
SLU 44	762	-11507	171625	1.77	1047441	6.103	Si
SLU 82	682	-18225	243721	2.8	1390534	5.705	Si
SLU 82	762	-16117	224221	2.48	1304163	5.816	Si
SLU 55	682	-15564	223456	2.39	1278271	5.72	Si
SLU 55	762	-13636	196346	2.09	1177548	5.997	Si
SLU 76	682	-17374	241924	2.67	1358008	5.613	Si
SLU 76	762	-15335	217232	2.36	1267186	5.833	Si
SLU 75	682	-18128	237491	2.78	1386970	5.84	Si
SLU 75	762	-16013	221981	2.46	1299412	5.854	Si
SLU 52	682	-15134	221711	2.32	1257230	5.671	Si
SLU 52	762	-13250	193154	2.04	1155423	5.982	Si
SLU 65	682	-15096	216396	2.32	1255327	5.801	Si
SLU 65	762	-13207	192512	2.03	1152939	5.989	Si
SLU 84	682	-18655	245466	2.87	1405749	5.727	Si
SLU 84	762	-16503	227412	2.54	1321434	5.811	Si
SLU 78	682	-18558	239236	2.85	1402369	5.862	Si
SLU 78	762	-16399	225172	2.52	1316859	5.848	Si
SLU 73	682	-16944	240179	2.6	1340379	5.581	Si
SLU 73	762	-14949	214041	2.3	1247938	5.83	Si

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLD 14	682	-12556	81865	1.93	1229258	15.016	Si
SLD 14	762	-11791	338004	1.81	1167545	3.454	Si
SLD 16	682	-11293	83978	1.73	1126458	13.414	Si
SLD 16	762	-10711	317658	1.65	1077491	3.392	Si
SLV 4	682	-12926	329910	1.99	1258431	3.814	Si
SLV 4	762	-9428	285954	1.45	966109	3.379	Si
SLV 13	682	-12439	17097	1.91	1219933	71.355	Si
SLV 13	762	-12758	588912	1.96	1245264	2.115	Si
SLV 3	682	-12926	329910	1.99	1258431	3.814	Si
SLV 3	762	-9428	285954	1.45	966109	3.379	Si
SLD 13	682	-12556	81865	1.93	1229258	15.016	Si
SLD 13	762	-11791	338004	1.81	1167545	3.454	Si
SLD 15	682	-11293	83978	1.73	1126458	13.414	Si
SLD 15	762	-10711	317658	1.65	1077491	3.392	Si
SLV 15	682	-9375	14040	1.44	961400	68.476	Si
SLV 15	762	-10167	541327	1.56	1030803	1.904	Si
SLV 16	682	-9375	14040	1.44	961400	68.476	Si
SLV 16	762	-10167	541327	1.56	1030803	1.904	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 14	682	-12439	-17097	1.91	1219933	71.355	Si
SLV 14	762	-12758	588912	1.96	1245264	2.115	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLU 63	682	-16845	1283	226998		2.59	232.5	0.9	5863			4.57	Si
SLU 63	762	-14803	1213	206525		2.27	232.5	0.86	5590			4.61	Si
SLU 80	682	-18293	1352	237019		2.81	232.5	0.93	6056			4.48	Si
SLU 80	762	-16142	1275	221376		2.48	232.5	0.89	5769			4.53	Si
SLU 78	682	-18558	1341	239236		2.85	232.5	0.94	6091			4.54	Si
SLU 78	762	-16399	1274	225172		2.52	232.5	0.89	5803			4.55	Si
SLU 76	682	-17374	1309	241924		2.67	232.5	0.91	5933			4.53	Si
SLU 76	762	-15335	1274	217232		2.36	232.5	0.87	5661			4.44	Si
SLU 83	682	-19388	1381	235492		2.98	232.5	0.95	6202			4.49	Si
SLU 83	762	-17135	1286	228841		2.63	232.5	0.91	5901			4.59	Si
SLU 73	682	-16944	1266	240179		2.6	232.5	0.9	5876			4.64	Si
SLU 73	762	-14949	1249	214041		2.3	232.5	0.86	5610			4.49	Si
SLU 79	682	-19026	1351	227044		2.92	232.5	0.95	6153			4.55	Si
SLU 79	762	-16774	1239	222806		2.58	232.5	0.9	5853			4.72	Si
SLU 81	682	-18959	1337	233747		2.91	232.5	0.94	6144			4.59	Si
SLU 81	762	-16749	1262	225650		2.57	232.5	0.9	5850			4.64	Si
SLU 82	682	-18225	1338	243721		2.8	232.5	0.93	6047			4.52	Si
SLU 82	762	-16117	1298	224221		2.48	232.5	0.89	5766			4.44	Si
SLU 84	682	-18655	1381	245466		2.87	232.5	0.94	6104			4.42	Si
SLU 84	762	-16503	1322	227412		2.54	232.5	0.89	5817			4.4	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLV 7	682	-8108	6117	213094		1.25	232.5	1.08	7047			1.15	Si
SLV 7	762	-6663	5410	-51921		1.02	232.5	1.04	6758			1.25	Si
SLV 15	682	-9375	-8850	-14040		1.44	232.5	1.12	7300			0.82	No, Vu<V
SLV 15	762	-10167	-6860	541327		1.92	189.01	1.22	6444			0.94	No, Vu<V
SLV 8	682	-8108	6117	213094		1.25	232.5	1.08	7047			1.15	Si
SLV 8	762	-6663	5410	-51921		1.02	232.5	1.04	6758			1.25	Si
SLV 16	682	-9375	-8850	-14040		1.44	232.5	1.12	7300			0.82	No, Vu<V
SLV 16	762	-10167	-6860	541327		1.92	189.01	1.22	6444			0.94	No, Vu<V
SLV 14	682	-12439	-10134	-17097		1.91	232.5	1.22	7913			0.78	No, Vu<V
SLV 14	762	-12758	-8126	588912		2.17	210.27	1.27	7458			0.92	No, Vu<V
SLV 2	682	-15990	10588	326853		2.46	232.5	1.32	8623			0.81	No, Vu<V
SLV 2	762	-12020	8480	-238369		1.85	232.5	1.2	7829			0.92	No, Vu<V
SLV 13	682	-12439	-10134	-17097		1.91	232.5	1.22	7913			0.78	No, Vu<V
SLV 13	762	-12758	-8126	588912		2.17	210.27	1.27	7458			0.92	No, Vu<V
SLV 4	682	-12926	11872	329910		1.99	232.5	1.23	8010			0.67	No, Vu<V
SLV 4	762	-9428	9746	-285954		1.45	232.5	1.12	7311			0.75	No, Vu<V
SLV 3	682	-12926	11872	329910		1.99	232.5	1.23	8010			0.67	No, Vu<V
SLV 3	762	-9428	9746	-285954		1.45	232.5	1.12	7311			0.75	No, Vu<V
SLV 1	682	-15990	10588	326853		2.46	232.5	1.32	8623			0.81	No, Vu<V
SLV 1	762	-12020	8480	-238369		1.85	232.5	1.2	7829			0.92	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.38	1.06	-6907	23676	88302	3.73	Si
SLV 12	14	0.38	1.06	-6907	23676	88302	3.73	Si
SLV 8	14	0.38	1.08	-7005	23676	89433	3.78	Si
SLV 7	14	0.38	1.08	-7005	23676	89433	3.78	Si
SLV 16	14	0.38	1.57	-10236	23676	124862	5.27	Si
SLV 15	14	0.38	1.57	-10236	23676	124862	5.27	Si
SLV 3	14	0.38	1.62	-10562	23676	128238	5.42	Si
SLV 4	14	0.38	1.62	-10562	23676	128238	5.42	Si
SLV 13	14	0.38	2.03	-13187	23676	154013	6.5	Si
SLV 14	14	0.38	2.03	-13187	23676	154013	6.5	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 658 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 13	-10663	-13372	62	0.041	14.116	0.936	64.138	949.98	No
SLV 14	-10663	-13372	62	0.041	14.116	0.936	64.138	949.98	No
SLV 9	-12886	-16372	104	0.038	16.367	0.944	59.02	874.063	No
SLV 10	-12886	-16372	104	0.038	16.367	0.944	59.02	874.063	No
SLV 7	-6440	-4330	-103	0.037	9.863	0.916	59.277	874.063	No
SLV 8	-6440	-4330	-103	0.037	9.863	0.916	59.277	874.063	No
SLV 3	-8663	-7330	-61	0.042	12.096	0.928	65.324	949.98	No
SLV 4	-8663	-7330	-61	0.042	12.096	0.928	65.324	949.98	No
SLV 5	-12864	-15572	83	0.04	16.345	0.944	61.119	874.063	No
SLV 6	-12864	-15572	83	0.04	16.345	0.944	61.119	874.063	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.581	SLV 73	Si
V_SLV	4.4	SLV 84	Si
PF_SLV	1.904	SLV 15	Si
V_SLV	0.675	SLV 3	No
PFFP_SLV	3.73	SLV 11	Si
R_SLV	0.068	SLV 13	No



## Maschio 138

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.3	-335.9	-228.3	-335.9	L4	L5	216	28	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 31	572	-12603	-182392	2.08	1012908	5.553	Si
SLU 31	752	-15004	150363	2.48	1126925	7.495	Si
SLU 13	572	-11654	-163307	1.93	960897	5.884	Si
SLU 13	752	-13563	126881	2.24	1061526	8.366	Si
SLU 73	572	-15215	-200095	2.52	1135721	5.676	Si
SLU 73	752	-17675	172520	2.92	1224046	7.095	Si
SLU 34	572	-13071	-181821	2.16	1037134	5.704	Si
SLU 34	752	-15475	149686	2.56	1146344	7.658	Si
SLU 26	572	-11857	-165802	1.96	972349	5.865	Si
SLU 26	752	-13692	124767	2.26	1067761	8.558	Si
SLU 10	572	-11186	-163878	1.85	933762	5.698	Si
SLU 10	752	-13091	127559	2.16	1038153	8.139	Si
SLU 23	572	-11388	-166373	1.88	945630	5.684	Si
SLU 23	752	-13220	125444	2.19	1044655	8.328	Si
SLU 76	572	-15683	-199524	2.59	1154582	5.787	Si
SLU 76	752	-18146	171843	3	1237943	7.204	Si
SLU 2	572	-9971	-147859	1.65	858939	5.809	Si
SLU 2	752	-11308	102640	1.87	940926	9.167	Si
SLU 65	572	-14000	-184076	2.31	1082347	5.88	Si
SLU 65	752	-15891	147601	2.63	1162662	7.877	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 14	572	-15124	-484131	2.5	1299080	2.683	Si
SLV 14	752	-20121	507403	3.33	1581411	3.117	Si
SLV 1	572	-11271	302586	1.86	1031646	3.409	Si
SLV 1	752	-7376	-273180	1.22	717103	2.625	Si
SLV 11	572	-4590	-205587	0.76	464914	2.261	Si
SLV 11	752	-8712	218783	1.44	829977	3.794	Si
SLV 13	572	-15124	-484131	2.5	1299080	2.683	Si
SLV 13	752	-20121	507403	3.33	1581411	3.117	Si
SLV 12	572	-4590	-205587	0.76	464914	2.261	Si
SLV 12	752	-8712	218783	1.44	829977	3.794	Si
SLV 16	572	-10884	-482657	1.8	1002356	2.077	Si
SLV 16	752	-16914	500288	2.8	1408638	2.816	Si
SLV 4	572	-7032	304060	1.16	687188	2.26	Si
SLV 4	752	-4169	-280295	0.69	424859	1.516	Si
SLV 15	572	-10884	-482657	1.8	1002356	2.077	Si
SLV 15	752	-16914	500288	2.8	1408638	2.816	Si
SLV 2	572	-11271	302586	1.86	1031646	3.409	Si
SLV 2	752	-7376	-273180	1.22	717103	2.625	Si
SLV 3	572	-7032	304060	1.16	687188	2.26	Si
SLV 3	752	-4169	-280295	0.69	424859	1.516	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 82	572	-15877	-5049	-179884		2.63	216	0.91	5477			1.08	Si
SLU 82	752	-18352	-5014	182111		3.03	216	0.96	5807			1.16	Si
SLU 31	572	-12603	-4509	-182392		2.08	216	0.83	5040			1.12	Si
SLU 31	752	-15004	-4452	150363		2.48	216	0.89	5361			1.2	Si
SLU 78	572	-16483	-4850	-173625		2.73	216	0.92	5558			1.15	Si
SLU 78	752	-18767	-4815	173287		3.1	216	0.97	5862			1.22	Si
SLU 34	572	-13071	-4504	-181821		2.16	216	0.84	5103			1.13	Si
SLU 34	752	-15475	-4446	149686		2.56	216	0.9	5423			1.22	Si
SLU 76	572	-15683	-5105	-199524		2.59	216	0.9	5451			1.07	Si
SLU 76	752	-18146	-5048	171843		3	216	0.96	5780			1.14	Si
SLU 65	572	-14000	-4542	-184076		2.31	216	0.86	5227			1.15	Si
SLU 65	752	-15891	-4484	147601		2.63	216	0.91	5479			1.22	Si
SLU 52	572	-13797	-4564	-181581		2.28	216	0.86	5200			1.14	Si
SLU 52	752	-15762	-4507	149716		2.61	216	0.9	5462			1.21	Si
SLU 84	572	-16345	-5044	-179313		2.7	216	0.92	5539			1.1	Si
SLU 84	752	-18823	-5009	181434		3.11	216	0.97	5870			1.17	Si
SLU 75	572	-16015	-4855	-174196		2.65	216	0.91	5495			1.13	Si
SLU 75	752	-18295	-4820	173964		3.03	216	0.96	5799			1.2	Si
SLU 73	572	-15215	-5110	-200095		2.52	216	0.89	5389			1.05	Si
SLU 73	752	-17675	-5053	172520		2.92	216	0.95	5717			1.13	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	572	-4590	-4873	-205587		0.86	189.62	1.01	5343			1.1	Si
SLV 12	752	-8712	-5018	218783		1.44	216	1.12	6782			1.35	Si
SLV 3	572	-7032	4563	304060		1.29	194.28	1.09	5940			1.3	Si
SLV 3	752	-4169	3808	-280295		1.22	122.3	1.08	3688			0.97	No, Vu<V



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 16	572	-11009	-6081	-256868		1.82	216	1.2	7242			1.19	Si
SLD 16	752	-14185	-5843	278458		2.35	216	1.3	7877			1.35	Si
SLV 15	572	-10884	-10279	-482657		2.04	190.96	1.24	6633			0.65	No, Vu<V
SLV 15	752	-16914	-9727	500288		2.8	216	1.39	8423			0.87	No, Vu<V
SLV 4	572	-7032	4563	304060		1.29	194.28	1.09	5940			1.3	Si
SLV 4	752	-4169	3808	-280295		1.22	122.3	1.08	3688			0.97	No, Vu<V
SLV 14	572	-15124	-10460	-484131		2.5	216	1.33	8065			0.77	No, Vu<V
SLV 14	752	-20121	-9703	507403		3.33	216	1.5	9064			0.93	No, Vu<V
SLV 13	572	-15124	-10460	-484131		2.5	216	1.33	8065			0.77	No, Vu<V
SLV 13	752	-20121	-9703	507403		3.33	216	1.5	9064			0.93	No, Vu<V
SLV 11	572	-4590	-4873	-205587		0.86	189.62	1.01	5343			1.1	Si
SLV 11	752	-8712	-5018	218783		1.44	216	1.12	6782			1.35	Si
SLD 15	572	-11009	-6081	-256868		1.82	216	1.2	7242			1.19	Si
SLD 15	752	-14185	-5843	278458		2.35	216	1.3	7877			1.35	Si
SLV 16	572	-10884	-10279	-482657		2.04	190.96	1.24	6633			0.65	No, Vu<V
SLV 16	752	-16914	-9727	500288		2.8	216	1.39	8423			0.87	No, Vu<V

#### Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.38	0.74	-4497	21996	59124	2.69	Si
SLV 8	14	0.38	0.74	-4497	21996	59124	2.69	Si
SLV 3	14	0.38	0.98	-5940	21996	76479	3.48	Si
SLV 4	14	0.38	0.98	-5940	21996	76479	3.48	Si
SLV 11	14	0.38	1.15	-6951	21996	88161	4.01	Si
SLV 12	14	0.38	1.15	-6951	21996	88161	4.01	Si
SLV 1	14	0.38	1.59	-9632	21996	117270	5.33	Si
SLV 2	14	0.38	1.59	-9632	21996	117270	5.33	Si
SLV 15	14	0.38	2.33	-14121	21996	159918	7.27	Si
SLV 16	14	0.38	2.33	-14121	21996	159918	7.27	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 658 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 12	-6714	-5828	-142	0.032	9.896	0.921	50.845	874.063	No
SLV 11	-6714	-5828	-142	0.032	9.896	0.921	50.845	874.063	No
SLV 2	-7787	-7975	119	0.035	10.975	0.927	55.536	949.98	No
SLV 1	-7787	-7975	119	0.035	10.975	0.927	55.536	949.98	No
SLV 16	-12014	-14483	-120	0.037	15.248	0.944	56.42	949.98	No
SLV 15	-12014	-14483	-120	0.037	15.248	0.944	56.42	949.98	No
SLV 5	-13087	-16630	140	0.035	16.336	0.947	54.463	874.063	No
SLV 6	-13087	-16630	140	0.035	16.336	0.947	54.463	874.063	No
SLV 13	-14533	-18688	-50	0.041	17.804	0.951	63.176	949.98	No
SLV 14	-14533	-18688	-50	0.041	17.804	0.951	63.176	949.98	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.553	SLU 31	Si
V_SLU	1.054	SLU 73	Si
PF_SLV	1.516	SLV 3	Si
V_SLV	0.645	SLV 15	No
PFFP_SLV	2.688	SLV 7	Si
R_SLV	0.058	SLV 11	No

## Maschio 139

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-296.3	595.1	-515.8	595.1	L4	L5	219.5	28	352	352	352			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 72	572	-17926	22761	2.92	1262930	55.487	Si
SLU 72	752	-16545	100781	2.69	1215740	12.063	Si
SLU 51	572	-16044	15772	2.61	1196552	75.863	Si
SLU 51	752	-14517	89593	2.36	1131239	12.626	Si
SLU 7	572	-13311	21801	2.17	1072468	49.195	Si
SLU 7	752	-12113	82967	1.97	1007779	12.147	Si
SLU 9	572	-13091	30967	2.13	1061033	34.263	Si
SLU 9	752	-11799	89077	1.92	989732	11.111	Si
SLU 29	572	-15125	34801	2.46	1158456	33.288	Si
SLU 29	752	-13972	97584	2.27	1105468	11.328	Si
SLU 30	572	-14972	37956	2.44	1151774	30.345	Si
SLU 30	752	-13827	100265	2.25	1098406	10.955	Si
SLU 27	572	-15345	25635	2.5	1167925	45.56	Si
SLU 27	752	-14287	91475	2.32	1120515	12.249	Si
SLU 8	572	-13243	27813	2.15	1068973	38.434	Si
SLU 8	752	-11943	86396	1.94	998081	11.552	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 28	572	-15192	28789	2.47	1161391	40.342	Si
SLU 28	752	-14142	94155	2.3	1113653	11.828	Si
SLU 71	572	-18078	19607	2.94	1267634	64.653	Si
SLU 71	752	-16690	98100	2.72	1221077	12.447	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 16	572	-13823	-488782	2.25	1237849	2.533	Si
SLV 16	752	-6266	345933	1.02	630323	1.822	Si
SLV 10	572	-7189	-104474	1.17	713437	6.829	Si
SLV 10	752	-8307	174578	1.35	810815	4.644	Si
SLV 1	572	-12181	401446	1.98	1120052	2.79	Si
SLV 1	752	-18822	-314700	3.06	1547952	4.919	Si
SLV 13	572	-10488	-448748	1.71	990267	2.207	Si
SLV 13	752	-4970	378887	0.81	509394	1.344	Si
SLV 4	572	-15517	361412	2.52	1351118	3.738	Si
SLV 4	752	-20117	-347653	3.27	1616421	4.65	Si
SLV 15	572	-13823	-488782	2.25	1237849	2.533	Si
SLV 15	752	-6266	345933	1.02	630323	1.822	Si
SLV 9	572	-7189	-104474	1.17	713437	6.829	Si
SLV 9	752	-8307	174578	1.35	810815	4.644	Si
SLV 3	572	-15517	361412	2.52	1351118	3.738	Si
SLV 3	752	-20117	-347653	3.27	1616421	4.65	Si
SLV 14	572	-10488	-448748	1.71	990267	2.207	Si
SLV 14	752	-4970	378887	0.81	509394	1.344	Si
SLV 2	572	-12181	401446	1.98	1120052	2.79	Si
SLV 2	752	-18822	-314700	3.06	1547952	4.919	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLU 39	572	-16222	919	-50686		2.64	219.5	0.91	5577			6.07	Si
SLU 39	752	-16336	919	15271		2.66	219.5	0.91	5593			6.09	Si
SLU 73	572	-18218	954	-56120		2.96	219.5	0.95	5844			6.13	Si
SLU 73	752	-17935	953	23381		2.92	219.5	0.94	5806			6.09	Si
SLU 82	572	-19023	1048	-62726		3.1	219.5	0.97	5951			5.68	Si
SLU 82	752	-18910	1048	18467		3.08	219.5	0.97	5936			5.67	Si
SLU 81	572	-19176	1040	-65880		3.12	219.5	0.97	5971			5.74	Si
SLU 81	752	-19055	1040	15787		3.1	219.5	0.97	5955			5.73	Si
SLU 52	572	-16337	867	-63108		2.66	219.5	0.91	5593			6.45	Si
SLU 52	752	-15906	867	12193		2.59	219.5	0.9	5535			6.39	Si
SLU 18	572	-14341	833	-57674		2.33	219.5	0.87	5327			6.4	Si
SLU 18	752	-14308	832	4083		2.33	219.5	0.87	5322			6.39	Si
SLU 61	572	-17142	961	-69715		2.79	219.5	0.93	5700			5.93	Si
SLU 61	752	-16881	961	7280		2.75	219.5	0.92	5665			5.9	Si
SLU 19	572	-14188	840	-54520		2.31	219.5	0.86	5306			6.31	Si
SLU 19	752	-14163	840	6764		2.3	219.5	0.86	5303			6.31	Si
SLU 60	572	-17295	954	-72869		2.81	219.5	0.93	5720			6	Si
SLU 60	752	-17026	953	4599		2.77	219.5	0.92	5685			5.96	Si
SLU 40	572	-16070	927	-47532		2.61	219.5	0.9	5557			6	Si
SLU 40	752	-16192	927	17952		2.63	219.5	0.91	5573			6.01	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLV 2	572	-12181	9863	401446		1.98	219.5	1.23	7558			0.77	No, Vu<V
SLV 2	752	-18822	9320	-314700		3.06	219.5	1.45	8886			0.95	No, Vu<V
SLV 3	572	-15517	8285	361412		2.52	219.5	1.34	8225			0.99	No, Vu<V
SLV 3	752	-20117	7578	-347653		3.27	219.5	1.49	9145			1.21	Si
SLV 5	572	-7697	5768	150584		1.25	219.5	1.08	6661			1.15	Si
SLV 5	752	-12462	5852	-33498		2.03	219.5	1.24	7614			1.3	Si
SLV 6	572	-7697	5768	150584		1.25	219.5	1.08	6661			1.15	Si
SLV 6	752	-12462	5852	-33498		2.03	219.5	1.24	7614			1.3	Si
SLV 13	572	-10488	-7099	-448748		1.86	200.88	1.21	6785			0.96	No, Vu<V
SLV 13	752	-4970	-6393	378887		1.77	100.56	1.19	3341			0.52	No, Vu<V
SLV 4	572	-15517	8285	361412		2.52	219.5	1.34	8225			0.99	No, Vu<V
SLV 4	752	-20117	7578	-347653		3.27	219.5	1.49	9145			1.21	Si
SLV 1	572	-12181	9863	401446		1.98	219.5	1.23	7558			0.77	No, Vu<V
SLV 1	752	-18822	9320	-314700		3.06	219.5	1.45	8886			0.95	No, Vu<V
SLV 16	572	-13823	-8677	-488782		2.25	219.5	1.28	7886			0.91	No, Vu<V
SLV 16	752	-6266	-8135	345933		1.37	163.63	1.11	5071			0.62	No, Vu<V
SLV 15	572	-13823	-8677	-488782		2.25	219.5	1.28	7886			0.91	No, Vu<V
SLV 15	752	-6266	-8135	345933		1.37	163.63	1.11	5071			0.62	No, Vu<V
SLV 14	572	-10488	-7099	-448748		1.86	200.88	1.21	6785			0.96	No, Vu<V
SLV 14	752	-4970	-6393	378887		1.77	100.56	1.19	3341			0.52	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 13	14	0.38	1.06	-6487	22353	82979	3.71	Si
SLV 14	14	0.38	1.06	-6487	22353	82979	3.71	Si
SLV 10	14	0.38	1.11	-6814	22353	86744	3.88	Si
SLV 9	14	0.38	1.11	-6814	22353	86744	3.88	Si
SLV 15	14	0.38	1.51	-9295	22353	114018	5.1	Si
SLV 16	14	0.38	1.51	-9295	22353	114018	5.1	Si
SLV 5	14	0.38	1.61	-9902	22353	120344	5.38	Si
SLV 6	14	0.38	1.61	-9902	22353	120344	5.38	Si
SLV 11	14	0.38	2.63	-16171	22353	177644	7.95	Si
SLV 12	14	0.38	2.63	-16171	22353	177644	7.95	Si



## Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 658 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 13	-2412	-8508	-259	0	5.721	0.89	0	949.98	No
SLV 14	-2412	-8508	-259	0	5.721	0.89	0	949.98	No
SLV 10	-7728	-6184	-284	0.018	10.966	0.926	28.892	874.063	No
SLV 9	-7728	-6184	-284	0.018	10.966	0.926	28.892	874.063	No
SLV 7	-11870	-18941	292	0.024	15.152	0.943	37.37	874.063	No
SLV 8	-11870	-18941	292	0.024	15.152	0.943	37.37	874.063	No
SLV 3	-17186	-16617	267	0.03	20.55	0.956	45.382	949.98	No
SLV 4	-17186	-16617	267	0.03	20.55	0.956	45.382	949.98	No
SLV 15	-2316	-11912	-121	0.029	5.632	0.89	48.121	949.98	No
SLV 16	-2316	-11912	-121	0.029	5.632	0.89	48.121	949.98	No

### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	10.955	SLV 30	Si
V_SLV	5.667	SLV 82	Si
PF_SLV	1.344	SLV 13	Si
V_SLV	0.523	SLV 13	No
PFFP_SLV	3.712	SLV 13	Si
R_SLV	0	SLV 13	No

## Maschio 140

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-12.3	595.1	-206.3	595.1	L4	L5	194	28	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 61	572	-13429	13262	2.47	907265	68.409	Si
SLU 61	752	-14364	118547	2.64	941001	7.938	Si
SLU 81	572	-14993	15062	2.76	961531	63.838	Si
SLU 81	752	-16134	130045	2.97	994361	7.646	Si
SLU 19	572	-10912	10469	2.01	797433	76.171	Si
SLU 19	752	-11924	103376	2.2	844938	8.173	Si
SLU 31	572	-11330	17271	2.09	817607	47.339	Si
SLU 31	752	-12528	106808	2.31	871156	8.156	Si
SLU 82	572	-14592	17111	2.69	948653	55.44	Si
SLU 82	752	-15859	131705	2.92	986967	7.494	Si
SLU 39	572	-12476	12268	2.3	868956	70.829	Si
SLU 39	752	-13694	114875	2.52	917234	7.985	Si
SLU 40	572	-12075	14318	2.22	851657	59.482	Si
SLU 40	752	-13419	116535	2.47	906896	7.782	Si
SLU 73	572	-13847	20065	2.55	922825	45.992	Si
SLU 73	752	-14968	121979	2.76	960757	7.876	Si
SLU 52	572	-12683	16216	2.33	877637	54.122	Si
SLU 52	752	-13473	108821	2.48	908952	8.353	Si
SLU 60	572	-13829	11213	2.55	922187	82.242	Si
SLU 60	752	-14639	116887	2.69	950200	8.129	Si

### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 15	572	-14433	-332078	2.66	1095539	3.299	Si
SLV 15	752	-18411	277785	3.39	1290482	4.646	Si
SLV 4	572	-10499	366495	1.93	857298	2.339	Si
SLV 4	752	-6255	-126865	1.15	549588	4.332	Si
SLV 6	572	-2794	107017	0.51	259592	2.426	Si
SLV 6	752	-3607	19651	0.66	330829	16.835	Si
SLV 5	572	-2794	107017	0.51	259592	2.426	Si
SLV 5	752	-3607	19651	0.66	330829	16.835	Si
SLV 1	572	-6307	359582	1.16	553663	1.54	Si
SLV 1	752	-3069	-124609	0.57	283953	2.279	Si
SLV 16	572	-14433	-332078	2.66	1095539	3.299	Si
SLV 16	752	-18411	277785	3.39	1290482	4.646	Si
SLV 14	572	-10241	-338991	1.89	840098	2.478	Si
SLV 14	752	-15225	280041	2.8	1138049	4.064	Si
SLV 13	572	-10241	-338991	1.89	840098	2.478	Si
SLV 13	752	-15225	280041	2.8	1138049	4.064	Si
SLV 2	572	-6307	359582	1.16	553663	1.54	Si
SLV 2	752	-3069	-124609	0.57	283953	2.279	Si
SLV 3	572	-10499	366495	1.93	857298	2.339	Si
SLV 3	752	-6255	-126865	1.15	549588	4.332	Si

### Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 40	572	-12075	-2239	14318		2.22	194	0.85	4628			2.07	Si
SLU 40	752	-13419	-2236	116535		2.47	194	0.88	4807			2.15	Si





Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 31	572	-11330	-2092	17271		2.09	194	0.83	4528			2.16	Si
SLU 31	752	-12528	-2085	106808		2.31	194	0.86	4688			2.25	Si
SLU 84	572	-14750	-2253	30396		2.72	194	0.92	4985			2.21	Si
SLU 84	752	-15822	-2250	112362		2.91	194	0.94	5127			2.28	Si
SLU 60	572	-13829	-2226	11213		2.55	194	0.9	4862			2.18	Si
SLU 60	752	-14639	-2227	116887		2.69	194	0.91	4970			2.23	Si
SLU 39	572	-12476	-2172	12268		2.3	194	0.86	4681			2.16	Si
SLU 39	752	-13694	-2172	114875		2.52	194	0.89	4844			2.23	Si
SLU 81	572	-14993	-2472	15062		2.76	194	0.92	5017			2.03	Si
SLU 81	752	-16134	-2473	130045		2.97	194	0.95	5169			2.09	Si
SLU 73	572	-13847	-2393	20065		2.55	194	0.9	4864			2.03	Si
SLU 73	752	-14968	-2386	121979		2.76	194	0.92	5014			2.1	Si
SLU 82	572	-14592	-2540	17111		2.69	194	0.91	4963			1.95	Si
SLU 82	752	-15859	-2536	131705		2.92	194	0.94	5132			2.02	Si
SLU 52	572	-12683	-2146	16216		2.33	194	0.87	4709			2.19	Si
SLU 52	752	-13473	-2140	108821		2.48	194	0.89	4814			2.25	Si
SLU 61	572	-13429	-2294	13262		2.47	194	0.89	4808			2.1	Si
SLU 61	752	-14364	-2290	118547		2.64	194	0.91	4933			2.15	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	572	-10241	-7474	-338991		1.91	191.7	1.21	6521			0.87	No, Vu<V
SLV 13	752	-15225	-6390	280041		2.8	194	1.39	7572			1.18	Si
SLV 9	572	-3974	-4744	-102555		0.73	194	0.98	5321			1.12	Si
SLV 9	752	-7253	-3008	141046		1.34	194	1.1	5977			1.99	Si
SLV 16	572	-14433	-6508	-332078		2.66	194	1.36	7413			1.14	Si
SLV 16	752	-18411	-6356	277785		3.39	194	1.51	8209			1.29	Si
SLV 2	572	-6307	3543	359582		1.88	119.97	1.21	4061			1.15	Si
SLV 2	752	-3069	3389	-124609		0.65	169.2	0.96	4562			1.35	Si
SLV 10	572	-3974	-4744	-102555		0.73	194	0.98	5321			1.12	Si
SLV 10	752	-7253	-3008	141046		1.34	194	1.1	5977			1.99	Si
SLV 1	572	-6307	3543	359582		1.88	119.97	1.21	4061			1.15	Si
SLV 1	752	-3069	3389	-124609		0.65	169.2	0.96	4562			1.35	Si
SLV 3	572	-10499	4509	366495		2.01	186.28	1.24	6446			1.43	Si
SLV 3	752	-6255	3424	-126865		1.15	194	1.06	5778			1.69	Si
SLV 14	572	-10241	-7474	-338991		1.91	191.7	1.21	6521			0.87	No, Vu<V
SLV 14	752	-15225	-6390	280041		2.8	194	1.39	7572			1.18	Si
SLV 15	572	-14433	-6508	-332078		2.66	194	1.36	7413			1.14	Si
SLV 15	752	-18411	-6356	277785		3.39	194	1.51	8209			1.29	Si
SLV 4	572	-10499	4509	366495		2.01	186.28	1.24	6446			1.43	Si
SLV 4	752	-6255	3424	-126865		1.15	194	1.06	5778			1.69	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.38	0.65	-3540	19756	46917	2.37	Si
SLV 6	14	0.38	0.65	-3540	19756	46917	2.37	Si
SLV 1	14	0.38	0.92	-5023	19756	64996	3.29	Si
SLV 2	14	0.38	0.92	-5023	19756	64996	3.29	Si
SLV 9	14	0.38	1.09	-5920	19756	75490	3.82	Si
SLV 10	14	0.38	1.09	-5920	19756	75490	3.82	Si
SLV 3	14	0.38	1.6	-8674	19756	105563	5.34	Si
SLV 4	14	0.38	1.6	-8674	19756	105563	5.34	Si
SLV 14	14	0.38	2.39	-12957	19756	145983	7.39	Si
SLV 13	14	0.38	2.39	-12957	19756	145983	7.39	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 658 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 14	-11054	-12558	40	0.042	13.963	0.945	64.655	949.98	No
SLV 13	-11054	-12558	40	0.042	13.963	0.945	64.655	949.98	No
SLV 16	-13503	-16591	23	0.043	16.448	0.952	65.284	949.98	No
SLV 15	-13503	-16591	23	0.043	16.448	0.952	65.284	949.98	No
SLV 3	-6520	-6848	-39	0.043	9.38	0.924	68.29	949.98	No
SLV 4	-6520	-6848	-39	0.043	9.38	0.924	68.29	949.98	No
SLV 8	-11821	-14963	-37	0.042	14.74	0.947	64.608	874.063	No
SLV 7	-11821	-14963	-37	0.042	14.74	0.947	64.608	874.063	No
SLV 12	-13915	-17886	-18	0.043	16.867	0.953	65.523	874.063	No
SLV 11	-13915	-17886	-18	0.043	16.867	0.953	65.523	874.063	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.494	SLU 82	Si
V_SLU	1.954	SLU 82	Si
PF_SLV	1.54	SLV 1	Si
V_SLV	0.873	SLV 13	No
PFFP_SLV	2.375	SLV 5	Si
R_SLV	0.068	SLV 13	No

## Maschio 141

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.3	-335.9	-12.3	595.1	L4	L5	931	28	352	352	352			



## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 34	482	-91192	-2179675	3.5	24219765	11.112	Si
SLU 34	834	-57609	-668661	2.21	19541616	29.225	Si
SLU 26	482	-82047	-2088421	3.15	23435757	11.222	Si
SLU 26	834	-52005	-620423	1.99	18279492	29.463	Si
SLU 13	482	-81750	-1960351	3.14	23404185	11.939	Si
SLU 13	834	-51360	-583876	1.97	18125351	31.043	Si
SLU 68	482	-99703	-2193118	3.82	24619952	11.226	Si
SLU 68	834	-62968	-622972	2.42	20619666	33.099	Si
SLU 80	482	-109645	-2069987	4.21	24685281	11.925	Si
SLU 80	834	-69862	-555436	2.68	21821459	39.287	Si
SLU 78	482	-110832	-2062091	4.25	24664129	11.961	Si
SLU 78	834	-70762	-567931	2.71	21962811	38.672	Si
SLU 5	482	-72605	-1869097	2.79	22241586	11.9	Si
SLU 5	834	-45755	-535639	1.76	16709668	31.196	Si
SLU 55	482	-99406	-2065049	3.81	24611344	11.918	Si
SLU 55	834	-62323	-586426	2.39	20496538	34.952	Si
SLU 76	482	-108848	-2284372	4.18	24696026	10.811	Si
SLU 76	834	-68572	-671210	2.63	21612412	32.199	Si
SLU 73	482	-107432	-2074804	4.12	24708239	11.909	Si
SLU 73	834	-67059	-630978	2.57	21358003	33.849	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 7	482	-63554	6735513	2.44	23681327	3.516	Si
SLV 7	834	-42803	3388180	1.64	17247420	5.09	Si
SLV 11	482	-87967	6953759	3.37	29639712	4.262	Si
SLV 11	834	-53821	3961256	2.06	20820247	5.256	Si
SLV 5	482	-61941	-8330525	2.38	23226311	2.788	Si
SLV 5	834	-40325	-4248056	1.55	16394724	3.859	Si
SLV 2	482	-34023	-3312031	1.31	14145826	4.271	Si
SLV 2	834	-28339	-2243961	1.09	12017959	5.356	Si
SLV 10	482	-86354	-8112280	3.31	29299797	3.612	Si
SLV 10	834	-51342	-3674980	1.97	20047372	5.455	Si
SLV 9	482	-86354	-8112280	3.31	29299797	3.612	Si
SLV 9	834	-51342	-3674980	1.97	20047372	5.455	Si
SLV 1	482	-34023	-3312031	1.31	14145826	4.271	Si
SLV 1	834	-28339	-2243961	1.09	12017959	5.356	Si
SLV 12	482	-87967	6953759	3.37	29639712	4.262	Si
SLV 12	834	-53821	3961256	2.06	20820247	5.256	Si
SLV 8	482	-63554	6735513	2.44	23681327	3.516	Si
SLV 8	834	-42803	3388180	1.64	17247420	5.09	Si
SLV 6	482	-61941	-8330525	2.38	23226311	2.788	Si
SLV 6	834	-40325	-4248056	1.55	16394724	3.859	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 2	482	-71189	-879	-1659529		2.73	931	0.92	23974			27.27	Si
SLU 2	834	-44243	-455	-495407		1.7	931	0.78	20381			44.77	Si
SLU 81	482	-109806	724	-1054031		4.21	931	1.08	28240			38.99	Si
SLU 81	834	-68905	732	-261638		2.64	931	0.91	23670			32.33	Si
SLU 5	482	-72605	-965	-1869097		2.79	931	0.93	24163			25.04	Si
SLU 5	834	-45755	-540	-535639		1.76	931	0.79	20583			38.14	Si
SLU 26	482	-82047	-916	-2088421		3.15	931	0.98	25422			27.75	Si
SLU 26	834	-52005	-489	-620423		1.99	931	0.82	21416			43.76	Si
SLU 10	482	-80335	-811	-1750783		3.08	931	0.97	25194			31.08	Si
SLU 10	834	-49847	-386	-543645		1.91	931	0.81	21128			54.69	Si
SLU 34	482	-91192	-848	-2179675		3.5	931	1.02	26641			31.42	Si
SLU 34	834	-57609	-421	-668661		2.21	931	0.85	22163			52.7	Si
SLU 60	482	-100364	675	-834707		3.85	931	1.07	27864			41.27	Si
SLU 60	834	-62655	682	-176854		2.4	931	0.88	22836			33.49	Si
SLU 47	482	-90261	-845	-1973795		3.46	931	1.02	26517			31.39	Si
SLU 47	834	-56718	-418	-538188		2.18	931	0.85	22045			52.71	Si
SLU 13	482	-81750	-897	-1960351		3.14	931	0.97	25382			28.3	Si
SLU 13	834	-51360	-471	-583876		1.97	931	0.82	21330			45.31	Si
SLU 23	482	-80631	-830	-1878853		3.09	931	0.97	25233			30.4	Si
SLU 23	834	-50492	-405	-580192		1.94	931	0.81	21214			52.38	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 10	482	-86354	-15960	-8112280		3.31	931	1.5	38994			2.44	Si
SLV 10	834	-51342	-14549	-3674980		1.97	931	1.23	31992			2.2	Si
SLV 7	482	-63554	16941	6735513		2.44	931	1.32	34434			2.03	Si
SLV 7	834	-42803	15541	3388180		1.64	931	1.16	30284			1.95	Si
SLD 7	482	-70102	7472	2429887		2.69	931	1.37	35744			4.78	Si
SLD 7	834	-45253	6872	1351917		1.74	931	1.18	30774			4.48	Si
SLV 5	482	-61941	-16222	-8330525		2.38	931	1.31	34111			2.1	Si
SLV 5	834	-40325	-14729	-4248056		1.55	931	1.14	29788			2.02	Si
SLV 9	482	-86354	-15960	-8112280		3.31	931	1.5	38994			2.44	Si
SLV 9	834	-51342	-14549	-3674980		1.97	931	1.23	31992			2.2	Si
SLV 11	482	-87967	17204	6953759		3.37	931	1.51	39317			2.29	Si
SLV 11	834	-53821	15721	3961256		2.06	931	1.25	32488			2.07	Si
SLD 8	482	-70102	7472	2429887		2.69	931	1.37	35744			4.78	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLD 8	834	-45253	6872	1351917		1.74	931	1.18	30774			4.48	Si
SLV 12	482	-87967	17204	6953759		3.37	931	1.51	39317			2.29	Si
SLV 12	834	-53821	15721	3961256		2.06	931	1.25	32488			2.07	Si
SLV 8	482	-63554	16941	6735513		2.44	931	1.32	34434			2.03	Si
SLV 8	834	-42803	15541	3388180		1.64	931	1.16	30284			1.95	Si
SLV 6	482	-61941	-16222	-8330525		2.38	931	1.31	34111			2.1	Si
SLV 6	834	-40325	-14729	-4248056		1.55	931	1.14	29788			2.02	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 658 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 1	14	0.38	1.22	-31773	94808	400445	4.22	Si
SLV 2	14	0.38	1.22	-31773	94808	400445	4.22	Si
SLV 4	14	0.38	1.24	-32199	94808	405216	4.27	Si
SLV 3	14	0.38	1.24	-32199	94808	405216	4.27	Si
SLV 6	14	0.38	1.98	-51589	94808	605263	6.38	Si
SLV 5	14	0.38	1.98	-51589	94808	605263	6.38	Si
SLV 7	14	0.38	2.03	-53010	94808	618627	6.53	Si
SLV 8	14	0.38	2.03	-53010	94808	618627	6.53	Si
SLV 10	14	0.38	2.65	-69000	94808	756738	7.98	Si
SLV 9	14	0.38	2.65	-69000	94808	756738	7.98	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 658 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 15	-65807	-115886	-62	0.043	79.958	0.953	66.155	949.98	No
SLV 16	-65807	-115886	-62	0.043	79.958	0.953	66.155	949.98	No
SLV 14	-65063	-115402	-6	0.044	79.202	0.952	67.409	949.98	No
SLV 13	-65063	-115402	-6	0.044	79.202	0.952	67.409	949.98	No
SLV 11	-53821	-87967	-105	0.043	67.791	0.945	66.669	874.063	No
SLV 12	-53821	-87967	-105	0.043	67.791	0.945	66.669	874.063	No
SLV 9	-51342	-86354	83	0.044	65.277	0.944	67.607	874.063	No
SLV 10	-51342	-86354	83	0.044	65.277	0.944	67.607	874.063	No
SLV 2	-28339	-34023	59	0.047	42.05	0.92	74.496	949.98	No
SLV 1	-28339	-34023	59	0.047	42.05	0.92	74.496	949.98	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	10.811	SLU 76	Si
V_SLU	25.036	SLU 5	Si
PF_SLV	2.788	SLV 5	Si
V_SLV	1.949	SLV 7	Si
PFFP_SLV	4.224	SLV 1	Si
R_SLV	0.07	SLV 15	No

## Maschio 142

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2467.8	-335.9	-2467.8	126.6	L5	L6	462.6	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv <sub>lim</sub>	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 81	834	-34885	300612	2.69	5400528	17.965	Si
SLU 81	1044	-23024	-40919	1.78	4162992	101.736	Si
SLU 18	834	-26143	234695	2.02	4548228	19.379	Si
SLU 18	1044	-17227	-14166	1.33	3333785	235.345	Si
SLU 35	834	-30538	167949	2.36	5018602	29.882	Si
SLU 35	1044	-20576	-181440	1.59	3830788	21.113	Si
SLU 61	834	-32184	238717	2.48	5172946	21.67	Si
SLU 61	1044	-21511	39079	1.66	3960853	101.356	Si
SLU 60	834	-31642	270609	2.44	5123505	18.933	Si
SLU 60	1044	-21055	20757	1.63	3897882	187.782	Si
SLU 37	834	-30102	151253	2.32	4975739	32.897	Si
SLU 37	1044	-20303	-185837	1.57	3792171	20.406	Si
SLU 39	834	-29385	264698	2.27	4903422	18.525	Si
SLU 39	1044	-19196	-75842	1.48	3631937	47.888	Si
SLU 83	834	-35859	255993	2.77	5474782	21.386	Si
SLU 83	1044	-23910	-104930	1.85	4276788	40.759	Si
SLU 40	834	-29926	232806	2.31	4958219	21.298	Si
SLU 40	1044	-19652	-57521	1.52	3698627	64.3	Si
SLU 82	834	-35426	268720	2.74	5442277	20.253	Si
SLU 82	1044	-23480	-22598	1.81	4222022	186.829	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 8	834	-21070	1054818	1.63	4224299	4.005	Si
SLV 8	1044	-12098	-84974	0.93	2584085	30.41	Si



Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 4	834	-30171	687003	2.33	5647723	8.221	Si
SLV 4	1044	-17389	-149417	1.34	3579883	23.959	Si
SLD 8	834	-22655	550668	1.75	4489744	8.153	Si
SLD 8	1044	-14355	-27106	1.11	3018985	111.377	Si
SLD 7	834	-22655	550668	1.75	4489744	8.153	Si
SLD 7	1044	-14355	-27106	1.11	3018985	111.377	Si
SLV 11	834	-16322	892977	1.26	3385619	3.791	Si
SLV 11	1044	-10417	4249	0.8	2250728	529.661	Si
SLV 9	834	-26499	-697391	2.05	5102512	7.317	Si
SLV 9	1044	-19934	117540	1.54	4029720	34.284	Si
SLV 10	834	-26499	-697391	2.05	5102512	7.317	Si
SLV 10	1044	-19934	117540	1.54	4029720	34.284	Si
SLV 7	834	-21070	1054818	1.63	4224299	4.005	Si
SLV 7	1044	-12098	-84974	0.93	2584085	30.41	Si
SLV 12	834	-16322	892977	1.26	3385619	3.791	Si
SLV 12	1044	-10417	4249	0.8	2250728	529.661	Si
SLV 3	834	-30171	687003	2.33	5647723	8.221	Si
SLV 3	1044	-17389	-149417	1.34	3579883	23.959	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 83	834	-35859	2889	255993		2.77	462.57	0.92	11977			4.15	Si
SLU 83	1044	-23910	2889	-104930		1.85	462.57	0.8	10384			3.59	Si
SLU 70	834	-33704	2704	115487		2.6	462.57	0.9	11689			4.32	Si
SLU 70	1044	-23308	2854	-86135		1.8	462.57	0.8	10303			3.61	Si
SLU 75	834	-35604	2726	216590		2.75	462.57	0.92	11943			4.38	Si
SLU 75	1044	-23974	2875	-64186		1.85	462.57	0.8	10392			3.61	Si
SLU 72	834	-33268	2698	98791		2.57	462.57	0.9	11631			4.31	Si
SLU 72	1044	-23036	2849	-90531		1.78	462.57	0.79	10267			3.6	Si
SLU 77	834	-36037	2941	203863		2.78	462.57	0.93	12000			4.08	Si
SLU 77	1044	-24404	2943	-146517		1.88	462.57	0.81	10449			3.55	Si
SLU 84	834	-36400	2773	224101		2.81	462.57	0.93	12049			4.35	Si
SLU 84	1044	-24367	2922	-86609		1.88	462.57	0.81	10444			3.57	Si
SLU 76	834	-35529	2643	178633		2.74	462.57	0.92	11933			4.51	Si
SLU 76	1044	-24006	2892	-56368		1.85	462.57	0.8	10396			3.6	Si
SLU 79	834	-35601	2936	187167		2.75	462.57	0.92	11942			4.07	Si
SLU 79	1044	-24131	2938	-150914		1.86	462.57	0.8	10413			3.54	Si
SLU 80	834	-36143	2820	155275		2.79	462.57	0.93	12015			4.26	Si
SLU 80	1044	-24588	2971	-132593		1.9	462.57	0.81	10474			3.53	Si
SLU 78	834	-36578	2826	171972		2.82	462.57	0.93	12073			4.27	Si
SLU 78	1044	-24860	2975	-128196		1.92	462.57	0.81	10510			3.53	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 11	834	-16322	8907	892977		1.26	462.57	1.09	14058			1.58	Si
SLV 11	1044	-10417	7696	4249		0.8	462.57	0.99	12877			1.67	Si
SLV 12	834	-16322	8907	892977		1.26	462.57	1.09	14058			1.58	Si
SLV 12	1044	-10417	7696	4249		0.8	462.57	0.99	12877			1.67	Si
SLV 10	834	-26499	-6030	-697391		2.05	462.57	1.24	16093			2.67	Si
SLV 10	1044	-19934	-4810	117540		1.54	462.57	1.14	14780			3.07	Si
SLD 8	834	-22655	5407	550668		1.75	462.57	1.18	15324			2.83	Si
SLD 8	1044	-14355	4896	-27106		1.11	462.57	1.06	13664			2.79	Si
SLD 7	834	-22655	5407	550668		1.75	462.57	1.18	15324			2.83	Si
SLD 7	1044	-14355	4896	-27106		1.11	462.57	1.06	13664			2.79	Si
SLV 7	834	-21070	10045	1054818		1.63	462.57	1.16	15007			1.49	Si
SLV 7	1044	-12098	8825	-84974		0.93	462.57	1.02	13213			1.5	Si
SLV 4	834	-30171	6145	687003		2.33	462.57	1.3	16827			2.74	Si
SLV 4	1044	-17389	5764	-149417		1.34	462.57	1.1	14271			2.48	Si
SLV 8	834	-21070	10045	1054818		1.63	462.57	1.16	15007			1.49	Si
SLV 8	1044	-12098	8825	-84974		0.93	462.57	1.02	13213			1.5	Si
SLV 3	834	-30171	6145	687003		2.33	462.57	1.3	16827			2.74	Si
SLV 3	1044	-17389	5764	-149417		1.34	462.57	1.1	14271			2.48	Si
SLV 9	834	-26499	-6030	-697391		2.05	462.57	1.24	16093			2.67	Si
SLV 9	1044	-19934	-4810	117540		1.54	462.57	1.14	14780			3.07	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.46	0.87	-11216	56199	145896	2.6	Si
SLV 11	14	0.46	0.87	-11216	56199	145896	2.6	Si
SLV 16	14	0.46	0.97	-12596	56199	162314	2.89	Si
SLV 15	14	0.46	0.97	-12596	56199	162314	2.89	Si
SLV 7	14	0.46	1	-12900	56199	165875	2.95	Si
SLV 8	14	0.46	1	-12900	56199	165875	2.95	Si
SLV 14	14	0.46	1.19	-15463	56199	195333	3.48	Si
SLV 13	14	0.46	1.19	-15463	56199	195333	3.48	Si
SLV 3	14	0.46	1.41	-18208	56199	225589	4.01	Si
SLV 4	14	0.46	1.41	-18208	56199	225589	4.01	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1010 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	$\alpha 0^*$	aLim	Verifica
SLV 1	-11353	-33224	-97	0.044	18.167	0.911	70.276	1088.965	No
SLV 2	-11353	-33224	-97	0.044	18.167	0.911	70.276	1088.965	No
SLV 4	-10020	-30171	-71	0.046	16.844	0.907	74.24	1088.965	No
SLV 3	-10020	-30171	-71	0.046	16.844	0.907	74.24	1088.965	No
SLV 16	-8872	-14344	70	0.047	15.71	0.902	75.602	1088.965	No
SLV 15	-8872	-14344	70	0.047	15.71	0.902	75.602	1088.965	No
SLV 13	-10205	-17397	44	0.048	17.026	0.907	77.051	1088.965	No



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 14	-10205	-17397	44	0.048	17.026	0.907	77.051	1088.965	No
SLV 5	-12507	-31247	-78	0.045	19.318	0.915	71.326	1001.941	No
SLV 6	-12507	-31247	-78	0.045	19.318	0.915	71.326	1001.941	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	17.965	SLU 81	Si
V_SLU	3.526	SLU 80	Si
PF_SLV	3.791	SLV 11	Si
V_SLV	1.494	SLV 7	Si
PFFP_SLV	2.596	SLV 11	Si
R_SLV	0.065	SLV 1	No

## Maschio 143

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X inl.	Y inl.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h inl.	h fin.	a	a.s.,sx	a.s.,dx
-2467.8	206.6	-2467.8	595.1	L5	L6	388.5	28	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 9	834	-19215	-169315	1.77	2923084	17.264	Si
SLU 9	1044	-13870	194721	1.28	2272463	11.67	Si
SLU 5	834	-18118	-215987	1.67	2799859	12.963	Si
SLU 5	1044	-12697	128221	1.17	2113018	16.479	Si
SLU 52	834	-23462	-273276	2.16	3350793	12.262	Si
SLU 52	1044	-16202	5876	1.49	2571792	437.691	Si
SLU 47	834	-22587	-266769	2.08	3269121	12.254	Si
SLU 47	1044	-15715	131615	1.44	2511223	19.08	Si
SLU 10	834	-18994	-222494	1.75	2898680	13.028	Si
SLU 10	1044	-13185	2482	1.21	2180033	878.319	Si
SLU 30	834	-21443	-157097	1.97	3157375	20.098	Si
SLU 30	1044	-15727	191865	1.45	2512748	13.096	Si
SLU 65	834	-23839	-270552	2.19	3384949	12.511	Si
SLU 65	1044	-16587	46925	1.52	2618923	55.811	Si
SLU 7	834	-19438	-168549	1.79	2947550	17.488	Si
SLU 7	1044	-14051	180528	1.29	2296619	12.722	Si
SLU 44	834	-21611	-282770	1.99	3174071	11.225	Si
SLU 44	1044	-14730	49781	1.35	2385644	47.923	Si
SLU 2	834	-17142	-231988	1.58	2685682	11.577	Si
SLU 2	1044	-11712	46387	1.08	1974409	42.564	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 11	834	-20326	449587	1.87	3344538	7.439	Si
SLV 11	1044	-16155	-167019	1.49	2756705	16.505	Si
SLV 10	834	-11910	-809578	1.09	2106159	2.602	Si
SLV 10	1044	-6703	233432	0.62	1236403	5.297	Si
SLV 6	834	-16890	-747799	1.55	2863925	3.83	Si
SLV 6	1044	-10110	156397	0.93	1814411	11.601	Si
SLD 9	834	-15764	-429248	1.45	2698949	6.288	Si
SLD 9	1044	-10398	95882	0.96	1861867	19.418	Si
SLV 12	834	-20326	449587	1.87	3344538	7.439	Si
SLV 12	1044	-16155	-167019	1.49	2756705	16.505	Si
SLV 13	834	-9045	-440946	0.83	1637488	3.714	Si
SLV 13	1044	-6037	183148	0.55	1119432	6.112	Si
SLD 10	834	-15764	-429248	1.45	2698949	6.288	Si
SLD 10	1044	-10398	95882	0.96	1861867	19.418	Si
SLV 9	834	-11910	-809578	1.09	2106159	2.602	Si
SLV 9	1044	-6703	233432	0.62	1236403	5.297	Si
SLV 5	834	-16890	-747799	1.55	2863925	3.83	Si
SLV 5	1044	-10110	156397	0.93	1814411	11.601	Si
SLV 14	834	-9045	-440946	0.83	1637488	3.714	Si
SLV 14	1044	-6037	183148	0.55	1119432	6.112	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	$\sigma N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 51	834	-23683	-3255	-220097		2.18	388.5	0.85	9201			2.83	Si
SLU 51	1044	-16887	-3256	198115		1.55	388.5	0.76	8295			2.55	Si
SLU 68	834	-24816	-3450	-254551		2.28	388.5	0.86	9352			2.71	Si
SLU 68	1044	-17572	-3451	128760		1.62	388.5	0.77	8386			2.43	Si
SLU 59	834	-25535	-3352	-210603		2.35	388.5	0.87	9448			2.82	Si
SLU 59	1044	-18359	-3352	154210		1.69	388.5	0.78	8491			2.53	Si
SLU 76	834	-26667	-3546	-245057		2.45	388.5	0.88	9599			2.71	Si
SLU 76	1044	-19044	-3547	84855		1.75	388.5	0.79	8583			2.42	Si
SLU 55	834	-24438	-3328	-257275		2.25	388.5	0.86	9302			2.8	Si
SLU 55	1044	-17187	-3329	87710		1.58	388.5	0.77	8335			2.5	Si
SLU 78	834	-27987	-3538	-197618		2.57	388.5	0.9	9775			2.76	Si
SLU 78	1044	-20398	-3539	137161		1.88	388.5	0.81	8763			2.48	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 47	834	-22587	-3231	-266769		2.08	388.5	0.83	9055			2.8	Si
SLU 47	1044	-15715	-3232	131615		1.44	388.5	0.75	8139			2.52	Si
SLU 80	834	-27763	-3571	-198385		2.55	388.5	0.9	9745			2.73	Si
SLU 80	1044	-20217	-3571	151354		1.86	388.5	0.8	8739			2.45	Si
SLU 72	834	-25912	-3474	-207879		2.38	388.5	0.87	9498			2.73	Si
SLU 72	1044	-18744	-3475	195259		1.72	388.5	0.79	8543			2.46	Si
SLU 70	834	-26135	-3442	-207113		2.4	388.5	0.88	9528			2.77	Si
SLU 70	1044	-18926	-3442	181066		1.74	388.5	0.79	8567			2.49	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 5	834	-16890	-8110	-747799		1.55	388.5	1.14	12443			1.53	Si
SLV 5	1044	-10110	-7229	156397		0.93	388.5	1.02	11087			1.53	Si
SLD 5	834	-17892	-4502	-403001		1.64	388.5	1.16	12643			2.81	Si
SLD 5	1044	-11854	-4130	63079		1.09	388.5	1.05	11436			2.77	Si
SLV 10	834	-11910	-7220	-809578		1.12	378.82	1.06	11221			1.55	Si
SLV 10	1044	-6703	-6327	233432		0.62	388.5	0.96	10406			1.64	Si
SLD 6	834	-17892	-4502	-403001		1.64	388.5	1.16	12643			2.81	Si
SLD 6	1044	-11854	-4130	63079		1.09	388.5	1.05	11436			2.77	Si
SLD 9	834	-15764	-4122	-429248		1.45	388.5	1.12	12218			2.96	Si
SLD 9	1044	-10398	-3745	95882		0.96	388.5	1.02	11145			2.98	Si
SLV 1	834	-25645	-5084	-235015		2.36	388.5	1.3	14194			2.79	Si
SLV 1	1044	-17392	-4837	-73635		1.6	388.5	1.15	12543			2.59	Si
SLV 2	834	-25645	-5084	-235015		2.36	388.5	1.3	14194			2.79	Si
SLV 2	1044	-17392	-4837	-73635		1.6	388.5	1.15	12543			2.59	Si
SLD 10	834	-15764	-4122	-429248		1.45	388.5	1.12	12218			2.96	Si
SLD 10	1044	-10398	-3745	95882		0.96	388.5	1.02	11145			2.98	Si
SLV 9	834	-11910	-7220	-809578		1.12	378.82	1.06	11221			1.55	Si
SLV 9	1044	-6703	-6327	233432		0.62	388.5	0.96	10406			1.64	Si
SLV 6	834	-16890	-8110	-747799		1.55	388.5	1.14	12443			1.53	Si
SLV 6	1044	-10110	-7229	156397		0.93	388.5	1.02	11087			1.53	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 14	14	0.46	0.62	-6709	47200	89180	1.89	Si
SLV 13	14	0.46	0.62	-6709	47200	89180	1.89	Si
SLV 10	14	0.46	0.68	-7361	47200	97350	2.06	Si
SLV 9	14	0.46	0.68	-7361	47200	97350	2.06	Si
SLV 15	14	0.46	0.88	-9561	47200	124227	2.63	Si
SLV 16	14	0.46	0.88	-9561	47200	124227	2.63	Si
SLV 5	14	0.46	0.99	-10773	47200	138599	2.94	Si
SLV 6	14	0.46	0.99	-10773	47200	138599	2.94	Si
SLV 12	14	0.46	1.55	-16870	47200	206199	4.37	Si
SLV 11	14	0.46	1.55	-16870	47200	206199	4.37	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1010 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 4	-11803	-28170	103	0.042	17.525	0.92	66.36	1088.965	No
SLV 3	-11803	-28170	103	0.042	17.525	0.92	66.36	1088.965	No
SLV 14	-5871	-9045	-115	0.042	11.653	0.896	68.442	1088.965	No
SLV 13	-5871	-9045	-115	0.042	11.653	0.896	68.442	1088.965	No
SLV 2	-10472	-25645	81	0.044	16.193	0.915	69.583	1088.965	No
SLV 1	-10472	-25645	81	0.044	16.193	0.915	69.583	1088.965	No
SLV 15	-7202	-11570	-92	0.044	12.95	0.901	70.892	1088.965	No
SLV 16	-7202	-11570	-92	0.044	12.95	0.901	70.892	1088.965	No
SLV 7	-11745	-25306	61	0.045	17.467	0.919	70.814	1001.941	No
SLV 8	-11745	-25306	61	0.045	17.467	0.919	70.814	1001.941	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.225	SLU 44	Si
V_SLU	2.419	SLU 76	Si
PF_SLV	2.602	SLV 9	Si
V_SLV	1.534	SLV 5	Si
PFFP_SLV	1.889	SLV 13	Si
R_SLV	0.061	SLV 3	No

## Maschio 144

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2271.3	595.1	-2467.8	595.1	L5	L6	196.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 10	924	-7032	-2279	1.28	582508	255.573	Si



Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 10	1104	-6684	-52820	1.21	558735	10.578	Si
SLU 19	924	-7397	-1024	1.34	606815	592.616	Si
SLU 19	1104	-7138	-59345	1.3	589603	9.935	Si
SLU 52	924	-8808	-7007	1.6	695325	99.235	Si
SLU 52	1104	-8106	-62674	1.47	652394	10.409	Si
SLU 39	924	-8330	7976	1.51	666280	83.534	Si
SLU 39	1104	-8253	-58844	1.5	661548	11.242	Si
SLU 82	924	-9921	3309	1.8	758978	229.356	Si
SLU 82	1104	-9586	-69917	1.74	740364	10.589	Si
SLU 60	924	-9357	-5812	1.7	727413	125.151	Si
SLU 60	1104	-8651	-67981	1.57	685885	10.089	Si
SLU 18	924	-7581	-1085	1.38	618872	570.579	Si
SLU 18	1104	-7228	-58127	1.31	595623	10.247	Si
SLU 81	924	-10105	3248	1.84	768996	236.724	Si
SLU 81	1104	-9676	-68699	1.76	745416	10.851	Si
SLU 40	924	-8145	8037	1.48	654827	81.478	Si
SLU 40	1104	-8163	-60063	1.48	655934	10.921	Si
SLU 61	924	-9173	-5752	1.67	716791	124.624	Si
SLU 61	1104	-8561	-69200	1.56	680428	9.833	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 15	924	-7703	-274055	1.4	670106	2.445	Si
SLV 15	1104	-4117	171288	0.75	379727	2.217	Si
SLV 3	924	-8728	268251	1.59	746184	2.782	Si
SLV 3	1104	-10512	-280648	1.91	871309	3.105	Si
SLV 16	924	-7703	-274055	1.4	670106	2.445	Si
SLV 16	1104	-4117	171288	0.75	379727	2.217	Si
SLV 14	924	-5572	-272153	1.01	502067	1.845	Si
SLV 14	1104	-2428	203119	0.44	229898	1.132	Si
SLV 13	924	-5572	-272153	1.01	502067	1.845	Si
SLV 13	1104	-2428	203119	0.44	229898	1.132	Si
SLV 1	924	-6597	270153	1.2	584529	2.164	Si
SLV 1	1104	-8823	-248818	1.6	753058	3.027	Si
SLV 10	924	-3444	-80127	0.63	321060	4.007	Si
SLV 10	1104	-2695	82077	0.49	254151	3.096	Si
SLV 2	924	-6597	270153	1.2	584529	2.164	Si
SLV 2	1104	-8823	-248818	1.6	753058	3.027	Si
SLV 4	924	-8728	268251	1.59	746184	2.782	Si
SLV 4	1104	-10512	-280648	1.91	871309	3.105	Si
SLV 9	924	-3444	-80127	0.63	321060	4.007	Si
SLV 9	1104	-2695	82077	0.49	254151	3.096	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 84	924	-10265	1464	19503		1.87	196.5	0.8	4425			3.02	Si
SLU 84	1104	-9942	1463	-36224		1.81	196.5	0.8	4382			3	Si
SLU 61	924	-9173	1335	-5752		1.67	196.5	0.78	4280			3.21	Si
SLU 61	1104	-8561	1333	-69200		1.56	196.5	0.76	4198			3.15	Si
SLU 83	924	-10449	1404	19442		1.9	196.5	0.81	4450			3.17	Si
SLU 83	1104	-10032	1406	-35006		1.82	196.5	0.8	4394			3.13	Si
SLU 40	924	-8145	1418	8037		1.48	196.5	0.75	4143			2.92	Si
SLU 40	1104	-8163	1417	-60063		1.48	196.5	0.75	4145			2.93	Si
SLU 31	924	-7780	1327	6782		1.41	196.5	0.74	4094			3.08	Si
SLU 31	1104	-7709	1324	-53537		1.4	196.5	0.74	4084			3.08	Si
SLU 73	924	-9556	1463	2054		1.74	196.5	0.79	4331			2.96	Si
SLU 73	1104	-9131	1460	-63392		1.66	196.5	0.78	4274			2.93	Si
SLU 76	924	-9900	1372	18248		1.8	196.5	0.8	4377			3.19	Si
SLU 76	1104	-9488	1370	-29699		1.72	196.5	0.79	4322			3.15	Si
SLU 39	924	-8330	1359	7976		1.51	196.5	0.76	4167			3.07	Si
SLU 39	1104	-8253	1360	-58844		1.5	196.5	0.76	4157			3.06	Si
SLU 82	924	-9921	1554	3309		1.8	196.5	0.8	4379			2.82	Si
SLU 82	1104	-9586	1553	-69917		1.74	196.5	0.79	4335			2.79	Si
SLU 81	924	-10105	1494	3248		1.84	196.5	0.8	4404			2.95	Si
SLU 81	1104	-9676	1495	-68699		1.76	196.5	0.79	4347			2.91	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	924	-8728	5732	268251		1.59	196.5	1.15	6331			1.1	Si
SLV 3	1104	-10512	4833	-280648		1.91	196.5	1.22	6687			1.38	Si
SLV 15	924	-7703	-3650	-274055		1.46	188.02	1.13	5928			1.62	Si
SLV 15	1104	-4117	-3114	171288		0.87	169.94	1.01	4789			1.54	Si
SLD 4	924	-7819	2938	113504		1.42	196.5	1.12	6149			2.09	Si
SLD 4	1104	-8195	2554	-141998		1.49	196.5	1.13	6224			2.44	Si
SLD 3	924	-7819	2938	113504		1.42	196.5	1.12	6149			2.09	Si
SLD 3	1104	-8195	2554	-141998		1.49	196.5	1.13	6224			2.44	Si
SLV 4	924	-8728	5732	268251		1.59	196.5	1.15	6331			1.1	Si
SLV 4	1104	-10512	4833	-280648		1.91	196.5	1.22	6687			1.38	Si
SLV 2	924	-6597	5355	270153		1.37	171.89	1.11	5330			1	No, Vu<V
SLV 2	1104	-8823	4821	-248818		1.6	196.5	1.15	6350			1.32	Si
SLV 16	924	-7703	-3650	-274055		1.46	188.02	1.13	5928			1.62	Si
SLV 16	1104	-4117	-3114	171288		0.87	169.94	1.01	4789			1.54	Si
SLV 14	924	-5572	-4026	-272153		1.34	148.22	1.1	4573			1.14	Si
SLV 14	1104	-2428	-3126	203119		1.98	43.74	1.23	1506			0.48	No, Vu<V
SLV 1	924	-6597	5355	270153		1.37	171.89	1.11	5330			1	No, Vu<V
SLV 1	1104	-8823	4821	-248818		1.6	196.5	1.15	6350			1.32	Si
SLV 13	924	-5572	-4026	-272153		1.34	148.22	1.1	4573			1.14	Si
SLV 13	1104	-2428	-3126	203119		1.98	43.74	1.23	1506			0.48	No, Vu<V



## Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.46	0.64	-3498	23874	46420	1.94	Si
SLV 9	14	0.46	0.64	-3498	23874	46420	1.94	Si
SLV 14	14	0.46	0.74	-4078	23874	53634	2.25	Si
SLV 13	14	0.46	0.74	-4078	23874	53634	2.25	Si
SLV 6	14	0.46	0.87	-4762	23874	61948	2.59	Si
SLV 5	14	0.46	0.87	-4762	23874	61948	2.59	Si
SLV 16	14	0.46	1.06	-5841	23874	74666	3.13	Si
SLV 15	14	0.46	1.06	-5841	23874	74666	3.13	Si
SLV 2	14	0.46	1.51	-8293	23874	101784	4.26	Si
SLV 1	14	0.46	1.51	-8293	23874	101784	4.26	Si

## Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1010 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 9	-3041	-2839	159	0.021	5.963	0.896	34.258	1001.941	No
SLV 10	-3041	-2839	159	0.021	5.963	0.896	34.258	1001.941	No
SLV 5	-3982	-4509	136	0.028	6.884	0.904	45.213	1001.941	No
SLV 6	-3982	-4509	136	0.028	6.884	0.904	45.213	1001.941	No
SLV 7	-7263	-11385	-158	0.03	10.164	0.928	46.972	1001.941	No
SLV 8	-7263	-11385	-158	0.03	10.164	0.928	46.972	1001.941	No
SLV 11	-6322	-9716	-135	0.032	9.218	0.922	49.871	1001.941	No
SLV 12	-6322	-9716	-135	0.032	9.218	0.922	49.871	1001.941	No
SLV 14	-3092	-3299	82	0.037	6.012	0.897	60.173	1088.965	No
SLV 13	-3092	-3299	82	0.037	6.012	0.897	60.173	1088.965	No

## Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.833	SLU 61	Si
V_SLU	2.792	SLU 82	Si
PF_SLV	1.132	SLV 13	Si
V_SLV	0.482	SLV 13	No
PFFP_SLV	1.944	SLV 9	Si
R_SLV	0.034	SLV 9	No

## Maschio 145

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1961.8	595.1	-2181.3	595.1	L5	L6	219.5	28	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

## Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 28	924	-3613	180949	0.59	367898	2.033	Si
SLU 28	1104	-1546	128889	0.25	164475	1.276	Si
SLU 51	924	-4544	185262	0.74	453439	2.448	Si
SLU 51	1104	-1908	130872	0.31	201434	1.539	Si
SLU 29	924	-2845	196435	0.46	294514	1.499	Si
SLU 29	1104	-779	132929	0	0	0	No, e>l/2
SLU 72	924	-4806	201572	0.78	476818	2.365	Si
SLU 72	1104	-2139	146190	0.35	224755	1.537	Si
SLU 7	924	-3351	164639	0.55	343149	2.084	Si
SLU 7	1104	-1315	113570	0.21	140553	1.238	Si
SLU 6	924	-3385	168329	0.55	346427	2.058	Si
SLU 6	1104	-1350	114568	0.22	144139	1.258	Si
SLU 30	924	-2811	192745	0.46	291154	1.511	Si
SLU 30	1104	-744	131931	0	0	0	No, e>l/2
SLU 9	924	-2549	176435	0.41	265483	1.505	Si
SLU 9	1104	-513	116613	0	0	0	No, e>l/2
SLU 8	924	-2583	180125	0.42	268883	1.493	Si
SLU 8	1104	-548	117611	0	0	0	No, e>l/2
SLU 27	924	-3647	184639	0.59	371137	2.01	Si
SLU 27	1104	-1581	129886	0.26	168026	1.294	Si

## Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 1	924	-2632	421860	0	0	0	No, e>l/2
SLV 1	1104	-772	-163656	0	0	0	No, e>l/2
SLV 4	924	-2206	569487	0	0	0	No, e>l/2
SLV 4	1104	16	-183511	0	0	0	No, Trazione
SLV 8	924	-5189	427993	0.84	530165	1.239	Si
SLV 8	1104	-2543	-35756	0.41	269671	7.542	Si
SLV 14	924	-12578	-474496	2.05	1149242	2.422	Si
SLV 14	1104	-10711	324681	1.74	1007881	3.104	Si
SLD 3	924	-5183	270322	0.84	529579	1.959	Si
SLD 3	1104	-3067	-38898	0.5	322837	8.3	Si





Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 2	924	-2632	421860	0	0	0	No, $e \geq l/2$
SLV 2	1104	-772	-163656	0	0	0	No, $e \geq l/2$
SLD 4	924	-5183	270322	0.84	529579	1.959	Si
SLD 4	1104	-3067	-38898	0.5	322837	8.3	Si
SLV 7	924	-5189	427993	0.84	530165	1.239	Si
SLV 7	1104	-2543	-35756	0.41	269671	7.542	Si
SLV 13	924	-12578	-474496	2.05	1149242	2.422	Si
SLV 13	1104	-10711	324681	1.74	1007881	3.104	Si
SLV 3	924	-2206	569487	0	0	0	No, $e \geq l/2$
SLV 3	1104	16	-183511	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 29	924	-2845	336	196435		0.83	122.13	0.67	2279			6.79	Si
SLU 29	1104	-779	336	132929		0	0	0.56	0			0	No, $V_u < V$
SLU 28	924	-3613	272	180949		0.72	179	0.65	3266			12.01	Si
SLU 28	1104	-1546	272	128889		0.7	79.21	0.65	1438			5.29	Si
SLU 7	924	-3351	266	164639		0.66	181.85	0.64	3276			12.32	Si
SLU 7	1104	-1315	266	113570		0.67	70.2	0.64	1267			4.77	Si
SLU 30	924	-2811	321	192745		0.81	123.52	0.66	2296			7.16	Si
SLU 30	1104	-744	321	131931		0	0	0.56	0			0	No, $V_u < V$
SLU 71	924	-4840	300	205263		0.86	202.03	0.67	3788			12.64	Si
SLU 71	1104	-2174	300	147188		0.62	126.12	0.64	2252			7.51	Si
SLU 27	924	-3647	287	184639		0.73	177.38	0.65	3246			11.31	Si
SLU 27	1104	-1581	287	129886		0.68	82.77	0.65	1498			5.22	Si
SLU 9	924	-2549	314	176435		0.75	121.58	0.66	2231			7.1	Si
SLU 9	1104	-513	314	116613		0	0	0.56	0			0	No, $V_u < V$
SLU 50	924	-4579	294	188953		0.8	205.44	0.66	3806			12.97	Si
SLU 50	1104	-1943	294	131869		0.55	125.6	0.63	2213			7.54	Si
SLU 6	924	-3385	281	168329		0.67	180.09	0.65	3253			11.59	Si
SLU 6	1104	-1350	281	114568		0.65	74.6	0.64	1340			4.77	Si
SLU 8	924	-2583	329	180125		0.77	120.07	0.66	2212			6.72	Si
SLU 8	1104	-548	329	117611		0	0	0.56	0			0	No, $V_u < V$

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	924	-12578	-5289	-474496		2.08	216.08	1.25	7557			1.43	Si
SLV 13	1104	-10711	-4458	324681		1.74	219.5	1.18	7264			1.63	Si
SLV 14	924	-12578	-5289	-474496		2.08	216.08	1.25	7557			1.43	Si
SLV 14	1104	-10711	-4458	324681		1.74	219.5	1.18	7264			1.63	Si
SLV 3	924	-2206	4997	569487		0	0	0.83	0			0	No, $V_u < V$
SLV 3	1104	16	4166	-183511		0	0	0.83	0			0	No, $V_u < V$
SLV 4	924	-2206	4997	569487		0	0	0.83	0			0	No, $V_u < V$
SLV 4	1104	16	4166	-183511		0	0	0.83	0			0	No, $V_u < V$
SLV 15	924	-12152	-4122	-326869		1.98	219.5	1.23	7552			1.83	Si
SLV 15	1104	-9923	-3511	304826		1.61	219.5	1.16	7106			2.02	Si
SLV 2	924	-2632	3830	421860		0	0	0.83	0			0	No, $V_u < V$
SLV 2	1104	-772	3219	-163656		0	0	0.83	0			0	No, $V_u < V$
SLV 1	924	-2632	3830	421860		0	0	0.83	0			0	No, $V_u < V$
SLV 1	1104	-772	3219	-163656		0	0	0.83	0			0	No, $V_u < V$
SLV 7	924	-5189	3166	427993		2.27	81.82	1.29	2947			0.93	No, $V_u < V$
SLV 7	1104	-2543	2585	-35756		0.41	219.5	0.92	5630			2.18	Si
SLV 16	924	-12152	-4122	-326869		1.98	219.5	1.23	7552			1.83	Si
SLV 16	1104	-9923	-3511	304826		1.61	219.5	1.16	7106			2.02	Si
SLV 8	924	-5189	3166	427993		2.27	81.82	1.29	2947			0.93	No, $V_u < V$
SLV 8	1104	-2543	2585	-35756		0.41	219.5	0.92	5630			2.18	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 4	14	0.46	0	-1634	26668	0	0	No, $e \geq t/2$
SLV 3	14	0.46	0	-1634	26668	0	0	No, $e \geq t/2$
SLV 1	14	0.46	0.37	-2299	26668	31207	1.17	Si
SLV 2	14	0.46	0.37	-2299	26668	31207	1.17	Si
SLV 7	14	0.46	0.66	-4027	26668	53354	2	Si
SLV 8	14	0.46	0.66	-4027	26668	53354	2	Si
SLV 6	14	0.46	1.02	-6244	26668	80149	3.01	Si
SLV 5	14	0.46	1.02	-6244	26668	80149	3.01	Si
SLV 12	14	0.46	1.1	-6743	26668	85924	3.22	Si
SLV 11	14	0.46	1.1	-6743	26668	85924	3.22	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1010 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	$\alpha_{lim}$	Verifica
SLV 3	-1204	302	-57	0	0	0	0	1088.965	No, Trazione
SLV 4	-1204	302	-57	0	0	0	0	1088.965	No, Trazione
SLV 7	-2452	-4000	-125	0.029	5.758	0.89	47.264	1001.941	No
SLV 8	-2452	-4000	-125	0.029	5.758	0.89	47.264	1001.941	No
SLV 11	-3957	-8564	-114	0.034	7.206	0.9	54.166	1001.941	No
SLV 12	-3957	-8564	-114	0.034	7.206	0.9	54.166	1001.941	No
SLV 9	-5408	-11483	116	0.035	8.641	0.911	55.099	1001.941	No
SLV 10	-5408	-11483	116	0.035	8.641	0.911	55.099	1001.941	No
SLV 6	-3903	-6919	105	0.035	7.154	0.9	56.636	1001.941	No
SLV 5	-3903	-6919	105	0.035	7.154	0.9	56.636	1001.941	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU		SLU 8	No



Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	0	SLU 8	No
PF_SLV	0	SLV 4	No
V_SLV	0	SLV 1	No
PFFP_SLV	0	SLV 3	No
R_SLV	0	SLV 4	No

## Maschio 146

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2249.3	-335.9	-2467.8	-335.9	L5	L6	218.5	28	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 19	924	-8547	88436	1.4	773585	8.747	Si
SLU 19	1104	-8749	-152495	1.43	788014	5.167	Si
SLU 81	924	-11474	101510	1.88	964950	9.506	Si
SLU 81	1104	-11654	-194112	1.9	975492	5.025	Si
SLU 31	924	-9166	114347	1.5	817197	7.147	Si
SLU 31	1104	-9666	-166269	1.58	851176	5.119	Si
SLU 73	924	-11136	121223	1.82	944752	7.793	Si
SLU 73	1104	-11333	-192577	1.85	956570	4.967	Si
SLU 82	924	-11443	117636	1.87	963087	8.187	Si
SLU 82	1104	-11746	-199592	1.92	980796	4.914	Si
SLU 52	924	-10210	98900	1.67	886909	8.968	Si
SLU 52	1104	-10003	-171787	1.64	873477	5.085	Si
SLU 60	924	-10548	79187	1.72	908481	11.473	Si
SLU 60	1104	-10324	-173323	1.69	894274	5.16	Si
SLU 39	924	-9504	94634	1.55	840318	8.88	Si
SLU 39	1104	-9987	-167805	1.63	872448	5.199	Si
SLU 61	924	-10517	95312	1.72	906490	9.511	Si
SLU 61	1104	-10416	-178802	1.7	900111	5.034	Si
SLU 40	924	-9473	110759	1.55	838182	7.568	Si
SLU 40	1104	-10079	-173284	1.65	878420	5.069	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 16	924	-6266	-152514	1.02	627147	4.112	Si
SLV 16	1104	-3822	144087	0.62	396238	2.75	Si
SLV 7	924	-4404	114663	0.72	452753	3.949	Si
SLV 7	1104	-5558	-149384	0.91	562104	3.763	Si
SLV 8	924	-4404	114663	0.72	452753	3.949	Si
SLV 8	1104	-5558	-149384	0.91	562104	3.763	Si
SLD 3	924	-7869	147946	1.29	769179	5.199	Si
SLD 3	1104	-8667	-226318	1.42	837102	3.699	Si
SLV 4	924	-7572	266980	1.24	743435	2.785	Si
SLV 4	1104	-9853	-362437	1.61	934521	2.578	Si
SLD 4	924	-7869	147946	1.29	769179	5.199	Si
SLD 4	1104	-8667	-226318	1.42	837102	3.699	Si
SLV 2	924	-9896	271689	1.62	937987	3.452	Si
SLV 2	1104	-11724	-393097	1.92	1079976	2.747	Si
SLV 15	924	-6266	-152514	1.02	627147	4.112	Si
SLV 15	1104	-3822	144087	0.62	396238	2.75	Si
SLV 3	924	-7572	266980	1.24	743435	2.785	Si
SLV 3	1104	-9853	-362437	1.61	934521	2.578	Si
SLV 1	924	-9896	271689	1.62	937987	3.452	Si
SLV 1	1104	-11724	-393097	1.92	1079976	2.747	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 78	924	-12429	3535	128656		2.03	218.5	0.83	5056			1.43	Si
SLU 78	1104	-12706	3509	-172052		2.08	218.5	0.83	5093			1.45	Si
SLU 75	924	-11893	3521	118823		1.94	218.5	0.81	4985			1.42	Si
SLU 75	1104	-12118	3493	-184853		1.98	218.5	0.82	5015			1.44	Si
SLU 73	924	-11136	3572	121223		1.82	218.5	0.8	4884			1.37	Si
SLU 73	1104	-11333	3522	-192577		1.85	218.5	0.8	4910			1.39	Si
SLU 84	924	-11979	3659	127469		1.96	218.5	0.82	4996			1.37	Si
SLU 84	1104	-12335	3632	-186791		2.02	218.5	0.82	5044			1.39	Si
SLU 40	924	-9473	3265	110759		1.55	218.5	0.76	4662			1.43	Si
SLU 40	1104	-10079	3236	-173284		1.65	218.5	0.78	4743			1.47	Si
SLU 31	924	-9166	3192	114347		1.5	218.5	0.76	4621			1.45	Si
SLU 31	1104	-9666	3143	-166269		1.58	218.5	0.77	4688			1.49	Si
SLU 81	924	-11474	3433	101510		1.88	218.5	0.81	4929			1.44	Si
SLU 81	1104	-11654	3435	-194112		1.9	218.5	0.81	4953			1.44	Si
SLU 76	924	-11672	3586	131056		1.91	218.5	0.81	4955			1.38	Si
SLU 76	1104	-11922	3539	-179775		1.95	218.5	0.82	4988			1.41	Si
SLU 82	924	-11443	3644	117636		1.87	218.5	0.8	4925			1.35	Si
SLU 82	1104	-11746	3615	-199592		1.92	218.5	0.81	4965			1.37	Si
SLU 42	924	-10009	3280	120592		1.64	218.5	0.77	4733			1.44	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 42	1104	-10668	3252	-160483		1.74	218.5	0.79	4821			1.48	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 2	924	-8851	4054	150366		1.45	218.5	1.12	6868			1.69	Si
SLD 2	1104	-9454	3621	-238842		1.55	218.5	1.14	6989			1.93	Si
SLV 3	924	-7572	6462	266980		1.24	218.5	1.08	6613			1.02	Si
SLV 3	1104	-9853	5633	-362437		1.62	217.39	1.16	7043			1.25	Si
SLD 4	924	-7869	3976	147946		1.29	218.5	1.09	6672			1.68	Si
SLD 4	1104	-8667	3624	-226318		1.42	218.5	1.12	6832			1.88	Si
SLV 8	924	-4404	3147	114663		0.72	218.5	0.98	5979			1.9	Si
SLV 8	1104	-5558	3183	-149384		0.91	218.5	1.02	6210			1.95	Si
SLD 3	924	-7869	3976	147946		1.29	218.5	1.09	6672			1.68	Si
SLD 3	1104	-8667	3624	-226318		1.42	218.5	1.12	6832			1.88	Si
SLD 1	924	-8851	4054	150366		1.45	218.5	1.12	6868			1.69	Si
SLD 1	1104	-9454	3621	-238842		1.55	218.5	1.14	6989			1.93	Si
SLV 2	924	-9896	6646	271689		1.62	218.5	1.16	7077			1.06	Si
SLV 2	1104	-11724	5631	-393097		1.92	218.5	1.22	7443			1.32	Si
SLV 1	924	-9896	6646	271689		1.62	218.5	1.16	7077			1.06	Si
SLV 1	1104	-11724	5631	-393097		1.92	218.5	1.22	7443			1.32	Si
SLV 7	924	-4404	3147	114663		0.72	218.5	0.98	5979			1.9	Si
SLV 7	1104	-5558	3183	-149384		0.91	218.5	1.02	6210			1.95	Si
SLV 4	924	-7572	6462	266980		1.24	218.5	1.08	6613			1.02	Si
SLV 4	1104	-9853	5633	-362437		1.62	217.39	1.16	7043			1.25	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.46	0.68	-4138	26546	54723	2.06	Si
SLV 12	14	0.46	0.68	-4138	26546	54723	2.06	Si
SLV 15	14	0.46	0.82	-5009	26546	65425	2.46	Si
SLV 16	14	0.46	0.82	-5009	26546	65425	2.46	Si
SLV 7	14	0.46	0.88	-5395	26546	70080	2.64	Si
SLV 8	14	0.46	0.88	-5395	26546	70080	2.64	Si
SLV 13	14	0.46	1.15	-7013	26546	88968	3.35	Si
SLV 14	14	0.46	1.15	-7013	26546	88968	3.35	Si
SLV 3	14	0.46	1.5	-9200	26546	112947	4.25	Si
SLV 4	14	0.46	1.5	-9200	26546	112947	4.25	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1010 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 6	-7979	-13342	-45	0.043	11.204	0.927	67.453	1001.941	No
SLV 5	-7979	-13342	-45	0.043	11.204	0.927	67.453	1001.941	No
SLV 3	-6690	-10431	19	0.046	9.908	0.92	73.431	1088.965	No
SLV 4	-6690	-10431	19	0.046	9.908	0.92	73.431	1088.965	No
SLV 10	-7092	-11511	-49	0.043	10.311	0.922	67.578	1001.941	No
SLV 9	-7092	-11511	-49	0.043	10.311	0.922	67.578	1001.941	No
SLV 1	-7763	-12761	-8	0.047	10.986	0.926	73.593	1088.965	No
SLV 2	-7763	-12761	-8	0.047	10.986	0.926	73.593	1088.965	No
SLV 13	-4805	-6656	-22	0.048	8.027	0.907	76.795	1088.965	No
SLV 14	-4805	-6656	-22	0.048	8.027	0.907	76.795	1088.965	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.914	SLU 82	Si
V_SLU	1.351	SLU 82	Si
PF_SLV	2.578	SLV 3	Si
V_SLV	1.023	SLV 3	Si
PFFP_SLV	2.061	SLV 11	Si
R_SLV	0.067	SLV 5	No

## Maschio 147

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1936.8	-335.9	-2159.3	-335.9	L5	L6	222.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 72	1034	-9004	-13778	1.45	823941	59.802	Si
SLU 72	1114	-7782	-101023	1.25	732991	7.256	Si
SLU 70	1034	-9391	-16964	1.51	851416	50.191	Si
SLU 70	1114	-8152	-104452	1.31	761241	7.288	Si
SLU 78	1034	-10297	-25666	1.65	913128	35.577	Si
SLU 78	1114	-9038	-113513	1.45	826426	7.28	Si
SLU 30	1034	-7293	-6931	1.17	694769	100.244	Si
SLU 30	1114	-6381	-84522	1.02	620640	7.343	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 79	1034	-10335	-25545	1.66	915608	35.843	Si
SLU 79	1114	-9032	-112112	1.45	825969	7.367	Si
SLU 84	1034	-10231	-35356	1.64	908721	25.702	Si
SLU 84	1114	-8948	-111463	1.44	819913	7.356	Si
SLU 76	1034	-9559	-29584	1.53	863134	29.176	Si
SLU 76	1114	-8325	-106228	1.34	774249	7.289	Si
SLU 26	1034	-6942	-14034	1.11	666685	47.505	Si
SLU 26	1114	-6038	-80665	0.97	591836	7.337	Si
SLU 80	1034	-9910	-22481	1.59	887192	39.464	Si
SLU 80	1114	-8668	-110085	1.39	799615	7.264	Si
SLU 68	1034	-8653	-20881	1.39	798488	38.24	Si
SLU 68	1114	-7439	-97166	1.19	706293	7.269	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 4	1034	-5706	28702	0.92	587210	20.459	Si
SLV 4	1114	-5502	-301209	0.88	567842	1.885	Si
SLD 1	1034	-6819	11268	1.09	690692	61.298	Si
SLD 1	1114	-6370	-199366	1.02	649363	3.257	Si
SLV 2	1034	-6294	65472	1.01	642345	9.811	Si
SLV 2	1114	-6657	-367490	1.07	675854	1.839	Si
SLV 15	1034	-8135	-123376	1.31	808306	6.552	Si
SLV 15	1114	-5688	216923	0.91	585493	2.699	Si
SLV 3	1034	-5706	28702	0.92	587210	20.459	Si
SLV 3	1114	-5502	-301209	0.88	567842	1.885	Si
SLV 16	1034	-8135	-123376	1.31	808306	6.552	Si
SLV 16	1114	-5688	216923	0.91	585493	2.699	Si
SLV 5	1034	-7831	55143	1.26	781568	14.173	Si
SLV 5	1114	-8070	-263471	1.3	802650	3.046	Si
SLV 1	1034	-6294	65472	1.01	642345	9.811	Si
SLV 1	1114	-6657	-367490	1.07	675854	1.839	Si
SLD 2	1034	-6819	11268	1.09	690692	61.298	Si
SLD 2	1114	-6370	-199366	1.02	649363	3.257	Si
SLV 6	1034	-7831	55143	1.26	781568	14.173	Si
SLV 6	1114	-8070	-263471	1.3	802650	3.046	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 26	1034	-6942	810	-14034		1.11	222.5	0.7	4387			5.42	Si
SLU 26	1114	-6038	429	-80665		0.97	222.5	0.68	4266			9.95	Si
SLU 78	1034	-10297	933	-25666		1.65	222.5	0.78	4834			5.18	Si
SLU 78	1114	-9038	465	-113513		1.45	222.5	0.75	4666			10.04	Si
SLU 72	1034	-9004	973	-13778		1.45	222.5	0.75	4662			4.79	Si
SLU 72	1114	-7782	538	-101023		1.25	222.5	0.72	4499			8.36	Si
SLU 29	1034	-7718	831	-9995		1.24	222.5	0.72	4490			5.4	Si
SLU 29	1114	-6745	476	-86550		1.08	222.5	0.7	4360			9.16	Si
SLU 28	1034	-7681	916	-10116		1.23	222.5	0.72	4485			4.9	Si
SLU 28	1114	-6751	507	-87951		1.08	222.5	0.7	4361			8.59	Si
SLU 38	1034	-8200	916	-15634		1.32	222.5	0.73	4554			4.97	Si
SLU 38	1114	-7267	487	-93583		1.17	222.5	0.71	4430			9.09	Si
SLU 80	1034	-9910	953	-22481		1.59	222.5	0.77	4782			5.02	Si
SLU 80	1114	-8668	491	-110085		1.39	222.5	0.74	4617			9.4	Si
SLU 36	1034	-8587	896	-18819		1.38	222.5	0.74	4606			5.14	Si
SLU 36	1114	-7637	461	-97012		1.23	222.5	0.72	4479			9.72	Si
SLU 30	1034	-7293	936	-6931		1.17	222.5	0.71	4434			4.74	Si
SLU 30	1114	-6381	534	-84522		1.02	222.5	0.69	4312			8.08	Si
SLU 70	1034	-9391	953	-16964		1.51	222.5	0.76	4713			4.94	Si
SLU 70	1114	-8152	511	-104452		1.31	222.5	0.73	4548			8.89	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	1034	-5706	5695	28702		0.92	222.5	1.02	6333			1.11	Si
SLV 4	1114	-5502	4119	-301209		1.16	169.51	1.07	5056			1.23	Si
SLV 14	1034	-8723	-5037	-86606		1.4	222.5	1.11	6936			1.38	Si
SLV 14	1114	-6843	-3886	150643		1.1	222.5	1.05	6560			1.69	Si
SLV 5	1034	-7831	4426	55143		1.26	222.5	1.08	6758			1.53	Si
SLV 5	1114	-8070	3258	-263471		1.3	222.5	1.09	6806			2.09	Si
SLV 15	1034	-8135	-6406	-123376		1.31	222.5	1.09	6819			1.06	Si
SLV 15	1114	-5688	-4954	216923		0.93	219.34	1.02	6255			1.26	Si
SLV 1	1034	-6294	7064	65472		1.01	222.5	1.04	6451			0.91	No, Vu<V
SLV 1	1114	-6657	5187	-367490		1.41	168.15	1.12	5255			1.01	Si
SLV 3	1034	-5706	5695	28702		0.92	222.5	1.02	6333			1.11	Si
SLV 3	1114	-5502	4119	-301209		1.16	169.51	1.07	5056			1.23	Si
SLV 6	1034	-7831	4426	55143		1.26	222.5	1.08	6758			1.53	Si
SLV 6	1114	-8070	3258	-263471		1.3	222.5	1.09	6806			2.09	Si
SLV 16	1034	-8135	-6406	-123376		1.31	222.5	1.09	6819			1.06	Si
SLV 16	1114	-5688	-4954	216923		0.93	219.34	1.02	6255			1.26	Si
SLV 2	1034	-6294	7064	65472		1.01	222.5	1.04	6451			0.91	No, Vu<V
SLV 2	1114	-6657	5187	-367490		1.41	168.15	1.12	5255			1.01	Si
SLV 13	1034	-8723	-5037	-86606		1.4	222.5	1.11	6936			1.38	Si
SLV 13	1114	-6843	-3886	150643		1.1	222.5	1.05	6560			1.69	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.46	0.81	-5021	27032	65660	2.43	Si
SLV 7	14	0.46	0.81	-5021	27032	65660	2.43	Si
SLV 12	14	0.46	0.83	-5141	27032	67116	2.48	Si
SLV 11	14	0.46	0.83	-5141	27032	67116	2.48	Si



Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 4	14	0.46	0.99	-6174	27032	79431	2.94	Si
SLV 3	14	0.46	0.99	-6174	27032	79431	2.94	Si
SLV 16	14	0.46	1.06	-6575	27032	84095	3.11	Si
SLV 15	14	0.46	1.06	-6575	27032	84095	3.11	Si
SLV 1	14	0.46	1.17	-7283	27032	92208	3.41	Si
SLV 2	14	0.46	1.17	-7283	27032	92208	3.41	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeraia = 1010  $W_a = 0.05$   $T_a = 0.0739$

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 4	-4186	-7246	229	0.015	7.477	0.902	24.664	1088.965	No
SLV 3	-4186	-7246	229	0.015	7.477	0.902	24.664	1088.965	No
SLV 14	-5575	-7058	-224	0.02	8.852	0.912	32.614	1088.965	No
SLV 13	-5575	-7058	-224	0.02	8.852	0.912	32.614	1088.965	No
SLV 7	-3572	-4853	165	0.024	6.877	0.897	39.116	1001.941	No
SLV 8	-3572	-4853	165	0.024	6.877	0.897	39.116	1001.941	No
SLV 1	-4912	-8781	167	0.027	8.193	0.907	43.164	1088.965	No
SLV 2	-4912	-8781	167	0.027	8.193	0.907	43.164	1088.965	No
SLV 16	-4849	-5523	-162	0.028	8.131	0.907	44.167	1088.965	No
SLV 15	-4849	-5523	-162	0.028	8.131	0.907	44.167	1088.965	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.256	SLU 72	Si
V_SLU	4.738	SLU 30	Si
PF_SLV	1.839	SLV 1	Si
V_SLV	0.913	SLV 1	No
PFFP_SLV	2.429	SLV 7	Si
R_SLV	0.023	SLV 3	No

## Maschio 148

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1826.3	-335.9	-1886.8	-335.9	L5	L6	60.5	28	352	352	352			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 65	1034	-2700	7836	1.59	65701	8.385	Si
SLU 65	1114	-2203	13216	1.3	55994	4.237	Si
SLU 2	1034	-1829	5133	1.08	47993	9.349	Si
SLU 2	1114	-1457	9882	0.86	39411	3.988	Si
SLU 82	1034	-3275	8204	1.93	75553	9.209	Si
SLU 82	1114	-2819	16401	1.66	67860	4.137	Si
SLU 52	1034	-2680	6535	1.58	65325	9.996	Si
SLU 52	1114	-2231	14823	1.32	56568	3.816	Si
SLU 19	1034	-2403	5502	1.42	60039	10.913	Si
SLU 19	1114	-2073	13067	1.22	53294	4.078	Si
SLU 61	1034	-2961	6980	1.75	70355	10.08	Si
SLU 61	1114	-2521	15682	1.49	62331	3.975	Si
SLU 73	1034	-2994	7760	1.77	70909	9.138	Si
SLU 73	1114	-2529	15542	1.49	62476	4.02	Si
SLU 31	1034	-2436	6282	1.44	60672	9.659	Si
SLU 31	1114	-2081	12927	1.23	53454	4.135	Si
SLU 44	1034	-2387	6611	1.41	59714	9.032	Si
SLU 44	1114	-1905	12498	1.12	49660	3.974	Si
SLU 10	1034	-2122	5057	1.25	54321	10.741	Si
SLU 10	1114	-1783	12208	1.05	46960	3.847	Si

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 14	1034	-150	-35362	0	0	0	No, $e \geq l/2$
SLV 14	1114	-747	67665	0	0	0	No, $e \geq l/2$
SLD 14	1034	-1437	-11584	0.85	40441	3.491	Si
SLD 14	1114	-1482	34796	0.87	41613	1.196	Si
SLV 13	1034	-150	-35362	0	0	0	No, $e \geq l/2$
SLV 13	1114	-747	67665	0	0	0	No, $e \geq l/2$
SLV 10	1034	-1623	26621	0.96	45235	1.699	Si
SLV 10	1114	-484	25455	0	0	0	No, $e \geq l/2$
SLV 11	1034	-1835	-44965	1.08	50581	1.125	Si
SLV 11	1114	-3008	30138	1.78	77773	2.581	Si
SLV 12	1034	-1835	-44965	1.08	50581	1.125	Si
SLV 12	1114	-3008	30138	1.78	77773	2.581	Si
SLV 16	1034	-214	-56837	0	0	0	No, $e \geq l/2$
SLV 16	1114	-1504	69070	0	0	0	No, $e \geq l/2$
SLD 13	1034	-1437	-11584	0.85	40441	3.491	Si
SLD 13	1114	-1482	34796	0.87	41613	1.196	Si
SLV 15	1034	-214	-56837	0	0	0	No, $e \geq l/2$
SLV 15	1114	-1504	69070	0	0	0	No, $e \geq l/2$



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 9	1034	-1623	26621	0.96	45235	1.699	Si
SLV 9	1114	-484	25455	0	0	0	No, e>/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLV 50	1034	-3025	277	11747	1.79	60.5	0.79	1344				4.86	Si
SLV 50	1114	-2419	-32	6392	1.43	60.5	0.75	1264				39.27	Si
SLV 27	1034	-2882	283	11453	1.7	60.5	0.78	1325				4.68	Si
SLV 27	1114	-2375	-50	5655	1.4	60.5	0.74	1258				24.92	Si
SLV 30	1034	-2547	263	10778	1.5	60.5	0.76	1281				4.87	Si
SLV 30	1114	-2043	-24	4701	1.21	60.5	0.72	1214				50.46	Si
SLV 79	1034	-3631	288	12895	2.14	60.5	0.84	1425				4.96	Si
SLV 79	1114	-3044	-91	9436	1.8	60.5	0.8	1347				14.85	Si
SLV 29	1034	-2780	300	11494	1.64	60.5	0.77	1312				4.38	Si
SLV 29	1114	-2270	-45	4495	1.34	60.5	0.73	1244				27.39	Si
SLV 8	1034	-2467	268	10269	1.46	60.5	0.75	1270				4.73	Si
SLV 8	1114	-1971	-28	3777	1.16	60.5	0.71	1204				42.76	Si
SLV 37	1034	-3073	279	11417	1.81	60.5	0.8	1351				4.84	Si
SLV 37	1114	-2596	-87	6821	1.53	60.5	0.76	1287				14.85	Si
SLV 69	1034	-3440	292	12931	2.03	60.5	0.83	1400				4.79	Si
SLV 69	1114	-2823	-55	8270	1.67	60.5	0.78	1318				24.17	Si
SLV 71	1034	-3338	308	12972	1.97	60.5	0.82	1386				4.5	Si
SLV 71	1114	-2717	-49	7111	1.6	60.5	0.77	1303				26.37	Si
SLV 72	1034	-3105	272	12256	1.83	60.5	0.8	1355				4.99	Si
SLV 72	1114	-2491	-28	7317	1.47	60.5	0.75	1273				45.36	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLV 10	1034	-1623	-111	26621	1.4	41.53	1.11	1294				11.66	Si
SLV 10	1114	-484	384	25455	0	0	0.83	0				0	No, Vu<V
SLV 13	1034	-150	-1847	-35362	0	0	0.83	0				0	No, Vu<V
SLV 13	1114	-747	-296	67665	0	0	0.83	0				0	No, Vu<V
SLV 1	1034	-4569	2244	70146	3.65	44.69	1.56	1956				0.87	No, Vu<V
SLV 1	1114	-2520	531	-48252	2.7	33.3	1.37	1281				2.41	Si
SLV 12	1034	-1835	-981	-44965	3.8	17.23	1.59	769				0.78	No, Vu<V
SLV 12	1114	-3008	-732	30138	1.78	60.5	1.19	2013				2.75	Si
SLV 14	1034	-150	-1847	-35362	0	0	0.83	0				0	No, Vu<V
SLV 14	1114	-747	-296	67665	0	0	0.83	0				0	No, Vu<V
SLV 2	1034	-4569	2244	70146	3.65	44.69	1.56	1956				0.87	No, Vu<V
SLV 2	1114	-2520	531	-48252	2.7	33.3	1.37	1281				2.41	Si
SLV 11	1034	-1835	-981	-44965	3.8	17.23	1.59	769				0.78	No, Vu<V
SLV 11	1114	-3008	-732	30138	1.78	60.5	1.19	2013				2.75	Si
SLV 15	1034	-214	-2108	-56837	0	0	0.83	0				0	No, Vu<V
SLV 15	1114	-1504	-631	69070	0	0	0.83	0				0	No, Vu<V
SLV 16	1034	-214	-2108	-56837	0	0	0.83	0				0	No, Vu<V
SLV 16	1114	-1504	-631	69070	0	0	0.83	0				0	No, Vu<V
SLV 9	1034	-1623	-111	26621	1.4	41.53	1.11	1294				11.66	Si
SLV 9	1114	-484	384	25455	0	0	0.83	0				0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 15	14	0.46	0.41	-697	7350	9424	1.28	Si
SLV 16	14	0.46	0.41	-697	7350	9424	1.28	Si
SLV 12	14	0.46	0.47	-800	7350	10761	1.46	Si
SLV 11	14	0.46	0.47	-800	7350	10761	1.46	Si
SLV 13	14	0.46	0.71	-1195	7350	15768	2.15	Si
SLV 14	14	0.46	0.71	-1195	7350	15768	2.15	Si
SLV 7	14	0.46	0.82	-1386	7350	18110	2.46	Si
SLV 8	14	0.46	0.82	-1386	7350	18110	2.46	Si
SLV 9	14	0.46	1.45	-2462	7350	30367	4.13	Si
SLV 10	14	0.46	1.45	-2462	7350	30367	4.13	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1010 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 15	-331	-1578	-117	0	1.28	0.895	0	1088.965	No
SLV 16	-331	-1578	-117	0	1.28	0.895	0	1088.965	No
SLV 13	-168	-1656	-112	0	1.16	0.917	0	1088.965	No
SLV 14	-168	-1656	-112	0	1.16	0.917	0	1088.965	No
SLV 1	-1818	-1662	113	0.001	2.709	0.919	1.117	1088.965	No
SLV 2	-1818	-1662	113	0.001	2.709	0.919	1.117	1088.965	No
SLV 4	-1981	-1584	109	0.005	2.873	0.923	7.987	1088.965	No
SLV 3	-1981	-1584	109	0.005	2.873	0.923	7.987	1088.965	No
SLV 11	-1098	-1490	-43	0.026	1.994	0.901	42.362	1001.941	No
SLV 12	-1098	-1490	-43	0.026	1.994	0.901	42.362	1001.941	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.816	SLV 52	Si
V_SLV	4.378	SLV 29	Si
PF_SLV	0	SLV 9	No
V_SLV	0	SLV 9	No
PFFP_SLV	1.282	SLV 15	Si
R_SLV	0	SLV 13	No



## Maschio 149

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1961.8	104.6	-1961.8	581.1	L5	L6	476.5	14	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 29	834	-23359	369844	3.5	3173163	8.58	Si
SLU 29	1186	-16089	686924	2.41	2698393	3.928	Si
SLU 30	834	-23358	353619	3.5	3173124	8.973	Si
SLU 30	1186	-16127	674434	2.42	2702054	4.006	Si
SLU 38	834	-24972	285953	3.74	3215680	11.245	Si
SLU 38	1186	-16695	643258	2.5	2755654	4.284	Si
SLU 71	834	-26540	321456	3.98	3235134	10.064	Si
SLU 71	1186	-17707	661143	2.65	2844155	4.302	Si
SLU 72	834	-26539	305231	3.98	3235128	10.599	Si
SLU 72	1186	-17745	648652	2.66	2847280	4.39	Si
SLU 37	834	-24973	302178	3.74	3215702	10.642	Si
SLU 37	1186	-16657	655748	2.5	2752181	4.197	Si
SLU 27	834	-23226	312409	3.48	3168644	10.143	Si
SLU 27	1186	-15831	617078	2.37	2673071	4.332	Si
SLU 28	834	-23225	296184	3.48	3168603	10.698	Si
SLU 28	1186	-15869	604588	2.38	2676817	4.428	Si
SLU 8	834	-20371	328407	3.05	3034149	9.239	Si
SLU 8	1186	-14075	591063	2.11	2484958	4.204	Si
SLU 9	834	-20370	312182	3.05	3034079	9.719	Si
SLU 9	1186	-14113	578572	2.12	2489286	4.302	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 9	834	-10231	-643629	1.53	2131650	3.312	Si
SLV 9	1186	-6882	-30924	1.03	1501313	48.548	Si
SLV 14	834	-11328	-403748	1.7	2323841	5.756	Si
SLV 14	1186	-7848	-61171	1.18	1689907	27.626	Si
SLV 6	834	-11862	-560776	1.78	2414965	4.306	Si
SLV 6	1186	-6961	22722	1.04	1516796	66.756	Si
SLV 10	834	-10231	-643629	1.53	2131650	3.312	Si
SLV 10	1186	-6882	-30924	1.03	1501313	48.548	Si
SLD 10	834	-13183	-340799	1.98	2632973	7.726	Si
SLD 10	1186	-7788	13993	1.17	1678172	119.927	Si
SLD 5	834	-13879	-305401	2.08	2743815	8.984	Si
SLD 5	1186	-7820	36625	1.17	1684348	45.989	Si
SLV 5	834	-11862	-560776	1.78	2414965	4.306	Si
SLV 5	1186	-6961	22722	1.04	1516796	66.756	Si
SLV 13	834	-11328	-403748	1.7	2323841	5.756	Si
SLV 13	1186	-7848	-61171	1.18	1689907	27.626	Si
SLD 9	834	-13183	-340799	1.98	2632973	7.726	Si
SLD 9	1186	-7788	13993	1.17	1678172	119.927	Si
SLD 6	834	-13879	-305401	2.08	2743815	8.984	Si
SLD 6	1186	-7820	36625	1.17	1684348	45.989	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 7	834	-20237	-783	254747		3.03	476.52	0.96	6405			8.18	Si
SLU 7	1186	-13856	-149	508726		2.08	476.52	0.83	5554			37.34	Si
SLU 51	834	-23551	-940	263794		3.53	476.52	1.03	6846			7.28	Si
SLU 51	1186	-15731	-242	552791		2.36	476.52	0.87	5804			24.03	Si
SLU 8	834	-20371	-799	328407		3.05	476.52	0.96	6422			8.04	Si
SLU 8	1186	-14075	-93	591063		2.11	476.52	0.84	5583			59.91	Si
SLU 48	834	-23419	-776	222585		3.51	476.52	1.02	6829			8.8	Si
SLU 48	1186	-15436	-108	495435		2.31	476.52	0.86	5764			53.54	Si
SLU 50	834	-23552	-866	280019		3.53	476.52	1.03	6847			7.91	Si
SLU 50	1186	-15693	-147	565281		2.35	476.52	0.87	5799			39.49	Si
SLU 49	834	-23418	-850	206360		3.51	476.52	1.02	6829			8.03	Si
SLU 49	1186	-15474	-202	482945		2.32	476.52	0.86	5769			28.51	Si
SLU 71	834	-26540	-820	321456		3.98	476.52	1.08	7227			8.81	Si
SLU 71	1186	-17707	-21	661143		2.65	476.52	0.91	6067			295.82	Si
SLU 30	834	-23358	-827	353619		3.5	476.52	1.02	6821			8.25	Si
SLU 30	1186	-16127	-62	674434		2.42	476.52	0.88	5856			95.13	Si
SLU 72	834	-26539	-894	305231		3.98	476.52	1.08	7227			8.08	Si
SLU 72	1186	-17745	-115	648652		2.66	476.52	0.91	6072			52.7	Si
SLU 9	834	-20370	-873	312182		3.05	476.52	0.96	6422			7.36	Si
SLU 9	1186	-14113	-188	578572		2.12	476.52	0.84	5588			29.74	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	834	-11328	-5716	-403748		1.7	476.52	1.17	7825			1.37	Si
SLV 13	1186	-7848	-3615	-61171		1.18	476.52	1.07	7129			1.97	Si
SLV 12	834	-18802	6562	317918		2.82	476.52	1.4	9320			1.42	Si
SLV 12	1186	-9904	5685	61478		1.48	476.52	1.13	7540			1.33	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 9	834	-10231	-8737	-643629		1.53	476.52	1.14	7606			0.87	No, Vu<V
SLV 9	1186	-6882	-6666	-30924		1.03	476.52	1.04	6936			1.04	Si
SLV 11	834	-18802	6562	317918		2.82	476.52	1.4	9320			1.42	Si
SLV 11	1186	-9904	5685	61478		1.48	476.52	1.13	7540			1.33	Si
SLV 8	834	-20433	8562	400771		3.06	476.52	1.45	9646			1.13	Si
SLV 8	1186	-9982	6775	115124		1.5	476.52	1.13	7556			1.12	Si
SLV 7	834	-20433	8562	400771		3.06	476.52	1.45	9646			1.13	Si
SLV 7	1186	-9982	6775	115124		1.5	476.52	1.13	7556			1.12	Si
SLV 6	834	-11862	-6738	-560776		1.78	476.52	1.19	7932			1.18	Si
SLV 6	1186	-6961	-5576	22722		1.04	476.52	1.04	6951			1.25	Si
SLV 5	834	-11862	-6738	-560776		1.78	476.52	1.19	7932			1.18	Si
SLV 5	1186	-6961	-5576	22722		1.04	476.52	1.04	6951			1.25	Si
SLV 14	834	-11328	-5716	-403748		1.7	476.52	1.17	7825			1.37	Si
SLV 14	1186	-7848	-3615	-61171		1.18	476.52	1.07	7129			1.97	Si
SLV 10	834	-10231	-8737	-643629		1.53	476.52	1.14	7606			0.87	No, Vu<V
SLV 10	1186	-6882	-6666	-30924		1.03	476.52	1.04	6936			1.04	Si

#### Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.03 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.46	1.32	-8775	30966	54810	1.77	Si
SLV 9	14	0.46	1.32	-8775	30966	54810	1.77	Si
SLV 6	14	0.46	1.36	-9079	30966	56475	1.82	Si
SLV 5	14	0.46	1.36	-9079	30966	56475	1.82	Si
SLV 14	14	0.46	1.57	-10479	30966	63922	2.06	Si
SLV 13	14	0.46	1.57	-10479	30966	63922	2.06	Si
SLV 2	14	0.46	1.72	-11494	30966	69114	2.23	Si
SLV 1	14	0.46	1.72	-11494	30966	69114	2.23	Si
SLV 16	14	0.46	1.84	-12244	30966	72835	2.35	Si
SLV 15	14	0.46	1.84	-12244	30966	72835	2.35	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1010 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 11	-9904	-18802	-7	0.023	13.431	0.932	35.572	1890.799	No
SLV 12	-9904	-18802	-7	0.023	13.431	0.932	35.572	1890.799	No
SLV 15	-8755	-13899	-10	0.023	12.272	0.927	35.806	1890.799	No
SLV 16	-8755	-13899	-10	0.023	12.272	0.927	35.806	1890.799	No
SLV 4	-9016	-19336	8	0.023	12.535	0.929	35.958	1890.799	No
SLV 3	-9016	-19336	8	0.023	12.535	0.929	35.958	1890.799	No
SLV 1	-8109	-16765	10	0.023	11.622	0.924	36.158	1890.799	No
SLV 2	-8109	-16765	10	0.023	11.622	0.924	36.158	1890.799	No
SLV 7	-9982	-20433	-1	0.023	13.51	0.933	36.207	1890.799	No
SLV 8	-9982	-20433	-1	0.023	13.51	0.933	36.207	1890.799	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.928	SLU 29	Si
V_SLU	7.285	SLU 51	Si
PF_SLV	3.312	SLV 9	Si
V_SLV	0.87	SLV 9	No
PFFP_SLV	1.77	SLV 9	Si
R_SLV	0.019	SLV 11	No

## Maschio 150

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1961.8	581.1	-1961.8	652.1	L5	L6	71	28	352	352	352			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 50	834	-9522	37329	4.79	139271	3.731	Si
SLU 50	1186	-8618	14703	4.34	143126	9.735	Si
SLU 79	834	-10453	37122	5.26	131554	3.544	Si
SLU 79	1186	-9991	17738	5.03	135856	7.659	Si
SLU 30	834	-9928	39502	4.99	136372	3.452	Si
SLU 30	1186	-9437	16950	4.75	139784	8.247	Si
SLU 29	834	-10022	40109	5.04	135597	3.381	Si
SLU 29	1186	-9496	17038	4.78	139427	8.184	Si
SLU 70	834	-10095	37476	5.08	134974	3.602	Si
SLU 70	1186	-9416	16348	4.74	139908	8.558	Si
SLU 69	834	-10189	38083	5.13	134129	3.522	Si
SLU 69	1186	-9475	16435	4.77	139557	8.491	Si
SLU 80	834	-10359	36516	5.21	132508	3.629	Si
SLU 80	1186	-9932	17651	5	136342	7.724	Si
SLU 72	834	-10564	40470	5.31	130375	3.221	Si
SLU 72	1186	-9840	17186	4.95	137061	7.975	Si





Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 71	834	-10659	41077	5.36	129337	3.149	Si
SLU 71	1186	-9899	17274	4.98	136599	7.908	Si
SLU 27	834	-9552	37115	4.8	139078	3.747	Si
SLU 27	1186	-9072	16199	4.56	141635	8.743	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 15	834	-4450	100403	2.24	129036	1.285	Si
SLV 15	1186	-2898	3468	1.46	90594	26.126	Si
SLV 9	834	318	18264	0	0	0	No, Trazione
SLV 9	1186	-1554	2459	0.78	51646	21.004	Si
SLV 6	834	77	-34688	0	0	0	No, Trazione
SLV 6	1186	-1992	3431	1	64926	18.925	Si
SLV 16	834	-4450	100403	2.24	129036	1.285	Si
SLV 16	1186	-2898	3468	1.46	90594	26.126	Si
SLV 5	834	77	-34688	0	0	0	No, Trazione
SLV 5	1186	-1992	3431	1	64926	18.925	Si
SLV 14	834	-2120	91005	0	0	0	No, $e \geq l/2$
SLV 14	1186	-2042	2479	1.03	66389	26.784	Si
SLV 10	834	318	18264	0	0	0	No, Trazione
SLV 10	1186	-1554	2459	0.78	51646	21.004	Si
SLV 13	834	-2120	91005	0	0	0	No, $e \geq l/2$
SLV 13	1186	-2042	2479	1.03	66389	26.784	Si
SLV 2	834	-2923	-85501	1.47	91292	1.068	Si
SLV 2	1186	-3502	5718	1.76	106394	18.606	Si
SLV 1	834	-2923	-85501	1.47	91292	1.068	Si
SLV 1	1186	-3502	5718	1.76	106394	18.606	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 29	834	-10022	423	40109		5.04	71	1.08	2154			5.09	Si
SLU 29	1186	-9496	-366	17038		4.78	71	1.08	2154			5.89	Si
SLU 71	834	-10659	417	41077		5.36	71	1.08	2154			5.16	Si
SLU 71	1186	-9899	-383	17274		4.98	71	1.08	2154			5.62	Si
SLU 80	834	-10359	318	36516		5.21	71	1.08	2154			6.76	Si
SLU 80	1186	-9932	-413	17651		5	71	1.08	2154			5.22	Si
SLU 79	834	-10453	328	37122		5.26	71	1.08	2154			6.57	Si
SLU 79	1186	-9991	-410	17738		5.03	71	1.08	2154			5.26	Si
SLU 30	834	-9928	414	39502		4.99	71	1.08	2154			5.2	Si
SLU 30	1186	-9437	-369	16950		4.75	71	1.08	2154			5.84	Si
SLU 8	834	-8885	398	36361		4.47	71	1.08	2154			5.42	Si
SLU 8	1186	-8215	-309	14466		4.13	71	1.08	2154			6.97	Si
SLU 72	834	-10564	407	40470		5.31	71	1.08	2154			5.29	Si
SLU 72	1186	-9840	-386	17186		4.95	71	1.08	2154			5.58	Si
SLU 38	834	-9722	325	35548		4.89	71	1.08	2154			6.63	Si
SLU 38	1186	-9529	-395	17415		4.79	71	1.08	2154			5.45	Si
SLU 77	834	-9983	285	34129		5.02	71	1.08	2154			7.56	Si
SLU 77	1186	-9567	-401	16900		4.81	71	1.08	2154			5.37	Si
SLU 78	834	-9889	275	33522		4.97	71	1.08	2154			7.82	Si
SLU 78	1186	-9508	-404	16812		4.78	71	1.08	2154			5.32	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	834	-2923	-1578	-85501		5.57	18.76	1.63	854			0.54	No, $V_u < V$
SLV 2	1186	-3502	-243	5718		1.76	71	1.19	2357			9.68	Si
SLV 9	834	318	106	18264		0	0	0.83	0			0	No, $V_u < V$
SLV 9	1186	-1554	-430	2459		0.78	71	0.99	1968			4.58	Si
SLV 6	834	77	-776	-34688		0	0	0.83	0			0	No, $V_u < V$
SLV 6	1186	-1992	-436	3431		1	71	1.03	2055			4.71	Si
SLV 5	834	77	-776	-34688		0	0	0.83	0			0	No, $V_u < V$
SLV 5	1186	-1992	-436	3431		1	71	1.03	2055			4.71	Si
SLV 15	834	-4450	1558	100403		4.09	38.81	1.63	1766			1.13	Si
SLV 15	1186	-2898	-49	3468		1.46	71	1.12	2236			45.23	Si
SLV 16	834	-4450	1558	100403		4.09	38.81	1.63	1766			1.13	Si
SLV 16	1186	-2898	-49	3468		1.46	71	1.12	2236			45.23	Si
SLV 14	834	-2120	1363	91005		0	0	0.83	0			0	No, $V_u < V$
SLV 14	1186	-2042	-222	2479		1.03	71	1.04	2065			9.32	Si
SLV 13	834	-2120	1363	91005		0	0	0.83	0			0	No, $V_u < V$
SLV 13	1186	-2042	-222	2479		1.03	71	1.04	2065			9.32	Si
SLV 10	834	318	106	18264		0	0	0.83	0			0	No, $V_u < V$
SLV 10	1186	-1554	-430	2459		0.78	71	0.99	1968			4.58	Si
SLV 1	834	-2923	-1578	-85501		5.57	18.76	1.63	854			0.54	No, $V_u < V$
SLV 1	1186	-3502	-243	5718		1.76	71	1.19	2357			9.68	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.46	0.58	-1157	8827	15421	1.75	Si
SLV 9	14	0.46	0.58	-1157	8827	15421	1.75	Si
SLV 6	14	0.46	0.82	-1635	8827	21354	2.42	Si
SLV 5	14	0.46	0.82	-1635	8827	21354	2.42	Si
SLV 13	14	0.46	1.03	-2051	8827	26287	2.98	Si
SLV 14	14	0.46	1.03	-2051	8827	26287	2.98	Si
SLV 15	14	0.46	1.66	-3296	8827	39884	4.52	Si
SLV 16	14	0.46	1.66	-3296	8827	39884	4.52	Si
SLV 2	14	0.46	1.83	-3647	8827	43392	4.92	Si
SLV 1	14	0.46	1.83	-3647	8827	43392	4.92	Si



## Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeraia = 1010  $W_a = 0.05$   $T_a = 0.0739$

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 9	-1554	318	11	0	0	0	0	1001.941	No, Trazione
SLV 6	-1992	77	18	0	0	0	0	1001.941	No, Trazione
SLV 5	-1992	77	18	0	0	0	0	1001.941	No, Trazione
SLV 10	-1554	318	11	0	0	0	0	1001.941	No, Trazione
SLV 1	-3502	-2923	16	0.042	4.559	0.939	65.011	1088.965	No
SLV 2	-3502	-2923	16	0.042	4.559	0.939	65.011	1088.965	No
SLV 4	-4358	-5254	8	0.043	5.427	0.948	66.355	1088.965	No
SLV 3	-4358	-5254	8	0.043	5.427	0.948	66.355	1088.965	No
SLV 15	-2898	-4450	-14	0.043	3.948	0.932	66.834	1088.965	No
SLV 16	-2898	-4450	-14	0.043	3.948	0.932	66.834	1088.965	No

### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.149	SLU 71	Si
V_SLU	5.086	SLU 29	Si
PF_SLV	0	SLV 10	No
V_SLV	0	SLV 5	No
PFFP_SLV	1.747	SLV 9	Si
R_SLV	0	SLV 10	No

## Maschio 151

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-1633.3	-335.9	-1736.3	-335.9	L5	L6	103	28	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 65	924	-5232	-41613	1.81	209430	5.033	Si
SLU 65	1104	-4630	65229	1.61	191441	2.935	Si
SLU 73	924	-5629	-45635	1.95	220434	4.83	Si
SLU 73	1104	-5219	72335	1.81	209061	2.89	Si
SLU 23	924	-4078	-36194	1.41	173552	4.795	Si
SLU 23	1104	-3824	54318	1.33	164891	3.036	Si
SLU 61	924	-5642	-39954	1.96	220769	5.526	Si
SLU 61	1104	-4941	67678	1.71	200929	2.969	Si
SLU 2	924	-3621	-35133	1.26	157736	4.49	Si
SLU 2	1104	-3301	50652	1.14	146121	2.885	Si
SLU 52	924	-5172	-44573	1.79	207725	4.66	Si
SLU 52	1104	-4696	68669	1.63	193490	2.818	Si
SLU 31	924	-4475	-40216	1.55	186567	4.639	Si
SLU 31	1104	-4413	61423	1.53	184591	3.005	Si
SLU 10	924	-4018	-39154	1.39	171546	4.381	Si
SLU 10	1104	-3890	57757	1.35	167172	2.894	Si
SLU 44	924	-4775	-40552	1.66	195925	4.831	Si
SLU 44	1104	-4107	61563	1.42	174519	2.835	Si
SLU 82	924	-6098	-41015	2.11	232538	5.67	Si
SLU 82	1104	-5464	71344	1.89	215939	3.027	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 8	924	-4935	151438	1.71	218554	1.443	Si
SLV 8	1104	-379	-52608	0	0	0	No, e>l/2
SLV 14	924	-2551	-277348	0	0	0	No, e>l/2
SLV 14	1104	-5767	197168	2	248409	1.26	Si
SLV 7	924	-4935	151438	1.71	218554	1.443	Si
SLV 7	1104	-379	-52608	0	0	0	No, e>l/2
SLV 13	924	-2551	-277348	0	0	0	No, e>l/2
SLV 13	1104	-5767	197168	2	248409	1.26	Si
SLV 16	924	-2356	-214592	0	0	0	No, e>l/2
SLV 16	1104	-4072	164076	1.41	185478	1.13	Si
SLV 10	924	-4290	-192894	1.49	194043	1.006	Si
SLV 10	1104	-6822	139887	2.37	283304	2.025	Si
SLV 4	924	-6674	235892	2.31	278617	1.181	Si
SLV 4	1104	-1433	-109889	0	0	0	No, e>l/2
SLV 9	924	-4290	-192894	1.49	194043	1.006	Si
SLV 9	1104	-6822	139887	2.37	283304	2.025	Si
SLV 3	924	-6674	235892	2.31	278617	1.181	Si
SLV 3	1104	-1433	-109889	0	0	0	No, e>l/2
SLV 15	924	-2356	-214592	0	0	0	No, e>l/2
SLV 15	1104	-4072	164076	1.41	185478	1.13	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 31	924	-4475	-504	-40216		1.55	103	0.76	2199			4.36	Si
SLU 31	1104	-4413	-219	61423		1.53	103	0.76	2191			10	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 65	924	-5232	-558	-41613		1.81	103	0.8	2300			4.12	Si
SLU 65	1104	-4630	-254	65229		1.61	103	0.77	2220			8.74	Si
SLU 73	924	-5629	-599	-45635		1.95	103	0.82	2353			3.93	Si
SLU 73	1104	-5219	-276	72335		1.81	103	0.8	2298			8.34	Si
SLU 61	924	-5642	-556	-39954		1.96	103	0.82	2354			4.23	Si
SLU 61	1104	-4941	-289	67678		1.71	103	0.78	2261			7.84	Si
SLU 82	924	-6098	-572	-41015		2.11	103	0.84	2415			4.22	Si
SLU 82	1104	-5464	-240	71344		1.89	103	0.81	2331			9.71	Si
SLU 10	924	-4018	-488	-39154		1.39	103	0.74	2138			4.38	Si
SLU 10	1104	-3890	-267	57757		1.35	103	0.74	2121			7.93	Si
SLU 2	924	-3621	-447	-35133		1.26	103	0.72	2085			4.66	Si
SLU 2	1104	-3301	-246	50652		1.14	103	0.71	2042			8.31	Si
SLU 44	924	-4775	-542	-40552		1.66	103	0.78	2239			4.13	Si
SLU 44	1104	-4107	-302	61563		1.42	103	0.75	2150			7.11	Si
SLU 52	924	-5172	-583	-44573		1.79	103	0.79	2292			3.93	Si
SLU 52	1104	-4696	-324	68669		1.63	103	0.77	2228			6.88	Si
SLU 23	924	-4078	-463	-36194		1.41	103	0.74	2146			4.63	Si
SLU 23	1104	-3824	-197	54318		1.33	103	0.73	2112			10.71	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	924	-6674	4000	235892		4.92	48.47	1.63	2205			0.55	No, Vu<V
SLV 4	1104	-1433	889	-109889		0	0	0.83	0			0	No, Vu<V
SLV 3	924	-6674	4000	235892		4.92	48.47	1.63	2205			0.55	No, Vu<V
SLV 3	1104	-1433	889	-109889		0	0	0.83	0			0	No, Vu<V
SLV 16	924	-2356	-4036	-214592		0	0	0.83	0			0	No, Vu<V
SLV 16	1104	-4072	-1366	164076		4.33	33.62	1.63	1530			1.12	Si
SLV 15	924	-2356	-4036	-214592		0	0	0.83	0			0	No, Vu<V
SLV 15	1104	-4072	-1366	164076		4.33	33.62	1.63	1530			1.12	Si
SLV 8	924	-4935	1965	151438		2.82	62.44	1.4	2444			1.24	Si
SLV 8	1104	-379	-163	-52608		0	0	0.83	0			0	No, Vu<V
SLV 14	924	-2551	-4703	-277348		0	0	0.83	0			0	No, Vu<V
SLV 14	1104	-5767	-1141	197168		3.97	51.94	1.63	2363			2.07	Si
SLV 13	924	-2551	-4703	-277348		0	0	0.83	0			0	No, Vu<V
SLV 13	1104	-5767	-1141	197168		3.97	51.94	1.63	2363			2.07	Si
SLV 9	924	-4290	-2668	-192894		7.81	19.61	1.63	892			0.33	No, Vu<V
SLV 9	1104	-6822	-89	139887		2.62	92.98	1.36	3534			39.56	Si
SLV 7	924	-4935	1965	151438		2.82	62.44	1.4	2444			1.24	Si
SLV 7	1104	-379	-163	-52608		0	0	0.83	0			0	No, Vu<V
SLV 10	924	-4290	-2668	-192894		7.81	19.61	1.63	892			0.33	No, Vu<V
SLV 10	1104	-6822	-89	139887		2.62	92.98	1.36	3534			39.56	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 16	14	0.46	0.38	-1099	12514	14904	1.19	Si
SLV 15	14	0.46	0.38	-1099	12514	14904	1.19	Si
SLV 12	14	0.46	0.41	-1195	12514	16162	1.29	Si
SLV 11	14	0.46	0.41	-1195	12514	16162	1.29	Si
SLV 14	14	0.46	0.86	-2493	12514	32428	2.59	Si
SLV 13	14	0.46	0.86	-2493	12514	32428	2.59	Si
SLV 7	14	0.46	0.93	-2671	12514	34563	2.76	Si
SLV 8	14	0.46	0.93	-2671	12514	34563	2.76	Si
SLV 9	14	0.46	2.03	-5841	12514	68220	5.45	Si
SLV 10	14	0.46	2.03	-5841	12514	68220	5.45	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1010 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 8	625	657	-81	0	0	0	0	1001.941	No, Trazione
SLV 7	625	657	-81	0	0	0	0	1001.941	No, Trazione
SLV 12	-96	-502	-115	0	1.88	0.959	0	1001.941	No
SLV 11	-96	-502	-115	0	1.88	0.959	0	1001.941	No
SLV 2	-2395	-4179	84	0.025	3.913	0.909	40.606	1088.965	No
SLV 1	-2395	-4179	84	0.025	3.913	0.909	40.606	1088.965	No
SLV 15	-3015	-5185	-87	0.027	4.532	0.918	42.529	1088.965	No
SLV 16	-3015	-5185	-87	0.027	4.532	0.918	42.529	1088.965	No
SLV 6	-5315	-8862	112	0.028	6.852	0.941	42.748	1001.941	No
SLV 5	-5315	-8862	112	0.028	6.852	0.941	42.748	1001.941	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.818	SLU 52	Si
V_SLU	3.926	SLU 73	Si
PF_SLV	0	SLV 3	No
V_SLV	0	SLV 3	No
PFFP_SLV	1.191	SLV 15	Si
R_SLV	0	SLV 8	No

## Maschio 152

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1844.8	-335.9	-1844.8	104.6	L5	L6	440.6	14	352	352	352			



## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 68	834	-15655	431342	2.54	2374066	5.504	Si
SLU 68	1186	-8516	321405	1.38	1557997	4.847	Si
SLU 28	834	-13852	410187	2.25	2210118	5.388	Si
SLU 28	1186	-7899	301143	1.28	1466396	4.869	Si
SLU 76	834	-17277	475446	2.8	2497132	5.252	Si
SLU 76	1186	-9198	337423	1.49	1655293	4.906	Si
SLU 26	834	-12958	380296	2.1	2118229	5.57	Si
SLU 26	1186	-7083	282844	1.15	1340279	4.739	Si
SLU 5	834	-11282	320289	1.83	1927167	6.017	Si
SLU 5	1186	-6200	250894	1.01	1197173	4.772	Si
SLU 9	834	-11828	344816	1.92	1992102	5.777	Si
SLU 9	1186	-6740	262666	1.09	1285487	4.894	Si
SLU 13	834	-12903	364392	2.09	2112417	5.797	Si
SLU 13	1186	-6882	266912	1.12	1308326	4.902	Si
SLU 72	834	-16201	455870	2.63	2418068	5.304	Si
SLU 72	1186	-9056	333177	1.47	1635343	4.908	Si
SLU 30	834	-13503	404823	2.19	2175143	5.373	Si
SLU 30	1186	-7623	294615	1.24	1424412	4.835	Si
SLU 34	834	-14579	424399	2.36	2279652	5.371	Si
SLU 34	1186	-7765	298861	1.26	1446149	4.839	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 13	834	-10019	319106	1.62	1913596	5.997	Si
SLV 13	1186	-5872	390812	0.95	1192722	3.052	Si
SLV 14	834	-10019	319106	1.62	1913596	5.997	Si
SLV 14	1186	-5872	390812	0.95	1192722	3.052	Si
SLV 10	834	-12043	117588	1.95	2228979	18.956	Si
SLV 10	1186	-6242	362392	1.01	1261128	3.48	Si
SLV 11	834	-10411	482598	1.69	1976541	4.096	Si
SLV 11	1186	-5986	98615	0.97	1213944	12.31	Si
SLV 12	834	-10411	482598	1.69	1976541	4.096	Si
SLV 12	1186	-5986	98615	0.97	1213944	12.31	Si
SLD 14	834	-11082	289989	1.8	2082212	7.18	Si
SLD 14	1186	-6076	268504	0.99	1230596	4.583	Si
SLV 16	834	-9529	428609	1.54	1833706	4.278	Si
SLV 16	1186	-5795	311679	0.94	1178441	3.781	Si
SLV 15	834	-9529	428609	1.54	1833706	4.278	Si
SLV 15	1186	-5795	311679	0.94	1178441	3.781	Si
SLD 13	834	-11082	289989	1.8	2082212	7.18	Si
SLD 13	1186	-6076	268504	0.99	1230596	4.583	Si
SLV 9	834	-12043	117588	1.95	2228979	18.956	Si
SLV 9	1186	-6242	362392	1.01	1261128	3.48	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 30	834	-13503	731	404823		2.19	440.57	0.85	5227			7.15	Si
SLU 30	1186	-7623	1140	294615		1.24	440.57	0.72	4443			3.9	Si
SLU 37	834	-15198	1204	424487		2.46	440.57	0.88	5453			4.53	Si
SLU 37	1186	-8360	1206	278888		1.36	440.57	0.74	4541			3.76	Si
SLU 72	834	-16201	792	455870		2.63	440.57	0.91	5587			7.05	Si
SLU 72	1186	-9056	1198	333177		1.47	440.57	0.75	4634			3.87	Si
SLU 27	834	-13926	1141	385747		2.26	440.57	0.86	5283			4.63	Si
SLU 27	1186	-7953	1144	269399		1.29	440.57	0.73	4487			3.92	Si
SLU 29	834	-13577	1208	380383		2.2	440.57	0.85	5237			4.34	Si
SLU 29	1186	-7677	1211	262870		1.24	440.57	0.72	4450			3.67	Si
SLU 77	834	-18245	1198	480897		2.96	440.57	0.95	5859			4.89	Si
SLU 77	1186	-10069	1197	323978		1.63	440.57	0.77	4769			3.98	Si
SLU 80	834	-17823	788	499973		2.89	440.57	0.94	5803			7.37	Si
SLU 80	1186	-9738	1193	349194		1.58	440.57	0.77	4725			3.96	Si
SLU 69	834	-16623	1203	436793		2.7	440.57	0.91	5643			4.69	Si
SLU 69	1186	-9386	1202	307961		1.52	440.57	0.76	4678			3.89	Si
SLU 79	834	-17896	1265	475533		2.9	440.57	0.94	5813			4.6	Si
SLU 79	1186	-9793	1264	317449		1.59	440.57	0.77	4732			3.74	Si
SLU 71	834	-16275	1269	431430		2.64	440.57	0.91	5597			4.41	Si
SLU 71	1186	-9111	1269	301432		1.48	440.57	0.75	4641			3.66	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 10	834	-12043	-7800	117588		1.95	440.57	1.22	7549			0.97	No, Vu<V
SLV 10	1186	-6242	-4980	362392		1.01	440.57	1.04	6388			1.28	Si
SLV 6	834	-13288	-7567	54362		2.15	440.57	1.26	7798			1.03	Si
SLV 6	1186	-6482	-5678	258899		1.05	440.57	1.04	6436			1.13	Si
SLV 12	834	-10411	8370	482598		1.69	440.57	1.17	7222			0.86	No, Vu<V
SLV 12	1186	-5986	6464	98615		0.97	440.57	1.03	6337			0.98	No, Vu<V
SLV 7	834	-11656	8603	419371		1.89	440.57	1.21	7471			0.87	No, Vu<V
SLV 7	1186	-6227	5766	-4878		1.01	440.57	1.04	6385			1.11	Si
SLV 9	834	-12043	-7800	117588		1.95	440.57	1.22	7549			0.97	No, Vu<V
SLV 9	1186	-6242	-4980	362392		1.01	440.57	1.04	6388			1.28	Si
SLV 16	834	-9529	2438	428609		1.54	440.57	1.14	7046			2.89	Si
SLV 16	1186	-5795	3272	311679		0.94	440.57	1.02	6299			1.92	Si
SLV 11	834	-10411	8370	482598		1.69	440.57	1.17	7222			0.86	No, Vu<V



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 11	1186	-5986	6464	98615		0.97	440.57	1.03	6337			0.98	No, Vu<V
SLV 15	834	-9529	2438	428609		1.54	440.57	1.14	7046			2.89	Si
SLV 15	1186	-5795	3272	311679		0.94	440.57	1.02	6299			1.92	Si
SLV 5	834	-13288	-7567	54362		2.15	440.57	1.26	7798			1.03	Si
SLV 5	1186	-6482	-5678	258899		1.05	440.57	1.04	6436			1.13	Si
SLV 8	834	-11656	8603	419371		1.89	440.57	1.21	7471			0.87	No, Vu<V
SLV 8	1186	-6227	5766	-4878		1.01	440.57	1.04	6385			1.11	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.03 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 16	14	0.46	1.23	-7587	28630	47764	1.67	Si
SLV 15	14	0.46	1.23	-7587	28630	47764	1.67	Si
SLV 13	14	0.46	1.26	-7799	28630	48942	1.71	Si
SLV 14	14	0.46	1.26	-7799	28630	48942	1.71	Si
SLV 11	14	0.46	1.37	-8430	28630	52412	1.83	Si
SLV 12	14	0.46	1.37	-8430	28630	52412	1.83	Si
SLV 9	14	0.46	1.48	-9135	28630	56194	1.96	Si
SLV 10	14	0.46	1.48	-9135	28630	56194	1.96	Si
SLV 8	14	0.46	1.52	-9365	28630	57406	2.01	Si
SLV 7	14	0.46	1.52	-9365	28630	57406	2.01	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1010 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 4	-6597	-13681	15	0.023	9.841	0.919	35.848	1890.799	No
SLV 3	-6597	-13681	15	0.023	9.841	0.919	35.848	1890.799	No
SLV 2	-6673	-14170	15	0.023	9.918	0.919	35.863	1890.799	No
SLV 1	-6673	-14170	15	0.023	9.918	0.919	35.863	1890.799	No
SLV 14	-5872	-10019	-15	0.023	9.116	0.914	36.521	1890.799	No
SLV 13	-5872	-10019	-15	0.023	9.116	0.914	36.521	1890.799	No
SLV 15	-5795	-9529	-14	0.023	9.039	0.914	36.672	1890.799	No
SLV 16	-5795	-9529	-14	0.023	9.039	0.914	36.672	1890.799	No
SLV 6	-6482	-13288	4	0.024	9.726	0.918	38.024	1890.799	No
SLV 5	-6482	-13288	4	0.024	9.726	0.918	38.024	1890.799	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.739	SLU 26	Si
V_SLU	3.658	SLU 71	Si
PF_SLV	3.052	SLV 13	Si
V_SLV	0.863	SLV 11	No
PFFP_SLV	1.668	SLV 15	Si
R_SLV	0.019	SLV 3	No

## Maschio 153

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1389.3	-335.9	-1543.3	-335.9	L5	L6	154	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 83	834	-9654	-34524	2.24	539041	15.613	Si
SLU 83	1044	-10469	104163	2.43	565862	5.432	Si
SLU 39	834	-7748	-43143	1.8	464980	10.778	Si
SLU 39	1044	-8918	95906	2.07	512327	5.342	Si
SLU 31	834	-7408	-52891	1.72	450109	8.51	Si
SLU 31	1044	-8636	92778	2	501479	5.405	Si
SLU 73	834	-9188	-55383	2.13	522405	9.433	Si
SLU 73	1044	-10294	107573	2.39	560331	5.209	Si
SLU 82	834	-9475	-53925	2.2	532780	9.88	Si
SLU 82	1044	-10655	112189	2.47	571570	5.095	Si
SLU 75	834	-9522	-41430	2.21	534420	12.899	Si
SLU 75	1044	-10460	103328	2.43	565573	5.474	Si
SLU 40	834	-7695	-51434	1.78	462727	8.997	Si
SLU 40	1044	-8998	97394	2.09	515346	5.291	Si
SLU 84	834	-9602	-42815	2.23	537225	12.548	Si
SLU 84	1044	-10549	105651	2.45	568337	5.379	Si
SLU 81	834	-9527	-45635	2.21	534625	11.715	Si
SLU 81	1044	-10575	110701	2.45	569132	5.141	Si
SLU 61	834	-9021	-43998	2.09	516236	11.733	Si
SLU 61	1044	-9718	99169	2.25	541257	5.458	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 6	834	-1500	51351	0.35	112247	2.186	Si
SLV 6	1044	3495	129453	0	0	0	No, Trazione



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 2	834	-6814	226839	1.58	456836	2.014	Si
SLV 2	1044	1156	-31042	0	0	0	No, Trazione
SLV 1	834	-6814	226839	1.58	456836	2.014	Si
SLV 1	1044	1156	-31042	0	0	0	No, Trazione
SLV 5	834	-1500	51351	0.35	112247	2.186	Si
SLV 5	1044	3495	129453	0	0	0	No, Trazione
SLV 13	834	-3211	-276622	0	0	0	No, $e \geq l/2$
SLV 13	1044	-10067	232772	2.33	627071	2.694	Si
SLV 10	834	-420	-99688	0	0	0	No, $e \geq l/2$
SLV 10	1044	127	208596	0	0	0	No, Trazione
SLV 14	834	-3211	-276622	0	0	0	No, $e \geq l/2$
SLV 14	1044	-10067	232772	2.33	627071	2.694	Si
SLV 15	834	-6685	-277241	1.55	449434	1.621	Si
SLV 15	1044	-15439	174349	3.58	840443	4.82	Si
SLV 9	834	-420	-99688	0	0	0	No, $e \geq l/2$
SLV 9	1044	127	208596	0	0	0	No, Trazione
SLV 16	834	-6685	-277241	1.55	449434	1.621	Si
SLV 16	1044	-15439	174349	3.58	840443	4.82	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 60	834	-9074	-1481	-35708		2.1	154	0.84	3605			2.43	Si
SLU 60	1044	-9638	-2016	97682		2.24	154	0.85	3681			1.83	Si
SLU 61	834	-9021	-1583	-43998		2.09	154	0.83	3598			2.27	Si
SLU 61	1044	-9718	-2040	99169		2.25	154	0.86	3691			1.81	Si
SLU 31	834	-7408	-1649	-52891		1.72	154	0.78	3383			2.05	Si
SLU 31	1044	-8636	-1895	92778		2	154	0.82	3547			1.87	Si
SLU 40	834	-7695	-1656	-51434		1.78	154	0.79	3422			2.07	Si
SLU 40	1044	-8998	-2037	97394		2.09	154	0.83	3595			1.76	Si
SLU 39	834	-7748	-1554	-43143		1.8	154	0.8	3429			2.21	Si
SLU 39	1044	-8918	-2013	95906		2.07	154	0.83	3585			1.78	Si
SLU 82	834	-9475	-1865	-53925		2.2	154	0.85	3659			1.96	Si
SLU 82	1044	-10655	-2309	112189		2.47	154	0.89	3816			1.65	Si
SLU 73	834	-9188	-1858	-55383		2.13	154	0.84	3621			1.95	Si
SLU 73	1044	-10294	-2167	107573		2.39	154	0.87	3768			1.74	Si
SLU 84	834	-9602	-1722	-42815		2.23	154	0.85	3676			2.13	Si
SLU 84	1044	-10549	-2062	105651		2.45	154	0.88	3802			1.84	Si
SLU 81	834	-9527	-1763	-45635		2.21	154	0.85	3666			2.08	Si
SLU 81	1044	-10575	-2285	110701		2.45	154	0.88	3806			1.67	Si
SLU 83	834	-9654	-1620	-34524		2.24	154	0.85	3683			2.27	Si
SLU 83	1044	-10469	-2038	104163		2.43	154	0.88	3791			1.86	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	834	-6685	-5933	-277241		2.24	106.58	1.28	3824			0.64	No, $V_u < V$
SLV 16	1044	-15439	-5398	174349		3.58	154	1.55	6681			1.24	Si
SLV 6	834	-1500	479	51351		0.42	128.33	0.92	3295			6.88	Si
SLV 6	1044	3495	1089	129453		0	0	0.83	0			0	No, $V_u < V$
SLV 5	834	-1500	479	51351		0.42	128.33	0.92	3295			6.88	Si
SLV 5	1044	3495	1089	129453		0	0	0.83	0			0	No, $V_u < V$
SLV 2	834	-6814	3631	226839		1.86	131.13	1.2	4423			1.22	Si
SLV 2	1044	1156	2602	-31042		0	0	0.83	0			0	No, $V_u < V$
SLV 13	834	-3211	-5804	-276622		0	0	0.83	0			0	No, $V_u < V$
SLV 13	1044	-10067	-4550	232772		2.33	154	1.3	5607			1.23	Si
SLV 1	834	-6814	3631	226839		1.86	131.13	1.2	4423			1.22	Si
SLV 1	1044	1156	2602	-31042		0	0	0.83	0			0	No, $V_u < V$
SLV 9	834	-420	-2351	-99688		0	0	0.83	0			0	No, $V_u < V$
SLV 9	1044	127	-1057	208596		0	0	0.83	0			0	No, $V_u < V$
SLV 15	834	-6685	-5933	-277241		2.24	106.58	1.28	3824			0.64	No, $V_u < V$
SLV 15	1044	-15439	-5398	174349		3.58	154	1.55	6681			1.24	Si
SLV 14	834	-3211	-5804	-276622		0	0	0.83	0			0	No, $V_u < V$
SLV 14	1044	-10067	-4550	232772		2.33	154	1.3	5607			1.23	Si
SLV 10	834	-420	-2351	-99688		0	0	0.83	0			0	No, $V_u < V$
SLV 10	1044	127	-1057	208596		0	0	0.83	0			0	No, $V_u < V$

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010  $W_a$  0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.46	0	-519	18710	0	0	No, $e \geq t/2$
SLV 9	14	0.46	0	-519	18710	0	0	No, $e \geq t/2$
SLV 6	14	0.46	0	1320	18710	0	0	No, Trazione
SLV 5	14	0.46	0	1320	18710	0	0	No, Trazione
SLV 1	14	0.46	0.46	-1996	18710	26885	1.44	Si
SLV 2	14	0.46	0.46	-1996	18710	26885	1.44	Si
SLV 3	14	0.46	1.55	-6677	18710	81636	4.36	Si
SLV 4	14	0.46	1.55	-6677	18710	81636	4.36	Si
SLV 13	14	0.46	1.88	-8126	18710	96221	5.14	Si
SLV 14	14	0.46	1.88	-8126	18710	96221	5.14	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1010  $W_a = 0.05$   $T_a = 0.0739$

Comb.	N top	N base	V orto	$\sigma_0$	M*	e*	a0*	aLim	Verifica
SLV 10	1893	-420	200	0	0	0	0	1001.941	No, Trazione
SLV 9	1893	-420	200	0	0	0	0	1001.941	No, Trazione
SLV 6	2594	-1500	238	0	0	0	0	1001.941	No, Trazione
SLV 5	2594	-1500	238	0	0	0	0	1001.941	No, Trazione
SLV 1	-1223	-6814	129	0.011	3.585	0.889	18.128	1088.965	No
SLV 2	-1223	-6814	129	0.011	3.585	0.889	18.128	1088.965	No
SLV 11	-11352	-11999	-240	0.025	13.7	0.954	38.356	1001.941	No



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 12	-11352	-11999	-240	0.025	13.7	0.954	38.356	1001.941	No
SLV 8	-10651	-13080	-202	0.028	12.988	0.952	41.98	1001.941	No
SLV 7	-10651	-13080	-202	0.028	12.988	0.952	41.98	1001.941	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.095	SLU 82	Si
V_SLU	1.653	SLU 82	Si
PF_SLV	0	SLV 10	No
V_SLV	0	SLV 1	No
PFFP_SLV	0	SLV 6	No
R_SLV	0	SLV 10	No

## Maschio 154

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X inl.	Y inl.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h inl.	h fin.	a	a.s.,sx	a.s.,dx
-1505.8	220.1	-1505.8	666.1	L5	L6	446	14	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 40	834	-16812	-175432	2.69	2509839	14.307	Si
SLU 40	1186	-7749	-47105	1.24	1464716	31.094	Si
SLU 52	834	-17273	-183938	2.77	2543772	13.829	Si
SLU 52	1186	-7907	-47063	1.27	1489073	31.64	Si
SLU 60	834	-18085	-194349	2.9	2598958	13.373	Si
SLU 60	1186	-8260	-50333	1.32	1542814	30.652	Si
SLU 18	834	-15013	-162387	2.4	2359676	14.531	Si
SLU 18	1186	-6860	-42895	1.1	1323529	30.855	Si
SLU 73	834	-19070	-195570	3.05	2658151	13.592	Si
SLU 73	1186	-8794	-50732	1.41	1622004	31.972	Si
SLU 19	834	-15015	-163800	2.4	2359884	14.407	Si
SLU 19	1186	-6861	-43436	1.1	1323650	30.474	Si
SLU 81	834	-19882	-205981	3.18	2700546	13.111	Si
SLU 81	1186	-9147	-54003	1.46	1672996	30.98	Si
SLU 82	834	-19884	-207394	3.18	2700657	13.022	Si
SLU 82	1186	-9148	-54544	1.47	1673102	30.674	Si
SLU 39	834	-16810	-174019	2.69	2509667	14.422	Si
SLU 39	1186	-7748	-46565	1.24	1464601	31.453	Si
SLU 61	834	-18087	-195762	2.9	2599105	13.277	Si
SLU 61	1186	-8261	-50874	1.32	1542925	30.328	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 11	834	-12320	197579	1.97	2303658	11.659	Si
SLV 11	1186	-6658	-203394	1.07	1355108	6.662	Si
SLV 8	834	-13755	137083	2.2	2514364	18.342	Si
SLV 8	1186	-7386	-226801	1.18	1487584	6.559	Si
SLV 7	834	-13755	137083	2.2	2514364	18.342	Si
SLV 7	1186	-7386	-226801	1.18	1487584	6.559	Si
SLV 10	834	-12947	-400418	2.07	2397228	5.987	Si
SLV 10	1186	-4952	161164	0.79	1032535	6.407	Si
SLV 6	834	-14383	-460914	2.3	2602669	5.647	Si
SLV 6	1186	-5680	137757	0.91	1172272	8.51	Si
SLV 5	834	-14383	-460914	2.3	2602669	5.647	Si
SLV 5	1186	-5680	137757	0.91	1172272	8.51	Si
SLV 1	834	-15838	-322194	2.54	2798630	8.686	Si
SLV 1	1186	-7126	-17146	1.14	1440712	84.024	Si
SLV 12	834	-12320	197579	1.97	2303658	11.659	Si
SLV 12	1186	-6658	-203394	1.07	1355108	6.662	Si
SLV 9	834	-12947	-400418	2.07	2397228	5.987	Si
SLV 9	1186	-4952	161164	0.79	1032535	6.407	Si
SLV 2	834	-15838	-322194	2.54	2798630	8.686	Si
SLV 2	1186	-7126	-17146	1.14	1440712	84.024	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma M = 3$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 8	834	-11968	730	-24432		1.92	446	0.81	5065			6.94	Si
SLU 8	1186	-5835	725	6817		0.93	446	0.68	4247			5.85	Si
SLU 29	834	-13765	838	-36064		2.2	446	0.85	5304			6.33	Si
SLU 29	1186	-6722	833	3147		1.08	446	0.7	4365			5.24	Si
SLU 72	834	-16840	802	-69439		2.7	446	0.92	5714			7.13	Si
SLU 72	1186	-8122	797	-4832		1.3	446	0.73	4552			5.71	Si
SLU 9	834	-11971	728	-25845		1.92	446	0.81	5065			6.95	Si
SLU 9	1186	-5835	724	6276		0.93	446	0.68	4247			5.87	Si
SLU 38	834	-15671	772	-67264		2.51	446	0.89	5558			7.2	Si
SLU 38	1186	-7550	767	-7128		1.21	446	0.72	4476			5.84	Si
SLU 30	834	-13767	837	-37477		2.2	446	0.85	5305			6.34	Si
SLU 30	1186	-6723	832	2606		1.08	446	0.7	4365			5.25	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 37	834	-15668	773	-65851		2.51	446	0.89	5558			7.19	Si
SLU 37	1186	-7549	768	-6587		1.21	446	0.72	4475			5.83	Si
SLU 27	834	-14220	777	-46477		2.28	446	0.86	5365			6.91	Si
SLU 27	1186	-7025	772	2010		1.13	446	0.71	4406			5.71	Si
SLU 28	834	-14222	776	-47890		2.28	446	0.86	5365			6.92	Si
SLU 28	1186	-7026	771	1470		1.13	446	0.71	4406			5.72	Si
SLU 71	834	-16837	803	-68026		2.7	446	0.92	5714			7.11	Si
SLU 71	1186	-8122	798	-4291		1.3	446	0.73	4552			5.7	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 6	834	-14383	-5212	-460914		2.3	446	1.29	8080			1.55	Si
SLV 6	1186	-5680	-3055	137757		0.91	446	1.02	6339			2.08	Si
SLD 11	834	-12928	2224	8948		2.07	446	1.25	7789			3.5	Si
SLD 11	1186	-6375	1319	-104386		1.02	446	1.04	6478			4.91	Si
SLD 12	834	-12928	2224	8948		2.07	446	1.25	7789			3.5	Si
SLD 12	1186	-6375	1319	-104386		1.02	446	1.04	6478			4.91	Si
SLV 10	834	-12947	-4996	-400418		2.07	446	1.25	7793			1.56	Si
SLV 10	1186	-4952	-2732	161164		0.79	446	0.99	6194			2.27	Si
SLV 5	834	-14383	-5212	-460914		2.3	446	1.29	8080			1.55	Si
SLV 5	1186	-5680	-3055	137757		0.91	446	1.02	6339			2.08	Si
SLV 9	834	-12947	-4996	-400418		2.07	446	1.25	7793			1.56	Si
SLV 9	1186	-4952	-2732	161164		0.79	446	0.99	6194			2.27	Si
SLV 7	834	-13755	5037	137083		2.2	446	1.27	7954			1.58	Si
SLV 7	1186	-7386	2769	-226801		1.18	446	1.07	6680			2.41	Si
SLV 12	834	-12320	5253	197579		1.97	446	1.23	7667			1.46	Si
SLV 12	1186	-6658	3092	-203394		1.07	446	1.05	6535			2.11	Si
SLV 8	834	-13755	5037	137083		2.2	446	1.27	7954			1.58	Si
SLV 8	1186	-7386	2769	-226801		1.18	446	1.07	6680			2.41	Si
SLV 11	834	-12320	5253	197579		1.97	446	1.23	7667			1.46	Si
SLV 11	1186	-6658	3092	-203394		1.07	446	1.05	6535			2.11	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.03 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 14	14	0.46	1.18	-7353	28983	46510	1.6	Si
SLV 13	14	0.46	1.18	-7353	28983	46510	1.6	Si
SLV 15	14	0.46	1.24	-7730	28983	48630	1.68	Si
SLV 16	14	0.46	1.24	-7730	28983	48630	1.68	Si
SLV 9	14	0.46	1.31	-8172	28983	51077	1.76	Si
SLV 10	14	0.46	1.31	-8172	28983	51077	1.76	Si
SLV 5	14	0.46	1.48	-9252	28983	56909	1.96	Si
SLV 6	14	0.46	1.48	-9252	28983	56909	1.96	Si
SLV 11	14	0.46	1.51	-9431	28983	57854	2	Si
SLV 12	14	0.46	1.51	-9431	28983	57854	2	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1010 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 8	-7386	-13755	-16	0.022	10.673	0.923	35.169	1890.799	No
SLV 7	-7386	-13755	-16	0.022	10.673	0.923	35.169	1890.799	No
SLV 11	-6658	-12320	-18	0.022	9.942	0.919	35.32	1890.799	No
SLV 12	-6658	-12320	-18	0.022	9.942	0.919	35.32	1890.799	No
SLV 6	-5680	-14383	18	0.023	8.964	0.913	36.051	1890.799	No
SLV 5	-5680	-14383	18	0.023	8.964	0.913	36.051	1890.799	No
SLV 2	-7126	-15838	8	0.023	10.412	0.922	36.736	1890.799	No
SLV 1	-7126	-15838	8	0.023	10.412	0.922	36.736	1890.799	No
SLV 10	-4952	-12947	16	0.023	8.24	0.907	37.143	1890.799	No
SLV 9	-4952	-12947	16	0.023	8.24	0.907	37.143	1890.799	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	13.022	SLU 82	Si
V_SLU	5.239	SLU 29	Si
PF_SLV	5.647	SLV 5	Si
V_SLV	1.46	SLV 11	Si
PFFP_SLV	1.605	SLV 13	Si
R_SLV	0.019	SLV 7	No

## Maschio 155

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	-35.4	-1375.3	-22.8	L5	L6	12.6	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 60	834	-894	12489	0	0	0	No, e>l/2





Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 60	1044	-861	-3917	2.45	3786	0.966	No, M>Mu
SLU 1	834	-518	4820	0	0	0	No, e>l/2
SLU 1	1044	-610	-1891	1.73	3020	1.597	Si
SLU 55	834	-860	10536	0	0	0	No, e>l/2
SLU 55	1044	-922	-3295	2.62	3930	1.193	Si
SLU 53	834	-882	10216	0	0	0	No, e>l/2
SLU 53	1044	-962	-3224	2.73	4018	1.246	Si
SLU 58	834	-947	9986	0	0	0	No, e>l/2
SLU 58	1044	-1111	-3012	3.16	4277	1.42	Si
SLU 59	834	-933	10125	0	0	0	No, e>l/2
SLU 59	1044	-1083	-3043	3.08	4235	1.392	Si
SLU 57	834	-932	10037	0	0	0	No, e>l/2
SLU 57	1044	-1075	-3024	3.06	4223	1.396	Si
SLU 54	834	-868	10355	0	0	0	No, e>l/2
SLU 54	1044	-934	-3255	2.65	3957	1.215	Si
SLU 61	834	-880	12628	0	0	0	No, e>l/2
SLU 61	1044	-832	-3948	2.36	3711	0.94	No, M>Mu
SLU 56	834	-946	9898	0	0	0	No, e>l/2
SLU 56	1044	-1104	-2993	3.14	4267	1.426	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 15	834	219	10627	0	0	0	No, Trazione
SLV 15	1044	795	-3877	0	0	0	No, Trazione
SLD 16	834	-248	8010	0	0	0	No, e>l/2
SLD 16	1044	-45	-2913	0	0	0	No, e>l/2
SLV 8	834	459	9080	0	0	0	No, Trazione
SLV 8	1044	1379	-4291	0	0	0	No, Trazione
SLV 12	834	732	11094	0	0	0	No, Trazione
SLV 12	1044	1846	-4868	0	0	0	No, Trazione
SLV 11	834	732	11094	0	0	0	No, Trazione
SLV 11	1044	1846	-4868	0	0	0	No, Trazione
SLV 7	834	459	9080	0	0	0	No, Trazione
SLV 7	1044	1379	-4291	0	0	0	No, Trazione
SLD 14	834	-551	6992	0	0	0	No, e>l/2
SLD 14	1044	-626	-2309	1.78	3362	1.456	Si
SLV 13	834	-495	8212	0	0	0	No, e>l/2
SLV 13	1044	-573	-2451	1.63	3123	1.274	Si
SLV 14	834	-495	8212	0	0	0	No, e>l/2
SLV 14	1044	-573	-2451	1.63	3123	1.274	Si
SLD 15	834	-248	8010	0	0	0	No, e>l/2
SLD 15	1044	-45	-2913	0	0	0	No, e>l/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 58	834	-947	72	9986		0	0	0.56	0			0	No, Vu<V
SLU 58	1044	-1111	-236	-3012		3.7	10.73	1.05	315			1.34	Si
SLU 59	834	-933	78	10125		0	0	0.56	0			0	No, Vu<V
SLU 59	1044	-1083	-221	-3043		3.71	10.42	1.05	306			1.38	Si
SLU 53	834	-882	89	10216		0	0	0.56	0			0	No, Vu<V
SLU 53	1044	-962	-159	-3224		3.9	8.81	1.08	265			1.67	Si
SLU 61	834	-880	147	12628		0	0	0.56	0			0	No, Vu<V
SLU 61	1044	-832	-69	-3948		6.44	4.62	1.08	140			2.03	Si
SLU 57	834	-932	76	10037		0	0	0.56	0			0	No, Vu<V
SLU 57	1044	-1075	-217	-3024		3.69	10.42	1.05	305			1.41	Si
SLU 56	834	-946	69	9898		0	0	0.56	0			0	No, Vu<V
SLU 56	1044	-1104	-231	-2993		3.68	10.72	1.05	314			1.36	Si
SLU 55	834	-860	102	10536		0	0	0.56	0			0	No, Vu<V
SLU 55	1044	-922	-139	-3295		4.05	8.13	1.08	247			1.77	Si
SLU 60	834	-894	141	12489		0	0	0.56	0			0	No, Vu<V
SLU 60	1044	-861	-83	-3917		5.91	5.2	1.08	158			1.9	Si
SLU 1	834	-518	28	4820		0	0	0.56	0			0	No, Vu<V
SLU 1	1044	-610	-93	-1891		2.28	9.56	0.86	230			2.47	Si
SLU 54	834	-868	96	10355		0	0	0.56	0			0	No, Vu<V
SLU 54	1044	-934	-145	-3255		3.97	8.39	1.08	255			1.76	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 15	834	-248	415	8010	0	0	0	0.83	0			0	No, Vu<V
SLD 15	1044	-45	214	-2913	0	0	0	0.83	0			0	No, Vu<V
SLD 16	834	-248	415	8010	0	0	0	0.83	0			0	No, Vu<V
SLD 16	1044	-45	214	-2913	0	0	0	0.83	0			0	No, Vu<V
SLV 15	834	219	917	10627	0	0	0	0.83	0			0	No, Vu<V
SLV 15	1044	795	639	-3877	0	0	0	0.83	0			0	No, Vu<V
SLV 8	834	459	116	9080	0	0	0	0.83	0			0	No, Vu<V
SLV 8	1044	1379	932	-4291	0	0	0	0.83	0			0	No, Vu<V
SLD 14	834	-551	337	6992	0	0	0	0.83	0			0	No, Vu<V
SLD 14	1044	-626	-79	-2309	2.87	7.79	1.41	307				3.86	Si
SLV 13	834	-495	732	8212	0	0	0	0.83	0			0	No, Vu<V
SLV 13	1044	-573	-51	-2451	3.4	6.03	1.51	255				4.97	Si
SLV 12	834	732	585	11094	0	0	0	0.83	0			0	No, Vu<V
SLV 12	1044	1846	1169	-4868	0	0	0	0.83	0			0	No, Vu<V
SLV 11	834	732	585	11094	0	0	0	0.83	0			0	No, Vu<V
SLV 11	1044	1846	1169	-4868	0	0	0	0.83	0			0	No, Vu<V
SLV 14	834	-495	732	8212	0	0	0	0.83	0			0	No, Vu<V
SLV 14	1044	-573	-51	-2451	3.4	6.03	1.51	255				4.97	Si
SLV 7	834	459	116	9080	0	0	0	0.83	0			0	No, Vu<V
SLV 7	1044	1379	932	-4291	0	0	0	0.83	0			0	No, Vu<V



## Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.46	0	0	1563	0	0	No, $e > t/2$
SLV 4	14	0.46	0	0	1563	0	0	No, $e > t/2$
SLV 9	14	0.46	0	0	1563	0	0	No, $e > t/2$
SLV 2	14	0.46	0	0	1563	0	0	No, $e > t/2$
SLV 6	14	0.46	0	0	1563	0	0	No, $e > t/2$
SLV 3	14	0.46	0	0	1563	0	0	No, $e > t/2$
SLV 7	14	0.46	0	0	1563	0	0	No, $e > t/2$
SLV 10	14	0.46	0	0	1563	0	0	No, $e > t/2$
SLV 5	14	0.46	0	0	1563	0	0	No, $e > t/2$
SLV 1	14	0.46	0	0	1563	0	0	No, $e > t/2$

## Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1010 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 8	-65	459	-6	0	0	0	0	1001.941	No, Trazione
SLV 12	-124	732	-60	0	0	0	0	1001.941	No, Trazione
SLV 7	-65	459	-6	0	0	0	0	1001.941	No, Trazione
SLV 6	-306	-1920	72	0	0.491	0.911	0	1001.941	No
SLV 2	-152	-1406	108	0	0.341	0.891	0	1088.965	No
SLV 4	-80	-693	85	0	0.275	0.892	0	1088.965	No
SLV 11	-124	732	-60	0	0	0	0	1001.941	No, Trazione
SLV 3	-80	-693	85	0	0.275	0.892	0	1088.965	No
SLV 5	-306	-1920	72	0	0.491	0.911	0	1001.941	No
SLV 1	-152	-1406	108	0	0.341	0.891	0	1088.965	No

## Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 1	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 16	No
V_SLV	0	SLD 3	No
PFFP_SLV	0	SLV 1	No
R_SLV	0	SLV 16	No

## Maschio 156

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	67.2	-1375.3	104.6	L5	L6	37.4	28	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

## Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 77	834	-5763	-23333	5.5	35052	1.502	Si
SLU 77	1044	-2655	15711	2.53	34235	2.179	Si
SLU 70	834	-5398	-23155	5.15	37151	1.604	Si
SLU 70	1044	-2304	16535	2.2	31480	1.904	Si
SLU 71	834	-5378	-23993	5.13	37246	1.552	Si
SLU 71	1044	-2182	17262	2.08	30399	1.761	Si
SLU 29	834	-4688	-22718	4.47	39559	1.741	Si
SLU 29	1044	-1697	16998	1.62	25452	1.497	Si
SLU 78	834	-5690	-22374	5.43	35517	1.587	Si
SLU 78	1044	-2703	14817	2.58	34570	2.333	Si
SLU 69	834	-5470	-24114	5.22	36780	1.525	Si
SLU 69	1044	-2256	17429	2.15	31060	1.782	Si
SLU 80	834	-5598	-22253	5.34	36072	1.621	Si
SLU 80	1044	-2629	14650	2.51	34053	2.324	Si
SLU 30	834	-4615	-21758	4.4	39681	1.824	Si
SLU 30	1044	-1746	16105	1.67	25989	1.614	Si
SLU 79	834	-5671	-23212	5.41	35636	1.535	Si
SLU 79	1044	-2581	15544	2.46	33702	2.168	Si
SLU 27	834	-4780	-22839	4.56	39371	1.724	Si
SLU 27	1044	-1771	17165	1.69	26270	1.53	Si

## Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 7	834	350	51408	0	0	0	No, Trazione
SLV 7	1044	-4954	-38382	4.73	56847	1.481	Si
SLV 12	834	1516	68589	0	0	0	No, Trazione
SLV 12	1044	-5786	-50402	5.52	59361	1.178	Si
SLV 9	834	-7053	-72112	6.73	59300	0.822	No, M>Mu
SLV 9	1044	1192	49948	0	0	0	No, Trazione
SLV 2	834	-6580	-60092	6.28	59871	0.996	No, M>Mu
SLV 2	1044	553	40869	0	0	0	No, Trazione
SLD 1	834	-4724	-31471	4.51	55798	1.773	Si
SLD 1	1044	-844	20759	0	0	0	No, $e > l/2$



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 6	834	-8219	-89293	7.84	55097	0.617	No, M>Mu
SLV 6	1044	2025	61968	0	0	0	No, Trazione
SLV 8	834	350	51408	0	0	0	No, Trazione
SLV 8	1044	-4954	-38382	4.73	56847	1.481	Si
SLV 5	834	-8219	-89293	7.84	55097	0.617	No, M>Mu
SLV 5	1044	2025	61968	0	0	0	No, Trazione
SLV 10	834	-7053	-72112	6.73	59300	0.822	No, M>Mu
SLV 10	1044	1192	49948	0	0	0	No, Trazione
SLV 11	834	1516	68589	0	0	0	No, Trazione
SLV 11	1044	-5786	-50402	5.52	59361	1.178	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 69	834	-5470	-439	-24114		5.22	37.43	1.08	1135			2.59	Si
SLU 69	1044	-2256	-437	17429		2.44	32.96	0.88	814			1.86	Si
SLU 71	834	-5378	-436	-23993		5.13	37.43	1.08	1135			2.6	Si
SLU 71	1044	-2182	-434	17262		2.4	32.41	0.88	795			1.83	Si
SLU 28	834	-4708	-406	-21880		4.49	37.43	1.08	1135			2.8	Si
SLU 28	1044	-1819	-401	16271		2.22	29.31	0.85	699			1.74	Si
SLU 30	834	-4615	-403	-21758		4.4	37.43	1.08	1135			2.82	Si
SLU 30	1044	-1746	-398	16105		2.19	28.47	0.85	676			1.7	Si
SLU 29	834	-4688	-422	-22718		4.47	37.43	1.08	1135			2.69	Si
SLU 29	1044	-1697	-418	16998		2.32	26.1	0.87	632			1.51	Si
SLU 37	834	-4981	-400	-21937		4.75	37.43	1.08	1135			2.84	Si
SLU 37	1044	-2097	-397	15280		2.18	34.28	0.85	813			2.05	Si
SLU 70	834	-5398	-420	-23155		5.15	37.43	1.08	1135			2.7	Si
SLU 70	1044	-2304	-417	16535		2.38	34.61	0.87	846			2.03	Si
SLU 72	834	-5306	-417	-23033		5.06	37.43	1.08	1135			2.72	Si
SLU 72	1044	-2230	-413	16369		2.33	34.13	0.87	828			2	Si
SLU 35	834	-5073	-403	-22058		4.84	37.43	1.08	1135			2.82	Si
SLU 35	1044	-2170	-400	15447		2.23	34.79	0.85	831			2.08	Si
SLU 27	834	-4780	-424	-22839		4.56	37.43	1.08	1135			2.68	Si
SLU 27	1044	-1771	-422	17165		2.34	27.07	0.87	657			1.56	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	834	1516	1606	68589		0	0	0.83	0			0	No, Vu<V
SLV 12	1044	-5786	833	-50402		6.89	30.01	1.63	1366			1.64	Si
SLV 9	834	-7053	-1567	-72112		9.89	25.47	1.63	1159			0.74	No, Vu<V
SLV 9	1044	1192	-1389	49948		0	0	0.83	0			0	No, Vu<V
SLV 6	834	-8219	-1949	-89293		12.46	23.55	1.63	1072			0.55	No, Vu<V
SLV 6	1044	2025	-1177	61968		0	0	0.83	0			0	No, Vu<V
SLD 1	834	-4724	-641	-31471		4.67	36.16	1.63	1645			2.57	Si
SLD 1	1044	-844	-162	20759		0	0	0.83	0			0	No, Vu<V
SLV 11	834	1516	1606	68589		0	0	0.83	0			0	No, Vu<V
SLV 11	1044	-5786	833	-50402		6.89	30.01	1.63	1366			1.64	Si
SLV 10	834	-7053	-1567	-72112		9.89	25.47	1.63	1159			0.74	No, Vu<V
SLV 10	1044	1192	-1389	49948		0	0	0.83	0			0	No, Vu<V
SLV 5	834	-8219	-1949	-89293		12.46	23.55	1.63	1072			0.55	No, Vu<V
SLV 5	1044	2025	-1177	61968		0	0	0.83	0			0	No, Vu<V
SLV 7	834	350	1224	51408		0	0	0.83	0			0	No, Vu<V
SLV 7	1044	-4954	1045	-38382		5.38	32.9	1.63	1497			1.43	Si
SLV 2	834	-6580	-1284	-60092		8.17	28.75	1.63	1308			1.02	Si
SLV 2	1044	553	-151	40869		0	0	0.83	0			0	No, Vu<V
SLV 8	834	350	1224	51408		0	0	0.83	0			0	No, Vu<V
SLV 8	1044	-4954	1045	-38382		5.38	32.9	1.63	1497			1.43	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 2	14	0.46	0	461	4653	0	0	No, Trazione
SLV 1	14	0.46	0	461	4653	0	0	No, Trazione
SLV 10	14	0.46	0	1110	4653	0	0	No, Trazione
SLV 9	14	0.46	0	1110	4653	0	0	No, Trazione
SLV 6	14	0.46	0	1935	4653	0	0	No, Trazione
SLV 5	14	0.46	0	1935	4653	0	0	No, Trazione
SLV 4	14	0.46	1.55	-1629	4653	19901	4.28	Si
SLV 3	14	0.46	1.55	-1629	4653	19901	4.28	Si
SLV 14	14	0.46	2.19	-2291	4653	26336	5.66	Si
SLV 13	14	0.46	2.19	-2291	4653	26336	5.66	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1010 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 5	-1237	-8219	98	0	1.789	0.923	0	1001.941	No
SLV 8	-1275	350	-95	0	0	0	0	1001.941	No, Trazione
SLV 10	-1230	-7053	95	0	1.782	0.923	0	1001.941	No
SLV 12	-1268	1516	-98	0	0	0	0	1001.941	No, Trazione
SLV 6	-1237	-8219	98	0	1.789	0.923	0	1001.941	No
SLV 11	-1268	1516	-98	0	0	0	0	1001.941	No, Trazione
SLV 7	-1275	350	-95	0	0	0	0	1001.941	No, Trazione
SLV 9	-1230	-7053	95	0	1.782	0.923	0	1001.941	No
SLV 15	-1246	-123	-34	0.027	1.797	0.923	42.2	1088.965	No
SLV 16	-1246	-123	-34	0.027	1.797	0.923	42.2	1088.965	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.497	SLU 29	Si



Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	1.511	SLV 29	Si
PF_SLV	0	SLV 12	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 10	No
R_SLV	0	SLV 12	No

## Maschio 157

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1239.3	333.1	-1239.3	104.6	L5	L6	228.5	14	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 69	834	-7509	180226	2.35	610703	3.389	Si
SLU 69	1186	-4941	107277	1.54	457456	4.264	Si
SLU 70	834	-7494	179366	2.34	609952	3.401	Si
SLU 70	1186	-4924	106549	1.54	456283	4.282	Si
SLU 77	834	-8248	191050	2.58	644086	3.371	Si
SLU 77	1186	-5267	109942	1.65	480134	4.367	Si
SLU 78	834	-8233	190190	2.57	643436	3.383	Si
SLU 78	1186	-5251	109214	1.64	479009	4.386	Si
SLU 72	834	-7257	178090	2.27	598195	3.359	Si
SLU 72	1186	-4654	107117	1.45	436736	4.077	Si
SLU 30	834	-6037	152926	1.89	529933	3.465	Si
SLU 30	1186	-3913	94489	1.22	379903	4.021	Si
SLU 29	834	-6052	153785	1.89	530882	3.452	Si
SLU 29	1186	-3929	95216	1.23	381221	4.004	Si
SLU 71	834	-7272	178949	2.27	598979	3.347	Si
SLU 71	1186	-4670	107845	1.46	437947	4.061	Si
SLU 80	834	-7996	188914	2.5	633216	3.352	Si
SLU 80	1186	-4980	109782	1.56	460236	4.192	Si
SLU 79	834	-8011	189773	2.5	633899	3.34	Si
SLU 79	1186	-4997	110510	1.56	461400	4.175	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 15	834	-5932	178405	1.85	574858	3.222	Si
SLV 15	1186	-2279	12550	0.71	245226	19.539	Si
SLD 8	834	-4569	114135	1.43	460966	4.039	Si
SLD 8	1186	-3139	114629	0.98	329858	2.878	Si
SLV 11	834	-4100	151262	1.28	419301	2.772	Si
SLV 11	1186	-2500	142132	0.78	267322	1.881	Si
SLV 4	834	-3867	60238	1.21	398055	6.608	Si
SLV 4	1186	-3917	169847	1.22	402695	2.371	Si
SLD 7	834	-4569	114135	1.43	460966	4.039	Si
SLD 7	1186	-3139	114629	0.98	329858	2.878	Si
SLV 12	834	-4100	151262	1.28	419301	2.772	Si
SLV 12	1186	-2500	142132	0.78	267322	1.881	Si
SLV 3	834	-3867	60238	1.21	398055	6.608	Si
SLV 3	1186	-3917	169847	1.22	402695	2.371	Si
SLV 7	834	-3481	115812	1.09	362244	3.128	Si
SLV 7	1186	-2991	189321	0.93	315576	1.667	Si
SLV 16	834	-5932	178405	1.85	574858	3.222	Si
SLV 16	1186	-2279	12550	0.71	245226	19.539	Si
SLV 8	834	-3481	115812	1.09	362244	3.128	Si
SLV 8	1186	-2991	189321	0.93	315576	1.667	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 43	834	-6163	104	130049		1.93	228.5	0.81	2599			24.94	Si
SLU 43	1186	-3760	61	67845		1.18	228.5	0.71	2279			37.37	Si
SLU 52	834	-6877	82	139440		2.15	228.5	0.84	2694			32.83	Si
SLU 52	1186	-4059	42	69297		1.27	228.5	0.72	2318			55.27	Si
SLU 60	834	-7219	86	145512		2.26	228.5	0.86	2740			31.7	Si
SLU 60	1186	-4226	41	71652		1.32	228.5	0.73	2341			57.34	Si
SLU 45	834	-6571	89	146585		2.05	228.5	0.83	2653			29.95	Si
SLU 45	1186	-4246	52	81536		1.33	228.5	0.73	2343			45.09	Si
SLU 44	834	-6138	95	128616		1.92	228.5	0.81	2596			27.47	Si
SLU 44	1186	-3733	56	66632		1.17	228.5	0.71	2275			40.59	Si
SLU 64	834	-6932	90	148429		2.17	228.5	0.84	2701			30	Si
SLU 64	1186	-4240	50	79327		1.33	228.5	0.73	2343			46.9	Si
SLU 65	834	-6906	80	146996		2.16	228.5	0.84	2698			33.58	Si
SLU 65	1186	-4213	45	78114		1.32	228.5	0.73	2339			51.93	Si
SLU 1	834	-4944	76	104885		1.55	228.5	0.76	2436			31.88	Si
SLU 1	1186	-3019	44	55217		0.94	228.5	0.68	2180			49.55	Si
SLU 46	834	-6555	83	145726		2.05	228.5	0.83	2651			32.03	Si
SLU 46	1186	-4229	49	80808		1.32	228.5	0.73	2341			47.76	Si
SLU 47	834	-6308	78	143876		1.97	228.5	0.82	2618			33.45	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 47	1186	-3948	48	80891		1.23	228.5	0.72	2304			47.87	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	834	-3867	-3283	60238		1.21	228.5	1.08	3439			1.05	Si
SLV 4	1186	-3917	-2360	169847		1.32	212.67	1.1	3265			1.38	Si
SLV 10	834	-7268	4828	110646		2.27	228.5	1.29	4119			0.85	No, Vu<V
SLV 10	1186	-3508	3430	-70803		1.1	228.5	1.05	3367			0.98	No, Vu<V
SLV 5	834	-6649	3560	75196		2.08	228.5	1.25	3996			1.12	Si
SLV 5	1186	-3999	2520	-23615		1.25	228.5	1.08	3466			1.38	Si
SLV 8	834	-3481	-4691	115812		1.09	228.5	1.05	3362			0.72	No, Vu<V
SLV 8	1186	-2991	-3356	189321		1.4	152.86	1.11	2382			0.71	No, Vu<V
SLV 9	834	-7268	4828	110646		2.27	228.5	1.29	4119			0.85	No, Vu<V
SLV 9	1186	-3508	3430	-70803		1.1	228.5	1.05	3367			0.98	No, Vu<V
SLV 6	834	-6649	3560	75196		2.08	228.5	1.25	3996			1.12	Si
SLV 6	1186	-3999	2520	-23615		1.25	228.5	1.08	3466			1.38	Si
SLV 12	834	-4100	-3422	151262		1.28	228.5	1.09	3486			1.02	Si
SLV 12	1186	-2500	-2447	142132		1.04	172.17	1.04	2509			1.03	Si
SLV 3	834	-3867	-3283	60238		1.21	228.5	1.08	3439			1.05	Si
SLV 3	1186	-3917	-2360	169847		1.32	212.67	1.1	3265			1.38	Si
SLV 11	834	-4100	-3422	151262		1.28	228.5	1.09	3486			1.02	Si
SLV 11	1186	-2500	-2447	142132		1.04	172.17	1.04	2509			1.03	Si
SLV 7	834	-3481	-4691	115812		1.09	228.5	1.05	3362			0.72	No, Vu<V
SLV 7	1186	-2991	-3356	189321		1.4	152.86	1.11	2382			0.71	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.03 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 15	14	0.46	1.14	-3641	13558	23112	1.7	Si
SLV 16	14	0.46	1.14	-3641	13558	23112	1.7	Si
SLV 12	14	0.46	1.2	-3847	13558	24278	1.79	Si
SLV 11	14	0.46	1.2	-3847	13558	24278	1.79	Si
SLV 13	14	0.46	1.25	-3989	13558	25071	1.85	Si
SLV 14	14	0.46	1.25	-3989	13558	25071	1.85	Si
SLV 8	14	0.46	1.37	-4371	13558	27176	2	Si
SLV 7	14	0.46	1.37	-4371	13558	27176	2	Si
SLV 10	14	0.46	1.56	-5006	13558	30554	2.25	Si
SLV 9	14	0.46	1.56	-5006	13558	30554	2.25	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1010 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 10	-3508	-7268	12	0.022	5.191	0.92	34.403	1890.799	No
SLV 9	-3508	-7268	12	0.022	5.191	0.92	34.403	1890.799	No
SLV 6	-3999	-6649	9	0.022	5.685	0.925	34.749	1890.799	No
SLV 5	-3999	-6649	9	0.022	5.685	0.925	34.749	1890.799	No
SLV 7	-2991	-3481	-12	0.022	4.673	0.914	34.788	1890.799	No
SLV 8	-2991	-3481	-12	0.022	4.673	0.914	34.788	1890.799	No
SLV 3	-3917	-3867	-8	0.022	5.602	0.925	35.159	1890.799	No
SLV 4	-3917	-3867	-8	0.022	5.602	0.925	35.159	1890.799	No
SLV 12	-2500	-4100	-10	0.023	4.185	0.907	36.708	1890.799	No
SLV 11	-2500	-4100	-10	0.023	4.185	0.907	36.708	1890.799	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.34	SLU 79	Si
V_SLU	24.944	SLU 43	Si
PF_SLV	1.667	SLV 7	Si
V_SLV	0.71	SLV 7	No
PFFP_SLV	1.705	SLV 15	Si
R_SLV	0.018	SLV 9	No

## Maschio 158

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1505.8	333.1	-1074.8	333.1	L5	L6	431	14	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 37	834	-5798	-128586	0.96	1102109	8.571	Si
SLU 37	1024	-5339	-496654	0.88	1025529	2.065	Si
SLU 79	834	-7478	-159137	1.24	1366340	8.586	Si
SLU 79	1024	-6529	-570707	1.08	1220179	2.138	Si
SLU 29	834	-5478	-125599	0.91	1048905	8.351	Si
SLU 29	1024	-4606	-424451	0.76	899520	2.119	Si
SLU 42	834	-6291	-132333	1.04	1182213	8.934	Si
SLU 42	1024	-5975	-516254	0.99	1131063	2.191	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 16	834	-5530	-115009	0.92	1057633	9.196	Si
SLU 16	1024	-4746	-424572	0.79	924041	2.176	Si
SLU 41	834	-6284	-132532	1.04	1181026	8.911	Si
SLU 41	1024	-5969	-516025	0.99	1130187	2.19	Si
SLU 38	834	-5806	-128387	0.96	1103328	8.594	Si
SLU 38	1024	-5344	-496883	0.89	1026435	2.066	Si
SLU 30	834	-5485	-125399	0.91	1050145	8.374	Si
SLU 30	1024	-4611	-424680	0.76	900460	2.12	Si
SLU 17	834	-5537	-114809	0.92	1058870	9.223	Si
SLU 17	1024	-4752	-424801	0.79	924975	2.177	Si
SLU 80	834	-7485	-158938	1.24	1367450	8.604	Si
SLU 80	1024	-6535	-570936	1.08	1221029	2.139	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 12	834	-3470	21893	0.58	712604	32.549	Si
SLV 12	1024	-1330	-810498	0	0	0	No, $e \geq l/2$
SLV 7	834	-2410	-187043	0.4	502413	2.686	Si
SLV 7	1024	-471	-996841	0	0	0	No, $e \geq l/2$
SLD 12	834	-4968	-60585	0.82	998496	16.481	Si
SLD 12	1024	-3453	-557767	0.57	709218	1.272	Si
SLD 11	834	-4968	-60585	0.82	998496	16.481	Si
SLD 11	1024	-3453	-557767	0.57	709218	1.272	Si
SLV 3	834	-3368	-458460	0.56	692553	1.511	Si
SLV 3	1024	-2357	-840984	0	0	0	No, $e \geq l/2$
SLV 8	834	-2410	-187043	0.4	502413	2.686	Si
SLV 8	1024	-471	-996841	0	0	0	No, $e \geq l/2$
SLD 7	834	-4519	-149168	0.75	914124	6.128	Si
SLD 7	1024	-3089	-637006	0.51	637728	1.001	Si
SLV 4	834	-3368	-458460	0.56	692553	1.511	Si
SLV 4	1024	-2357	-840984	0	0	0	No, $e \geq l/2$
SLD 8	834	-4519	-149168	0.75	914124	6.128	Si
SLD 8	1024	-3089	-637006	0.51	637728	1.001	Si
SLV 11	834	-3470	21893	0.58	712604	32.549	Si
SLV 11	1024	-1330	-810498	0	0	0	No, $e \geq l/2$

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 37	834	-5798	-242	-128586		0.96	431	0.68	4125			17.05	Si
SLU 37	1024	-5339	-242	-496654		1.04	367.41	0.69	3569			14.74	Si
SLU 41	834	-6284	-256	-132532		1.04	431	0.69	4190			16.35	Si
SLU 41	1024	-5969	-257	-516025		1.1	387.17	0.7	3807			14.84	Si
SLU 79	834	-7478	-272	-159137		1.24	431	0.72	4349			15.97	Si
SLU 79	1024	-6529	-273	-570707		1.21	384.29	0.72	3859			14.16	Si
SLU 42	834	-6291	-256	-132333		1.04	431	0.69	4191			16.34	Si
SLU 42	1024	-5975	-257	-516254		1.1	387.29	0.7	3809			14.84	Si
SLU 80	834	-7485	-273	-158938		1.24	431	0.72	4350			15.96	Si
SLU 80	1024	-6535	-273	-570936		1.21	384.4	0.72	3861			14.16	Si
SLU 83	834	-7964	-287	-163083		1.32	431	0.73	4414			15.39	Si
SLU 83	1024	-7160	-287	-590077		1.28	399.27	0.73	4060			14.15	Si
SLU 84	834	-7971	-287	-162884		1.32	431	0.73	4415			15.39	Si
SLU 84	1024	-7166	-287	-590306		1.28	399.36	0.73	4062			14.15	Si
SLU 38	834	-5806	-242	-128387		0.96	431	0.68	4126			17.04	Si
SLU 38	1024	-5344	-242	-496883		1.04	367.56	0.69	3571			14.74	Si
SLU 78	834	-7922	-277	-153989		1.31	431	0.73	4409			15.89	Si
SLU 78	1024	-6983	-278	-572501		1.25	400.56	0.72	4047			14.57	Si
SLU 77	834	-7915	-277	-154188		1.31	431	0.73	4408			15.89	Si
SLU 77	1024	-6978	-277	-572271		1.24	400.47	0.72	4045			14.58	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 8	834	-4519	-177	-149168		0.75	431	0.98	5932			33.47	Si
SLD 8	1024	-3089	-439	-637006		7.94	27.79	1.63	632			1.44	Si
SLV 1	834	-5248	180	-482167		1.01	370.87	1.04	5376			29.82	Si
SLV 1	1024	-4832	-1377	-521049		1.07	322.98	1.05	4734			3.44	Si
SLV 2	834	-5248	180	-482167		1.01	370.87	1.04	5376			29.82	Si
SLV 2	1024	-4832	-1377	-521049		1.07	322.98	1.05	4734			3.44	Si
SLV 8	834	-2410	-197	-187043		0.42	413.68	0.92	5308			26.89	Si
SLV 8	1024	-471	-819	-996841		0	0	0.83	0			0	No, $V_u < V$
SLV 7	834	-2410	-197	-187043		0.42	413.68	0.92	5308			26.89	Si
SLV 7	1024	-471	-819	-996841		0	0	0.83	0			0	No, $V_u < V$
SLV 11	834	-3470	-386	21893		0.58	431	0.95	5722			14.82	Si
SLV 11	1024	-1330	-48	-810498		0	0	0.83	0			0	No, $V_u < V$
SLV 3	834	-3368	108	-458460		1.01	238.07	1.04	3451			32.09	Si
SLV 3	1024	-2357	-1535	-840984		0	0	0.83	0			0	No, $V_u < V$
SLV 4	834	-3368	108	-458460		1.01	238.07	1.04	3451			32.09	Si
SLV 4	1024	-2357	-1535	-840984		0	0	0.83	0			0	No, $V_u < V$
SLV 12	834	-3470	-386	21893		0.58	431	0.95	5722			14.82	Si
SLV 12	1024	-1330	-48	-810498		0	0	0.83	0			0	No, $V_u < V$
SLD 7	834	-4519	-177	-149168		0.75	431	0.98	5932			33.47	Si
SLD 7	1024	-3089	-439	-637006		7.94	27.79	1.63	632			1.44	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.03 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.46	0	-471	25573	0	0	No, $e > t/2$
SLV 11	14	0.46	0	-1330	25573	0	0	No, $e > t/2$
SLV 3	14	0.46	0	-2357	25573	0	0	No, $e > t/2$
SLV 8	14	0.46	0	-471	25573	0	0	No, $e > t/2$



Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.46	0	-1330	25573	0	0	No, $e > t/2$
SLV 4	14	0.46	0	-2357	25573	0	0	No, $e > t/2$
SLV 1	14	0.46	0.8	-4832	25573	31605	1.24	Si
SLV 2	14	0.46	0.8	-4832	25573	31605	1.24	Si
SLV 16	14	0.46	0.86	-5219	25573	33944	1.33	Si
SLV 15	14	0.46	0.86	-5219	25573	33944	1.33	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1010  $W_a = 0.03$   $T_a = 0.1478$

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 9	-7559	-9738	-288	0	10.738	0.925	0	1890.799	No
SLV 11	-4274	-3470	285	0	7.458	0.904	0	1890.799	No
SLV 8	-3901	-2410	288	0	7.091	0.901	0	1890.799	No
SLV 12	-4274	-3470	285	0	7.458	0.904	0	1890.799	No
SLV 7	-3901	-2410	288	0	7.091	0.901	0	1890.799	No
SLV 5	-7186	-8678	-285	0	10.362	0.923	0	1890.799	No
SLV 10	-7559	-9738	-288	0	10.738	0.925	0	1890.799	No
SLV 6	-7186	-8678	-285	0	10.362	0.923	0	1890.799	No
SLV 3	-4615	-3368	91	0.012	7.795	0.906	18.882	1890.799	No
SLV 4	-4615	-3368	91	0.012	7.795	0.906	18.882	1890.799	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.065	SLU 37	Si
V_SLU	14.146	SLU 84	Si
PF_SLV	0	SLV 3	No
V_SLV	0	SLV 3	No
PFFP_SLV	0	SLV 3	No
R_SLV	0	SLV 5	No

## Maschio 159

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-994.8	333.1	-972.8	333.1	L5	L6	22	14	352	352	352			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 56	834	387	9356	0	0	0	No, Trazione
SLU 56	1024	-1869	-9478	6.07	5246	0.553	No, M>Mu
SLU 61	834	328	9565	0	0	0	No, Trazione
SLU 61	1024	-1968	-9699	6.39	4665	0.481	No, M>Mu
SLU 60	834	328	9557	0	0	0	No, Trazione
SLU 60	1024	-1966	-9691	6.38	4678	0.483	No, M>Mu
SLU 58	834	396	9169	0	0	0	No, Trazione
SLU 58	1024	-1811	-9260	5.88	5541	0.598	No, M>Mu
SLU 55	834	329	8981	0	0	0	No, Trazione
SLU 55	1024	-1826	-9104	5.93	5470	0.601	No, M>Mu
SLU 59	834	395	9176	0	0	0	No, Trazione
SLU 59	1024	-1813	-9269	5.89	5531	0.597	No, M>Mu
SLU 1	834	125	5740	0	0	0	No, Trazione
SLU 1	1024	-1236	-5879	4.01	6898	1.173	Si
SLU 57	834	387	9364	0	0	0	No, Trazione
SLU 57	1024	-1871	-9487	6.07	5234	0.552	No, M>Mu
SLU 53	834	321	9156	0	0	0	No, Trazione
SLU 53	1024	-1880	-9308	6.1	5187	0.557	No, M>Mu
SLU 54	834	320	9163	0	0	0	No, Trazione
SLU 54	1024	-1882	-9316	6.11	5175	0.555	No, M>Mu

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 2	834	339	8326	0	0	0	No, Trazione
SLV 2	1024	-1319	-11192	4.28	9425	0.842	No, M>Mu
SLV 11	834	1213	14486	0	0	0	No, Trazione
SLV 11	1024	-2525	-13757	8.2	9139	0.664	No, M>Mu
SLV 12	834	1213	14486	0	0	0	No, Trazione
SLV 12	1024	-2525	-13757	8.2	9139	0.664	No, M>Mu
SLV 10	834	-1074	-3660	3.49	8443	2.307	Si
SLV 10	1024	-91	4352	0	0	0	No, $e > l/2$
SLV 7	834	1496	17087	0	0	0	No, Trazione
SLV 7	1024	-2699	-18005	8.76	8398	0.466	No, M>Mu
SLV 8	834	1496	17087	0	0	0	No, Trazione
SLV 8	1024	-2699	-18005	8.76	8398	0.466	No, M>Mu
SLV 9	834	-1074	-3660	3.49	8443	2.307	Si
SLV 9	1024	-91	4352	0	0	0	No, $e > l/2$
SLV 3	834	1025	13770	0	0	0	No, Trazione
SLV 3	1024	-2049	-16624	6.65	10267	0.618	No, M>Mu
SLV 4	834	1025	13770	0	0	0	No, Trazione
SLV 4	1024	-2049	-16624	6.65	10267	0.618	No, M>Mu



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLD 1	834	264	7406	0	0	0	No, Trazione
SLD 1	1024	-1363	-8679	4.42	9562	1.102	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 58	834	396	234	9169		0	0	0.56	0			0	No, Vu<V
SLU 58	1024	-1811	234	-9260		7.33	17.66	1.08	268			1.15	Si
SLU 54	834	320	234	9163		0	0	0.56	0			0	No, Vu<V
SLU 54	1024	-1882	234	-9316		7.41	18.15	1.08	275			1.18	Si
SLU 61	834	328	243	9565		0	0	0.56	0			0	No, Vu<V
SLU 61	1024	-1968	243	-9699		7.72	18.22	1.08	276			1.14	Si
SLU 57	834	387	239	9364		0	0	0.56	0			0	No, Vu<V
SLU 57	1024	-1871	239	-9487		7.51	17.79	1.08	270			1.13	Si
SLU 60	834	328	243	9557		0	0	0.56	0			0	No, Vu<V
SLU 60	1024	-1966	243	-9691		7.71	18.21	1.08	276			1.14	Si
SLU 1	834	125	147	5740		0	0	0.56	0			0	No, Vu<V
SLU 1	1024	-1236	147	-5879		4.71	18.73	1.08	284			1.94	Si
SLU 53	834	321	234	9156		0	0	0.56	0			0	No, Vu<V
SLU 53	1024	-1880	234	-9308		7.4	18.14	1.08	275			1.18	Si
SLU 56	834	387	239	9356		0	0	0.56	0			0	No, Vu<V
SLU 56	1024	-1869	239	-9478		7.51	17.78	1.08	270			1.13	Si
SLU 59	834	395	234	9176		0	0	0.56	0			0	No, Vu<V
SLU 59	1024	-1813	234	-9269		7.33	17.66	1.08	268			1.15	Si
SLU 55	834	329	229	8981		0	0	0.56	0			0	No, Vu<V
SLU 55	1024	-1826	229	-9104		7.23	18.04	1.08	274			1.2	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	834	1213	522	14486		0	0	0.83	0			0	No, Vu<V
SLV 12	1024	-2525	388	-13757		10.83	16.66	1.63	379			0.98	No, Vu<V
SLV 11	834	1213	522	14486		0	0	0.83	0			0	No, Vu<V
SLV 11	1024	-2525	388	-13757		10.83	16.66	1.63	379			0.98	No, Vu<V
SLV 8	834	1496	452	17087		0	0	0.83	0			0	No, Vu<V
SLV 8	1024	-2699	442	-18005		14.85	12.98	1.63	295			0.67	No, Vu<V
SLD 1	834	264	82	7406		0	0	0.83	0			0	No, Vu<V
SLD 1	1024	-1363	178	-8679		7.01	13.89	1.63	316			1.78	Si
SLV 2	834	339	-39	8326		0	0	0.83	0			0	No, Vu<V
SLV 2	1024	-1319	187	-11192		12.48	7.55	1.63	172			0.92	No, Vu<V
SLV 7	834	1496	452	17087		0	0	0.83	0			0	No, Vu<V
SLV 7	1024	-2699	442	-18005		14.85	12.98	1.63	295			0.67	No, Vu<V
SLV 10	834	-1074	-110	-3660		3.49	22	1.53	471			4.28	Si
SLV 10	1024	-91	-99	4352		0	0	0.83	0			0	No, Vu<V
SLV 4	834	1025	150	13770		0	0	0.83	0			0	No, Vu<V
SLV 4	1024	-2049	333	-16624		16.9	8.66	1.63	197			0.59	No, Vu<V
SLV 3	834	1025	150	13770		0	0	0.83	0			0	No, Vu<V
SLV 3	1024	-2049	333	-16624		16.9	8.66	1.63	197			0.59	No, Vu<V
SLV 9	834	-1074	-110	-3660		3.49	22	1.53	471			4.28	Si
SLV 9	1024	-91	-99	4352		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.03 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.46	0	-91	1305	0	0	No, $e>t/2$
SLV 10	14	0.46	0	-91	1305	0	0	No, $e>t/2$
SLV 6	14	0.46	0.86	-265	1305	1725	1.32	Si
SLV 5	14	0.46	0.86	-265	1305	1725	1.32	Si
SLV 14	14	0.46	2.41	-741	1305	4165	3.19	Si
SLV 13	14	0.46	2.41	-741	1305	4165	3.19	Si
SLV 7	14	0.46	8.76	-2699	1305	5344	4.09	Si
SLV 8	14	0.46	8.76	-2699	1305	5344	4.09	Si
SLV 12	14	0.46	8.2	-2525	1305	5816	4.46	Si
SLV 11	14	0.46	8.2	-2525	1305	5816	4.46	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1010 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 16	-180	83	-2	0	0	0	0	1890.799	No, Trazione
SLV 15	-180	83	-2	0	0	0	0	1890.799	No, Trazione
SLV 2	-82	339	2	0	0	0	0	1890.799	No, Trazione
SLV 11	174	1213	8	0	0	0	0	1890.799	No, Trazione
SLV 3	129	1025	7	0	0	0	0	1890.799	No, Trazione
SLV 7	267	1496	10	0	0	0	0	1890.799	No, Trazione
SLV 4	129	1025	7	0	0	0	0	1890.799	No, Trazione
SLV 12	174	1213	8	0	0	0	0	1890.799	No, Trazione
SLV 8	267	1496	10	0	0	0	0	1890.799	No, Trazione
SLV 1	-82	339	2	0	0	0	0	1890.799	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 84	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 16	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 9	No
R_SLV	0	SLV 16	No





## Maschio 160

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1975.8	666.1	-1771.8	666.1	L5	L6	204	28	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 6	924	-5947	26168	1.04	529097	20.219	Si
SLU 6	1104	-3880	125204	0.68	362761	2.897	Si
SLU 8	924	-5244	27339	0.92	474617	17.36	Si
SLU 8	1104	-3177	131067	0.56	301907	2.303	Si
SLU 30	924	-5925	22847	1.04	527367	23.083	Si
SLU 30	1104	-3830	153842	0.67	358541	2.331	Si
SLU 27	924	-6638	23044	1.16	580500	25.191	Si
SLU 27	1104	-4544	147203	0.8	418225	2.841	Si
SLU 9	924	-5234	25972	0.92	473804	18.243	Si
SLU 9	1104	-3166	131842	0.55	301000	2.283	Si
SLU 29	924	-5935	24214	1.04	528150	21.811	Si
SLU 29	1104	-3841	153067	0.67	359418	2.348	Si
SLU 37	924	-7241	13651	1.27	623620	45.682	Si
SLU 37	1104	-5146	159928	0.9	466876	2.919	Si
SLU 28	924	-6628	21676	1.16	579749	26.746	Si
SLU 28	1104	-4534	147978	0.79	417380	2.821	Si
SLU 7	924	-5937	24801	1.04	528315	21.302	Si
SLU 7	1104	-3870	125979	0.68	361886	2.873	Si
SLU 38	924	-7230	12283	1.27	622896	50.71	Si
SLU 38	1104	-5136	160703	0.9	466058	2.9	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 15	924	-3988	414474	0	0	0	No, e>l/2
SLV 15	1104	-2228	-257272	0	0	0	No, e>l/2
SLV 5	924	-9565	-263537	1.67	841937	3.195	Si
SLV 5	1104	-7323	291526	1.28	668544	2.293	Si
SLV 12	924	-7164	275260	1.25	655710	2.382	Si
SLV 12	1104	-5256	-164237	0.92	495763	3.019	Si
SLV 2	924	-12741	-402751	2.23	1062332	2.638	Si
SLV 2	1104	-10351	384560	1.81	899225	2.338	Si
SLV 6	924	-9565	-263537	1.67	841937	3.195	Si
SLV 6	1104	-7323	291526	1.28	668544	2.293	Si
SLV 14	924	-3914	317673	0.69	376854	1.186	Si
SLV 14	1104	-2106	-170498	0.37	208294	1.222	Si
SLV 13	924	-3914	317673	0.69	376854	1.186	Si
SLV 13	1104	-2106	-170498	0.37	208294	1.222	Si
SLV 1	924	-12741	-402751	2.23	1062332	2.638	Si
SLV 1	1104	-10351	384560	1.81	899225	2.338	Si
SLV 11	924	-7164	275260	1.25	655710	2.382	Si
SLV 11	1104	-5256	-164237	0.92	495763	3.019	Si
SLV 16	924	-3988	414474	0	0	0	No, e>l/2
SLV 16	1104	-2228	-257272	0	0	0	No, e>l/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 35	924	-7944	-795	12480		1.39	204	0.74	4233			5.32	Si
SLU 35	1104	-5850	-795	154065		1.02	204	0.69	3953			4.97	Si
SLU 77	924	-10045	-826	16483		1.76	204	0.79	4513			5.46	Si
SLU 77	1104	-7340	-826	163142		1.29	204	0.73	4152			5.03	Si
SLU 38	924	-7230	-833	12283		1.27	204	0.72	4137			4.97	Si
SLU 38	1104	-5136	-833	160703		0.9	204	0.68	3858			4.63	Si
SLU 80	924	-9332	-864	16287		1.63	204	0.77	4418			5.11	Si
SLU 80	1104	-6627	-864	169780		1.16	204	0.71	4057			4.7	Si
SLU 29	924	-5935	-724	24214		1.04	204	0.69	3965			5.47	Si
SLU 29	1104	-3841	-724	153067		0.74	186.44	0.65	3412			4.71	Si
SLU 36	924	-7934	-807	11112		1.39	204	0.74	4231			5.24	Si
SLU 36	1104	-5839	-807	154840		1.02	204	0.69	3952			4.9	Si
SLU 30	924	-5925	-736	22847		1.04	204	0.69	3963			5.38	Si
SLU 30	1104	-3830	-736	153842		0.74	185.51	0.65	3396			4.61	Si
SLU 78	924	-10035	-838	15116		1.76	204	0.79	4511			5.38	Si
SLU 78	1104	-7330	-838	163917		1.28	204	0.73	4151			4.95	Si
SLU 37	924	-7241	-821	13651		1.27	204	0.72	4139			5.04	Si
SLU 37	1104	-5146	-821	159928		0.9	204	0.68	3860			4.7	Si
SLU 79	924	-9342	-852	17654		1.64	204	0.77	4419			5.19	Si
SLU 79	1104	-6637	-852	169005		1.16	204	0.71	4058			4.76	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 5	924	-9565	-1638	-263537		1.67	204	1.17	6673			4.07	Si
SLV 5	1104	-7323	-2412	291526		1.4	186.57	1.11	5818			2.41	Si
SLV 6	924	-9565	-1638	-263537		1.67	204	1.17	6673			4.07	Si
SLV 6	1104	-7323	-2412	291526		1.4	186.57	1.11	5818			2.41	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	924	-3914	3425	317673		2.24	62.52	1.28	2242			0.65	No, Vu<V
SLV 14	1104	-2106	2344	-170498		1.19	63.08	1.07	1893			0.81	No, Vu<V
SLV 4	924	-12815	-4084	-305951		2.24	204	1.28	7323			1.79	Si
SLV 4	1104	-10473	-3003	297787		1.83	204	1.2	6855			2.28	Si
SLV 2	924	-12741	-4185	-402751		2.23	204	1.28	7308			1.75	Si
SLV 2	1104	-10351	-3708	384560		1.9	194.55	1.21	6610			1.78	Si
SLV 13	924	-3914	3425	317673		2.24	62.52	1.28	2242			0.65	No, Vu<V
SLV 13	1104	-2106	2344	-170498		1.19	63.08	1.07	1893			0.81	No, Vu<V
SLV 3	924	-12815	-4084	-305951		2.24	204	1.28	7323			1.79	Si
SLV 3	1104	-10473	-3003	297787		1.83	204	1.2	6855			2.28	Si
SLV 16	924	-3988	3525	414474		0	0	0.83	0			0	No, Vu<V
SLV 16	1104	-2228	3049	-257272		0	0	0.83	0			0	No, Vu<V
SLV 1	924	-12741	-4185	-402751		2.23	204	1.28	7308			1.75	Si
SLV 1	1104	-10351	-3708	384560		1.9	194.55	1.21	6610			1.78	Si
SLV 15	924	-3988	3525	414474		0	0	0.83	0			0	No, Vu<V
SLV 15	1104	-2228	3049	-257272		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 13	14	0.46	0.51	-2916	24785	39125	1.58	Si
SLV 14	14	0.46	0.51	-2916	24785	39125	1.58	Si
SLV 15	14	0.46	0.56	-3179	24785	42474	1.71	Si
SLV 16	14	0.46	0.56	-3179	24785	42474	1.71	Si
SLV 10	14	0.46	1	-5726	24785	73592	2.97	Si
SLV 9	14	0.46	1	-5726	24785	73592	2.97	Si
SLV 11	14	0.46	1.16	-6600	24785	83664	3.38	Si
SLV 12	14	0.46	1.16	-6600	24785	83664	3.38	Si
SLV 5	14	0.46	1.47	-8397	24785	103415	4.17	Si
SLV 6	14	0.46	1.47	-8397	24785	103415	4.17	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1010 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 4	-7002	-15275	63	0.041	10.01	0.925	64.036	1088.965	No
SLV 3	-7002	-15275	63	0.041	10.01	0.925	64.036	1088.965	No
SLV 8	-6610	-11198	71	0.04	9.616	0.922	62.811	1001.941	No
SLV 7	-6610	-11198	71	0.04	9.616	0.922	62.811	1001.941	No
SLV 1	-6176	-14831	33	0.045	9.18	0.919	70.623	1088.965	No
SLV 2	-6176	-14831	33	0.045	9.18	0.919	70.623	1088.965	No
SLV 11	-5447	-7259	47	0.043	8.451	0.914	68.619	1001.941	No
SLV 12	-5447	-7259	47	0.043	8.451	0.914	68.619	1001.941	No
SLV 14	-2300	-1703	-47	0.046	5.372	0.89	74.784	1088.965	No
SLV 13	-2300	-1703	-47	0.046	5.372	0.89	74.784	1088.965	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.283	SLV 9	Si
V_SLV	4.613	SLV 30	Si
PF_SLV	0	SLV 15	No
V_SLV	0	SLV 15	No
PFFP_SLV	1.579	SLV 13	Si
R_SLV	0.059	SLV 3	No

## Maschio 161

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1681.8	666.1	-1283.8	666.1	L5	L6	398	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 9	924	-17594	93256	1.58	2822636	30.267	Si
SLU 9	1104	-13464	179945	1.21	2281918	12.681	Si
SLU 51	924	-21710	96460	1.95	3287038	34.077	Si
SLU 51	1104	-16463	182154	1.48	2682024	14.724	Si
SLU 71	924	-23906	118896	2.15	3504448	29.475	Si
SLU 71	1104	-18636	187233	1.67	2947260	15.741	Si
SLU 6	924	-18234	86255	1.64	2899702	33.618	Si
SLU 6	1104	-14148	156417	1.27	2376614	15.194	Si
SLU 8	924	-17616	94170	1.58	2825270	30.002	Si
SLU 8	1104	-13486	178445	1.21	2285029	12.805	Si
SLU 50	924	-21731	97373	1.95	3289282	33.78	Si
SLU 50	1104	-16486	180654	1.48	2684842	14.862	Si
SLU 29	924	-19790	115693	1.78	3079672	26.619	Si
SLU 29	1104	-15637	185024	1.4	2575732	13.921	Si
SLU 72	924	-23884	117982	2.14	3502410	29.686	Si
SLU 72	1104	-18614	188733	1.67	2944651	15.602	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 7	924	-18212	85342	1.63	2897126	33.947	Si
SLU 7	1104	-14125	157917	1.27	2373567	15.03	Si
SLU 30	924	-19769	114779	1.77	3077244	26.81	Si
SLU 30	1104	-15615	186524	1.4	2572830	13.794	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 15	924	-16701	1126355	1.5	2915908	2.589	Si
SLV 15	1104	-11864	-994356	1.06	2155236	2.167	Si
SLD 13	924	-16212	516855	1.45	2842149	5.499	Si
SLD 13	1104	-12763	-455441	1.15	2301773	5.054	Si
SLD 14	924	-16212	516855	1.45	2842149	5.499	Si
SLD 14	1104	-12763	-455441	1.15	2301773	5.054	Si
SLV 2	924	-18014	-1037889	1.62	3110598	2.997	Si
SLV 2	1104	-15439	1010636	1.39	2724046	2.695	Si
SLV 1	924	-18014	-1037889	1.62	3110598	2.997	Si
SLV 1	1104	-15439	1010636	1.39	2724046	2.695	Si
SLV 4	924	-20047	-1062440	1.8	3402070	3.202	Si
SLV 4	1104	-15729	1094676	1.41	2768512	2.529	Si
SLV 16	924	-16701	1126355	1.5	2915908	2.589	Si
SLV 16	1104	-11864	-994356	1.06	2155236	2.167	Si
SLV 14	924	-14668	1150906	1.32	2604553	2.263	Si
SLV 14	1104	-11574	-1078397	1.04	2107496	1.954	Si
SLV 3	924	-20047	-1062440	1.8	3402070	3.202	Si
SLV 3	1104	-15729	1094676	1.41	2768512	2.529	Si
SLV 13	924	-14668	1150906	1.32	2604553	2.263	Si
SLV 13	1104	-11574	-1078397	1.04	2107496	1.954	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLU 39	924	-21042	503	70843		1.89	398	0.81	8997			17.87	Si
SLU 39	1104	-17512	503	-21655		1.57	398	0.77	8526			16.94	Si
SLU 81	924	-25158	517	74046		2.26	398	0.86	9546			18.46	Si
SLU 81	1104	-20511	517	-19446		1.84	398	0.8	8926			17.26	Si
SLU 61	924	-22962	424	51610		2.06	398	0.83	9253			21.8	Si
SLU 61	1104	-18338	424	-24525		1.65	398	0.77	8636			20.35	Si
SLU 60	924	-22984	438	52524		2.06	398	0.83	9256			21.15	Si
SLU 60	1104	-18360	438	-26025		1.65	398	0.78	8639			19.73	Si
SLU 9	924	-17594	-409	93256		1.58	398	0.77	8537			20.88	Si
SLU 9	1104	-13464	-409	179945		1.21	398	0.72	7986			19.52	Si
SLU 8	924	-17616	-395	94170		1.58	398	0.77	8540			21.6	Si
SLU 8	1104	-13486	-396	178445		1.21	398	0.72	7989			20.19	Si
SLU 18	924	-18868	424	49321		1.69	398	0.78	8707			20.54	Si
SLU 18	1104	-15361	424	-28234		1.38	398	0.74	8239			19.44	Si
SLU 82	924	-25136	504	73133		2.26	398	0.86	9543			18.94	Si
SLU 82	1104	-20489	504	-17946		1.84	398	0.8	8923			17.71	Si
SLU 40	924	-21021	490	69930		1.89	398	0.81	8994			18.35	Si
SLU 40	1104	-17489	490	-20155		1.57	398	0.76	8523			17.39	Si
SLU 19	924	-18846	411	48407		1.69	398	0.78	8704			21.2	Si
SLU 19	1104	-15339	411	-26734		1.38	398	0.74	8236			20.06	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLV 16	924	-16701	12708	1126355		1.51	394.68	1.14	12549			0.99	No, Vu<V
SLV 16	1104	-11864	11333	-994356		1.23	345.56	1.08	10436			0.92	No, Vu<V
SLD 14	924	-16212	5744	516855		1.45	398	1.12	12529			2.18	Si
SLD 14	1104	-12763	4971	-455441		1.15	398	1.06	11839			2.38	Si
SLV 1	924	-18014	-12274	-1037889		1.62	398	1.16	12890			1.05	Si
SLV 1	1104	-15439	-10899	1010636		1.39	398	1.11	12375			1.14	Si
SLV 14	924	-14668	13162	1150906		1.45	361.61	1.12	11371			0.86	No, Vu<V
SLV 14	1104	-11574	11349	-1078397		1.3	317.48	1.09	9723			0.86	No, Vu<V
SLV 4	924	-20047	-12727	-1062440		1.8	398	1.19	13296			1.04	Si
SLV 4	1104	-15729	-10914	1094676		1.45	388.21	1.12	12204			1.12	Si
SLV 2	924	-18014	-12274	-1037889		1.62	398	1.16	12890			1.05	Si
SLV 2	1104	-15439	-10899	1010636		1.39	398	1.11	12375			1.14	Si
SLV 15	924	-16701	12708	1126355		1.51	394.68	1.14	12549			0.99	No, Vu<V
SLV 15	1104	-11864	11333	-994356		1.23	345.56	1.08	10436			0.92	No, Vu<V
SLD 13	924	-16212	5744	516855		1.45	398	1.12	12529			2.18	Si
SLD 13	1104	-12763	4971	-455441		1.15	398	1.06	11839			2.38	Si
SLV 3	924	-20047	-12727	-1062440		1.8	398	1.19	13296			1.04	Si
SLV 3	1104	-15729	-10914	1094676		1.45	388.21	1.12	12204			1.12	Si
SLV 13	924	-14668	13162	1150906		1.45	361.61	1.12	11371			0.86	No, Vu<V
SLV 13	1104	-11574	11349	-1078397		1.3	317.48	1.09	9723			0.86	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.46	1.17	-13068	48354	165389	3.42	Si
SLV 10	14	0.46	1.17	-13068	48354	165389	3.42	Si
SLV 13	14	0.46	1.18	-13107	48354	165834	3.43	Si
SLV 14	14	0.46	1.18	-13107	48354	165834	3.43	Si
SLV 6	14	0.46	1.27	-14162	48354	177643	3.67	Si
SLV 5	14	0.46	1.27	-14162	48354	177643	3.67	Si
SLV 16	14	0.46	1.28	-14235	48354	178452	3.69	Si
SLV 15	14	0.46	1.28	-14235	48354	178452	3.69	Si
SLV 1	14	0.46	1.5	-16754	48354	205694	4.25	Si
SLV 2	14	0.46	1.5	-16754	48354	205694	4.25	Si



## Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1010  $W_a = 0.05$   $T_a = 0.0739$

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 9	-10166	-12587	-310	0.027	16.027	0.913	43.571	1001.941	No
SLV 10	-10166	-12587	-310	0.027	16.027	0.913	43.571	1001.941	No
SLV 6	-10839	-14043	-314	0.028	16.7	0.915	43.975	1001.941	No
SLV 5	-10839	-14043	-314	0.028	16.7	0.915	43.975	1001.941	No
SLV 12	-10406	-20322	305	0.028	16.267	0.914	44.535	1001.941	No
SLV 11	-10406	-20322	305	0.028	16.267	0.914	44.535	1001.941	No
SLV 8	-11080	-21778	301	0.029	16.94	0.916	45.671	1001.941	No
SLV 7	-11080	-21778	301	0.029	16.94	0.916	45.671	1001.941	No
SLV 1	-11710	-18448	-103	0.042	17.57	0.918	66.831	1088.965	No
SLV 2	-11710	-18448	-103	0.042	17.57	0.918	66.831	1088.965	No

### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	12.681	SLV 9	Si
V_SLV	16.938	SLV 39	Si
PF_SLV	1.954	SLV 13	Si
V_SLV	0.857	SLV 13	No
PFFP_SLV	3.42	SLV 9	Si
R_SLV	0.043	SLV 9	No

## Maschio 162

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-1193.8	666.1	-795.8	666.1	L5	L6	398	28	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\alpha_0$	Mu	c.s.	Verifica
SLV 7	924	-18844	-6686	1.69	2971549	444.413	Si
SLV 7	1104	-14828	-112159	1.33	2468815	22.012	Si
SLV 29	924	-20574	-13702	1.85	3166346	231.082	Si
SLV 29	1104	-16507	-132500	1.48	2687504	20.283	Si
SLV 9	924	-18276	-8118	1.64	2904760	357.819	Si
SLV 9	1104	-14209	-132523	1.28	2385044	17.997	Si
SLV 6	924	-18873	-7770	1.69	2974839	382.841	Si
SLV 6	1104	-14855	-110327	1.33	2472369	22.409	Si
SLV 50	924	-22404	-16459	2.01	3358047	204.019	Si
SLV 50	1104	-17255	-127149	1.55	2781099	21.873	Si
SLV 30	924	-20546	-12618	1.84	3163268	250.69	Si
SLV 30	1104	-16480	-134331	1.48	2684142	19.981	Si
SLV 8	924	-18305	-9202	1.64	2908120	316.033	Si
SLV 8	1104	-14236	-130692	1.28	2388671	18.277	Si
SLV 71	924	-24674	-20960	2.21	3575481	170.588	Si
SLV 71	1104	-19526	-128958	1.75	3049873	23.65	Si
SLV 51	924	-22376	-15375	2.01	3355195	218.218	Si
SLV 51	1104	-17229	-128981	1.55	2777824	21.537	Si
SLV 72	924	-24645	-19876	2.21	3572910	179.762	Si
SLV 72	1104	-19499	-130789	1.75	3046862	23.296	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\alpha_0$	Mu	c.s.	Verifica
SLV 15	924	-20571	1072425	1.85	3475224	3.241	Si
SLV 15	1104	-16277	-1006776	1.46	2851872	2.833	Si
SLV 13	924	-18661	1086234	1.67	3204618	2.95	Si
SLV 13	1104	-15975	-1064632	1.43	2806041	2.636	Si
SLV 4	924	-16229	-1153282	1.46	2844613	2.467	Si
SLV 4	1104	-11818	1102513	1.06	2147625	1.948	Si
SLV 16	924	-20571	1072425	1.85	3475224	3.241	Si
SLV 16	1104	-16277	-1006776	1.46	2851872	2.833	Si
SLD 3	924	-16923	-511707	1.52	2949174	5.763	Si
SLD 3	1104	-13011	481614	1.17	2341787	4.862	Si
SLD 4	924	-16923	-511707	1.52	2949174	5.763	Si
SLD 4	1104	-13011	481614	1.17	2341787	4.862	Si
SLV 3	924	-16229	-1153282	1.46	2844613	2.467	Si
SLV 3	1104	-11818	1102513	1.06	2147625	1.948	Si
SLV 2	924	-14319	-1139473	1.28	2549762	2.238	Si
SLV 2	1104	-11516	1044657	1.03	2097861	2.008	Si
SLV 14	924	-18661	1086234	1.67	3204618	2.95	Si
SLV 14	1104	-15975	-1064632	1.43	2806041	2.636	Si
SLV 1	924	-14319	-1139473	1.28	2549762	2.238	Si
SLV 1	1104	-11516	1044657	1.03	2097861	2.008	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\alpha_0$	$\alpha_N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 30	924	-20546	706	-12618		1.84	398	0.8	8931			12.65	Si
SLV 30	1104	-16480	706	-134331		1.48	398	0.75	8388			11.88	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 6	924	-18873	599	-7770		1.69	398	0.78	8707			14.54	Si
SLU 6	1104	-14855	599	-110327		1.33	398	0.73	8172			13.63	Si
SLU 51	924	-22376	676	-15375		2.01	398	0.82	9175			13.57	Si
SLU 51	1104	-17229	677	-128981		1.55	398	0.76	8488			12.54	Si
SLU 50	924	-22404	660	-16459		2.01	398	0.82	9178			13.91	Si
SLU 50	1104	-17255	660	-127149		1.55	398	0.76	8492			12.86	Si
SLU 8	924	-18305	698	-9202		1.64	398	0.77	8632			12.37	Si
SLU 8	1104	-14236	698	-130692		1.28	398	0.73	8089			11.58	Si
SLU 72	924	-24645	668	-19876		2.21	398	0.85	9477			14.19	Si
SLU 72	1104	-19499	668	-130789		1.75	398	0.79	8791			13.15	Si
SLU 71	924	-24674	651	-20960		2.21	398	0.85	9481			14.56	Si
SLU 71	1104	-19526	652	-128958		1.75	398	0.79	8795			13.49	Si
SLU 29	924	-20574	689	-13702		1.85	398	0.8	8934			12.96	Si
SLU 29	1104	-16507	690	-132500		1.48	398	0.75	8392			12.16	Si
SLU 9	924	-18276	714	-8118		1.64	398	0.77	8628			12.08	Si
SLU 9	1104	-14209	715	-132523		1.28	398	0.73	8086			11.31	Si
SLU 7	924	-18844	615	-6686		1.69	398	0.78	8704			14.14	Si
SLU 7	1104	-14828	616	-112159		1.33	398	0.73	8168			13.26	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	924	-14319	-12777	-1139473		1.43	358.26	1.12	11223			0.88	No, Vu<V
SLV 2	1104	-11516	-11418	1044657		1.27	324.86	1.09	9883			0.87	No, Vu<V
SLV 15	924	-20571	12372	1072425		1.85	398	1.2	13401			1.08	Si
SLV 15	1104	-16277	11012	-1006776		1.46	398	1.13	12542			1.14	Si
SLD 3	924	-16923	-5722	-511707		1.52	398	1.14	12671			2.21	Si
SLD 3	1104	-13011	-5100	481614		1.17	398	1.07	11889			2.33	Si
SLV 4	924	-16229	-13127	-1153282		1.51	383.81	1.14	12201			0.93	No, Vu<V
SLV 4	1104	-11818	-11669	1102513		1.33	317.12	1.1	9763			0.84	No, Vu<V
SLV 3	924	-16229	-13127	-1153282		1.51	383.81	1.14	12201			0.93	No, Vu<V
SLV 3	1104	-11818	-11669	1102513		1.33	317.12	1.1	9763			0.84	No, Vu<V
SLV 14	924	-18661	12721	1086234		1.67	398	1.17	13019			1.02	Si
SLV 14	1104	-15975	11263	-1064632		1.44	397.07	1.12	12460			1.11	Si
SLD 4	924	-16923	-5722	-511707		1.52	398	1.14	12671			2.21	Si
SLD 4	1104	-13011	-5100	481614		1.17	398	1.07	11889			2.33	Si
SLV 13	924	-18661	12721	1086234		1.67	398	1.17	13019			1.02	Si
SLV 13	1104	-15975	11263	-1064632		1.44	397.07	1.12	12460			1.11	Si
SLV 16	924	-20571	12372	1072425		1.85	398	1.2	13401			1.08	Si
SLV 16	1104	-16277	11012	-1006776		1.46	398	1.13	12542			1.14	Si
SLV 1	924	-14319	-12777	-1139473		1.43	358.26	1.12	11223			0.88	No, Vu<V
SLV 1	1104	-11516	-11418	1044657		1.27	324.86	1.09	9883			0.87	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 2	14	0.46	1.15	-12825	48354	162636	3.36	Si
SLV 1	14	0.46	1.15	-12825	48354	162636	3.36	Si
SLV 6	14	0.46	1.17	-13053	48354	165221	3.42	Si
SLV 5	14	0.46	1.17	-13053	48354	165221	3.42	Si
SLV 3	14	0.46	1.24	-13872	48354	174428	3.61	Si
SLV 4	14	0.46	1.24	-13872	48354	174428	3.61	Si
SLV 9	14	0.46	1.28	-14296	48354	179128	3.7	Si
SLV 10	14	0.46	1.28	-14296	48354	179128	3.7	Si
SLV 8	14	0.46	1.48	-16545	48354	203484	4.21	Si
SLV 7	14	0.46	1.48	-16545	48354	203484	4.21	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1010 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 5	-10275	-12804	-645	0.003	16.136	0.913	5.184	1001.941	No
SLV 6	-10275	-12804	-645	0.003	16.136	0.913	5.184	1001.941	No
SLV 7	-10343	-20193	638	0.004	16.204	0.913	6.231	1001.941	No
SLV 8	-10343	-20193	638	0.004	16.204	0.913	6.231	1001.941	No
SLV 9	-11095	-14398	-646	0.005	16.955	0.916	8.306	1001.941	No
SLV 10	-11095	-14398	-646	0.005	16.955	0.916	8.306	1001.941	No
SLV 11	-11163	-21788	637	0.006	17.023	0.916	9.491	1001.941	No
SLV 12	-11163	-21788	637	0.006	17.023	0.916	9.491	1001.941	No
SLV 2	-9343	-13529	-195	0.036	15.208	0.909	56.838	1088.965	No
SLV 1	-9343	-13529	-195	0.036	15.208	0.909	56.838	1088.965	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	17.997	SLU 9	Si
V_SLU	11.312	SLU 9	Si
PF_SLV	1.948	SLV 3	Si
V_SLV	0.837	SLV 3	No
PFFP_SLV	3.363	SLV 1	Si
R_SLV	0.005	SLV 5	No

## Maschio 163

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-705.8	666.1	-501.8	666.1	L5	L6	204	28	352	352	352			



## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 51	924	-9355	-6653	1.64	762340	114.584	Si
SLU 51	1104	-6809	-116187	1.19	592887	5.103	Si
SLU 29	924	-8325	606	1.46	697203	1000	Si
SLU 29	1104	-6333	-120429	1.11	558014	4.634	Si
SLU 72	924	-10421	-1145	1.82	824900	720.592	Si
SLU 72	1104	-7849	-130608	1.37	665536	5.096	Si
SLU 8	924	-7258	-4902	1.27	624838	127.461	Si
SLU 8	1104	-5293	-106008	0.93	478452	4.513	Si
SLU 50	924	-9359	-8356	1.64	762631	91.266	Si
SLU 50	1104	-6814	-115567	1.19	593231	5.133	Si
SLU 28	924	-8905	1940	1.56	734501	378.513	Si
SLU 28	1104	-6913	-116157	1.21	600383	5.169	Si
SLU 71	924	-10426	-2848	1.83	825168	289.763	Si
SLU 71	1104	-7854	-129988	1.37	665858	5.122	Si
SLU 7	924	-7839	-3568	1.37	664852	186.343	Si
SLU 7	1104	-5873	-101735	1.03	523469	5.145	Si
SLU 9	924	-7253	-3199	1.27	624504	195.206	Si
SLU 9	1104	-5288	-106628	0.93	478077	4.484	Si
SLU 30	924	-8320	2309	1.46	696892	301.793	Si
SLU 30	1104	-6328	-121049	1.11	557661	4.607	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 10	924	-10034	228141	1.76	876361	3.841	Si
SLV 10	1104	-8053	-218085	1.41	726616	3.332	Si
SLV 3	924	-4342	-395719	0.76	415355	1.05	Si
SLV 3	1104	-1997	222849	0	0	0	No, $e \geq l/2$
SLV 14	924	-13502	394364	2.36	1110797	2.817	Si
SLV 14	1104	-11902	-330171	2.08	1006981	3.05	Si
SLV 8	924	-7810	-229496	1.37	707488	3.083	Si
SLV 8	1104	-5846	110763	1.02	546335	4.932	Si
SLV 2	924	-4170	-322990	0.73	399893	1.238	Si
SLV 2	1104	-1745	169132	0.31	173498	1.026	Si
SLV 7	924	-7810	-229496	1.37	707488	3.083	Si
SLV 7	1104	-5846	110763	1.02	546335	4.932	Si
SLV 13	924	-13502	394364	2.36	1110797	2.817	Si
SLV 13	1104	-11902	-330171	2.08	1006981	3.05	Si
SLV 9	924	-10034	228141	1.76	876361	3.841	Si
SLV 9	1104	-8053	-218085	1.41	726616	3.332	Si
SLV 4	924	-4342	-395719	0.76	415355	1.05	Si
SLV 4	1104	-1997	222849	0	0	0	No, $e \geq l/2$
SLV 1	924	-4170	-322990	0.73	399893	1.238	Si
SLV 1	1104	-1745	169132	0.31	173498	1.026	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 30	924	-8320	654	2309		1.46	204	0.75	4283			6.55	Si
SLU 30	1104	-6328	654	-121049		1.11	204	0.7	4017			6.14	Si
SLU 78	924	-12385	730	8868		2.17	204	0.84	4825			6.61	Si
SLU 78	1104	-9812	730	-129899		1.72	204	0.78	4482			6.14	Si
SLU 79	924	-11804	747	7534		2.07	204	0.83	4747			6.36	Si
SLU 79	1104	-9232	747	-134172		1.62	204	0.77	4404			5.9	Si
SLU 36	924	-10284	706	12322		1.8	204	0.8	4544			6.44	Si
SLU 36	1104	-8291	706	-120340		1.45	204	0.75	4279			6.06	Si
SLU 38	924	-9698	735	12691		1.7	204	0.78	4466			6.08	Si
SLU 38	1104	-7706	735	-125233		1.35	204	0.74	4201			5.72	Si
SLU 35	924	-10288	693	10619		1.8	204	0.8	4545			6.56	Si
SLU 35	1104	-8296	693	-119720		1.45	204	0.75	4279			6.18	Si
SLU 37	924	-9703	722	10988		1.7	204	0.78	4467			6.19	Si
SLU 37	1104	-7711	722	-124613		1.35	204	0.74	4201			5.82	Si
SLU 77	924	-12390	717	7165		2.17	204	0.84	4825			6.73	Si
SLU 77	1104	-9817	717	-129279		1.72	204	0.78	4482			6.25	Si
SLU 72	924	-10421	679	-1145		1.82	204	0.8	4563			6.72	Si
SLU 72	1104	-7849	679	-130608		1.37	204	0.74	4220			6.22	Si
SLU 80	924	-11800	759	9237		2.07	204	0.83	4747			6.25	Si
SLU 80	1104	-9227	759	-134792		1.62	204	0.77	4404			5.8	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	924	-4342	-3891	-395719		4.76	32.6	1.63	1483			0.38	No, $V_u < V$
SLV 3	1104	-1997	-3109	222849		0	0	0.83	0			0	No, $V_u < V$
SLV 13	924	-13502	4417	394364		2.36	204	1.31	7460			1.69	Si
SLV 13	1104	-11902	3636	-330171		2.08	204	1.25	7140			1.96	Si
SLV 14	924	-13502	4417	394364		2.36	204	1.31	7460			1.69	Si
SLV 14	1104	-11902	3636	-330171		2.08	204	1.25	7140			1.96	Si
SLV 15	924	-13675	3969	321634		2.39	204	1.31	7495			1.89	Si
SLV 15	1104	-12154	3152	-276454		2.13	204	1.26	7191			2.28	Si
SLV 1	924	-4170	-3443	-322990		2.02	73.61	1.24	2552			0.74	No, $V_u < V$
SLV 1	1104	-1745	-2626	169132		4.11	15.16	1.63	690			0.26	No, $V_u < V$
SLV 2	924	-4170	-3443	-322990		2.02	73.61	1.24	2552			0.74	No, $V_u < V$
SLV 2	1104	-1745	-2626	169132		4.11	15.16	1.63	690			0.26	No, $V_u < V$
SLV 9	924	-10034	2189	228141		1.76	204	1.18	6767			3.09	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 9	1104	-8053	2008	-218085		1.41	204	1.12	6371			3.17	Si
SLV 4	924	-4342	-3891	-395719		4.76	32.6	1.63	1483			0.38	No, Vu<V
SLV 4	1104	-1997	-3109	222849		0	0	0.83	0			0	No, Vu<V
SLV 16	924	-13675	3969	321634		2.39	204	1.31	7495			1.89	Si
SLV 16	1104	-12154	3152	-276454		2.13	204	1.26	7191			2.28	Si
SLV 10	924	-10034	2189	228141		1.76	204	1.18	6767			3.09	Si
SLV 10	1104	-8053	2008	-218085		1.41	204	1.12	6371			3.17	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 4	14	0.46	0.53	-3045	24785	40768	1.64	Si
SLV 3	14	0.46	0.53	-3045	24785	40768	1.64	Si
SLV 2	14	0.46	0.53	-3054	24785	40879	1.65	Si
SLV 1	14	0.46	0.53	-3054	24785	40879	1.65	Si
SLV 7	14	0.46	1.11	-6367	24785	81008	3.27	Si
SLV 8	14	0.46	1.11	-6367	24785	81008	3.27	Si
SLV 5	14	0.46	1.12	-6396	24785	81341	3.28	Si
SLV 6	14	0.46	1.12	-6396	24785	81341	3.28	Si
SLV 11	14	0.46	1.61	-9224	24785	112066	4.52	Si
SLV 12	14	0.46	1.61	-9224	24785	112066	4.52	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1010 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 15	-8277	-16354	64	0.041	11.295	0.931	63.294	1088.965	No
SLV 16	-8277	-16354	64	0.041	11.295	0.931	63.294	1088.965	No
SLV 12	-7268	-11715	88	0.038	10.278	0.926	59.731	1001.941	No
SLV 11	-7268	-11715	88	0.038	10.278	0.926	59.731	1001.941	No
SLV 6	-3173	-6243	-74	0.039	6.206	0.896	63.763	1001.941	No
SLV 5	-3173	-6243	-74	0.039	6.206	0.896	63.763	1001.941	No
SLV 7	-5658	-7394	66	0.041	8.661	0.916	64.442	1001.941	No
SLV 8	-5658	-7394	66	0.041	8.661	0.916	64.442	1001.941	No
SLV 14	-7531	-16008	22	0.045	10.543	0.928	70.698	1088.965	No
SLV 13	-7531	-16008	22	0.045	10.543	0.928	70.698	1088.965	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.484	SLU 9	Si
V_SLU	5.716	SLU 38	Si
PF_SLV	0	SLV 3	No
V_SLV	0	SLV 3	No
PFFP_SLV	1.645	SLV 3	Si
R_SLV	0.058	SLV 15	No

## Maschio 164

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2066.8	104.6	-2467.8	104.6	L5	L6	401	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 79	834	-32802	-284553	2.92	4218067	14.823	Si
SLU 79	1044	-29128	-664944	2.59	3980229	5.986	Si
SLU 69	834	-31702	-285772	2.82	4153090	14.533	Si
SLU 69	1044	-27280	-611113	2.43	3838207	6.281	Si
SLU 37	834	-27254	-233650	2.43	3836127	16.418	Si
SLU 37	1044	-24955	-606485	2.22	3638333	5.999	Si
SLU 38	834	-27457	-240491	2.45	3852438	16.019	Si
SLU 38	1044	-25108	-588890	2.24	3652184	6.202	Si
SLU 80	834	-33004	-291394	2.94	4229453	14.515	Si
SLU 80	1044	-29281	-647349	2.61	3991288	6.166	Si
SLU 77	834	-33661	-302137	3	4265154	14.117	Si
SLU 77	1044	-30098	-685348	2.68	4048803	5.908	Si
SLU 27	834	-26155	-234869	2.33	3744406	15.943	Si
SLU 27	1044	-23107	-552654	2.06	3462500	6.265	Si
SLU 78	834	-33863	-308977	3.02	4275777	13.838	Si
SLU 78	1044	-30251	-667753	2.69	4059212	6.079	Si
SLU 35	834	-28113	-251233	2.5	3904113	15.54	Si
SLU 35	1044	-25926	-626890	2.31	3724660	5.941	Si
SLU 36	834	-28316	-258074	2.52	3919660	15.188	Si
SLU 36	1044	-26078	-609294	2.32	3737861	6.135	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 16	834	-16932	-943244	1.51	2975879	3.155	Si
SLV 16	1044	-10408	609807	0.93	1928498	3.162	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 13	834	-16423	-888985	1.46	2898690	3.261	Si
SLV 13	1044	-10982	668668	0.98	2025679	3.029	Si
SLV 3	834	-28703	494327	2.56	4550939	9.206	Si
SLV 3	1044	-27255	-1379563	2.43	4379023	3.174	Si
SLV 15	834	-16932	-943244	1.51	2975879	3.155	Si
SLV 15	1044	-10408	609807	0.93	1928498	3.162	Si
SLV 4	834	-28703	494327	2.56	4550939	9.206	Si
SLV 4	1044	-27255	-1379563	2.43	4379023	3.174	Si
SLV 14	834	-16423	-888985	1.46	2898690	3.261	Si
SLV 14	1044	-10982	668668	0.98	2025679	3.029	Si
SLV 7	834	-25177	-72125	2.24	4121564	57.145	Si
SLV 7	1044	-20689	-751955	1.84	3522552	4.685	Si
SLV 8	834	-25177	-72125	2.24	4121564	57.145	Si
SLV 8	1044	-20689	-751955	1.84	3522552	4.685	Si
SLV 2	834	-28195	548585	2.51	4491251	8.187	Si
SLV 2	1044	-27829	-1320702	2.48	4447928	3.368	Si
SLV 1	834	-28195	548585	2.51	4491251	8.187	Si
SLV 1	1044	-27829	-1320702	2.48	4447928	3.368	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 41	834	-27326	3913	-234092		2.43	401	0.88	9881			2.53	Si
SLU 41	1044	-25353	3919	-574138		2.26	401	0.86	9618			2.45	Si
SLU 42	834	-27528	3736	-240933		2.45	401	0.88	9908			2.65	Si
SLU 42	1044	-25506	3768	-556543		2.27	401	0.86	9639			2.56	Si
SLU 83	834	-32873	3809	-284995		2.93	401	0.95	10621			2.79	Si
SLU 83	1044	-29525	3815	-632597		2.63	401	0.91	10175			2.67	Si
SLU 37	834	-27254	3757	-233650		2.43	401	0.88	9872			2.63	Si
SLU 37	1044	-24955	3766	-606485		2.22	401	0.85	9565			2.54	Si
SLU 39	834	-26558	3599	-227520		2.37	401	0.87	9779			2.72	Si
SLU 39	1044	-24542	3602	-509976		2.19	401	0.85	9510			2.64	Si
SLU 38	834	-27457	3580	-240491		2.45	401	0.88	9899			2.77	Si
SLU 38	1044	-25108	3615	-588890		2.24	401	0.85	9586			2.65	Si
SLU 35	834	-28113	3877	-251233		2.5	401	0.89	9986			2.58	Si
SLU 35	1044	-25926	3886	-626890		2.31	401	0.86	9695			2.49	Si
SLU 77	834	-33661	3773	-302137		3	401	0.96	10726			2.84	Si
SLU 77	1044	-30098	3782	-685348		2.68	401	0.91	10251			2.71	Si
SLU 32	834	-27345	3563	-244662		2.44	401	0.88	9884			2.77	Si
SLU 32	1044	-25115	3569	-562727		2.24	401	0.85	9586			2.69	Si
SLU 36	834	-28316	3700	-258074		2.52	401	0.89	10013			2.71	Si
SLU 36	1044	-26078	3735	-609294		2.32	401	0.87	9715			2.6	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	834	-28703	12760	494327		2.56	401	1.34	15097			1.18	Si
SLV 3	1044	-27255	11192	-1379563		2.43	401	1.32	14808			1.32	Si
SLD 2	834	-24967	6688	120777		2.22	401	1.28	14350			2.15	Si
SLD 2	1044	-22837	5826	-768046		2.03	401	1.24	13924			2.39	Si
SLD 1	834	-24967	6688	120777		2.22	401	1.28	14350			2.15	Si
SLD 1	1044	-22837	5826	-768046		2.03	401	1.24	13924			2.39	Si
SLV 1	834	-28195	13599	548585		2.51	401	1.34	14996			1.1	Si
SLV 1	1044	-27829	11563	-1320702		2.48	401	1.33	14923			1.29	Si
SLV 13	834	-16423	-9654	-888985		1.46	401	1.13	12641			1.31	Si
SLV 13	1044	-10982	-8081	668668		0.98	401	1.03	11553			1.43	Si
SLV 15	834	-16932	-10493	-943244		1.51	401	1.13	12743			1.21	Si
SLV 15	1044	-10408	-8452	609807		0.93	401	1.02	11438			1.35	Si
SLV 4	834	-28703	12760	494327		2.56	401	1.34	15097			1.18	Si
SLV 4	1044	-27255	11192	-1379563		2.43	401	1.32	14808			1.32	Si
SLV 2	834	-28195	13599	548585		2.51	401	1.34	14996			1.1	Si
SLV 2	1044	-27829	11563	-1320702		2.48	401	1.33	14923			1.29	Si
SLV 16	834	-16932	-10493	-943244		1.51	401	1.13	12743			1.21	Si
SLV 16	1044	-10408	-8452	609807		0.93	401	1.02	11438			1.35	Si
SLV 14	834	-16423	-9654	-888985		1.46	401	1.13	12641			1.31	Si
SLV 14	1044	-10982	-8081	668668		0.98	401	1.03	11553			1.43	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 16	14	0.46	0.99	-11122	49852	143087	2.87	Si
SLV 15	14	0.46	0.99	-11122	49852	143087	2.87	Si
SLV 14	14	0.46	1.03	-11595	49852	148615	2.98	Si
SLV 13	14	0.46	1.03	-11595	49852	148615	2.98	Si
SLV 11	14	0.46	1.47	-16487	49852	203075	4.07	Si
SLV 12	14	0.46	1.47	-16487	49852	203075	4.07	Si
SLV 10	14	0.46	1.61	-18064	49852	219598	4.41	Si
SLV 9	14	0.46	1.61	-18064	49852	219598	4.41	Si
SLV 7	14	0.46	1.92	-21558	49852	254385	5.1	Si
SLV 8	14	0.46	1.92	-21558	49852	254385	5.1	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1010 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 9	-14603	-19950	-601	0.014	20.522	0.927	22.646	1001.941	No
SLV 10	-14603	-19950	-601	0.014	20.522	0.927	22.646	1001.941	No
SLV 7	-16501	-25177	607	0.017	22.436	0.932	25.836	1001.941	No
SLV 8	-16501	-25177	607	0.017	22.436	0.932	25.836	1001.941	No
SLV 12	-14319	-21645	523	0.018	20.235	0.926	28.889	1001.941	No
SLV 11	-14319	-21645	523	0.018	20.235	0.926	28.889	1001.941	No
SLV 6	-16786	-23481	-518	0.021	22.723	0.933	33.143	1001.941	No





Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 5	-16786	-23481	-518	0.021	22.723	0.933	33.143	1001.941	No
SLV 14	-11957	-16423	-305	0.029	17.862	0.919	46.211	1088.965	No
SLV 13	-11957	-16423	-305	0.029	17.862	0.919	46.211	1088.965	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.908	SLU 77	Si
V_SLU	2.454	SLU 41	Si
PF_SLV	3.029	SLV 13	Si
V_SLV	1.103	SLV 1	Si
PFFP_SLV	2.87	SLV 15	Si
R_SLV	0.023	SLV 9	No

## Maschio 165

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X inl.	Y inl.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h inl.	h fin.	a	a.s.,sx	a.s.,dx
-1228.3	104.6	-1986.8	104.6	L5	L6	758.5	28	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 79	834	-75600	-287871	3.56	16142213	56.074	Si
SLU 79	1084	-66230	-789617	3.12	15501889	19.632	Si
SLU 48	834	-66225	-108340	3.12	15501454	143.082	Si
SLU 48	1084	-55447	-785252	2.61	14288701	18.196	Si
SLU 50	834	-64539	-104652	3.04	15345376	146.632	Si
SLU 50	1084	-53698	-755304	2.53	14043844	18.594	Si
SLU 77	834	-77286	-291558	3.64	16216543	55.62	Si
SLU 77	1084	-67979	-819565	3.2	15650639	19.096	Si
SLU 6	834	-54530	-108363	2.57	14162038	130.69	Si
SLU 6	1084	-46637	-657205	2.2	12918992	19.657	Si
SLU 66	834	-69114	-190074	3.25	15739996	82.81	Si
SLU 66	1084	-58675	-769308	2.76	14705359	19.115	Si
SLU 71	834	-70789	-189996	3.33	15861498	83.483	Si
SLU 71	1084	-60690	-808931	2.86	14942275	18.472	Si
SLU 45	834	-62865	-104730	2.96	15177991	144.924	Si
SLU 45	1084	-51683	-715681	2.43	13745158	19.206	Si
SLU 56	834	-71037	-206215	3.34	15878450	77	Si
SLU 56	1084	-60987	-765938	2.87	14975657	19.552	Si
SLU 69	834	-72474	-193683	3.41	15971390	82.461	Si
SLU 69	1084	-62439	-838879	2.94	15133509	18.04	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 1	834	-50733	2650762	2.39	15478857	5.839	Si
SLV 1	1084	-45861	-2463790	2.16	14318902	5.812	Si
SLV 7	834	-56412	-7925	2.66	16743444	1000	Si
SLV 7	1084	-44248	-1483999	2.08	13919754	9.38	Si
SLV 16	834	-47836	-2950373	2.25	14797670	5.016	Si
SLV 16	1084	-36019	1467957	1.7	11764125	8.014	Si
SLV 13	834	-44152	-2565993	2.08	13895717	5.415	Si
SLV 13	1084	-35010	1686115	1.65	11486316	6.812	Si
SLV 14	834	-44152	-2565993	2.08	13895717	5.415	Si
SLV 14	1084	-35010	1686115	1.65	11486316	6.812	Si
SLV 8	834	-56412	-7925	2.66	16743444	1000	Si
SLV 8	1084	-44248	-1483999	2.08	13919754	9.38	Si
SLV 4	834	-54417	2266383	2.56	16309947	7.196	Si
SLV 4	1084	-46869	-2681948	2.21	14564725	5.431	Si
SLV 2	834	-50733	2650762	2.39	15478857	5.839	Si
SLV 2	1084	-45861	-2463790	2.16	14318902	5.812	Si
SLV 3	834	-54417	2266383	2.56	16309947	7.196	Si
SLV 3	1084	-46869	-2681948	2.21	14564725	5.431	Si
SLV 15	834	-47836	-2950373	2.25	14797670	5.016	Si
SLV 15	1084	-36019	1467957	1.7	11764125	8.014	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma M = 3$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 60	834	-64693	1491	-237255		3.05	758.5	0.96	20425			13.7	Si
SLU 60	1084	-54083	1434	-588569		2.55	758.5	0.9	19010			13.25	Si
SLU 61	834	-65010	1524	-176399		3.06	758.5	0.96	20467			13.43	Si
SLU 61	1084	-54360	1481	-503875		2.56	758.5	0.9	19047			12.86	Si
SLU 54	834	-67993	1119	-141749		3.2	758.5	0.98	20865			18.65	Si
SLU 54	1084	-57499	954	-611673		2.71	758.5	0.92	19465			20.41	Si
SLU 82	834	-71259	1062	-261743		3.36	758.5	1	21300			20.05	Si
SLU 82	1084	-61352	1076	-557502		2.89	758.5	0.94	19979			18.57	Si
SLU 44	834	-58347	1291	3993		2.75	758.5	0.92	19578			15.17	Si
SLU 44	1084	-46630	1077	-475004		2.2	758.5	0.85	18016			16.73	Si
SLU 43	834	-57819	1236	-97434		2.72	758.5	0.92	19508			15.78	Si
SLU 43	1084	-46170	999	-616160		2.17	758.5	0.85	17955			17.97	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 19	834	-53315	1117	-176422		2.51	758.5	0.89	18908			16.93	Si
SLU 19	1084	-45549	1144	-375828		2.14	758.5	0.84	17872			15.63	Si
SLU 18	834	-52998	1084	-237279		2.5	758.5	0.89	18865			17.4	Si
SLU 18	1084	-45273	1097	-460521		2.13	758.5	0.84	17835			16.26	Si
SLU 10	834	-51464	1062	-93905		2.42	758.5	0.88	18661			17.57	Si
SLU 10	1084	-43360	1044	-327642		2.04	758.5	0.83	17580			16.84	Si
SLU 52	834	-63159	1469	-93882		2.97	758.5	0.95	20220			13.76	Si
SLU 52	1084	-52170	1381	-455690		2.46	758.5	0.88	18755			13.58	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	834	-44152	-34590	-2565993		2.08	758.5	1.25	26529			0.77	No, Vu<V
SLV 14	1084	-35010	-27898	1686115		1.65	758.5	1.16	24700			0.89	No, Vu<V
SLV 4	834	-54417	36087	2266383		2.56	758.5	1.35	28582			0.79	No, Vu<V
SLV 4	1084	-46869	29164	-2681948		2.21	758.5	1.27	27072			0.93	No, Vu<V
SLV 15	834	-47836	-32084	-2950373		2.25	758.5	1.28	27266			0.85	No, Vu<V
SLV 15	1084	-36019	-25001	1467957		1.7	758.5	1.17	24902			1	No, Vu<V
SLV 1	834	-50733	33581	2650762		2.39	758.5	1.31	27845			0.83	No, Vu<V
SLV 1	1084	-45861	26267	-2463790		2.16	758.5	1.27	26870			1.02	Si
SLD 4	834	-51460	15839	882300		2.42	758.5	1.32	27990			1.77	Si
SLD 4	1084	-43465	12813	-1430708		2.05	758.5	1.24	26391			2.06	Si
SLD 3	834	-51460	15839	882300		2.42	758.5	1.32	27990			1.77	Si
SLD 3	1084	-43465	12813	-1430708		2.05	758.5	1.24	26391			2.06	Si
SLV 2	834	-50733	33581	2650762		2.39	758.5	1.31	27845			0.83	No, Vu<V
SLV 2	1084	-45861	26267	-2463790		2.16	758.5	1.27	26870			1.02	Si
SLV 13	834	-44152	-34590	-2565993		2.08	758.5	1.25	26529			0.77	No, Vu<V
SLV 13	1084	-35010	-27898	1686115		1.65	758.5	1.16	24700			0.89	No, Vu<V
SLV 16	834	-47836	-32084	-2950373		2.25	758.5	1.28	27266			0.85	No, Vu<V
SLV 16	1084	-36019	-25001	1467957		1.7	758.5	1.17	24902			1	No, Vu<V
SLV 3	834	-54417	36087	2266383		2.56	758.5	1.35	28582			0.79	No, Vu<V
SLV 3	1084	-46869	29164	-2681948		2.21	758.5	1.27	27072			0.93	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 14	14	0.46	1.99	-42270	94296	495383	5.25	Si
SLV 13	14	0.46	1.99	-42270	94296	495383	5.25	Si
SLV 9	14	0.46	2.01	-42718	94296	499607	5.3	Si
SLV 10	14	0.46	2.01	-42718	94296	499607	5.3	Si
SLV 16	14	0.46	2.02	-42927	94296	501559	5.32	Si
SLV 15	14	0.46	2.02	-42927	94296	501559	5.32	Si
SLV 5	14	0.46	2.06	-43760	94296	509328	5.4	Si
SLV 6	14	0.46	2.06	-43760	94296	509328	5.4	Si
SLV 12	14	0.46	2.11	-44908	94296	519909	5.51	Si
SLV 11	14	0.46	2.11	-44908	94296	519909	5.51	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1010 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 1	-43217	-50733	328	0.039	54.589	0.945	59.312	1088.965	No
SLV 2	-43217	-50733	328	0.039	54.589	0.945	59.312	1088.965	No
SLV 15	-31517	-47836	-329	0.038	42.746	0.932	59.505	1088.965	No
SLV 16	-31517	-47836	-329	0.038	42.746	0.932	59.505	1088.965	No
SLV 12	-35432	-54438	-392	0.037	46.704	0.937	57.087	1001.941	No
SLV 11	-35432	-54438	-392	0.037	46.704	0.937	57.087	1001.941	No
SLV 6	-39301	-44131	392	0.037	50.62	0.941	57.244	1001.941	No
SLV 5	-39301	-44131	392	0.037	50.62	0.941	57.244	1001.941	No
SLV 4	-43098	-54417	134	0.042	54.469	0.945	65.291	1088.965	No
SLV 3	-43098	-54417	134	0.042	54.469	0.945	65.291	1088.965	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	18.04	SLU 69	Si
V_SLU	12.86	SLU 61	Si
PF_SLV	5.016	SLV 15	Si
V_SLV	0.767	SLV 13	No
PFFP_SLV	5.253	SLV 13	Si
R_SLV	0.054	SLV 1	No

## Maschio 166

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1046.6	104.6	-1116.3	104.6	L5	L6	69.6	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 83	834	-7113	42330	3.65	136749	3.231	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 83	1084	-7962	-37307	4.08	138255	3.706	Si
SLU 81	834	-6920	-41250	3.55	135966	3.296	Si
SLU 81	1084	-7457	-36135	3.82	137741	3.812	Si
SLU 84	834	-7124	40948	3.65	136790	3.341	Si
SLU 84	1084	-7915	-36081	4.06	138254	3.832	Si
SLU 41	834	-5914	42550	3.03	129244	3.037	Si
SLU 41	1084	-6963	-37802	3.57	136155	3.602	Si
SLU 39	834	-5721	41470	2.93	127448	3.073	Si
SLU 39	1084	-6458	-36630	3.31	133429	3.643	Si
SLU 42	834	-5925	41168	3.04	129345	3.142	Si
SLU 42	1084	-6915	-36576	3.55	135947	3.717	Si
SLU 37	834	-5896	39247	3.02	129083	3.289	Si
SLU 37	1084	-7161	-35250	3.67	136919	3.884	Si
SLU 40	834	-5732	40088	2.94	127558	3.182	Si
SLU 40	1084	-6410	-35404	3.29	133116	3.76	Si
SLU 35	834	-6087	39378	3.12	130713	3.319	Si
SLU 35	1084	-7334	-35387	3.76	137447	3.884	Si
SLU 32	834	-5894	38298	3.02	129062	3.37	Si
SLU 32	1084	-6829	-34215	3.5	135544	3.962	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 2	834	-2650	274698	0	0	0	No, $e \geq l/2$
SLV 2	1084	-5862	-245260	0	0	0	No, $e \geq l/2$
SLV 3	834	-3687	277594	0	0	0	No, $e \geq l/2$
SLV 3	1084	-4685	-247295	0	0	0	No, $e \geq l/2$
SLV 15	834	-6985	-233531	3.58	171904	0.736	No, $M > Mu$
SLV 15	1084	-4015	209106	0	0	0	No, $e \geq l/2$
SLV 5	834	-2594	92424	0	0	0	No, $e \geq l/2$
SLV 5	1084	-7001	-83145	3.59	172132	2.07	Si
SLV 13	834	-5948	-236428	0	0	0	No, $e \geq l/2$
SLV 13	1084	-5192	211141	0	0	0	No, $e \geq l/2$
SLV 1	834	-2650	274698	0	0	0	No, $e \geq l/2$
SLV 1	1084	-5862	-245260	0	0	0	No, $e \geq l/2$
SLV 14	834	-5948	-236428	0	0	0	No, $e \geq l/2$
SLV 14	1084	-5192	211141	0	0	0	No, $e \geq l/2$
SLV 6	834	-2594	92424	0	0	0	No, $e \geq l/2$
SLV 6	1084	-7001	-83145	3.59	172132	2.07	Si
SLV 16	834	-6985	-233531	3.58	171904	0.736	No, $M > Mu$
SLV 16	1084	-4015	209106	0	0	0	No, $e \geq l/2$
SLV 4	834	-3687	277594	0	0	0	No, $e \geq l/2$
SLV 4	1084	-4685	-247295	0	0	0	No, $e \geq l/2$

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 38	834	-5907	465	37865		3.03	69.64	0.96	1871			4.02	Si
SLU 38	1084	-7113	445	-34024		3.65	69.64	1.04	2032			4.56	Si
SLU 83	834	-7113	495	42330		3.65	69.64	1.04	2032			4.11	Si
SLU 83	1084	-7962	466	-37307		4.08	69.64	1.08	2112			4.53	Si
SLU 40	834	-5732	444	40088		2.94	69.64	0.95	1848			4.16	Si
SLU 40	1084	-6410	416	-35404		3.29	69.64	0.99	1938			4.66	Si
SLU 35	834	-6087	480	39378		3.12	69.64	0.97	1895			3.95	Si
SLU 35	1084	-7334	460	-35387		3.76	69.64	1.06	2061			4.48	Si
SLU 36	834	-6098	465	37996		3.13	69.64	0.97	1896			4.08	Si
SLU 36	1084	-7287	445	-34161		3.74	69.64	1.05	2055			4.62	Si
SLU 39	834	-5721	459	41470		2.93	69.64	0.95	1846			4.02	Si
SLU 39	1084	-6458	431	-36630		3.31	69.64	1	1944			4.51	Si
SLU 42	834	-5925	477	41168		3.04	69.64	0.96	1873			3.93	Si
SLU 42	1084	-6915	449	-36576		3.55	69.64	1.03	2005			4.46	Si
SLU 32	834	-5894	447	38298		3.02	69.64	0.96	1869			4.18	Si
SLU 32	1084	-6829	426	-34215		3.5	69.64	1.02	1994			4.68	Si
SLU 37	834	-5896	481	39247		3.02	69.64	0.96	1869			3.89	Si
SLU 37	1084	-7161	460	-35250		3.67	69.64	1.05	2038			4.43	Si
SLU 41	834	-5914	492	42550		3.03	69.64	0.96	1872			3.8	Si
SLU 41	1084	-6963	464	-37802		3.57	69.64	1.03	2012			4.33	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	834	-3687	2575	277594		0	0	0.83	0			0	No, $V_u < V$
SLV 3	1084	-4685	2232	-247295		0	0	0.83	0			0	No, $V_u < V$
SLV 6	834	-2594	1102	92424		0	0	0.83	0			0	No, $V_u < V$
SLV 6	1084	-7001	1068	-83145		3.63	68.83	1.56	3006			2.81	Si
SLV 5	834	-2594	1102	92424		0	0	0.83	0			0	No, $V_u < V$
SLV 5	1084	-7001	1068	-83145		3.63	68.83	1.56	3006			2.81	Si
SLV 15	834	-6985	-2184	-233531		60	4.16	1.63	189			0.09	No, $V_u < V$
SLV 15	1084	-4015	-1900	209106		0	0	0.83	0			0	No, $V_u < V$
SLV 1	834	-2650	2664	274698		0	0	0.83	0			0	No, $V_u < V$
SLV 1	1084	-5862	2362	-245260		0	0	0.83	0			0	No, $V_u < V$
SLV 4	834	-3687	2575	277594		0	0	0.83	0			0	No, $V_u < V$
SLV 4	1084	-4685	2232	-247295		0	0	0.83	0			0	No, $V_u < V$
SLV 14	834	-5948	-2095	-236428		0	0	0.83	0			0	No, $V_u < V$
SLV 14	1084	-5192	-1770	211141		0	0	0.83	0			0	No, $V_u < V$
SLV 13	834	-5948	-2095	-236428		0	0	0.83	0			0	No, $V_u < V$
SLV 13	1084	-5192	-1770	211141		0	0	0.83	0			0	No, $V_u < V$
SLV 16	834	-6985	-2184	-233531		60	4.16	1.63	189			0.09	No, $V_u < V$
SLV 16	1084	-4015	-1900	209106		0	0	0.83	0			0	No, $V_u < V$
SLV 2	834	-2650	2664	274698		0	0	0.83	0			0	No, $V_u < V$
SLV 2	1084	-5862	2362	-245260		0	0	0.83	0			0	No, $V_u < V$



## Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.46	2.03	-3958	8657	46204	5.34	Si
SLV 11	14	0.46	2.03	-3958	8657	46204	5.34	Si
SLV 7	14	0.46	2.14	-4172	8657	48180	5.57	Si
SLV 8	14	0.46	2.14	-4172	8657	48180	5.57	Si
SLV 16	14	0.46	2.21	-4304	8657	49372	5.7	Si
SLV 15	14	0.46	2.21	-4304	8657	49372	5.7	Si
SLV 13	14	0.46	2.47	-4815	8657	53790	6.21	Si
SLV 14	14	0.46	2.47	-4815	8657	53790	6.21	Si
SLV 4	14	0.46	2.57	-5018	8657	55459	6.41	Si
SLV 3	14	0.46	2.57	-5018	8657	55459	6.41	Si

## Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1010 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 10	-3059	-3584	257	0	4.092	0.935	0	1001.941	No
SLV 12	-2483	-7041	-231	0	3.51	0.926	0	1001.941	No
SLV 7	-1903	-6051	-256	0	2.928	0.915	0	1001.941	No
SLV 4	-1428	-3687	-113	0	2.457	0.905	0	1088.965	No
SLV 8	-1903	-6051	-256	0	2.928	0.915	0	1001.941	No
SLV 5	-2479	-2594	233	0	3.507	0.926	0	1001.941	No
SLV 9	-3059	-3584	257	0	4.092	0.935	0	1001.941	No
SLV 3	-1428	-3687	-113	0	2.457	0.905	0	1088.965	No
SLV 11	-2483	-7041	-231	0	3.51	0.926	0	1001.941	No
SLV 6	-2479	-2594	233	0	3.507	0.926	0	1001.941	No

## Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.037	SLU 41	Si
V_SLU	3.802	SLU 41	Si
PF_SLV	0	SLV 1	No
V_SLV	0	SLV 1	No
PFFP_SLV	5.337	SLV 11	Si
R_SLV	0	SLV 3	No

## Maschio 167

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-727.8	104.6	-938.6	104.6	L5	L6	210.9	28	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

## Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 57	834	-23303	-34480	3.95	1266453	36.73	Si
SLU 57	1084	-18443	156887	3.12	1198828	7.641	Si
SLU 73	834	-22629	-55079	3.83	1263254	22.935	Si
SLU 73	1084	-17783	156163	3.01	1181642	7.567	Si
SLU 63	834	-22259	-51689	3.77	1260656	24.389	Si
SLU 63	1084	-17528	157281	2.97	1174488	7.467	Si
SLU 54	834	-22135	-50094	3.75	1259651	25.146	Si
SLU 54	1084	-17411	156008	2.95	1171133	7.507	Si
SLU 60	834	-20992	-56210	3.56	1247209	22.189	Si
SLU 60	1084	-16382	150956	2.77	1138871	7.544	Si
SLU 84	834	-24443	-37572	4.14	1267322	33.73	Si
SLU 84	1084	-19425	160208	3.29	1220835	7.62	Si
SLU 55	834	-21612	-53582	3.66	1254669	23.416	Si
SLU 55	1084	-16917	154115	2.87	1156231	7.502	Si
SLU 82	834	-23275	-53186	3.94	1266360	23.81	Si
SLU 82	1084	-18393	159329	3.12	1197583	7.516	Si
SLU 61	834	-21091	-67303	3.57	1248506	18.551	Si
SLU 61	1084	-16495	156402	2.79	1142648	7.306	Si
SLU 52	834	-20444	-69195	3.46	1239206	17.909	Si
SLU 52	1084	-15885	153236	2.69	1121630	7.32	Si

## Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 3	834	-15236	620374	2.58	1267083	2.042	Si
SLV 3	1084	-8202	-388549	1.39	766436	1.973	Si
SLV 11	834	-17145	-394678	2.9	1378035	3.492	Si
SLV 11	1084	-15172	364531	2.57	1263172	3.465	Si
SLV 1	834	-14729	717262	2.49	1235863	1.723	Si
SLV 1	1084	-7329	-450026	1.24	694216	1.543	Si
SLV 16	834	-17264	-767344	2.92	1384600	1.804	Si
SLV 16	1084	-17358	659692	2.94	1389726	2.107	Si
SLV 15	834	-17264	-767344	2.92	1384600	1.804	Si
SLV 15	1084	-17358	659692	2.94	1389726	2.107	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 4	834	-15236	620374	2.58	1267083	2.042	Si
SLV 4	1084	-8202	-388549	1.39	766436	1.973	Si
SLV 14	834	-16758	-670456	2.84	1356383	2.023	Si
SLV 14	1084	-16485	598215	2.79	1340866	2.241	Si
SLV 12	834	-17145	-394678	2.9	1378035	3.492	Si
SLV 12	1084	-15172	364531	2.57	1263172	3.465	Si
SLV 13	834	-16758	-670456	2.84	1356383	2.023	Si
SLV 13	1084	-16485	598215	2.79	1340866	2.241	Si
SLV 2	834	-14729	717262	2.49	1235863	1.723	Si
SLV 2	1084	-7329	-450026	1.24	694216	1.543	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 30	834	-19517	128	8845		3.31	210.86	1	5882			45.79	Si
SLU 30	1084	-15419	349	109596		2.61	210.86	0.9	5336			15.29	Si
SLU 10	834	-16724	-386	-56734		2.83	210.86	0.93	5510			14.29	Si
SLU 10	1084	-13133	-115	124400		2.22	210.86	0.85	5031			43.84	Si
SLU 44	834	-18782	-380	-56356		3.18	210.86	0.98	5784			15.21	Si
SLU 44	1084	-14285	-86	137378		2.42	210.86	0.88	5185			59.99	Si
SLU 52	834	-20444	-479	-69195		3.46	210.86	1.02	6006			12.55	Si
SLU 52	1084	-15885	-148	153236		2.69	210.86	0.91	5398			36.55	Si
SLU 29	834	-19419	204	19938		3.29	210.86	0.99	5869			28.74	Si
SLU 29	1084	-15306	397	104150		2.59	210.86	0.9	5321			13.39	Si
SLU 19	834	-17370	-377	-54841		2.94	210.86	0.95	5596			14.84	Si
SLU 19	1084	-13743	-109	127566		2.33	210.86	0.87	5112			46.98	Si
SLU 60	834	-20992	-394	-56210		3.56	210.86	1.03	6079			15.41	Si
SLU 60	1084	-16382	-93	150956		2.77	210.86	0.93	5464			58.45	Si
SLU 27	834	-20007	172	16031		3.39	210.86	1.01	5948			34.53	Si
SLU 27	1084	-15875	380	109674		2.69	210.86	0.91	5397			14.19	Si
SLU 71	834	-23139	111	7476		3.92	210.86	1.08	6365			57.23	Si
SLU 71	1084	-18059	364	132986		3.06	210.86	0.96	5688			15.61	Si
SLU 61	834	-21091	-470	-67303		3.57	210.86	1.03	6092			12.96	Si
SLU 61	1084	-16495	-142	156402		2.79	210.86	0.93	5479			38.65	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	834	-14729	7323	717262		3.09	170.21	1.45	6917			0.94	No, Vu<V
SLV 2	1084	-7329	3873	-450026		1.98	132.09	1.23	4548			1.17	Si
SLV 12	834	-17145	-3563	-394678		2.9	210.86	1.41	8349			2.34	Si
SLV 12	1084	-15172	-2121	364531		2.57	210.86	1.35	7954			3.75	Si
SLV 13	834	-16758	-6856	-670456		3.05	196.27	1.44	7931			1.16	Si
SLV 13	1084	-16485	-3116	598215		2.84	207.43	1.4	8137			2.61	Si
SLV 11	834	-17145	-3563	-394678		2.9	210.86	1.41	8349			2.34	Si
SLV 11	1084	-15172	-2121	364531		2.57	210.86	1.35	7954			3.75	Si
SLV 4	834	-15236	6553	620374		2.8	194.14	1.39	7577			1.16	Si
SLV 4	1084	-8202	3203	-388549		1.68	174.18	1.17	5705			1.78	Si
SLV 3	834	-15236	6553	620374		2.8	194.14	1.39	7577			1.16	Si
SLV 3	1084	-8202	3203	-388549		1.68	174.18	1.17	5705			1.78	Si
SLV 16	834	-17264	-7627	-767344		3.37	182.95	1.51	7722			1.01	Si
SLV 16	1084	-17358	-3786	659692		3.06	202.28	1.45	8191			2.16	Si
SLV 14	834	-16758	-6856	-670456		3.05	196.27	1.44	7931			1.16	Si
SLV 14	1084	-16485	-3116	598215		2.84	207.43	1.4	8137			2.61	Si
SLV 15	834	-17264	-7627	-767344		3.37	182.95	1.51	7722			1.01	Si
SLV 15	1084	-17358	-3786	659692		3.06	202.28	1.45	8191			2.16	Si
SLV 1	834	-14729	7323	717262		3.09	170.21	1.45	6917			0.94	No, Vu<V
SLV 1	1084	-7329	3873	-450026		1.98	132.09	1.23	4548			1.17	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 2	14	0.46	2.19	-12909	26214	148391	5.66	Si
SLV 1	14	0.46	2.19	-12909	26214	148391	5.66	Si
SLV 4	14	0.46	2.24	-13222	26214	151178	5.77	Si
SLV 3	14	0.46	2.24	-13222	26214	151178	5.77	Si
SLV 6	14	0.46	2.25	-13306	26214	151925	5.8	Si
SLV 5	14	0.46	2.25	-13306	26214	151925	5.8	Si
SLV 10	14	0.46	2.36	-13958	26214	157604	6.01	Si
SLV 9	14	0.46	2.36	-13958	26214	157604	6.01	Si
SLV 8	14	0.46	2.43	-14346	26214	160908	6.14	Si
SLV 7	14	0.46	2.43	-14346	26214	160908	6.14	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1010 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 6	-8654	-14848	490	0	11.774	0.932	0.497	1001.941	No
SLV 5	-8654	-14848	490	0	11.774	0.932	0.497	1001.941	No
SLV 7	-9835	-16537	-516	0.002	12.969	0.937	3.146	1001.941	No
SLV 8	-9835	-16537	-516	0.002	12.969	0.937	3.146	1001.941	No
SLV 9	-11172	-15457	519	0.006	14.322	0.942	8.8	1001.941	No
SLV 10	-11172	-15457	519	0.006	14.322	0.942	8.8	1001.941	No
SLV 11	-12354	-17145	-487	0.011	15.52	0.946	16.53	1001.941	No
SLV 12	-12354	-17145	-487	0.011	15.52	0.946	16.53	1001.941	No
SLV 3	-6483	-15236	-198	0.025	9.589	0.92	39.421	1088.965	No
SLV 4	-6483	-15236	-198	0.025	9.589	0.92	39.421	1088.965	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.306	SLU 61	Si



Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	12.552	SLV 52	Si
PF_SLV	1.543	SLV 1	Si
V_SLV	0.945	SLV 1	No
PFFP_SLV	5.661	SLV 1	Si
R_SLV	0	SLV 5	No

## Maschio 168

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-496.8	104.6	-647.8	104.6	L5	L6	151	28	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 38	834	-13710	-54782	3.24	623048	11.373	Si
SLU 38	1044	-13411	98905	3.17	618259	6.251	Si
SLU 80	834	-16228	-61210	3.84	647907	10.585	Si
SLU 80	1044	-15514	109987	3.67	643680	5.852	Si
SLU 59	834	-14898	-55488	3.52	638241	11.502	Si
SLU 59	1044	-13851	99893	3.28	625176	6.258	Si
SLU 78	834	-16602	-62577	3.93	649228	10.375	Si
SLU 78	1044	-15959	110825	3.77	646579	5.834	Si
SLU 37	834	-13538	-56394	3.2	620348	11	Si
SLU 37	1044	-13137	98834	3.11	613520	6.208	Si
SLU 79	834	-16057	-62822	3.8	647097	10.301	Si
SLU 79	1044	-15240	109916	3.6	641466	5.836	Si
SLU 77	834	-16431	-64189	3.89	648699	10.106	Si
SLU 77	1044	-15685	110754	3.71	644900	5.823	Si
SLU 35	834	-13912	-57762	3.29	626080	10.839	Si
SLU 35	1044	-13583	99672	3.21	621060	6.231	Si
SLU 56	834	-15101	-58467	3.57	640216	10.95	Si
SLU 56	1044	-14022	100660	3.32	627647	6.235	Si
SLU 58	834	-14726	-57100	3.48	636432	11.146	Si
SLU 58	1044	-13577	99822	3.21	620965	6.221	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 16	834	-10878	-633475	2.57	648332	1.023	Si
SLV 16	1044	-10498	617478	2.48	631548	1.023	Si
SLV 13	834	-10690	-574735	2.53	640068	1.114	Si
SLV 13	1044	-10202	567321	2.41	618160	1.09	Si
SLD 16	834	-10693	-288992	2.53	640234	2.215	Si
SLD 16	1044	-10116	294799	2.39	614198	2.083	Si
SLV 2	834	-10238	568254	2.42	619767	1.091	Si
SLV 2	1044	-9170	-508160	2.17	569451	1.121	Si
SLV 15	834	-10878	-633475	2.57	648332	1.023	Si
SLV 15	1044	-10498	617478	2.48	631548	1.023	Si
SLD 15	834	-10693	-288992	2.53	640234	2.215	Si
SLD 15	1044	-10116	294799	2.39	614198	2.083	Si
SLV 3	834	-10426	509514	2.47	628279	1.233	Si
SLV 3	1044	-9466	-458003	2.24	583732	1.275	Si
SLV 1	834	-10238	568254	2.42	619767	1.091	Si
SLV 1	1044	-9170	-508160	2.17	569451	1.121	Si
SLV 4	834	-10426	509514	2.47	628279	1.233	Si
SLV 4	1044	-9466	-458003	2.24	583732	1.275	Si
SLV 14	834	-10690	-574735	2.53	640068	1.114	Si
SLV 14	1044	-10202	567321	2.41	618160	1.09	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 79	834	-16057	-985	-62822		3.8	151	1.06	4490			4.56	Si
SLU 79	1044	-15240	-985	109916		3.6	151	1.04	4381			4.45	Si
SLU 56	834	-15101	-897	-58467		3.57	151	1.03	4362			4.86	Si
SLU 56	1044	-14022	-898	100660		3.32	151	1	4219			4.7	Si
SLU 83	834	-15766	-919	-61253		3.73	151	1.05	4451			4.84	Si
SLU 83	1044	-15422	-920	100506		3.65	151	1.04	4405			4.79	Si
SLU 58	834	-14726	-883	-57100		3.48	151	1.02	4312			4.89	Si
SLU 58	1044	-13577	-883	99822		3.21	151	0.98	4159			4.71	Si
SLU 37	834	-13538	-895	-56394		3.2	151	0.98	4154			4.64	Si
SLU 37	1044	-13137	-896	98834		3.11	151	0.97	4101			4.58	Si
SLU 77	834	-16431	-999	-64189		3.89	151	1.07	4540			4.54	Si
SLU 77	1044	-15685	-1000	110754		3.71	151	1.05	4440			4.44	Si
SLU 80	834	-16228	-928	-61210		3.84	151	1.07	4513			4.86	Si
SLU 80	1044	-15514	-925	109987		3.67	151	1.04	4417			4.78	Si
SLU 35	834	-13912	-910	-57762		3.29	151	0.99	4204			4.62	Si
SLU 35	1044	-13583	-910	99672		3.21	151	0.98	4160			4.57	Si
SLU 78	834	-16602	-942	-62577		3.93	151	1.08	4562			4.84	Si
SLU 78	1044	-15959	-939	110825		3.77	151	1.06	4477			4.77	Si
SLU 14	834	-12582	-808	-52040		2.98	151	0.95	4027			4.98	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 14	1044	-11920	-808	89578		2.82	151	0.93	3938			4.87	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	834	-10939	-4863	-301959		2.72	143.68	1.38	5540			1.14	Si
SLV 12	1044	-10482	-4638	299577		2.66	140.76	1.37	5381			1.16	Si
SLV 2	834	-10238	6934	568254		6.1	59.98	1.63	2729			0.39	No, Vu<V
SLV 2	1044	-9170	6303	-508160		5.44	60.26	1.63	2742			0.43	No, Vu<V
SLV 14	834	-10690	-6475	-574735		5.86	65.2	1.63	2967			0.46	No, Vu<V
SLV 14	1044	-10202	-5869	567321		6.11	59.68	1.63	2715			0.46	No, Vu<V
SLV 1	834	-10238	6934	568254		6.1	59.98	1.63	2729			0.39	No, Vu<V
SLV 1	1044	-9170	6303	-508160		5.44	60.26	1.63	2742			0.43	No, Vu<V
SLV 11	834	-10939	-4863	-301959		2.72	143.68	1.38	5540			1.14	Si
SLV 11	1044	-10482	-4638	299577		2.66	140.76	1.37	5381			1.16	Si
SLV 16	834	-10878	-7897	-633475		7.5	51.79	1.63	2356			0.3	No, Vu<V
SLV 16	1044	-10498	-7267	617478		7.49	50.05	1.63	2277			0.31	No, Vu<V
SLV 15	834	-10878	-7897	-633475		7.5	51.79	1.63	2356			0.3	No, Vu<V
SLV 15	1044	-10498	-7267	617478		7.49	50.05	1.63	2277			0.31	No, Vu<V
SLV 13	834	-10690	-6475	-574735		5.86	65.2	1.63	2967			0.46	No, Vu<V
SLV 13	1044	-10202	-5869	567321		6.11	59.68	1.63	2715			0.46	No, Vu<V
SLV 3	834	-10426	5512	509514		4.66	79.88	1.63	3635			0.66	No, Vu<V
SLV 3	1044	-9466	4905	-458003		4.16	81.35	1.63	3701			0.75	No, Vu<V
SLV 4	834	-10426	5512	509514		4.66	79.88	1.63	3635			0.66	No, Vu<V
SLV 4	1044	-9466	4905	-458003		4.16	81.35	1.63	3701			0.75	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 2	14	0.46	2.22	-9407	18772	107715	5.74	Si
SLV 1	14	0.46	2.22	-9407	18772	107715	5.74	Si
SLV 5	14	0.46	2.24	-9454	18772	108138	5.76	Si
SLV 6	14	0.46	2.24	-9454	18772	108138	5.76	Si
SLV 4	14	0.46	2.29	-9696	18772	110265	5.87	Si
SLV 3	14	0.46	2.29	-9696	18772	110265	5.87	Si
SLV 9	14	0.46	2.31	-9784	18772	111037	5.91	Si
SLV 10	14	0.46	2.31	-9784	18772	111037	5.91	Si
SLV 8	14	0.46	2.46	-10418	18772	116438	6.2	Si
SLV 7	14	0.46	2.46	-10418	18772	116438	6.2	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1010 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 5	-6912	-10177	161	0.027	9.154	0.936	41.537	1001.941	No
SLV 6	-6912	-10177	161	0.027	9.154	0.936	41.537	1001.941	No
SLV 9	-7149	-10312	162	0.027	9.394	0.938	41.809	1001.941	No
SLV 10	-7149	-10312	162	0.027	9.394	0.938	41.809	1001.941	No
SLV 7	-7451	-10803	-162	0.027	9.7	0.939	42.406	1001.941	No
SLV 8	-7451	-10803	-162	0.027	9.7	0.939	42.406	1001.941	No
SLV 11	-7689	-10939	-161	0.028	9.941	0.941	43.071	1001.941	No
SLV 12	-7689	-10939	-161	0.028	9.941	0.941	43.071	1001.941	No
SLV 14	-7615	-10690	50	0.04	9.866	0.94	61.961	1088.965	No
SLV 13	-7615	-10690	50	0.04	9.866	0.94	61.961	1088.965	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.823	SLU 77	Si
V_SLU	4.442	SLU 77	Si
PF_SLV	1.023	SLV 15	Si
V_SLV	0.298	SLV 15	No
PFFP_SLV	5.738	SLV 1	Si
R_SLV	0.041	SLV 5	No

## Maschio 169

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.3	104.6	-416.8	104.6	L5	L6	404.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 41	834	-25844	262188	2.28	3762759	14.351	Si
SLU 41	1044	-24111	652377	2.13	3602082	5.521	Si
SLU 79	834	-31242	288971	2.76	4178993	14.462	Si
SLU 79	1044	-27857	738725	2.46	3932937	5.324	Si
SLU 35	834	-26612	264584	2.35	3829812	14.475	Si
SLU 35	1044	-24654	699760	2.18	3653867	5.222	Si
SLU 38	834	-26100	252497	2.3	3785394	14.992	Si
SLU 38	1044	-23939	660216	2.11	3585411	5.431	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 37	834	-25824	243971	2.28	3760942	15.416	Si
SLU 37	1044	-23774	668280	2.1	3569306	5.341	Si
SLU 77	834	-32031	309584	2.83	4229121	13.661	Si
SLU 77	1044	-28737	770205	2.54	4001745	5.196	Si
SLU 36	834	-26889	273110	2.37	3853307	14.109	Si
SLU 36	1044	-24819	691696	2.19	3669336	5.305	Si
SLU 80	834	-31519	297497	2.78	4196876	14.107	Si
SLU 80	1044	-28022	730661	2.47	3946090	5.401	Si
SLU 83	834	-31262	307188	2.76	4180325	13.608	Si
SLU 83	1044	-28194	722822	2.49	3959682	5.478	Si
SLU 78	834	-32307	318110	2.85	4246047	13.348	Si
SLU 78	1044	-28902	762141	2.55	4014262	5.267	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 16	834	-25868	-557010	2.28	4253810	7.637	Si
SLV 16	1044	-25994	1446617	2.3	4269788	2.952	Si
SLV 13	834	-25526	-566046	2.25	4210436	7.438	Si
SLV 13	1044	-25488	1363337	2.25	4205472	3.085	Si
SLV 2	834	-17533	968689	1.55	3096845	3.197	Si
SLV 2	1044	-10835	-622246	0.96	2019858	3.246	Si
SLV 3	834	-17875	977726	1.58	3148189	3.22	Si
SLV 3	1044	-11342	-538965	1	2105860	3.907	Si
SLV 1	834	-17533	968689	1.55	3096845	3.197	Si
SLV 1	1044	-10835	-622246	0.96	2019858	3.246	Si
SLV 11	834	-23468	-9310	2.07	3941512	423.364	Si
SLV 11	1044	-21456	848824	1.89	3666735	4.32	Si
SLV 14	834	-25526	-566046	2.25	4210436	7.438	Si
SLV 14	1044	-25488	1363337	2.25	4205472	3.085	Si
SLV 12	834	-23468	-9310	2.07	3941512	423.364	Si
SLV 12	1044	-21456	848824	1.89	3666735	4.32	Si
SLV 15	834	-25868	-557010	2.28	4253810	7.637	Si
SLV 15	1044	-25994	1446617	2.3	4269788	2.952	Si
SLV 4	834	-17875	977726	1.58	3148189	3.22	Si
SLV 4	1044	-11342	-538965	1	2105860	3.907	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 83	834	-31262	-4643	307188		2.76	404.5	0.92	10461			2.25	Si
SLU 83	1044	-28194	-4651	722822		2.49	404.5	0.89	10051			2.16	Si
SLU 38	834	-26100	-4219	252497		2.3	404.5	0.86	9772			2.32	Si
SLU 38	1044	-23939	-4266	660216		2.11	404.5	0.84	9484			2.22	Si
SLU 37	834	-25824	-4423	243971		2.28	404.5	0.86	9735			2.2	Si
SLU 37	1044	-23774	-4435	668280		2.1	404.5	0.84	9462			2.13	Si
SLU 79	834	-31242	-4499	288971		2.76	404.5	0.92	10458			2.32	Si
SLU 79	1044	-27857	-4511	738725		2.46	404.5	0.88	10007			2.22	Si
SLU 39	834	-25161	-4212	266412		2.22	404.5	0.85	9647			2.29	Si
SLU 39	1044	-23359	-4217	595793		2.06	404.5	0.83	9407			2.23	Si
SLU 77	834	-32031	-4639	309584		2.83	404.5	0.93	10563			2.28	Si
SLU 77	1044	-28737	-4650	770205		2.54	404.5	0.89	10124			2.18	Si
SLU 35	834	-26612	-4563	264584		2.35	404.5	0.87	9841			2.16	Si
SLU 35	1044	-24654	-4574	699760		2.18	404.5	0.85	9579			2.09	Si
SLU 42	834	-26120	-4363	270714		2.31	404.5	0.86	9775			2.24	Si
SLU 42	1044	-24276	-4406	644313		2.14	404.5	0.84	9529			2.16	Si
SLU 41	834	-25844	-4567	262188		2.28	404.5	0.86	9738			2.13	Si
SLU 41	1044	-24111	-4575	652377		2.13	404.5	0.84	9507			2.08	Si
SLU 36	834	-26889	-4359	273110		2.37	404.5	0.87	9877			2.27	Si
SLU 36	1044	-24819	-4405	691696		2.19	404.5	0.85	9601			2.18	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 16	834	-23479	-7620	-120669		2.07	404.5	1.25	14134			1.85	Si
SLD 16	1044	-21649	-6814	853184		1.91	404.5	1.22	13768			2.02	Si
SLV 13	834	-25526	-14401	-566046		2.25	404.5	1.28	14544			1.01	Si
SLV 13	1044	-25488	-12495	1363337		2.25	404.5	1.28	14536			1.16	Si
SLV 16	834	-25868	-15023	-557010		2.28	404.5	1.29	14612			0.97	No, Vu<V
SLV 16	1044	-25994	-13123	1446617		2.3	404.5	1.29	14637			1.12	Si
SLV 15	834	-25868	-15023	-557010		2.28	404.5	1.29	14612			0.97	No, Vu<V
SLV 15	1044	-25994	-13123	1446617		2.3	404.5	1.29	14637			1.12	Si
SLV 1	834	-17533	10790	968689		1.55	404.5	1.14	12945			1.2	Si
SLV 1	1044	-10835	8883	-622246		0.96	404.5	1.02	11605			1.31	Si
SLV 14	834	-25526	-14401	-566046		2.25	404.5	1.28	14544			1.01	Si
SLV 14	1044	-25488	-12495	1363337		2.25	404.5	1.28	14536			1.16	Si
SLV 3	834	-17875	10168	977726		1.58	404.5	1.15	13013			1.28	Si
SLV 3	1044	-11342	8254	-538965		1	404.5	1.03	11707			1.42	Si
SLV 2	834	-17533	10790	968689		1.55	404.5	1.14	12945			1.2	Si
SLV 2	1044	-10835	8883	-622246		0.96	404.5	1.02	11605			1.31	Si
SLV 4	834	-17875	10168	977726		1.58	404.5	1.15	13013			1.28	Si
SLV 4	1044	-11342	8254	-538965		1	404.5	1.03	11707			1.42	Si
SLD 15	834	-23479	-7620	-120669		2.07	404.5	1.25	14134			1.85	Si
SLD 15	1044	-21649	-6814	853184		1.91	404.5	1.22	13768			2.02	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 2	14	0.46	1.02	-11566	50287	148393	2.95	Si
SLV 1	14	0.46	1.02	-11566	50287	148393	2.95	Si
SLV 3	14	0.46	1.07	-12068	50287	154221	3.07	Si
SLV 4	14	0.46	1.07	-12068	50287	154221	3.07	Si





Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.46	1.42	-16101	50287	199186	3.96	Si
SLV 6	14	0.46	1.42	-16101	50287	199186	3.96	Si
SLV 7	14	0.46	1.57	-17774	50287	216880	4.31	Si
SLV 8	14	0.46	1.57	-17774	50287	216880	4.31	Si
SLV 10	14	0.46	1.81	-20490	50287	244385	4.86	Si
SLV 9	14	0.46	1.81	-20490	50287	244385	4.86	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1010  $W_a = 0.05$   $T_a = 0.0739$

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 8	-14366	-21070	-582	0.015	20.334	0.926	23.992	1001.941	No
SLV 7	-14366	-21070	-582	0.015	20.334	0.926	23.992	1001.941	No
SLV 10	-15004	-22331	582	0.016	20.976	0.928	25.274	1001.941	No
SLV 9	-15004	-22331	582	0.016	20.976	0.928	25.274	1001.941	No
SLV 6	-13417	-19933	543	0.016	19.379	0.923	25.526	1001.941	No
SLV 5	-13417	-19933	543	0.016	19.379	0.923	25.526	1001.941	No
SLV 11	-15953	-23468	-543	0.019	21.933	0.93	30.096	1001.941	No
SLV 12	-15953	-23468	-543	0.019	21.933	0.93	30.096	1001.941	No
SLV 4	-12182	-17875	-234	0.034	18.139	0.919	53.758	1088.965	No
SLV 3	-12182	-17875	-234	0.034	18.139	0.919	53.758	1088.965	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.196	SLU 77	Si
V_SLU	2.078	SLU 41	Si
PF_SLV	2.952	SLV 15	Si
V_SLV	0.973	SLV 15	No
PFFP_SLV	2.951	SLV 1	Si
R_SLV	0.024	SLV 7	No

## Maschio 170

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1100.3	-350.9	-1100.3	-331.4	L5	L6	19.6	28	352	352	352			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 69	834	-1285	-9339	2.35	8955	0.959	No, M>Mu
SLU 69	1186	-636	4987	1.16	5339	1.071	Si
SLU 80	834	-1399	-10137	2.55	9398	0.927	No, M>Mu
SLU 80	1186	-641	4941	1.17	5370	1.087	Si
SLU 79	834	-1393	-10153	2.54	9376	0.923	No, M>Mu
SLU 79	1186	-642	4973	1.17	5375	1.081	Si
SLU 72	834	-1287	-9381	2.35	8962	0.955	No, M>Mu
SLU 72	1186	-633	5057	1.16	5317	1.052	Si
SLU 59	834	-1303	-9429	2.38	9028	0.957	No, M>Mu
SLU 59	1186	-596	4725	1.09	5053	1.069	Si
SLU 71	834	-1281	-9397	2.34	8937	0.951	No, M>Mu
SLU 71	1186	-634	5089	1.16	5322	1.046	Si
SLU 78	834	-1403	-10078	2.56	9413	0.934	No, M>Mu
SLU 78	1186	-643	4840	1.17	5388	1.113	Si
SLU 58	834	-1297	-9445	2.37	9003	0.953	No, M>Mu
SLU 58	1186	-597	4757	1.09	5058	1.063	Si
SLU 77	834	-1397	-10094	2.55	9391	0.93	No, M>Mu
SLU 77	1186	-644	4872	1.18	5392	1.107	Si
SLU 56	834	-1301	-9386	2.38	9021	0.961	No, M>Mu
SLU 56	1186	-599	4656	1.09	5076	1.09	Si

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLD 10	834	-1027	-9241	1.87	8507	0.921	No, M>Mu
SLD 10	1186	-448	5034	0	0	0	No, e>l/2
SLV 3	834	-931	-9222	0	0	0	No, e>l/2
SLV 3	1186	-384	1693	0.7	3544	2.093	Si
SLV 5	834	-1250	-17019	0	0	0	No, e>l/2
SLV 5	1186	-500	8018	0	0	0	No, e>l/2
SLV 10	834	-1184	-13521	0	0	0	No, e>l/2
SLV 10	1186	-500	7877	0	0	0	No, e>l/2
SLV 6	834	-1250	-17019	0	0	0	No, e>l/2
SLV 6	1186	-500	8018	0	0	0	No, e>l/2
SLV 9	834	-1184	-13521	0	0	0	No, e>l/2
SLV 9	1186	-500	7877	0	0	0	No, e>l/2
SLD 9	834	-1027	-9241	1.87	8507	0.921	No, M>Mu
SLD 9	1186	-448	5034	0	0	0	No, e>l/2
SLV 4	834	-931	-9222	0	0	0	No, e>l/2
SLV 4	1186	-384	1693	0.7	3544	2.093	Si
SLD 1	834	-998	-9780	0	0	0	No, e>l/2
SLD 1	1186	-422	3694	0.77	3870	1.048	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLD 6	834	-1055	-10735	0	0	0	No, $e \geq l/2$
SLD 6	1186	-448	5097	0	0	0	No, $e \geq l/2$

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLU 84	834	-1393	-72	-9710		5.89	8.44	1.08	256			3.54	Si
SLU 84	1186	-599	88	4321		2.77	7.71	0.93	200			2.28	Si
SLU 78	834	-1403	-81	-10078		6.42	7.81	1.08	237			2.91	Si
SLU 78	1186	-643	83	4840		3.39	6.79	1.01	191			2.3	Si
SLU 81	834	-1333	-59	-8975		5.2	9.16	1.08	278			4.72	Si
SLU 81	1186	-555	94	3782		2.23	8.9	0.85	212			2.25	Si
SLU 76	834	-1349	-66	-9375		5.66	8.51	1.08	258			3.9	Si
SLU 76	1186	-595	85	4349		2.86	7.44	0.94	195			2.3	Si
SLU 83	834	-1387	-74	-9726		5.96	8.32	1.08	252			3.4	Si
SLU 83	1186	-600	87	4353		2.83	7.58	0.93	198			2.29	Si
SLU 75	834	-1349	-66	-9327		5.59	8.62	1.08	261			3.97	Si
SLU 75	1186	-598	91	4269		2.69	7.95	0.91	203			2.23	Si
SLU 73	834	-1295	-51	-8624		4.93	9.38	1.08	284			5.61	Si
SLU 73	1186	-550	92	3778		2.24	8.76	0.85	210			2.27	Si
SLU 77	834	-1397	-83	-10094		6.5	7.68	1.08	233			2.8	Si
SLU 77	1186	-644	82	4872		3.45	6.66	1.02	189			2.31	Si
SLU 82	834	-1339	-57	-8959		5.15	9.28	1.08	282			4.95	Si
SLU 82	1186	-554	96	3750		2.19	9.05	0.85	215			2.24	Si
SLU 74	834	-1343	-68	-9343		5.65	8.49	1.08	257			3.8	Si
SLU 74	1186	-599	90	4301		2.74	7.81	0.92	201			2.24	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLD 1	834	-998	-177	-9780		0	0	0.83	0			0	No, $V_u < V$
SLD 1	1186	-422	-15	3694		4.86	3.1	1.63	141			9.29	Si
SLV 3	834	-931	-160	-9222		0	0	0.83	0			0	No, $V_u < V$
SLV 3	1186	-384	33	1693		0.85	16.13	1	453			13.85	Si
SLV 6	834	-1250	-451	-17019		0	0	0.83	0			0	No, $V_u < V$
SLV 6	1186	-500	-225	8018		0	0	0.83	0			0	No, $V_u < V$
SLV 5	834	-1250	-451	-17019		0	0	0.83	0			0	No, $V_u < V$
SLV 5	1186	-500	-225	8018		0	0	0.83	0			0	No, $V_u < V$
SLV 1	834	-1113	-369	-14704		0	0	0.83	0			0	No, $V_u < V$
SLV 1	1186	-438	-121	4689		0	0	0.83	0			0	No, $V_u < V$
SLV 9	834	-1184	-313	-13521		0	0	0.83	0			0	No, $V_u < V$
SLV 9	1186	-500	-162	7877		0	0	0.83	0			0	No, $V_u < V$
SLV 10	834	-1184	-313	-13521		0	0	0.83	0			0	No, $V_u < V$
SLV 10	1186	-500	-162	7877		0	0	0.83	0			0	No, $V_u < V$
SLD 10	834	-1027	-151	-9241		15.56	2.36	1.63	107			0.71	No, $V_u < V$
SLD 10	1186	-448	-31	5034		0	0	0.83	0			0	No, $V_u < V$
SLD 6	834	-1055	-211	-10735		0	0	0.83	0			0	No, $V_u < V$
SLD 6	1186	-448	-58	5097		0	0	0.83	0			0	No, $V_u < V$
SLV 2	834	-1113	-369	-14704		0	0	0.83	0			0	No, $V_u < V$
SLV 2	1186	-438	-121	4689		0	0	0.83	0			0	No, $V_u < V$

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 3	14	0.46	0.39	-216	2433	2930	1.2	Si
SLV 4	14	0.46	0.39	-216	2433	2930	1.2	Si
SLV 7	14	0.46	0.41	-225	2433	3047	1.25	Si
SLV 8	14	0.46	0.41	-225	2433	3047	1.25	Si
SLV 1	14	0.46	0.69	-377	2433	4985	2.05	Si
SLV 2	14	0.46	0.69	-377	2433	4985	2.05	Si
SLV 11	14	0.46	0.72	-394	2433	5192	2.13	Si
SLV 12	14	0.46	0.72	-394	2433	5192	2.13	Si
SLV 5	14	0.46	1.39	-762	2433	9457	3.89	Si
SLV 6	14	0.46	1.39	-762	2433	9457	3.89	Si

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeraia = 1010 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 11	-321	-577	12	0.03	0.612	0.898	49.186	1001.941	No
SLV 12	-321	-577	12	0.03	0.612	0.898	49.186	1001.941	No
SLV 8	-322	-642	11	0.031	0.612	0.898	50.723	1001.941	No
SLV 7	-322	-642	11	0.031	0.612	0.898	50.723	1001.941	No
SLV 6	-500	-1250	-10	0.036	0.788	0.913	56.822	1001.941	No
SLV 5	-500	-1250	-10	0.036	0.788	0.913	56.822	1001.941	No
SLV 10	-500	-1184	-9	0.036	0.788	0.913	57.93	1001.941	No
SLV 9	-500	-1184	-9	0.036	0.788	0.913	57.93	1001.941	No
SLV 16	-384	-714	5	0.043	0.673	0.903	69.963	1088.965	No
SLV 15	-384	-714	5	0.043	0.673	0.903	69.963	1088.965	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0.923	SLU 79	No
V_SLU	2.233	SLU 75	Si
PF_SLV	0	SLD 1	No
V_SLV	0	SLD 1	No
PFFP_SLV	1.204	SLV 3	Si
R_SLV	0.049	SLV 11	No



## Maschio 171

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1100.3	-331.4	-1100.3	-35.4	L5	Z medio 1097 cm	296	28	263	174	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 66	834	-21742	66660	2.62	2181559	32.727	Si
SLU 66	1008	-17212	150457	2.08	1897952	12.615	Si
SLU 24	834	-17945	58972	2.17	1949914	33.065	Si
SLU 24	1008	-14239	128164	1.72	1662881	12.975	Si
SLU 65	834	-20592	64354	2.48	2118045	32.912	Si
SLU 65	1008	-16144	135595	1.95	1817994	13.408	Si
SLU 70	834	-22612	57099	2.73	2225718	38.98	Si
SLU 70	1008	-17956	152503	2.17	1950709	12.791	Si
SLU 69	834	-22621	57723	2.73	2226154	38.566	Si
SLU 69	1008	-17987	153134	2.17	1952843	12.752	Si
SLU 28	834	-18815	49412	2.27	2008556	40.649	Si
SLU 28	1008	-14983	130211	1.81	1725338	13.25	Si
SLU 27	834	-18824	50035	2.27	2009140	40.154	Si
SLU 27	1008	-15014	130841	1.81	1727874	13.206	Si
SLU 25	834	-17936	58349	2.16	1949295	33.408	Si
SLU 25	1008	-14208	127533	1.71	1660240	13.018	Si
SLU 67	834	-21734	66036	2.62	2181089	33.029	Si
SLU 67	1008	-17181	149826	2.07	1895713	12.653	Si
SLU 64	834	-20607	65394	2.49	2118903	32.402	Si
SLU 64	1008	-16196	136646	1.95	1821957	13.333	Si

### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 11	834	-14677	249566	1.77	1857403	7.443	Si
SLV 11	1008	-11737	115337	1.42	1535712	13.315	Si
SLV 9	834	-18462	-156893	2.23	2234197	14.24	Si
SLV 9	1008	-14493	74697	1.75	1838012	24.606	Si
SLV 5	834	-17224	-168740	2.08	2115624	12.538	Si
SLV 5	1008	-13507	64300	1.63	1732404	26.943	Si
SLV 12	834	-14677	249566	1.77	1857403	7.443	Si
SLV 12	1008	-11737	115337	1.42	1535712	13.315	Si
SLV 8	834	-13440	237718	1.62	1725146	7.257	Si
SLV 8	1008	-10750	104940	1.3	1422158	13.552	Si
SLV 6	834	-17224	-168740	2.08	2115624	12.538	Si
SLV 6	1008	-13507	64300	1.63	1732404	26.943	Si
SLD 11	834	-15416	129075	1.86	1934229	14.985	Si
SLD 11	1008	-12251	100502	1.48	1593836	15.859	Si
SLV 10	834	-18462	-156893	2.23	2234197	14.24	Si
SLV 10	1008	-14493	74697	1.75	1838012	24.606	Si
SLV 7	834	-13440	237718	1.62	1725146	7.257	Si
SLV 7	1008	-10750	104940	1.3	1422158	13.552	Si
SLD 12	834	-15416	129075	1.86	1934229	14.985	Si
SLD 12	1008	-12251	100502	1.48	1593836	15.859	Si

### Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 82	834	-23224	361	31771		2.8	296	0.93	7701			21.31	Si
SLU 82	1008	-18680	774	80082		2.25	296	0.86	7095			9.16	Si
SLU 40	834	-19426	293	24084		2.34	296	0.87	7195			24.59	Si
SLU 40	1008	-15707	685	57789		1.9	296	0.81	6699			9.78	Si
SLU 29	834	-18567	-745	39833		2.24	296	0.85	7080			9.5	Si
SLU 29	1008	-14772	-630	119709		1.78	296	0.79	6574			10.43	Si
SLU 52	834	-20493	455	26283		2.47	296	0.89	7337			16.12	Si
SLU 52	1008	-16360	746	77754		1.97	296	0.82	6786			9.1	Si
SLU 19	834	-17490	320	9112		2.11	296	0.84	6936			21.69	Si
SLU 19	1008	-14162	690	39101		1.71	296	0.78	6493			9.41	Si
SLU 60	834	-21296	282	17423		2.57	296	0.9	7444			26.39	Si
SLU 60	1008	-17166	692	62025		2.07	296	0.83	6893			9.96	Si
SLU 10	834	-16696	386	18596		2.01	296	0.82	6831			17.68	Si
SLU 10	1008	-13387	656	55461		1.62	296	0.77	6389			9.74	Si
SLU 73	834	-22430	428	41255		2.71	296	0.92	7595			17.74	Si
SLU 73	1008	-17905	740	96441		2.16	296	0.84	6992			9.45	Si
SLU 61	834	-21287	389	16799		2.57	296	0.9	7443			19.15	Si
SLU 61	1008	-17135	780	61394		2.07	296	0.83	6889			8.83	Si
SLU 8	834	-16630	-718	24861		2.01	296	0.82	6822			9.5	Si
SLU 8	1008	-13227	-624	101021		1.6	296	0.77	6368			10.2	Si

### Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 10	834	-18462	-7932	-156893		2.23	296	1.28	10599			1.34	Si
SLV 10	1008	-14493	-6954	74697		1.75	296	1.18	9805			1.41	Si
SLV 3	834	-13321	4660	81636		1.61	296	1.15	9571			2.05	Si
SLV 3	1008	-10565	4333	78586		1.27	296	1.09	9020			2.08	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 11	834	-14677	6982	249566		1.77	296	1.19	9842			1.41	Si
SLV 11	1008	-11737	6481	115337		1.42	296	1.12	9254			1.43	Si
SLV 7	834	-13440	8319	237718		1.62	296	1.16	9595			1.15	Si
SLV 7	1008	-10750	7660	104940		1.3	296	1.09	9057			1.18	Si
SLV 5	834	-17224	-6594	-168740		2.08	296	1.25	10352			1.57	Si
SLV 5	1008	-13507	-5775	64300		1.63	296	1.16	9608			1.66	Si
SLV 6	834	-17224	-6594	-168740		2.08	296	1.25	10352			1.57	Si
SLV 6	1008	-13507	-5775	64300		1.63	296	1.16	9608			1.66	Si
SLV 4	834	-13321	4660	81636		1.61	296	1.15	9571			2.05	Si
SLV 4	1008	-10565	4333	78586		1.27	296	1.09	9020			2.08	Si
SLV 8	834	-13440	8319	237718		1.62	296	1.16	9595			1.15	Si
SLV 8	1008	-10750	7660	104940		1.3	296	1.09	9057			1.18	Si
SLV 9	834	-18462	-7932	-156893		2.23	296	1.28	10599			1.34	Si
SLV 9	1008	-14493	-6954	74697		1.75	296	1.18	9805			1.41	Si
SLV 12	834	-14677	6982	249566		1.77	296	1.19	9842			1.41	Si
SLV 12	1008	-11737	6481	115337		1.42	296	1.12	9254			1.43	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 921 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 3	14	0.44	1.35	-11200	19702	139459	7.08	Si
SLV 3	14	0.44	1.35	-11200	19702	139459	7.08	Si
SLV 7	14	0.44	1.36	-11256	19702	140073	7.11	Si
SLV 8	14	0.44	1.36	-11256	19702	140073	7.11	Si
SLV 1	14	0.44	1.49	-12313	19702	151426	7.69	Si
SLV 2	14	0.44	1.49	-12313	19702	151426	7.69	Si
SLV 11	14	0.44	1.5	-12418	19702	152533	7.74	Si
SLV 12	14	0.44	1.5	-12418	19702	152533	7.74	Si
SLV 6	14	0.44	1.81	-14967	19702	178573	9.06	Si
SLV 5	14	0.44	1.81	-14967	19702	178573	9.06	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 921 Wa = 0.05 Ta = 0.0413

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 3	-10565	-13321	-313	0.037	13.854	0.938	56.708	640.568	No
SLV 4	-10565	-13321	-313	0.037	13.854	0.938	56.708	640.568	No
SLV 7	-10750	-13440	-299	0.038	14.042	0.939	58.665	612.757	No
SLV 8	-10750	-13440	-299	0.038	14.042	0.939	58.665	612.757	No
SLV 2	-11392	-14457	-217	0.045	14.691	0.941	69.246	640.568	No
SLV 1	-11392	-14457	-217	0.045	14.691	0.941	69.246	640.568	No
SLV 12	-11737	-14677	-192	0.047	15.041	0.942	72.273	612.757	No
SLV 11	-11737	-14677	-192	0.047	15.041	0.942	72.273	612.757	No
SLV 13	-14679	-18580	142	0.051	18.026	0.951	77.913	640.568	No
SLV 14	-14679	-18580	142	0.051	18.026	0.951	77.913	640.568	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	12.615	SLV 66	Si
V_SLV	8.831	SLV 61	Si
PF_SLV	7.257	SLV 7	Si
V_SLV	1.153	SLV 7	Si
PFFP_SLV	7.078	SLV 3	Si
R_SLV	0.089	SLV 3	No

## Maschio 173

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1100.3	-35.4	-1100.3	104.6	L5	L6	140	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 27	834	-11347	-19301	2.89	512034	26.529	Si
SLU 27	1186	-7527	28472	1.92	402697	14.143	Si
SLU 70	834	-13475	-20031	3.44	545204	27.218	Si
SLU 70	1186	-8775	27974	2.24	445445	15.924	Si
SLU 72	834	-13191	-21433	3.37	541934	25.285	Si
SLU 72	1186	-8528	26825	2.18	437517	16.31	Si
SLU 29	834	-11063	-20703	2.82	506120	24.447	Si
SLU 29	1186	-7280	27324	1.86	393417	14.398	Si
SLU 28	834	-11310	-18699	2.89	511291	27.343	Si
SLU 28	1186	-7486	27735	1.91	401189	14.465	Si
SLU 30	834	-11027	-20101	2.81	505332	25.139	Si
SLU 30	1186	-7239	26586	1.85	391865	14.739	Si
SLU 71	834	-13228	-22035	3.37	542376	24.615	Si
SLU 71	1186	-8568	27562	2.19	438839	15.922	Si
SLU 69	834	-13511	-20633	3.45	545601	26.444	Si
SLU 69	1186	-8815	28711	2.25	446723	15.559	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 8	834	-9716	-18476	2.48	473185	25.611	Si
SLU 8	1186	-6405	22053	1.63	358401	16.252	Si
SLU 6	834	-10000	-17074	2.55	480772	28.158	Si
SLU 6	1186	-6652	23202	1.7	368630	15.888	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 12	834	-9632	53231	2.46	538660	10.119	Si
SLV 12	1186	-4660	-41895	1.19	294465	7.029	Si
SLV 4	834	-9368	108794	2.39	527508	4.849	Si
SLV 4	1186	-4406	-971	1.12	280063	288.335	Si
SLV 8	834	-9565	104857	2.44	535834	5.11	Si
SLV 8	1186	-4094	-36570	1.04	262084	7.167	Si
SLV 11	834	-9632	53231	2.46	538660	10.119	Si
SLV 11	1186	-4660	-41895	1.19	294465	7.029	Si
SLV 9	834	-9295	-107603	2.37	524377	4.873	Si
SLV 9	1186	-7439	42068	1.9	439855	10.456	Si
SLV 14	834	-9491	-111541	2.42	532745	4.776	Si
SLV 14	1186	-7127	6469	1.82	424644	65.647	Si
SLV 10	834	-9295	-107603	2.37	524377	4.873	Si
SLV 10	1186	-7439	42068	1.9	439855	10.456	Si
SLV 7	834	-9565	104857	2.44	535834	5.11	Si
SLV 7	1186	-4094	-36570	1.04	262084	7.167	Si
SLV 13	834	-9491	-111541	2.42	532745	4.776	Si
SLV 13	1186	-7127	6469	1.82	424644	65.647	Si
SLV 3	834	-9368	108794	2.39	527508	4.849	Si
SLV 3	1186	-4406	-971	1.12	280063	288.335	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLU 29	834	-11063	-1011	-20703		2.82	140	0.93	3653			3.61	Si
SLU 29	1186	-7280	-1752	27324		1.86	140	0.8	3148			1.8	Si
SLU 79	834	-14242	-908	-167		3.63	140	1.04	4077			4.49	Si
SLU 79	1186	-9344	-1797	8046		2.38	140	0.87	3424			1.91	Si
SLU 70	834	-13475	-950	-20031		3.44	140	1.01	3974			4.18	Si
SLU 70	1186	-8775	-1838	27974		2.24	140	0.85	3348			1.82	Si
SLU 71	834	-13228	-1023	-22035		3.37	140	1.01	3942			3.85	Si
SLU 71	1186	-8568	-1864	27562		2.19	140	0.85	3320			1.78	Si
SLU 30	834	-11027	-966	-20101		2.81	140	0.93	3648			3.78	Si
SLU 30	1186	-7239	-1723	26586		1.85	140	0.8	3143			1.82	Si
SLU 77	834	-14525	-880	1235		3.71	140	1.05	4115			4.67	Si
SLU 77	1186	-9591	-1800	9195		2.45	140	0.88	3457			1.92	Si
SLU 69	834	-13511	-996	-20633		3.45	140	1.02	3979			4	Si
SLU 69	1186	-8815	-1868	28711		2.25	140	0.86	3353			1.8	Si
SLU 72	834	-13191	-977	-21433		3.37	140	1	3937			4.03	Si
SLU 72	1186	-8528	-1834	26825		2.18	140	0.85	3315			1.81	Si
SLU 27	834	-11347	-984	-19301		2.89	140	0.94	3691			3.75	Si
SLU 27	1186	-7527	-1756	28472		1.92	140	0.81	3181			1.81	Si
SLU 28	834	-11310	-938	-18699		2.89	140	0.94	3686			3.93	Si
SLU 28	1186	-7486	-1726	27735		1.91	140	0.81	3176			1.84	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLV 12	834	-9632	2568	53231		2.46	140	1.32	5193			2.02	Si
SLV 12	1186	-4660	1496	-41895		1.19	140	1.07	4199			2.81	Si
SLV 11	834	-9632	2568	53231		2.46	140	1.32	5193			2.02	Si
SLV 11	1186	-4660	1496	-41895		1.19	140	1.07	4199			2.81	Si
SLV 7	834	-9565	3069	104857		2.44	140	1.32	5180			1.69	Si
SLV 7	1186	-4094	2195	-36570		1.04	140	1.04	4085			1.86	Si
SLV 10	834	-9295	-3747	-107603		2.37	140	1.31	5126			1.37	Si
SLV 10	1186	-7439	-3782	42068		1.9	140	1.21	4754			1.26	Si
SLV 8	834	-9565	3069	104857		2.44	140	1.32	5180			1.69	Si
SLV 8	1186	-4094	2195	-36570		1.04	140	1.04	4085			1.86	Si
SLV 5	834	-9227	-3246	-55978		2.35	140	1.3	5112			1.57	Si
SLV 5	1186	-6873	-3084	47392		1.75	140	1.18	4641			1.51	Si
SLV 9	834	-9295	-3747	-107603		2.37	140	1.31	5126			1.37	Si
SLV 9	1186	-7439	-3782	42068		1.9	140	1.21	4754			1.26	Si
SLV 13	834	-9491	-2121	-111541		2.42	140	1.32	5165			2.43	Si
SLV 13	1186	-7127	-2750	6469		1.82	140	1.2	4692			1.71	Si
SLV 6	834	-9227	-3246	-55978		2.35	140	1.3	5112			1.57	Si
SLV 6	1186	-6873	-3084	47392		1.75	140	1.18	4641			1.51	Si
SLV 14	834	-9491	-2121	-111541		2.42	140	1.32	5165			2.43	Si
SLV 14	1186	-7127	-2750	6469		1.82	140	1.2	4692			1.71	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 4	14	0.46	1.15	-4518	17405	57291	3.29	Si
SLV 3	14	0.46	1.15	-4518	17405	57291	3.29	Si
SLV 1	14	0.46	1.31	-5134	17405	64170	3.69	Si
SLV 2	14	0.46	1.31	-5134	17405	64170	3.69	Si
SLV 8	14	0.46	1.46	-5722	17405	70538	4.05	Si
SLV 7	14	0.46	1.46	-5722	17405	70538	4.05	Si
SLV 12	14	0.46	1.88	-7369	17405	87293	5.02	Si
SLV 11	14	0.46	1.88	-7369	17405	87293	5.02	Si
SLV 5	14	0.46	1.98	-7773	17405	91164	5.24	Si
SLV 6	14	0.46	1.98	-7773	17405	91164	5.24	Si



## Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1010  $W_a = 0.05$   $T_a = 0.0739$

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 14	-7127	-9491	-200	0.022	9.214	0.941	33.711	1088.965	No
SLV 13	-7127	-9491	-200	0.022	9.214	0.941	33.711	1088.965	No
SLV 16	-6293	-9593	-180	0.022	8.371	0.936	34.927	1088.965	No
SLV 15	-6293	-9593	-180	0.022	8.371	0.936	34.927	1088.965	No
SLV 4	-4406	-9368	139	0.024	6.469	0.921	37.687	1088.965	No
SLV 3	-4406	-9368	139	0.024	6.469	0.921	37.687	1088.965	No
SLV 1	-5240	-9267	119	0.029	7.307	0.928	45.431	1088.965	No
SLV 2	-5240	-9267	119	0.029	7.307	0.928	45.431	1088.965	No
SLV 10	-7439	-9295	-111	0.033	9.531	0.942	50.325	1001.941	No
SLV 9	-7439	-9295	-111	0.033	9.531	0.942	50.325	1001.941	No

### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	14.143	SLU 27	Si
V_SLU	1.781	SLU 71	Si
PF_SLV	4.776	SLV 13	Si
V_SLV	1.257	SLV 9	Si
PFFP_SLV	3.292	SLV 3	Si
R_SLV	0.031	SLV 13	No

## Maschio 174

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-972.8	220.1	-972.8	666.1	L5	L6	446	14	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 19	834	-15977	-232152	2.56	2443674	10.526	Si
SLU 19	1186	-6872	-35935	1.1	1325484	36.886	Si
SLU 61	834	-19304	-284448	3.09	2670977	9.39	Si
SLU 61	1186	-8356	-49078	1.34	1557296	31.731	Si
SLU 44	834	-16288	-222780	2.61	2469087	11.083	Si
SLU 44	1186	-7219	-43313	1.16	1381317	31.891	Si
SLU 52	834	-18405	-267169	2.95	2619143	9.803	Si
SLU 52	1186	-8018	-47786	1.28	1506105	31.518	Si
SLU 73	834	-20024	-259996	3.21	2707376	10.413	Si
SLU 73	1186	-8700	-34483	1.39	1608212	46.638	Si
SLU 18	834	-15964	-229536	2.56	2442635	10.642	Si
SLU 18	1186	-6867	-34997	1.1	1324544	37.847	Si
SLU 82	834	-20922	-277275	3.35	2746455	9.905	Si
SLU 82	1186	-9038	-35775	1.45	1657378	46.328	Si
SLU 10	834	-15078	-214872	2.41	2365617	11.009	Si
SLU 10	1186	-6534	-34643	1.05	1269888	36.657	Si
SLU 60	834	-19291	-281832	3.09	2670304	9.475	Si
SLU 60	1186	-8350	-48141	1.34	1556431	32.331	Si
SLU 81	834	-20910	-274659	3.35	2745959	9.998	Si
SLU 81	1186	-9033	-34838	1.45	1656547	47.551	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLD 9	834	-14130	-325452	2.26	2567477	7.889	Si
SLD 9	1186	-5850	43310	0.94	1204552	27.812	Si
SLV 10	834	-14328	-524862	2.29	2595092	4.944	Si
SLV 10	1186	-5444	138564	0.87	1127362	8.136	Si
SLV 8	834	-13687	171349	2.19	2504652	14.617	Si
SLV 8	1186	-6853	-190733	1.1	1390980	7.293	Si
SLV 12	834	-13782	163546	2.21	2518176	15.397	Si
SLV 12	1186	-7110	-221600	1.14	1437838	6.488	Si
SLV 9	834	-14328	-524862	2.29	2595092	4.944	Si
SLV 9	1186	-5444	138564	0.87	1127362	8.136	Si
SLV 11	834	-13782	163546	2.21	2518176	15.397	Si
SLV 11	1186	-7110	-221600	1.14	1437838	6.488	Si
SLV 7	834	-13687	171349	2.19	2504652	14.617	Si
SLV 7	1186	-6853	-190733	1.1	1390980	7.293	Si
SLD 10	834	-14130	-325452	2.26	2567477	7.889	Si
SLD 10	1186	-5850	43310	0.94	1204552	27.812	Si
SLV 6	834	-14233	-517059	2.28	2581872	4.993	Si
SLV 6	1186	-5187	169431	0.83	1077998	6.362	Si
SLV 5	834	-14233	-517059	2.28	2581872	4.993	Si
SLV 5	1186	-5187	169431	0.83	1077998	6.362	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 9	834	-12161	1016	-6261		1.95	446	0.82	5090			5.01	Si
SLU 9	1186	-5623	1013	28442		0.9	446	0.68	4219			4.17	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 72	834	-17107	1137	-51385		2.74	446	0.92	5750			5.06	Si
SLU 72	1186	-7789	1132	-28601		1.25	446	0.72	4507			3.98	Si
SLU 71	834	-17094	1143	-48768		2.74	446	0.92	5748			5.03	Si
SLU 71	1186	-7783	1138	-29539		1.25	446	0.72	4507			3.96	Si
SLU 37	834	-15884	1120	-40861		2.54	446	0.89	5587			4.99	Si
SLU 37	1186	-7098	1115	-38209		1.14	446	0.71	4415			3.96	Si
SLU 28	834	-14330	1088	-19326		2.29	446	0.86	5380			4.95	Si
SLU 28	1186	-6661	1083	-36534		1.07	446	0.7	4357			4.02	Si
SLU 29	834	-13767	1173	-3528		2.2	446	0.85	5305			4.52	Si
SLU 29	1186	-6299	1168	-42682		1.01	446	0.69	4309			3.69	Si
SLU 30	834	-13780	1166	-912		2.21	446	0.85	5306			4.55	Si
SLU 30	1186	-6305	1162	-41745		1.01	446	0.69	4310			3.71	Si
SLU 8	834	-12149	1023	-3645		1.95	446	0.81	5089			4.98	Si
SLU 8	1186	-5617	1019	-29379		0.9	446	0.68	4218			4.14	Si
SLU 27	834	-14317	1094	-16709		2.29	446	0.86	5378			4.92	Si
SLU 27	1186	-6656	1090	-37472		1.07	446	0.7	4356			4	Si
SLU 38	834	-15897	1113	-43477		2.55	446	0.9	5588			5.02	Si
SLU 38	1186	-7104	1109	-37272		1.14	446	0.71	4416			3.98	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	834	-13782	5138	163546		2.21	446	1.27	7960			1.55	Si
SLV 12	1186	-7110	2754	-221600		1.14	446	1.06	6625			2.41	Si
SLV 8	834	-13687	5518	171349		2.19	446	1.27	7941			1.44	Si
SLV 8	1186	-6853	3251	-190733		1.1	446	1.05	6574			2.02	Si
SLV 5	834	-14233	-4938	-517059		2.28	446	1.29	8050			1.63	Si
SLV 5	1186	-5187	-2558	169431		0.83	446	1	6241			2.44	Si
SLD 7	834	-13885	2387	-28061		2.22	446	1.28	7980			3.34	Si
SLD 7	1186	-6447	1436	-95479		1.03	446	1.04	6493			4.52	Si
SLV 11	834	-13782	5138	163546		2.21	446	1.27	7960			1.55	Si
SLV 11	1186	-7110	2754	-221600		1.14	446	1.06	6625			2.41	Si
SLV 6	834	-14233	-4938	-517059		2.28	446	1.29	8050			1.63	Si
SLV 6	1186	-5187	-2558	169431		0.83	446	1	6241			2.44	Si
SLV 10	834	-14328	-5318	-524862		2.29	446	1.29	8069			1.52	Si
SLV 10	1186	-5444	-3054	138564		0.87	446	1.01	6292			2.06	Si
SLV 7	834	-13687	5518	171349		2.19	446	1.27	7941			1.44	Si
SLV 7	1186	-6853	3251	-190733		1.1	446	1.05	6574			2.02	Si
SLV 9	834	-14328	-5318	-524862		2.29	446	1.29	8069			1.52	Si
SLV 9	1186	-5444	-3054	138564		0.87	446	1.01	6292			2.06	Si
SLD 8	834	-13885	2387	-28061		2.22	446	1.28	7980			3.34	Si
SLD 8	1186	-6447	1436	-95479		1.03	446	1.04	6493			4.52	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.03 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.46	1.3	-8135	26463	50875	1.92	Si
SLV 6	14	0.46	1.3	-8135	26463	50875	1.92	Si
SLV 2	14	0.46	1.34	-8341	26463	52005	1.97	Si
SLV 1	14	0.46	1.34	-8341	26463	52005	1.97	Si
SLV 9	14	0.46	1.4	-8720	26463	54063	2.04	Si
SLV 10	14	0.46	1.4	-8720	26463	54063	2.04	Si
SLV 4	14	0.46	1.46	-9102	26463	56113	2.12	Si
SLV 3	14	0.46	1.46	-9102	26463	56113	2.12	Si
SLV 14	14	0.46	1.65	-10290	26463	62313	2.35	Si
SLV 13	14	0.46	1.65	-10290	26463	62313	2.35	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1010 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 16	-6827	-14084	-15	0.023	10.112	0.92	35.809	1890.799	No
SLV 15	-6827	-14084	-15	0.023	10.112	0.92	35.809	1890.799	No
SLV 13	-6327	-14247	-13	0.023	9.611	0.917	36.493	1890.799	No
SLV 14	-6327	-14247	-13	0.023	9.611	0.917	36.493	1890.799	No
SLV 3	-5970	-13768	15	0.023	9.253	0.915	36.508	1890.799	No
SLV 4	-5970	-13768	15	0.023	9.253	0.915	36.508	1890.799	No
SLV 2	-5470	-13932	16	0.023	8.755	0.911	36.637	1890.799	No
SLV 1	-5470	-13932	16	0.023	8.755	0.911	36.637	1890.799	No
SLV 12	-7110	-13782	-6	0.024	10.396	0.922	37.092	1890.799	No
SLV 11	-7110	-13782	-6	0.024	10.396	0.922	37.092	1890.799	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.39	SLU 61	Si
V_SLU	3.688	SLU 29	Si
PF_SLV	4.944	SLV 9	Si
V_SLV	1.439	SLV 7	Si
PFFP_SLV	1.923	SLV 5	Si
R_SLV	0.019	SLV 15	No

## Maschio 175

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-944.8	-335.9	-1100.3	-335.9	L5	L6	155.5	28	352	352	352			



## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 40	834	-7140	75719	1.64	443373	5.855	Si
SLU 40	1044	-7257	-146572	1.67	448801	3.062	Si
SLU 19	834	-6712	61114	1.54	423096	6.923	Si
SLU 19	1044	-6460	-124813	1.48	410779	3.291	Si
SLU 61	834	-8416	66615	1.93	499077	7.492	Si
SLU 61	1044	-7865	-142562	1.81	475884	3.338	Si
SLU 82	834	-8844	81219	2.03	516156	6.355	Si
SLU 82	1044	-8662	-164321	1.99	508995	3.098	Si
SLU 39	834	-7251	66940	1.67	448516	6.7	Si
SLU 39	1044	-7260	-143281	1.67	448898	3.133	Si
SLU 31	834	-6870	76379	1.58	430655	5.638	Si
SLU 31	1044	-6996	-137517	1.61	436623	3.175	Si
SLU 73	834	-8574	81879	1.97	505458	6.173	Si
SLU 73	1044	-8400	-155266	1.93	498430	3.21	Si
SLU 81	834	-8955	72440	2.06	520468	7.185	Si
SLU 81	1044	-8664	-161030	1.99	509079	3.161	Si
SLU 84	834	-9366	73783	2.15	535886	7.263	Si
SLU 84	1044	-9054	-158646	2.08	524247	3.304	Si
SLU 42	834	-7661	68283	1.76	466999	6.839	Si
SLU 42	1044	-7649	-140897	1.76	466466	3.311	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 7	834	-1952	161079	0	0	0	No, $e > l/2$
SLV 7	1044	-4229	-105420	0.97	302673	2.871	Si
SLV 2	834	-5435	322910	1.25	379374	1.175	Si
SLV 2	1044	-10091	-416085	2.32	635772	1.528	Si
SLV 1	834	-5435	322910	1.25	379374	1.175	Si
SLV 1	1044	-10091	-416085	2.32	635772	1.528	Si
SLV 14	834	-9708	-256495	2.23	617064	2.406	Si
SLV 14	1044	-3548	172249	0.81	257454	1.495	Si
SLV 15	834	-7410	-237590	1.7	495905	2.087	Si
SLV 15	1044	-1899	220594	0	0	0	No, $e > l/2$
SLV 13	834	-9708	-256495	2.23	617064	2.406	Si
SLV 13	1044	-3548	172249	0.81	257454	1.495	Si
SLV 3	834	-3137	341815	0	0	0	No, $e > l/2$
SLV 3	1044	-8443	-367740	1.94	552247	1.502	Si
SLV 8	834	-1952	161079	0	0	0	No, $e > l/2$
SLV 8	1044	-4229	-105420	0.97	302673	2.871	Si
SLV 4	834	-3137	341815	0	0	0	No, $e > l/2$
SLV 4	1044	-8443	-367740	1.94	552247	1.502	Si
SLV 16	834	-7410	-237590	1.7	495905	2.087	Si
SLV 16	1044	-1899	220594	0	0	0	No, $e > l/2$

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 84	834	-9366	1784	73783		2.15	155.5	0.84	3668			2.06	Si
SLU 84	1044	-9054	1944	-158646		2.08	155.5	0.83	3626			1.87	Si
SLU 73	834	-8574	1874	81879		1.97	155.5	0.82	3562			1.9	Si
SLU 73	1044	-8400	1963	-155266		1.93	155.5	0.81	3539			1.8	Si
SLU 81	834	-8955	1769	72440		2.06	155.5	0.83	3613			2.04	Si
SLU 81	1044	-8664	2108	-161030		1.99	155.5	0.82	3574			1.7	Si
SLU 61	834	-8416	1553	66615		1.93	155.5	0.81	3541			2.28	Si
SLU 61	1044	-7865	1847	-142562		1.81	155.5	0.8	3468			1.88	Si
SLU 39	834	-7251	1582	66940		1.67	155.5	0.78	3386			2.14	Si
SLU 39	1044	-7260	1888	-143281		1.67	155.5	0.78	3387			1.79	Si
SLU 40	834	-7140	1692	75719		1.64	155.5	0.77	3371			1.99	Si
SLU 40	1044	-7257	1902	-146572		1.67	155.5	0.78	3387			1.78	Si
SLU 31	834	-6870	1687	76379		1.58	155.5	0.77	3335			1.98	Si
SLU 31	1044	-6996	1743	-137517		1.61	155.5	0.77	3352			1.92	Si
SLU 83	834	-9477	1674	65004		2.18	155.5	0.85	3682			2.2	Si
SLU 83	1044	-9056	1929	-155356		2.08	155.5	0.83	3626			1.88	Si
SLU 60	834	-8527	1443	57835		1.96	155.5	0.82	3556			2.46	Si
SLU 60	1044	-7867	1833	-139272		1.81	155.5	0.8	3468			1.89	Si
SLU 82	834	-8844	1879	81219		2.03	155.5	0.83	3598			1.92	Si
SLU 82	1044	-8662	2123	-164321		1.99	155.5	0.82	3574			1.68	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 8	834	-1952	3261	161079		0	0	0.83	0			0	No, $V_u < V$
SLV 8	1044	-4229	4413	-105420		0.97	155.5	1.03	4474			1.01	Si
SLV 16	834	-7410	-3458	-237590		1.93	137.06	1.22	4680			1.35	Si
SLV 16	1044	-1899	-1865	220594		0	0	0.83	0			0	No, $V_u < V$
SLV 2	834	-5435	5740	322910		3.53	55	1.54	2370			0.41	No, $V_u < V$
SLV 2	1044	-10091	4346	-416085		3.29	109.55	1.49	4575			1.05	Si
SLV 1	834	-5435	5740	322910		3.53	55	1.54	2370			0.41	No, $V_u < V$
SLV 1	1044	-10091	4346	-416085		3.29	109.55	1.49	4575			1.05	Si
SLV 15	834	-7410	-3458	-237590		1.93	137.06	1.22	4680			1.35	Si
SLV 15	1044	-1899	-1865	220594		0	0	0.83	0			0	No, $V_u < V$
SLV 13	834	-9708	-3866	-256495		2.25	153.99	1.28	5535			1.43	Si
SLV 13	1044	-3548	-3099	172249		1.45	87.6	1.12	2754			0.89	No, $V_u < V$
SLV 7	834	-1952	3261	161079		0	0	0.83	0			0	No, $V_u < V$





Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 7	1044	-4229	4413	-105420		0.97	155.5	1.03	4474			1.01	Si
SLV 4	834	-3137	6147	341815		0	0	0.83	0			0	No, Vu<V
SLV 4	1044	-8443	5580	-367740		2.94	102.58	1.42	4082			0.73	No, Vu<V
SLV 14	834	-9708	-3866	-256495		2.25	153.99	1.28	5535			1.43	Si
SLV 14	1044	-3548	-3099	172249		1.45	87.6	1.12	2754			0.89	No, Vu<V
SLV 3	834	-3137	6147	341815		0	0	0.83	0			0	No, Vu<V
SLV 3	1044	-8443	5580	-367740		2.94	102.58	1.42	4082			0.73	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 16	14	0.46	0.49	-2151	18892	28899	1.53	Si
SLV 15	14	0.46	0.49	-2151	18892	28899	1.53	Si
SLV 11	14	0.46	0.63	-2728	18892	36233	1.92	Si
SLV 12	14	0.46	0.63	-2728	18892	36233	1.92	Si
SLV 14	14	0.46	0.85	-3697	18892	48159	2.55	Si
SLV 13	14	0.46	0.85	-3697	18892	48159	2.55	Si
SLV 7	14	0.46	1.1	-4768	18892	60769	3.22	Si
SLV 8	14	0.46	1.1	-4768	18892	60769	3.22	Si
SLV 10	14	0.46	1.81	-7880	18892	93980	4.97	Si
SLV 9	14	0.46	1.81	-7880	18892	93980	4.97	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1010 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 8	-2402	-1952	-215	0	4.715	0.896	0	1001.941	No
SLV 7	-2402	-1952	-215	0	4.715	0.896	0	1001.941	No
SLV 12	-2480	-3234	-215	0	4.79	0.897	0	1001.941	No
SLV 11	-2480	-3234	-215	0	4.79	0.897	0	1001.941	No
SLV 6	-4899	-9611	214	0.014	7.19	0.921	22.85	1001.941	No
SLV 5	-4899	-9611	214	0.014	7.19	0.921	22.85	1001.941	No
SLV 10	-4977	-10893	213	0.015	7.268	0.922	23.425	1001.941	No
SLV 9	-4977	-10893	213	0.015	7.268	0.922	23.425	1001.941	No
SLV 15	-3445	-7410	-66	0.038	5.738	0.907	60.102	1088.965	No
SLV 16	-3445	-7410	-66	0.038	5.738	0.907	60.102	1088.965	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.062	SLU 40	Si
V_SLU	1.684	SLU 82	Si
PF_SLV	0	SLV 3	No
V_SLV	0	SLV 3	No
PFFP_SLV	1.53	SLV 15	Si
R_SLV	0	SLV 7	No

## Maschio 176

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-626.8	-335.9	-626.8	104.6	L5	L6	440.5	14	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 68	834	-17752	413121	2.88	2528239	6.12	Si
SLU 68	1186	-9470	318768	1.54	1692566	5.31	Si
SLU 28	834	-15811	381929	2.56	2386373	6.248	Si
SLU 28	1186	-8874	295716	1.44	1609241	5.442	Si
SLU 76	834	-19602	454836	3.18	2632692	5.788	Si
SLU 76	1186	-10220	330834	1.66	1793071	5.42	Si
SLU 5	834	-12785	305046	2.07	2099191	6.882	Si
SLU 5	1186	-6904	249529	1.12	1311595	5.256	Si
SLU 47	834	-15767	355919	2.56	2382767	6.695	Si
SLU 47	1186	-8443	288371	1.37	1547000	5.365	Si
SLU 23	834	-14119	334687	2.29	2235726	6.68	Si
SLU 23	1186	-7292	251733	1.18	1372920	5.454	Si
SLU 26	834	-14769	362248	2.39	2296582	6.34	Si
SLU 26	1186	-7931	279926	1.29	1471023	5.255	Si
SLU 2	834	-12134	277485	1.97	2027018	7.305	Si
SLU 2	1186	-6265	221336	1.02	1207736	5.457	Si
SLU 70	834	-18794	432803	3.05	2590776	5.986	Si
SLU 70	1186	-10413	334558	1.69	1818058	5.434	Si
SLU 34	834	-16619	403962	2.69	2449411	6.063	Si
SLU 34	1186	-8681	291991	1.41	1581656	5.417	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 8	834	-11979	534328	1.94	2218915	4.153	Si
SLV 8	1186	-6243	78283	1.01	1261156	16.11	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 7	834	-11979	534328	1.94	2218915	4.153	Si
SLV 7	1186	-6243	78283	1.01	1261156	16.11	Si
SLV 5	834	-14405	110927	2.34	2566125	23.133	Si
SLV 5	1186	-6753	313814	1.1	1354127	4.315	Si
SLV 10	834	-14635	-7900	2.37	2597335	328.782	Si
SLV 10	1186	-7380	274412	1.2	1466242	5.343	Si
SLV 4	834	-12559	524769	2.04	2305068	4.393	Si
SLV 4	1186	-5691	206687	0.92	1158750	5.606	Si
SLV 2	834	-13287	397748	2.15	2410375	6.06	Si
SLV 2	1186	-5844	277347	0.95	1187295	4.281	Si
SLV 1	834	-13287	397748	2.15	2410375	6.06	Si
SLV 1	1186	-5844	277347	0.95	1187295	4.281	Si
SLV 6	834	-14405	110927	2.34	2566125	23.133	Si
SLV 6	1186	-6753	313814	1.1	1354127	4.315	Si
SLV 9	834	-14635	-7900	2.37	2597335	328.782	Si
SLV 9	1186	-7380	274412	1.2	1466242	5.343	Si
SLV 3	834	-12559	524769	2.04	2305068	4.393	Si
SLV 3	1186	-5691	206687	0.92	1158750	5.606	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 37	834	-17346	1014	388990		2.81	440.5	0.93	5739			5.66	Si
SLU 37	1186	-9360	1012	263064		1.52	440.5	0.76	4674			4.62	Si
SLU 50	834	-16495	993	340948		2.67	440.5	0.91	5625			5.66	Si
SLU 50	1186	-9121	985	259444		1.48	440.5	0.75	4642			4.71	Si
SLU 29	834	-15497	1038	347276		2.51	440.5	0.89	5492			5.29	Si
SLU 29	1186	-8609	1035	250998		1.4	440.5	0.74	4574			4.42	Si
SLU 30	834	-15451	544	372795		2.51	440.5	0.89	5486			10.09	Si
SLU 30	1186	-8586	940	285270		1.39	440.5	0.74	4571			4.86	Si
SLU 27	834	-15858	976	356409		2.57	440.5	0.9	5540			5.68	Si
SLU 27	1186	-8897	973	261443		1.44	440.5	0.75	4612			4.74	Si
SLU 79	834	-20329	1072	439864		3.3	440.5	1	6137			5.73	Si
SLU 79	1186	-10898	1065	301906		1.77	440.5	0.79	4879			4.58	Si
SLU 71	834	-18480	1095	398149		3	440.5	0.96	5890			5.38	Si
SLU 71	1186	-10148	1088	289841		1.65	440.5	0.77	4779			4.39	Si
SLU 72	834	-18433	601	423669		2.99	440.5	0.95	5884			9.79	Si
SLU 72	1186	-10125	994	324113		1.64	440.5	0.77	4776			4.81	Si
SLU 8	834	-13512	936	290074		2.19	440.5	0.85	5228			5.59	Si
SLU 8	1186	-7582	931	220601		1.23	440.5	0.72	4437			4.77	Si
SLU 69	834	-18841	1033	407283		3.06	440.5	0.96	5938			5.75	Si
SLU 69	1186	-10436	1026	300286		1.69	440.5	0.78	4818			4.69	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 11	834	-12849	3651	326087		2.08	440.5	1.25	7709			2.11	Si
SLD 11	1186	-6842	2711	117329		1.11	440.5	1.06	6507			2.4	Si
SLV 11	834	-12209	8222	415501		1.98	440.5	1.23	7581			0.92	No, Vu<V
SLV 11	1186	-6870	6048	38881		1.11	440.5	1.06	6513			1.08	Si
SLV 7	834	-11979	8184	534328		1.94	440.5	1.22	7535			0.92	No, Vu<V
SLV 7	1186	-6243	5946	78283		1.01	440.5	1.04	6388			1.07	Si
SLV 12	834	-12209	8222	415501		1.98	440.5	1.23	7581			0.92	No, Vu<V
SLV 12	1186	-6870	6048	38881		1.11	440.5	1.06	6513			1.08	Si
SLV 9	834	-14635	-7524	-7900		2.37	440.5	1.31	8066			1.07	Si
SLV 9	1186	-7380	-5304	274412		1.2	440.5	1.07	6615			1.25	Si
SLV 10	834	-14635	-7524	-7900		2.37	440.5	1.31	8066			1.07	Si
SLV 10	1186	-7380	-5304	274412		1.2	440.5	1.07	6615			1.25	Si
SLV 6	834	-14405	-7562	110927		2.34	440.5	1.3	8020			1.06	Si
SLV 6	1186	-6753	-5406	313814		1.1	440.5	1.05	6490			1.2	Si
SLV 5	834	-14405	-7562	110927		2.34	440.5	1.3	8020			1.06	Si
SLV 5	1186	-6753	-5406	313814		1.1	440.5	1.05	6490			1.2	Si
SLV 8	834	-11979	8184	534328		1.94	440.5	1.22	7535			0.92	No, Vu<V
SLV 8	1186	-6243	5946	78283		1.01	440.5	1.04	6388			1.07	Si
SLD 12	834	-12849	3651	326087		2.08	440.5	1.25	7709			2.11	Si
SLD 12	1186	-6842	2711	117329		1.11	440.5	1.06	6507			2.4	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.03 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 3	14	0.46	1.27	-7855	28626	49256	1.72	Si
SLV 4	14	0.46	1.27	-7855	28626	49256	1.72	Si
SLV 1	14	0.46	1.33	-8179	28626	51040	1.78	Si
SLV 2	14	0.46	1.33	-8179	28626	51040	1.78	Si
SLV 8	14	0.46	1.48	-9140	28626	56218	1.96	Si
SLV 7	14	0.46	1.48	-9140	28626	56218	1.96	Si
SLV 5	14	0.46	1.66	-10219	28626	61833	2.16	Si
SLV 6	14	0.46	1.66	-10219	28626	61833	2.16	Si
SLV 11	14	0.46	1.71	-10564	28626	63583	2.22	Si
SLV 12	14	0.46	1.71	-10564	28626	63583	2.22	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1010 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 5	-6753	-14405	81	0.015	9.997	0.92	23.688	1890.799	No
SLV 6	-6753	-14405	81	0.015	9.997	0.92	23.688	1890.799	No
SLV 11	-6870	-12209	-82	0.015	10.114	0.921	23.697	1890.799	No
SLV 12	-6870	-12209	-82	0.015	10.114	0.921	23.697	1890.799	No
SLV 8	-6243	-11979	-77	0.015	9.486	0.917	24.24	1890.799	No
SLV 7	-6243	-11979	-77	0.015	9.486	0.917	24.24	1890.799	No
SLV 10	-7380	-14635	76	0.016	10.627	0.924	25.013	1890.799	No



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 9	-7380	-14635	76	0.016	10.627	0.924	25.013	1890.799	No
SLV 15	-7779	-13327	-33	0.021	11.028	0.926	32.193	1890.799	No
SLV 16	-7779	-13327	-33	0.021	11.028	0.926	32.193	1890.799	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.255	SLU 26	Si
V_SLU	4.391	SLU 71	Si
PF_SLV	4.153	SLV 7	Si
V_SLV	0.921	SLV 7	No
PFFP_SLV	1.721	SLV 3	Si
R_SLV	0.013	SLV 5	No

## Maschio 177

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-741.3	-335.9	-854.8	-335.9	L5	L6	113.5	28	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 61	924	-6124	33431	1.93	265313	7.936	Si
SLU 61	1104	-5206	-71568	1.64	236037	3.298	Si
SLU 44	924	-5178	36175	1.63	235081	6.498	Si
SLU 44	1104	-4309	-65414	1.36	203848	3.116	Si
SLU 82	924	-6662	35957	2.1	280783	7.809	Si
SLU 82	1104	-5833	-77749	1.84	256434	3.298	Si
SLU 2	924	-3946	32394	1.24	189810	5.859	Si
SLU 2	1104	-3459	-54102	1.09	170081	3.144	Si
SLU 73	924	-6161	41513	1.94	266438	6.418	Si
SLU 73	1104	-5538	-78516	1.74	247063	3.147	Si
SLU 10	924	-4391	35206	1.38	206916	5.877	Si
SLU 10	1104	-4062	-61022	1.28	194335	3.185	Si
SLU 65	924	-5717	38700	1.8	252783	6.532	Si
SLU 65	1104	-4936	-71596	1.55	226709	3.167	Si
SLU 52	924	-5623	38987	1.77	249786	6.407	Si
SLU 52	1104	-4912	-72334	1.55	225857	3.122	Si
SLU 23	924	-4485	34919	1.41	210422	6.026	Si
SLU 23	1104	-4086	-60284	1.29	195277	3.239	Si
SLU 31	924	-4929	37731	1.55	226478	6.002	Si
SLU 31	1104	-4688	-67204	1.48	217877	3.242	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 4	924	-863	272937	0	0	0	No, e>l/2
SLV 4	1104	-4251	-195940	1.34	214820	1.096	Si
SLV 8	924	2474	92520	0	0	0	No, Trazione
SLV 8	1104	-612	-28778	0.19	34207	1.189	Si
SLV 7	924	2474	92520	0	0	0	No, Trazione
SLV 7	1104	-612	-28778	0.19	34207	1.189	Si
SLV 3	924	-863	272937	0	0	0	No, e>l/2
SLV 3	1104	-4251	-195940	1.34	214820	1.096	Si
SLV 1	924	-4974	273776	1.57	246123	0.899	No, M>Mu
SLV 1	1104	-6488	-238114	2.04	306682	1.288	Si
SLV 2	924	-4974	273776	1.57	246123	0.899	No, M>Mu
SLV 2	1104	-6488	-238114	2.04	306682	1.288	Si
SLV 12	924	1223	-61285	0	0	0	No, Trazione
SLV 12	1104	269	72329	0	0	0	No, Trazione
SLV 16	924	-5032	-239745	1.58	248553	1.037	Si
SLV 16	1104	-1314	141084	0	0	0	No, e>l/2
SLV 11	924	1223	-61285	0	0	0	No, Trazione
SLV 11	1104	269	72329	0	0	0	No, Trazione
SLV 15	924	-5032	-239745	1.58	248553	1.037	Si
SLV 15	1104	-1314	141084	0	0	0	No, e>l/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	$\sigma N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 61	924	-6124	521	33431		1.93	113.5	0.81	2582			4.95	Si
SLU 61	1104	-5206	73	-71568		1.64	113.5	0.77	2460			33.62	Si
SLU 65	924	-5717	568	38700		1.8	113.5	0.8	2528			4.45	Si
SLU 65	1104	-4936	83	-71596		1.55	113.5	0.76	2424			29.33	Si
SLU 82	924	-6662	575	35957		2.1	113.5	0.84	2654			4.62	Si
SLU 82	1104	-5833	25	-77749		1.84	113.5	0.8	2543			102.73	Si
SLU 73	924	-6161	605	41513		1.94	113.5	0.81	2587			4.27	Si
SLU 73	1104	-5538	66	-78516		1.74	113.5	0.79	2504			38.12	Si
SLU 44	924	-5178	514	36175		1.63	113.5	0.77	2456			4.78	Si
SLU 44	1104	-4309	131	-65414		1.36	113.5	0.74	2340			17.86	Si
SLU 40	924	-5430	497	32175		1.71	113.5	0.78	2490			5.01	Si
SLU 40	1104	-4983	1	-66437		1.57	113.5	0.76	2430			1000	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 52	924	-5623	552	38987		1.77	113.5	0.79	2515			4.56	Si
SLU 52	1104	-4912	114	-72334		1.55	113.5	0.76	2420			21.22	Si
SLU 31	924	-4929	527	37731		1.55	113.5	0.76	2423			4.59	Si
SLU 31	1104	-4688	42	-67204		1.48	113.5	0.75	2391			56.79	Si
SLU 23	924	-4485	490	34919		1.41	113.5	0.74	2364			4.82	Si
SLU 23	1104	-4086	59	-60284		1.29	113.5	0.73	2310			39.13	Si
SLU 10	924	-4391	474	35206		1.38	113.5	0.74	2351			4.96	Si
SLU 10	1104	-4062	91	-61022		1.28	113.5	0.73	2307			25.49	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	924	-4974	5107	273776		34.62	5.13	1.63	233			0.05	No, Vu<V
SLV 2	1104	-6488	1512	-238114		3.85	60.15	1.6	2701			1.79	Si
SLV 3	924	-863	4738	272937		0	0	0.83	0			0	No, Vu<V
SLV 3	1104	-4251	1537	-195940		4.75	31.96	1.63	1454			0.95	No, Vu<V
SLV 16	924	-5032	-4414	-239745		6.58	27.31	1.63	1243			0.28	No, Vu<V
SLV 16	1104	-1314	-1503	141084		0	0	0.83	0			0	No, Vu<V
SLV 1	924	-4974	5107	273776		34.62	5.13	1.63	233			0.05	No, Vu<V
SLV 1	1104	-6488	1512	-238114		3.85	60.15	1.6	2701			1.79	Si
SLV 8	924	2474	1105	92520		0	0	0.83	0			0	No, Vu<V
SLV 8	1104	-612	502	-28778		0.75	29.28	0.98	806			1.61	Si
SLV 7	924	2474	1105	92520		0	0	0.83	0			0	No, Vu<V
SLV 7	1104	-612	502	-28778		0.75	29.28	0.98	806			1.61	Si
SLV 4	924	-863	4738	272937		0	0	0.83	0			0	No, Vu<V
SLV 4	1104	-4251	1537	-195940		4.75	31.96	1.63	1454			0.95	No, Vu<V
SLV 12	924	1223	-1641	-61285		0	0	0.83	0			0	No, Vu<V
SLV 12	1104	269	-410	72329		0	0	0.83	0			0	No, Vu<V
SLV 11	924	1223	-1641	-61285		0	0	0.83	0			0	No, Vu<V
SLV 11	1104	269	-410	72329		0	0	0.83	0			0	No, Vu<V
SLV 15	924	-5032	-4414	-239745		6.58	27.31	1.63	1243			0.28	No, Vu<V
SLV 15	1104	-1314	-1503	141084		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.46	0	429	13790	0	0	No, Trazione
SLV 12	14	0.46	0	-917	13790	0	0	No, $e>t/2$
SLV 8	14	0.46	0	429	13790	0	0	No, Trazione
SLV 11	14	0.46	0	-917	13790	0	0	No, $e>t/2$
SLV 4	14	0.46	0.34	-1072	13790	14592	1.06	Si
SLV 3	14	0.46	0.34	-1072	13790	14592	1.06	Si
SLV 1	14	0.46	1.17	-3705	13790	46921	3.4	Si
SLV 2	14	0.46	1.17	-3705	13790	46921	3.4	Si
SLV 16	14	0.46	1.75	-5560	13790	66691	4.84	Si
SLV 15	14	0.46	1.75	-5560	13790	66691	4.84	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1010 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 11	669	791	-77	0	0	0	0	1001.941	No, Trazione
SLV 12	669	791	-77	0	0	0	0	1001.941	No, Trazione
SLV 7	-116	-546	-122	0	2.075	0.956	0	1001.941	No
SLV 8	-116	-546	-122	0	2.075	0.956	0	1001.941	No
SLV 14	-2595	-4283	103	0.022	4.268	0.909	35.817	1088.965	No
SLV 13	-2595	-4283	103	0.022	4.268	0.909	35.817	1088.965	No
SLV 4	-3284	-5677	-107	0.024	4.955	0.918	38.17	1088.965	No
SLV 3	-3284	-5677	-107	0.024	4.955	0.918	38.17	1088.965	No
SLV 9	-5762	-9414	117	0.028	7.454	0.94	43.782	1001.941	No
SLV 10	-5762	-9414	117	0.028	7.454	0.94	43.782	1001.941	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.116	SLU 44	Si
V_SLU	4.274	SLU 73	Si
PF_SLV	0	SLV 12	No
V_SLV	0	SLV 3	No
PFFP_SLV	0	SLV 8	No
R_SLV	0	SLV 12	No

## Maschio 178

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-515.8	104.6	-515.8	581.1	L5	L6	476.5	14	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 30	834	-23084	194915	3.46	3163456	16.23	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 30	1186	-16771	653609	2.51	2762543	4.227	Si
SLU 9	834	-20099	176873	3.01	3017455	17.06	Si
SLU 9	1186	-14653	566106	2.2	2549760	4.504	Si
SLU 71	834	-26245	155229	3.93	3232926	20.827	Si
SLU 71	1186	-18419	639040	2.76	2900861	4.539	Si
SLU 28	834	-22978	139839	3.44	3159600	22.595	Si
SLU 28	1186	-16511	576712	2.48	2738532	4.749	Si
SLU 29	834	-23080	215199	3.46	3163335	14.7	Si
SLU 29	1186	-16746	670235	2.51	2760253	4.118	Si
SLU 72	834	-26249	134945	3.93	3232953	23.958	Si
SLU 72	1186	-18444	622415	2.76	2902782	4.664	Si
SLU 38	834	-24714	116869	3.7	3210226	27.469	Si
SLU 38	1186	-17364	607283	2.6	2815024	4.635	Si
SLU 27	834	-22974	160124	3.44	3159477	19.731	Si
SLU 27	1186	-16486	593338	2.47	2736186	4.612	Si
SLU 8	834	-20096	197158	3.01	3017247	15.304	Si
SLU 8	1186	-14628	582732	2.19	2547005	4.371	Si
SLU 37	834	-24711	137154	3.7	3210154	23.406	Si
SLU 37	1186	-17339	623909	2.6	2812865	4.508	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 6	834	-10342	-642372	1.55	2151444	3.349	Si
SLV 6	1186	-6748	-498	1.01	1474660	1000	Si
SLV 2	834	-11878	-444259	1.78	2417515	5.442	Si
SLV 2	1186	-7961	19986	1.19	1711484	85.633	Si
SLD 5	834	-13194	-384718	1.98	2634619	6.848	Si
SLD 5	1186	-7925	7581	1.19	1704571	224.836	Si
SLV 9	834	-11609	-567175	1.74	2371886	4.182	Si
SLV 9	1186	-6881	-10180	1.03	1501079	147.447	Si
SLD 6	834	-13194	-384718	1.98	2634619	6.848	Si
SLD 6	1186	-7925	7581	1.19	1704571	224.836	Si
SLD 9	834	-13733	-352553	2.06	2720684	7.717	Si
SLD 9	1186	-7977	2902	1.2	1714492	590.815	Si
SLD 10	834	-13733	-352553	2.06	2720684	7.717	Si
SLD 10	1186	-7977	2902	1.2	1714492	590.815	Si
SLV 10	834	-11609	-567175	1.74	2371886	4.182	Si
SLV 10	1186	-6881	-10180	1.03	1501079	147.447	Si
SLV 1	834	-11878	-444259	1.78	2417515	5.442	Si
SLV 1	1186	-7961	19986	1.19	1711484	85.633	Si
SLV 5	834	-10342	-642372	1.55	2151444	3.349	Si
SLV 5	1186	-6748	-498	1.01	1474660	1000	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 27	834	-22974	-470	160124		3.44	476.5	1.01	6769			14.41	Si
SLU 27	1186	-16486	684	593338		2.47	476.5	0.89	5904			8.64	Si
SLU 9	834	-20099	-702	176873		3.01	476.5	0.96	6386			9.1	Si
SLU 9	1186	-14653	369	566106		2.2	476.5	0.85	5660			15.32	Si
SLU 77	834	-27770	-341	22108		4.16	476.5	1.08	7227			21.18	Si
SLU 77	1186	-18751	714	515817		2.81	476.5	0.93	6206			8.69	Si
SLU 79	834	-27876	-413	77184		4.18	476.5	1.08	7227			17.52	Si
SLU 79	1186	-19011	732	592714		2.85	476.5	0.94	6241			8.53	Si
SLU 38	834	-24714	-395	116869		3.7	476.5	1.05	7001			17.71	Si
SLU 38	1186	-17364	707	607283		2.6	476.5	0.9	6021			8.51	Si
SLU 35	834	-24605	-246	82078		3.69	476.5	1.05	6987			28.4	Si
SLU 35	1186	-17079	803	547012		2.56	476.5	0.9	5983			7.45	Si
SLU 29	834	-23080	-541	215199		3.46	476.5	1.02	6784			12.54	Si
SLU 29	1186	-16746	701	670235		2.51	476.5	0.89	5939			8.47	Si
SLU 36	834	-24608	-324	61793		3.69	476.5	1.05	6987			21.57	Si
SLU 36	1186	-17104	690	530386		2.56	476.5	0.9	5987			8.68	Si
SLU 51	834	-23264	-797	116903		3.49	476.5	1.02	6808			8.54	Si
SLU 51	1186	-16326	281	534911		2.45	476.5	0.88	5883			20.95	Si
SLU 37	834	-24711	-317	137154		3.7	476.5	1.05	7001			22.06	Si
SLU 37	1186	-17339	821	623909		2.6	476.5	0.9	6018			7.33	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 8	834	-18950	6485	174324		2.84	476.5	1.4	9349			1.44	Si
SLV 8	1186	-10657	5792	25753		1.6	476.5	1.15	7691			1.33	Si
SLV 9	834	-11609	-6755	-567175		1.74	476.5	1.18	7881			1.17	Si
SLV 9	1186	-6881	-5691	-10180		1.03	476.5	1.04	6935			1.22	Si
SLV 5	834	-10342	-8360	-642372		1.55	476.5	1.14	7628			0.91	No, Vu<V
SLV 5	1186	-6748	-6431	-498		1.01	476.5	1.04	6909			1.07	Si
SLV 2	834	-11878	-5036	-444259		1.78	476.5	1.19	7935			1.58	Si
SLV 2	1186	-7961	-3016	19986		1.19	476.5	1.07	7151			2.37	Si
SLV 1	834	-11878	-5036	-444259		1.78	476.5	1.19	7935			1.58	Si
SLV 1	1186	-7961	-3016	19986		1.19	476.5	1.07	7151			2.37	Si
SLV 11	834	-20216	8090	249521		3.03	476.5	1.44	9602			1.19	Si
SLV 11	1186	-10791	6532	16070		1.62	476.5	1.16	7717			1.18	Si
SLV 12	834	-20216	8090	249521		3.03	476.5	1.44	9602			1.19	Si
SLV 12	1186	-10791	6532	16070		1.62	476.5	1.16	7717			1.18	Si
SLV 6	834	-10342	-8360	-642372		1.55	476.5	1.14	7628			0.91	No, Vu<V
SLV 6	1186	-6748	-6431	-498		1.01	476.5	1.04	6909			1.07	Si
SLV 7	834	-18950	6485	174324		2.84	476.5	1.4	9349			1.44	Si
SLV 7	1186	-10657	5792	25753		1.6	476.5	1.15	7691			1.33	Si
SLV 10	834	-11609	-6755	-567175		1.74	476.5	1.18	7881			1.17	Si
SLV 10	1186	-6881	-5691	-10180		1.03	476.5	1.04	6935			1.22	Si



## Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.03 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.46	1.31	-8726	30965	54542	1.76	Si
SLV 10	14	0.46	1.31	-8726	30965	54542	1.76	Si
SLV 6	14	0.46	1.33	-8905	30965	55526	1.79	Si
SLV 5	14	0.46	1.33	-8905	30965	55526	1.79	Si
SLV 13	14	0.46	1.63	-10873	30965	65956	2.13	Si
SLV 14	14	0.46	1.63	-10873	30965	65956	2.13	Si
SLV 1	14	0.46	1.72	-11471	30965	68995	2.23	Si
SLV 2	14	0.46	1.72	-11471	30965	68995	2.23	Si
SLV 16	14	0.46	1.93	-12892	30965	75971	2.45	Si
SLV 15	14	0.46	1.93	-12892	30965	75971	2.45	Si

## Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1010 Wa = 0.03 Ta = 0.1478

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 7	-10657	-18950	10	0.022	14.192	0.935	34.798	1890.799	No
SLV 8	-10657	-18950	10	0.022	14.192	0.935	34.798	1890.799	No
SLV 11	-10791	-20216	7	0.023	14.327	0.936	35.067	1890.799	No
SLV 12	-10791	-20216	7	0.023	14.327	0.936	35.067	1890.799	No
SLV 4	-9134	-14460	7	0.023	12.654	0.929	35.986	1890.799	No
SLV 3	-9134	-14460	7	0.023	12.654	0.929	35.986	1890.799	No
SLV 15	-9578	-18681	-2	0.023	13.102	0.931	36.369	1890.799	No
SLV 16	-9578	-18681	-2	0.023	13.102	0.931	36.369	1890.799	No
SLV 14	-8405	-16099	-7	0.023	11.919	0.926	36.385	1890.799	No
SLV 13	-8405	-16099	-7	0.023	11.919	0.926	36.385	1890.799	No

## Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.118	SLU 29	Si
V_SLU	7.333	SLU 37	Si
PF_SLV	3.349	SLV 5	Si
V_SLV	0.912	SLV 5	No
PFFP_SLV	1.761	SLV 9	Si
R_SLV	0.018	SLV 7	No

## Maschio 179

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-515.8	581.1	-515.8	600.6	L5	L6	19.5	28	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

## Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 77	1034	-4369	9691	8	757	0.078	No, M>Mu
SLU 77	1114	-4508	14755	8.26	0	0	No, Rottura per schiacciamento
SLU 38	1034	-4306	9714	7.89	1340	0.138	No, M>Mu
SLU 38	1114	-4451	14554	8.15	0	0	No, Rottura per schiacciamento
SLU 71	1034	-4626	10790	8.47	0	0	No, Rottura per schiacciamento
SLU 71	1114	-4722	15145	8.65	0	0	No, Rottura per schiacciamento
SLU 37	1034	-4354	9906	7.97	897	0.091	No, M>Mu
SLU 37	1114	-4493	14637	8.23	0	0	No, Rottura per schiacciamento
SLU 29	1034	-4399	10391	8.06	465	0.045	No, M>Mu
SLU 29	1114	-4499	14414	8.24	0	0	No, Rottura per schiacciamento
SLU 30	1034	-4351	10200	7.97	917	0.09	No, M>Mu
SLU 30	1114	-4457	14330	8.16	0	0	No, Rottura per schiacciamento
SLU 72	1034	-4578	10598	8.38	0	0	No, Rottura per schiacciamento
SLU 72	1114	-4680	15061	8.57	0	0	No, Rottura per schiacciamento
SLU 69	1034	-4414	10177	8.08	322	0.032	No, M>Mu
SLU 69	1114	-4513	14531	8.27	0	0	No, Rottura per schiacciamento
SLU 78	1034	-4321	9500	7.91	1202	0.127	No, M>Mu
SLU 78	1114	-4466	14672	8.18	0	0	No, Rottura per schiacciamento
SLU 70	1034	-4366	9985	8	777	0.078	No, M>Mu
SLU 70	1114	-4471	14448	8.19	0	0	No, Rottura per schiacciamento



# Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 1	1034	-931	-12	1.71	7813	676.67	Si
SLV 1	1114	-1122	5036	2.05	9098	1.806	Si
SLV 2	1034	-931	-12	1.71	7813	676.67	Si
SLV 2	1114	-1122	5036	2.05	9098	1.806	Si
SLV 11	1034	-2661	8649	4.87	15597	1.803	Si
SLV 11	1114	-2394	5323	4.39	14967	2.812	Si
SLD 6	1034	-1041	449	1.91	8565	19.078	Si
SLD 6	1114	-1225	5279	2.24	9749	1.847	Si
SLV 6	1034	-370	-2884	0.68	3411	1.182	Si
SLV 6	1114	-731	5161	1.34	6348	1.23	Si
SLV 5	1034	-370	-2884	0.68	3411	1.182	Si
SLV 5	1114	-731	5161	1.34	6348	1.23	Si
SLV 9	1034	-529	-2117	0.97	4750	2.244	Si
SLV 9	1114	-858	5281	1.57	7287	1.38	Si
SLD 5	1034	-1041	449	1.91	8565	19.078	Si
SLD 5	1114	-1225	5279	2.24	9749	1.847	Si
SLV 12	1034	-2661	8649	4.87	15597	1.803	Si
SLV 12	1114	-2394	5323	4.39	14967	2.812	Si
SLV 10	1034	-529	-2117	0.97	4750	2.244	Si
SLV 10	1114	-858	5281	1.57	7287	1.38	Si

## Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 79	1034	-4580	392	10305		8.39	19.5	1.08	591			1.51	Si
SLU 79	1114	-4717	-578	15369		8.65	19.47	1.08	591			1.02	Si
SLU 71	1034	-4626	412	10790		8.47	19.5	1.08	591			1.44	Si
SLU 71	1114	-4722	-568	15145		8.65	19.5	1.08	591			1.04	Si
SLU 69	1034	-4414	388	10177		8.08	19.5	1.08	591			1.52	Si
SLU 69	1114	-4513	-546	14531		8.27	19.5	1.08	591			1.08	Si
SLU 70	1034	-4366	381	9985		8	19.5	1.08	591			1.55	Si
SLU 70	1114	-4471	-543	14448		8.19	19.5	1.08	591			1.09	Si
SLU 77	1034	-4369	369	9691		8	19.5	1.08	591			1.61	Si
SLU 77	1114	-4508	-555	14755		8.29	19.43	1.08	589			1.06	Si
SLU 78	1034	-4321	361	9500		7.91	19.5	1.08	591			1.64	Si
SLU 78	1114	-4466	-552	14672		8.22	19.39	1.08	588			1.07	Si
SLU 38	1034	-4306	370	9714		7.89	19.5	1.08	591			1.6	Si
SLU 38	1114	-4451	-546	14554		8.18	19.44	1.08	590			1.08	Si
SLU 37	1034	-4354	378	9906		7.97	19.5	1.08	591			1.57	Si
SLU 37	1114	-4493	-549	14637		8.24	19.48	1.08	591			1.08	Si
SLU 80	1034	-4532	385	10113		8.3	19.5	1.08	591			1.54	Si
SLU 80	1114	-4675	-575	15285		8.59	19.44	1.08	590			1.03	Si
SLU 72	1034	-4578	404	10598		8.38	19.5	1.08	591			1.46	Si
SLU 72	1114	-4680	-565	15061		8.57	19.5	1.08	591			1.05	Si

## Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 5	1034	-370	-116	-2884		2.25	5.89	1.28	211			1.82	Si
SLV 5	1114	-731	-122	5161		3.23	8.07	1.48	335			2.74	Si
SLV 8	1034	-2502	300	7882		4.58	19.5	1.63	887			2.95	Si
SLV 8	1114	-2268	-267	5203		4.15	19.5	1.63	887			3.32	Si
SLV 16	1034	-2100	222	5776		3.85	19.5	1.6	875			3.94	Si
SLV 16	1114	-2004	-240	5448		3.67	19.5	1.57	856			3.57	Si
SLV 11	1034	-2661	332	8649		4.87	19.5	1.63	887			2.68	Si
SLV 11	1114	-2394	-278	5323		4.39	19.5	1.63	887			3.19	Si
SLV 12	1034	-2661	332	8649		4.87	19.5	1.63	887			2.68	Si
SLV 12	1114	-2394	-278	5323		4.39	19.5	1.63	887			3.19	Si
SLV 10	1034	-529	-85	-2117		1.1	17.25	1.05	508			5.97	Si
SLV 10	1114	-858	-133	5281		2.84	10.78	1.4	423			3.19	Si
SLV 6	1034	-370	-116	-2884		2.25	5.89	1.28	211			1.82	Si
SLV 6	1114	-731	-122	5161		3.23	8.07	1.48	335			2.74	Si
SLV 15	1034	-2100	222	5776		3.85	19.5	1.6	875			3.94	Si
SLV 15	1114	-2004	-240	5448		3.67	19.5	1.57	856			3.57	Si
SLV 7	1034	-2502	300	7882		4.58	19.5	1.63	887			2.95	Si
SLV 7	1114	-2268	-267	5203		4.15	19.5	1.63	887			3.32	Si
SLV 9	1034	-529	-85	-2117		1.1	17.25	1.05	508			5.97	Si
SLV 9	1114	-858	-133	5281		2.84	10.78	1.4	423			3.19	Si

## Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.46	0	-133	2424	0	0	No, $e > t/2$
SLV 5	14	0.46	0	-133	2424	0	0	No, $e > t/2$
SLV 9	14	0.46	0.41	-226	2424	3055	1.26	Si
SLV 10	14	0.46	0.41	-226	2424	3055	1.26	Si
SLV 1	14	0.46	0.85	-466	2424	6063	2.5	Si
SLV 2	14	0.46	0.85	-466	2424	6063	2.5	Si
SLV 14	14	0.46	1.42	-775	2424	9590	3.96	Si
SLV 13	14	0.46	1.42	-775	2424	9590	3.96	Si
SLV 4	14	0.46	1.54	-843	2424	10315	4.26	Si
SLV 3	14	0.46	1.54	-843	2424	10315	4.26	Si

## Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1010 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 2	-545	198	3	0	0	0	0	1088.965	No, Trazione
SLV 6	-408	313	-2	0	0	0	0	1001.941	No, Trazione
SLV 1	-545	198	3	0	0	0	0	1088.965	No, Trazione



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 5	-408	313	-2	0	0	0	0	1001.941	No, Trazione
SLV 14	-704	-1006	-6	0.041	0.992	0.927	63.969	1088.965	No
SLV 13	-704	-1006	-6	0.041	0.992	0.927	63.969	1088.965	No
SLV 4	-711	-261	6	0.041	0.999	0.927	64.507	1088.965	No
SLV 3	-711	-261	6	0.041	0.999	0.927	64.507	1088.965	No
SLV 15	-869	-1466	-4	0.043	1.158	0.935	66.479	1088.965	No
SLV 16	-869	-1466	-4	0.043	1.158	0.935	66.479	1088.965	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 29	No
V_SLU	1.022	SLU 79	Si
PF_SLV	1.182	SLV 5	Si
V_SLV	1.819	SLV 5	Si
PFFP_SLV	0	SLV 5	No
R_SLV	0	SLV 6	No

## Maschio 180

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-515.8	650.6	-515.8	652.1	L5	L6	1.5	28	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 55	1034	-461	-1	10.98	0	0	No, Rottura per schiacciamento
SLU 55	1114	-453	2	10.79	0	0	No, Rottura per schiacciamento
SLU 42	1034	-523	-2	12.46	0	0	No, Rottura per schiacciamento
SLU 42	1114	-517	3	12.31	0	0	No, Rottura per schiacciamento
SLU 53	1034	-438	-1	10.42	0	0	No, Rottura per schiacciamento
SLU 53	1114	-430	2	10.23	0	0	No, Rottura per schiacciamento
SLU 54	1034	-429	-1	10.22	0	0	No, Rottura per schiacciamento
SLU 54	1114	-421	2	10.03	0	0	No, Rottura per schiacciamento
SLU 57	1034	-648	-2	15.42	0	0	No, Rottura per schiacciamento
SLU 57	1114	-640	3	15.23	0	0	No, Rottura per schiacciamento
SLU 50	1034	-700	-2	16.67	0	0	No, Rottura per schiacciamento
SLU 50	1114	-692	3	16.49	0	0	No, Rottura per schiacciamento
SLU 58	1034	-694	-2	16.52	0	0	No, Rottura per schiacciamento
SLU 58	1114	-686	3	16.33	0	0	No, Rottura per schiacciamento
SLU 56	1034	-656	-2	15.62	0	0	No, Rottura per schiacciamento
SLU 56	1114	-648	3	15.43	0	0	No, Rottura per schiacciamento
SLU 51	1034	-692	-2	16.47	0	0	No, Rottura per schiacciamento
SLU 51	1114	-684	3	16.28	0	0	No, Rottura per schiacciamento
SLU 59	1034	-685	-2	16.31	0	0	No, Rottura per schiacciamento
SLU 59	1114	-677	3	16.12	0	0	No, Rottura per schiacciamento

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 6	1034	-178	176	0	0	0	No, $e > l/2$
SLV 6	1114	-68	-12	1.62	44	3.799	Si
SLV 11	1034	-328	-177	7.82	89	0.5	No, $M > Mu$
SLV 11	1114	-426	14	10.14	54	3.921	Si
SLV 10	1034	-238	196	0	0	0	No, $e > l/2$
SLV 10	1114	-89	-14	2.12	55	3.955	Si
SLV 8	1034	-269	-198	6.39	96	0.485	No, $M > Mu$
SLV 8	1114	-405	16	9.64	64	3.964	Si
SLV 7	1034	-269	-198	6.39	96	0.485	No, $M > Mu$
SLV 7	1114	-405	16	9.64	64	3.964	Si
SLV 5	1034	-178	176	0	0	0	No, $e > l/2$
SLV 5	1114	-68	-12	1.62	44	3.799	Si





Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 4	1034	-167	-91	3.97	84	0.927	No, M>Mu
SLV 4	1114	-262	9	6.24	96	10.51	Si
SLV 12	1034	-328	-177	7.82	89	0.5	No, M>Mu
SLV 12	1114	-426	14	10.14	54	3.921	Si
SLV 9	1034	-238	196	0	0	0	No, e>l/2
SLV 9	1114	-89	-14	2.12	55	3.955	Si
SLV 3	1034	-167	-91	3.97	84	0.927	No, M>Mu
SLV 3	1114	-262	9	6.24	96	10.51	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 80	1034	-780	0	-2		18.58	1.5	1.08	46			563.01	Si
SLU 80	1114	-772	0	4		18.38	1.5	1.08	46			563.04	Si
SLU 29	1034	-760	0	-2		18.09	1.5	1.08	46			600.95	Si
SLU 29	1114	-753	0	4		17.94	1.5	1.08	46			600.98	Si
SLU 72	1034	-787	0	-2		18.74	1.5	1.08	46			581.1	Si
SLU 72	1114	-779	0	4		18.54	1.5	1.08	46			581.12	Si
SLU 71	1034	-795	0	-2		18.94	1.5	1.08	46			586.45	Si
SLU 71	1114	-787	0	4		18.75	1.5	1.08	46			586.47	Si
SLU 37	1034	-753	0	-2		17.93	1.5	1.08	46			581.63	Si
SLU 37	1114	-747	0	4		17.78	1.5	1.08	46			581.66	Si
SLU 79	1034	-789	0	-2		18.78	1.5	1.08	46			568.03	Si
SLU 79	1114	-781	0	4		18.59	1.5	1.08	46			568.06	Si
SLU 38	1034	-744	0	-2		17.73	1.5	1.08	46			576.37	Si
SLU 38	1114	-738	0	4		17.58	1.5	1.08	46			576.4	Si
SLU 77	1034	-751	0	-2		17.88	1.5	1.08	46			594.12	Si
SLU 77	1114	-743	0	4		17.69	1.5	1.08	46			594.21	Si
SLU 30	1034	-751	0	-2		17.89	1.5	1.08	46			595.34	Si
SLU 30	1114	-745	0	4		17.74	1.5	1.08	46			595.37	Si
SLU 78	1034	-743	0	-2		17.68	1.5	1.08	46			588.63	Si
SLU 78	1114	-735	0	4		17.49	1.5	1.08	46			588.72	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	1034	-167	2	-91		9.74	0.61	1.63	28			13.6	Si
SLV 4	1114	-262	-1	9		6.24	1.5	1.63	68			77.63	Si
SLV 8	1034	-269	9	-198		0	0	0.83	0			0	No, Vu<V
SLV 8	1114	-405	-2	16		9.64	1.5	1.63	68			32.68	Si
SLV 7	1034	-269	9	-198		0	0	0.83	0			0	No, Vu<V
SLV 7	1114	-405	-2	16		9.64	1.5	1.63	68			32.68	Si
SLV 9	1034	-238	-9	196		0	0	0.83	0			0	No, Vu<V
SLV 9	1114	-89	2	-14		2.12	1.5	1.26	53			25.85	Si
SLV 10	1034	-238	-9	196		0	0	0.83	0			0	No, Vu<V
SLV 10	1114	-89	2	-14		2.12	1.5	1.26	53			25.85	Si
SLV 12	1034	-328	9	-177		18.6	0.63	1.63	29			3.24	Si
SLV 12	1114	-426	-2	14		10.14	1.5	1.63	68			35.31	Si
SLV 3	1034	-167	2	-91		9.74	0.61	1.63	28			13.6	Si
SLV 3	1114	-262	-1	9		6.24	1.5	1.63	68			77.63	Si
SLV 5	1034	-178	-9	176		0	0	0.83	0			0	No, Vu<V
SLV 5	1114	-68	2	-12		1.62	1.5	1.16	49			25.75	Si
SLV 6	1034	-178	-9	176		0	0	0.83	0			0	No, Vu<V
SLV 6	1114	-68	2	-12		1.62	1.5	1.16	49			25.75	Si
SLV 11	1034	-328	9	-177		18.6	0.63	1.63	29			3.24	Si
SLV 11	1114	-426	-2	14		10.14	1.5	1.63	68			35.31	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 13	14	0.46	0	-11	186	0	0	No, e>t/2
SLV 2	14	0.46	0	-5	186	0	0	No, e>t/2
SLV 9	14	0.46	0	-5	186	0	0	No, e>t/2
SLV 1	14	0.46	0	-5	186	0	0	No, e>t/2
SLV 3	14	0.46	0	-8	186	0	0	No, e>t/2
SLV 6	14	0.46	0	-4	186	0	0	No, e>t/2
SLV 4	14	0.46	0	-8	186	0	0	No, e>t/2
SLV 10	14	0.46	0	-5	186	0	0	No, e>t/2
SLV 14	14	0.46	0	-11	186	0	0	No, e>t/2
SLV 5	14	0.46	0	-4	186	0	0	No, e>t/2

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1010 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\sigma_0$	M*	e*	a0*	aLim	Verifica
SLV 14	-18	60	-2	0	0	0	0	1088.965	No, Trazione
SLV 4	-17	-134	2	0	0.04	0.89	0	1088.965	No
SLV 9	-9	67	-1	0	0	0	0	1001.941	No, Trazione
SLV 2	-12	-85	2	0	0.035	0.889	0	1088.965	No
SLV 10	-9	67	-1	0	0	0	0	1001.941	No, Trazione
SLV 13	-18	60	-2	0	0	0	0	1088.965	No, Trazione
SLV 5	-8	23	0	0	0	0	0	1001.941	No, Trazione
SLV 3	-17	-134	2	0	0.04	0.89	0	1088.965	No
SLV 6	-8	23	0	0	0	0	0	1001.941	No, Trazione
SLV 1	-12	-85	2	0	0.035	0.889	0	1088.965	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 3	No
V_SLU	563.011	SLU 80	Si
PF_SLV	0	SLV 5	No



Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	0	SLV 5	No
PFFP_SLV	0	SLV 1	No
R_SLV	0	SLV 16	No

## Maschio 181

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-600.8	-335.9	-651.3	-335.9	L5	L6	50.5	28	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 52	1034	-2526	-4322	1.79	49792	11.521	Si
SLU 52	1114	-2135	-13368	1.51	43921	3.285	Si
SLU 81	1034	-3302	-5875	2.34	59475	10.123	Si
SLU 81	1114	-2932	-16317	2.07	55183	3.382	Si
SLU 31	1034	-2331	-3776	1.65	46943	12.432	Si
SLU 31	1114	-2047	-12752	1.45	42509	3.334	Si
SLU 10	1034	-2014	-3220	1.42	41961	13.03	Si
SLU 10	1114	-1723	-11115	1.22	36990	3.328	Si
SLU 40	1034	-2587	-4159	1.83	50657	12.18	Si
SLU 40	1114	-2316	-13824	1.64	46727	3.38	Si
SLU 65	1034	-2559	-4939	1.81	50260	10.175	Si
SLU 65	1114	-2147	-12874	1.52	44113	3.426	Si
SLU 82	1034	-3099	-5261	2.19	57201	10.873	Si
SLU 82	1114	-2729	-16078	1.93	52584	3.271	Si
SLU 61	1034	-2783	-4705	1.97	53286	11.325	Si
SLU 61	1114	-2404	-14441	1.7	48036	3.326	Si
SLU 19	1034	-2271	-3603	1.61	46032	12.774	Si
SLU 19	1114	-1992	-12187	1.41	41592	3.413	Si
SLU 73	1034	-2843	-4877	2.01	54062	11.084	Si
SLU 73	1114	-2460	-15005	1.74	48852	3.256	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 3	1034	-97	42457	0	0	0	No, e>l/2
SLV 3	1114	-1570	-51699	0	0	0	No, e>l/2
SLV 1	1034	-561	37497	0	0	0	No, e>l/2
SLV 1	1114	-887	-48713	0	0	0	No, e>l/2
SLV 5	1034	-2441	614	1.73	52925	86.242	Si
SLV 5	1114	-580	-17407	0	0	0	No, e>l/2
SLD 2	1034	-1515	13460	1.07	34890	2.592	Si
SLD 2	1114	-1491	-26774	1.05	34394	1.285	Si
SLV 8	1034	-892	17146	0.63	21369	1.246	Si
SLV 8	1114	-2858	-27359	2.02	60228	2.201	Si
SLV 4	1034	-97	42457	0	0	0	No, e>l/2
SLV 4	1114	-1570	-51699	0	0	0	No, e>l/2
SLV 6	1034	-2441	614	1.73	52925	86.242	Si
SLV 6	1114	-580	-17407	0	0	0	No, e>l/2
SLV 7	1034	-892	17146	0.63	21369	1.246	Si
SLV 7	1114	-2858	-27359	2.02	60228	2.201	Si
SLV 2	1034	-561	37497	0	0	0	No, e>l/2
SLV 2	1114	-887	-48713	0	0	0	No, e>l/2
SLD 1	1034	-1515	13460	1.07	34890	2.592	Si
SLD 1	1114	-1491	-26774	1.05	34394	1.285	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 27	1034	-2789	-159	-6628		1.97	50.5	0.82	1157			7.28	Si
SLU 27	1114	-2472	94	-11054		1.75	50.5	0.79	1115			11.84	Si
SLU 79	1034	-3506	-174	-7623		2.48	50.5	0.89	1253			7.21	Si
SLU 79	1114	-3125	129	-14808		2.21	50.5	0.85	1202			9.29	Si
SLU 77	1034	-3584	-168	-7667		2.53	50.5	0.89	1263			7.52	Si
SLU 77	1114	-3198	129	-15438		2.26	50.5	0.86	1212			9.42	Si
SLU 50	1034	-2906	-165	-7129		2.05	50.5	0.83	1173			7.09	Si
SLU 50	1114	-2488	80	-11041		1.76	50.5	0.79	1117			13.98	Si
SLU 8	1034	-2394	-151	-6027		1.69	50.5	0.78	1105			7.32	Si
SLU 8	1114	-2075	75	-8787		1.47	50.5	0.75	1062			14.22	Si
SLU 69	1034	-3301	-174	-7729		2.33	50.5	0.87	1226			7.06	Si
SLU 69	1114	-2885	99	-13307		2.04	50.5	0.83	1170			11.78	Si
SLU 71	1034	-3223	-179	-7685		2.28	50.5	0.86	1215			6.78	Si
SLU 71	1114	-2813	100	-12678		1.99	50.5	0.82	1161			11.6	Si
SLU 37	1034	-2994	-159	-6521		2.12	50.5	0.84	1185			7.45	Si
SLU 37	1114	-2713	124	-12555		1.92	50.5	0.81	1147			9.24	Si
SLU 29	1034	-2711	-165	-6583		1.92	50.5	0.81	1147			6.97	Si
SLU 29	1114	-2400	95	-10424		1.7	50.5	0.78	1106			11.65	Si
SLU 48	1034	-2984	-160	-7173		2.11	50.5	0.84	1183			7.4	Si
SLU 48	1114	-2560	79	-11670		1.81	50.5	0.8	1127			14.23	Si



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	1034	-4383	-1795	-51353		3.86	40.6	1.6	1824			1.02	Si
SLV 14	1114	-2288	-236	30781		2.31	35.4	1.3	1284			5.44	Si
SLV 4	1034	-97	1662	42457		0	0	0.83	0			0	No, Vu<V
SLV 4	1114	-1570	345	-51699		0	0	0.83	0			0	No, Vu<V
SLV 3	1034	-97	1662	42457		0	0	0.83	0			0	No, Vu<V
SLV 3	1114	-1570	345	-51699		0	0	0.83	0			0	No, Vu<V
SLV 1	1034	-561	1552	37497		0	0	0.83	0			0	No, Vu<V
SLV 1	1114	-887	140	-48713		0	0	0.83	0			0	No, Vu<V
SLV 6	1034	-2441	252	614		1.73	50.5	1.18	1667			6.62	Si
SLV 6	1114	-580	-231	-17407		0	0	0.83	0			0	No, Vu<V
SLV 8	1034	-892	619	17146		1.76	18.11	1.19	601			0.97	No, Vu<V
SLV 8	1114	-2858	453	-27359		2.17	47.03	1.27	1669			3.68	Si
SLV 2	1034	-561	1552	37497		0	0	0.83	0			0	No, Vu<V
SLV 2	1114	-887	140	-48713		0	0	0.83	0			0	No, Vu<V
SLV 7	1034	-892	619	17146		1.76	18.11	1.19	601			0.97	No, Vu<V
SLV 7	1114	-2858	453	-27359		2.17	47.03	1.27	1669			3.68	Si
SLV 5	1034	-2441	252	614		1.73	50.5	1.18	1667			6.62	Si
SLV 5	1114	-580	-231	-17407		0	0	0.83	0			0	No, Vu<V
SLV 13	1034	-4383	-1795	-51353		3.86	40.6	1.6	1824			1.02	Si
SLV 13	1114	-2288	-236	30781		2.31	35.4	1.3	1284			5.44	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.46	0.34	-479	6135	6516	1.06	Si
SLV 8	14	0.46	0.34	-479	6135	6516	1.06	Si
SLV 3	14	0.46	0.53	-749	6135	10031	1.63	Si
SLV 4	14	0.46	0.53	-749	6135	10031	1.63	Si
SLV 11	14	0.46	0.62	-877	6135	11654	1.9	Si
SLV 12	14	0.46	0.62	-877	6135	11654	1.9	Si
SLV 1	14	0.46	0.98	-1379	6135	17763	2.9	Si
SLV 2	14	0.46	0.98	-1379	6135	17763	2.9	Si
SLV 15	14	0.46	1.47	-2076	6135	25575	4.17	Si
SLV 16	14	0.46	1.47	-2076	6135	25575	4.17	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1010 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 15	-1653	-1227	-4	0.046	2.397	0.923	73.156	1088.965	No
SLV 16	-1653	-1227	-4	0.046	2.397	0.923	73.156	1088.965	No
SLV 13	-1575	-1381	1	0.048	2.318	0.921	76.071	1088.965	No
SLV 14	-1575	-1381	1	0.048	2.318	0.921	76.071	1088.965	No
SLV 11	-1246	-1105	-9	0.045	1.989	0.911	71.299	1001.941	No
SLV 12	-1246	-1105	-9	0.045	1.989	0.911	71.299	1001.941	No
SLV 7	-818	-1155	-10	0.046	1.568	0.897	74.802	1001.941	No
SLV 8	-818	-1155	-10	0.046	1.568	0.897	74.802	1001.941	No
SLV 10	-985	-1619	6	0.048	1.731	0.903	77.412	1001.941	No
SLV 9	-985	-1619	6	0.048	1.731	0.903	77.412	1001.941	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.256	SLU 73	Si
V_SLU	6.778	SLU 71	Si
PF_SLV	0	SLV 1	No
V_SLV	0	SLV 1	No
PFFP_SLV	1.062	SLV 7	Si
R_SLV	0.067	SLV 15	No

## Maschio 182

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-318.3	-335.9	-550.8	-335.9	L5	L6	232.5	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 76	1034	-11161	66154	1.71	1024393	15.485	Si
SLU 76	1114	-9761	77878	1.5	925879	11.889	Si
SLU 23	1034	-7893	46279	1.21	780988	16.876	Si
SLU 23	1114	-6845	59475	1.05	692983	11.652	Si
SLU 73	1034	-10757	68697	1.65	996853	14.511	Si
SLU 73	1114	-9382	76920	1.44	897718	11.671	Si
SLU 68	1034	-10148	55950	1.56	953975	17.051	Si
SLU 68	1114	-8759	71925	1.35	850075	11.819	Si
SLU 44	1034	-8622	52200	1.32	839316	16.079	Si
SLU 44	1114	-7282	61494	1.12	730259	11.875	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 2	1034	-6770	39987	1.04	686547	17.169	Si
SLU 2	1114	-5746	50001	0.88	595598	11.912	Si
SLU 26	1034	-8297	43736	1.27	813600	18.602	Si
SLU 26	1114	-7224	60433	1.11	725362	12.003	Si
SLU 82	1034	-11465	76236	1.76	1044668	13.703	Si
SLU 82	1114	-10063	79125	1.55	947836	11.979	Si
SLU 31	1034	-8906	56484	1.37	861420	15.251	Si
SLU 31	1114	-7847	65428	1.21	777199	11.879	Si
SLU 65	1034	-9745	58492	1.5	924641	15.808	Si
SLU 65	1114	-8380	70968	1.29	820248	11.558	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 14	1034	-7264	-45581	1.12	767348	16.835	Si
SLV 14	1114	-6945	419658	1.07	736869	1.756	Si
SLV 10	1034	-9524	-37263	1.46	974602	26.155	Si
SLV 10	1114	-8784	267883	1.35	908362	3.391	Si
SLV 4	1034	-8866	150811	1.36	915824	6.073	Si
SLV 4	1114	-7004	-312571	1.08	742507	2.375	Si
SLV 15	1034	-6144	-5743	0.94	659071	114.752	Si
SLV 15	1114	-5746	350754	0.88	619741	1.767	Si
SLV 13	1034	-7264	-45581	1.12	767348	16.835	Si
SLV 13	1114	-6945	419658	1.07	736869	1.756	Si
SLV 16	1034	-6144	-5743	0.94	659071	114.752	Si
SLV 16	1114	-5746	350754	0.88	619741	1.767	Si
SLV 8	1034	-6607	142494	1.01	704225	4.942	Si
SLV 8	1114	-5165	-160796	0.79	561447	3.492	Si
SLV 3	1034	-8866	150811	1.36	915824	6.073	Si
SLV 3	1114	-7004	-312571	1.08	742507	2.375	Si
SLV 7	1034	-6607	142494	1.01	704225	4.942	Si
SLV 7	1114	-5165	-160796	0.79	561447	3.492	Si
SLV 9	1034	-9524	-37263	1.46	974602	26.155	Si
SLV 9	1114	-8784	267883	1.35	908362	3.391	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 83	1034	-12280	117	78443		1.89	232.5	0.81	5254			44.78	Si
SLU 83	1114	-10819	181	79563		1.66	232.5	0.78	5059			28	Si
SLU 5	1034	-7174	-174	37445		1.1	232.5	0.7	4573			26.31	Si
SLU 5	1114	-6125	-94	50959		0.94	232.5	0.68	4433			47.05	Si
SLU 18	1034	-8902	131	62480		1.37	232.5	0.74	4804			36.73	Si
SLU 18	1114	-7806	171	57639		1.2	232.5	0.72	4657			27.17	Si
SLU 60	1034	-10753	149	74694		1.65	232.5	0.78	5050			33.97	Si
SLU 60	1114	-9341	193	69132		1.43	232.5	0.75	4862			25.17	Si
SLU 23	1034	-7893	-190	46279		1.21	232.5	0.72	4669			24.52	Si
SLU 23	1114	-6845	-96	59475		1.05	232.5	0.7	4529			47.01	Si
SLU 62	1034	-11157	141	72151		1.71	232.5	0.78	5104			36.12	Si
SLU 62	1114	-9721	188	70089		1.49	232.5	0.75	4913			26.13	Si
SLU 68	1034	-10148	-180	55950		1.56	232.5	0.76	4970			27.62	Si
SLU 68	1114	-8759	-80	71925		1.35	232.5	0.73	4785			59.99	Si
SLU 2	1034	-6770	-166	39987		1.04	232.5	0.69	4519			27.15	Si
SLU 2	1114	-5746	-89	50001		0.88	232.5	0.67	4383			49.22	Si
SLU 81	1034	-11876	125	80985		1.82	232.5	0.8	5200			41.7	Si
SLU 81	1114	-10440	186	78606		1.6	232.5	0.77	5009			26.95	Si
SLU 26	1034	-8297	-198	43736		1.27	232.5	0.73	4723			23.88	Si
SLU 26	1114	-7224	-102	60433		1.11	232.5	0.7	4580			45.11	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	1034	-8866	6943	150811		1.36	232.5	1.11	7198			1.04	Si
SLV 4	1114	-7004	5893	-312571		1.16	214.86	1.07	6414			1.09	Si
SLV 8	1034	-6607	3734	142494		1.01	232.5	1.04	6746			1.81	Si
SLV 8	1114	-5165	3257	-160796		0.79	232.5	0.99	6458			1.98	Si
SLV 2	1034	-9987	5875	110974		1.53	232.5	1.14	7422			1.26	Si
SLV 2	1114	-8203	4950	-243667		1.26	232.5	1.09	7066			1.43	Si
SLV 3	1034	-8866	6943	150811		1.36	232.5	1.11	7198			1.04	Si
SLV 3	1114	-7004	5893	-312571		1.16	214.86	1.07	6414			1.09	Si
SLV 7	1034	-6607	3734	142494		1.01	232.5	1.04	6746			1.81	Si
SLV 7	1114	-5165	3257	-160796		0.79	232.5	0.99	6458			1.98	Si
SLV 16	1034	-6144	-5785	-5743		0.94	232.5	1.02	6654			1.15	Si
SLV 16	1114	-5746	-4783	350754		1.24	165.63	1.08	5014			1.05	Si
SLV 14	1034	-7264	-6853	-45581		1.12	232.5	1.06	6878			1	Si
SLV 14	1114	-6945	-5726	419658		1.48	167.47	1.13	5297			0.92	No, Vu<V
SLV 13	1034	-7264	-6853	-45581		1.12	232.5	1.06	6878			1	Si
SLV 13	1114	-6945	-5726	419658		1.48	167.47	1.13	5297			0.92	No, Vu<V
SLV 15	1034	-6144	-5785	-5743		0.94	232.5	1.02	6654			1.15	Si
SLV 15	1114	-5746	-4783	350754		1.24	165.63	1.08	5014			1.05	Si
SLV 1	1034	-9987	5875	110974		1.53	232.5	1.14	7422			1.26	Si
SLV 1	1114	-8203	4950	-243667		1.26	232.5	1.09	7066			1.43	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.46	0.88	-5701	28247	74088	2.62	Si
SLV 12	14	0.46	0.88	-5701	28247	74088	2.62	Si
SLV 8	14	0.46	0.9	-5853	28247	75908	2.69	Si
SLV 7	14	0.46	0.9	-5853	28247	75908	2.69	Si
SLV 15	14	0.46	1.07	-6980	28247	89140	3.16	Si
SLV 16	14	0.46	1.07	-6980	28247	89140	3.16	Si



Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 3	14	0.46	1.15	-7487	28247	94948	3.36	Si
SLV 4	14	0.46	1.15	-7487	28247	94948	3.36	Si
SLV 14	14	0.46	1.26	-8228	28247	103276	3.66	Si
SLV 13	14	0.46	1.26	-8228	28247	103276	3.66	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1010  $W_a = 0.05$   $T_a = 0.0739$

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 15	-4779	-8007	254	0.015	8.211	0.905	23.547	1088.965	No
SLV 16	-4779	-8007	254	0.015	8.211	0.905	23.547	1088.965	No
SLV 2	-6179	-7777	-251	0.019	9.602	0.914	30.575	1088.965	No
SLV 1	-6179	-7777	-251	0.019	9.602	0.914	30.575	1088.965	No
SLV 3	-5351	-6180	-192	0.025	8.778	0.909	39.969	1088.965	No
SLV 4	-5351	-6180	-192	0.025	8.778	0.909	39.969	1088.965	No
SLV 13	-5606	-9604	194	0.025	9.032	0.91	40.149	1088.965	No
SLV 14	-5606	-9604	194	0.025	9.032	0.91	40.149	1088.965	No
SLV 11	-4014	-5504	168	0.026	7.46	0.899	41.528	1001.941	No
SLV 12	-4014	-5504	168	0.026	7.46	0.899	41.528	1001.941	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	11.558	SLU 65	Si
V_SLU	23.876	SLU 26	Si
PF_SLV	1.756	SLV 13	Si
V_SLV	0.925	SLV 13	No
PFFP_SLV	2.623	SLV 11	Si
R_SLV	0.022	SLV 15	No

## Maschio 183

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.3	-335.9	-228.3	-335.9	L5	L6	216	28	352	352	352			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 19	924	-8280	-66698	1.37	743938	11.154	Si
SLU 19	1104	-8398	135545	1.39	752344	5.551	Si
SLU 81	924	-11114	-71222	1.84	929529	13.051	Si
SLU 81	1104	-11161	174689	1.85	932292	5.337	Si
SLU 40	924	-9190	-82081	1.52	807381	9.836	Si
SLU 40	1104	-9651	158419	1.6	838106	5.29	Si
SLU 61	924	-10182	-71100	1.68	872385	12.27	Si
SLU 61	1104	-10012	156837	1.66	861579	5.493	Si
SLU 73	924	-10801	-90902	1.79	910786	10.019	Si
SLU 73	1104	-10892	173041	1.8	916288	5.295	Si
SLU 39	924	-9212	-66820	1.52	808855	12.105	Si
SLU 39	1104	-9546	153396	1.58	831187	5.419	Si
SLU 84	924	-11597	-85808	1.92	957667	11.161	Si
SLU 84	1104	-11784	174846	1.95	968286	5.538	Si
SLU 82	924	-11092	-86483	1.83	928237	10.733	Si
SLU 82	1104	-11266	179712	1.86	938468	5.222	Si
SLU 31	924	-8899	-86500	1.47	787505	9.104	Si
SLU 31	1104	-9277	151748	1.53	813284	5.359	Si
SLU 75	924	-11526	-80505	1.91	953581	11.845	Si
SLU 75	1104	-11598	172245	1.92	957713	5.56	Si

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 15	924	-6990	-242672	1.16	683496	2.817	Si
SLV 15	1104	-9348	358418	1.55	881888	2.461	Si
SLV 16	924	-6990	-242672	1.16	683496	2.817	Si
SLV 16	1104	-9348	358418	1.55	881888	2.461	Si
SLV 13	924	-9145	-253087	1.51	865470	3.42	Si
SLV 13	1104	-10901	364705	1.8	1003615	2.752	Si
SLV 4	924	-6504	172116	1.08	640642	3.722	Si
SLV 4	1104	-4037	-144034	0.67	412158	2.862	Si
SLD 15	924	-7472	-126739	1.24	725379	5.723	Si
SLD 15	1104	-8275	216395	1.37	793596	3.667	Si
SLD 16	924	-7472	-126739	1.24	725379	5.723	Si
SLD 16	1104	-8275	216395	1.37	793596	3.667	Si
SLV 14	924	-9145	-253087	1.51	865470	3.42	Si
SLV 14	1104	-10901	364705	1.8	1003615	2.752	Si
SLV 11	924	-4305	-85345	0.71	437858	5.13	Si
SLV 11	1104	-5678	175224	0.94	566102	3.231	Si
SLV 3	924	-6504	172116	1.08	640642	3.722	Si
SLV 3	1104	-4037	-144034	0.67	412158	2.862	Si
SLV 12	924	-4305	-85345	0.71	437858	5.13	Si
SLV 12	1104	-5678	175224	0.94	566102	3.231	Si



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 82	924	-11092	-3208	-86483		1.83	216	0.8	4839			1.51	Si
SLU 82	1104	-11266	-3179	179712		1.86	216	0.8	4862			1.53	Si
SLU 31	924	-8899	-2824	-86500		1.47	216	0.75	4547			1.61	Si
SLU 31	1104	-9277	-2774	151748		1.53	216	0.76	4597			1.66	Si
SLU 81	924	-11114	-3003	-71222		1.84	216	0.8	4842			1.61	Si
SLU 81	1104	-11161	-3004	174689		1.85	216	0.8	4848			1.61	Si
SLU 42	924	-9695	-2852	-81406		1.6	216	0.77	4653			1.63	Si
SLU 42	1104	-10170	-2823	153553		1.68	216	0.78	4716			1.67	Si
SLU 84	924	-11597	-3185	-85808		1.92	216	0.81	4906			1.54	Si
SLU 84	1104	-11784	-3157	174846		1.95	216	0.82	4931			1.56	Si
SLU 75	924	-11526	-3072	-80505		1.91	216	0.81	4897			1.59	Si
SLU 75	1104	-11598	-3044	172245		1.92	216	0.81	4906			1.61	Si
SLU 78	924	-12031	-3049	-79829		1.99	216	0.82	4964			1.63	Si
SLU 78	1104	-12117	-3022	167379		2	216	0.82	4976			1.65	Si
SLU 73	924	-10801	-3157	-90902		1.79	216	0.79	4800			1.52	Si
SLU 73	1104	-10892	-3107	173041		1.8	216	0.8	4812			1.55	Si
SLU 40	924	-9190	-2875	-82081		1.52	216	0.76	4585			1.6	Si
SLU 40	1104	-9651	-2845	158419		1.6	216	0.77	4647			1.63	Si
SLU 76	924	-11306	-3134	-90227		1.87	216	0.8	4868			1.55	Si
SLU 76	1104	-11411	-3085	168174		1.89	216	0.81	4881			1.58	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 15	924	-7472	-3826	-126739		1.24	216	1.08	6534			1.71	Si
SLD 15	1104	-8275	-3437	216395		1.37	216	1.11	6695			1.95	Si
SLD 14	924	-8386	-3700	-131403		1.39	216	1.11	6717			1.82	Si
SLD 14	1104	-8931	-3264	218735		1.48	216	1.13	6826			2.09	Si
SLD 16	924	-7472	-3826	-126739		1.24	216	1.08	6534			1.71	Si
SLD 16	1104	-8275	-3437	216395		1.37	216	1.11	6695			1.95	Si
SLD 13	924	-8386	-3700	-131403		1.39	216	1.11	6717			1.82	Si
SLD 13	1104	-8931	-3264	218735		1.48	216	1.13	6826			2.09	Si
SLV 14	924	-9145	-6174	-253087		1.51	216	1.14	6869			1.11	Si
SLV 14	1104	-10901	-5148	364705		1.8	216	1.19	7220			1.4	Si
SLV 13	924	-9145	-6174	-253087		1.51	216	1.14	6869			1.11	Si
SLV 13	1104	-10901	-5148	364705		1.8	216	1.19	7220			1.4	Si
SLV 16	924	-6990	-6476	-242672		1.16	216	1.06	6438			0.99	No, $V_u < V$
SLV 16	1104	-9348	-5561	358418		1.6	208.98	1.15	6746			1.21	Si
SLV 12	924	-4305	-3701	-85345		0.71	216	0.98	5901			1.59	Si
SLV 12	1104	-5678	-3596	175224		0.94	216	1.02	6176			1.72	Si
SLV 15	924	-6990	-6476	-242672		1.16	216	1.06	6438			0.99	No, $V_u < V$
SLV 15	1104	-9348	-5561	358418		1.6	208.98	1.15	6746			1.21	Si
SLV 11	924	-4305	-3701	-85345		0.71	216	0.98	5901			1.59	Si
SLV 11	1104	-5678	-3596	175224		0.94	216	1.02	6176			1.72	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.46	0.73	-4402	26243	57951	2.21	Si
SLV 7	14	0.46	0.73	-4402	26243	57951	2.21	Si
SLV 4	14	0.46	0.86	-5194	26243	67605	2.58	Si
SLV 3	14	0.46	0.86	-5194	26243	67605	2.58	Si
SLV 11	14	0.46	0.9	-5470	26243	70911	2.7	Si
SLV 12	14	0.46	0.9	-5470	26243	70911	2.7	Si
SLV 1	14	0.46	1.15	-6942	26243	88055	3.36	Si
SLV 2	14	0.46	1.15	-6942	26243	88055	3.36	Si
SLV 16	14	0.46	1.45	-8755	26243	108053	4.12	Si
SLV 15	14	0.46	1.45	-8755	26243	108053	4.12	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1010 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 16	-6249	-9454	28	0.046	9.43	0.918	72.29	1088.965	No
SLV 15	-6249	-9454	28	0.046	9.43	0.918	72.29	1088.965	No
SLV 13	-7304	-11816	9	0.047	10.488	0.924	73.969	1088.965	No
SLV 14	-7304	-11816	9	0.047	10.488	0.924	73.969	1088.965	No
SLV 1	-4992	-6829	-29	0.047	8.175	0.909	74.479	1088.965	No
SLV 2	-4992	-6829	-29	0.047	8.175	0.909	74.479	1088.965	No
SLV 5	-7032	-11329	-38	0.044	10.215	0.922	69.428	1001.941	No
SLV 6	-7032	-11329	-38	0.044	10.215	0.922	69.428	1001.941	No
SLV 9	-7725	-12825	-26	0.045	10.913	0.926	70.534	1001.941	No
SLV 10	-7725	-12825	-26	0.045	10.913	0.926	70.534	1001.941	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.222	SLU 82	Si
V_SLU	1.508	SLU 82	Si
PF_SLV	2.461	SLV 15	Si
V_SLV	0.994	SLV 15	No
PFFP_SLV	2.208	SLV 7	Si
R_SLV	0.066	SLV 15	No

## Maschio 184

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



## Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-296.3	595.1	-501.8	595.1	L5	L6	205.5	28	352	352	352			

## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 27	924	-5001	-112151	0.87	459045	4.093	Si
SLU 27	1104	-3141	-105859	0.55	301069	2.844	Si
SLU 7	924	-4451	-102188	0.77	413876	4.05	Si
SLU 7	1104	-2621	-90479	0.46	254206	2.81	Si
SLU 72	924	-6110	-127111	1.06	545941	4.295	Si
SLU 72	1104	-3710	-119333	0.64	351072	2.942	Si
SLU 30	924	-4276	-115284	0.74	399317	3.464	Si
SLU 30	1104	-2416	-108914	0.42	235428	2.162	Si
SLU 29	924	-4341	-117776	0.75	404748	3.437	Si
SLU 29	1104	-2481	-109577	0.43	241388	2.203	Si
SLU 8	924	-3855	-110305	0.67	363555	3.296	Si
SLU 8	1104	-2025	-94858	0.35	199109	2.099	Si
SLU 28	924	-4936	-109659	0.86	453802	4.138	Si
SLU 28	1104	-3076	-105197	0.53	295297	2.807	Si
SLU 38	924	-5416	-105222	0.94	492177	4.678	Si
SLU 38	1104	-3555	-115088	0.62	337583	2.933	Si
SLU 6	924	-4515	-104680	0.78	419258	4.005	Si
SLU 6	1104	-2685	-91141	0.47	260108	2.854	Si
SLU 9	924	-3791	-107813	0.66	357986	3.32	Si
SLU 9	1104	-1961	-94196	0.34	193020	2.049	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 1	924	-12145	467398	2.11	1032352	2.209	Si
SLV 1	1104	-10707	-332517	1.86	932628	2.805	Si
SLV 15	924	-2115	-561842	0	0	0	No, e>l/2
SLV 15	1104	124	217478	0	0	0	No, Trazione
SLV 2	924	-12145	467398	2.11	1032352	2.209	Si
SLV 2	1104	-10707	-332517	1.86	932628	2.805	Si
SLV 14	924	-2506	-435278	0	0	0	No, e>l/2
SLV 14	1104	-458	185286	0	0	0	No, e>l/2
SLD 16	924	-4989	-266859	0.87	476234	1.785	Si
SLD 16	1104	-2986	60741	0.52	293745	4.836	Si
SLV 12	924	-5033	-393564	0.87	480129	1.22	Si
SLV 12	1104	-2784	73806	0.48	274747	3.723	Si
SLD 15	924	-4989	-266859	0.87	476234	1.785	Si
SLD 15	1104	-2986	60741	0.52	293745	4.836	Si
SLV 11	924	-5033	-393564	0.87	480129	1.22	Si
SLV 11	1104	-2784	73806	0.48	274747	3.723	Si
SLV 16	924	-2115	-561842	0	0	0	No, e>l/2
SLV 16	1104	124	217478	0	0	0	No, Trazione
SLV 13	924	-2506	-435278	0	0	0	No, e>l/2
SLV 13	1104	-458	185286	0	0	0	No, e>l/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 8	924	-3855	-101	-110305		0.67	205.5	0.64	3711			36.66	Si
SLU 8	1104	-2025	-101	-94858		0.43	167.74	0.61	2879			28.45	Si
SLU 18	924	-8294	133	-33588		1.44	205.5	0.75	4302			32.25	Si
SLU 18	1104	-6464	133	-60370		1.12	205.5	0.71	4058			30.42	Si
SLU 42	924	-7309	131	-69738		1.27	205.5	0.72	4171			31.91	Si
SLU 42	1104	-5449	131	-96080		0.95	205.5	0.68	3923			30.01	Si
SLU 19	924	-8229	144	-31096		1.43	205.5	0.75	4294			29.91	Si
SLU 19	1104	-6399	144	-59707		1.11	205.5	0.7	4050			28.21	Si
SLU 82	924	-10548	171	-50394		1.83	205.5	0.8	4603			26.88	Si
SLU 82	1104	-8149	171	-84845		1.42	205.5	0.74	4283			25.01	Si
SLU 40	924	-8715	184	-38567		1.51	205.5	0.76	4359			23.74	Si
SLU 40	1104	-6854	184	-74426		1.19	205.5	0.71	4111			22.39	Si
SLU 39	924	-8780	173	-41059		1.53	205.5	0.76	4367			25.18	Si
SLU 39	1104	-6919	173	-75088		1.2	205.5	0.72	4119			23.75	Si
SLU 31	924	-8183	152	-41218		1.42	205.5	0.75	4288			28.26	Si
SLU 31	1104	-6323	152	-71339		1.1	205.5	0.7	4040			26.62	Si
SLU 81	924	-10613	161	-52886		1.84	205.5	0.8	4612			28.63	Si
SLU 81	1104	-8214	161	-85507		1.43	205.5	0.75	4292			26.64	Si
SLU 73	924	-10017	139	-53046		1.74	205.5	0.79	4532			32.52	Si
SLU 73	1104	-7617	139	-81757		1.32	205.5	0.73	4212			30.23	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	924	-12145	5032	467398		2.25	192.8	1.28	6928			1.38	Si
SLV 2	1104	-10707	4167	-332517		1.86	205.5	1.21	6936			1.66	Si
SLV 14	924	-2506	-3934	-435278		0	0	0.83	0			0	No, Vu<V
SLV 14	1104	-458	-3242	185286		0	0	0.83	0			0	No, Vu<V
SLV 13	924	-2506	-3934	-435278		0	0	0.83	0			0	No, Vu<V
SLV 13	1104	-458	-3242	185286		0	0	0.83	0			0	No, Vu<V
SLV 1	924	-12145	5032	467398		2.25	192.8	1.28	6928			1.38	Si
SLV 1	1104	-10707	4167	-332517		1.86	205.5	1.21	6936			1.66	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 15	924	-2115	-4948	-561842		0	0	0.83	0			0	No, Vu<V
SLV 15	1104	124	-4083	217478		0	0	0.83	0			0	No, Vu<V
SLV 4	924	-11754	4018	340833		2.04	205.5	1.24	7146			1.78	Si
SLV 4	1104	-10125	3325	-300324		1.76	205.5	1.19	6820			2.05	Si
SLV 11	924	-5033	-2993	-393564		2.44	73.66	1.32	2725			0.91	No, Vu<V
SLV 11	1104	-2784	-2472	73806		0.48	205.5	0.93	5352			2.16	Si
SLV 16	924	-2115	-4948	-561842		0	0	0.83	0			0	No, Vu<V
SLV 16	1104	124	-4083	217478		0	0	0.83	0			0	No, Vu<V
SLV 3	924	-11754	4018	340833		2.04	205.5	1.24	7146			1.78	Si
SLV 3	1104	-10125	3325	-300324		1.76	205.5	1.19	6820			2.05	Si
SLV 12	924	-5033	-2993	-393564		2.44	73.66	1.32	2725			0.91	No, Vu<V
SLV 12	1104	-2784	-2472	73806		0.48	205.5	0.93	5352			2.16	Si

#### Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 15	14	0.46	0	-1354	24967	0	0	No, e>t/2
SLV 16	14	0.46	0	-1354	24967	0	0	No, e>t/2
SLV 13	14	0.46	0.32	-1867	24967	25438	1.02	Si
SLV 14	14	0.46	0.32	-1867	24967	25438	1.02	Si
SLV 12	14	0.46	0.71	-4060	24967	53559	2.15	Si
SLV 11	14	0.46	0.71	-4060	24967	53559	2.15	Si
SLV 9	14	0.46	1	-5769	24967	74133	2.97	Si
SLV 10	14	0.46	1	-5769	24967	74133	2.97	Si
SLV 7	14	0.46	1.2	-6892	24967	87031	3.49	Si
SLV 8	14	0.46	1.2	-6892	24967	87031	3.49	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1010 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 14	-1434	176	-17	0	0	0	0	1088.965	No, Trazione
SLV 16	-1392	1115	-41	0	0	0	0	1088.965	No, Trazione
SLV 15	-1392	1115	-41	0	0	0	0	1088.965	No, Trazione
SLV 13	-1434	176	-17	0	0	0	0	1088.965	No, Trazione
SLV 2	-6518	-16068	32	0.045	9.545	0.921	70.474	1088.965	No
SLV 1	-6518	-16068	32	0.045	9.545	0.921	70.474	1088.965	No
SLV 4	-6476	-15129	7	0.048	9.503	0.921	75.124	1088.965	No
SLV 3	-6476	-15129	7	0.048	9.503	0.921	75.124	1088.965	No
SLV 5	-4788	-11479	43	0.044	7.817	0.909	70.766	1001.941	No
SLV 6	-4788	-11479	43	0.044	7.817	0.909	70.766	1001.941	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.049	SLU 9	Si
V_SLU	22.387	SLU 40	Si
PF_SLV	0	SLV 16	No
V_SLV	0	SLV 13	No
PFFP_SLV	0	SLV 15	No
R_SLV	0	SLV 16	No

## Maschio 185

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.3	595.1	-206.3	595.1	L5	L6	194	28	352	352	352			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 60	924	-9379	-7569	1.73	716940	94.715	Si
SLU 60	1104	-8853	77336	1.63	686928	8.882	Si
SLU 73	924	-9547	-12037	1.76	726239	60.335	Si
SLU 73	1104	-9274	76046	1.71	711014	9.35	Si
SLU 40	924	-8157	-14410	1.5	645393	44.788	Si
SLU 40	1104	-8269	71265	1.52	652221	9.152	Si
SLU 19	924	-7415	-9024	1.37	598721	66.347	Si
SLU 19	1104	-7290	67114	1.34	590650	8.801	Si
SLU 81	924	-10122	-12955	1.86	757218	58.448	Si
SLU 81	1104	-9832	81486	1.81	741791	9.103	Si
SLU 18	924	-7607	-8553	1.4	611015	71.436	Si
SLU 18	1104	-7381	66087	1.36	596543	9.027	Si
SLU 52	924	-8804	-6651	1.62	684090	102.857	Si
SLU 52	1104	-8295	71895	1.53	653754	9.093	Si
SLU 61	924	-9187	-8040	1.69	706137	87.825	Si
SLU 61	1104	-8762	78363	1.61	681622	8.698	Si
SLU 10	924	-7032	-7635	1.29	573697	75.143	Si
SLU 10	1104	-6823	60646	1.26	559766	9.23	Si
SLU 82	924	-9930	-13426	1.83	747039	55.641	Si
SLU 82	1104	-9741	82514	1.79	736875	8.93	Si





# Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 6	924	-3236	110731	0.6	298616	2.697	Si
SLV 6	1104	-2763	-66723	0.51	256895	3.85	Si
SLV 13	924	-6228	-306730	1.15	547405	1.785	Si
SLV 13	1104	-9069	268236	1.67	759494	2.831	Si
SLV 1	924	-5751	309901	1.06	509526	1.644	Si
SLV 1	1104	-2396	-198766	0.44	224007	1.127	Si
SLV 2	924	-5751	309901	1.06	509526	1.644	Si
SLV 2	1104	-2396	-198766	0.44	224007	1.127	Si
SLV 16	924	-8526	-321002	1.57	720802	2.245	Si
SLV 16	1104	-10756	295157	1.98	874244	2.962	Si
SLV 15	924	-8526	-321002	1.57	720802	2.245	Si
SLV 15	1104	-10756	295157	1.98	874244	2.962	Si
SLV 5	924	-3236	110731	0.6	298616	2.697	Si
SLV 5	1104	-2763	-66723	0.51	256895	3.85	Si
SLV 4	924	-8050	295630	1.48	686124	2.321	Si
SLV 4	1104	-4083	-171845	0.75	371660	2.163	Si
SLV 14	924	-6228	-306730	1.15	547405	1.785	Si
SLV 14	1104	-9069	268236	1.67	759494	2.831	Si
SLV 3	924	-8050	295630	1.48	686124	2.321	Si
SLV 3	1104	-4083	-171845	0.75	371660	2.163	Si

# Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 73	924	-9547	-1549	-12037		1.76	194	0.79	4291			2.77	Si
SLU 73	1104	-9274	-1542	76046		1.71	194	0.78	4254			2.76	Si
SLU 76	924	-9771	-1418	-18164		1.8	194	0.8	4321			3.05	Si
SLU 76	1104	-9438	-1411	51958		1.74	194	0.79	4276			3.03	Si
SLU 31	924	-7774	-1384	-13021		1.43	194	0.75	4054			2.93	Si
SLU 31	1104	-7802	-1377	64797		1.44	194	0.75	4058			2.95	Si
SLU 82	924	-9930	-1637	-13426		1.83	194	0.8	4342			2.65	Si
SLU 82	1104	-9741	-1633	82514		1.79	194	0.79	4317			2.64	Si
SLU 40	924	-8157	-1472	-14410		1.5	194	0.76	4105			2.79	Si
SLU 40	1104	-8269	-1468	71265		1.52	194	0.76	4120			2.81	Si
SLU 81	924	-10122	-1573	-12955		1.86	194	0.8	4367			2.78	Si
SLU 81	1104	-9832	-1572	81486		1.81	194	0.8	4329			2.75	Si
SLU 83	924	-10346	-1441	-19083		1.9	194	0.81	4397			3.05	Si
SLU 83	1104	-9996	-1440	57398		1.84	194	0.8	4351			3.02	Si
SLU 61	924	-9187	-1441	-8040		1.69	194	0.78	4243			2.94	Si
SLU 61	1104	-8762	-1437	78363		1.61	194	0.77	4186			2.91	Si
SLU 39	924	-8349	-1407	-13939		1.54	194	0.76	4131			2.94	Si
SLU 39	1104	-8360	-1407	70237		1.54	194	0.76	4132			2.94	Si
SLU 84	924	-10154	-1506	-19553		1.87	194	0.8	4372			2.9	Si
SLU 84	1104	-9905	-1501	58426		1.82	194	0.8	4338			2.89	Si

# Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	924	-6228	-5921	-306730		1.55	143.24	1.14	4588			0.77	No, Vu<V
SLV 14	1104	-9069	-5164	268236		1.67	194	1.17	6340			1.23	Si
SLV 1	924	-5751	4360	309901		1.59	129.35	1.15	4168			0.96	No, Vu<V
SLV 1	1104	-2396	3372	-198766		2.03	42.11	1.24	1462			0.43	No, Vu<V
SLV 13	924	-6228	-5921	-306730		1.55	143.24	1.14	4588			0.77	No, Vu<V
SLV 13	1104	-9069	-5164	268236		1.67	194	1.17	6340			1.23	Si
SLV 3	924	-8050	4085	295630		1.59	180.82	1.15	5829			1.43	Si
SLV 3	1104	-4083	3329	-171845		0.89	164.73	1.01	4660			1.4	Si
SLD 16	924	-7729	-3173	-140308		1.42	194	1.12	6072			1.91	Si
SLD 16	1104	-8360	-2751	153650		1.54	194	1.14	6199			2.25	Si
SLV 4	924	-8050	4085	295630		1.59	180.82	1.15	5829			1.43	Si
SLV 4	1104	-4083	3329	-171845		0.89	164.73	1.01	4660			1.4	Si
SLD 15	924	-7729	-3173	-140308		1.42	194	1.12	6072			1.91	Si
SLD 15	1104	-8360	-2751	153650		1.54	194	1.14	6199			2.25	Si
SLV 16	924	-8526	-6196	-321002		1.71	178.05	1.18	5860			0.95	No, Vu<V
SLV 16	1104	-10756	-5207	295157		1.98	194	1.23	6678			1.28	Si
SLV 2	924	-5751	4360	309901		1.59	129.35	1.15	4168			0.96	No, Vu<V
SLV 2	1104	-2396	3372	-198766		2.03	42.11	1.24	1462			0.43	No, Vu<V
SLV 15	924	-8526	-6196	-321002		1.71	178.05	1.18	5860			0.95	No, Vu<V
SLV 15	1104	-10756	-5207	295157		1.98	194	1.23	6678			1.28	Si

# Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.46	0.62	-3384	23570	44955	1.91	Si
SLV 5	14	0.46	0.62	-3384	23570	44955	1.91	Si
SLV 1	14	0.46	0.75	-4079	23570	53600	2.27	Si
SLV 2	14	0.46	0.75	-4079	23570	53600	2.27	Si
SLV 9	14	0.46	0.86	-4658	23570	60631	2.57	Si
SLV 10	14	0.46	0.86	-4658	23570	60631	2.57	Si
SLV 4	14	0.46	1.1	-5950	23570	75829	3.22	Si
SLV 3	14	0.46	1.1	-5950	23570	75829	3.22	Si
SLV 13	14	0.46	1.53	-8326	23570	101944	4.33	Si
SLV 14	14	0.46	1.53	-8326	23570	101944	4.33	Si

# Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1010 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 6	-3046	-2473	158	0.021	5.93	0.897	34.157	1001.941	No
SLV 5	-3046	-2473	158	0.021	5.93	0.897	34.157	1001.941	No
SLV 9	-3951	-4124	133	0.028	6.815	0.904	45.625	1001.941	No



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 10	-3951	-4124	133	0.028	6.815	0.904	45.625	1001.941	No
SLV 12	-7275	-11802	-157	0.03	10.14	0.928	46.9	1001.941	No
SLV 11	-7275	-11802	-157	0.03	10.14	0.928	46.9	1001.941	No
SLV 7	-6371	-10150	-132	0.032	9.23	0.923	50.24	1001.941	No
SLV 8	-6371	-10150	-132	0.032	9.23	0.923	50.24	1001.941	No
SLV 2	-3155	-3233	85	0.036	6.035	0.898	58.942	1088.965	No
SLV 1	-3155	-3233	85	0.036	6.035	0.898	58.942	1088.965	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.698	SLU 61	Si
V_SLU	2.644	SLU 82	Si
PF_SLV	1.127	SLV 1	Si
V_SLV	0.434	SLV 1	No
PFFP_SLV	1.907	SLV 5	Si
R_SLV	0.034	SLV 5	No

## Maschio 186

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.3	-335.9	-12.3	595.1	L5	L6	931	28	352	352	352			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 8	834	-45793	-119916	1.76	16719626	139.428	Si
SLU 8	1186	-23295	271342	0.89	9654190	35.579	Si
SLU 5	834	-44783	-468942	1.72	16450103	35.079	Si
SLU 5	1186	-22016	91987	0.84	9185856	99.86	Si
SLU 23	834	-49084	-507720	1.88	17567057	34.6	Si
SLU 23	1186	-23632	62616	0.91	9776481	156.135	Si
SLU 26	834	-50594	-540838	1.94	17940034	33.171	Si
SLU 26	1186	-25083	113267	0.96	10297024	90.909	Si
SLU 34	834	-55696	-581007	2.14	19126336	32.919	Si
SLU 34	1186	-27244	113075	1.05	11054834	97.766	Si
SLU 29	834	-51604	-191811	1.98	18183835	94.801	Si
SLU 29	1186	-26362	292622	1.01	10748157	36.731	Si
SLU 13	834	-49886	-509111	1.91	17766396	34.897	Si
SLU 13	1186	-24176	91795	0.93	9972719	108.641	Si
SLU 31	834	-54186	-547890	2.08	18787142	34.29	Si
SLU 31	1186	-25792	62424	0.99	10548036	168.975	Si
SLU 10	834	-48376	-475994	1.86	17388731	36.531	Si
SLU 10	1186	-22725	41144	0.87	9446405	229.593	Si
SLU 50	834	-56633	-111370	2.17	19331592	173.58	Si
SLU 50	1186	-28361	315059	1.09	11438777	36.307	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 8	834	-42104	3633409	1.62	17008514	4.681	Si
SLV 8	1186	-21240	1474039	0.81	9227813	6.26	Si
SLV 12	834	-52214	4206563	2	20321187	4.831	Si
SLV 12	1186	-23012	1766170	0.88	9938046	5.627	Si
SLV 1	834	-28660	-2242662	1.1	12140882	5.414	Si
SLV 1	1186	-18861	-744032	0.72	8259974	11.102	Si
SLV 2	834	-28660	-2242662	1.1	12140882	5.414	Si
SLV 2	1186	-18861	-744032	0.72	8259974	11.102	Si
SLV 11	834	-52214	4206563	2	20321187	4.831	Si
SLV 11	1186	-23012	1766170	0.88	9938046	5.627	Si
SLV 6	834	-39568	-4377962	1.52	16130738	3.685	Si
SLV 6	1186	-20761	-1414040	0.8	9034229	6.389	Si
SLV 7	834	-42104	3633409	1.62	17008514	4.681	Si
SLV 7	1186	-21240	1474039	0.81	9227813	6.26	Si
SLV 10	834	-49678	-3804809	1.91	19518349	5.13	Si
SLV 10	1186	-22533	-1121909	0.86	9746943	8.688	Si
SLV 5	834	-39568	-4377962	1.52	16130738	3.685	Si
SLV 5	1186	-20761	-1414040	0.8	9034229	6.389	Si
SLV 9	834	-49678	-3804809	1.91	19518349	5.13	Si
SLV 9	1186	-22533	-1121909	0.86	9746943	8.688	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	$\sigma N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 43	834	-53612	584	-45136		2.06	931	0.83	21631			37.03	Si
SLU 43	1186	-25459	582	213756		0.98	931	0.69	17877			30.72	Si
SLU 81	834	-66712	733	-174416		2.56	931	0.9	23377			31.89	Si
SLU 81	1186	-31612	730	234761		1.21	931	0.72	18697			25.61	Si
SLU 83	834	-68222	649	-207533		2.62	931	0.9	23579			36.33	Si
SLU 83	1186	-33063	645	285412		1.27	931	0.72	18891			29.3	Si
SLU 18	834	-50062	561	-111066		1.92	931	0.81	21157			37.71	Si
SLU 18	1186	-23479	559	169766		0.9	931	0.68	17613			31.5	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLU 74	834	-66906	642	-202656		2.57	931	0.9	23403			36.44	Si
SLU 74	1186	-32646	638	-272590		1.25	931	0.72	18835			29.52	Si
SLU 60	834	-60902	683	-102520		2.34	931	0.87	22602			33.12	Si
SLU 60	1186	-28545	680	-213482		1.1	931	0.7	18288			26.88	Si
SLU 39	834	-55873	612	-182961		2.14	931	0.84	21932			35.86	Si
SLU 39	1186	-26546	609	-191045		1.02	931	0.69	18022			29.59	Si
SLU 62	834	-62412	599	-135638		2.39	931	0.87	22804			38.1	Si
SLU 62	1186	-29996	595	-264133		1.15	931	0.71	18482			31.07	Si
SLU 53	834	-61095	592	-130761		2.34	931	0.87	22628			38.24	Si
SLU 53	1186	-29578	588	-251311		1.13	931	0.71	18426			31.32	Si
SLU 64	834	-59423	635	-117031		2.28	931	0.86	22405			35.31	Si
SLU 64	1186	-28526	632	-235036		1.09	931	0.7	18286			28.95	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLV 12	834	-52214	15187	4206563		2	931	1.23	32166			2.12	Si
SLV 12	1186	-23012	10984	1766170		0.88	931	1.01	26326			2.4	Si
SLV 9	834	-49678	-13936	-3804809		1.91	931	1.21	31659			2.27	Si
SLV 9	1186	-22533	-9786	-1121909		0.86	931	1.01	26230			2.68	Si
SLD 8	834	-44274	6614	1490757		1.7	931	1.17	30578			4.62	Si
SLD 8	1186	-21609	4852	727394		0.83	931	1	26045			5.37	Si
SLV 7	834	-42104	14929	3633409		1.62	931	1.16	30144			2.02	Si
SLV 7	1186	-21240	10775	1474039		0.81	931	1	25971			2.41	Si
SLV 6	834	-39568	-14193	-4377962		1.52	931	1.14	29637			2.09	Si
SLV 6	1186	-20761	-9994	-1414040		0.8	931	0.99	25875			2.59	Si
SLV 5	834	-39568	-14193	-4377962		1.52	931	1.14	29637			2.09	Si
SLV 5	1186	-20761	-9994	-1414040		0.8	931	0.99	25875			2.59	Si
SLV 11	834	-52214	15187	4206563		2	931	1.23	32166			2.12	Si
SLV 11	1186	-23012	10984	1766170		0.88	931	1.01	26326			2.4	Si
SLV 10	834	-49678	-13936	-3804809		1.91	931	1.21	31659			2.27	Si
SLV 10	1186	-22533	-9786	-1121909		0.86	931	1.01	26230			2.68	Si
SLV 8	834	-42104	14929	3633409		1.62	931	1.16	30144			2.02	Si
SLV 8	1186	-21240	10775	1474039		0.81	931	1	25971			2.41	Si
SLD 7	834	-44274	6614	1490757		1.7	931	1.17	30578			4.62	Si
SLD 7	1186	-21609	4852	727394		0.83	931	1	26045			5.37	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1010 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 1	14	0.46	0.95	-24669	113111	318617	2.82	Si
SLV 2	14	0.46	0.95	-24669	113111	318617	2.82	Si
SLV 3	14	0.46	0.97	-25235	113111	325303	2.88	Si
SLV 4	14	0.46	0.97	-25235	113111	325303	2.88	Si
SLV 5	14	0.46	1.14	-29758	113111	377690	3.34	Si
SLV 6	14	0.46	1.14	-29758	113111	377690	3.34	Si
SLV 8	14	0.46	1.21	-31646	113111	399021	3.53	Si
SLV 7	14	0.46	1.21	-31646	113111	399021	3.53	Si
SLV 10	14	0.46	1.33	-34686	113111	432728	3.83	Si
SLV 9	14	0.46	1.33	-34686	113111	432728	3.83	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1010 Wa = 0.05 Ta = 0.0739

Comb.	N top	N base	V orto	$\sigma_0$	M*	e*	$\sigma_0^*$	aLim	Verifica
SLV 15	-24911	-63121	-204	0.044	38.62	0.915	69.174	1088.965	No
SLV 16	-24911	-63121	-204	0.044	38.62	0.915	69.174	1088.965	No
SLV 13	-24768	-62361	-199	0.044	38.476	0.914	69.474	1088.965	No
SLV 14	-24768	-62361	-199	0.044	38.476	0.914	69.474	1088.965	No
SLV 2	-18861	-28660	215	0.044	32.61	0.904	70.63	1088.965	No
SLV 1	-18861	-28660	215	0.044	32.61	0.904	70.63	1088.965	No
SLV 3	-19005	-29421	210	0.044	32.752	0.905	70.89	1088.965	No
SLV 4	-19005	-29421	210	0.044	32.752	0.905	70.89	1088.965	No
SLV 12	-23012	-52214	-65	0.048	36.725	0.911	76.839	1001.941	No
SLV 11	-23012	-52214	-65	0.048	36.725	0.911	76.839	1001.941	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	32.919	SLU 34	Si
V_SLU	25.608	SLU 81	Si
PF_SLV	3.685	SLV 5	Si
V_SLV	2.019	SLV 7	Si
PFFP_SLV	2.817	SLV 1	Si
R_SLV	0.064	SLV 15	No

## Maschio 187

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-2467.8	-335.9	-2467.8	126.6	L6	L7	462.6	28	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>k</sub>	f <sub>vk0</sub>	f <sub>medio</sub>	$\tau_0$	f <sub>v0</sub>	$\mu$	$\phi$	f <sub>v,lim</sub>	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2



Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 29	1186	-11366	-440551	0.88	2345536	5.324	Si
SLU 29	1396	-4957	-347741	0.38	1092677	3.142	Si
SLU 37	1186	-11607	-550413	0.9	2389108	4.341	Si
SLU 37	1396	-4947	-411359	0.38	1090432	2.651	Si
SLU 36	1186	-11891	-571126	0.92	2440284	4.273	Si
SLU 36	1396	-5115	-415489	0.39	1125766	2.709	Si
SLU 38	1186	-11857	-556810	0.92	2434232	4.372	Si
SLU 38	1396	-5144	-408793	0.4	1131734	2.768	Si
SLU 35	1186	-11640	-564728	0.9	2395198	4.241	Si
SLU 35	1396	-4918	-418054	0.38	1084440	2.594	Si
SLU 33	1186	-11233	-459383	0.87	2321407	5.053	Si
SLU 33	1396	-4591	-320310	0.35	1015664	3.171	Si
SLU 27	1186	-11400	-454867	0.88	2351661	5.17	Si
SLU 27	1396	-4929	-354436	0.38	1086686	3.066	Si
SLU 42	1186	-11302	-492151	0.87	2334038	4.743	Si
SLU 42	1396	-4615	-340880	0.36	1020728	2.994	Si
SLU 41	1186	-11052	-485753	0.85	2288304	4.711	Si
SLU 41	1396	-4418	-343445	0.34	978969	2.85	Si
SLU 32	1186	-10982	-452985	0.85	2275597	5.024	Si
SLU 32	1396	-4394	-322876	0.34	973884	3.016	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 6	1186	-11003	-689112	0.85	2367922	3.436	Si
SLV 6	1396	-5339	-104684	0.41	1193143	11.398	Si
SLV 4	1186	-9217	-69003	0.71	2007509	29.093	Si
SLV 4	1396	-2579	-297051	0.2	586859	1.976	Si
SLV 2	1186	-10029	-380235	0.77	2172466	5.713	Si
SLV 2	1396	-3661	-264304	0.28	827234	3.13	Si
SLV 10	1186	-11027	-642633	0.85	2372584	3.692	Si
SLV 10	1396	-5695	-614	0.44	1269709	1000	Si
SLV 8	1186	-8297	348327	0.64	1818282	5.22	Si
SLV 8	1396	-1732	-213841	0.13	396268	1.853	Si
SLV 5	1186	-11003	-689112	0.85	2367922	3.436	Si
SLV 5	1396	-5339	-104684	0.41	1193143	11.398	Si
SLV 3	1186	-9217	-69003	0.71	2007509	29.093	Si
SLV 3	1396	-2579	-297051	0.2	586859	1.976	Si
SLV 1	1186	-10029	-380235	0.77	2172466	5.713	Si
SLV 1	1396	-3661	-264304	0.28	827234	3.13	Si
SLV 7	1186	-8297	348327	0.64	1818282	5.22	Si
SLV 7	1396	-1732	-213841	0.13	396268	1.853	Si
SLV 9	1186	-11027	-642633	0.85	2372584	3.692	Si
SLV 9	1396	-5695	-614	0.44	1269709	1000	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 77	1186	-14244	1575	-538677		1.1	462.57	0.7	9095			5.78	Si
SLU 77	1396	-5918	1634	-403770		0.46	462.57	0.62	7985			4.89	Si
SLU 70	1186	-14254	1480	-435213		1.1	462.57	0.7	9096			6.15	Si
SLU 70	1396	-6126	1640	-337586		0.47	462.57	0.62	8012			4.89	Si
SLU 84	1186	-13906	1466	-466099		1.07	462.57	0.7	9050			6.17	Si
SLU 84	1396	-5615	1609	-326596		0.43	462.57	0.61	7944			4.94	Si
SLU 79	1186	-14211	1541	-524361		1.1	462.57	0.7	9090			5.9	Si
SLU 79	1396	-5946	1604	-397074		0.46	462.57	0.62	7988			4.98	Si
SLU 78	1186	-14495	1536	-545074		1.12	462.57	0.7	9128			5.94	Si
SLU 78	1396	-6115	1696	-401205		0.47	462.57	0.62	8011			4.72	Si
SLU 75	1186	-13837	1475	-433331		1.07	462.57	0.7	9040			6.13	Si
SLU 75	1396	-5591	1615	-306026		0.43	462.57	0.61	7941			4.92	Si
SLU 72	1186	-14221	1446	-420897		1.1	462.57	0.7	9092			6.29	Si
SLU 72	1396	-6154	1609	-330891		0.48	462.57	0.62	8016			4.98	Si
SLU 57	1186	-13856	1438	-403252		1.07	462.57	0.7	9043			6.29	Si
SLU 57	1396	-5846	1589	-305539		0.45	462.57	0.62	7975			5.02	Si
SLU 80	1186	-14461	1503	-530758		1.12	462.57	0.7	9124			6.07	Si
SLU 80	1396	-6144	1666	-394509		0.47	462.57	0.62	8015			4.81	Si
SLU 76	1186	-13970	1416	-423280		1.08	462.57	0.7	9058			6.4	Si
SLU 76	1396	-5751	1626	-297620		0.44	462.57	0.61	7962			4.9	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	1186	-9217	2939	-69003		0.71	462.57	0.98	12637			4.3	Si
SLV 4	1396	-2579	2393	-297051		0.26	348.37	0.89	8645			3.61	Si
SLD 8	1186	-9082	2869	63277		0.7	462.57	0.97	12610			4.39	Si
SLD 8	1396	-2876	2014	-152877		0.22	462.57	0.88	11369			5.65	Si
SLV 8	1186	-8297	5367	348327		0.64	462.57	0.96	12453			2.32	Si
SLV 8	1396	-1732	3293	-213841		0.19	323.52	0.87	7895			2.4	Si
SLV 7	1186	-8297	5367	348327		0.64	462.57	0.96	12453			2.32	Si
SLV 7	1396	-1732	3293	-213841		0.19	323.52	0.87	7895			2.4	Si
SLV 10	1186	-11027	-3283	-642633		0.85	462.57	1	12999			3.96	Si
SLV 10	1396	-5695	-1180	-614		0.44	462.57	0.92	11932			10.11	Si
SLV 3	1186	-9217	2939	-69003		0.71	462.57	0.98	12637			4.3	Si
SLV 3	1396	-2579	2393	-297051		0.26	348.37	0.89	8645			3.61	Si
SLV 9	1186	-11027	-3283	-642633		0.85	462.57	1	12999			3.96	Si
SLV 9	1396	-5695	-1180	-614		0.44	462.57	0.92	11932			10.11	Si
SLD 7	1186	-9082	2869	63277		0.7	462.57	0.97	12610			4.39	Si
SLD 7	1396	-2876	2014	-152877		0.22	462.57	0.88	11369			5.65	Si
SLV 12	1186	-8320	4972	394806		0.64	462.57	0.96	12457			2.51	Si
SLV 12	1396	-2088	2855	-109771		0.16	462.57	0.87	11211			3.93	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 11	1186	-8320	4972	394806		0.64	462.57	0.96	12457			2.51	Si
SLV 11	1396	-2088	2855	-109771		0.16	462.57	0.87	11211			3.93	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.53	0	-2893	52246	0	0	No, $e > t/2$
SLV 4	14	0.53	0	-3714	52246	0	0	No, $e > t/2$
SLV 11	14	0.53	0	-3223	52246	0	0	No, $e > t/2$
SLV 12	14	0.53	0	-3223	52246	0	0	No, $e > t/2$
SLV 7	14	0.53	0	-2893	52246	0	0	No, $e > t/2$
SLV 3	14	0.53	0	-3714	52246	0	0	No, $e > t/2$
SLV 2	14	0.53	0.37	-4748	52246	64475	1.23	Si
SLV 1	14	0.53	0.37	-4748	52246	64475	1.23	Si
SLV 16	14	0.53	0.37	-4814	52246	65348	1.25	Si
SLV 15	14	0.53	0.37	-4814	52246	65348	1.25	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1344 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 1	-31	-10029	-569	0	7.51	0.996	0	978.751	No
SLV 9	-905	-11027	415	0	7.814	0.927	0	915.209	No
SLV 3	304	-9217	-642	0	0	0	0	978.751	No, Trazione
SLV 12	213	-8320	169	0	0	0	0	915.209	No, Trazione
SLV 11	213	-8320	169	0	0	0	0	915.209	No, Trazione
SLV 2	-31	-10029	-569	0	7.51	0.996	0	978.751	No
SLV 7	435	-8297	-245	0	0	0	0	915.209	No, Trazione
SLV 8	435	-8297	-245	0	0	0	0	915.209	No, Trazione
SLV 10	-905	-11027	415	0	7.814	0.927	0	915.209	No
SLV 4	304	-9217	-642	0	0	0	0	978.751	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF SLU	2.594	SLU 35	Si
V SLU	4.723	SLU 78	Si
PF SLV	1.853	SLV 7	Si
V SLV	2.32	SLV 7	Si
PFFP SLV	0	SLV 3	No
R SLV	0	SLV 12	No

## Maschio 188

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2467.8	206.6	-2467.8	595.1	L6	L7	388.5	28	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedlo	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 29	1186	-11314	284476	1.04	1917155	6.739	Si
SLU 29	1396	-5146	200661	0.47	941499	4.692	Si
SLU 7	1186	-10320	196628	0.95	1771245	9.008	Si
SLU 7	1396	-4510	182892	0.41	831537	4.547	Si
SLU 9	1186	-10306	192065	0.95	1769027	9.211	Si
SLU 9	1396	-4534	187019	0.42	835611	4.468	Si
SLU 36	1186	-11781	304763	1.08	1984268	6.511	Si
SLU 36	1396	-5248	200314	0.48	959104	4.788	Si
SLU 28	1186	-11299	265627	1.04	1914989	7.209	Si
SLU 28	1396	-5036	206961	0.46	922568	4.458	Si
SLU 30	1186	-11284	261065	1.04	1912835	7.327	Si
SLU 30	1396	-5059	211088	0.47	926588	4.39	Si
SLU 17	1186	-10788	231200	0.99	1840406	7.96	Si
SLU 17	1396	-4746	180372	0.44	872615	4.838	Si
SLU 38	1186	-11767	300200	1.08	1982145	6.603	Si
SLU 38	1396	-5272	204442	0.48	963102	4.711	Si
SLU 27	1186	-11329	289038	1.04	1919307	6.64	Si
SLU 27	1396	-5122	196533	0.47	937488	4.77	Si
SLU 8	1186	-10335	215476	0.95	1773475	8.23	Si
SLU 8	1396	-4620	176591	0.42	850722	4.817	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 5	1186	-7788	-238763	0.72	1424163	5.965	Si
SLV 5	1396	-1989	144403	0.18	380537	2.635	Si
SLV 9	1186	-6759	-262454	0.62	1246171	4.748	Si
SLV 9	1396	-1708	158370	0.16	327494	2.068	Si
SLV 7	1186	-10585	447855	0.97	1892356	4.225	Si
SLV 7	1396	-5221	-58986	0.48	974273	16.517	Si
SLV 8	1186	-10585	447855	0.97	1892356	4.225	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 8	1396	-5221	-58986	0.48	974273	16.517	Si
SLV 13	1186	-6538	-49778	0.6	1207449	24.256	Si
SLV 13	1396	-2511	103479	0.23	478612	4.625	Si
SLV 14	1186	-6538	-49778	0.6	1207449	24.256	Si
SLV 14	1396	-2511	103479	0.23	478612	4.625	Si
SLV 11	1186	-9556	424163	0.88	1722774	4.062	Si
SLV 11	1396	-4940	-45019	0.45	923884	20.522	Si
SLV 10	1186	-6759	-262454	0.62	1246171	4.748	Si
SLV 10	1396	-1708	158370	0.16	327494	2.068	Si
SLV 6	1186	-7788	-238763	0.72	1424163	5.965	Si
SLV 6	1396	-1989	144403	0.18	380537	2.635	Si
SLV 12	1186	-9556	424163	0.88	1722774	4.062	Si
SLV 12	1396	-4940	-45019	0.45	923884	20.522	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 51	1186	-12446	-1789	186949		1.14	388.5	0.71	7703			4.3	Si
SLU 51	1396	-5330	-1917	192181		0.49	388.5	0.62	6754			3.52	Si
SLU 80	1186	-13907	-1962	295084		1.28	388.5	0.73	7898			4.03	Si
SLU 80	1396	-6068	-2110	209604		0.56	388.5	0.63	6852			3.25	Si
SLU 78	1186	-13922	-1958	299647		1.28	388.5	0.73	7900			4.03	Si
SLU 78	1396	-6044	-2098	205476		0.56	388.5	0.63	6849			3.26	Si
SLU 70	1186	-13440	-1927	260512		1.24	388.5	0.72	7835			4.07	Si
SLU 70	1396	-5831	-2067	212123		0.54	388.5	0.63	6821			3.3	Si
SLU 59	1186	-12929	-1821	226084		1.19	388.5	0.71	7767			4.27	Si
SLU 59	1396	-5542	-1948	185534		0.51	388.5	0.62	6782			3.48	Si
SLU 72	1186	-13425	-1931	255949		1.23	388.5	0.72	7833			4.06	Si
SLU 72	1396	-5855	-2079	216250		0.54	388.5	0.63	6824			3.28	Si
SLU 38	1186	-11767	-1758	300200		1.08	388.5	0.7	7612			4.33	Si
SLU 38	1396	-5272	-1904	204442		0.48	388.5	0.62	6746			3.54	Si
SLU 57	1186	-12943	-1817	230647		1.19	388.5	0.71	7769			4.28	Si
SLU 57	1396	-5519	-1936	181407		0.51	388.5	0.62	6779			3.5	Si
SLU 68	1186	-12365	-1809	163506		1.14	388.5	0.71	7692			4.25	Si
SLU 68	1396	-5113	-1909	157263		0.47	388.5	0.62	6725			3.52	Si
SLU 76	1186	-12847	-1840	202641		1.18	388.5	0.71	7756			4.22	Si
SLU 76	1396	-5326	-1940	150617		0.49	388.5	0.62	6754			3.48	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 6	1186	-8302	-2384	-48193		0.76	388.5	0.99	10725			4.5	Si
SLD 6	1396	-2844	-1711	90491		0.26	388.5	0.89	9634			5.63	Si
SLV 12	1186	-9556	2624	424163		0.88	388.5	1.01	10976			4.18	Si
SLV 12	1396	-4940	921	-45019		0.45	388.5	0.92	10053			10.91	Si
SLV 2	1186	-9967	-2441	29194		0.92	388.5	1.02	11058			4.53	Si
SLV 2	1396	-3448	-2203	56922		0.32	388.5	0.9	9755			4.43	Si
SLV 11	1186	-9556	2624	424163		0.88	388.5	1.01	10976			4.18	Si
SLV 11	1396	-4940	921	-45019		0.45	388.5	0.92	10053			10.91	Si
SLV 6	1186	-7788	-4409	-238763		0.72	388.5	0.98	10623			2.41	Si
SLV 6	1396	-1989	-2774	144403		0.19	364.92	0.87	8913			3.21	Si
SLV 10	1186	-6759	-4083	-262454		0.62	388.5	0.96	10417			2.55	Si
SLV 10	1396	-1708	-2298	158370		0.2	304.56	0.87	7448			3.24	Si
SLD 5	1186	-8302	-2384	-48193		0.76	388.5	0.99	10725			4.5	Si
SLD 5	1396	-2844	-1711	90491		0.26	388.5	0.89	9634			5.63	Si
SLV 1	1186	-9967	-2441	29194		0.92	388.5	1.02	11058			4.53	Si
SLV 1	1396	-3448	-2203	56922		0.32	388.5	0.9	9755			4.43	Si
SLV 5	1186	-7788	-4409	-238763		0.72	388.5	0.98	10623			2.41	Si
SLV 5	1396	-1989	-2774	144403		0.19	364.92	0.87	8913			3.21	Si
SLV 9	1186	-6759	-4083	-262454		0.62	388.5	0.96	10417			2.55	Si
SLV 9	1396	-1708	-2298	158370		0.2	304.56	0.87	7448			3.24	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344  $W_a$  0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.53	0	-2783	43880	0	0	No, $e > t/2$
SLV 10	14	0.53	0	-2783	43880	0	0	No, $e > t/2$
SLV 6	14	0.53	0.3	-3249	43880	44376	1.01	Si
SLV 5	14	0.53	0.3	-3249	43880	44376	1.01	Si
SLV 13	14	0.53	0.3	-3303	43880	45099	1.03	Si
SLV 14	14	0.53	0.3	-3303	43880	45099	1.03	Si
SLV 16	14	0.53	0.39	-4215	43880	57140	1.3	Si
SLV 15	14	0.53	0.39	-4215	43880	57140	1.3	Si
SLV 1	14	0.53	0.45	-4856	43880	65502	1.49	Si
SLV 2	14	0.53	0.45	-4856	43880	65502	1.49	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1344  $W_a = 0.05$   $T_a = 0.0596$

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	$\alpha_{lim}$	Verifica
SLV 12	-1097	-9556	455	0	6.771	0.912	0	915.209	No
SLV 2	783	-9967	-304	0	0	0	0	978.751	No, Trazione
SLV 6	824	-7788	-185	0	0	0	0	915.209	No, Trazione
SLV 5	824	-7788	-185	0	0	0	0	915.209	No, Trazione
SLV 4	331	-10806	-180	0	0	0	0	978.751	No, Trazione
SLV 1	783	-9967	-304	0	0	0	0	978.751	No, Trazione
SLV 9	409	-6759	41	0	0	0	0	915.209	No, Trazione
SLV 10	409	-6759	41	0	0	0	0	915.209	No, Trazione
SLV 11	-1097	-9556	455	0	6.771	0.912	0	915.209	No
SLV 3	331	-10806	-180	0	0	0	0	978.751	No, Trazione



## Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.39	SLU 30	Si
V_SLU	3.247	SLU 80	Si
PF_SLV	2.068	SLV 9	Si
V_SLV	2.41	SLV 5	Si
PFFP_SLV	0	SLV 9	No
R_SLV	0	SLV 10	No

## Maschio 189

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-2271.3	595.1	-2467.8	595.1	L6	L7	196.5	28	316	316	316			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 37	1276	-3324	226573	0.6	302388	1.335	Si
SLU 37	1456	-2651	-104749	0.48	245068	2.34	Si
SLU 36	1276	-3601	214068	0.65	325392	1.52	Si
SLU 36	1456	-3025	-110922	0.55	277161	2.499	Si
SLU 34	1276	-2943	177300	0.53	270153	1.524	Si
SLU 34	1456	-2203	-76004	0.4	205809	2.708	Si
SLU 38	1276	-3280	226632	0.6	298696	1.318	Si
SLU 38	1456	-2646	-106998	0.48	244615	2.286	Si
SLU 30	1276	-3420	208558	0.62	310407	1.488	Si
SLU 30	1456	-2613	-110216	0.47	241769	2.194	Si
SLU 41	1276	-2956	184949	0.54	271296	1.467	Si
SLU 41	1456	-2226	-70876	0.4	207827	2.932	Si
SLU 80	1276	-4057	236352	0.74	362481	1.534	Si
SLU 80	1456	-2970	-111679	0.54	272440	2.439	Si
SLU 17	1276	-3159	190531	0.57	288453	1.514	Si
SLU 17	1456	-2338	-94223	0.42	217706	2.311	Si
SLU 29	1276	-3464	208499	0.63	314072	1.506	Si
SLU 29	1456	-2618	-107966	0.48	242223	2.244	Si
SLU 42	1276	-2912	185007	0.53	267532	1.446	Si
SLU 42	1456	-2221	-73126	0.4	207364	2.836	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 7	1276	-2797	229855	0.51	263364	1.146	Si
SLV 7	1456	-1863	-2242	0.34	177980	79.384	Si
SLD 3	1276	-2475	158392	0.45	234181	1.478	Si
SLD 3	1456	-1474	-58166	0.27	141613	2.435	Si
SLV 1	1276	-1976	190599	0.36	188472	0.989	No, M>Mu
SLV 1	1456	-1149	-124239	0	0	0	No, e>l/2
SLD 4	1276	-2475	158392	0.45	234181	1.478	Si
SLD 4	1456	-1474	-58166	0.27	141613	2.435	Si
SLV 5	1276	-2248	27507	0.41	213517	7.762	Si
SLV 5	1456	-1041	-108819	0	0	0	No, e>l/2
SLV 4	1276	-2141	251303	0	0	0	No, e>l/2
SLV 4	1456	-1396	-92266	0.25	134300	1.456	Si
SLV 3	1276	-2141	251303	0	0	0	No, e>l/2
SLV 3	1456	-1396	-92266	0.25	134300	1.456	Si
SLV 8	1276	-2797	229855	0.51	263364	1.146	Si
SLV 8	1456	-1863	-2242	0.34	177980	79.384	Si
SLV 2	1276	-1976	190599	0.36	188472	0.989	No, M>Mu
SLV 2	1456	-1149	-124239	0	0	0	No, e>l/2
SLV 6	1276	-2248	27507	0.41	213517	7.762	Si
SLV 6	1456	-1041	-108819	0	0	0	No, e>l/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 38	1276	-3280	2620	226632		1.34	87.48	0.73	1798			0.69	No, Vu<V
SLU 38	1456	-2646	2401	-106998		0.54	173.43	0.63	3051			1.27	Si
SLU 41	1276	-2956	2106	184949		0.99	107.07	0.69	2060			0.98	No, Vu<V
SLU 41	1456	-2226	1961	-70876		0.4	196.5	0.61	3353			1.71	Si
SLU 35	1276	-3645	2564	214009		1.1	118.63	0.7	2331			0.91	No, Vu<V
SLU 35	1456	-3030	2358	-108672		0.58	187.17	0.63	3316			1.41	Si
SLU 79	1276	-4101	2718	236293		1.2	121.88	0.72	2443			0.9	No, Vu<V
SLU 79	1456	-2975	2498	-109430		0.58	184.4	0.63	3265			1.31	Si
SLU 80	1276	-4057	2752	236352		1.21	119.96	0.72	2407			0.87	No, Vu<V
SLU 80	1456	-2970	2532	-111679		0.58	181.93	0.63	3226			1.27	Si
SLU 29	1276	-3464	2408	208499		1.08	114.2	0.7	2238			0.93	No, Vu<V
SLU 29	1456	-2618	2190	-107966		0.55	171.05	0.63	3010			1.37	Si
SLU 36	1276	-3601	2599	214068		1.1	116.42	0.7	2291			0.88	No, Vu<V
SLU 36	1456	-3025	2392	-110922		0.58	184.75	0.63	3277			1.37	Si
SLU 30	1276	-3420	2443	208558		1.09	111.83	0.7	2196			0.9	No, Vu<V
SLU 30	1456	-2613	2224	-110216		0.55	168.22	0.63	2965			1.33	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 37	1276	-3324	2585	226573		1.32	90.28	0.73	1848			0.71	No, Vu<V
SLU 37	1456	-2651	2367	-104749		0.54	176.22	0.63	3095			1.31	Si
SLU 42	1276	-2912	2140	185007		1	104.17	0.69	2009			0.94	No, Vu<V
SLU 42	1456	-2221	1995	-73126		0.4	195.96	0.61	3344			1.68	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 7	1276	-2797	2058	229855		2.07	48.2	1.25	1684			0.82	No, Vu<V
SLV 7	1456	-1863	1466	-2242		0.34	196.5	0.9	4958			3.38	Si
SLV 3	1276	-2141	3059	251303		0	0	0.83	0			0	No, Vu<V
SLV 3	1456	-1396	1736	-92266		0.52	96.46	0.94	2530			1.46	Si
SLV 8	1276	-2797	2058	229855		2.07	48.2	1.25	1684			0.82	No, Vu<V
SLV 8	1456	-1863	1466	-2242		0.34	196.5	0.9	4958			3.38	Si
SLV 6	1276	-2248	1189	27507		0.41	196.5	0.92	5035			4.24	Si
SLV 6	1456	-1041	948	-108819		0	0	0.83	0			0	No, Vu<V
SLV 4	1276	-2141	3059	251303		0	0	0.83	0			0	No, Vu<V
SLV 4	1456	-1396	1736	-92266		0.52	96.46	0.94	2530			1.46	Si
SLD 4	1276	-2475	1915	158392		0.86	102.73	1.01	2892			1.51	Si
SLD 4	1456	-1474	1318	-58166		0.3	176.34	0.89	4409			3.34	Si
SLV 2	1276	-1976	2798	190599		12.98	5.44	1.63	247			0.09	No, Vu<V
SLV 2	1456	-1149	1581	-124239		0	0	0.83	0			0	No, Vu<V
SLD 3	1276	-2475	1915	158392		0.86	102.73	1.01	2892			1.51	Si
SLD 3	1456	-1474	1318	-58166		0.3	176.34	0.89	4409			3.34	Si
SLV 5	1276	-2248	1189	27507		0.41	196.5	0.92	5035			4.24	Si
SLV 5	1456	-1041	948	-108819		0	0	0.83	0			0	No, Vu<V
SLV 1	1276	-1976	2798	190599		12.98	5.44	1.63	247			0.09	No, Vu<V
SLV 1	1456	-1149	1581	-124239		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344  $W_a$  0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 2	14	0.53	0.41	-2254	22194	30503	1.37	Si
SLV 1	14	0.53	0.41	-2254	22194	30503	1.37	Si
SLV 6	14	0.53	0.41	-2283	22194	30874	1.39	Si
SLV 5	14	0.53	0.41	-2283	22194	30874	1.39	Si
SLV 3	14	0.53	0.43	-2360	22194	31878	1.44	Si
SLV 4	14	0.53	0.43	-2360	22194	31878	1.44	Si
SLV 10	14	0.53	0.44	-2413	22194	32565	1.47	Si
SLV 9	14	0.53	0.44	-2413	22194	32565	1.47	Si
SLV 8	14	0.53	0.48	-2634	22194	35436	1.6	Si
SLV 7	14	0.53	0.48	-2634	22194	35436	1.6	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1344  $W_a = 0.05$   $T_a = 0.0596$

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 5	-1336	-2526	-172	0.009	4.049	0.89	14.519	915.209	No
SLV 6	-1336	-2526	-172	0.009	4.049	0.89	14.519	915.209	No
SLV 9	-1069	-1984	-160	0.01	3.819	0.892	16.368	915.209	No
SLV 10	-1069	-1984	-160	0.01	3.819	0.892	16.368	915.209	No
SLV 1	-1877	-3949	-139	0.024	4.541	0.89	39.266	978.751	No
SLV 2	-1877	-3949	-139	0.024	4.541	0.89	39.266	978.751	No
SLV 14	-987	-2144	-97	0.033	3.751	0.894	54.182	978.751	No
SLV 13	-987	-2144	-97	0.033	3.751	0.894	54.182	978.751	No
SLV 3	-2074	-4627	-98	0.036	4.726	0.891	59.292	978.751	No
SLV 4	-2074	-4627	-98	0.036	4.726	0.891	59.292	978.751	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.318	SLU 38	Si
V_SLV	0.686	SLU 38	No
PF_SLV	0	SLV 1	No
V_SLV	0	SLV 1	No
PFFP_SLV	1.374	SLV 1	Si
R_SLV	0.016	SLV 5	No

## Maschio 190

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1975.8	595.1	-2181.3	595.1	L6	L7	205.5	28	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 58	1276	1738	252051	0	0	0	No, Trazione
SLU 58	1456	4329	477425	0	0	0	No, Trazione
SLU 60	1276	-2174	88042	0.38	213054	2.42	Si
SLU 60	1456	417	157162	0	0	0	No, Trazione
SLU 61	1276	-2161	91697	0.38	211817	2.31	Si





Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 61	1456	430	159704	0	0	0	No, Trazione
SLU 57	1276	975	246335	0	0	0	No, Trazione
SLU 57	1456	3567	466198	0	0	0	No, Trazione
SLU 55	1276	-209	175654	0	0	0	No, $e>l/2$
SLU 55	1456	2383	321214	0	0	0	No, Trazione
SLU 54	1276	-993	163845	0	0	0	No, $e>l/2$
SLU 54	1456	1598	305749	0	0	0	No, Trazione
SLU 1	1276	-1536	75397	0.27	152637	2.024	Si
SLU 1	1456	465	137856	0	0	0	No, Trazione
SLU 53	1276	-1007	160189	0	0	0	No, $e>l/2$
SLU 53	1456	1585	303207	0	0	0	No, Trazione
SLU 56	1276	962	242679	0	0	0	No, Trazione
SLU 56	1456	3554	463655	0	0	0	No, Trazione
SLU 59	1276	1751	255707	0	0	0	No, Trazione
SLU 59	1456	4343	479968	0	0	0	No, Trazione

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 14	1276	-1119	-36590	0.19	113169	3.093	Si
SLV 14	1456	1454	361228	0	0	0	No, Trazione
SLV 13	1276	-1119	-36590	0.19	113169	3.093	Si
SLV 13	1456	1454	361228	0	0	0	No, Trazione
SLV 7	1276	-2196	180996	0.38	218543	1.207	Si
SLV 7	1456	-416	-73887	0	0	0	No, $e>l/2$
SLV 6	1276	-353	56050	0	0	0	No, $e>l/2$
SLV 6	1456	1557	302940	0	0	0	No, Trazione
SLV 5	1276	-353	56050	0	0	0	No, $e>l/2$
SLV 5	1456	1557	302940	0	0	0	No, Trazione
SLV 8	1276	-2196	180996	0.38	218543	1.207	Si
SLV 8	1456	-416	-73887	0	0	0	No, $e>l/2$
SLV 4	1276	-1485	210696	0	0	0	No, $e>l/2$
SLV 4	1456	-41	-44401	0	0	0	No, $e>l/2$
SLD 1	1276	-1166	123179	0	0	0	No, $e>l/2$
SLD 1	1456	632	118712	0	0	0	No, Trazione
SLV 9	1276	-409	-6890	0.07	41787	6.065	Si
SLV 9	1456	1828	390714	0	0	0	No, Trazione
SLV 10	1276	-409	-6890	0.07	41787	6.065	Si
SLV 10	1456	1828	390714	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 55	1276	-209	-766	175654		0	0	0.56	0			0	No, $V_u < V$
SLU 55	1456	2383	-766	321214		0	0	0.56	0			0	No, $V_u < V$
SLU 57	1276	975	-1178	246335		0	0	0.56	0			0	No, $V_u < V$
SLU 57	1456	3567	-1178	466198		0	0	0.56	0			0	No, $V_u < V$
SLU 1	1276	-1536	-314	75397	0.34	160.98	0.6	2709			8.63	Si	
SLU 1	1456	465	-314	137856		0	0	0.56	0			0	No, $V_u < V$
SLU 58	1276	1738	-1209	252051		0	0	0.56	0			0	No, $V_u < V$
SLU 58	1456	4329	-1209	477425		0	0	0.56	0			0	No, $V_u < V$
SLU 53	1276	-1007	-751	160189		0	0	0.56	0			0	No, $V_u < V$
SLU 53	1456	1585	-751	303207		0	0	0.56	0			0	No, $V_u < V$
SLU 59	1276	1751	-1203	255707		0	0	0.56	0			0	No, $V_u < V$
SLU 59	1456	4343	-1203	479968		0	0	0.56	0			0	No, $V_u < V$
SLU 56	1276	962	-1185	242679		0	0	0.56	0			0	No, $V_u < V$
SLU 56	1456	3554	-1185	463655		0	0	0.56	0			0	No, $V_u < V$
SLU 60	1276	-2174	-341	88042	0.42	186.78	0.61	3195			9.37	Si	
SLU 60	1456	417	-341	157162		0	0	0.56	0			0	No, $V_u < V$
SLU 54	1276	-993	-745	163845		0	0	0.56	0			0	No, $V_u < V$
SLU 54	1456	1598	-745	305749		0	0	0.56	0			0	No, $V_u < V$
SLU 61	1276	-2161	-335	91697	0.43	180.96	0.61	3103			9.27	Si	
SLU 61	1456	430	-335	159704		0	0	0.56	0			0	No, $V_u < V$

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 8	1276	-2196	1447	180996		1.29	60.93	1.09	1861			1.29	Si
SLV 8	1456	-416	1174	-73887		0	0	0.83	0			0	No, $V_u < V$
SLV 4	1276	-1485	1798	210696		0	0	0.83	0			0	No, $V_u < V$
SLV 4	1456	-41	1158	-44401		0	0	0.83	0			0	No, $V_u < V$
SLV 10	1276	-409	-2173	-6890		0.07	205.5	0.85	4877			2.24	Si
SLV 10	1456	1828	-1901	390714		0	0	0.83	0			0	No, $V_u < V$
SLV 6	1276	-353	-1106	56050		0	0	0.83	0			0	No, $V_u < V$
SLV 6	1456	1557	-1202	302940		0	0	0.83	0			0	No, $V_u < V$
SLV 5	1276	-353	-1106	56050		0	0	0.83	0			0	No, $V_u < V$
SLV 5	1456	1557	-1202	302940		0	0	0.83	0			0	No, $V_u < V$
SLV 14	1276	-1119	-2525	-36590		0.19	205.5	0.87	5019			1.99	Si
SLV 14	1456	1454	-1885	361228		0	0	0.83	0			0	No, $V_u < V$
SLV 9	1276	-409	-2173	-6890		0.07	205.5	0.85	4877			2.24	Si
SLV 9	1456	1828	-1901	390714		0	0	0.83	0			0	No, $V_u < V$
SLD 1	1276	-1166	238	123179		0	0	0.83	0			0	No, $V_u < V$
SLD 1	1456	632	-11	118712		0	0	0.83	0			0	No, $V_u < V$
SLV 7	1276	-2196	1447	180996		1.29	60.93	1.09	1861			1.29	Si
SLV 7	1456	-416	1174	-73887		0	0	0.83	0			0	No, $V_u < V$
SLV 13	1276	-1119	-2525	-36590		0.19	205.5	0.87	5019			1.99	Si
SLV 13	1456	1454	-1885	361228		0	0	0.83	0			0	No, $V_u < V$

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344  $W_a 0.05$  denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.53	0	641	23211	0	0	No, Trazione



Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 4	14	0.53	0	-172	23211	0	0	No, e>t/2
SLV 8	14	0.53	0	-1402	23211	0	0	No, e>t/2
SLV 7	14	0.53	0	-1402	23211	0	0	No, e>t/2
SLV 3	14	0.53	0	-172	23211	0	0	No, e>t/2
SLV 2	14	0.53	0	440	23211	0	0	No, Trazione
SLV 9	14	0.53	0	201	23211	0	0	No, Trazione
SLV 10	14	0.53	0	201	23211	0	0	No, Trazione
SLV 5	14	0.53	0	641	23211	0	0	No, Trazione
SLV 1	14	0.53	0	440	23211	0	0	No, Trazione

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeraia = 1344  $W_a = 0.05$   $T_a = 0.0596$

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 2	284	-401	-114	0	0	0	0	978.751	No, Trazione
SLV 1	284	-401	-114	0	0	0	0	978.751	No, Trazione
SLV 10	2855	-2744	-495	0	0	0	0	915.209	No, Trazione
SLV 7	-593	-928	481	0	3.59	0.911	0	915.209	No
SLV 8	-593	-928	481	0	3.59	0.911	0	915.209	No
SLV 5	2104	-1804	-473	0	0	0	0	915.209	No, Trazione
SLV 6	2104	-1804	-473	0	0	0	0	915.209	No, Trazione
SLV 4	-525	-138	172	0	3.545	0.916	0	978.751	No
SLV 9	2855	-2744	-495	0	0	0	0	915.209	No, Trazione
SLV 3	-525	-138	172	0	3.545	0.916	0	978.751	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 84	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 16	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 10	No
R_SLV	0	SLV 16	No

## Maschio 191

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2249.3	-335.9	-2467.8	-335.9	L6	L7	218.5	28	316	316	316			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 17	1276	-3447	209085	0.56	350530	1.676	Si
SLU 17	1456	-2450	2246	0.4	254479	113.305	Si
SLU 30	1276	-3747	226048	0.61	378582	1.675	Si
SLU 30	1456	-2739	2738	0.45	282831	103.307	Si
SLU 31	1276	-2687	166782	0.44	277692	1.665	Si
SLU 31	1456	-1778	-8862	0.29	187333	21.139	Si
SLU 36	1276	-3889	239198	0.64	391761	1.638	Si
SLU 36	1456	-3155	-5748	0.52	322873	56.173	Si
SLU 40	1276	-2685	165909	0.44	277528	1.673	Si
SLU 40	1456	-1830	-13174	0.3	192576	14.618	Si
SLU 37	1276	-3689	233644	0.6	373231	1.597	Si
SLU 37	1456	-2832	-2942	0.46	291810	99.204	Si
SLU 41	1276	-3202	196451	0.52	327386	1.667	Si
SLU 41	1456	-2365	-11528	0.39	246140	21.352	Si
SLU 42	1276	-3106	213790	0.51	318171	1.488	Si
SLU 42	1456	-2315	-3642	0.38	241118	66.206	Si
SLU 34	1276	-3108	214663	0.51	318331	1.483	Si
SLU 34	1456	-2263	670	0.37	235985	352.435	Si
SLU 38	1276	-3593	250984	0.59	364222	1.451	Si
SLU 38	1456	-2781	4944	0.45	286892	58.027	Si

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 7	1276	-2664	-41936	0.44	280641	6.692	Si
SLV 7	1456	-1386	-84975	0.23	148605	1.749	Si
SLV 1	1276	-2776	224791	0.45	292008	1.299	Si
SLV 1	1456	-2042	-6455	0.33	216954	33.61	Si
SLV 12	1276	-2738	-94242	0.45	288143	3.057	Si
SLV 12	1456	-1175	-85643	0.19	126392	1.476	Si
SLV 6	1276	-2969	274531	0.49	311499	1.135	Si
SLV 6	1456	-2017	34627	0.33	214389	6.191	Si
SLV 9	1276	-3043	222225	0.5	318934	1.435	Si
SLV 9	1456	-1806	33960	0.3	192565	5.67	Si
SLV 5	1276	-2969	274531	0.49	311499	1.135	Si
SLV 5	1456	-2017	34627	0.33	214389	6.191	Si
SLV 11	1276	-2738	-94242	0.45	288143	3.057	Si
SLV 11	1456	-1175	-85643	0.19	126392	1.476	Si
SLV 8	1276	-2664	-41936	0.44	280641	6.692	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 8	1456	-1386	-84975	0.23	148605	1.749	Si
SLV 10	1276	-3043	222225	0.5	318934	1.435	Si
SLV 10	1456	-1806	33960	0.3	192565	5.67	Si
SLV 2	1276	-2776	224791	0.45	292008	1.299	Si
SLV 2	1456	-2042	-6455	0.33	216954	33.61	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLU 37	1276	-3689	2153	233644		0.96	137.77	0.68	2635			1.22	Si
SLU 37	1456	-2832	2018	-2942		0.46	218.5	0.62	3776			1.87	Si
SLU 84	1276	-3913	2264	220739		0.88	158.5	0.67	2987			1.32	Si
SLU 84	1456	-2648	2153	-12640		0.43	218.5	0.61	3752			1.74	Si
SLU 41	1276	-3202	1990	196451		0.8	143.72	0.66	2663			1.34	Si
SLU 41	1456	-2365	1900	-11528		0.39	218.5	0.61	3714			1.95	Si
SLU 78	1276	-4696	2464	246147		0.98	170.51	0.69	3278			1.33	Si
SLU 78	1456	-3488	2316	-14746		0.57	218.5	0.63	3864			1.67	Si
SLU 34	1276	-3108	2037	214663		0.92	120.52	0.68	2289			1.12	Si
SLU 34	1456	-2263	1914	670		0.37	218.5	0.6	3701			1.93	Si
SLU 42	1276	-3106	2081	213790		0.91	121.25	0.68	2300			1.11	Si
SLU 42	1456	-2315	1972	-3642		0.38	218.5	0.61	3707			1.88	Si
SLU 36	1276	-3889	2282	239198		0.97	143.25	0.68	2747			1.2	Si
SLU 36	1456	-3155	2135	-5748		0.52	218.5	0.62	3820			1.79	Si
SLU 38	1276	-3593	2243	250984		1.09	118.18	0.7	2317			1.03	Si
SLU 38	1456	-2781	2089	4944		0.45	218.5	0.62	3770			1.8	Si
SLU 80	1276	-4400	2426	257933		1.03	151.87	0.69	2949			1.22	Si
SLU 80	1456	-3114	2271	-4054		0.51	218.5	0.62	3814			1.68	Si
SLU 76	1276	-3914	2219	221612		0.89	157.9	0.67	2978			1.34	Si
SLU 76	1456	-2596	2095	-8328		0.42	218.5	0.61	3745			1.79	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLV 10	1276	-3043	1435	222225		1	108.68	1.03	3144			2.19	Si
SLV 10	1456	-1806	1449	33960		0.3	218.5	0.89	5460			3.77	Si
SLV 3	1276	-2684	2276	129851		0.52	182.63	0.94	4798			2.11	Si
SLV 3	1456	-1852	1266	-42336		0.3	218.5	0.89	5469			4.32	Si
SLV 4	1276	-2684	2276	129851		0.52	182.63	0.94	4798			2.11	Si
SLV 4	1456	-1852	1266	-42336		0.3	218.5	0.89	5469			4.32	Si
SLV 1	1276	-2776	2654	224791		1.17	84.81	1.07	2534			0.95	No, Vu<V
SLV 1	1456	-2042	1481	-6455		0.33	218.5	0.9	5507			3.72	Si
SLV 6	1276	-2969	2201	274531		2.11	50.37	1.25	1769			0.8	No, Vu<V
SLV 6	1456	-2017	1579	34627		0.33	218.5	0.9	5502			3.48	Si
SLV 5	1276	-2969	2201	274531		2.11	50.37	1.25	1769			0.8	No, Vu<V
SLV 5	1456	-2017	1579	34627		0.33	218.5	0.9	5502			3.48	Si
SLV 2	1276	-2776	2654	224791		1.17	84.81	1.07	2534			0.95	No, Vu<V
SLV 2	1456	-2042	1481	-6455		0.33	218.5	0.9	5507			3.72	Si
SLD 2	1276	-2820	1813	147457		0.59	170.9	0.95	4552			2.51	Si
SLD 2	1456	-1781	1293	-18000		0.29	218.5	0.89	5454			4.22	Si
SLV 9	1276	-3043	1435	222225		1	108.68	1.03	3144			2.19	Si
SLV 9	1456	-1806	1449	33960		0.3	218.5	0.89	5460			3.77	Si
SLD 1	1276	-2820	1813	147457		0.59	170.9	0.95	4552			2.51	Si
SLD 1	1456	-1781	1293	-18000		0.29	218.5	0.89	5454			4.22	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.53	0.38	-2299	24679	31193	1.26	Si
SLV 12	14	0.53	0.38	-2299	24679	31193	1.26	Si
SLV 8	14	0.53	0.38	-2324	24679	31525	1.28	Si
SLV 7	14	0.53	0.38	-2324	24679	31525	1.28	Si
SLV 16	14	0.53	0.4	-2468	24679	33405	1.35	Si
SLV 15	14	0.53	0.4	-2468	24679	33405	1.35	Si
SLV 4	14	0.53	0.42	-2552	24679	34503	1.4	Si
SLV 3	14	0.53	0.42	-2552	24679	34503	1.4	Si
SLV 14	14	0.53	0.43	-2637	24679	35620	1.44	Si
SLV 13	14	0.53	0.43	-2637	24679	35620	1.44	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1344 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 4	-1445	-4555	370	0	4.467	0.89	0	978.751	No
SLV 8	-1518	-2753	284	0	4.531	0.889	0	915.209	No
SLV 1	-1236	-5452	290	0	4.286	0.892	0	978.751	No
SLV 14	-747	-3290	-219	0	3.899	0.905	0	978.751	No
SLV 7	-1518	-2753	284	0	4.531	0.889	0	915.209	No
SLV 13	-747	-3290	-219	0	3.899	0.905	0	978.751	No
SLV 2	-1236	-5452	290	0	4.286	0.892	0	978.751	No
SLV 3	-1445	-4555	370	0	4.467	0.89	0	978.751	No
SLV 16	-956	-2394	-139	0.021	4.058	0.897	34.313	978.751	No
SLV 15	-956	-2394	-139	0.021	4.058	0.897	34.313	978.751	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.451	SLU 38	Si
V_SLU	1.033	SLU 38	Si
PF_SLV	1.135	SLV 5	Si
V_SLV	0.804	SLV 5	No
PFFP_SLV	1.264	SLV 11	Si
R_SLV	0	SLV 1	No



## Maschio 192

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1936.8	-335.9	-2159.3	-335.9	L6	L7	222.5	28	316	316	316			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>k</sub>	f <sub>vk0</sub>	f <sub>medio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>v,lim</sub>	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γ<sub>M</sub> = 3

Comb.	Quota	N	M	σ <sub>0</sub>	Mu	c.s.	Verifica
SLU 2	1386	-1720	-1633	0.28	184823	113.193	Si
SLU 2	1466	-840	-20011	0.13	91906	4.593	Si
SLU 19	1386	-1770	-7798	0.28	190092	24.377	Si
SLU 19	1466	-904	-21889	0.15	98780	4.513	Si
SLU 13	1386	-1838	9202	0.3	197112	21.421	Si
SLU 13	1466	-1028	-24877	0.17	112056	4.504	Si
SLU 34	1386	-1989	11519	0.32	212633	18.459	Si
SLU 34	1466	-1201	-29938	0.19	130478	4.358	Si
SLU 40	1386	-1921	-5481	0.31	205658	37.522	Si
SLU 40	1466	-1077	-26950	0.17	117296	4.352	Si
SLU 73	1386	-2375	-4841	0.38	251891	52.031	Si
SLU 73	1466	-1255	-30553	0.2	136121	4.455	Si
SLU 23	1386	-1870	684	0.3	200422	292.879	Si
SLU 23	1466	-1013	-25072	0.16	110471	4.406	Si
SLU 31	1386	-1834	-4674	0.29	196673	42.074	Si
SLU 31	1466	-1003	-27809	0.16	109378	3.933	Si
SLU 10	1386	-1683	-6992	0.27	181049	25.895	Si
SLU 10	1466	-830	-22747	0.13	90806	3.992	Si
SLU 52	1386	-2224	-7158	0.36	236626	33.056	Si
SLU 52	1466	-1081	-25492	0.17	117740	4.619	Si

### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γ<sub>M</sub> = 2

Comb.	Quota	N	M	σ <sub>0</sub>	Mu	c.s.	Verifica
SLV 5	1386	-1731	91188	0.28	188189	2.064	Si
SLV 5	1466	-1050	-78618	0.17	115250	1.466	Si
SLV 10	1386	-1893	57453	0.3	205398	3.575	Si
SLV 10	1466	-1133	-72949	0.18	124182	1.702	Si
SLD 6	1386	-1884	39495	0.3	204431	5.176	Si
SLD 6	1466	-1064	-42247	0.17	116706	2.762	Si
SLV 12	1386	-2288	-88741	0.37	246856	2.782	Si
SLV 12	1466	-1116	44295	0.18	122304	2.761	Si
SLV 9	1386	-1893	57453	0.3	205398	3.575	Si
SLV 9	1466	-1133	-72949	0.18	124182	1.702	Si
SLD 5	1386	-1884	39495	0.3	204431	5.176	Si
SLD 5	1466	-1064	-42247	0.17	116706	2.762	Si
SLV 11	1386	-2288	-88741	0.37	246856	2.782	Si
SLV 11	1466	-1116	44295	0.18	122304	2.761	Si
SLV 1	1386	-1679	79378	0.27	182719	2.302	Si
SLV 1	1466	-948	-44196	0.15	104144	2.356	Si
SLV 6	1386	-1731	91188	0.28	188189	2.064	Si
SLV 6	1466	-1050	-78618	0.17	115250	1.466	Si
SLV 2	1386	-1679	79378	0.27	182719	2.302	Si
SLV 2	1466	-948	-44196	0.15	104144	2.356	Si

### Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γ<sub>M</sub> = 3

Comb.	Quota	N	V par	M	σ <sub>0</sub>	σ <sub>N</sub>	I'	f <sub>vd</sub>	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLU 38	1386	-2247	984	29202		0.36	222.5	0.6	3761			3.82	Si
SLU 38	1466	-1478	382	-30037		0.24	222.5	0.59	3658			9.59	Si
SLU 71	1386	-2979	905	36630		0.48	222.5	0.62	3858			4.26	Si
SLU 71	1466	-1858	357	-26999		0.3	222.5	0.6	3709			10.4	Si
SLU 29	1386	-2438	917	36797		0.39	222.5	0.61	3786			4.13	Si
SLU 29	1466	-1606	349	-24254		0.26	222.5	0.59	3675			10.54	Si
SLU 28	1386	-2762	887	32451		0.44	222.5	0.61	3829			4.32	Si
SLU 28	1466	-1915	339	-28118		0.31	222.5	0.6	3716			10.97	Si
SLU 37	1386	-2401	919	31438		0.39	222.5	0.61	3781			4.12	Si
SLU 37	1466	-1596	359	-26990		0.26	222.5	0.59	3674			10.24	Si
SLU 30	1386	-2284	983	34561		0.37	222.5	0.6	3766			3.83	Si
SLU 30	1466	-1488	371	-27301		0.24	222.5	0.59	3660			9.85	Si
SLU 79	1386	-2943	907	31271		0.47	222.5	0.62	3853			4.25	Si
SLU 79	1466	-1848	367	-29735		0.3	222.5	0.6	3707			10.11	Si
SLU 72	1386	-2825	971	34395		0.45	222.5	0.62	3838			3.95	Si
SLU 72	1466	-1740	380	-30045		0.28	222.5	0.59	3693			9.73	Si
SLU 80	1386	-2788	972	29036		0.45	222.5	0.62	3833			3.94	Si
SLU 80	1466	-1730	390	-32782		0.28	222.5	0.59	3692			9.47	Si
SLU 36	1386	-2726	889	27093		0.44	222.5	0.61	3825			4.3	Si
SLU 36	1466	-1904	349	-30854		0.31	222.5	0.6	3715			10.65	Si

### Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γ<sub>M</sub> = 2

Comb.	Quota	N	V par	M	σ <sub>0</sub>	σ <sub>N</sub>	I'	f <sub>vd</sub>	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLV 1	1386	-1679	2424	79378		0.31	191.96	0.9	4815			1.99	Si
SLV 1	1466	-948	1366	-44196		0.17	193.88	0.87	4713			3.45	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 6	1386	-1731	2799	91188		0.35	175.71	0.9	4446			1.59	Si
SLV 6	1466	-1050	2108	-78618		0.34	109.22	0.9	2759			1.31	Si
SLV 9	1386	-1893	1835	57453		0.3	222.5	0.89	5570			3.03	Si
SLV 9	1466	-1133	1685	-72949		0.29	140.61	0.89	3508			2.08	Si
SLV 2	1386	-1679	2424	79378		0.31	191.96	0.9	4815			1.99	Si
SLV 2	1466	-948	1366	-44196		0.17	193.88	0.87	4713			3.45	Si
SLV 5	1386	-1731	2799	91188		0.35	175.71	0.9	4446			1.59	Si
SLV 5	1466	-1050	2108	-78618		0.34	109.22	0.9	2759			1.31	Si
SLV 10	1386	-1893	1835	57453		0.3	222.5	0.89	5570			3.03	Si
SLV 10	1466	-1133	1685	-72949		0.29	140.61	0.89	3508			2.08	Si
SLV 15	1386	-2339	-2072	-76931		0.38	222.5	0.91	5659			2.73	Si
SLV 15	1466	-1218	-1107	9873		0.2	222.5	0.87	5435			4.91	Si
SLV 11	1386	-2288	-2447	-88741		0.38	217.38	0.91	5530			2.26	Si
SLV 11	1466	-1116	-1850	44295		0.19	214.65	0.87	5232			2.83	Si
SLV 12	1386	-2288	-2447	-88741		0.38	217.38	0.91	5530			2.26	Si
SLV 12	1466	-1116	-1850	44295		0.19	214.65	0.87	5232			2.83	Si
SLV 16	1386	-2339	-2072	-76931		0.38	222.5	0.91	5659			2.73	Si
SLV 16	1466	-1218	-1107	9873		0.2	222.5	0.87	5435			4.91	Si

#### Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.53	0.3	-1883	25131	25714	1.02	Si
SLV 11	14	0.53	0.3	-1883	25131	25714	1.02	Si
SLV 7	14	0.53	0.32	-2013	25131	27431	1.09	Si
SLV 8	14	0.53	0.32	-2013	25131	27431	1.09	Si
SLV 16	14	0.53	0.34	-2105	25131	28653	1.14	Si
SLV 15	14	0.53	0.34	-2105	25131	28653	1.14	Si
SLV 14	14	0.53	0.39	-2424	25131	32855	1.31	Si
SLV 13	14	0.53	0.39	-2424	25131	32855	1.31	Si
SLV 4	14	0.53	0.41	-2536	25131	34317	1.37	Si
SLV 3	14	0.53	0.41	-2536	25131	34317	1.37	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1344 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 10	-315	-4450	-285	0	3.696	0.94	0	915.209	No
SLV 11	-847	-1701	338	0	4.034	0.901	0	915.209	No
SLV 6	-337	-4641	-287	0	3.707	0.937	0	915.209	No
SLV 7	-869	-1893	336	0	4.051	0.901	0	915.209	No
SLV 5	-337	-4641	-287	0	3.707	0.937	0	915.209	No
SLV 8	-869	-1893	336	0	4.051	0.901	0	915.209	No
SLV 12	-847	-1701	338	0	4.034	0.901	0	915.209	No
SLV 9	-315	-4450	-285	0	3.696	0.94	0	915.209	No
SLV 15	-635	-2440	123	0.026	3.882	0.912	41.288	978.751	No
SLV 16	-635	-2440	123	0.026	3.882	0.912	41.288	978.751	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.933	SLU 31	Si
V_SLU	3.82	SLU 38	Si
PF_SLV	1.466	SLV 5	Si
V_SLV	1.308	SLV 5	Si
PFFP_SLV	1.023	SLV 11	Si
R_SLV	0	SLV 5	No

## Maschio 193

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1826.3	-335.9	-1886.8	-335.9	L6	L7	60.5	28	316	316	316			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 57	1386	-212	3971	0.12	6302	1.587	Si
SLU 57	1466	1039	4932	0	0	0	No, Trazione
SLU 60	1386	-539	6316	0.32	15668	2.481	Si
SLU 60	1466	59	-105	0	0	0	No, Trazione
SLU 56	1386	-351	4410	0.21	10333	2.343	Si
SLU 56	1466	896	4354	0	0	0	No, Trazione
SLU 61	1386	-400	5877	0.24	11752	2	Si
SLU 61	1466	202	473	0	0	0	No, Trazione
SLU 58	1386	-140	3655	0.08	4202	1.15	Si
SLU 58	1466	1160	4383	0	0	0	No, Trazione
SLU 53	1386	-552	5658	0.33	16038	2.835	Si
SLU 53	1466	345	2210	0	0	0	No, Trazione
SLU 55	1386	-111	4171	0	0	0	No, e>l/2
SLU 55	1466	847	3202	0	0	0	No, Trazione



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 59	1386	-1	3216	0	0	0	No, e>1/2
SLU 59	1466	1303	4961	0	0	0	No, Trazione
SLU 54	1386	-413	5219	0.24	12130	2.324	Si
SLU 54	1466	488	2788	0	0	0	No, Trazione
SLU 1	1386	-414	4621	0.24	12134	2.626	Si
SLU 1	1466	98	539	0	0	0	No, Trazione

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 7	1386	1616	-22684	0	0	0	No, Trazione
SLV 7	1466	1262	27225	0	0	0	No, Trazione
SLV 4	1386	-380	2299	0.22	11291	4.912	Si
SLV 4	1466	6	-9451	0	0	0	No, Trazione
SLV 13	1386	-411	7568	0.24	12181	1.609	Si
SLV 13	1466	318	10495	0	0	0	No, Trazione
SLV 2	1386	-1703	19987	1.01	47284	2.366	Si
SLV 2	1466	-750	-29031	0	0	0	No, e>1/2
SLV 12	1386	2003	-26409	0	0	0	No, Trazione
SLV 12	1466	1582	39083	0	0	0	No, Trazione
SLV 8	1386	1616	-22684	0	0	0	No, Trazione
SLV 8	1466	1262	27225	0	0	0	No, Trazione
SLV 14	1386	-411	7568	0.24	12181	1.609	Si
SLV 14	1466	318	10495	0	0	0	No, Trazione
SLD 1	1386	-939	11215	0.55	27108	2.417	Si
SLD 1	1466	-219	-11918	0	0	0	No, e>1/2
SLV 11	1386	2003	-26409	0	0	0	No, Trazione
SLV 11	1466	1582	39083	0	0	0	No, Trazione
SLV 3	1386	-380	2299	0.22	11291	4.912	Si
SLV 3	1466	6	-9451	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 58	1386	-140	252	3655		0.4	12.61	0.61	215			0.85	No, Vu<V
SLU 58	1466	1160	-340	4383		0	0	0.56	0			0	No, Vu<V
SLU 61	1386	-400	189	5877		0.31	46.68	0.6	780			4.13	Si
SLU 61	1466	202	-197	473		0	0	0.56	0			0	No, Vu<V
SLU 59	1386	-1	236	3216		0	0	0.56	0			0	No, Vu<V
SLU 59	1466	1303	-365	4961		0	0	0.56	0			0	No, Vu<V
SLU 56	1386	-351	263	4410		0.24	53	0.59	871			3.31	Si
SLU 56	1466	896	-341	4354		0	0	0.56	0			0	No, Vu<V
SLU 55	1386	-111	198	4171		0	0	0.56	0			0	No, Vu<V
SLU 55	1466	847	-293	3202		0	0	0.56	0			0	No, Vu<V
SLU 53	1386	-552	236	5658		0.33	60.02	0.6	1007			4.26	Si
SLU 53	1466	345	-253	2210		0	0	0.56	0			0	No, Vu<V
SLU 1	1386	-414	151	4621		0.26	57.22	0.59	945			6.26	Si
SLU 1	1466	98	-123	539		0	0	0.56	0			0	No, Vu<V
SLU 57	1386	-212	248	3971		0.22	34.45	0.58	564			2.28	Si
SLU 57	1466	1039	-365	4932		0	0	0.56	0			0	No, Vu<V
SLU 54	1386	-413	221	5219		0.28	52.88	0.59	878			3.98	Si
SLU 54	1466	488	-277	2788		0	0	0.56	0			0	No, Vu<V
SLU 60	1386	-539	205	6316		0.35	55.6	0.6	937			4.58	Si
SLU 60	1466	59	-173	-105		0	0	0.56	0			0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 1	1386	-939	485	11215		0.61	54.91	0.96	1469			3.03	Si
SLD 1	1466	-219	10	-11918		0	0	0.83	0			0	No, Vu<V
SLV 14	1386	-411	3	7568		0.41	35.48	0.92	910			341.96	Si
SLV 14	1466	318	-137	10495		0	0	0.83	0			0	No, Vu<V
SLV 5	1386	-2794	1282	36276		1.93	51.81	1.22	1768			1.38	Si
SLV 5	1466	-1258	539	-38040		0	0	0.83	0			0	No, Vu<V
SLV 12	1386	2003	-944	-26409		0	0	0.83	0			0	No, Vu<V
SLV 12	1466	1582	-824	39083		0	0	0.83	0			0	No, Vu<V
SLV 8	1386	1616	-669	-22684		0	0	0.83	0			0	No, Vu<V
SLV 8	1466	1262	-714	27225		0	0	0.83	0			0	No, Vu<V
SLV 11	1386	2003	-944	-26409		0	0	0.83	0			0	No, Vu<V
SLV 11	1466	1582	-824	39083		0	0	0.83	0			0	No, Vu<V
SLV 7	1386	1616	-669	-22684		0	0	0.83	0			0	No, Vu<V
SLV 7	1466	1262	-714	27225		0	0	0.83	0			0	No, Vu<V
SLV 4	1386	-380	335	2299		0.22	60.5	0.88	1488			4.45	Si
SLV 4	1466	6	-148	-9451		0	0	0.83	0			0	No, Vu<V
SLV 13	1386	-411	3	7568		0.41	35.48	0.92	910			341.96	Si
SLV 13	1466	318	-137	10495		0	0	0.83	0			0	No, Vu<V
SLV 6	1386	-2794	1282	36276		1.93	51.81	1.22	1768			1.38	Si
SLV 6	1466	-1258	539	-38040		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 15	14	0.53	0	-118	6833	0	0	No, e>t/2
SLV 4	14	0.53	0	40	6833	0	0	No, Trazione
SLV 16	14	0.53	0	-118	6833	0	0	No, e>t/2
SLV 3	14	0.53	0	40	6833	0	0	No, Trazione
SLV 7	14	0.53	0	627	6833	0	0	No, Trazione
SLV 8	14	0.53	0	627	6833	0	0	No, Trazione
SLV 12	14	0.53	0	580	6833	0	0	No, Trazione
SLV 11	14	0.53	0	580	6833	0	0	No, Trazione
SLV 2	14	0.53	0.3	-511	6833	6982	1.02	Si
SLV 1	14	0.53	0.3	-511	6833	6982	1.02	Si



## Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1344  $W_a = 0.05$   $T_a = 0.0596$

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 3	727	-747	-35	0	0	0	0	978.751	No, Trazione
SLV 14	163	-484	-49	0	0	0	0	978.751	No, Trazione
SLV 7	2398	-618	-64	0	0	0	0	915.209	No, Trazione
SLV 8	2398	-618	-64	0	0	0	0	915.209	No, Trazione
SLV 12	2599	-531	-73	0	0	0	0	915.209	No, Trazione
SLV 16	1395	-459	-65	0	0	0	0	978.751	No, Trazione
SLV 11	2599	-531	-73	0	0	0	0	915.209	No, Trazione
SLV 15	1395	-459	-65	0	0	0	0	978.751	No, Trazione
SLV 4	727	-747	-35	0	0	0	0	978.751	No, Trazione
SLV 13	163	-484	-49	0	0	0	0	978.751	No, Trazione

### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 84	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 16	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 12	No
R_SLV	0	SLV 16	No

## Maschio 194

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1720.3	-335.9	-1736.3	-335.9	L6	L7	16	28	316	316	316			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 29	1276	-865	4372	1.93	5280	1.208	Si
SLU 29	1456	-219	-1773	0	0	0	No, e>l/2
SLU 17	1276	-733	2910	1.64	4685	1.61	Si
SLU 17	1456	-250	-1832	0.56	1865	1.018	Si
SLU 37	1276	-852	4125	1.9	5227	1.267	Si
SLU 37	1456	-223	-1861	0	0	0	No, e>l/2
SLU 8	1276	-789	4002	1.76	4949	1.237	Si
SLU 8	1456	-196	-1477	0.44	1485	1.005	Si
SLU 16	1276	-777	3754	1.73	4892	1.303	Si
SLU 16	1456	-200	-1565	0.45	1512	0.966	No, M>Mu
SLU 79	1276	-934	4236	2.08	5560	1.313	Si
SLU 79	1456	-273	-1681	0.61	2018	1.201	Si
SLU 30	1276	-821	3528	1.83	5091	1.443	Si
SLU 30	1456	-269	-2039	0.6	1996	0.979	No, M>Mu
SLU 38	1276	-808	3281	1.8	5035	1.535	Si
SLU 38	1456	-273	-2128	0.61	2021	0.95	No, M>Mu
SLU 9	1276	-745	3158	1.66	4745	1.503	Si
SLU 9	1456	-247	-1743	0.55	1839	1.055	Si
SLU 80	1276	-890	3392	1.99	5384	1.587	Si
SLU 80	1456	-323	-1947	0.72	2355	1.21	Si

### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 9	1276	251	-6229	0	0	0	No, Trazione
SLV 9	1456	-156	3687	0	0	0	No, e>l/2
SLV 8	1276	-1004	7887	2.24	6560	0.832	No, M>Mu
SLV 8	1456	-244	-3379	0	0	0	No, e>l/2
SLV 10	1276	251	-6229	0	0	0	No, Trazione
SLV 10	1456	-156	3687	0	0	0	No, e>l/2
SLV 5	1276	-380	-999	0.85	2831	2.834	Si
SLV 5	1456	180	2436	0	0	0	No, Trazione
SLV 13	1276	769	-9221	0	0	0	No, Trazione
SLV 13	1456	-697	3112	1.56	4864	1.563	Si
SLD 1	1276	-788	4023	1.76	5398	1.342	Si
SLD 1	1456	64	-394	0	0	0	No, Trazione
SLV 14	1276	769	-9221	0	0	0	No, Trazione
SLV 14	1456	-697	3112	1.56	4864	1.563	Si
SLV 6	1276	-380	-999	0.85	2831	2.834	Si
SLV 6	1456	180	2436	0	0	0	No, Trazione
SLV 4	1276	-1522	10879	3.4	8792	0.808	No, M>Mu
SLV 4	1456	297	-2804	0	0	0	No, Trazione
SLV 7	1276	-1004	7887	2.24	6560	0.832	No, M>Mu
SLV 7	1456	-244	-3379	0	0	0	No, e>l/2

### Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 37	1276	-852	205	4125		3.21	9.48	0.98	261			1.27	Si
SLU 37	1456	-223	103	-1861		0	0	0.56	0			0	No, Vu<V



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 30	1276	-821	174	3528		2.64	11.11	0.91	282			1.62	Si
SLU 30	1456	-269	114	-2039		7.49	1.28	1.08	39			0.34	No, Vu<V
SLU 71	1276	-947	223	4484		3.45	9.79	1.02	279			1.25	Si
SLU 71	1456	-269	91	-1592		1.54	6.23	0.76	133			1.46	Si
SLU 38	1276	-808	162	3281		2.44	11.83	0.88	292			1.8	Si
SLU 38	1456	-273	118	-2128		15.58	0.63	1.08	19			0.16	No, Vu<V
SLU 9	1276	-745	156	3158		2.36	11.29	0.87	275			1.76	Si
SLU 9	1456	-247	98	-1743		3.16	2.79	0.98	76			0.78	No, Vu<V
SLU 17	1276	-733	143	2910		2.17	12.09	0.84	286			2	Si
SLU 17	1456	-250	102	-1832		4.37	2.05	1.08	62			0.61	No, Vu<V
SLU 16	1276	-777	187	3754		2.92	9.5	0.94	251			1.35	Si
SLU 16	1456	-200	87	-1565		13.95	0.51	1.08	16			0.18	No, Vu<V
SLU 8	1276	-789	200	4002		3.21	8.79	0.98	242			1.21	Si
SLU 8	1456	-196	82	-1477		4.96	1.41	1.08	43			0.52	No, Vu<V
SLU 29	1276	-865	218	4372		3.5	8.84	1.02	253			1.16	Si
SLU 29	1456	-219	99	-1773		0	0	0.56	0			0	No, Vu<V
SLU 80	1276	-890	167	3392		2.53	12.57	0.89	314			1.88	Si
SLU 80	1456	-323	111	-1947		1.95	5.92	0.82	135			1.22	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	1276	-1522	594	10879		21.22	2.56	1.63	117			0.2	No, Vu<V
SLV 4	1456	297	135	-2804		0	0	0.83	0			0	No, Vu<V
SLV 5	1276	-380	-118	-999		0.85	16	1	449			3.79	Si
SLV 5	1456	180	-148	2436		0	0	0.83	0			0	No, Vu<V
SLV 9	1276	251	-397	-6229		0	0	0.83	0			0	No, Vu<V
SLV 9	1456	-156	-198	3687		0	0	0.83	0			0	No, Vu<V
SLV 14	1276	769	-513	-9221		0	0	0.83	0			0	No, Vu<V
SLV 14	1456	-697	-135	3112		2.35	10.6	1.3	387			2.87	Si
SLV 13	1276	769	-513	-9221		0	0	0.83	0			0	No, Vu<V
SLV 13	1456	-697	-135	3112		2.35	10.6	1.3	387			2.87	Si
SLV 7	1276	-1004	477	7887		81.96	0.44	1.63	20			0.04	No, Vu<V
SLV 7	1456	-244	197	-3379		0	0	0.83	0			0	No, Vu<V
SLV 10	1276	251	-397	-6229		0	0	0.83	0			0	No, Vu<V
SLV 10	1456	-156	-198	3687		0	0	0.83	0			0	No, Vu<V
SLV 8	1276	-1004	477	7887		81.96	0.44	1.63	20			0.04	No, Vu<V
SLV 8	1456	-244	197	-3379		0	0	0.83	0			0	No, Vu<V
SLD 1	1276	-788	203	4023		3.24	8.69	1.48	360			1.77	Si
SLD 1	1456	64	15	-394		0	0	0.83	0			0	No, Vu<V
SLV 6	1276	-380	-118	-999		0.85	16	1	449			3.79	Si
SLV 6	1456	180	-148	2436		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.53	0	85	1807	0	0	No, Trazione
SLV 8	14	0.53	0	85	1807	0	0	No, Trazione
SLV 12	14	0.53	0	224	1807	0	0	No, Trazione
SLV 15	14	0.53	0	74	1807	0	0	No, Trazione
SLV 16	14	0.53	0	74	1807	0	0	No, Trazione
SLV 11	14	0.53	0	224	1807	0	0	No, Trazione
SLV 13	14	0.53	0.43	-194	1807	2614	1.45	Si
SLV 14	14	0.53	0.43	-194	1807	2614	1.45	Si
SLV 3	14	0.53	0.87	-390	1807	5066	2.8	Si
SLV 4	14	0.53	0.87	-390	1807	5066	2.8	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1344 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 9	-166	-545	42	0	0.382	0.891	0	915.209	No
SLV 7	-2	226	-89	0	0	0	0	915.209	No, Trazione
SLV 3	3	-275	-51	0	0	0	0	978.751	No, Trazione
SLV 6	-125	-698	37	0	0.344	0.889	0	915.209	No
SLV 12	-44	379	-85	0	0	0	0	915.209	No, Trazione
SLV 8	-2	226	-89	0	0	0	0	915.209	No, Trazione
SLV 4	3	-275	-51	0	0	0	0	978.751	No, Trazione
SLV 10	-166	-545	42	0	0.382	0.891	0	915.209	No
SLV 5	-125	-698	37	0	0.344	0.889	0	915.209	No
SLV 11	-44	379	-85	0	0	0	0	915.209	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 29	No
V_SLU	0	SLU 29	No
PF_SLV	0	SLV 16	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 16	No
R_SLV	0	SLV 16	No

## Maschio 195

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1961.8	104.6	-1961.8	581.1	L6	L7	476.5	14	316	316	316			





## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 29	1186	-15215	659483	2.28	2610173	3.958	Si
SLU 29	1502	-4958	879870	0.74	1073529	1.22	Si
SLU 71	1186	-16802	633356	2.52	2765492	4.366	Si
SLU 71	1502	-5090	895226	0.76	1099084	1.228	Si
SLU 38	1186	-15672	640864	2.35	2657117	4.146	Si
SLU 38	1502	-4955	879550	0.74	1072935	1.22	Si
SLU 79	1186	-17218	629311	2.58	2802575	4.453	Si
SLU 79	1502	-5067	891734	0.76	1094718	1.228	Si
SLU 16	1186	-13824	549396	2.07	2455817	4.47	Si
SLU 16	1502	-4275	757469	0.64	938341	1.239	Si
SLU 80	1186	-17259	614737	2.59	2806085	4.565	Si
SLU 80	1502	-5087	894905	0.76	1098493	1.227	Si
SLU 17	1186	-13864	534823	2.08	2460526	4.601	Si
SLU 17	1502	-4294	760640	0.64	942251	1.239	Si
SLU 37	1186	-15632	655438	2.34	2653047	4.048	Si
SLU 37	1502	-4936	876379	0.74	1069137	1.22	Si
SLU 72	1186	-16843	618782	2.52	2769149	4.475	Si
SLU 72	1502	-5109	898396	0.77	1102855	1.228	Si
SLU 30	1186	-15256	644909	2.29	2614391	4.054	Si
SLU 30	1502	-4978	883041	0.75	1077323	1.22	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLD 6	1186	-7657	-328	1.15	1652876	1000	Si
SLD 6	1502	-1563	360422	0.23	365286	1.013	Si
SLV 10	1186	-6971	-126527	1.04	1518775	12.004	Si
SLV 10	1502	-2198	610053	0	0	0	No, $e \geq l/2$
SLD 5	1186	-7657	-328	1.15	1652876	1000	Si
SLD 5	1502	-1563	360422	0.23	365286	1.013	Si
SLV 8	1186	-9011	253014	1.35	1909530	7.547	Si
SLV 8	1502	-555	-169939	0	0	0	No, $e \geq l/2$
SLV 2	1186	-8072	67597	1.21	1732802	25.634	Si
SLV 2	1502	-1005	254372	0	0	0	No, $e \geq l/2$
SLV 5	1186	-7184	-92792	1.08	1560781	16.82	Si
SLV 5	1502	-1858	564539	0	0	0	No, $e \geq l/2$
SLV 9	1186	-6971	-126527	1.04	1518775	12.004	Si
SLV 9	1502	-2198	610053	0	0	0	No, $e \geq l/2$
SLV 7	1186	-9011	253014	1.35	1909530	7.547	Si
SLV 7	1502	-555	-169939	0	0	0	No, $e \geq l/2$
SLV 1	1186	-8072	67597	1.21	1732802	25.634	Si
SLV 1	1502	-1005	254372	0	0	0	No, $e \geq l/2$
SLV 6	1186	-7184	-92792	1.08	1560781	16.82	Si
SLV 6	1502	-1858	564539	0	0	0	No, $e \geq l/2$

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 50	1186	-14995	-76	527315		2.25	476.52	0.86	5706			75.3	Si
SLU 50	1502	-4429	-333	776316		1.67	188.9	0.78	2060			6.18	Si
SLU 70	1186	-16598	2	553730		2.49	476.52	0.89	5919			1000	Si
SLU 70	1502	-4888	-328	845152		1.78	196.03	0.79	2176			6.63	Si
SLU 47	1186	-12036	-232	243355		1.8	476.52	0.8	5311			22.85	Si
SLU 47	1502	-2910	-338	494661		1.02	204.75	0.69	1980			5.86	Si
SLU 49	1186	-14790	-136	447689		2.22	476.52	0.85	5678			41.79	Si
SLU 49	1502	-4227	-358	726243		1.51	199.3	0.76	2114			5.91	Si
SLU 51	1186	-15035	-172	512741		2.25	476.52	0.86	5711			33.21	Si
SLU 51	1502	-4448	-383	779487		1.68	189.06	0.78	2064			5.38	Si
SLU 7	1186	-13204	-84	473815		1.98	476.52	0.82	5467			65.26	Si
SLU 7	1502	-4095	-309	710888		1.51	193.99	0.76	2055			6.64	Si
SLU 72	1186	-16843	-34	618782		2.52	476.52	0.89	5952			173.47	Si
SLU 72	1502	-5109	-354	898396		1.95	187.26	0.82	2138			6.03	Si
SLU 68	1186	-13843	-95	349397		2.08	476.52	0.83	5552			58.57	Si
SLU 68	1502	-3571	-309	613570		1.28	199.26	0.73	2026			6.56	Si
SLU 5	1186	-10449	-180	269482		1.57	476.52	0.76	5099			28.28	Si
SLU 5	1502	-2778	-290	479305		1.01	197.18	0.69	1904			6.57	Si
SLU 9	1186	-13448	-120	538867		2.02	476.52	0.82	5499			45.89	Si
SLU 9	1502	-4317	-335	764132		1.68	183.71	0.78	2004			5.98	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 6	1186	-7184	-5109	-92792		1.08	476.52	1.05	6996			1.37	Si
SLV 6	1502	-1858	-2262	564539		0	0	0.83	0			0	No, $V_u < V$
SLV 5	1186	-7184	-5109	-92792		1.08	476.52	1.05	6996			1.37	Si
SLV 5	1502	-1858	-2262	564539		0	0	0.83	0			0	No, $V_u < V$
SLD 5	1186	-7657	-2111	-328		1.15	476.52	1.06	7091			3.36	Si
SLD 5	1502	-1563	-990	360422		4.85	23.04	1.63	524			0.53	No, $V_u < V$
SLV 9	1186	-6971	-6124	-126527		1.04	476.52	1.04	6953			1.14	Si
SLV 9	1502	-2198	-2921	610053		0	0	0.83	0			0	No, $V_u < V$
SLV 2	1186	-8072	60	67597		1.21	476.52	1.08	7174			119.12	Si
SLV 2	1502	-1005	253	254372		0	0	0.83	0			0	No, $V_u < V$
SLV 1	1186	-8072	60	67597		1.21	476.52	1.08	7174			119.12	Si
SLV 1	1502	-1005	253	254372		0	0	0.83	0			0	No, $V_u < V$
SLD 6	1186	-7657	-2111	-328		1.15	476.52	1.06	7091			3.36	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 6	1502	-1563	-990	360422		4.85	23.04	1.63	524			0.53	No, Vu<V
SLV 8	1186	-9011	6276	253014		1.35	476.52	1.1	7361			1.17	Si
SLV 8	1502	-555	2728	-169939		0	0	0.83	0			0	No, Vu<V
SLV 7	1186	-9011	6276	253014		1.35	476.52	1.1	7361			1.17	Si
SLV 7	1502	-555	2728	-169939		0	0	0.83	0			0	No, Vu<V
SLV 10	1186	-6971	-6124	-126527		1.04	476.52	1.04	6953			1.14	Si
SLV 10	1502	-2198	-2921	610053		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344 Wa 0.03 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 4	14	0.53	0	-3633	28788	0	0	No, e>t/2
SLV 2	14	0.53	0	-4005	28788	0	0	No, e>t/2
SLV 11	14	0.53	0	-4054	28788	0	0	No, e>t/2
SLV 3	14	0.53	0	-3633	28788	0	0	No, e>t/2
SLV 7	14	0.53	0	-3660	28788	0	0	No, e>t/2
SLV 8	14	0.53	0	-3660	28788	0	0	No, e>t/2
SLV 1	14	0.53	0	-4005	28788	0	0	No, e>t/2
SLV 12	14	0.53	0	-4054	28788	0	0	No, e>t/2
SLV 5	14	0.53	0.73	-4899	28788	32229	1.12	Si
SLV 6	14	0.53	0.73	-4899	28788	32229	1.12	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1344 Wa = 0.03 Ta = 0.1191

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 10	-2198	-6971	14	0.029	5.433	0.889	47.297	1950.614	No
SLV 9	-2198	-6971	14	0.029	5.433	0.889	47.297	1950.614	No
SLV 5	-1858	-7184	15	0.029	5.122	0.889	48.138	1950.614	No
SLV 6	-1858	-7184	15	0.029	5.122	0.889	48.138	1950.614	No
SLV 14	-2139	-7361	5	0.031	5.379	0.889	51.111	2067.226	No
SLV 13	-2139	-7361	5	0.031	5.379	0.889	51.111	2067.226	No
SLV 16	-1748	-7909	-2	0.033	5.023	0.889	54.135	2067.226	No
SLV 15	-1748	-7909	-2	0.033	5.023	0.889	54.135	2067.226	No
SLV 1	-1005	-8072	7	0.034	4.395	0.898	55.537	2067.226	No
SLV 2	-1005	-8072	7	0.034	4.395	0.898	55.537	2067.226	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.22	SLU 38	Si
V_SLU	5.384	SLU 51	Si
PF_SLV	0	SLV 1	No
V_SLV	0	SLV 1	No
PFFP_SLV	0	SLV 1	No
R_SLV	0.024	SLV 9	No

## Maschio 196

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1961.8	581.1	-1961.8	652.1	L6	L7	71	28	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 78	1186	-9991	-2293	5.03	135860	59.261	Si
SLU 78	1502	-11036	67540	5.55	124782	1.848	Si
SLU 71	1186	-10377	-1704	5.22	132323	77.645	Si
SLU 71	1502	-11355	62284	5.71	120452	1.934	Si
SLU 72	1186	-10321	-1908	5.19	132879	69.651	Si
SLU 72	1502	-11329	65495	5.7	120826	1.845	Si
SLU 38	1186	-10012	-1753	5.04	135679	77.412	Si
SLU 38	1502	-11354	65703	5.71	120460	1.833	Si
SLU 37	1186	-10069	-1549	5.06	135199	87.276	Si
SLU 37	1502	-11381	62492	5.72	120083	1.922	Si
SLU 77	1186	-10047	-2089	5.05	135385	64.809	Si
SLU 77	1502	-11063	64328	5.56	124441	1.934	Si
SLU 80	1186	-10432	-2133	5.25	131773	61.774	Si
SLU 80	1502	-11537	69011	5.8	117782	1.707	Si
SLU 30	1186	-9902	-1527	4.98	136582	89.424	Si
SLU 30	1502	-11146	62187	5.61	123337	1.983	Si
SLU 36	1186	-9571	-1912	4.81	138956	72.67	Si
SLU 36	1502	-10854	64232	5.46	127059	1.978	Si
SLU 79	1186	-10488	-1930	5.28	131189	67.99	Si
SLU 79	1502	-11563	65800	5.82	117384	1.784	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 4	1186	-4480	1576	2.25	129706	82.302	Si
SLV 4	1502	-5152	66500	2.59	144109	2.167	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 2	1186	-3675	-912	1.85	110728	121.422	Si
SLV 2	1502	-4854	56430	2.44	137887	2.444	Si
SLV 3	1186	-4480	1576	2.25	129706	82.302	Si
SLV 3	1502	-5152	66500	2.59	144109	2.167	Si
SLV 8	1186	-4911	3203	2.47	139094	43.421	Si
SLV 8	1502	-4116	52750	2.07	121365	2.301	Si
SLV 14	1186	-2224	-4555	1.12	71736	15.748	Si
SLV 14	1502	-901	-16425	0.45	30797	1.875	Si
SLV 7	1186	-4911	3203	2.47	139094	43.421	Si
SLV 7	1502	-4116	52750	2.07	121365	2.301	Si
SLV 13	1186	-2224	-4555	1.12	71736	15.748	Si
SLV 13	1502	-901	-16425	0.45	30797	1.875	Si
SLD 3	1186	-3818	-184	1.92	114246	620.909	Si
SLD 3	1502	-3916	42812	1.97	116599	2.724	Si
SLD 4	1186	-3818	-184	1.92	114246	620.909	Si
SLD 4	1502	-3916	42812	1.97	116599	2.724	Si
SLV 1	1186	-3675	-912	1.85	110728	121.422	Si
SLV 1	1502	-4854	56430	2.44	137887	2.444	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 77	1186	-10047	-481	-2089		5.05	71	1.08	2154			4.48	Si
SLU 77	1502	-11063	156	64328		5.56	71	1.08	2154			13.85	Si
SLU 78	1186	-9991	-484	-2293		5.03	71	1.08	2154			4.45	Si
SLU 78	1502	-11036	103	67540		5.55	71	1.08	2154			20.93	Si
SLU 36	1186	-9571	-465	-1912		4.81	71	1.08	2154			4.63	Si
SLU 36	1502	-10854	124	64232		5.46	71	1.08	2154			17.43	Si
SLU 35	1186	-9628	-462	-1709		4.84	71	1.08	2154			4.66	Si
SLU 35	1502	-10880	176	61021		5.47	71	1.08	2154			12.22	Si
SLU 38	1186	-10012	-476	-1753		5.04	71	1.08	2154			4.52	Si
SLU 38	1502	-11354	110	65703		5.71	71	1.08	2154			19.61	Si
SLU 72	1186	-10321	-468	-1908		5.19	71	1.08	2154			4.6	Si
SLU 72	1502	-11329	10	65495		5.7	71	1.08	2154			218.55	Si
SLU 80	1186	-10432	-495	-2133		5.25	71	1.08	2154			4.35	Si
SLU 80	1502	-11537	89	69011		5.8	71	1.08	2154			24.16	Si
SLU 79	1186	-10488	-492	-1930		5.28	71	1.08	2154			4.38	Si
SLU 79	1502	-11563	142	65800		5.82	71	1.08	2154			15.19	Si
SLU 37	1186	-10069	-473	-1549		5.06	71	1.08	2154			4.55	Si
SLU 37	1502	-11381	162	62492		5.72	71	1.08	2154			13.25	Si
SLU 71	1186	-10377	-465	-1704		5.22	71	1.08	2154			4.63	Si
SLU 71	1502	-11355	63	62284		5.71	71	1.08	2154			34.46	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	1186	-2224	-194	-4555		1.12	71	1.06	2102			10.85	Si
SLV 14	1502	-901	-2369	-16425		0.62	51.81	0.96	1389			0.59	No, Vu<V
SLV 15	1186	-3029	-44	-2067		1.52	71	1.14	2263			51.24	Si
SLV 15	1502	-1199	-1328	-6355		0.6	71	0.95	1896			1.43	Si
SLV 7	1186	-4911	68	3203		2.47	71	1.33	2639			39.05	Si
SLV 7	1502	-4116	2347	52750		2.16	68.06	1.27	2411			1.03	Si
SLV 9	1186	-1793	-402	-6183		0.9	71	1.01	2015			5.01	Si
SLV 9	1502	-1937	-2258	-2674		0.97	71	1.03	2044			0.91	No, Vu<V
SLV 3	1186	-4480	-141	1576		2.25	71	1.28	2553			18.14	Si
SLV 3	1502	-5152	2458	66500		2.71	67.78	1.38	2612			1.06	Si
SLV 16	1186	-3029	-44	-2067		1.52	71	1.14	2263			51.24	Si
SLV 16	1502	-1199	-1328	-6355		0.6	71	0.95	1896			1.43	Si
SLV 10	1186	-1793	-402	-6183		0.9	71	1.01	2015			5.01	Si
SLV 10	1502	-1937	-2258	-2674		0.97	71	1.03	2044			0.91	No, Vu<V
SLV 8	1186	-4911	68	3203		2.47	71	1.33	2639			39.05	Si
SLV 8	1502	-4116	2347	52750		2.16	68.06	1.27	2411			1.03	Si
SLV 4	1186	-4480	-141	1576		2.25	71	1.28	2553			18.14	Si
SLV 4	1502	-5152	2458	66500		2.71	67.78	1.38	2612			1.06	Si
SLV 13	1186	-2224	-194	-4555		1.12	71	1.06	2102			10.85	Si
SLV 13	1502	-901	-2369	-16425		0.62	51.81	0.96	1389			0.59	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.53	0.87	-1722	8206	22395	2.73	Si
SLV 10	14	0.53	0.87	-1722	8206	22395	2.73	Si
SLV 14	14	0.53	1.01	-2017	8206	25899	3.16	Si
SLV 13	14	0.53	1.01	-2017	8206	25899	3.16	Si
SLV 6	14	0.53	1.17	-2317	8206	29349	3.58	Si
SLV 5	14	0.53	1.17	-2317	8206	29349	3.58	Si
SLV 16	14	0.53	1.44	-2867	8206	35398	4.31	Si
SLV 15	14	0.53	1.44	-2867	8206	35398	4.31	Si
SLV 2	14	0.53	2.01	-4003	8206	46809	5.7	Si
SLV 1	14	0.53	2.01	-4003	8206	46809	5.7	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1344 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 14	-901	-2224	161	0	1.852	0.894	0	978.751	No
SLV 15	-1199	-3029	184	0	2.142	0.902	0	978.751	No
SLV 16	-1199	-3029	184	0	2.142	0.902	0	978.751	No
SLV 13	-901	-2224	161	0	1.852	0.894	0	978.751	No
SLV 2	-4854	-3675	-187	0.015	5.829	0.955	22.076	978.751	No
SLV 1	-4854	-3675	-187	0.015	5.829	0.955	22.076	978.751	No
SLV 4	-5152	-4480	-164	0.02	6.131	0.957	30.302	978.751	No



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 3	-5152	-4480	-164	0.02	6.131	0.957	30.302	978.751	No
SLV 11	-2930	-4476	88	0.026	3.877	0.937	40.884	915.209	No
SLV 12	-2930	-4476	88	0.026	3.877	0.937	40.884	915.209	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.707	SLU 80	Si
V_SLU	4.351	SLU 80	Si
PF_SLV	1.875	SLV 13	Si
V_SLV	0.586	SLV 13	No
PFFP_SLV	2.729	SLV 9	Si
R_SLV	0	SLV 13	No

## Maschio 197

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X inl.	Y inl.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h inl.	h fin.	a	a.s.,sx	a.s.,dx
-1844.8	-335.9	-1844.8	104.6	L6	L7	440.6	14	316	316	316			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 37	1186	-7523	320080	1.22	1409027	4.402	Si
SLU 37	1502	-1989	-400804	0.32	420831	1.05	Si
SLU 80	1186	-8888	386111	1.44	1611588	4.174	Si
SLU 80	1502	-2137	-416484	0.35	450639	1.082	Si
SLU 16	1186	-6829	286359	1.11	1299827	4.539	Si
SLU 16	1502	-1731	-341977	0.28	368193	1.077	Si
SLU 38	1186	-7499	345605	1.22	1405385	4.066	Si
SLU 38	1502	-2065	-418304	0.33	436232	1.043	Si
SLU 9	1186	-6337	301811	1.03	1219927	4.042	Si
SLU 9	1502	-1820	-358591	0.3	386403	1.078	Si
SLU 8	1186	-6361	276286	1.03	1223809	4.43	Si
SLU 8	1502	-1744	-341091	0.28	370838	1.087	Si
SLU 17	1186	-6805	311884	1.1	1296043	4.156	Si
SLU 17	1502	-1807	-359478	0.29	383766	1.068	Si
SLU 30	1186	-7031	335532	1.14	1332117	3.97	Si
SLU 30	1502	-2078	-417418	0.34	438839	1.051	Si
SLU 29	1186	-7055	310007	1.14	1335855	4.309	Si
SLU 29	1502	-2002	-399917	0.32	423447	1.059	Si
SLU 36	1186	-7757	349532	1.26	1444999	4.134	Si
SLU 36	1502	-2005	-390571	0.33	424114	1.086	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLD 12	1186	-5683	227551	0.92	1157406	5.086	Si
SLD 12	1502	-896	-211857	0	0	0	No, e>l/2
SLV 8	1186	-5720	225161	0.93	1164452	5.172	Si
SLV 8	1502	-1141	-406222	0	0	0	No, e>l/2
SLV 9	1186	-5791	146981	0.94	1177622	8.012	Si
SLV 9	1502	-65	249777	0	0	0	No, e>l/2
SLV 3	1186	-5990	100396	0.97	1214670	12.099	Si
SLV 3	1502	-501	-176331	0	0	0	No, e>l/2
SLV 5	1186	-5953	82760	0.97	1207688	14.593	Si
SLV 5	1502	108	249969	0	0	0	No, Trazione
SLV 10	1186	-5791	146981	0.94	1177622	8.012	Si
SLV 10	1502	-65	249777	0	0	0	No, e>l/2
SLV 4	1186	-5990	100396	0.97	1214670	12.099	Si
SLV 4	1502	-501	-176331	0	0	0	No, e>l/2
SLV 7	1186	-5720	225161	0.93	1164452	5.172	Si
SLV 7	1502	-1141	-406222	0	0	0	No, e>l/2
SLD 11	1186	-5683	227551	0.92	1157406	5.086	Si
SLD 11	1502	-896	-211857	0	0	0	No, e>l/2
SLV 6	1186	-5953	82760	0.97	1207688	14.593	Si
SLV 6	1502	108	249969	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma M = 3$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 28	1186	-7289	1176	339459		1.18	440.57	0.71	4399			3.74	Si
SLU 28	1502	-2018	2233	-389684		1.77	81.61	0.79	904			0.4	No, Vu<V
SLU 9	1186	-6337	1099	301811		1.03	440.57	0.69	4272			3.89	Si
SLU 9	1502	-1820	2072	-358591		1.86	69.78	0.8	785			0.38	No, Vu<V
SLU 36	1186	-7757	1171	349532		1.26	440.57	0.72	4461			3.81	Si
SLU 36	1502	-2005	2230	-390571		1.87	76.56	0.81	863			0.39	No, Vu<V
SLU 38	1186	-7499	1239	345605		1.22	440.57	0.72	4427			3.57	Si
SLU 38	1502	-2065	2349	-418304		2.77	53.21	0.93	689			0.29	No, Vu<V
SLU 80	1186	-8888	1297	386111		1.44	440.57	0.75	4612			3.56	Si
SLU 80	1502	-2137	2407	-416484		2.01	76.06	0.82	876			0.36	No, Vu<V
SLU 29	1186	-7055	1230	310007		1.14	440.57	0.71	4367			3.55	Si
SLU 29	1502	-2002	2145	-399917		2.32	61.59	0.87	746			0.35	No, Vu<V



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 72	1186	-8420	1301	376038		1.37	440.57	0.74	4549			3.5	Si
SLU 72	1502	-2149	2410	-415597		1.9	80.81	0.81	915			0.38	No, Vu<V
SLU 17	1186	-6805	1095	311884		1.1	440.57	0.7	4334			3.96	Si
SLU 17	1502	-1807	2069	-359478		2.01	64.09	0.82	739			0.36	No, Vu<V
SLU 37	1186	-7523	1225	320080		1.22	440.57	0.72	4430			3.61	Si
SLU 37	1502	-1989	2142	-400804		2.52	56.37	0.89	704			0.33	No, Vu<V
SLU 30	1186	-7031	1243	335532		1.14	440.57	0.71	4364			3.51	Si
SLU 30	1502	-2078	2352	-417418		2.55	58.26	0.9	730			0.31	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	1186	-5990	985	100396		0.97	440.57	1.03	6338			6.43	Si
SLV 4	1502	-501	1400	-176331		0	0	0.83	0			0	No, Vu<V
SLV 9	1186	-5791	-4303	146981		0.94	440.57	1.02	6298			1.46	Si
SLV 9	1502	-65	-2745	249777		0	0	0.83	0			0	No, Vu<V
SLD 12	1186	-5683	2559	227551		0.92	440.57	1.02	6276			2.45	Si
SLD 12	1502	-896	2004	-211857		0	0	0.83	0			0	No, Vu<V
SLV 3	1186	-5990	985	100396		0.97	440.57	1.03	6338			6.43	Si
SLV 3	1502	-501	1400	-176331		0	0	0.83	0			0	No, Vu<V
SLV 5	1186	-5953	-4844	82760		0.97	440.57	1.03	6330			1.31	Si
SLV 5	1502	108	-2874	249969		0	0	0.83	0			0	No, Vu<V
SLD 11	1186	-5683	2559	227551		0.92	440.57	1.02	6276			2.45	Si
SLD 11	1502	-896	2004	-211857		0	0	0.83	0			0	No, Vu<V
SLV 6	1186	-5953	-4844	82760		0.97	440.57	1.03	6330			1.31	Si
SLV 6	1502	108	-2874	249969		0	0	0.83	0			0	No, Vu<V
SLV 8	1186	-5720	5095	225161		0.93	440.57	1.02	6284			1.23	Si
SLV 8	1502	-1141	3933	-406222		0	0	0.83	0			0	No, Vu<V
SLV 7	1186	-5720	5095	225161		0.93	440.57	1.02	6284			1.23	Si
SLV 7	1502	-1141	3933	-406222		0	0	0.83	0			0	No, Vu<V
SLV 10	1186	-5791	-4303	146981		0.94	440.57	1.02	6298			1.46	Si
SLV 10	1502	-65	-2745	249777		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344 Wa 0.03 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.53	0	-2639	26616	0	0	No, e>t/2
SLV 3	14	0.53	0	-2998	26616	0	0	No, e>t/2
SLV 2	14	0.53	0	-2734	26616	0	0	No, e>t/2
SLV 7	14	0.53	0	-3421	26616	0	0	No, e>t/2
SLV 8	14	0.53	0	-3421	26616	0	0	No, e>t/2
SLV 10	14	0.53	0	-2639	26616	0	0	No, e>t/2
SLV 6	14	0.53	0	-2541	26616	0	0	No, e>t/2
SLV 1	14	0.53	0	-2734	26616	0	0	No, e>t/2
SLV 4	14	0.53	0	-2998	26616	0	0	No, e>t/2
SLV 5	14	0.53	0	-2541	26616	0	0	No, e>t/2

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1344 Wa = 0.03 Ta = 0.1191

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 5	108	-5953	7	0	0	0	0	1950.614	No, Trazione
SLV 6	108	-5953	7	0	0	0	0	1950.614	No, Trazione
SLV 15	-1079	-5451	-26	0.027	4.183	0.895	43.085	2067.226	No
SLV 16	-1079	-5451	-26	0.027	4.183	0.895	43.085	2067.226	No
SLV 2	-127	-6060	26	0.029	3.593	0.97	43.19	2067.226	No
SLV 1	-127	-6060	26	0.029	3.593	0.97	43.19	2067.226	No
SLV 14	-704	-5521	-27	0.027	3.896	0.907	43.331	2067.226	No
SLV 13	-704	-5521	-27	0.027	3.896	0.907	43.331	2067.226	No
SLV 3	-501	-5990	27	0.028	3.762	0.92	43.517	2067.226	No
SLV 4	-501	-5990	27	0.028	3.762	0.92	43.517	2067.226	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.043	SLU 38	Si
V_SLU	0.293	SLU 38	No
PF_SLV	0	SLV 6	No
V_SLV	0	SLD 7	No
PFFP_SLV	0	SLV 1	No
R_SLV	0	SLV 6	No

## Maschio 198

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1505.8	220.1	-1505.8	666.1	L6	L7	446	14	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 37	1186	-6852	22561	1.1	1322162	58.604	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 37	1502	-2114	382388	0.34	451902	1.182	Si
SLU 71	1186	-7583	26965	1.21	1438863	53.36	Si
SLU 71	1502	-2132	384416	0.34	455427	1.185	Si
SLU 30	1186	-6234	33366	1	1219759	36.557	Si
SLU 30	1502	-2086	378020	0.33	446020	1.18	Si
SLU 72	1186	-7583	26446	1.21	1438947	54.411	Si
SLU 72	1502	-2131	384372	0.34	455378	1.185	Si
SLU 38	1186	-6853	22042	1.1	1322250	59.988	Si
SLU 38	1502	-2114	382344	0.34	451853	1.182	Si
SLU 29	1186	-6233	33885	1	1219668	35.994	Si
SLU 29	1502	-2086	378064	0.33	446069	1.18	Si
SLU 16	1186	-6138	22388	0.98	1203546	53.76	Si
SLU 16	1502	-1804	328017	0.29	388091	1.183	Si
SLU 17	1186	-6138	21868	0.98	1203638	55.04	Si
SLU 17	1502	-1804	327973	0.29	388041	1.183	Si
SLU 8	1186	-5519	33712	0.88	1097176	32.546	Si
SLU 8	1502	-1776	323693	0.28	382180	1.181	Si
SLU 9	1186	-5519	33192	0.88	1097270	33.058	Si
SLU 9	1502	-1776	323649	0.28	382130	1.181	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLD 2	1186	-6029	-41043	0.97	1238201	30.169	Si
SLD 2	1502	-648	111934	0.1	143224	1.28	Si
SLV 1	1186	-6479	-60589	1.04	1322026	21.819	Si
SLV 1	1502	-704	127112	0.11	155519	1.223	Si
SLD 3	1186	-6212	-58927	0.99	1272509	21.595	Si
SLD 3	1502	-728	125071	0.12	160844	1.286	Si
SLD 1	1186	-6029	-41043	0.97	1238201	30.169	Si
SLD 1	1502	-648	111934	0.1	143224	1.28	Si
SLV 2	1186	-6479	-60589	1.04	1322026	21.819	Si
SLV 2	1502	-704	127112	0.11	155519	1.223	Si
SLD 4	1186	-6212	-58927	0.99	1272509	21.595	Si
SLD 4	1502	-728	125071	0.12	160844	1.286	Si
SLV 3	1186	-6912	-103619	1.11	1401806	13.528	Si
SLV 3	1502	-899	159415	0.14	198208	1.243	Si
SLV 6	1186	-5272	28847	0.84	1094494	37.941	Si
SLV 6	1502	-337	59199	0.05	74842	1.264	Si
SLV 5	1186	-5272	28847	0.84	1094494	37.941	Si
SLV 5	1502	-337	59199	0.05	74842	1.264	Si
SLV 4	1186	-6912	-103619	1.11	1401806	13.528	Si
SLV 4	1502	-899	159415	0.14	198208	1.243	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 37	1186	-6852	738	22561		1.1	446	0.7	4382			5.94	Si
SLU 37	1502	-2114	-1152	382388		1.19	126.44	0.71	1265			1.1	Si
SLU 58	1186	-7487	599	15467		1.2	446	0.72	4467			7.46	Si
SLU 58	1502	-1850	-1036	334370		1.04	126.8	0.69	1233			1.19	Si
SLU 71	1186	-7583	768	26965		1.21	446	0.72	4480			5.84	Si
SLU 71	1502	-2132	-1141	384416		1.19	127.98	0.71	1280			1.12	Si
SLU 80	1186	-8202	701	15122		1.31	446	0.73	4562			6.5	Si
SLU 80	1502	-2160	-1202	388696		1.19	129.11	0.71	1292			1.07	Si
SLU 38	1186	-6853	737	22042		1.1	446	0.7	4383			5.95	Si
SLU 38	1502	-2114	-1153	382344		1.19	126.44	0.71	1265			1.1	Si
SLU 79	1186	-8202	703	15641		1.31	446	0.73	4562			6.49	Si
SLU 79	1502	-2160	-1201	388740		1.2	129.11	0.71	1292			1.08	Si
SLU 72	1186	-7583	766	26446		1.21	446	0.72	4480			5.85	Si
SLU 72	1502	-2131	-1142	384372		1.19	127.98	0.71	1280			1.12	Si
SLU 29	1186	-6233	803	33885		1	446	0.69	4300			5.36	Si
SLU 29	1502	-2086	-1092	378064		1.19	125.24	0.71	1252			1.15	Si
SLU 59	1186	-7488	598	14948		1.2	446	0.72	4467			7.47	Si
SLU 59	1502	-1850	-1037	334326		1.04	126.8	0.69	1233			1.19	Si
SLU 30	1186	-6234	802	33366		1	446	0.69	4300			5.36	Si
SLU 30	1502	-2086	-1093	378020		1.19	125.25	0.71	1252			1.15	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 8	1186	-6719	2190	-114587		1.08	446	1.05	6547			2.99	Si
SLV 8	1502	-989	-1198	166875		0.43	162.76	0.92	2097			1.75	Si
SLV 4	1186	-6912	217	-103619		1.11	446	1.05	6586			30.29	Si
SLV 4	1502	-899	-1279	159415		0.47	137.28	0.93	1781			1.39	Si
SLD 3	1186	-6212	99	-58927		0.99	446	1.03	6446			65.15	Si
SLD 3	1502	-728	-779	125071		0.34	153.76	0.9	1939			2.49	Si
SLV 2	1186	-6479	-1178	-60589		1.04	446	1.04	6499			5.52	Si
SLV 2	1502	-704	-935	127112		0.4	127.24	0.91	1625			1.74	Si
SLV 5	1186	-5272	-2462	28847		0.84	446	1	6258			2.54	Si
SLV 5	1502	-337	-50	59199		0.17	142.17	0.87	1726			34.21	Si
SLV 7	1186	-6719	2190	-114587		1.08	446	1.05	6547			2.99	Si
SLV 7	1502	-989	-1198	166875		0.43	162.76	0.92	2097			1.75	Si
SLD 4	1186	-6212	99	-58927		0.99	446	1.03	6446			65.15	Si
SLD 4	1502	-728	-779	125071		0.34	153.76	0.9	1939			2.49	Si
SLV 3	1186	-6912	217	-103619		1.11	446	1.05	6586			30.29	Si
SLV 3	1502	-899	-1279	159415		0.47	137.28	0.93	1781			1.39	Si
SLV 1	1186	-6479	-1178	-60589		1.04	446	1.04	6499			5.52	Si
SLV 1	1502	-704	-935	127112		0.4	127.24	0.91	1625			1.74	Si
SLV 6	1186	-5272	-2462	28847		0.84	446	1	6258			2.54	Si
SLV 6	1502	-337	-50	59199		0.17	142.17	0.87	1726			34.21	Si



## Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344 Wa 0.03 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 2	14	0.53	0	-3255	26944	0	0	No, $e > t/2$
SLV 1	14	0.53	0	-3255	26944	0	0	No, $e > t/2$
SLV 5	14	0.53	0	-2701	26944	0	0	No, $e > t/2$
SLV 9	14	0.53	0	-2326	26944	0	0	No, $e > t/2$
SLV 6	14	0.53	0	-2701	26944	0	0	No, $e > t/2$
SLV 3	14	0.53	0	-3354	26944	0	0	No, $e > t/2$
SLV 10	14	0.53	0	-2326	26944	0	0	No, $e > t/2$
SLV 7	14	0.53	0	-3032	26944	0	0	No, $e > t/2$
SLV 4	14	0.53	0	-3354	26944	0	0	No, $e > t/2$
SLV 8	14	0.53	0	-3032	26944	0	0	No, $e > t/2$

## Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1344 Wa = 0.03 Ta = 0.1191

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 15	-503	-4913	-55	0.015	3.806	0.921	23.779	2067.226	No
SLV 16	-503	-4913	-55	0.015	3.806	0.921	23.779	2067.226	No
SLV 13	-308	-4479	-52	0.016	3.701	0.941	24.517	2067.226	No
SLV 14	-308	-4479	-52	0.016	3.701	0.941	24.517	2067.226	No
SLV 2	-704	-6479	54	0.016	3.938	0.908	25.757	2067.226	No
SLV 1	-704	-6479	54	0.016	3.938	0.908	25.757	2067.226	No
SLV 3	-899	-6912	51	0.018	4.082	0.9	28.555	2067.226	No
SLV 4	-899	-6912	51	0.018	4.082	0.9	28.555	2067.226	No
SLV 12	-870	-6119	-22	0.029	4.059	0.901	46.516	1950.614	No
SLV 11	-870	-6119	-22	0.029	4.059	0.901	46.516	1950.614	No

## Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.18	SLU 29	Si
V_SLU	1.075	SLU 80	Si
PF_SLV	1.223	SLV 1	Si
V_SLV	1.393	SLV 3	Si
PFFP_SLV	0	SLV 1	No
R_SLV	0.012	SLV 15	No

## Maschio 199

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Maschio considerato membratura sismica secondaria

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	-35.4	-1375.3	-22.8	L6	L7	12.6	28	316	316	316			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

## Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 57	1186	-217	287	0.62	1262	4.398	Si
SLU 57	1396	-27	-429	0	0	0	No, $e > l/2$
SLU 53	1186	-217	245	0.62	1259	5.142	Si
SLU 53	1396	-29	-532	0	0	0	No, $e > l/2$
SLU 58	1186	-221	300	0.63	1282	4.279	Si
SLU 58	1396	-27	-400	0	0	0	No, $e > l/2$
SLU 60	1186	-196	383	0.56	1146	2.996	Si
SLU 60	1396	-29	-609	0	0	0	No, $e > l/2$
SLU 55	1186	-216	233	0.61	1253	5.366	Si
SLU 55	1396	-30	-535	0	0	0	No, $e > l/2$
SLU 54	1186	-215	236	0.61	1249	5.297	Si
SLU 54	1396	-30	-544	0	0	0	No, $e > l/2$
SLU 56	1186	-219	296	0.62	1272	4.297	Si
SLU 56	1396	-27	-417	0	0	0	No, $e > l/2$
SLU 1	1186	-204	-161	0.58	1189	7.396	Si
SLU 1	1396	-29	-507	0	0	0	No, $e > l/2$
SLU 61	1186	-194	374	0.55	1136	3.042	Si
SLU 61	1396	-29	-621	0	0	0	No, $e > l/2$
SLU 59	1186	-219	291	0.62	1272	4.378	Si
SLU 59	1396	-27	-411	0	0	0	No, $e > l/2$

## Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 59	1186	-219	1	291		0.62	12.57	0.64	225			294.87	Si
SLU 59	1396	-27	-6	-411		0	0	0.56	0			0	No, $V_u < V$
SLU 56	1186	-219	1	296		0.62	12.57	0.64	225			365.48	Si
SLU 56	1396	-27	-5	-417		0	0	0.56	0			0	No, $V_u < V$
SLU 57	1186	-217	1	287		0.62	12.57	0.64	224			297.07	Si
SLU 57	1396	-27	-4	-429		0	0	0.56	0			0	No, $V_u < V$
SLU 58	1186	-221	1	300		0.63	12.57	0.64	225			362.06	Si
SLU 58	1396	-27	-7	-400		0	0	0.56	0			0	No, $V_u < V$
SLU 1	1186	-204	1	-161		0.58	12.57	0.63	223			432.23	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 1	1396	-29	-1	-507		0	0	0.56	0			0	No, Vu<V
SLU 60	1186	-196	3	383		0.56	12.57	0.63	222			74.55	Si
SLU 60	1396	-29	23	-609		0	0	0.56	0			0	No, Vu<V
SLU 53	1186	-217	1	245		0.62	12.57	0.64	224			153.21	Si
SLU 53	1396	-29	7	-532		0	0	0.56	0			0	No, Vu<V
SLU 55	1186	-216	2	233		0.61	12.57	0.64	224			131.47	Si
SLU 55	1396	-30	6	-535		0	0	0.56	0			0	No, Vu<V
SLU 54	1186	-215	2	236		0.61	12.57	0.64	224			139.63	Si
SLU 54	1396	-30	8	-544		0	0	0.56	0			0	No, Vu<V
SLU 61	1186	-194	3	374		0.55	12.57	0.63	221			71.1	Si
SLU 61	1396	-29	24	-621		0	0	0.56	0			0	No, Vu<V

#### Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.53	0	135	1453	0	0	No, Trazione
SLV 11	14	0.53	0	135	1453	0	0	No, Trazione
SLV 16	14	0.53	0	-69	1453	0	0	No, $e > t/2$
SLV 15	14	0.53	0	-69	1453	0	0	No, $e > t/2$
SLV 4	14	0.53	0	-61	1453	0	0	No, $e > t/2$
SLV 3	14	0.53	0	-61	1453	0	0	No, $e > t/2$
SLV 7	14	0.53	0	137	1453	0	0	No, Trazione
SLV 8	14	0.53	0	137	1453	0	0	No, Trazione
SLV 1	14	0.53	0.66	-234	1453	3095	2.13	Si
SLV 2	14	0.53	0.66	-234	1453	3095	2.13	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1344 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 6	168	-418	0	0	0	0	0	915.209	No, Trazione
SLV 7	-88	26	1	0	0	0	0	915.209	No, Trazione
SLV 5	168	-418	0	0	0	0	0	915.209	No, Trazione
SLV 1	94	-274	2	0	0	0	0	978.751	No, Trazione
SLV 4	17	-141	2	0	0	0	0	978.751	No, Trazione
SLV 2	94	-274	2	0	0	0	0	978.751	No, Trazione
SLV 8	-88	26	1	0	0	0	0	915.209	No, Trazione
SLV 10	155	-408	-1	0	0	0	0	915.209	No, Trazione
SLV 3	17	-141	2	0	0	0	0	978.751	No, Trazione
SLV 9	155	-408	-1	0	0	0	0	915.209	No, Trazione

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 1	No
V_SLU	0	SLU 1	No
PFFP_SLV	0	SLV 12	No
R_SLV	0	SLV 14	No

## Maschio 200

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Maschio considerato membratura sismica secondaria

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	67.2	-1375.3	104.6	L6	L7	37.4	28	316	316	316			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>k</sub>	f <sub>vk0</sub>	f <sub>medio</sub>	$\tau_0$	f <sub>v0</sub>	$\mu$	$\phi$	f <sub>v,lim</sub>	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 38	1186	-1618	4567	1.54	24541	5.374	Si
SLU 38	1396	-1091	2663	1.04	17816	6.69	Si
SLU 29	1186	-1503	4839	1.43	23177	4.79	Si
SLU 29	1396	-996	3317	0.95	16472	4.965	Si
SLU 30	1186	-1511	4690	1.44	23268	4.962	Si
SLU 30	1396	-1006	3203	0.96	16609	5.186	Si
SLU 69	1186	-1910	5227	1.82	27751	5.309	Si
SLU 69	1396	-1280	3620	1.22	20363	5.625	Si
SLU 37	1186	-1610	4716	1.54	24453	5.185	Si
SLU 37	1396	-1082	2778	1.03	17683	6.366	Si
SLU 36	1186	-1656	4982	1.58	24975	5.013	Si
SLU 36	1396	-1127	3049	1.08	18314	6.006	Si
SLU 27	1186	-1541	5254	1.47	23631	4.498	Si
SLU 27	1396	-1032	3704	0.99	16985	4.586	Si
SLU 35	1186	-1648	5131	1.57	24889	4.85	Si
SLU 35	1396	-1118	3164	1.07	18183	5.746	Si
SLU 28	1186	-1548	5105	1.48	23720	4.647	Si
SLU 28	1396	-1042	3589	0.99	17121	4.77	Si
SLU 6	1186	-1452	4156	1.39	22553	5.427	Si
SLU 6	1396	-980	3058	0.94	16235	5.309	Si





Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 60	1186	-1856	0	964		1.77	37.43	0.79	830			1000	Si
SLU 60	1396	-1255	0	-395		1.2	37.43	0.72	750			1000	Si
SLU 59	1186	-1899	0	3442		1.81	37.43	0.8	835			1000	Si
SLU 59	1396	-1287	0	1934		1.23	37.43	0.72	754			1000	Si
SLU 55	1186	-1863	0	2055		1.78	37.43	0.79	831			1000	Si
SLU 55	1396	-1263	0	751		1.21	37.43	0.72	751			1000	Si
SLU 56	1186	-1929	0	4006		1.84	37.43	0.8	839			1000	Si
SLU 56	1396	-1313	0	2435		1.25	37.43	0.72	757			1000	Si
SLU 61	1186	-1863	0	815		1.78	37.43	0.79	831			1000	Si
SLU 61	1396	-1264	0	-510		1.21	37.43	0.72	751			1000	Si
SLU 58	1186	-1891	0	3591		1.8	37.43	0.8	834			1000	Si
SLU 58	1396	-1277	0	2048		1.22	37.43	0.72	753			1000	Si
SLU 54	1186	-1896	0	2570		1.81	37.43	0.8	835			1000	Si
SLU 54	1396	-1293	0	1214		1.23	37.43	0.72	755			1000	Si
SLU 53	1186	-1888	0	2719		1.8	37.43	0.8	834			1000	Si
SLU 53	1396	-1284	0	1329		1.22	37.43	0.72	753			1000	Si
SLU 57	1186	-1936	0	3857		1.85	37.43	0.8	840			1000	Si
SLU 57	1396	-1323	0	2320		1.26	37.43	0.72	759			1000	Si
SLU 1	1186	-1333	0	1166		1.27	37.43	0.73	760			1000	Si
SLU 1	1396	-885	0	459		0.84	37.43	0.67	700			1000	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.53	0	61	4326	0	0	No, Trazione
SLV 14	14	0.53	0	-214	4326	0	0	No, $e > t/2$
SLV 10	14	0.53	0	322	4326	0	0	No, Trazione
SLV 5	14	0.53	0	61	4326	0	0	No, Trazione
SLV 9	14	0.53	0	322	4326	0	0	No, Trazione
SLV 13	14	0.53	0	-214	4326	0	0	No, $e > t/2$
SLV 16	14	0.53	0.89	-933	4326	12115	2.8	Si
SLV 15	14	0.53	0.89	-933	4326	12115	2.8	Si
SLV 2	14	0.53	1.03	-1083	4326	13879	3.21	Si
SLV 1	14	0.53	1.03	-1083	4326	13879	3.21	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1344 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 3	-504	-2169	4	0.056	1.005	0.895	90.962	978.751	No
SLV 4	-504	-2169	4	0.056	1.005	0.895	90.962	978.751	No
SLV 7	-554	-2571	3	0.056	1.053	0.898	90.343	915.209	No
SLV 8	-554	-2571	3	0.056	1.053	0.898	90.343	915.209	No
SLV 2	-389	-1544	2	0.06	0.895	0.891	98.177	978.751	No
SLV 1	-389	-1544	2	0.06	0.895	0.891	98.177	978.751	No
SLV 11	-482	-2291	2	0.059	0.983	0.894	96.209	915.209	No
SLV 12	-482	-2291	2	0.059	0.983	0.894	96.209	915.209	No
SLV 15	-263	-1234	-2	0.064	0.779	0.889	104.292	978.751	No
SLV 16	-263	-1234	-2	0.064	0.779	0.889	104.292	978.751	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.498	SLU 27	Si
V_SLU	1000	SLU 1	Si
PFFP_SLV	0	SLV 10	No
R_SLV	0.093	SLV 3	No

## Maschio 201

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1239.3	333.1	-1239.3	104.6	L6	L7	228.5	14	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 20	1186	-3424	90495	1.07	339781	3.755	Si
SLU 20	1502	-312	31105	0.1	35270	1.134	Si
SLU 39	1186	-3573	91005	1.12	352245	3.871	Si
SLU 39	1502	-309	30783	0.1	34834	1.132	Si
SLU 40	1186	-3557	90122	1.11	350882	3.893	Si
SLU 40	1502	-309	30871	0.1	34896	1.13	Si
SLU 19	1186	-3174	74128	0.99	318499	4.297	Si
SLU 19	1502	-246	24322	0.08	27823	1.144	Si
SLU 21	1186	-3407	89612	1.07	338397	3.776	Si
SLU 21	1502	-313	31192	0.1	35332	1.133	Si
SLU 34	1186	-3705	102793	1.16	363120	3.533	Si
SLU 34	1502	-370	36493	0.12	41724	1.143	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 38	1186	-3949	118866	1.23	382806	3.22	Si
SLU 38	1502	-437	43305	0.14	49118	1.134	Si
SLU 41	1186	-3806	106489	1.19	371328	3.487	Si
SLU 41	1502	-376	37653	0.12	42306	1.124	Si
SLU 42	1186	-3790	105607	1.18	369999	3.504	Si
SLU 42	1502	-376	37741	0.12	42367	1.123	Si
SLU 37	1186	-3965	119749	1.24	384112	3.208	Si
SLU 37	1502	-437	43217	0.14	49057	1.135	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 8	1186	-2759	101623	0.86	292945	2.883	Si
SLV 8	1502	-1043	123890	0	0	0	No, $e \geq l/2$
SLV 13	1186	-2685	29947	0.84	285701	9.54	Si
SLV 13	1502	421	-45739	0	0	0	No, Trazione
SLV 10	1186	-3449	45672	1.08	359271	7.866	Si
SLV 10	1502	550	-78644	0	0	0	No, Trazione
SLV 14	1186	-2685	29947	0.84	285701	9.54	Si
SLV 14	1502	421	-45739	0	0	0	No, Trazione
SLV 11	1186	-2414	78343	0.75	258810	3.304	Si
SLV 11	1502	-761	98846	0	0	0	No, $e \geq l/2$
SLV 7	1186	-2759	101623	0.86	292945	2.883	Si
SLV 7	1502	-1043	123890	0	0	0	No, $e \geq l/2$
SLV 6	1186	-3793	68952	1.19	391324	5.675	Si
SLV 6	1502	267	-53601	0	0	0	No, Trazione
SLV 9	1186	-3449	45672	1.08	359271	7.866	Si
SLV 9	1502	550	-78644	0	0	0	No, Trazione
SLV 12	1186	-2414	78343	0.75	258810	3.304	Si
SLV 12	1502	-761	98846	0	0	0	No, $e \geq l/2$
SLD 16	1186	-2793	59176	0.87	296347	5.008	Si
SLD 16	1502	-130	16168	0	0	0	No, $e \geq l/2$

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 30	1186	-3777	13	113674		1.18	228.5	0.71	2281			174.35	Si
SLU 30	1502	-423	-103	40258		0.53	57.14	0.63	501			4.84	Si
SLU 17	1186	-3567	9	102871		1.12	228.5	0.7	2253			251.36	Si
SLU 17	1502	-374	-89	36757		0.56	47.91	0.63	423			4.74	Si
SLU 37	1186	-3965	2	119749		1.24	228.5	0.72	2306			1000	Si
SLU 37	1502	-437	-113	43217		0.68	45.86	0.65	415			3.68	Si
SLU 29	1186	-3794	16	114557		1.19	228.5	0.71	2283			146.79	Si
SLU 29	1502	-422	-101	40170		0.53	57.39	0.63	503			5	Si
SLU 38	1186	-3949	-1	118866		1.23	228.5	0.72	2304			1000	Si
SLU 38	1502	-437	-116	43305		0.68	45.63	0.65	413			3.57	Si
SLU 16	1186	-3583	11	103754		1.12	228.5	0.7	2255			197.23	Si
SLU 16	1502	-373	-86	36669		0.55	48.18	0.63	425			4.92	Si
SLU 80	1186	-4702	13	133660		1.47	228.5	0.75	2404			178.57	Si
SLU 80	1502	-483	-105	47024		0.68	50.67	0.65	458			4.35	Si
SLU 41	1186	-3806	1	106489		1.19	228.5	0.71	2285			1000	Si
SLU 41	1502	-376	-79	37653		0.64	42.09	0.64	377			4.77	Si
SLU 79	1186	-4718	16	134543		1.47	228.5	0.75	2406			151.02	Si
SLU 79	1502	-482	-103	46937		0.68	50.88	0.65	460			4.49	Si
SLU 42	1186	-3790	-1	105607		1.18	228.5	0.71	2283			1000	Si
SLU 42	1502	-376	-82	37741		0.64	41.84	0.64	376			4.58	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 16	1186	-2793	270	59176		0.87	228.5	1.01	3225			11.95	Si
SLD 16	1502	-130	-314	16168		0	0	0.83	0			0	No, $V_u < V$
SLV 7	1186	-2759	-2449	101623		0.86	228.5	1.01	3218			1.31	Si
SLV 7	1502	-1043	-1150	123890		0	0	0.83	0			0	No, $V_u < V$
SLV 8	1186	-2759	-2449	101623		0.86	228.5	1.01	3218			1.31	Si
SLV 8	1502	-1043	-1150	123890		0	0	0.83	0			0	No, $V_u < V$
SLV 9	1186	-3449	2508	45672		1.08	228.5	1.05	3356			1.34	Si
SLV 9	1502	550	1136	-78644		0	0	0.83	0			0	No, $V_u < V$
SLV 11	1186	-2414	-1728	78343		0.75	228.5	0.98	3149			1.82	Si
SLV 11	1502	-761	-1358	98846		0	0	0.83	0			0	No, $V_u < V$
SLV 14	1186	-2685	1866	29947		0.84	228.5	1	3203			1.72	Si
SLV 14	1502	421	20	-45739		0	0	0.83	0			0	No, $V_u < V$
SLV 6	1186	-3793	1787	68952		1.19	228.5	1.07	3424			1.92	Si
SLV 6	1502	267	1344	-53601		0	0	0.83	0			0	No, $V_u < V$
SLV 13	1186	-2685	1866	29947		0.84	228.5	1	3203			1.72	Si
SLV 13	1502	421	20	-45739		0	0	0.83	0			0	No, $V_u < V$
SLV 10	1186	-3449	2508	45672		1.08	228.5	1.05	3356			1.34	Si
SLV 10	1502	550	1136	-78644		0	0	0.83	0			0	No, $V_u < V$
SLV 12	1186	-2414	-1728	78343		0.75	228.5	0.98	3149			1.82	Si
SLV 12	1502	-761	-1358	98846		0	0	0.83	0			0	No, $V_u < V$

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344  $W_a 0.03$  denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 13	14	0.53	0	-896	12604	0	0	No, $e > t/2$
SLV 16	14	0.53	0	-1051	12604	0	0	No, $e > t/2$
SLV 10	14	0.53	0	-1510	12604	0	0	No, $e > t/2$
SLV 14	14	0.53	0	-896	12604	0	0	No, $e > t/2$
SLV 9	14	0.53	0	-1510	12604	0	0	No, $e > t/2$
SLV 15	14	0.53	0	-1051	12604	0	0	No, $e > t/2$
SLV 11	14	0.53	0.63	-2028	12604	13462	1.07	Si
SLV 12	14	0.53	0.63	-2028	12604	13462	1.07	Si



Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.53	0.69	-2192	12604	14486	1.15	Si
SLV 5	14	0.53	0.69	-2192	12604	14486	1.15	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeraia = 1344  $W_a = 0.03$   $T_a = 0.1191$

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 13	421	-2685	32	0	0	0	0	2067.226	No, Trazione
SLV 5	267	-3793	6	0	0	0	0	1950.614	No, Trazione
SLV 15	28	-2375	24	0	0	0	0	2067.226	No, Trazione
SLV 9	550	-3449	23	0	0	0	0	1950.614	No, Trazione
SLV 14	421	-2685	32	0	0	0	0	2067.226	No, Trazione
SLV 6	267	-3793	6	0	0	0	0	1950.614	No, Trazione
SLV 16	28	-2375	24	0	0	0	0	2067.226	No, Trazione
SLV 10	550	-3449	23	0	0	0	0	1950.614	No, Trazione
SLV 3	-914	-3523	-33	0.015	2.477	0.889	25.044	2067.226	No
SLV 4	-914	-3523	-33	0.015	2.477	0.889	25.044	2067.226	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.123	SLU 42	Si
V_SLU	3.571	SLU 38	Si
PF_SLV	0	SLV 16	No
V_SLV	0	SLD 5	No
PFFP_SLV	0	SLV 9	No
R_SLV	0	SLV 16	No

## Maschio 202

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1505.8	333.1	-1074.8	333.1	L6	L7	431	14	316	316	316			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 37	1186	-1222	-8844	0.2	256830	29.041	Si
SLU 37	1376	-771	-271305	0	0	0	No, e>l/2
SLU 19	1186	-1725	-3754	0.29	358675	95.553	Si
SLU 19	1376	-972	-221127	0	0	0	No, e>l/2
SLU 42	1186	-1090	-9034	0.18	229707	25.427	Si
SLU 42	1376	-712	-283971	0	0	0	No, e>l/2
SLU 20	1186	-1566	-3980	0.26	326626	82.062	Si
SLU 20	1376	-886	-233189	0	0	0	No, e>l/2
SLU 41	1186	-1084	-9312	0.18	228505	24.54	Si
SLU 41	1376	-710	-283871	0	0	0	No, e>l/2
SLU 39	1186	-1238	-9363	0.21	260033	27.772	Si
SLU 39	1376	-794	-271710	0	0	0	No, e>l/2
SLU 31	1186	-1539	-8483	0.26	321272	37.871	Si
SLU 31	1376	-942	-247148	0	0	0	No, e>l/2
SLU 38	1186	-1228	-8566	0.2	258025	30.122	Si
SLU 38	1376	-773	-271404	0	0	0	No, e>l/2
SLU 34	1186	-1385	-8432	0.23	290150	34.411	Si
SLU 34	1376	-858	-259309	0	0	0	No, e>l/2
SLU 21	1186	-1571	-3702	0.26	327803	88.539	Si
SLU 21	1376	-888	-233288	0	0	0	No, e>l/2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 11	1186	-1560	52551	0.26	329005	6.261	Si
SLV 11	1376	-290	-412191	0	0	0	No, e>l/2
SLD 7	1186	-1977	21588	0.33	414673	19.209	Si
SLD 7	1376	-647	-318811	0	0	0	No, e>l/2
SLV 12	1186	-1560	52551	0.26	329005	6.261	Si
SLV 12	1376	-290	-412191	0	0	0	No, e>l/2
SLV 7	1186	-1456	55355	0.24	307605	5.557	Si
SLV 7	1376	242	-519723	0	0	0	No, Trazione
SLD 11	1186	-2020	20353	0.33	423380	20.802	Si
SLD 11	1376	-873	-272998	0	0	0	No, e>l/2
SLD 3	1186	-2180	5238	0.36	455810	87.021	Si
SLD 3	1376	-765	-283825	0	0	0	No, e>l/2
SLD 8	1186	-1977	21588	0.33	414673	19.209	Si
SLD 8	1376	-647	-318811	0	0	0	No, e>l/2
SLD 12	1186	-2020	20353	0.33	423380	20.802	Si
SLD 12	1376	-873	-272998	0	0	0	No, e>l/2
SLD 4	1186	-2180	5238	0.36	455810	87.021	Si
SLD 4	1376	-765	-283825	0	0	0	No, e>l/2
SLV 8	1186	-1456	55355	0.24	307605	5.557	Si
SLV 8	1376	242	-519723	0	0	0	No, Trazione



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 21	1186	-1571	-134	-3702		0.26	431	0.59	3562			26.63	Si
SLU 21	1376	-888	-134	-233288		0	0	0.56	0			0	No, Vu<V
SLU 20	1186	-1566	-134	-3980		0.26	431	0.59	3561			26.63	Si
SLU 20	1376	-886	-134	-233189		0	0	0.56	0			0	No, Vu<V
SLU 41	1186	-1084	-162	-9312		0.18	431	0.58	3497			21.64	Si
SLU 41	1376	-710	-162	-283871		0	0	0.56	0			0	No, Vu<V
SLU 38	1186	-1228	-154	-8566		0.2	431	0.58	3516			22.85	Si
SLU 38	1376	-773	-155	-271404		0	0	0.56	0			0	No, Vu<V
SLU 37	1186	-1222	-154	-8844		0.2	431	0.58	3515			22.85	Si
SLU 37	1376	-771	-155	-271305		0	0	0.56	0			0	No, Vu<V
SLU 39	1186	-1238	-156	-9363		0.21	431	0.58	3517			22.58	Si
SLU 39	1376	-794	-156	-271710		0	0	0.56	0			0	No, Vu<V
SLU 31	1186	-1539	-142	-8483		0.26	431	0.59	3557			25	Si
SLU 31	1376	-942	-143	-247148		0	0	0.56	0			0	No, Vu<V
SLU 34	1186	-1385	-148	-8432		0.23	431	0.59	3537			23.88	Si
SLU 34	1376	-858	-149	-259309		0	0	0.56	0			0	No, Vu<V
SLU 19	1186	-1725	-128	-3754		0.29	431	0.59	3582			27.99	Si
SLU 19	1376	-972	-128	-221127		0	0	0.56	0			0	No, Vu<V
SLU 42	1186	-1090	-162	-9034		0.18	431	0.58	3498			21.64	Si
SLU 42	1376	-712	-162	-283971		0	0	0.56	0			0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 4	1186	-2180	-50	5238		0.36	431	0.91	5464			108.29	Si
SLD 4	1376	-765	-308	-283825		0	0	0.83	0			0	No, Vu<V
SLD 11	1186	-2020	-313	20353		0.33	431	0.9	5432			17.36	Si
SLD 11	1376	-873	-154	-272998		0	0	0.83	0			0	No, Vu<V
SLD 12	1186	-2020	-313	20353		0.33	431	0.9	5432			17.36	Si
SLD 12	1376	-873	-154	-272998		0	0	0.83	0			0	No, Vu<V
SLV 8	1186	-1456	-492	55355		0.24	431	0.88	5320			10.82	Si
SLV 8	1376	242	-487	-519723		0	0	0.83	0			0	No, Vu<V
SLV 11	1186	-1560	-635	52551		0.26	431	0.89	5340			8.41	Si
SLV 11	1376	-290	-236	-412191		0	0	0.83	0			0	No, Vu<V
SLD 8	1186	-1977	-251	21588		0.33	431	0.9	5424			21.64	Si
SLD 8	1376	-647	-260	-318811		0	0	0.83	0			0	No, Vu<V
SLD 3	1186	-2180	-50	5238		0.36	431	0.91	5464			108.29	Si
SLD 3	1376	-765	-308	-283825		0	0	0.83	0			0	No, Vu<V
SLV 12	1186	-1560	-635	52551		0.26	431	0.89	5340			8.41	Si
SLV 12	1376	-290	-236	-412191		0	0	0.83	0			0	No, Vu<V
SLV 7	1186	-1456	-492	55355		0.24	431	0.88	5320			10.82	Si
SLV 7	1376	242	-487	-519723		0	0	0.83	0			0	No, Vu<V
SLD 7	1186	-1977	-251	21588		0.33	431	0.9	5424			21.64	Si
SLD 7	1376	-647	-260	-318811		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344 Wa 0.03 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.53	0	-2733	23774	0	0	No, e>t/2
SLV 4	14	0.53	0	53	23774	0	0	No, Trazione
SLV 3	14	0.53	0	53	23774	0	0	No, Trazione
SLV 7	14	0.53	0	204	23774	0	0	No, Trazione
SLV 5	14	0.53	0	-2155	23774	0	0	No, e>t/2
SLV 6	14	0.53	0	-2155	23774	0	0	No, e>t/2
SLV 1	14	0.53	0	-655	23774	0	0	No, e>t/2
SLV 10	14	0.53	0	-2733	23774	0	0	No, e>t/2
SLV 8	14	0.53	0	204	23774	0	0	No, Trazione
SLV 2	14	0.53	0	-655	23774	0	0	No, e>t/2

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1344 Wa = 0.03 Ta = 0.1191

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 9	-885	-3261	-76	0.007	3.957	0.899	11.999	1950.614	No
SLV 10	-885	-3261	-76	0.007	3.957	0.899	11.999	1950.614	No
SLV 8	-996	-1456	77	0.008	4.044	0.896	12.842	1950.614	No
SLV 7	-996	-1456	77	0.008	4.044	0.896	12.842	1950.614	No
SLV 5	-904	-3158	-73	0.009	3.972	0.898	14.332	1950.614	No
SLV 6	-904	-3158	-73	0.009	3.972	0.898	14.332	1950.614	No
SLV 11	-976	-1560	73	0.009	4.028	0.896	14.765	1950.614	No
SLV 12	-976	-1560	73	0.009	4.028	0.896	14.765	1950.614	No
SLV 3	-986	-1931	28	0.026	4.036	0.896	41.715	2067.226	No
SLV 4	-986	-1931	28	0.026	4.036	0.896	41.715	2067.226	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 16	No
V_SLU	0	SLU 16	No
PF_SLV	0	SLV 8	No
V_SLV	0	SLD 3	No
PFFP_SLV	0	SLV 8	No
R_SLV	0.006	SLV 9	No

## Maschio 203

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



## Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-994.8	333.1	-972.8	333.1	L6	L7	22	14	316	316	316			

## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 1	1186	182	3285	0	0	0	No, Trazione
SLU 1	1376	-541	-3281	1.76	4666	1.422	Si
SLU 59	1186	431	5648	0	0	0	No, Trazione
SLU 59	1376	-855	-5455	2.78	6199	1.137	Si
SLU 54	1186	402	5680	0	0	0	No, Trazione
SLU 54	1376	-893	-5604	2.9	6327	1.129	Si
SLU 57	1186	440	5905	0	0	0	No, Trazione
SLU 57	1376	-917	-5776	2.98	6401	1.108	Si
SLU 60	1186	427	5757	0	0	0	No, Trazione
SLU 60	1376	-869	-5622	2.82	6248	1.111	Si
SLU 56	1186	440	5902	0	0	0	No, Trazione
SLU 56	1376	-917	-5772	2.98	6399	1.109	Si
SLU 53	1186	402	5677	0	0	0	No, Trazione
SLU 53	1376	-892	-5601	2.9	6324	1.129	Si
SLU 61	1186	427	5760	0	0	0	No, Trazione
SLU 61	1376	-870	-5625	2.82	6251	1.111	Si
SLU 55	1186	393	5424	0	0	0	No, Trazione
SLU 55	1376	-831	-5286	2.7	6113	1.157	Si
SLU 58	1186	431	5644	0	0	0	No, Trazione
SLU 58	1376	-854	-5451	2.77	6197	1.137	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 6	1186	-578	-3491	1.88	5379	1.541	Si
SLV 6	1376	105	1010	0	0	0	No, Trazione
SLV 11	1186	1123	11472	0	0	0	No, Trazione
SLV 11	1376	-1348	-8853	4.38	9516	1.075	Si
SLV 12	1186	1123	11472	0	0	0	No, Trazione
SLV 12	1376	-1348	-8853	4.38	9516	1.075	Si
SLV 13	1186	327	6770	0	0	0	No, Trazione
SLV 13	1376	-220	1932	0.72	2281	1.18	Si
SLD 1	1186	54	1255	0	0	0	No, Trazione
SLD 1	1376	-593	-4842	1.93	5498	1.135	Si
SLV 9	1186	-408	-726	1.32	3997	5.508	Si
SLV 9	1376	206	3418	0	0	0	No, Trazione
SLV 14	1186	327	6770	0	0	0	No, Trazione
SLV 14	1376	-220	1932	0.72	2281	1.18	Si
SLV 8	1186	953	8706	0	0	0	No, Trazione
SLV 8	1376	-1449	-11261	4.7	9801	0.87	No, M>Mu
SLV 7	1186	953	8706	0	0	0	No, Trazione
SLV 7	1376	-1449	-11261	4.7	9801	0.87	No, M>Mu
SLV 10	1186	-408	-726	1.32	3997	5.508	Si
SLV 10	1376	206	3418	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 1	1186	182	83	3285	0	0	0	0.56	0			0	No, Vu<V
SLU 1	1376	-541	83	-3281	2.61	14.8	0.9	187				2.26	Si
SLU 57	1186	440	148	5905	0	0	0	0.56	0			0	No, Vu<V
SLU 57	1376	-917	149	-5776	4.64	14.11	1.08	214				1.44	Si
SLU 60	1186	427	144	5757	0	0	0	0.56	0			0	No, Vu<V
SLU 60	1376	-869	143	-5622	4.57	13.59	1.08	206				1.44	Si
SLU 54	1186	402	143	5680	0	0	0	0.56	0			0	No, Vu<V
SLU 54	1376	-893	143	-5604	4.5	14.17	1.08	215				1.5	Si
SLU 56	1186	440	148	5902	0	0	0	0.56	0			0	No, Vu<V
SLU 56	1376	-917	149	-5772	4.64	14.11	1.08	214				1.44	Si
SLU 53	1186	402	143	5677	0	0	0	0.56	0			0	No, Vu<V
SLU 53	1376	-892	143	-5601	4.5	14.17	1.08	215				1.5	Si
SLU 58	1186	431	141	5644	0	0	0	0.56	0			0	No, Vu<V
SLU 58	1376	-854	142	-5451	4.4	13.85	1.08	210				1.48	Si
SLU 61	1186	427	144	5760	0	0	0	0.56	0			0	No, Vu<V
SLU 61	1376	-870	144	-5625	4.57	13.6	1.08	206				1.44	Si
SLU 59	1186	431	141	5648	0	0	0	0.56	0			0	No, Vu<V
SLU 59	1376	-855	142	-5455	4.41	13.86	1.08	210				1.48	Si
SLU 55	1186	393	136	5424	0	0	0	0.56	0			0	No, Vu<V
SLU 55	1376	-831	136	-5286	4.26	13.92	1.08	211				1.55	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 9	1186	-408	-743	-726	1.32	22	1.1	338				0.46	No, Vu<V
SLV 9	1376	206	-69	3418	0	0	0.83	0				0	No, Vu<V
SLV 8	1186	953	943	8706	0	0	0.83	0				0	No, Vu<V
SLV 8	1376	-1449	269	-11261	10.69	9.68	1.63	220				0.82	No, Vu<V
SLV 13	1186	327	-96	6770	0	0	0.83	0				0	No, Vu<V
SLV 13	1376	-220	5	1932	2.35	6.68	1.3	122				24.12	Si
SLV 6	1186	-578	-780	-3491	2.78	14.87	1.39	289				0.37	No, Vu<V
SLV 6	1376	105	-40	1010	0	0	0.83	0				0	No, Vu<V



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	1186	327	-96	6770		0	0	0.83	0			0	No, Vu<V
SLV 14	1376	-220	5	1932		2.35	6.68	1.3	122			24.12	Si
SLV 12	1186	1123	980	11472		0	0	0.83	0			0	No, Vu<V
SLV 12	1376	-1348	240	-8853		7.24	13.29	1.63	302			1.26	Si
SLV 10	1186	-408	-743	-726		1.32	22	1.1	338			0.46	No, Vu<V
SLV 10	1376	206	-69	3418		0	0	0.83	0			0	No, Vu<V
SLV 11	1186	1123	980	11472		0	0	0.83	0			0	No, Vu<V
SLV 11	1376	-1348	240	-8853		7.24	13.29	1.63	302			1.26	Si
SLV 7	1186	953	943	8706		0	0	0.83	0			0	No, Vu<V
SLV 7	1376	-1449	269	-11261		10.69	9.68	1.63	220			0.82	No, Vu<V
SLD 1	1186	54	-31	1255		0	0	0.83	0			0	No, Vu<V
SLD 1	1376	-593	100	-4842		4.98	8.52	1.63	194			1.93	Si

#### Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344 Wa 0.03 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.53	0	33	1214	0	0	No, Trazione
SLV 10	14	0.53	0	236	1214	0	0	No, Trazione
SLV 5	14	0.53	0	33	1214	0	0	No, Trazione
SLV 14	14	0.53	0	-70	1214	0	0	No, e>t/2
SLV 13	14	0.53	0	-70	1214	0	0	No, e>t/2
SLV 9	14	0.53	0	236	1214	0	0	No, Trazione
SLV 15	14	0.53	1.74	-536	1214	3219	2.65	Si
SLV 16	14	0.53	1.74	-536	1214	3219	2.65	Si
SLV 1	14	0.53	2.43	-748	1214	4197	3.46	Si
SLV 2	14	0.53	2.43	-748	1214	4197	3.46	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1344 Wa = 0.03 Ta = 0.1191

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 12	-12	1123	2	0	0	0	0	1950.614	No, Trazione
SLV 14	-19	327	0	0	0	0	0	2067.226	No, Trazione
SLV 15	-15	786	1	0	0	0	0	2067.226	No, Trazione
SLV 13	-19	327	0	0	0	0	0	2067.226	No, Trazione
SLV 16	-15	786	1	0	0	0	0	2067.226	No, Trazione
SLV 8	-14	953	2	0	0	0	0	1950.614	No, Trazione
SLV 3	-20	219	0	0	0	0	0	2067.226	No, Trazione
SLV 4	-20	219	0	0	0	0	0	2067.226	No, Trazione
SLV 11	-12	1123	2	0	0	0	0	1950.614	No, Trazione
SLV 7	-14	953	2	0	0	0	0	1950.614	No, Trazione

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 84	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 16	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 10	No
R_SLV	0	SLV 16	No

## Maschio 204

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1975.8	666.1	-1771.8	666.1	L6	L7	204	28	316	316	316			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 56	1276	-67	162061	0	0	0	No, e>l/2
SLU 56	1456	2509	563164	0	0	0	No, Trazione
SLU 55	1276	-881	103681	0	0	0	No, e>l/2
SLU 55	1456	1695	383131	0	0	0	No, Trazione
SLU 54	1276	-1680	97930	0.29	165129	1.686	Si
SLU 54	1456	896	360299	0	0	0	No, Trazione
SLU 60	1276	-2530	35081	0.44	244029	6.956	Si
SLU 60	1456	46	175749	0	0	0	No, Trazione
SLU 59	1276	741	167859	0	0	0	No, Trazione
SLU 59	1456	3316	586742	0	0	0	No, Trazione
SLU 57	1276	-39	162200	0	0	0	No, e>l/2
SLU 57	1456	2537	565406	0	0	0	No, Trazione
SLU 1	1276	-1877	42776	0.33	183764	4.296	Si
SLU 1	1456	111	155601	0	0	0	No, Trazione
SLU 53	1276	-1708	97790	0.3	167790	1.716	Si
SLU 53	1456	868	358057	0	0	0	No, Trazione
SLU 61	1276	-2502	35220	0.44	241470	6.856	Si
SLU 61	1456	74	177991	0	0	0	No, Trazione
SLU 58	1276	712	167719	0	0	0	No, Trazione
SLU 58	1456	3288	584501	0	0	0	No, Trazione



Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 2	1276	-318	58655	0	0	0	No, $e \geq l/2$
SLV 2	1456	1657	362456	0	0	0	No, Trazione
SLV 10	1276	-891	289165	0	0	0	No, $e \geq l/2$
SLV 10	1456	1792	322520	0	0	0	No, Trazione
SLV 4	1276	-971	-77453	0.17	97657	1.261	Si
SLV 4	1456	630	255837	0	0	0	No, Trazione
SLV 14	1276	-2371	168988	0.42	233611	1.382	Si
SLV 14	1456	21	109648	0	0	0	No, Trazione
SLV 9	1276	-891	289165	0	0	0	No, $e \geq l/2$
SLV 9	1456	1792	322520	0	0	0	No, Trazione
SLV 3	1276	-971	-77453	0.17	97657	1.261	Si
SLV 3	1456	630	255837	0	0	0	No, Trazione
SLD 1	1276	-1094	50741	0.19	109797	2.164	Si
SLD 1	1456	891	259178	0	0	0	No, Trazione
SLV 6	1276	-275	256065	0	0	0	No, $e \geq l/2$
SLV 6	1456	2283	398362	0	0	0	No, Trazione
SLV 5	1276	-275	256065	0	0	0	No, $e \geq l/2$
SLV 5	1456	2283	398362	0	0	0	No, Trazione
SLV 13	1276	-2371	168988	0.42	233611	1.382	Si
SLV 13	1456	21	109648	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 55	1276	-881	-1584	103681		0	0	0.56	0			0	No, $V_u < V$
SLU 55	1456	1695	-1584	383131		0	0	0.56	0			0	No, $V_u < V$
SLU 54	1276	-1680	-1490	97930		0.46	131.08	0.62	2263			1.52	Si
SLU 54	1456	896	-1490	360299		0	0	0.56	0			0	No, $V_u < V$
SLU 56	1276	-67	-2260	162061		0	0	0.56	0			0	No, $V_u < V$
SLU 56	1456	2509	-2260	563164		0	0	0.56	0			0	No, $V_u < V$
SLU 60	1276	-2530	-813	35081		0.44	204	0.61	3511			4.32	Si
SLU 60	1456	46	-813	175749		0	0	0.56	0			0	No, $V_u < V$
SLU 61	1276	-2502	-825	35220		0.44	204	0.61	3507			4.25	Si
SLU 61	1456	74	-825	177991		0	0	0.56	0			0	No, $V_u < V$
SLU 59	1276	741	-2359	167859		0	0	0.56	0			0	No, $V_u < V$
SLU 59	1456	3316	-2359	586742		0	0	0.56	0			0	No, $V_u < V$
SLU 53	1276	-1708	-1478	97790		0.45	134.2	0.62	2315			1.57	Si
SLU 53	1456	868	-1478	358057		0	0	0.56	0			0	No, $V_u < V$
SLU 1	1276	-1877	-651	42776		0.33	204	0.6	3424			5.26	Si
SLU 1	1456	111	-651	155601		0	0	0.56	0			0	No, $V_u < V$
SLU 58	1276	712	-2347	167719		0	0	0.56	0			0	No, $V_u < V$
SLU 58	1456	3288	-2347	584501		0	0	0.56	0			0	No, $V_u < V$
SLU 57	1276	-39	-2272	162200		0	0	0.56	0			0	No, $V_u < V$
SLU 57	1456	2537	-2272	565406		0	0	0.56	0			0	No, $V_u < V$

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	1276	-971	-2469	-77453		0.52	66.68	0.94	1750			0.71	No, $V_u < V$
SLV 3	1456	630	-1652	255837		0	0	0.83	0			0	No, $V_u < V$
SLV 6	1276	-275	-940	256065		0	0	0.83	0			0	No, $V_u < V$
SLV 6	1456	2283	-570	398362		0	0	0.83	0			0	No, $V_u < V$
SLV 9	1276	-891	12	289165		0	0	0.83	0			0	No, $V_u < V$
SLV 9	1456	1792	-129	322520		0	0	0.83	0			0	No, $V_u < V$
SLV 14	1276	-2371	898	168988		0.92	92.17	1.02	2625			2.92	Si
SLV 14	1456	21	81	109648		0	0	0.83	0			0	No, $V_u < V$
SLD 1	1276	-1094	-1423	50741		0.23	166.8	0.88	4111			2.89	Si
SLD 1	1456	891	-1045	259178		0	0	0.83	0			0	No, $V_u < V$
SLV 10	1276	-891	12	289165		0	0	0.83	0			0	No, $V_u < V$
SLV 10	1456	1792	-129	322520		0	0	0.83	0			0	No, $V_u < V$
SLV 5	1276	-275	-940	256065		0	0	0.83	0			0	No, $V_u < V$
SLV 5	1456	2283	-570	398362		0	0	0.83	0			0	No, $V_u < V$
SLV 4	1276	-971	-2469	-77453		0.52	66.68	0.94	1750			0.71	No, $V_u < V$
SLV 4	1456	630	-1652	255837		0	0	0.83	0			0	No, $V_u < V$
SLV 13	1276	-2371	898	168988		0.92	92.17	1.02	2625			2.92	Si
SLV 13	1456	21	81	109648		0	0	0.83	0			0	No, $V_u < V$
SLV 2	1276	-318	-2276	58655		0	0	0.83	0			0	No, $V_u < V$
SLV 2	1456	1657	-1391	362456		0	0	0.83	0			0	No, $V_u < V$

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.53	0	414	23041	0	0	No, Trazione
SLV 1	14	0.53	0	552	23041	0	0	No, Trazione
SLV 2	14	0.53	0	552	23041	0	0	No, Trazione
SLV 14	14	0.53	0	-1289	23041	0	0	No, $e \geq t/2$
SLV 13	14	0.53	0	-1289	23041	0	0	No, $e \geq t/2$
SLV 10	14	0.53	0	414	23041	0	0	No, Trazione
SLV 3	14	0.53	0	-356	23041	0	0	No, $e \geq t/2$
SLV 6	14	0.53	0	967	23041	0	0	No, Trazione
SLV 5	14	0.53	0	967	23041	0	0	No, Trazione
SLV 4	14	0.53	0	-356	23041	0	0	No, $e \geq t/2$

Verifica dei meccanismi locali di collaso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1344 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	$\sigma_0$	M*	e*	a0*	aLim	Verifica
SLV 1	2124	-2825	-13	0	0	0	0	978.751	No, Trazione
SLV 4	1539	-3872	-158	0	0	0	0	978.751	No, Trazione
SLV 3	1539	-3872	-158	0	0	0	0	978.751	No, Trazione



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 10	1612	-477	271	0	0	0	0	915.209	No, Trazione
SLV 8	213	-4488	-264	0	0	0	0	915.209	No, Trazione
SLV 9	1612	-477	271	0	0	0	0	915.209	No, Trazione
SLV 6	2164	-997	218	0	0	0	0	915.209	No, Trazione
SLV 5	2164	-997	218	0	0	0	0	915.209	No, Trazione
SLV 2	2124	-2825	-13	0	0	0	0	978.751	No, Trazione
SLV 7	213	-4488	-264	0	0	0	0	915.209	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 84	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 14	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 10	No
R_SLV	0	SLV 14	No

## Maschio 205

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1681.8	666.1	-1283.8	666.1	L6	L7	398	28	316	316	316			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 29	1276	-7636	138065	0.69	1391809	10.081	Si
SLU 29	1456	-2922	-4853	0.26	562725	115.95	Si
SLU 16	1276	-7035	128263	0.63	1291484	10.069	Si
SLU 16	1456	-2582	-3462	0.23	499146	144.17	Si
SLU 30	1276	-7634	137571	0.69	1391480	10.115	Si
SLU 30	1456	-2920	-4688	0.26	562315	119.94	Si
SLU 17	1276	-7033	127769	0.63	1291150	10.105	Si
SLU 17	1456	-2579	-3297	0.23	498733	151.253	Si
SLU 79	1276	-9022	159131	0.81	1616937	10.161	Si
SLU 79	1456	-3330	-9271	0.3	638287	68.846	Si
SLU 38	1276	-7453	159995	0.67	1361401	8.509	Si
SLU 38	1456	-2853	-1769	0.26	549944	310.849	Si
SLU 41	1276	-6621	133332	0.59	1221426	9.161	Si
SLU 41	1456	-2450	-8848	0.22	474323	53.609	Si
SLU 34	1276	-6695	122898	0.6	1234057	10.041	Si
SLU 34	1456	-2474	-9824	0.22	478987	48.756	Si
SLU 37	1276	-7455	160490	0.67	1361731	8.485	Si
SLU 37	1456	-2855	-1934	0.26	550354	284.563	Si
SLU 42	1276	-6619	132838	0.59	1221089	9.192	Si
SLU 42	1456	-2447	-8683	0.22	473908	54.579	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 14	1276	-6076	577317	0.55	1155139	2.001	Si
SLV 14	1456	-2713	-286875	0.24	529045	1.844	Si
SLV 2	1276	-5682	-381408	0.51	1083467	2.841	Si
SLV 2	1456	-1796	181644	0.16	352783	1.942	Si
SLV 16	1276	-5861	477241	0.53	1116053	2.339	Si
SLV 16	1456	-2109	-224525	0.19	413162	1.84	Si
SLV 1	1276	-5682	-381408	0.51	1083467	2.841	Si
SLV 1	1456	-1796	181644	0.16	352783	1.942	Si
SLV 8	1276	-5353	-262686	0.48	1023398	3.896	Si
SLV 8	1456	-809	152755	0.07	160051	1.048	Si
SLV 15	1276	-5861	477241	0.53	1116053	2.339	Si
SLV 15	1456	-2109	-224525	0.19	413162	1.84	Si
SLV 3	1276	-5466	-481484	0.49	1044133	2.169	Si
SLV 3	1456	-1193	243994	0	0	0	No, e>l/2
SLV 7	1276	-5353	-262686	0.48	1023398	3.896	Si
SLV 7	1456	-809	152755	0.07	160051	1.048	Si
SLV 13	1276	-6076	577317	0.55	1155139	2.001	Si
SLV 13	1456	-2713	-286875	0.24	529045	1.844	Si
SLV 4	1276	-5466	-481484	0.49	1044133	2.169	Si
SLV 4	1456	-1193	243994	0	0	0	No, e>l/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	$\sigma N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 35	1276	-8091	1039	142052		0.73	398	0.65	7270			7	Si
SLU 35	1456	-3616	1043	-26852		0.32	398	0.6	6673			6.4	Si
SLU 80	1276	-9020	1051	158637		0.81	398	0.66	7394			7.03	Si
SLU 80	1456	-3327	1056	-9106		0.3	398	0.6	6635			6.28	Si
SLU 69	1276	-9840	982	118268		0.88	398	0.67	7503			7.64	Si
SLU 69	1456	-4157	986	-37108		0.37	398	0.61	6745			6.84	Si
SLU 79	1276	-9022	1055	159131		0.81	398	0.66	7394			7.01	Si
SLU 79	1456	-3330	1060	-9271		0.3	398	0.6	6635			6.26	Si





Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLU 37	1276	-7455	1019	160490		0.67	398	0.64	7185			7.05	Si
SLU 37	1456	-2855	1023	-1934		0.26	398	0.59	6572			6.42	Si
SLU 78	1276	-9656	1072	140199		0.87	398	0.67	7479			6.98	Si
SLU 78	1456	-4088	1076	-34024		0.37	398	0.6	6736			6.26	Si
SLU 70	1276	-9838	978	117774		0.88	398	0.67	7503			7.67	Si
SLU 70	1456	-4154	982	-36944		0.37	398	0.61	6745			6.87	Si
SLU 77	1276	-9658	1075	140693		0.87	398	0.67	7479			6.96	Si
SLU 77	1456	-4090	1080	-34189		0.37	398	0.6	6736			6.24	Si
SLU 38	1276	-7453	1015	159995		0.67	398	0.64	7185			7.08	Si
SLU 38	1456	-2853	1020	-1769		0.26	398	0.59	6572			6.45	Si
SLU 36	1276	-8089	1035	141557		0.73	398	0.65	7270			7.02	Si
SLU 36	1456	-3614	1040	-26687		0.32	398	0.6	6673			6.42	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLV 4	1276	-5466	-4825	-481484		0.59	332.76	0.95	8858			1.84	Si
SLV 4	1456	-1193	-2876	243994		0	0	0.83	0			0	No, Vu<V
SLV 8	1276	-5353	-1652	-262686		0.48	398	0.93	10357			6.27	Si
SLV 8	1456	-809	-1607	152755		0.94	30.6	1.02	876			0.54	No, Vu<V
SLV 15	1276	-5861	5318	477241		0.59	352.7	0.95	9402			1.77	Si
SLV 15	1456	-2109	3015	-224525		0.27	277.6	0.89	6899			2.29	Si
SLV 3	1276	-5466	-4825	-481484		0.59	332.76	0.95	8858			1.84	Si
SLV 3	1456	-1193	-2876	243994		0	0	0.83	0			0	No, Vu<V
SLV 14	1276	-6076	5641	577317		0.7	311.94	0.97	8494			1.51	Si
SLV 14	1456	-2713	3694	-286875		0.35	279.73	0.9	7069			1.91	Si
SLV 16	1276	-5861	5318	477241		0.59	352.7	0.95	9402			1.77	Si
SLV 16	1456	-2109	3015	-224525		0.27	277.6	0.89	6899			2.29	Si
SLV 13	1276	-6076	5641	577317		0.7	311.94	0.97	8494			1.51	Si
SLV 13	1456	-2713	3694	-286875		0.35	279.73	0.9	7069			1.91	Si
SLV 1	1276	-5682	-4502	-381408		0.51	395.61	0.94	10367			2.3	Si
SLV 1	1456	-1796	-2196	181644		0.22	293.67	0.88	7212			3.28	Si
SLV 2	1276	-5682	-4502	-381408		0.51	395.61	0.94	10367			2.3	Si
SLV 2	1456	-1796	-2196	181644		0.22	293.67	0.88	7212			3.28	Si
SLV 7	1276	-5353	-1652	-262686		0.48	398	0.93	10357			6.27	Si
SLV 7	1456	-809	-1607	152755		0.94	30.6	1.02	876			0.54	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.53	0.34	-3767	44953	51284	1.14	Si
SLV 8	14	0.53	0.34	-3767	44953	51284	1.14	Si
SLV 12	14	0.53	0.35	-3858	44953	52484	1.17	Si
SLV 11	14	0.53	0.35	-3858	44953	52484	1.17	Si
SLV 4	14	0.53	0.38	-4181	44953	56739	1.26	Si
SLV 3	14	0.53	0.38	-4181	44953	56739	1.26	Si
SLV 16	14	0.53	0.4	-4484	44953	60706	1.35	Si
SLV 15	14	0.53	0.4	-4484	44953	60706	1.35	Si
SLV 2	14	0.53	0.42	-4627	44953	62572	1.39	Si
SLV 1	14	0.53	0.42	-4627	44953	62572	1.39	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1344 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 9	-1868	-6676	464	0	7.491	0.896	0	915.209	No
SLV 6	-1485	-7094	499	0	7.194	0.902	0	915.209	No
SLV 8	393	-7636	369	0	0	0	0	915.209	No, Trazione
SLV 2	-382	-7772	494	0	6.537	0.954	0	978.751	No
SLV 5	-1485	-7094	499	0	7.194	0.902	0	915.209	No
SLV 1	-382	-7772	494	0	6.537	0.954	0	978.751	No
SLV 3	182	-7935	455	0	0	0	0	978.751	No, Trazione
SLV 4	182	-7935	455	0	0	0	0	978.751	No, Trazione
SLV 7	393	-7636	369	0	0	0	0	915.209	No, Trazione
SLV 10	-1868	-6676	464	0	7.491	0.896	0	915.209	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.485	SLU 37	Si
V_SLU	6.24	SLU 77	Si
PF_SLV	0	SLV 3	No
V_SLV	0	SLV 3	No
PFFP_SLV	1.141	SLV 7	Si
R_SLV	0	SLV 12	No

## Maschio 206

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-1193.8	666.1	-795.8	666.1	L6	L7	398	28	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv <sub>lim</sub>	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2



Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 61	1276	-7377	-53779	0.66	1348785	25.08	Si
SLU 61	1456	-2531	44907	0.23	489632	10.903	Si
SLU 60	1276	-7385	-54748	0.66	1350122	24.661	Si
SLU 60	1456	-2538	45318	0.23	490898	10.832	Si
SLU 52	1276	-7440	-43350	0.67	1359186	31.354	Si
SLU 52	1456	-2550	45347	0.23	493269	10.878	Si
SLU 10	1276	-5796	-41904	0.52	1079784	25.768	Si
SLU 10	1456	-2035	33066	0.18	395924	11.974	Si
SLU 44	1276	-7598	-20523	0.68	1385461	67.506	Si
SLU 44	1456	-2606	47011	0.23	503715	10.715	Si
SLU 1	1276	-5968	-20692	0.54	1109511	53.62	Si
SLU 1	1456	-2102	35414	0.19	408626	11.538	Si
SLU 18	1276	-5742	-53302	0.52	1070327	20.081	Si
SLU 18	1456	-2023	33037	0.18	393524	11.912	Si
SLU 43	1276	-7611	-22139	0.68	1387677	62.682	Si
SLU 43	1456	-2617	47696	0.23	505820	10.605	Si
SLU 2	1276	-5954	-19077	0.53	1107198	58.038	Si
SLU 2	1456	-2091	34730	0.19	406495	11.704	Si
SLU 19	1276	-5734	-52332	0.51	1068932	20.426	Si
SLU 19	1456	-2016	32626	0.18	392243	12.022	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 14	1276	-6410	430901	0.58	1215614	2.821	Si
SLV 14	1456	-2092	-167791	0.19	409816	2.442	Si
SLV 13	1276	-6410	430901	0.58	1215614	2.821	Si
SLV 13	1456	-2092	-167791	0.19	409816	2.442	Si
SLV 3	1276	-5679	-493265	0.51	1083002	2.196	Si
SLV 3	1456	-2273	234907	0.2	444818	1.894	Si
SLV 15	1276	-6020	483916	0.54	1145051	2.366	Si
SLV 15	1456	-1419	-182923	0.13	279376	1.527	Si
SLV 4	1276	-5679	-493265	0.51	1083002	2.196	Si
SLV 4	1456	-2273	234907	0.2	444818	1.894	Si
SLV 2	1276	-6069	-546279	0.54	1153953	2.112	Si
SLV 2	1456	-2946	250039	0.26	573577	2.294	Si
SLV 1	1276	-6069	-546279	0.54	1153953	2.112	Si
SLV 1	1456	-2946	250039	0.26	573577	2.294	Si
SLV 7	1276	-5343	-89401	0.48	1021578	11.427	Si
SLV 7	1456	-1189	71013	0.11	234578	3.303	Si
SLV 8	1276	-5343	-89401	0.48	1021578	11.427	Si
SLV 8	1456	-1189	71013	0.11	234578	3.303	Si
SLV 16	1276	-6020	483916	0.54	1145051	2.366	Si
SLV 16	1456	-1419	-182923	0.13	279376	1.527	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 75	1276	-9354	-449	-41659		0.84	398	0.67	7438			16.58	Si
SLU 75	1456	-4162	-451	50866		0.37	398	0.61	6746			14.95	Si
SLU 81	1276	-7813	-510	-68635		0.7	398	0.65	7233			14.18	Si
SLU 81	1456	-2874	-512	40486		0.26	398	0.59	6574			12.85	Si
SLU 61	1276	-7377	-447	-53779		0.66	398	0.64	7175			16.04	Si
SLU 61	1456	-2531	-448	44907		0.23	398	0.59	6529			14.57	Si
SLU 82	1276	-7805	-502	-67666		0.7	398	0.65	7232			14.39	Si
SLU 82	1456	-2868	-504	40075		0.26	398	0.59	6573			13.05	Si
SLU 40	1276	-6161	-447	-66220		0.55	398	0.63	7013			15.7	Si
SLU 40	1456	-2352	-448	27794		0.21	398	0.58	6505			14.52	Si
SLU 39	1276	-6169	-454	-67189		0.55	398	0.63	7014			15.43	Si
SLU 39	1456	-2359	-456	28204		0.21	398	0.58	6506			14.27	Si
SLU 74	1276	-9363	-457	-42628		0.84	398	0.67	7439			16.3	Si
SLU 74	1456	-4168	-459	51277		0.37	398	0.61	6747			14.7	Si
SLU 60	1276	-7385	-455	-54748		0.66	398	0.64	7176			15.77	Si
SLU 60	1456	-2538	-456	45318		0.23	398	0.59	6529			14.32	Si
SLU 73	1276	-7868	-452	-57237		0.71	398	0.65	7240			16.01	Si
SLU 73	1456	-2887	-454	40514		0.26	398	0.59	6576			14.5	Si
SLU 83	1276	-8673	-435	-63921		0.78	398	0.66	7347			16.9	Si
SLU 83	1456	-3412	-437	24620		0.31	398	0.6	6646			15.19	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 2	1276	-6052	-2387	-251173		0.54	398	0.94	10497			4.4	Si
SLD 2	1456	-2504	-1415	125986		0.22	398	0.88	9787			6.92	Si
SLV 3	1276	-5679	-5161	-493265		0.6	336.43	0.95	8986			1.74	Si
SLV 3	1456	-2273	-2554	234907		0.28	286.99	0.89	7151			2.8	Si
SLV 4	1276	-5679	-5161	-493265		0.6	336.43	0.95	8986			1.74	Si
SLV 4	1456	-2273	-2554	234907		0.28	286.99	0.89	7151			2.8	Si
SLV 15	1276	-6020	4601	483916		0.6	355.85	0.95	9507			2.07	Si
SLV 15	1456	-1419	2324	-182923		0.24	210.18	0.88	5188			2.23	Si
SLD 1	1276	-6052	-2387	-251173		0.54	398	0.94	10497			4.4	Si
SLD 1	1456	-2504	-1415	125986		0.22	398	0.88	9787			6.92	Si
SLV 2	1276	-6069	-5191	-546279		0.66	326.98	0.97	8843			1.7	Si
SLV 2	1456	-2946	-2915	250039		0.31	342.38	0.89	8578			2.94	Si
SLV 1	1276	-6069	-5191	-546279		0.66	326.98	0.97	8843			1.7	Si
SLV 1	1456	-2946	-2915	250039		0.31	342.38	0.89	8578			2.94	Si
SLV 14	1276	-6410	4571	430901		0.58	395.34	0.95	10507			2.3	Si
SLV 14	1456	-2092	1963	-167791		0.21	356.32	0.88	8733			4.45	Si
SLV 16	1276	-6020	4601	483916		0.6	355.85	0.95	9507			2.07	Si
SLV 16	1456	-1419	2324	-182923		0.24	210.18	0.88	5188			2.23	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	1276	-6410	4571	430901		0.58	395.34	0.95	10507			2.3	Si
SLV 13	1456	-2092	1963	-167791		0.21	356.32	0.88	8733			4.45	Si

#### Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.53	0.34	-3829	44953	52099	1.16	Si
SLV 8	14	0.53	0.34	-3829	44953	52099	1.16	Si
SLV 12	14	0.53	0.35	-3935	44953	53501	1.19	Si
SLV 11	14	0.53	0.35	-3935	44953	53501	1.19	Si
SLV 3	14	0.53	0.37	-4152	44953	56350	1.25	Si
SLV 4	14	0.53	0.37	-4152	44953	56350	1.25	Si
SLV 16	14	0.53	0.4	-4505	44953	60988	1.36	Si
SLV 15	14	0.53	0.4	-4505	44953	60988	1.36	Si
SLV 1	14	0.53	0.41	-4534	44953	61364	1.37	Si
SLV 2	14	0.53	0.41	-4534	44953	61364	1.37	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1344 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 2	-1709	-6569	425	0	7.365	0.898	0	978.751	No
SLV 14	-422	-7940	443	0	6.552	0.951	0	978.751	No
SLV 1	-1709	-6569	425	0	7.365	0.898	0	978.751	No
SLV 10	-1474	-7443	581	0	7.186	0.902	0	915.209	No
SLV 12	245	-7492	169	0	0	0	0	915.209	No, Trazione
SLV 5	-1860	-7031	575	0	7.486	0.896	0	915.209	No
SLV 11	245	-7492	169	0	0	0	0	915.209	No, Trazione
SLV 9	-1474	-7443	581	0	7.186	0.902	0	915.209	No
SLV 13	-422	-7940	443	0	6.552	0.951	0	978.751	No
SLV 6	-1860	-7031	575	0	7.486	0.896	0	915.209	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF SLU	10.605	SLU 43	Si
V SLU	12.848	SLU 81	Si
PF SLV	1.527	SLV 15	Si
V SLV	1.703	SLV 1	Si
PFFP SLV	1.159	SLV 7	Si
R SLV	0	SLV 16	No

## Maschio 207

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-705.8	666.1	-501.8	666.1	L6	L7	204	28	316	316	316			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedlo	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 54	1276	-2707	-57098	0.47	260014	4.554	Si
SLU 54	1456	-119	-279841	0	0	0	No, e>l/2
SLU 53	1276	-2730	-57294	0.48	262134	4.575	Si
SLU 53	1456	-143	-277958	0	0	0	No, e>l/2
SLU 60	1276	-2958	-244953	0.52	282527	11.322	Si
SLU 60	1456	-371	-144450	0	0	0	No, e>l/2
SLU 56	1276	-1793	-87780	0.31	175808	2.003	Si
SLU 56	1456	794	-425566	0	0	0	No, Trazione
SLU 55	1276	-2011	-57558	0.35	196257	3.41	Si
SLU 55	1456	576	-294247	0	0	0	No, Trazione
SLU 1	1276	-2269	-27776	0.4	220192	7.927	Si
SLU 1	1456	-272	-125818	0	0	0	No, e>l/2
SLU 57	1276	-1769	-87585	0.31	173590	1.982	Si
SLU 57	1456	818	-427449	0	0	0	No, Trazione
SLU 58	1276	-1113	-88370	0.19	110787	1.254	Si
SLU 58	1456	1474	-438717	0	0	0	No, Trazione
SLU 59	1276	-1089	-88175	0.19	108500	1.231	Si
SLU 59	1456	1498	-440600	0	0	0	No, Trazione
SLU 61	1276	-2934	-24758	0.51	280430	11.327	Si
SLU 61	1456	-347	-146332	0	0	0	No, e>l/2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 2	1276	-1753	-189801	0	0	0	No, e>l/2
SLV 2	1456	-296	-125722	0	0	0	No, e>l/2
SLV 13	1276	-2002	39332	0.35	198361	5.043	Si
SLV 13	1456	671	-250114	0	0	0	No, Trazione
SLV 10	1276	-1256	-149549	0	0	0	No, e>l/2
SLV 10	1456	1131	-306686	0	0	0	No, Trazione
SLV 1	1276	-1753	-189801	0	0	0	No, e>l/2



Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 1	1456	-296	-125722	0	0	0	No, e>/2
SLV 9	1276	-1256	-149549	0	0	0	No, e>/2
SLV 9	1456	1131	-306686	0	0	0	No, Trazione
SLV 5	1276	-1181	-218289	0	0	0	No, e>/2
SLV 5	1456	841	-269369	0	0	0	No, Trazione
SLV 14	1276	-2002	39332	0.35	198361	5.043	Si
SLV 14	1456	671	-250114	0	0	0	No, Trazione
SLD 1	1276	-1988	-97145	0.35	197029	2.028	Si
SLD 1	1456	-213	-136495	0	0	0	No, e>/2
SLV 15	1276	-2567	132490	0.45	252247	1.904	Si
SLV 15	1456	-13	-164305	0	0	0	No, e>/2
SLV 6	1276	-1181	-218289	0	0	0	No, e>/2
SLV 6	1456	841	-269369	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma M = 3$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 60	1276	-2958	630	-24953		0.52	204	0.62	3568			5.66	Si
SLU 60	1456	-371	630	-144450		0	0	0.56	0			0	No, Vu<V
SLU 1	1276	-2269	519	-27776		0.4	204	0.61	3476			6.7	Si
SLU 1	1456	-272	519	-125818		0	0	0.56	0			0	No, Vu<V
SLU 61	1276	-2934	642	-24758		0.51	204	0.62	3565			5.56	Si
SLU 61	1456	-347	642	-146332		0	0	0.56	0			0	No, Vu<V
SLU 59	1276	-1089	1924	-88175		0.62	63.14	0.64	1127			0.59	No, Vu<V
SLU 59	1456	1498	1924	-440600		0	0	0.56	0			0	No, Vu<V
SLU 56	1276	-1793	1843	-87780		0.4	159.1	0.61	2714			1.47	Si
SLU 56	1456	794	1843	-425566		0	0	0.56	0			0	No, Vu<V
SLU 53	1276	-2730	1192	-57294		0.48	204	0.62	3537			2.97	Si
SLU 53	1456	-143	1192	-277958		0	0	0.56	0			0	No, Vu<V
SLU 55	1276	-2011	1281	-57558		0.35	204	0.6	3441			2.69	Si
SLU 55	1456	576	1281	-294247		0	0	0.56	0			0	No, Vu<V
SLU 57	1276	-1769	1854	-87585		0.4	157.48	0.61	2686			1.45	Si
SLU 57	1456	818	1854	-427449		0	0	0.56	0			0	No, Vu<V
SLU 58	1276	-1113	1913	-88370		0.59	67.76	0.63	1202			0.63	No, Vu<V
SLU 58	1456	1474	1913	-438717		0	0	0.56	0			0	No, Vu<V
SLU 54	1276	-2707	1204	-57098		0.47	204	0.62	3534			2.94	Si
SLU 54	1456	-119	1204	-279841		0	0	0.56	0			0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma M = 2$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 6	1276	-1181	-77	-218289		0	0	0.83	0			0	No, Vu<V
SLV 6	1456	841	524	-269369		0	0	0.83	0			0	No, Vu<V
SLV 9	1276	-1256	813	-149549		0	0	0.83	0			0	No, Vu<V
SLV 9	1456	1131	830	-306686		0	0	0.83	0			0	No, Vu<V
SLD 1	1276	-1988	-45	-97145		0.45	159.43	0.92	4118			92.39	Si
SLD 1	1456	-213	409	-136495		0	0	0.83	0			0	No, Vu<V
SLV 15	1276	-2567	2180	132490		0.61	151.19	0.95	4041			1.85	Si
SLV 15	1456	-13	1114	-164305		0	0	0.83	0			0	No, Vu<V
SLV 1	1276	-1753	-939	-189801		0	0	0.83	0			0	No, Vu<V
SLV 1	1456	-296	127	-125722		0	0	0.83	0			0	No, Vu<V
SLV 14	1276	-2002	2029	39332		0.35	204	0.9	5160			2.54	Si
SLV 14	1456	671	1148	-250114		0	0	0.83	0			0	No, Vu<V
SLV 5	1276	-1181	-77	-218289		0	0	0.83	0			0	No, Vu<V
SLV 5	1456	841	524	-269369		0	0	0.83	0			0	No, Vu<V
SLV 10	1276	-1256	813	-149549		0	0	0.83	0			0	No, Vu<V
SLV 10	1456	1131	830	-306686		0	0	0.83	0			0	No, Vu<V
SLV 13	1276	-2002	2029	39332		0.35	204	0.9	5160			2.54	Si
SLV 13	1456	671	1148	-250114		0	0	0.83	0			0	No, Vu<V
SLV 2	1276	-1753	-939	-189801		0	0	0.83	0			0	No, Vu<V
SLV 2	1456	-296	127	-125722		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344 Wa 0.05 denominatore 8  $\gamma M = 2$

Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.53	0	-153	23041	0	0	No, e>t/2
SLV 13	14	0.53	0	-1125	23041	0	0	No, e>t/2
SLV 10	14	0.53	0	-232	23041	0	0	No, e>t/2
SLV 14	14	0.53	0	-1125	23041	0	0	No, e>t/2
SLV 9	14	0.53	0	-232	23041	0	0	No, e>t/2
SLV 2	14	0.53	0	-860	23041	0	0	No, e>t/2
SLV 5	14	0.53	0	-153	23041	0	0	No, e>t/2
SLV 3	14	0.53	0	-1545	23041	0	0	No, e>t/2
SLV 4	14	0.53	0	-1545	23041	0	0	No, e>t/2
SLV 1	14	0.53	0	-860	23041	0	0	No, e>t/2

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1344 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	$\alpha 0^*$	aLim	Verifica
SLV 7	-277	-3430	-322	0	3.384	0.941	0	915.209	No
SLV 1	14	-714	112	0	0	0	0	978.751	No, Trazione
SLV 12	93	-4588	-331	0	0	0	0	915.209	No, Trazione
SLV 9	1205	-2489	321	0	0	0	0	915.209	No, Trazione
SLV 2	14	-714	112	0	0	0	0	978.751	No, Trazione
SLV 10	1205	-2489	321	0	0	0	0	915.209	No, Trazione
SLV 8	-277	-3430	-322	0	3.384	0.941	0	915.209	No
SLV 6	835	-1330	330	0	0	0	0	915.209	No, Trazione
SLV 5	835	-1330	330	0	0	0	0	915.209	No, Trazione
SLV 11	93	-4588	-331	0	0	0	0	915.209	No, Trazione



## Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 84	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 14	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 1	No
R_SLV	0	SLV 16	No

## Maschio 208

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-2066.8	104.6	-2452.8	104.6	L6	L7	386	28	316	316	316			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 16	1186	-10181	75757	0.94	1737754	22.939	Si
SLU 16	1396	-6135	-358463	0.57	1101473	3.073	Si
SLU 29	1186	-10855	37943	1	1836747	48.408	Si
SLU 29	1396	-6680	-408143	0.62	1191450	2.919	Si
SLU 9	1186	-10071	-102794	0.93	1721307	16.745	Si
SLU 9	1396	-6024	-376037	0.56	1083063	2.88	Si
SLU 30	1186	-10861	16045	1	1837574	114.53	Si
SLU 30	1396	-6686	-413065	0.62	1192381	2.887	Si
SLU 17	1186	-10187	53858	0.94	1738597	32.281	Si
SLU 17	1396	-6140	-363385	0.57	1102418	3.034	Si
SLU 38	1186	-10977	172696	1.02	1854462	10.738	Si
SLU 38	1396	-6802	-400412	0.63	1211398	3.025	Si
SLU 37	1186	-10972	194595	1.02	1853637	9.526	Si
SLU 37	1396	-6797	-395491	0.63	1210470	3.061	Si
SLU 8	1186	-10065	-80895	0.93	1720460	21.268	Si
SLU 8	1396	-6018	-371116	0.56	1082115	2.916	Si
SLU 72	1186	-13278	-27615	1.23	2176163	78.803	Si
SLU 72	1396	-7933	-452631	0.73	1393095	3.078	Si
SLU 51	1186	-12488	-146454	1.16	2068270	14.122	Si
SLU 51	1396	-7271	-415603	0.67	1287396	3.098	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 14	1186	-5975	-218764	0.55	1100930	5.033	Si
SLV 14	1396	-1882	326477	0.17	358071	1.097	Si
SLV 1	1186	-12588	446117	1.16	2197930	4.927	Si
SLV 1	1396	-8071	-623951	0.75	1462581	2.344	Si
SLV 3	1186	-12464	356752	1.15	2178457	6.106	Si
SLV 3	1396	-8389	-688814	0.78	1516277	2.201	Si
SLV 7	1186	-10004	19786	0.93	1784447	90.19	Si
SLV 7	1396	-6594	-431838	0.61	1209068	2.8	Si
SLV 16	1186	-5850	-308128	0.54	1079049	3.502	Si
SLV 16	1396	-2200	261614	0.2	417517	1.596	Si
SLV 15	1186	-5850	-308128	0.54	1079049	3.502	Si
SLV 15	1396	-2200	261614	0.2	417517	1.596	Si
SLV 2	1186	-12588	446117	1.16	2197930	4.927	Si
SLV 2	1396	-8071	-623951	0.75	1462581	2.344	Si
SLV 13	1186	-5975	-218764	0.55	1100930	5.033	Si
SLV 13	1396	-1882	326477	0.17	358071	1.097	Si
SLV 8	1186	-10004	19786	0.93	1784447	90.19	Si
SLV 8	1396	-6594	-431838	0.61	1209068	2.8	Si
SLV 4	1186	-12464	356752	1.15	2178457	6.106	Si
SLV 4	1396	-8389	-688814	0.78	1516277	2.201	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 77	1186	-14731	2895	173146		1.36	386	0.74	7969			2.75	Si
SLU 77	1396	-9386	2895	-427732		0.87	386	0.67	7256			2.51	Si
SLU 83	1186	-12886	2819	253661		1.19	386	0.71	7723			2.74	Si
SLU 83	1396	-7541	2819	-331178		0.7	386	0.65	7010			2.49	Si
SLU 36	1186	-12320	2826	194907		1.14	386	0.71	7647			2.71	Si
SLU 36	1396	-8145	2826	-393087		0.75	386	0.66	7090			2.51	Si
SLU 37	1186	-10972	2836	194595		1.02	386	0.69	7467			2.63	Si
SLU 37	1396	-6797	2836	-395491		0.63	386	0.64	6911			2.44	Si
SLU 79	1186	-13389	2825	150935		1.24	386	0.72	7790			2.76	Si
SLU 79	1396	-8044	2825	-435057		0.74	386	0.65	7077			2.51	Si
SLU 42	1186	-10475	2750	275422		0.97	386	0.68	7401			2.69	Si
SLU 42	1396	-6300	2750	-296534		0.58	386	0.63	6844			2.49	Si
SLU 84	1186	-12892	2738	231762		1.19	386	0.71	7723			2.82	Si
SLU 84	1396	-7547	2738	-336100		0.7	386	0.65	7011			2.56	Si
SLU 41	1186	-10469	2830	297321		0.97	386	0.68	7400			2.61	Si
SLU 41	1396	-6294	2830	-291612		0.58	386	0.63	6844			2.42	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 38	1186	-10977	2755	172696		1.02	386	0.69	7468			2.71	Si
SLU 38	1396	-6802	2755	-400412		0.63	386	0.64	6911			2.51	Si
SLU 35	1186	-12314	2907	216806		1.14	386	0.71	7646			2.63	Si
SLU 35	1396	-8139	2907	-388166		0.75	386	0.66	7090			2.44	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	1186	-12464	3564	356752		1.15	386	1.06	11499			3.23	Si
SLV 3	1396	-8389	3688	-688814		0.9	332.68	1.01	9440			2.56	Si
SLV 15	1186	-5850	-1697	-308128		0.54	386	0.94	10177			6	Si
SLV 15	1396	-2200	-1807	261614		0.35	222.25	0.9	5626			3.11	Si
SLV 14	1186	-5975	-1129	-218764		0.55	386	0.94	10202			9.03	Si
SLV 14	1396	-1882	-1253	326477		1.15	58.61	1.06	1744			1.39	Si
SLV 13	1186	-5975	-1129	-218764		0.55	386	0.94	10202			9.03	Si
SLV 13	1396	-1882	-1253	326477		1.15	58.61	1.06	1744			1.39	Si
SLV 16	1186	-5850	-1697	-308128		0.54	386	0.94	10177			6	Si
SLV 16	1396	-2200	-1807	261614		0.35	222.25	0.9	5626			3.11	Si
SLV 2	1186	-12588	4132	446117		1.16	386	1.07	11524			2.79	Si
SLV 2	1396	-8071	4242	-623951		0.83	347.09	1	9713			2.29	Si
SLV 5	1186	-10419	2953	317667		0.96	386	1.03	11090			3.76	Si
SLV 5	1396	-5534	2965	-215628		0.51	386	0.94	10114			3.41	Si
SLV 6	1186	-10419	2953	317667		0.96	386	1.03	11090			3.76	Si
SLV 6	1396	-5534	2965	-215628		0.51	386	0.94	10114			3.41	Si
SLV 4	1186	-12464	3564	356752		1.15	386	1.06	11499			3.23	Si
SLV 4	1396	-8389	3688	-688814		0.9	332.68	1.01	9440			2.56	Si
SLV 1	1186	-12588	4132	446117		1.16	386	1.07	11524			2.79	Si
SLV 1	1396	-8071	4242	-623951		0.83	347.09	1	9713			2.29	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344  $W_a 0.05$  denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 15	14	0.53	0	-2878	44612	0	0	No, $e > t/2$
SLV 14	14	0.53	0	-2876	44612	0	0	No, $e > t/2$
SLV 16	14	0.53	0	-2878	44612	0	0	No, $e > t/2$
SLV 13	14	0.53	0	-2876	44612	0	0	No, $e > t/2$
SLV 10	14	0.53	0.47	-5038	44612	67839	1.52	Si
SLV 9	14	0.53	0.47	-5038	44612	67839	1.52	Si
SLV 11	14	0.53	0.47	-5043	44612	67908	1.52	Si
SLV 12	14	0.53	0.47	-5043	44612	67908	1.52	Si
SLV 6	14	0.53	0.64	-6892	44612	91454	2.05	Si
SLV 5	14	0.53	0.64	-6892	44612	91454	2.05	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1344  $W_a = 0.05$   $T_a = 0.0596$

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$a_0^*$	aLim	Verifica
SLV 4	-1800	-12464	-9	0.07	7.256	0.896	114.145	978.751	No
SLV 3	-1800	-12464	-9	0.07	7.256	0.896	114.145	978.751	No
SLV 2	-1810	-12588	-4	0.071	7.265	0.896	115.834	978.751	No
SLV 1	-1810	-12588	-4	0.071	7.265	0.896	115.834	978.751	No
SLV 13	-1397	-5975	10	0.073	6.945	0.903	116.89	978.751	No
SLV 14	-1397	-5975	10	0.073	6.945	0.903	116.89	978.751	No
SLV 15	-1387	-5850	4	0.074	6.937	0.903	118.881	978.751	No
SLV 16	-1387	-5850	4	0.074	6.937	0.903	118.881	978.751	No
SLV 8	-1643	-10004	-11	0.071	7.132	0.898	114.742	915.209	No
SLV 7	-1643	-10004	-11	0.071	7.132	0.898	114.742	915.209	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.88	SLU 9	Si
V_SLU	2.418	SLU 41	Si
PF_SLV	1.097	SLV 13	Si
V_SLV	1.392	SLV 13	Si
PFFP_SLV	0	SLV 13	No
R_SLV	0.117	SLV 3	No

## Maschio 209

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1228.3	104.6	-1986.8	104.6	L6	L7	758.5	28	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 83	1186	-39484	-1199663	1.86	11556662	9.633	Si
SLU 83	1436	-30478	-449887	1.44	9522372	21.166	Si
SLU 81	1186	-35082	-1159617	1.65	10606770	9.147	Si
SLU 81	1436	-25563	-711750	1.2	8262255	11.608	Si
SLU 18	1186	-25489	-811124	1.2	8242343	10.162	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 18	1436	-18192	-561021	0.86	6173830	11.005	Si
SLU 41	1186	-32321	-1126972	1.52	9967683	8.845	Si
SLU 41	1436	-25939	-348611	1.22	8362319	23.988	Si
SLU 32	1186	-34487	-1078356	1.62	10471828	9.711	Si
SLU 32	1436	-27921	-382174	1.31	8879936	23.235	Si
SLU 40	1186	-28126	-1007686	1.32	8932580	8.864	Si
SLU 40	1436	-21139	-547253	1	7037385	12.859	Si
SLU 39	1186	-27919	-1086925	1.31	8879554	8.169	Si
SLU 39	1436	-21024	-610473	0.99	7004397	11.474	Si
SLU 82	1186	-35289	-1080377	1.66	10653301	9.861	Si
SLU 82	1436	-25678	-648530	1.21	8292954	12.787	Si
SLU 37	1186	-37072	-1090933	1.75	11046852	10.126	Si
SLU 37	1436	-30906	-36674	1.46	9627105	262.505	Si
SLU 42	1186	-32528	-1047733	1.53	10016718	9.56	Si
SLU 42	1436	-26054	-285391	1.23	8392828	29.408	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 2	1186	-33930	-1112666	1.6	11185474	10.053	Si
SLV 2	1436	-24324	-3484920	1.15	8360069	2.399	Si
SLD 4	1186	-29651	-741575	1.4	9960176	13.431	Si
SLD 4	1436	-21740	-1795364	1.02	7554077	4.208	Si
SLV 3	1186	-33054	-816691	1.56	10938979	13.394	Si
SLV 3	1436	-25232	-3613484	1.19	8638674	2.391	Si
SLD 3	1186	-29651	-741575	1.4	9960176	13.431	Si
SLD 3	1436	-21740	-1795364	1.02	7554077	4.208	Si
SLV 14	1186	-21176	-557369	1	7375550	13.233	Si
SLV 14	1436	-13050	2730248	0.61	4700298	1.722	Si
SLV 4	1186	-33054	-816691	1.56	10938979	13.394	Si
SLV 4	1436	-25232	-3613484	1.19	8638674	2.391	Si
SLV 1	1186	-33930	-1112666	1.6	11185474	10.053	Si
SLV 1	1436	-24324	-3484920	1.15	8360069	2.399	Si
SLV 16	1186	-20300	-261394	0.96	7096395	27.148	Si
SLV 16	1436	-13958	2601684	0.66	5008823	1.925	Si
SLV 13	1186	-21176	-557369	1	7375550	13.233	Si
SLV 13	1436	-13050	2730248	0.61	4700298	1.722	Si
SLV 15	1186	-20300	-261394	0.96	7096395	27.148	Si
SLV 15	1436	-13958	2601684	0.66	5008823	1.925	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 9	1186	-35664	-1016	-558360		1.68	758.5	0.78	16554			16.29	Si
SLU 9	1436	-28311	-1220	192839		1.33	758.5	0.73	15574			12.77	Si
SLU 61	1186	-32858	933	-804576		1.55	758.5	0.76	16180			17.35	Si
SLU 61	1436	-22846	1251	-599078		1.08	758.5	0.7	14845			11.87	Si
SLU 28	1186	-39911	-1275	-861631		1.88	758.5	0.81	17120			13.43	Si
SLU 28	1436	-33072	-1168	59748		1.56	758.5	0.76	16209			13.88	Si
SLU 19	1186	-25695	684	-731884		1.21	758.5	0.72	15225			22.27	Si
SLU 19	1436	-18307	1069	-497801		0.86	758.5	0.67	14240			13.32	Si
SLU 60	1186	-32651	961	-883815		1.54	758.5	0.76	16152			16.81	Si
SLU 60	1436	-22731	1325	-662297		1.07	758.5	0.7	14830			11.2	Si
SLU 29	1186	-37888	-1420	-913401		1.78	758.5	0.79	16851			11.87	Si
SLU 29	1436	-31028	-1363	80167		1.46	758.5	0.75	15936			11.69	Si
SLU 18	1186	-25489	712	-811124		1.2	758.5	0.72	15197			21.35	Si
SLU 18	1436	-18192	1143	-561021		0.86	758.5	0.67	14224			12.44	Si
SLU 8	1186	-35457	-988	-637599		1.67	758.5	0.78	16527			16.73	Si
SLU 8	1436	-28196	-1146	129619		1.33	758.5	0.73	15558			13.58	Si
SLU 30	1186	-38095	-1448	-834162		1.79	758.5	0.79	16878			11.65	Si
SLU 30	1436	-31143	-1437	143386		1.47	758.5	0.75	15951			11.1	Si
SLU 72	1186	-45257	-1199	-906853		2.13	758.5	0.84	17833			14.87	Si
SLU 72	1436	-35682	-1256	42110		1.68	758.5	0.78	16556			13.19	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 1	1186	-33930	18128	-1112666		1.6	758.5	1.15	24484			1.35	Si
SLV 1	1436	-24324	10447	-3484920		1.23	707.93	1.08	21383			2.05	Si
SLV 7	1186	-27568	9385	-277034		1.3	758.5	1.09	23212			2.47	Si
SLV 7	1436	-22345	7686	-1588168		1.05	758.5	1.04	22167			2.88	Si
SLV 8	1186	-27568	9385	-277034		1.3	758.5	1.09	23212			2.47	Si
SLV 8	1436	-22345	7686	-1588168		1.05	758.5	1.04	22167			2.88	Si
SLV 4	1186	-33054	20189	-816691		1.56	758.5	1.14	24309			1.2	Si
SLV 4	1436	-25232	12779	-3613484		1.27	708.11	1.09	21569			1.69	Si
SLV 3	1186	-33054	20189	-816691		1.56	758.5	1.14	24309			1.2	Si
SLV 3	1436	-25232	12779	-3613484		1.27	708.11	1.09	21569			1.69	Si
SLV 13	1186	-21176	-19614	-557369		1	758.5	1.03	21933			1.12	Si
SLV 13	1436	-13050	-11875	2730248		0.91	510.1	1.02	14512			1.22	Si
SLV 15	1186	-20300	-17552	-261394		0.96	758.5	1.02	21758			1.24	Si
SLV 15	1436	-13958	-9544	2601684		0.86	578.57	1.01	16291			1.71	Si
SLV 2	1186	-33930	18128	-1112666		1.6	758.5	1.15	24484			1.35	Si
SLV 2	1436	-24324	10447	-3484920		1.23	707.93	1.08	21383			2.05	Si
SLV 16	1186	-20300	-17552	-261394		0.96	758.5	1.02	21758			1.24	Si
SLV 16	1436	-13958	-9544	2601684		0.86	578.57	1.01	16291			1.71	Si
SLV 14	1186	-21176	-19614	-557369		1	758.5	1.03	21933			1.12	Si
SLV 14	1436	-13050	-11875	2730248		0.91	510.1	1.02	14512			1.22	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 14	14	0.53	0.8	-17065	87663	223204	2.55	Si



Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 13	14	0.53	0.8	-17065	87663	223204	2.55	Si
SLV 15	14	0.53	0.84	-17781	87663	231883	2.65	Si
SLV 16	14	0.53	0.84	-17781	87663	231883	2.65	Si
SLV 10	14	0.53	0.93	-19695	87663	254807	2.91	Si
SLV 9	14	0.53	0.93	-19695	87663	254807	2.91	Si
SLV 11	14	0.53	1.04	-22082	87663	282844	3.23	Si
SLV 12	14	0.53	1.04	-22082	87663	282844	3.23	Si
SLV 5	14	0.53	1.07	-22666	87663	289603	3.3	Si
SLV 6	14	0.53	1.07	-22666	87663	289603	3.3	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1344  $W_a = 0.05$   $T_a = 0.0596$

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 12	-16513	-23742	1087	0.008	26.544	0.911	12.755	915.209	No
SLV 11	-16513	-23742	1087	0.008	26.544	0.911	12.755	915.209	No
SLV 8	-18515	-27568	1089	0.011	28.541	0.915	17.236	915.209	No
SLV 7	-18515	-27568	1089	0.011	28.541	0.915	17.236	915.209	No
SLV 10	-14411	-26662	-913	0.013	24.459	0.906	20.429	915.209	No
SLV 9	-14411	-26662	-913	0.013	24.459	0.906	20.429	915.209	No
SLV 6	-16413	-30488	-911	0.016	26.444	0.91	24.99	915.209	No
SLV 5	-16413	-30488	-911	0.016	26.444	0.91	24.99	915.209	No
SLV 15	-13442	-20300	384	0.038	23.503	0.903	61.684	978.751	No
SLV 16	-13442	-20300	384	0.038	23.503	0.903	61.684	978.751	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	8.169	SLU 39	Si
V_SLU	11.099	SLU 30	Si
PF_SLV	1.722	SLV 13	Si
V_SLV	1.118	SLV 13	Si
PFFP_SLV	2.546	SLV 13	Si
R_SLV	0.014	SLV 11	No

## Maschio 210

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1046.6	104.6	-1116.3	104.6	L6	L7	69.6	28	316	316	316			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 81	1186	-3249	42905	1.67	89987	2.097	Si
SLU 81	1436	-4623	-28838	2.37	114116	3.957	Si
SLU 32	1186	-3108	41063	1.59	87040	2.12	Si
SLU 32	1436	-5039	-27974	2.58	119791	4.282	Si
SLU 40	1186	-2509	40853	1.29	73549	1.8	Si
SLU 40	1436	-3833	-27363	1.97	101254	3.7	Si
SLU 41	1186	-2851	44280	1.46	81438	1.839	Si
SLU 41	1436	-4754	-29980	2.44	115981	3.869	Si
SLU 31	1186	-2565	36588	1.32	74893	2.047	Si
SLU 31	1436	-3813	-24659	1.96	100883	4.091	Si
SLU 38	1186	-3240	42325	1.66	89790	2.121	Si
SLU 38	1436	-5589	-29001	2.87	126124	4.349	Si
SLU 42	1186	-2843	43443	1.46	81277	1.871	Si
SLU 42	1436	-4705	-29310	2.41	115294	3.934	Si
SLU 39	1186	-2516	41691	1.29	73720	1.768	Si
SLU 39	1436	-3882	-28033	1.99	102127	3.643	Si
SLU 37	1186	-3247	43162	1.67	89939	2.084	Si
SLU 37	1436	-5638	-29671	2.89	126622	4.267	Si
SLU 34	1186	-2900	39177	1.49	82538	2.107	Si
SLU 34	1436	-4685	-26607	2.4	115002	4.322	Si

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 13	1186	-4007	-160030	0	0	0	No, $e \geq l/2$
SLV 13	1436	-4750	123413	2.44	132418	1.073	Si
SLV 7	1186	-1886	66547	0	0	0	No, $e \geq l/2$
SLV 7	1436	-696	-56411	0	0	0	No, $e \geq l/2$
SLV 4	1186	-1168	206782	0	0	0	No, $e \geq l/2$
SLV 4	1436	-2110	-155559	0	0	0	No, $e \geq l/2$
SLV 2	1186	-1350	214595	0	0	0	No, $e \geq l/2$
SLV 2	1436	-3652	-156553	0	0	0	No, $e \geq l/2$
SLV 5	1186	-2493	92592	0	0	0	No, $e \geq l/2$
SLV 5	1436	-5835	-59725	2.99	153401	2.568	Si
SLV 3	1186	-1168	206782	0	0	0	No, $e \geq l/2$
SLV 3	1436	-2110	-155559	0	0	0	No, $e \geq l/2$
SLV 6	1186	-2493	92592	0	0	0	No, $e \geq l/2$
SLV 6	1436	-5835	-59725	2.99	153401	2.568	Si
SLV 14	1186	-4007	-160030	0	0	0	No, $e \geq l/2$





Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 14	1436	-4750	123413	2.44	132418	1.073	Si
SLD 1	1186	-2058	104896	0	0	0	No, $e \geq l/2$
SLD 1	1436	-3521	-76073	1.81	104481	1.373	Si
SLV 8	1186	-1886	66547	0	0	0	No, $e \geq l/2$
SLV 8	1436	-696	-56411	0	0	0	No, $e \geq l/2$

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLU 35	1186	-3443	567	43652		1.85	66.42	0.8	1492			2.63	Si
SLU 35	1436	-5911	546	-29922		3.03	69.64	0.96	1871			3.43	Si
SLU 41	1186	-2851	530	44280		1.76	57.85	0.79	1280			2.42	Si
SLU 41	1436	-4754	503	-29980		2.44	69.64	0.88	1717			3.42	Si
SLU 42	1186	-2843	520	43443		1.73	58.62	0.79	1291			2.48	Si
SLU 42	1436	-4705	494	-29310		2.41	69.64	0.88	1711			3.47	Si
SLU 39	1186	-2516	470	41691		1.64	54.74	0.77	1187			2.53	Si
SLU 39	1436	-3882	444	-28033		1.99	69.64	0.82	1601			3.61	Si
SLU 37	1186	-3247	558	43162		1.8	64.57	0.79	1437			2.57	Si
SLU 37	1436	-5638	537	-29671		2.89	69.64	0.94	1835			3.42	Si
SLU 38	1186	-3240	549	42325		1.77	65.26	0.79	1447			2.64	Si
SLU 38	1436	-5589	528	-29001		2.87	69.64	0.94	1828			3.47	Si
SLU 83	1186	-3584	559	45495		1.93	66.37	0.81	1510			2.7	Si
SLU 83	1436	-5495	531	-30785		2.82	69.64	0.93	1816			3.42	Si
SLU 36	1186	-3436	558	42815		1.83	67.07	0.8	1501			2.69	Si
SLU 36	1436	-5863	537	-29252		3.01	69.64	0.96	1865			3.47	Si
SLU 79	1186	-3980	587	44377		2.04	69.64	0.83	1614			2.75	Si
SLU 79	1436	-6379	565	-30476		3.27	69.64	0.99	1934			3.42	Si
SLU 40	1186	-2509	461	40853		1.61	55.6	0.77	1199			2.6	Si
SLU 40	1436	-3833	434	-27363		1.97	69.64	0.82	1594			3.67	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLV 13	1186	-4007	-1370	-160030		0	0	0.83	0			0	No, $V_u < V$
SLV 13	1436	-4750	-662	123413		6.4	26.51	1.63	1206			1.82	Si
SLV 8	1186	-1886	663	66547		0	0	0.83	0			0	No, $V_u < V$
SLV 8	1436	-696	397	-56411		0	0	0.83	0			0	No, $V_u < V$
SLV 2	1186	-1350	2052	214595		0	0	0.83	0			0	No, $V_u < V$
SLV 2	1436	-3652	1355	-156553		0	0	0.83	0			0	No, $V_u < V$
SLV 7	1186	-1886	663	66547		0	0	0.83	0			0	No, $V_u < V$
SLV 7	1436	-696	397	-56411		0	0	0.83	0			0	No, $V_u < V$
SLV 5	1186	-2493	958	92592		0	0	0.83	0			0	No, $V_u < V$
SLV 5	1436	-5835	785	-59725		2.99	69.64	1.43	2792			3.56	Si
SLD 1	1186	-2058	1044	104896		0	0	0.83	0			0	No, $V_u < V$
SLD 1	1436	-3521	744	-76073		3.17	39.64	1.47	1629			2.19	Si
SLV 14	1186	-4007	-1370	-160030		0	0	0.83	0			0	No, $V_u < V$
SLV 14	1436	-4750	-662	123413		6.4	26.51	1.63	1206			1.82	Si
SLV 3	1186	-1168	1964	206782		0	0	0.83	0			0	No, $V_u < V$
SLV 3	1436	-2110	1239	-155559		0	0	0.83	0			0	No, $V_u < V$
SLV 4	1186	-1168	1964	206782		0	0	0.83	0			0	No, $V_u < V$
SLV 4	1436	-2110	1239	-155559		0	0	0.83	0			0	No, $V_u < V$
SLV 6	1186	-2493	958	92592		0	0	0.83	0			0	No, $V_u < V$
SLV 6	1436	-5835	785	-59725		2.99	69.64	1.43	2792			3.56	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.53	0.52	-1014	8048	13590	1.69	Si
SLV 7	14	0.53	0.52	-1014	8048	13590	1.69	Si
SLV 11	14	0.53	0.74	-1446	8048	19016	2.36	Si
SLV 12	14	0.53	0.74	-1446	8048	19016	2.36	Si
SLV 4	14	0.53	0.85	-1666	8048	21695	2.7	Si
SLV 3	14	0.53	0.85	-1666	8048	21695	2.7	Si
SLV 2	14	0.53	1.36	-2657	8048	33054	4.11	Si
SLV 1	14	0.53	1.36	-2657	8048	33054	4.11	Si
SLV 16	14	0.53	1.59	-3107	8048	37823	4.7	Si
SLV 15	14	0.53	1.59	-3107	8048	37823	4.7	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1344 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	$\sigma_0$	M*	e*	a0*	aLim	Verifica
SLV 12	-609	-2683	269	0	1.558	0.889	0	915.209	No
SLV 10	-3864	-3290	-263	0	4.806	0.948	0	915.209	No
SLV 11	-609	-2683	269	0	1.558	0.889	0	915.209	No
SLV 3	-874	-1168	138	0	1.806	0.894	0	978.751	No
SLV 7	-206	-1886	294	0	1.22	0.91	0	915.209	No
SLV 5	-3460	-2493	-238	0	4.396	0.944	0	915.209	No
SLV 4	-874	-1168	138	0	1.806	0.894	0	978.751	No
SLV 8	-206	-1886	294	0	1.22	0.91	0	915.209	No
SLV 9	-3864	-3290	-263	0	4.806	0.948	0	915.209	No
SLV 6	-3460	-2493	-238	0	4.396	0.944	0	915.209	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.768	SLU 39	Si
V_SLU	2.416	SLU 41	Si
PF_SLV	0	SLD 1	No
V_SLV	0	SLD 1	No
PFFP_SLV	1.689	SLV 7	Si
R_SLV	0	SLV 3	No



## Maschio 211

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota s.	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-727.8	104.6	-938.6	104.6	L6	L7	210.9	28	316	316	316			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 46	1186	-12471	10065	2.11	973895	96.763	Si
SLU 46	1436	-7990	65928	1.35	702456	10.655	Si
SLU 61	1186	-9233	-27866	1.56	786560	28.227	Si
SLU 61	1436	-5305	43766	0.9	497636	11.37	Si
SLU 45	1186	-12381	13819	2.1	969331	70.146	Si
SLU 45	1436	-7921	63899	1.34	697582	10.917	Si
SLU 43	1186	-10397	-7511	1.76	859175	114.388	Si
SLU 43	1436	-6270	61083	1.06	574899	9.412	Si
SLU 2	1186	-8179	-6751	1.39	715685	106.013	Si
SLU 2	1436	-4922	43251	0.83	465862	10.771	Si
SLU 47	1186	-11860	11990	2.01	942093	78.572	Si
SLU 47	1436	-7395	58478	1.25	659813	11.283	Si
SLU 44	1186	-10546	-13768	1.79	868063	63.05	Si
SLU 44	1436	-6385	64466	1.08	583843	9.057	Si
SLU 1	1186	-8030	-494	1.36	705247	1000	Si
SLU 1	1436	-4807	39868	0.81	456179	11.442	Si
SLU 60	1186	-9143	-24112	1.55	780723	32.379	Si
SLU 60	1436	-5236	41736	0.89	491949	11.787	Si
SLU 52	1186	-9669	-25388	1.64	814444	32.08	Si
SLU 52	1436	-5662	50923	0.96	526636	10.342	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 5	1186	-6420	300879	1.09	616638	2.049	Si
SLV 5	1436	-1984	-265729	0	0	0	No, e>1/2
SLD 2	1186	-5948	192407	1.01	575427	2.991	Si
SLD 2	1436	-1924	-238442	0	0	0	No, e>1/2
SLV 2	1186	-3436	449014	0	0	0	No, e>1/2
SLV 2	1436	1656	-597465	0	0	0	No, Trazione
SLD 3	1186	-5965	146588	1.01	576913	3.936	Si
SLD 3	1436	-2120	-209190	0.36	216919	1.037	Si
SLV 3	1186	-3489	340330	0.59	350106	1.029	Si
SLV 3	1436	1177	-527384	0	0	0	No, Trazione
SLD 4	1186	-5965	146588	1.01	576913	3.936	Si
SLD 4	1436	-2120	-209190	0.36	216919	1.037	Si
SLV 6	1186	-6420	300879	1.09	616638	2.049	Si
SLV 6	1436	-1984	-265729	0	0	0	No, e>1/2
SLV 1	1186	-3436	449014	0	0	0	No, e>1/2
SLV 1	1436	1656	-597465	0	0	0	No, Trazione
SLD 1	1186	-5948	192407	1.01	575427	2.991	Si
SLD 1	1436	-1924	-238442	0	0	0	No, e>1/2
SLV 4	1186	-3489	340330	0.59	350106	1.029	Si
SLV 4	1436	1177	-527384	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 35	1186	-10575	754	55007		1.79	210.86	0.79	4690			6.22	Si
SLU 35	1436	-6683	-2	-3838		1.13	210.86	0.71	4171			1000	Si
SLU 27	1186	-11452	811	66627		1.94	210.86	0.81	4807			5.93	Si
SLU 27	1436	-7407	119	9705		1.25	210.86	0.72	4268			35.73	Si
SLU 38	1186	-9994	782	55681		1.69	210.86	0.78	4613			5.9	Si
SLU 38	1436	-6112	38	-10612		1.04	210.86	0.69	4095			106.52	Si
SLU 29	1186	-10782	854	71056		1.83	210.86	0.8	4718			5.53	Si
SLU 29	1436	-6766	164	902		1.15	210.86	0.71	4182			25.51	Si
SLU 72	1186	-13238	771	60285		2.24	210.86	0.85	5045			6.54	Si
SLU 72	1436	-8299	135	24146		1.41	210.86	0.74	4387			32.46	Si
SLU 28	1186	-11542	796	62873		1.95	210.86	0.82	4819			6.05	Si
SLU 28	1436	-7476	115	11735		1.27	210.86	0.72	4277			37.19	Si
SLU 36	1186	-10665	739	51253		1.81	210.86	0.8	4702			6.36	Si
SLU 36	1436	-6752	-6	-1808		1.14	210.86	0.71	4180			691.71	Si
SLU 37	1186	-9905	797	59435		1.68	210.86	0.78	4601			5.77	Si
SLU 37	1436	-6043	43	-12641		1.02	210.86	0.69	4086			95.27	Si
SLU 71	1186	-13149	786	64039		2.23	210.86	0.85	5033			6.41	Si
SLU 71	1436	-8229	140	22117		1.39	210.86	0.74	4377			31.36	Si
SLU 30	1186	-10872	839	67302		1.84	210.86	0.8	4730			5.64	Si
SLU 30	1436	-6836	159	2931		1.16	210.86	0.71	4191			26.28	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	1186	-3436	5874	449014		0	0	0.83	0			0	No, Vu<V
SLV 2	1436	1656	3664	-597465		0	0	0.83	0			0	No, Vu<V



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 3	1186	-5965	2211	146588		1.01	210.86	1.04	6113			2.77	Si
SLD 3	1436	-2120	1273	-209190		3.74	20.23	1.58	896			0.7	No, Vu<V
SLV 6	1186	-6420	3119	300879		1.31	175.7	1.09	5384			1.73	Si
SLV 6	1436	-1984	2089	-265729		0	0	0.83	0			0	No, Vu<V
SLV 1	1186	-3436	5874	449014		0	0	0.83	0			0	No, Vu<V
SLV 1	1436	1656	3664	-597465		0	0	0.83	0			0	No, Vu<V
SLV 4	1186	-3489	5029	340330		5.26	23.7	1.63	1079			0.21	No, Vu<V
SLV 4	1436	1177	3004	-527384		0	0	0.83	0			0	No, Vu<V
SLV 5	1186	-6420	3119	300879		1.31	175.7	1.09	5384			1.73	Si
SLV 5	1436	-1984	2089	-265729		0	0	0.83	0			0	No, Vu<V
SLV 3	1186	-3489	5029	340330		5.26	23.7	1.63	1079			0.21	No, Vu<V
SLV 3	1436	1177	3004	-527384		0	0	0.83	0			0	No, Vu<V
SLD 2	1186	-5948	2567	192407		1.01	210.86	1.03	6110			2.38	Si
SLD 2	1436	-1924	1549	-238442		0	0	0.83	0			0	No, Vu<V
SLD 4	1186	-5965	2211	146588		1.01	210.86	1.04	6113			2.77	Si
SLD 4	1436	-2120	1273	-209190		3.74	20.23	1.58	896			0.7	No, Vu<V
SLD 1	1186	-5948	2567	192407		1.01	210.86	1.03	6110			2.38	Si
SLD 1	1436	-1924	1549	-238442		0	0	0.83	0			0	No, Vu<V

#### Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 1	14	0.53	0	-1583	24370	0	0	No, $e > t/2$
SLV 2	14	0.53	0	-1583	24370	0	0	No, $e > t/2$
SLV 4	14	0.53	0.3	-1754	24370	23960	0.98	No, $M > M_u$
SLV 3	14	0.53	0.3	-1754	24370	23960	0.98	No, $M > M_u$
SLV 5	14	0.53	0.75	-4410	24370	57962	2.38	Si
SLV 6	14	0.53	0.75	-4410	24370	57962	2.38	Si
SLV 8	14	0.53	0.84	-4979	24370	64892	2.66	Si
SLV 7	14	0.53	0.84	-4979	24370	64892	2.66	Si
SLV 9	14	0.53	1.19	-7003	24370	88524	3.63	Si
SLV 10	14	0.53	1.19	-7003	24370	88524	3.63	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1344 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 1	245	-3436	-32	0	0	0	0	978.751	No, Trazione
SLV 2	245	-3436	-32	0	0	0	0	978.751	No, Trazione
SLV 5	-1985	-6420	-92	0.04	4.845	0.89	64.572	915.209	No
SLV 6	-1985	-6420	-92	0.04	4.845	0.89	64.572	915.209	No
SLV 10	-4145	-9031	-93	0.041	6.937	0.907	65.947	915.209	No
SLV 9	-4145	-9031	-93	0.041	6.937	0.907	65.947	915.209	No
SLV 11	-4974	-9209	77	0.044	7.761	0.914	69.882	915.209	No
SLV 12	-4974	-9209	77	0.044	7.761	0.914	69.882	915.209	No
SLV 8	-2814	-6598	78	0.044	5.633	0.895	70.744	915.209	No
SLV 7	-2814	-6598	78	0.044	5.633	0.895	70.744	915.209	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	9.057	SLU 44	Si
V_SLU	5.526	SLU 29	Si
PF_SLV	0	SLV 4	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 1	No
R_SLV	0	SLV 2	No

## Maschio 212

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota l.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-496.8	104.6	-647.8	104.6	L6	L7	151	28	316	316	316			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>k</sub>	f <sub>vk0</sub>	f <sub>medio</sub>	$\tau_0$	f <sub>v0</sub>	$\mu$	$\phi$	f <sub>v,lim</sub>	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 39	1186	-5116	-42816	1.21	328867	7.681	Si
SLU 39	1396	-5933	37408	1.4	370782	9.912	Si
SLU 81	1186	-6581	-49171	1.56	401909	8.174	Si
SLU 81	1396	-7105	50203	1.68	425764	8.481	Si
SLU 43	1186	-6746	-30894	1.6	409563	13.257	Si
SLU 43	1396	-6061	50050	1.43	377086	7.534	Si
SLU 19	1186	-4949	-37931	1.17	319969	8.436	Si
SLU 19	1396	-5212	40862	1.23	333980	8.173	Si
SLU 60	1186	-6233	-46235	1.47	385401	8.336	Si
SLU 60	1396	-6245	54924	1.48	385993	7.028	Si
SLU 61	1186	-6414	-44286	1.52	394080	8.899	Si
SLU 61	1396	-6384	53657	1.51	392665	7.318	Si
SLU 18	1186	-4768	-39880	1.13	310123	7.776	Si
SLU 18	1396	-5073	42129	1.2	326591	7.752	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 40	1186	-5297	-40867	1.25	338436	8.281	Si
SLU 40	1396	-6073	36141	1.44	377644	10.449	Si
SLU 52	1186	-6689	-38384	1.58	406952	10.602	Si
SLU 52	1396	-6422	51351	1.52	394465	7.682	Si
SLU 44	1186	-7049	-27645	1.67	423266	15.311	Si
SLU 44	1396	-6294	47939	1.49	388346	8.101	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 11	1186	-5730	-217099	1.36	384618	1.772	Si
SLV 11	1396	-6414	179056	1.52	424146	2.369	Si
SLV 12	1186	-5730	-217099	1.36	384618	1.772	Si
SLV 12	1396	-6414	179056	1.52	424146	2.369	Si
SLV 13	1186	-5696	-295994	1.35	382605	1.293	Si
SLV 13	1396	-5860	313042	1.39	392265	1.253	Si
SLV 2	1186	-4680	298766	1.11	321358	1.076	Si
SLV 2	1396	-3913	-271937	0.93	273064	1.004	Si
SLV 1	1186	-4680	298766	1.11	321358	1.076	Si
SLV 1	1396	-3913	-271937	0.93	273064	1.004	Si
SLV 14	1186	-5696	-295994	1.35	382605	1.293	Si
SLV 14	1396	-5860	313042	1.39	392265	1.253	Si
SLV 3	1186	-4860	239103	1.15	332425	1.39	Si
SLV 3	1396	-4483	-239280	1.06	309116	1.292	Si
SLV 16	1186	-5875	-355658	1.39	393138	1.105	Si
SLV 16	1396	-6431	345699	1.52	425071	1.23	Si
SLV 15	1186	-5875	-355658	1.39	393138	1.105	Si
SLV 15	1396	-6431	345699	1.52	425071	1.23	Si
SLV 4	1186	-4860	239103	1.15	332425	1.39	Si
SLV 4	1396	-4483	-239280	1.06	309116	1.292	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 78	1186	-9261	-839	-42941		2.19	151	0.85	3584			4.27	Si
SLU 78	1396	-10571	-837	43394		2.5	151	0.89	3758			4.49	Si
SLU 58	1186	-8344	-818	-41359		1.97	151	0.82	3461			4.23	Si
SLU 58	1396	-9089	-817	48428		2.15	151	0.84	3561			4.36	Si
SLU 79	1186	-8693	-871	-44295		2.06	151	0.83	3508			4.03	Si
SLU 79	1396	-9950	-871	43707		2.35	151	0.87	3675			4.22	Si
SLU 84	1186	-7741	-769	-47085		1.83	151	0.8	3381			4.4	Si
SLU 84	1396	-8694	-767	46420		2.06	151	0.83	3508			4.57	Si
SLU 80	1186	-8874	-855	-42346		2.1	151	0.84	3532			4.13	Si
SLU 80	1396	-10089	-853	42441		2.39	151	0.87	3694			4.33	Si
SLU 77	1186	-9080	-856	-44889		2.15	151	0.84	3560			4.16	Si
SLU 77	1396	-10431	-855	44660		2.47	151	0.88	3740			4.37	Si
SLU 37	1186	-7228	-772	-37940		1.71	151	0.78	3313			4.29	Si
SLU 37	1396	-8778	-771	30912		2.08	151	0.83	3519			4.56	Si
SLU 59	1186	-8526	-801	-39410		2.02	151	0.82	3486			4.35	Si
SLU 59	1396	-9229	-799	47162		2.18	151	0.85	3579			4.48	Si
SLU 56	1186	-8732	-802	-41953		2.07	151	0.83	3513			4.38	Si
SLU 56	1396	-9571	-802	49381		2.26	151	0.86	3625			4.52	Si
SLU 83	1186	-7560	-786	-49034		1.79	151	0.79	3357			4.27	Si
SLU 83	1396	-8555	-785	47686		2.02	151	0.83	3490			4.44	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 1	1186	-4680	3757	298766		4.78	35	1.63	1593			0.42	No, Vu<V
SLV 1	1396	-3913	2812	-271937		7.76	18.02	1.63	820			0.29	No, Vu<V
SLV 11	1186	-5730	-3258	-217099		1.81	112.83	1.2	3779			1.16	Si
SLV 11	1396	-6414	-2895	179056		1.6	142.75	1.15	4614			1.59	Si
SLV 2	1186	-4680	3757	298766		4.78	35	1.63	1593			0.42	No, Vu<V
SLV 2	1396	-3913	2812	-271937		7.76	18.02	1.63	820			0.29	No, Vu<V
SLV 14	1186	-5696	-3588	-295994		2.88	70.59	1.41	2786			0.78	No, Vu<V
SLV 14	1396	-5860	-2695	313042		3.16	66.25	1.47	2718			1.01	Si
SLV 13	1186	-5696	-3588	-295994		2.88	70.59	1.41	2786			0.78	No, Vu<V
SLV 13	1396	-5860	-2695	313042		3.16	66.25	1.47	2718			1.01	Si
SLV 12	1186	-5730	-3258	-217099		1.81	112.83	1.2	3779			1.16	Si
SLV 12	1396	-6414	-2895	179056		1.6	142.75	1.15	4614			1.59	Si
SLV 3	1186	-4860	2723	239103		2.2	78.91	1.27	2813			1.03	Si
SLV 3	1396	-4483	1830	-239280		2.41	66.39	1.32	2446			1.34	Si
SLV 16	1186	-5875	-4622	-355658		4.67	44.9	1.63	2043			0.44	No, Vu<V
SLV 16	1396	-6431	-3677	345699		3.52	65.22	1.54	2808			0.76	No, Vu<V
SLV 4	1186	-4860	2723	239103		2.2	78.91	1.27	2813			1.03	Si
SLV 4	1396	-4483	1830	-239280		2.41	66.39	1.32	2446			1.34	Si
SLV 15	1186	-5875	-4622	-355658		4.67	44.9	1.63	2043			0.44	No, Vu<V
SLV 15	1396	-6431	-3677	345699		3.52	65.22	1.54	2808			0.76	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.53	0.91	-3851	17452	49891	2.86	Si
SLV 6	14	0.53	0.91	-3851	17452	49891	2.86	Si
SLV 2	14	0.53	0.93	-3935	17452	50898	2.92	Si
SLV 1	14	0.53	0.93	-3935	17452	50898	2.92	Si
SLV 9	14	0.53	1.03	-4347	17452	55736	3.19	Si
SLV 10	14	0.53	1.03	-4347	17452	55736	3.19	Si
SLV 4	14	0.53	1.07	-4504	17452	57561	3.3	Si
SLV 3	14	0.53	1.07	-4504	17452	57561	3.3	Si
SLV 14	14	0.53	1.32	-5590	17452	69787	4	Si
SLV 13	14	0.53	1.32	-5590	17452	69787	4	Si



## Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeraia = 1344  $W_a = 0.05$   $T_a = 0.0596$

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 12	-4809	-5730	133	0.031	6.809	0.926	48.672	915.209	No
SLV 11	-4809	-5730	133	0.031	6.809	0.926	48.672	915.209	No
SLV 7	-4261	-5425	119	0.032	6.257	0.921	50.976	915.209	No
SLV 8	-4261	-5425	119	0.032	6.257	0.921	50.976	915.209	No
SLV 6	-2955	-4826	-94	0.034	4.955	0.907	55.29	915.209	No
SLV 5	-2955	-4826	-94	0.034	4.955	0.907	55.29	915.209	No
SLV 15	-4993	-5875	75	0.041	6.994	0.927	63.814	978.751	No
SLV 16	-4993	-5875	75	0.041	6.994	0.927	63.814	978.751	No
SLV 10	-3504	-5131	-80	0.039	5.5	0.913	61.583	915.209	No
SLV 9	-3504	-5131	-80	0.039	5.5	0.913	61.583	915.209	No

### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	7.028	SLU 60	Si
V_SLU	4.026	SLU 79	Si
PF_SLV	1.004	SLV 1	Si
V_SLV	0.292	SLV 1	No
PFFP_SLV	2.859	SLV 5	Si
R_SLV	0.053	SLV 11	No

## Maschio 213

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-12.3	104.6	-416.8	104.6	L6	L7	404.5	28	316	316	316			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\alpha_0$	Mu	c.s.	Verifica
SLU 17	1186	-8977	131115	0.79	1638967	12.5	Si
SLU 17	1396	-5921	453406	0.52	1120716	2.472	Si
SLU 9	1186	-9731	146208	0.86	1760558	12.041	Si
SLU 9	1396	-5911	433603	0.52	1118886	2.58	Si
SLU 38	1186	-9010	133585	0.8	1644276	12.309	Si
SLU 38	1396	-6429	520232	0.57	1209636	2.325	Si
SLU 80	1186	-11592	165825	1.02	2049905	12.362	Si
SLU 80	1396	-7755	567391	0.68	1436527	2.532	Si
SLU 29	1186	-9643	141967	0.85	1746407	12.302	Si
SLU 29	1396	-6397	501982	0.56	1204112	2.399	Si
SLU 37	1186	-8889	126873	0.78	1624523	12.804	Si
SLU 37	1396	-6408	521785	0.57	1205919	2.311	Si
SLU 8	1186	-9610	139497	0.85	1741188	12.482	Si
SLU 8	1396	-5890	435156	0.52	1115122	2.563	Si
SLU 16	1186	-8856	124403	0.78	1619197	13.016	Si
SLU 16	1396	-5900	454959	0.52	1116952	2.455	Si
SLU 30	1186	-9764	148678	0.86	1765759	11.876	Si
SLU 30	1396	-6418	500429	0.57	1207829	2.414	Si
SLU 79	1186	-11471	159114	1.01	2031524	12.768	Si
SLU 79	1396	-7733	568944	0.68	1432935	2.519	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\alpha_0$	Mu	c.s.	Verifica
SLV 13	1186	-9744	-22080	0.86	1831970	82.971	Si
SLV 13	1396	-6770	589785	0.6	1302329	2.208	Si
SLD 15	1186	-9096	53511	0.8	1718725	32.119	Si
SLD 15	1396	-6036	437680	0.53	1167600	2.668	Si
SLV 16	1186	-9981	-17378	0.88	1873057	107.786	Si
SLV 16	1396	-7236	679659	0.64	1386896	2.041	Si
SLV 15	1186	-9981	-17378	0.88	1873057	107.786	Si
SLV 15	1396	-7236	679659	0.64	1386896	2.041	Si
SLD 14	1186	-8997	51591	0.79	1701417	32.979	Si
SLD 14	1396	-5844	400572	0.52	1132046	2.826	Si
SLV 11	1186	-9261	76597	0.82	1747606	22.815	Si
SLV 11	1396	-6479	521030	0.57	1249044	2.397	Si
SLD 13	1186	-8997	51591	0.79	1701417	32.979	Si
SLD 13	1396	-5844	400572	0.52	1132046	2.826	Si
SLD 16	1186	-9096	53511	0.8	1718725	32.119	Si
SLD 16	1396	-6036	437680	0.53	1167600	2.668	Si
SLV 12	1186	-9261	76597	0.82	1747606	22.815	Si
SLV 12	1396	-6479	521030	0.57	1249044	2.397	Si
SLV 14	1186	-9744	-22080	0.86	1831970	82.971	Si
SLV 14	1396	-6770	589785	0.6	1302329	2.208	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\alpha_0$	$\alpha_N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 37	1186	-8889	-3770	126873		0.78	404.5	0.66	7477			1.98	Si
SLU 37	1396	-6408	-3622	521785		0.63	362.45	0.64	6492			1.79	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 77	1186	-12533	-3958	198376		1.11	404.5	0.7	7963			2.01	Si
SLU 77	1396	-9016	-3815	592517		0.8	404.5	0.66	7494			1.96	Si
SLU 83	1186	-10665	-3824	138042		0.94	404.5	0.68	7714			2.02	Si
SLU 83	1396	-7292	-3722	476637		0.64	404.5	0.64	7265			1.95	Si
SLU 36	1186	-10072	-3761	172846		0.89	404.5	0.67	7635			2.03	Si
SLU 36	1396	-7711	-3637	543806		0.7	395.19	0.65	7176			1.97	Si
SLU 80	1186	-11592	-3679	165825		1.02	404.5	0.69	7838			2.13	Si
SLU 80	1396	-7755	-3544	567391		0.72	387.24	0.65	7058			1.99	Si
SLU 79	1186	-11471	-3823	159114		1.01	404.5	0.69	7822			2.05	Si
SLU 79	1396	-7733	-3672	568944		0.72	386.03	0.65	7036			1.92	Si
SLU 42	1186	-8204	-3627	112513		0.72	404.5	0.65	7386			2.04	Si
SLU 42	1396	-5988	-3543	427925		0.55	392.36	0.63	6902			1.95	Si
SLU 38	1186	-9010	-3626	133585		0.8	404.5	0.66	7494			2.07	Si
SLU 38	1396	-6429	-3494	520232		0.63	363.99	0.64	6519			1.87	Si
SLU 35	1186	-9951	-3906	166135		0.88	404.5	0.67	7619			1.95	Si
SLU 35	1396	-7690	-3765	545358		0.7	393.99	0.65	7154			1.9	Si
SLU 41	1186	-8083	-3771	105802		0.71	404.5	0.65	7370			1.95	Si
SLU 41	1396	-5967	-3671	429478		0.55	390.81	0.63	6875			1.87	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 16	1186	-9096	-3537	53511		0.8	404.5	0.99	11258			3.18	Si
SLD 16	1396	-6036	-2317	437680		0.55	389.23	0.94	10289			4.44	Si
SLV 16	1186	-9981	-6012	-17378		0.88	404.5	1.01	11435			1.9	Si
SLV 16	1396	-7236	-3183	679659		0.8	324.95	0.99	9029			2.84	Si
SLD 13	1186	-8997	-3262	51591		0.79	404.5	0.99	11238			3.45	Si
SLD 13	1396	-5844	-2071	400572		0.52	401.12	0.94	10528			5.08	Si
SLV 12	1186	-9261	-4017	76597		0.82	404.5	1	11290			2.81	Si
SLV 12	1396	-6479	-3038	521030		0.63	365.5	0.96	9824			3.23	Si
SLV 11	1186	-9261	-4017	76597		0.82	404.5	1	11290			2.81	Si
SLV 11	1396	-6479	-3038	521030		0.63	365.5	0.96	9824			3.23	Si
SLD 15	1186	-9096	-3537	53511		0.8	404.5	0.99	11258			3.18	Si
SLD 15	1396	-6036	-2317	437680		0.55	389.23	0.94	10289			4.44	Si
SLV 15	1186	-9981	-6012	-17378		0.88	404.5	1.01	11435			1.9	Si
SLV 15	1396	-7236	-3183	679659		0.8	324.95	0.99	9029			2.84	Si
SLV 14	1186	-9744	-5344	-22080		0.86	404.5	1.01	11387			2.13	Si
SLV 14	1396	-6770	-2584	589785		0.7	345.41	0.97	9414			3.64	Si
SLV 13	1186	-9744	-5344	-22080		0.86	404.5	1.01	11387			2.13	Si
SLV 13	1396	-6770	-2584	589785		0.7	345.41	0.97	9414			3.64	Si
SLD 14	1186	-8997	-3262	51591		0.79	404.5	0.99	11238			3.45	Si
SLD 14	1396	-5844	-2071	400572		0.52	401.12	0.94	10528			5.08	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344  $W_a 0.05$  denominatore  $8 \gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 1	14	0.53	0.34	-3827	46750	52098	1.11	Si
SLV 2	14	0.53	0.34	-3827	46750	52098	1.11	Si
SLV 4	14	0.53	0.37	-4243	46750	57580	1.23	Si
SLV 3	14	0.53	0.37	-4243	46750	57580	1.23	Si
SLV 5	14	0.53	0.41	-4652	46750	62945	1.35	Si
SLV 6	14	0.53	0.41	-4652	46750	62945	1.35	Si
SLV 10	14	0.53	0.51	-5776	46750	77485	1.66	Si
SLV 9	14	0.53	0.51	-5776	46750	77485	1.66	Si
SLV 8	14	0.53	0.53	-6039	46750	80851	1.73	Si
SLV 7	14	0.53	0.53	-6039	46750	80851	1.73	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1344  $W_a = 0.05$   $T_a = 0.0596$

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 6	-1582	-7616	76	0.058	7.366	0.901	93.814	915.209	No
SLV 5	-1582	-7616	76	0.058	7.366	0.901	93.814	915.209	No
SLV 11	-1678	-9261	-72	0.059	7.439	0.899	94.993	915.209	No
SLV 12	-1678	-9261	-72	0.059	7.439	0.899	94.993	915.209	No
SLV 10	-1636	-8471	70	0.059	7.407	0.9	95.85	915.209	No
SLV 9	-1636	-8471	70	0.059	7.407	0.9	95.85	915.209	No
SLV 7	-1624	-8406	-65	0.06	7.398	0.9	97.337	915.209	No
SLV 8	-1624	-8406	-65	0.06	7.398	0.9	97.337	915.209	No
SLV 1	-1533	-6896	34	0.067	7.329	0.902	108.164	978.751	No
SLV 2	-1533	-6896	34	0.067	7.329	0.902	108.164	978.751	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.311	SLU 37	Si
V_SLU	1.793	SLU 37	Si
PF_SLV	2.041	SLV 15	Si
V_SLV	1.902	SLV 15	Si
PFFP_SLV	1.114	SLV 1	Si
R_SLV	0.103	SLV 5	No

## Maschio 214

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1100.3	-350.9	-1100.3	104.6	L6	L7	455.6	28	316	316	316			



## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 7	1186	-14402	444780	1.13	2825865	6.353	Si
SLU 7	1502	-914	206791	0.07	206474	0.998	No, M>Mu
SLU 49	1186	-17484	524241	1.37	3312503	6.319	Si
SLU 49	1502	-1054	238615	0.08	237681	0.996	No, M>Mu
SLU 51	1186	-17081	484029	1.34	3251188	6.717	Si
SLU 51	1502	-989	223845	0.08	223100	0.997	No, M>Mu
SLU 59	1186	-17325	471463	1.36	3288311	6.975	Si
SLU 59	1502	-953	215704	0.07	215090	0.997	No, M>Mu
SLU 50	1186	-17142	488728	1.34	3260574	6.672	Si
SLU 50	1502	-999	226138	0.08	225385	0.997	No, M>Mu
SLU 56	1186	-17789	516374	1.39	3358408	6.504	Si
SLU 56	1502	-1029	232766	0.08	231965	0.997	No, M>Mu
SLU 48	1186	-17546	528940	1.38	3321781	6.28	Si
SLU 48	1502	-1064	240907	0.08	239963	0.996	No, M>Mu
SLU 57	1186	-17728	511674	1.39	3349196	6.546	Si
SLU 57	1502	-1018	230473	0.08	229681	0.997	No, M>Mu
SLU 58	1186	-17386	476162	1.36	3297632	6.925	Si
SLU 58	1502	-963	217996	0.08	217377	0.997	No, M>Mu
SLU 6	1186	-14463	449479	1.13	2835973	6.309	Si
SLU 6	1502	-925	209084	0.07	208763	0.998	No, M>Mu

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 3	1186	-10197	371600	0.8	2170801	5.842	Si
SLV 3	1502	354	-84149	0	0	0	No, Trazione
SLV 15	1186	-13307	318634	1.04	2772345	8.701	Si
SLV 15	1502	-1038	237353	0	0	0	No, e>l/2
SLV 4	1186	-10197	371600	0.8	2170801	5.842	Si
SLV 4	1502	354	-84149	0	0	0	No, Trazione
SLV 11	1186	-10642	332385	0.83	2258639	6.795	Si
SLV 11	1502	64	-10333	0	0	0	No, Trazione
SLV 7	1186	-9709	348274	0.76	2073878	5.955	Si
SLV 7	1502	482	-106783	0	0	0	No, Trazione
SLD 12	1186	-11671	340463	0.91	2459415	7.224	Si
SLD 12	1502	-324	73913	0	0	0	No, e>l/2
SLD 11	1186	-11671	340463	0.91	2459415	7.224	Si
SLD 11	1502	-324	73913	0	0	0	No, e>l/2
SLV 12	1186	-10642	332385	0.83	2258639	6.795	Si
SLV 12	1502	64	-10333	0	0	0	No, Trazione
SLV 16	1186	-13307	318634	1.04	2772345	8.701	Si
SLV 16	1502	-1038	237353	0	0	0	No, e>l/2
SLV 8	1186	-9709	348274	0.76	2073878	5.955	Si
SLV 8	1502	482	-106783	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 48	1186	-17546	-1902	528940		1.38	455.57	0.74	9426			4.95	Si
SLU 48	1502	-1064	193	240907		8.76	4.34	1.08	132			0.68	No, Vu<V
SLU 49	1186	-17484	-1834	524241		1.37	455.57	0.74	9418			5.13	Si
SLU 49	1502	-1054	197	238615		8.81	4.28	1.08	130			0.66	No, Vu<V
SLU 50	1186	-17142	-2005	488728		1.34	455.57	0.73	9372			4.67	Si
SLU 50	1502	-999	205	226138		8.28	4.31	1.08	131			0.64	No, Vu<V
SLU 17	1186	-14242	-1850	392002		1.12	455.57	0.7	8986			4.86	Si
SLU 17	1502	-813	208	183880		5.66	5.13	1.08	156			0.75	No, Vu<V
SLU 58	1186	-17386	-1948	476162		1.36	455.57	0.74	9405			4.83	Si
SLU 58	1502	-963	208	217996		7.81	4.4	1.08	134			0.64	No, Vu<V
SLU 56	1186	-17789	-1845	516374		1.39	455.57	0.74	9459			5.13	Si
SLU 56	1502	-1029	196	232766		8.3	4.43	1.08	134			0.68	No, Vu<V
SLU 51	1186	-17081	-1937	484029		1.34	455.57	0.73	9364			4.84	Si
SLU 51	1502	-989	209	223845		8.33	4.24	1.08	129			0.61	No, Vu<V
SLU 9	1186	-13999	-1907	404568		1.1	455.57	0.7	8953			4.69	Si
SLU 9	1502	-849	205	192022		6.08	4.99	1.08	151			0.74	No, Vu<V
SLU 59	1186	-17325	-1880	471463		1.36	455.57	0.74	9397			5	Si
SLU 59	1502	-953	212	215704		7.85	4.33	1.08	131			0.62	No, Vu<V
SLU 57	1186	-17728	-1777	511674		1.39	455.57	0.74	9450			5.32	Si
SLU 57	1502	-1018	200	230473		8.34	4.36	1.08	132			0.66	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 15	1186	-13307	-580	318634		1.04	455.57	1.04	13291			22.92	Si
SLV 15	1502	-1038	-29	237353		0	0	0.83	0			0	No, Vu<V
SLV 7	1186	-9709	6699	348274		0.76	455.57	0.99	12572			1.88	Si
SLV 7	1502	482	913	-106783		0	0	0.83	0			0	No, Vu<V
SLV 3	1186	-10197	3464	371600		0.8	455.57	0.99	12669			3.66	Si
SLV 3	1502	354	611	-84149		0	0	0.83	0			0	No, Vu<V
SLV 8	1186	-9709	6699	348274		0.76	455.57	0.99	12572			1.88	Si
SLV 8	1502	482	913	-106783		0	0	0.83	0			0	No, Vu<V
SLD 11	1186	-11671	2002	340463		0.91	455.57	1.02	12964			6.48	Si
SLD 11	1502	-324	335	73913		0	0	0.83	0			0	No, Vu<V
SLD 12	1186	-11671	2002	340463		0.91	455.57	1.02	12964			6.48	Si
SLD 12	1502	-324	335	73913		0	0	0.83	0			0	No, Vu<V
SLV 16	1186	-13307	-580	318634		1.04	455.57	1.04	13291			22.92	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	1502	-1038	-29	237353		0	0	0.83	0			0	No, Vu<V
SLV 11	1186	-10642	5486	332385		0.83	455.57	1	12758			2.33	Si
SLV 11	1502	64	721	-10333		0	0	0.83	0			0	No, Vu<V
SLV 12	1186	-10642	5486	332385		0.83	455.57	1	12758			2.33	Si
SLV 12	1502	64	721	-10333		0	0	0.83	0			0	No, Vu<V
SLV 4	1186	-10197	3464	371600		0.8	455.57	0.99	12669			3.66	Si
SLV 4	1502	354	611	-84149		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.53	0.32	-4136	52652	56367	1.07	Si
SLV 7	14	0.53	0.32	-4136	52652	56367	1.07	Si
SLV 4	14	0.53	0.34	-4323	52652	58846	1.12	Si
SLV 3	14	0.53	0.34	-4323	52652	58846	1.12	Si
SLV 11	14	0.53	0.41	-5228	52652	70735	1.34	Si
SLV 12	14	0.53	0.41	-5228	52652	70735	1.34	Si
SLV 2	14	0.53	0.44	-5576	52652	75265	1.43	Si
SLV 1	14	0.53	0.44	-5576	52652	75265	1.43	Si
SLV 16	14	0.53	0.62	-7963	52652	105784	2.01	Si
SLV 15	14	0.53	0.62	-7963	52652	105784	2.01	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1344 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 11	64	-10642	18	0	0	0	0	915.209	No, Trazione
SLV 12	64	-10642	18	0	0	0	0	915.209	No, Trazione
SLV 3	354	-10197	41	0	0	0	0	978.751	No, Trazione
SLV 7	482	-9709	38	0	0	0	0	915.209	No, Trazione
SLV 8	482	-9709	38	0	0	0	0	915.209	No, Trazione
SLV 4	354	-10197	41	0	0	0	0	978.751	No, Trazione
SLV 13	-1565	-14658	-44	0.067	8.135	0.905	107.156	978.751	No
SLV 14	-1565	-14658	-44	0.067	8.135	0.905	107.156	978.751	No
SLV 9	-1692	-15146	-41	0.067	8.228	0.902	107.633	915.209	No
SLV 10	-1692	-15146	-41	0.067	8.228	0.902	107.633	915.209	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0.996	SLU 48	No
V_SLU	0.615	SLU 51	No
PF_SLV	0	SLV 12	No
V_SLV	0	SLD 11	No
PFFP_SLV	1.071	SLV 7	Si
R_SLV	0	SLV 12	No

## Maschio 215

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-972.8	220.1	-972.8	666.1	L6	L7	446	14	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 30	1186	-6061	60815	0.97	1190516	19.576	Si
SLU 30	1502	-1983	324626	0.32	424959	1.309	Si
SLU 16	1186	-6123	37623	0.98	1201062	31.924	Si
SLU 16	1502	-1731	278850	0.28	372832	1.337	Si
SLU 37	1186	-6698	49579	1.07	1296987	26.16	Si
SLU 37	1502	-2024	325831	0.32	433413	1.33	Si
SLU 17	1186	-6128	36580	0.98	1201959	32.859	Si
SLU 17	1502	-1732	279100	0.28	373082	1.337	Si
SLU 71	1186	-7505	47205	1.2	1426680	30.223	Si
SLU 71	1502	-2041	328345	0.33	436897	1.331	Si
SLU 8	1186	-5480	49901	0.88	1090450	21.852	Si
SLU 8	1502	-1688	277394	0.27	364023	1.312	Si
SLU 38	1186	-6703	48536	1.07	1297858	26.74	Si
SLU 38	1502	-2025	326082	0.32	433659	1.33	Si
SLU 9	1186	-5486	48858	0.88	1091377	22.338	Si
SLU 9	1502	-1690	277645	0.27	364273	1.312	Si
SLU 29	1186	-6056	61858	0.97	1189615	19.232	Si
SLU 29	1502	-1982	324376	0.32	424712	1.309	Si
SLU 72	1186	-7510	46162	1.2	1427513	30.924	Si
SLU 72	1502	-2042	328595	0.33	437144	1.33	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 10	1186	-4924	39578	0.79	1027096	25.951	Si
SLV 10	1502	-281	68919	0	0	0	No, e>1/2





Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 14	1186	-5988	-89736	0.96	1230531	13.713	Si
SLV 14	1502	-688	115821	0.11	152034	1.313	Si
SLD 9	1186	-5450	-3984	0.87	1128593	283.294	Si
SLD 9	1502	-487	76704	0.08	107900	1.407	Si
SLD 10	1186	-5450	-3984	0.87	1128593	283.294	Si
SLD 10	1502	-487	76704	0.08	107900	1.407	Si
SLD 6	1186	-5332	17628	0.85	1105886	62.735	Si
SLD 6	1502	-441	65860	0.07	97761	1.484	Si
SLV 6	1186	-4643	90295	0.74	972432	10.77	Si
SLV 6	1502	-173	43460	0	0	0	No, $e \geq l/2$
SLV 9	1186	-4924	39578	0.79	1027096	25.951	Si
SLV 9	1502	-281	68919	0	0	0	No, $e \geq l/2$
SLV 5	1186	-4643	90295	0.74	972432	10.77	Si
SLV 5	1502	-173	43460	0	0	0	No, $e \geq l/2$
SLV 13	1186	-5988	-89736	0.96	1230531	13.713	Si
SLV 13	1502	-688	115821	0.11	152034	1.313	Si
SLD 5	1186	-5332	17628	0.85	1105886	62.735	Si
SLD 5	1502	-441	65860	0.07	97761	1.484	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 79	1186	-8148	1072	34926		1.3	446	0.73	4555			4.25	Si
SLU 79	1502	-2083	-671	329800		0.77	194.11	0.66	1788			2.66	Si
SLU 72	1186	-7510	1119	46162		1.2	446	0.72	4470			4	Si
SLU 72	1502	-2042	-628	328595		0.78	186.31	0.66	1721			2.74	Si
SLU 37	1186	-6698	1102	49579		1.07	446	0.7	4362			3.96	Si
SLU 37	1502	-2024	-629	325831		0.78	186.07	0.66	1717			2.73	Si
SLU 77	1186	-8488	994	26157		1.36	446	0.74	4601			4.63	Si
SLU 77	1502	-2045	-652	311184		0.69	212.51	0.65	1926			2.95	Si
SLU 71	1186	-7505	1125	47205		1.2	446	0.72	4470			3.97	Si
SLU 71	1502	-2041	-622	328345		0.78	186.4	0.66	1722			2.77	Si
SLU 80	1186	-8153	1066	33883		1.31	446	0.73	4556			4.27	Si
SLU 80	1502	-2085	-677	330051		0.77	194.03	0.66	1787			2.64	Si
SLU 29	1186	-6056	1155	61858		0.97	446	0.68	4276			3.7	Si
SLU 29	1502	-1982	-580	324376		0.8	177.96	0.66	1648			2.84	Si
SLU 38	1186	-6703	1096	48536		1.07	446	0.7	4363			3.98	Si
SLU 38	1502	-2025	-634	326082		0.78	185.99	0.66	1717			2.71	Si
SLU 30	1186	-6061	1149	60815		0.97	446	0.68	4277			3.72	Si
SLU 30	1502	-1983	-585	324626		0.8	177.88	0.66	1648			2.81	Si
SLU 78	1186	-8493	988	25114		1.36	446	0.74	4601			4.66	Si
SLU 78	1502	-2046	-657	311434		0.69	212.42	0.65	1925			2.93	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 6	1186	-4643	-1827	90295		0.74	446	0.98	6132			3.36	Si
SLV 6	1502	-173	353	43460		0	0	0.83	0			0	No, $V_u < V$
SLV 10	1186	-4924	-2252	39578		0.79	446	0.99	6188			2.75	Si
SLV 10	1502	-281	-70	68919		0	0	0.83	0			0	No, $V_u < V$
SLV 16	1186	-6620	26	-149860		1.06	446	1.05	6527			247.97	Si
SLV 16	1502	-929	-1131	130564		0.27	247.5	0.89	3073			2.72	Si
SLV 8	1186	-6751	2443	-110119		1.08	446	1.05	6553			2.68	Si
SLV 8	1502	-977	-522	92605		0.18	384.7	0.87	4684			8.98	Si
SLV 9	1186	-4924	-2252	39578		0.79	446	0.99	6188			2.75	Si
SLV 9	1502	-281	-70	68919		0	0	0.83	0			0	No, $V_u < V$
SLV 13	1186	-5988	-1255	-89736		0.96	446	1.03	6401			5.1	Si
SLV 13	1502	-688	-869	115821		0.3	163.95	0.89	2050			2.36	Si
SLV 15	1186	-6620	26	-149860		1.06	446	1.05	6527			247.97	Si
SLV 15	1502	-929	-1131	130564		0.27	247.5	0.89	3073			2.72	Si
SLV 7	1186	-6751	2443	-110119		1.08	446	1.05	6553			2.68	Si
SLV 7	1502	-977	-522	92605		0.18	384.7	0.87	4684			8.98	Si
SLV 5	1186	-4643	-1827	90295		0.74	446	0.98	6132			3.36	Si
SLV 5	1502	-173	353	43460		0	0	0.83	0			0	No, $V_u < V$
SLV 14	1186	-5988	-1255	-89736		0.96	446	1.03	6401			5.1	Si
SLV 14	1502	-688	-869	115821		0.3	163.95	0.89	2050			2.36	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344  $W_a$  0.03 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 1	14	0.53	0	-2346	24601	0	0	No, $e > t/2$
SLV 6	14	0.53	0	-1987	24601	0	0	No, $e > t/2$
SLV 5	14	0.53	0	-1987	24601	0	0	No, $e > t/2$
SLV 2	14	0.53	0	-2346	24601	0	0	No, $e > t/2$
SLV 9	14	0.53	0	-2135	24601	0	0	No, $e > t/2$
SLV 8	14	0.53	0	-3506	24601	0	0	No, $e > t/2$
SLV 4	14	0.53	0	-2802	24601	0	0	No, $e > t/2$
SLV 3	14	0.53	0	-2802	24601	0	0	No, $e > t/2$
SLV 7	14	0.53	0	-3506	24601	0	0	No, $e > t/2$
SLV 10	14	0.53	0	-2135	24601	0	0	No, $e > t/2$

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1344  $W_a = 0.03$   $T_a = 0.1191$

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 3	-570	-5686	76	0.006	3.847	0.916	10.262	2067.226	No
SLV 4	-570	-5686	76	0.006	3.847	0.916	10.262	2067.226	No
SLV 13	-688	-5988	-76	0.007	3.927	0.909	11.858	2067.226	No
SLV 14	-688	-5988	-76	0.007	3.927	0.909	11.858	2067.226	No
SLV 1	-329	-5054	60	0.012	3.711	0.938	19.015	2067.226	No
SLV 2	-329	-5054	60	0.012	3.711	0.938	19.015	2067.226	No
SLV 15	-929	-6620	-60	0.015	4.105	0.899	23.686	2067.226	No



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 16	-929	-6620	-60	0.015	4.105	0.899	23.686	2067.226	No
SLV 10	-281	-4924	-47	0.019	3.689	0.944	28.501	1950.614	No
SLV 9	-281	-4924	-47	0.019	3.689	0.944	28.501	1950.614	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.309	SLU 30	Si
V_SLU	2.64	SLU 80	Si
PF_SLV	0	SLV 5	No
V_SLV	0	SLV 5	No
PFFP_SLV	0	SLV 1	No
R_SLV	0.005	SLV 3	No

## Maschio 216

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-626.8	-335.9	-626.8	104.6	L6	L7	440.5	14	316	316	316			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 29	1186	-7931	300295	1.29	1471077	4.899	Si
SLU 29	1502	-1067	-132365	0.17	230055	1.738	Si
SLU 37	1186	-8442	304361	1.37	1546848	5.082	Si
SLU 37	1502	-1063	-130473	0.17	229092	1.756	Si
SLU 38	1186	-8444	332088	1.37	1547178	4.659	Si
SLU 38	1502	-1107	-140165	0.18	238481	1.701	Si
SLU 30	1186	-7934	328022	1.29	1471416	4.486	Si
SLU 30	1502	-1112	-142056	0.18	239443	1.686	Si
SLU 28	1186	-8203	336681	1.33	1511715	4.49	Si
SLU 28	1502	-1118	-129438	0.18	240802	1.86	Si
SLU 8	1186	-7113	269799	1.15	1344741	4.984	Si
SLU 8	1502	-943	-111877	0.15	203693	1.821	Si
SLU 17	1186	-7625	301592	1.24	1424522	4.723	Si
SLU 17	1502	-982	-119678	0.16	212163	1.773	Si
SLU 72	1186	-9419	371233	1.53	1685624	4.541	Si
SLU 72	1502	-1184	-136174	0.19	254685	1.87	Si
SLU 16	1186	-7623	273865	1.24	1424176	5.2	Si
SLU 16	1502	-938	-109986	0.15	202725	1.843	Si
SLU 9	1186	-7115	297526	1.15	1345097	4.521	Si
SLU 9	1502	-987	-121569	0.16	213129	1.753	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 7	1186	-5838	299484	0.95	1186283	3.961	Si
SLV 7	1502	-603	-232037	0	0	0	No, e>/2
SLV 13	1186	-7064	107104	1.15	1409951	13.164	Si
SLV 13	1502	-436	126153	0	0	0	No, e>/2
SLV 11	1186	-6278	267544	1.02	1267513	4.738	Si
SLV 11	1502	-651	-186941	0	0	0	No, e>/2
SLV 14	1186	-7064	107104	1.15	1409951	13.164	Si
SLV 14	1502	-436	126153	0	0	0	No, e>/2
SLV 4	1186	-5473	270422	0.89	1117839	4.134	Si
SLV 4	1502	-401	-144389	0	0	0	No, e>/2
SLV 12	1186	-6278	267544	1.02	1267513	4.738	Si
SLV 12	1502	-651	-186941	0	0	0	No, e>/2
SLV 9	1186	-6698	78042	1.09	1344126	17.223	Si
SLV 9	1502	-234	213801	0	0	0	No, e>/2
SLV 5	1186	-6259	109982	1.01	1263976	11.493	Si
SLV 5	1502	-186	168705	0	0	0	No, e>/2
SLV 8	1186	-5838	299484	0.95	1186283	3.961	Si
SLV 8	1502	-603	-232037	0	0	0	No, e>/2
SLV 3	1186	-5473	270422	0.89	1117839	4.134	Si
SLV 3	1502	-401	-144389	0	0	0	No, e>/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	$\sigma N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 72	1186	-9419	1090	371233		1.53	440.5	0.76	4682			4.3	Si
SLU 72	1502	-1184	1772	-136174		0.27	315.79	0.59	2614			1.48	Si
SLU 9	1186	-7115	930	297526		1.15	440.5	0.71	4375			4.7	Si
SLU 9	1502	-987	1538	-121569		0.24	291.26	0.59	2397			1.56	Si
SLU 28	1186	-8203	974	336681		1.33	440.5	0.73	4520			4.64	Si
SLU 28	1502	-1118	1628	-129438		0.25	313.48	0.59	2587			1.59	Si
SLU 36	1186	-8714	951	340747		1.41	440.5	0.74	4588			4.82	Si
SLU 36	1502	-1114	1608	-127546		0.25	317.15	0.59	2615			1.63	Si
SLU 30	1186	-7934	1036	328022		1.29	440.5	0.73	4484			4.33	Si
SLU 30	1502	-1112	1716	-142056		0.29	277.42	0.59	2306			1.34	Si
SLU 37	1186	-8442	1025	304361		1.37	440.5	0.74	4552			4.44	Si
SLU 37	1502	-1063	1509	-130473		0.26	292.4	0.59	2416			1.6	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 29	1186	-7931	1047	300295		1.29	440.5	0.73	4484			4.28	Si
SLU 29	1502	-1067	1529	-132365		0.26	288.66	0.59	2387			1.56	Si
SLU 38	1186	-8444	1014	332088		1.37	440.5	0.74	4552			4.49	Si
SLU 38	1502	-1107	1697	-140165		0.28	280.96	0.59	2333			1.37	Si
SLU 80	1186	-9930	1067	375299		1.61	440.5	0.77	4750			4.45	Si
SLU 80	1502	-1180	1752	-134282		0.26	319.27	0.59	2640			1.51	Si
SLU 17	1186	-7625	908	301592		1.24	440.5	0.72	4443			4.89	Si
SLU 17	1502	-982	1519	-119678		0.24	295.32	0.59	2428			1.6	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 7	1186	-5838	4658	299484		0.95	440.5	1.02	6307			1.35	Si
SLV 7	1502	-603	3507	-232037		0	0	0.83	0			0	No, $V_u < V$
SLV 5	1186	-6259	-4182	109982		1.01	440.5	1.04	6391			1.53	Si
SLV 5	1502	-186	-2398	168705		0	0	0.83	0			0	No, $V_u < V$
SLV 4	1186	-5473	1365	270422		0.89	440.5	1.01	6234			4.57	Si
SLV 4	1502	-401	1723	-144389		0	0	0.83	0			0	No, $V_u < V$
SLV 8	1186	-5838	4658	299484		0.95	440.5	1.02	6307			1.35	Si
SLV 8	1502	-603	3507	-232037		0	0	0.83	0			0	No, $V_u < V$
SLV 6	1186	-6259	-4182	109982		1.01	440.5	1.04	6391			1.53	Si
SLV 6	1502	-186	-2398	168705		0	0	0.83	0			0	No, $V_u < V$
SLV 11	1186	-6278	4829	267544		1.02	440.5	1.04	6395			1.32	Si
SLV 11	1502	-651	3264	-186941		0	0	0.83	0			0	No, $V_u < V$
SLV 12	1186	-6278	4829	267544		1.02	440.5	1.04	6395			1.32	Si
SLV 12	1502	-651	3264	-186941		0	0	0.83	0			0	No, $V_u < V$
SLV 13	1186	-7064	-718	107104		1.15	440.5	1.06	6552			9.13	Si
SLV 13	1502	-436	-857	126153		0	0	0.83	0			0	No, $V_u < V$
SLV 3	1186	-5473	1365	270422		0.89	440.5	1.01	6234			4.57	Si
SLV 3	1502	-401	1723	-144389		0	0	0.83	0			0	No, $V_u < V$
SLV 9	1186	-6698	-4012	78042		1.09	440.5	1.05	6479			1.62	Si
SLV 9	1502	-234	-2641	213801		0	0	0.83	0			0	No, $V_u < V$

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344 Wa 0.03 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 1	14	0.53	0	-3148	26612	0	0	No, $e > t/2$
SLV 5	14	0.53	0	-3361	26612	0	0	No, $e > t/2$
SLV 6	14	0.53	0	-3361	26612	0	0	No, $e > t/2$
SLV 10	14	0.53	0	-3616	26612	0	0	No, $e > t/2$
SLV 2	14	0.53	0	-3148	26612	0	0	No, $e > t/2$
SLV 8	14	0.53	0	-3601	26612	0	0	No, $e > t/2$
SLV 3	14	0.53	0	-3220	26612	0	0	No, $e > t/2$
SLV 9	14	0.53	0	-3616	26612	0	0	No, $e > t/2$
SLV 7	14	0.53	0	-3601	26612	0	0	No, $e > t/2$
SLV 4	14	0.53	0	-3220	26612	0	0	No, $e > t/2$

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1344 Wa = 0.03 Ta = 0.1191

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 16	-561	-6938	-2	0.038	3.799	0.916	60.513	2067.226	No
SLV 15	-561	-6938	-2	0.038	3.799	0.916	60.513	2067.226	No
SLV 12	-651	-6278	-4	0.037	3.858	0.91	58.566	1950.614	No
SLV 11	-651	-6278	-4	0.037	3.858	0.91	58.566	1950.614	No
SLV 3	-401	-5473	-1	0.04	3.704	0.93	62.294	2067.226	No
SLV 4	-401	-5473	-1	0.04	3.704	0.93	62.294	2067.226	No
SLV 14	-436	-7064	0	0.04	3.723	0.926	62.417	2067.226	No
SLV 13	-436	-7064	0	0.04	3.723	0.926	62.417	2067.226	No
SLV 2	-276	-5599	1	0.041	3.643	0.944	62.478	2067.226	No
SLV 1	-276	-5599	1	0.041	3.643	0.944	62.478	2067.226	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.686	SLU 30	Si
V_SLU	1.343	SLU 30	Si
PF_SLV	0	SLD 9	No
V_SLV	0	SLD 9	No
PFFP_SLV	0	SLV 1	No
R_SLV	0.029	SLV 15	No

## Maschio 217

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-515.8	104.6	-515.8	581.1	L6	L7	476.5	14	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 80	1186	-17999	601859	2.7	2867856	4.765	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 80	1502	-5418	949800	0.81	1162177	1.224	Si
SLU 29	1186	-15884	675692	2.38	2678176	3.964	Si
SLU 29	1502	-5298	939282	0.79	1139186	1.213	Si
SLU 71	1186	-17523	640715	2.63	2828621	4.415	Si
SLU 71	1502	-5431	954147	0.81	1164661	1.221	Si
SLU 37	1186	-16329	655315	2.45	2721367	4.153	Si
SLU 37	1502	-5267	932484	0.79	1133271	1.215	Si
SLU 72	1186	-17553	622237	2.63	2831182	4.55	Si
SLU 72	1502	-5449	956597	0.82	1168051	1.221	Si
SLU 38	1186	-16359	636837	2.45	2724245	4.278	Si
SLU 38	1502	-5285	934935	0.79	1136686	1.216	Si
SLU 8	1186	-13971	572046	2.09	2472864	4.323	Si
SLU 8	1502	-4589	814423	0.69	1001035	1.229	Si
SLU 79	1186	-17968	620337	2.69	2865413	4.619	Si
SLU 79	1502	-5400	947349	0.81	1158782	1.223	Si
SLU 30	1186	-15914	657215	2.39	2681173	4.08	Si
SLU 30	1502	-5316	941732	0.8	1142596	1.213	Si
SLU 9	1186	-14002	553568	2.1	2476370	4.473	Si
SLU 9	1502	-4607	816873	0.69	1004556	1.23	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 14	1186	-8172	-20692	1.23	1751855	84.664	Si
SLV 14	1502	-833	196406	0.12	196464	1	Si
SLV 5	1186	-6863	-106635	1.03	1497460	14.043	Si
SLV 5	1502	-2256	621626	0	0	0	No, $e \geq l/2$
SLD 10	1186	-7775	-29383	1.17	1675683	57.029	Si
SLD 10	1502	-1575	355631	0.24	368022	1.035	Si
SLV 12	1186	-9783	157939	1.47	2051114	12.987	Si
SLV 12	1502	-640	-169670	0	0	0	No, $e \geq l/2$
SLV 9	1186	-7021	-110300	1.05	1528709	13.86	Si
SLV 9	1502	-1784	540011	0	0	0	No, $e \geq l/2$
SLD 9	1186	-7775	-29383	1.17	1675683	57.029	Si
SLD 9	1502	-1575	355631	0.24	368022	1.035	Si
SLV 11	1186	-9783	157939	1.47	2051114	12.987	Si
SLV 11	1502	-640	-169670	0	0	0	No, $e \geq l/2$
SLV 13	1186	-8172	-20692	1.23	1751855	84.664	Si
SLV 13	1502	-833	196406	0.12	196464	1	Si
SLV 6	1186	-6863	-106635	1.03	1497460	14.043	Si
SLV 6	1502	-2256	621626	0	0	0	No, $e \geq l/2$
SLV 10	1186	-7021	-110300	1.05	1528709	13.86	Si
SLV 10	1502	-1784	540011	0	0	0	No, $e \geq l/2$

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 80	1186	-17999	419	601859		2.7	476.5	0.92	6106			14.59	Si
SLU 80	1502	-5418	1017	949800		2.05	188.86	0.83	2191			2.15	Si
SLU 35	1186	-16083	621	580033		2.41	476.5	0.88	5851			9.42	Si
SLU 35	1502	-5026	1088	874626		1.86	192.7	0.8	2169			1.99	Si
SLU 27	1186	-15638	502	600411		2.34	476.5	0.87	5791			11.53	Si
SLU 27	1502	-5057	974	881423		1.88	191.85	0.81	2166			2.22	Si
SLU 77	1186	-17722	522	545055		2.66	476.5	0.91	6069			11.62	Si
SLU 77	1502	-5159	1045	889491		1.87	197.54	0.8	2224			2.13	Si
SLU 36	1186	-16113	509	561555		2.42	476.5	0.88	5855			11.5	Si
SLU 36	1502	-5044	1031	877076		1.87	193.09	0.8	2174			2.11	Si
SLU 29	1186	-15884	510	675692		2.38	476.5	0.87	5824			11.41	Si
SLU 29	1502	-5298	1003	939282		2.07	182.88	0.83	2129			2.12	Si
SLU 79	1186	-17968	530	620337		2.69	476.5	0.91	6102			11.51	Si
SLU 79	1502	-5400	1074	947349		2.05	188.49	0.83	2186			2.04	Si
SLU 30	1186	-15914	399	657215		2.39	476.5	0.87	5828			14.62	Si
SLU 30	1502	-5316	946	941732		2.07	183.28	0.83	2134			2.25	Si
SLU 37	1186	-16329	629	655315		2.45	476.5	0.88	5883			9.35	Si
SLU 37	1502	-5267	1116	932484		2.05	183.64	0.83	2131			1.91	Si
SLU 38	1186	-16359	517	636837		2.45	476.5	0.88	5887			11.38	Si
SLU 38	1502	-5285	1060	934935		2.05	184.04	0.83	2136			2.02	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 11	1186	-9783	5572	157939		1.47	476.5	1.13	7516			1.35	Si
SLV 11	1502	-640	3031	-169670		0	0	0.83	0			0	No, $V_u < V$
SLV 10	1186	-7021	-4759	-110300		1.05	476.5	1.04	6963			1.46	Si
SLV 10	1502	-1784	-1915	540011		0	0	0.83	0			0	No, $V_u < V$
SLV 5	1186	-6863	-5608	-106635		1.03	476.5	1.04	6932			1.24	Si
SLV 5	1502	-2256	-2589	621626		0	0	0.83	0			0	No, $V_u < V$
SLD 5	1186	-7712	-2387	-27210		1.16	476.5	1.06	7102			2.98	Si
SLD 5	1502	-1776	-959	390534		2.3	55.17	1.29	999			1.04	Si
SLV 14	1186	-8172	-153	-20692		1.23	476.5	1.08	7194			46.94	Si
SLV 14	1502	-833	602	196406		7.92	7.51	1.63	171			0.28	No, $V_u < V$
SLV 13	1186	-8172	-153	-20692		1.23	476.5	1.08	7194			46.94	Si
SLV 13	1502	-833	602	196406		7.92	7.51	1.63	171			0.28	No, $V_u < V$
SLV 12	1186	-9783	5572	157939		1.47	476.5	1.13	7516			1.35	Si
SLV 12	1502	-640	3031	-169670		0	0	0.83	0			0	No, $V_u < V$
SLV 9	1186	-7021	-4759	-110300		1.05	476.5	1.04	6963			1.46	Si
SLV 9	1502	-1784	-1915	540011		0	0	0.83	0			0	No, $V_u < V$
SLD 6	1186	-7712	-2387	-27210		1.16	476.5	1.06	7102			2.98	Si
SLD 6	1502	-1776	-959	390534		2.3	55.17	1.29	999			1.04	Si
SLV 6	1186	-6863	-5608	-106635		1.03	476.5	1.04	6932			1.24	Si
SLV 6	1502	-2256	-2589	621626		0	0	0.83	0			0	No, $V_u < V$



## Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344 Wa 0.03 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 13	14	0.53	0.63	-4229	28787	28068	0.98	No, M>Mu
SLV 14	14	0.53	0.63	-4229	28787	28068	0.98	No, M>Mu
SLV 16	14	0.53	0.64	-4279	28787	28380	0.99	No, M>Mu
SLV 15	14	0.53	0.64	-4279	28787	28380	0.99	No, M>Mu
SLV 10	14	0.53	0.68	-4525	28787	29916	1.04	Si
SLV 9	14	0.53	0.68	-4525	28787	29916	1.04	Si
SLV 11	14	0.53	0.7	-4691	28787	30946	1.08	Si
SLV 12	14	0.53	0.7	-4691	28787	30946	1.08	Si
SLV 5	14	0.53	0.72	-4828	28787	31795	1.1	Si
SLV 6	14	0.53	0.72	-4828	28787	31795	1.1	Si

## Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1344 Wa = 0.03 Ta = 0.1191

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 3	-2063	-8474	10	0.03	5.308	0.889	49.556	2067.226	No
SLV 4	-2063	-8474	10	0.03	5.308	0.889	49.556	2067.226	No
SLV 6	-2256	-6863	-12	0.029	5.487	0.89	48.11	1950.614	No
SLV 5	-2256	-6863	-12	0.029	5.487	0.89	48.11	1950.614	No
SLV 10	-1784	-7021	-15	0.029	5.056	0.889	48.184	1950.614	No
SLV 9	-1784	-7021	-15	0.029	5.056	0.889	48.184	1950.614	No
SLV 1	-2406	-7645	2	0.032	5.627	0.89	51.489	2067.226	No
SLV 2	-2406	-7645	2	0.032	5.627	0.89	51.489	2067.226	No
SLV 8	-1111	-9625	15	0.031	4.479	0.896	50.407	1950.614	No
SLV 7	-1111	-9625	15	0.031	4.479	0.896	50.407	1950.614	No

## Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.213	SLU 29	Si
V_SLU	1.908	SLU 37	Si
PF_SLV	0	SLV 5	No
V_SLV	0	SLV 5	No
PFFP_SLV	0.975	SLV 13	No
R_SLV	0.024	SLV 3	No

## Maschio 218

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-515.8	581.1	-515.8	600.6	L6	L7	19.5	28	316	316	316			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

## Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 36	1386	-5975	-4558	10.94	0	0	No, Rottura per schiacciamento
SLU 36	1466	-7343	31230	13.45	0	0	No, Rottura per schiacciamento
SLU 83	1386	-4495	-3115	8.23	0	0	No, Rottura per schiacciamento
SLU 83	1466	-5529	24901	10.13	0	0	No, Rottura per schiacciamento
SLU 42	1386	-4346	-3127	7.96	971	0.311	No, M>Mu
SLU 42	1466	-5369	24106	9.83	0	0	No, Rottura per schiacciamento
SLU 35	1386	-6011	-4412	11.01	0	0	No, Rottura per schiacciamento
SLU 35	1466	-7363	30996	13.48	0	0	No, Rottura per schiacciamento
SLU 38	1386	-6263	-4895	11.47	0	0	No, Rottura per schiacciamento
SLU 38	1466	-7684	32278	14.07	0	0	No, Rottura per schiacciamento
SLU 50	1386	-5429	-4555	9.94	0	0	No, Rottura per schiacciamento
SLU 50	1466	-6612	27178	12.11	0	0	No, Rottura per schiacciamento
SLU 41	1386	-4381	-2981	8.02	640	0.215	No, M>Mu
SLU 41	1466	-5388	23873	9.87	0	0	No, Rottura per schiacciamento
SLU 49	1386	-5105	-4364	9.35	0	0	No, Rottura per schiacciamento
SLU 49	1466	-6251	26364	11.45	0	0	No, Rottura per schiacciamento
SLU 48	1386	-5141	-4218	9.42	0	0	No, Rottura per schiacciamento
SLU 48	1466	-6271	26130	11.49	0	0	No, Rottura per schiacciamento



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 37	1386	-6299	-4749	11.54	0	0	No, Rottura per schiacciamento
SLU 37	1466	-7704	32044	14.11	0	0	No, Rottura per schiacciamento

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 14	1386	-1804	1359	3.3	12833	9.44	Si
SLV 14	1466	-2158	18984	3.95	14234	0.75	No, M>Mu
SLV 11	1386	-2378	-1599	4.36	14922	9.331	Si
SLV 11	1466	-3092	20909	5.66	16175	0.774	No, M>Mu
SLV 16	1386	-2165	702	3.96	14257	20.304	Si
SLV 16	1466	-2701	23344	4.95	15672	0.671	No, M>Mu
SLV 13	1386	-1804	1359	3.3	12833	9.44	Si
SLV 13	1466	-2158	18984	3.95	14234	0.75	No, M>Mu
SLD 16	1386	-1878	-392	3.44	13155	33.55	Si
SLD 16	1466	-2331	15875	4.27	14787	0.932	No, M>Mu
SLD 15	1386	-1878	-392	3.44	13155	33.55	Si
SLD 15	1466	-2331	15875	4.27	14787	0.932	No, M>Mu
SLV 12	1386	-2378	-1599	4.36	14922	9.331	Si
SLV 12	1466	-3092	20909	5.66	16175	0.774	No, M>Mu
SLV 15	1386	-2165	702	3.96	14257	20.304	Si
SLV 15	1466	-2701	23344	4.95	15672	0.671	No, M>Mu
SLD 13	1386	-1739	-128	3.19	12538	97.906	Si
SLD 13	1466	-2115	14059	3.87	14085	1.002	Si
SLD 14	1386	-1739	-128	3.19	12538	97.906	Si
SLD 14	1466	-2115	14059	3.87	14085	1.002	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 78	1386	-6089	-317	-4693		11.15	19.5	1.08	591			1.86	Si
SLU 78	1466	-7483	-997	32258		16.38	16.32	1.08	495			0.5	No, Vu<V
SLU 80	1386	-6377	-338	-5030		11.68	19.5	1.08	591			1.75	Si
SLU 80	1466	-7825	-1024	33306		16.96	16.48	1.08	500			0.49	No, Vu<V
SLU 72	1386	-6293	-347	-5243		11.53	19.5	1.08	591			1.71	Si
SLU 72	1466	-7697	-979	32054		16.41	16.76	1.08	508			0.52	No, Vu<V
SLU 70	1386	-6005	-326	-4906		11	19.5	1.08	591			1.82	Si
SLU 70	1466	-7356	-952	31007		15.82	16.61	1.08	504			0.53	No, Vu<V
SLU 71	1386	-6328	-344	-5097		11.59	19.5	1.08	591			1.72	Si
SLU 71	1466	-7717	-969	31821		16.33	16.88	1.08	512			0.53	No, Vu<V
SLU 36	1386	-5975	-313	-4558		10.94	19.5	1.08	591			1.89	Si
SLU 36	1466	-7343	-959	31230		15.9	16.49	1.08	500			0.52	No, Vu<V
SLU 37	1386	-6299	-331	-4749		11.54	19.5	1.08	591			1.79	Si
SLU 37	1466	-7704	-976	32044		16.4	16.77	1.08	509			0.52	No, Vu<V
SLU 79	1386	-6413	-335	-4884		11.74	19.5	1.08	591			1.76	Si
SLU 79	1466	-7844	-1014	33072		16.88	16.6	1.08	504			0.5	No, Vu<V
SLU 77	1386	-6124	-314	-4547		11.22	19.5	1.08	591			1.88	Si
SLU 77	1466	-7503	-986	32025		16.29	16.45	1.08	499			0.51	No, Vu<V
SLU 38	1386	-6263	-334	-4895		11.47	19.5	1.08	591			1.77	Si
SLU 38	1466	-7684	-987	32278		16.48	16.65	1.08	505			0.51	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 9	1386	-1176	-33	592		2.15	19.5	1.26	690			21.01	Si
SLV 9	1466	-1283	-612	6375		3.19	14.34	1.47	591			0.97	No, Vu<V
SLV 13	1386	-1804	-39	1359		3.3	19.5	1.49	816			21.14	Si
SLV 13	1466	-2158	-735	18984		26.98	2.86	1.63	130			0.18	No, Vu<V
SLD 14	1386	-1739	-60	-128		3.19	19.5	1.47	803			13.33	Si
SLD 14	1466	-2115	-508	14059		8.11	9.31	1.63	424			0.83	No, Vu<V
SLV 10	1386	-1176	-33	592		2.15	19.5	1.26	690			21.01	Si
SLV 10	1466	-1283	-612	6375		3.19	14.34	1.47	591			0.97	No, Vu<V
SLV 16	1386	-2165	-59	702		3.96	19.5	1.63	887			15.09	Si
SLV 16	1466	-2701	-634	23344		29.07	3.32	1.63	151			0.24	No, Vu<V
SLD 13	1386	-1739	-60	-128		3.19	19.5	1.47	803			13.33	Si
SLD 13	1466	-2115	-508	14059		8.11	9.31	1.63	424			0.83	No, Vu<V
SLV 15	1386	-2165	-59	702		3.96	19.5	1.63	887			15.09	Si
SLV 15	1466	-2701	-634	23344		29.07	3.32	1.63	151			0.24	No, Vu<V
SLV 14	1386	-1804	-39	1359		3.3	19.5	1.49	816			21.14	Si
SLV 14	1466	-2158	-735	18984		26.98	2.86	1.63	130			0.18	No, Vu<V
SLD 16	1386	-1878	-67	-392		3.44	19.5	1.52	831			12.33	Si
SLD 16	1466	-2331	-465	15875		9.44	8.82	1.63	401			0.86	No, Vu<V
SLD 15	1386	-1878	-67	-392		3.44	19.5	1.52	831			12.33	Si
SLD 15	1466	-2331	-465	15875		9.44	8.82	1.63	401			0.86	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.53	0.74	-406	2254	5334	2.37	Si
SLV 5	14	0.53	0.74	-406	2254	5334	2.37	Si
SLV 9	14	0.53	0.86	-470	2254	6122	2.72	Si
SLV 10	14	0.53	0.86	-470	2254	6122	2.72	Si
SLV 1	14	0.53	0.89	-487	2254	6316	2.8	Si
SLV 2	14	0.53	0.89	-487	2254	6316	2.8	Si
SLV 3	14	0.53	1.14	-621	2254	7883	3.5	Si
SLV 4	14	0.53	1.14	-621	2254	7883	3.5	Si
SLV 13	14	0.53	1.29	-703	2254	8800	3.9	Si
SLV 14	14	0.53	1.29	-703	2254	8800	3.9	Si



## Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1344  $W_a = 0.05$   $T_a = 0.0596$

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 12	-367	-908	61	0	0.626	0.905	0	915.209	No
SLV 7	145	-868	-39	0	0	0	0	915.209	No, Trazione
SLV 8	145	-868	-39	0	0	0	0	915.209	No, Trazione
SLV 9	-1571	-447	110	0	1.843	0.961	0	915.209	No
SLV 3	322	-661	-138	0	0	0	0	978.751	No, Trazione
SLV 1	-39	-522	-123	0	0.33	0.926	0	978.751	No
SLV 2	-39	-522	-123	0	0.33	0.926	0	978.751	No
SLV 11	-367	-908	61	0	0.626	0.905	0	915.209	No
SLV 4	322	-661	-138	0	0	0	0	978.751	No, Trazione
SLV 10	-1571	-447	110	0	1.843	0.961	0	915.209	No

### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 6	No
V_SLU	0.488	SLU 80	No
PF_SLV	0.671	SLV 15	No
V_SLV	0.177	SLV 13	No
PFFP_SLV	2.367	SLV 5	Si
R_SLV	0	SLV 8	No

## Maschio 219

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-515.8	650.6	-515.8	652.1	L6	L7	1.5	28	316	316	316			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 61	1386	-514	-14	12.25	0	0	No, Rottura per schiacciamento
SLU 61	1466	-506	19	12.06	0	0	No, Rottura per schiacciamento
SLU 60	1386	-514	-14	12.23	0	0	No, Rottura per schiacciamento
SLU 60	1466	-506	19	12.04	0	0	No, Rottura per schiacciamento
SLU 53	1386	-864	-28	20.57	0	0	No, Rottura per schiacciamento
SLU 53	1466	-856	40	20.38	0	0	No, Rottura per schiacciamento
SLU 57	1386	-1293	-46	30.8	0	0	No, Rottura per schiacciamento
SLU 57	1466	-1285	65	30.61	0	0	No, Rottura per schiacciamento
SLU 1	1386	-387	-12	9.2	0	0	No, Rottura per schiacciamento
SLU 1	1466	-380	17	9.06	0	0	No, Rottura per schiacciamento
SLU 59	1386	-1345	-49	32.03	0	0	No, Rottura per schiacciamento
SLU 59	1466	-1337	69	31.84	0	0	No, Rottura per schiacciamento
SLU 58	1386	-1345	-49	32.01	0	0	No, Rottura per schiacciamento
SLU 58	1466	-1337	69	31.82	0	0	No, Rottura per schiacciamento
SLU 55	1386	-917	-32	21.82	0	0	No, Rottura per schiacciamento
SLU 55	1466	-909	44	21.63	0	0	No, Rottura per schiacciamento
SLU 54	1386	-864	-29	20.58	0	0	No, Rottura per schiacciamento
SLU 54	1466	-856	40	20.39	0	0	No, Rottura per schiacciamento
SLU 56	1386	-1293	-46	30.78	0	0	No, Rottura per schiacciamento
SLU 56	1466	-1285	65	30.59	0	0	No, Rottura per schiacciamento

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 9	1386	-395	16	9.41	68	4.148	Si
SLV 9	1466	-528	-48	12.58	0	0	No, Rottura per schiacciamento
SLV 13	1386	-819	3	19.5	0	0	No, Rottura per schiacciamento



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 13	1466	-822	2	19.58	0	0	No, Rottura per schiacciamento
SLV 12	1386	-792	-40	18.85	0	0	No, Rottura per schiacciamento
SLV 12	1466	-625	90	14.88	0	0	No, Rottura per schiacciamento
SLV 7	1386	-547	-46	13.03	0	0	No, Rottura per schiacciamento
SLV 7	1466	-402	88	9.56	65	0.74	No, M>Mu
SLV 2	1386	-5	-15	0	0	0	No, $e \geq l/2$
SLV 2	1466	-79	-2	1.87	50	24.302	Si
SLV 14	1386	-819	3	19.5	0	0	No, Rottura per schiacciamento
SLV 14	1466	-822	2	19.58	0	0	No, Rottura per schiacciamento
SLV 8	1386	-547	-46	13.03	0	0	No, Rottura per schiacciamento
SLV 8	1466	-402	88	9.56	65	0.74	No, M>Mu
SLV 10	1386	-395	16	9.41	68	4.148	Si
SLV 10	1466	-528	-48	12.58	0	0	No, Rottura per schiacciamento
SLV 11	1386	-792	-40	18.85	0	0	No, Rottura per schiacciamento
SLV 11	1466	-625	90	14.88	0	0	No, Rottura per schiacciamento
SLD 16	1386	-667	-16	15.89	0	0	No, Rottura per schiacciamento
SLD 16	1466	-627	30	14.93	0	0	No, Rottura per schiacciamento

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 30	1386	-1478	-2	-56		35.19	1.5	1.08	46			27.03	Si
SLU 30	1466	-1472	-2	79		35.04	1.5	1.08	46			27.04	Si
SLU 79	1386	-1577	-2	-57		37.55	1.5	1.08	46			26.6	Si
SLU 79	1466	-1569	-2	80		37.36	1.5	1.08	46			26.6	Si
SLU 37	1386	-1541	-2	-56		36.69	1.5	1.08	46			27.07	Si
SLU 37	1466	-1535	-2	79		36.54	1.5	1.08	46			27.07	Si
SLU 72	1386	-1514	-2	-57		36.05	1.5	1.08	46			26.56	Si
SLU 72	1466	-1506	-2	80		35.86	1.5	1.08	46			26.57	Si
SLU 78	1386	-1526	-2	-54		36.33	1.5	1.08	46			27.91	Si
SLU 78	1466	-1518	-2	76		36.14	1.5	1.08	46			27.91	Si
SLU 29	1386	-1477	-2	-56		35.17	1.5	1.08	46			27.17	Si
SLU 29	1466	-1471	-2	78		35.02	1.5	1.08	46			27.18	Si
SLU 80	1386	-1578	-2	-57		37.57	1.5	1.08	46			26.47	Si
SLU 80	1466	-1570	-2	80		37.37	1.5	1.08	46			26.47	Si
SLU 38	1386	-1542	-2	-56		36.7	1.5	1.08	46			26.93	Si
SLU 38	1466	-1535	-2	79		36.55	1.5	1.08	46			26.94	Si
SLU 71	1386	-1513	-2	-57		36.04	1.5	1.08	46			26.7	Si
SLU 71	1466	-1505	-2	80		35.84	1.5	1.08	46			26.7	Si
SLU 70	1386	-1462	-2	-54		34.82	1.5	1.08	46			28.02	Si
SLU 70	1466	-1454	-2	76		34.63	1.5	1.08	46			28.01	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 6	1386	-151	-2	11		3.59	1.5	1.55	65			36.12	Si
SLV 6	1466	-305	-1	-49		7.27	1.5	1.63	68			117.08	Si
SLV 10	1386	-395	-2	16		9.41	1.5	1.63	68			35.43	Si
SLV 10	1466	-528	-1	-48		12.58	1.5	1.63	68			107.02	Si
SLV 9	1386	-395	-2	16		9.41	1.5	1.63	68			35.43	Si
SLV 9	1466	-528	-1	-48		12.58	1.5	1.63	68			107.02	Si
SLV 2	1386	-5	-1	-15		0	0	0.83	0			0	No, $V_u < V$
SLV 2	1466	-79	0	-2		1.87	1.5	1.21	51			127.45	Si
SLV 14	1386	-819	-1	3		19.5	1.5	1.63	68			63.8	Si
SLV 14	1466	-822	-1	2		19.58	1.5	1.63	68			117.5	Si
SLV 13	1386	-819	-1	3		19.5	1.5	1.63	68			63.8	Si
SLV 13	1466	-822	-1	2		19.58	1.5	1.63	68			117.5	Si
SLV 1	1386	-5	-1	-15		0	0	0.83	0			0	No, $V_u < V$
SLV 1	1466	-79	0	-2		1.87	1.5	1.21	51			127.45	Si
SLV 7	1386	-547	1	-46		13.03	1.5	1.63	68			64.95	Si
SLV 7	1466	-402	0	88		9.56	1.5	1.63	68			287.13	Si
SLV 8	1386	-547	1	-46		13.03	1.5	1.63	68			64.95	Si
SLV 8	1466	-402	0	88		9.56	1.5	1.63	68			287.13	Si
SLV 5	1386	-151	-2	11		3.59	1.5	1.55	65			36.12	Si
SLV 5	1466	-305	-1	-49		7.27	1.5	1.63	68			117.08	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344  $W_a 0.05$  denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.53	0	-1	173	0	0	No, $e > t/2$
SLV 1	14	0.53	0	-1	173	0	0	No, $e > t/2$
SLV 5	14	0.53	0	-1	173	0	0	No, $e > t/2$
SLV 2	14	0.53	0	-1	173	0	0	No, $e > t/2$
SLV 3	14	0.53	0.31	-13	173	180	1.04	Si
SLV 4	14	0.53	0.31	-13	173	180	1.04	Si
SLV 10	14	0.53	0.32	-13	173	183	1.05	Si
SLV 9	14	0.53	0.32	-13	173	183	1.05	Si
SLV 7	14	0.53	1.01	-42	173	543	3.13	Si
SLV 8	14	0.53	1.01	-42	173	543	3.13	Si





## Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1344  $W_a = 0.05$   $T_a = 0.0596$

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 2	42	-24	-9	0	0	0	0	978.751	No, Trazione
SLV 7	0	-45	-4	0	0	0	0	915.209	No, Trazione
SLV 3	44	-32	-10	0	0	0	0	978.751	No, Trazione
SLV 10	-46	-22	4	0	0.066	0.924	0	915.209	No
SLV 1	42	-24	-9	0	0	0	0	978.751	No, Trazione
SLV 4	44	-32	-10	0	0	0	0	978.751	No, Trazione
SLV 8	0	-45	-4	0	0	0	0	915.209	No, Trazione
SLV 6	-6	-19	-2	0	0.028	0.898	0	915.209	No
SLV 5	-6	-19	-2	0	0.028	0.898	0	915.209	No
SLV 9	-46	-22	4	0	0.066	0.924	0	915.209	No

### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 1	No
V_SLU	26.468	SLU 80	Si
PF_SLV	0	SLD 11	No
V_SLV	0	SLV 1	No
PFFP_SLV	0	SLV 1	No
R_SLV	0	SLV 8	No

## Maschio 220

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-296.3	595.1	-501.8	595.1	L6	L7	205.5	28	316	316	316			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 55	1276	-855	-141425	0	0	0	No, e>l/2
SLU 55	1456	1737	-246485	0	0	0	No, Trazione
SLU 58	1276	553	-171828	0	0	0	No, Trazione
SLU 58	1456	3145	-353443	0	0	0	No, Trazione
SLU 53	1276	-1595	-132392	0.28	158282	1.196	Si
SLU 53	1456	998	-234903	0	0	0	No, Trazione
SLU 59	1276	587	-176581	0	0	0	No, Trazione
SLU 59	1456	3179	-357308	0	0	0	No, Trazione
SLU 54	1276	-1561	-137144	0.27	155013	1.13	Si
SLU 54	1456	1032	-238768	0	0	0	No, Trazione
SLU 61	1276	-2307	-102505	0.4	225357	2.199	Si
SLU 61	1456	285	-131731	0	0	0	No, Trazione
SLU 57	1276	-96	-175469	0	0	0	No, e>l/2
SLU 57	1456	2496	-352167	0	0	0	No, Trazione
SLU 1	1276	-1743	-74545	0.3	172450	2.313	Si
SLU 1	1456	258	-108787	0	0	0	No, Trazione
SLU 60	1276	-2341	-97752	0.41	228515	2.338	Si
SLU 60	1456	251	-127866	0	0	0	No, Trazione
SLU 56	1276	-130	-170716	0	0	0	No, e>l/2
SLU 56	1456	2462	-348302	0	0	0	No, Trazione

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 4	1276	-1976	16103	0.34	197338	12.255	Si
SLV 4	1456	678	-224294	0	0	0	No, Trazione
SLV 13	1276	-1143	-181512	0	0	0	No, e>l/2
SLV 13	1456	221	-24287	0	0	0	No, Trazione
SLD 1	1276	-1398	-37230	0.24	140808	3.782	Si
SLD 1	1456	779	-212593	0	0	0	No, Trazione
SLV 12	1276	-2847	-130134	0.49	280710	2.157	Si
SLV 12	1456	-586	99427	0	0	0	No, e>l/2
SLV 10	1276	-256	-97497	0	0	0	No, e>l/2
SLV 10	1456	1188	-256016	0	0	0	No, Trazione
SLV 9	1276	-256	-97497	0	0	0	No, e>l/2
SLV 9	1456	1188	-256016	0	0	0	No, Trazione
SLV 5	1276	-272	-35275	0	0	0	No, e>l/2
SLV 5	1456	1485	-348007	0	0	0	No, Trazione
SLV 11	1276	-2847	-130134	0.49	280710	2.157	Si
SLV 11	1456	-586	99427	0	0	0	No, e>l/2
SLV 6	1276	-272	-35275	0	0	0	No, e>l/2
SLV 6	1456	1485	-348007	0	0	0	No, Trazione
SLV 14	1276	-1143	-181512	0	0	0	No, e>l/2
SLV 14	1456	221	-24287	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 56	1276	-130	944	-170716	0	0	0	0.56	0	0	0	0	No, Vu<V
SLU 56	1456	2462	944	-348302	0	0	0	0.56	0	0	0	0	No, Vu<V



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 55	1276	-855	541	-141425		0	0	0.56	0			0	No, Vu<V
SLU 55	1456	1737	541	-246485		0	0	0.56	0			0	No, Vu<V
SLU 1	1276	-1743	157	-74545		0.35	179.96	0.6	3032			19.29	Si
SLU 1	1456	258	157	-108787		0	0	0.56	0			0	No, Vu<V
SLU 53	1276	-1595	527	-132392		0.96	59.19	0.68	1133			2.15	Si
SLU 53	1456	998	527	-234903		0	0	0.56	0			0	No, Vu<V
SLU 57	1276	-96	939	-175469		0	0	0.56	0			0	No, Vu<V
SLU 57	1456	2496	939	-352167		0	0	0.56	0			0	No, Vu<V
SLU 59	1276	587	961	-176581		0	0	0.56	0			0	No, Vu<V
SLU 59	1456	3179	961	-357308		0	0	0.56	0			0	No, Vu<V
SLU 54	1276	-1561	522	-137144		1.25	44.61	0.72	902			1.73	Si
SLU 54	1456	1032	522	-238768		0	0	0.56	0			0	No, Vu<V
SLU 61	1276	-2307	119	-102505		0.47	174.94	0.62	3029			25.37	Si
SLU 61	1456	285	119	-131731		0	0	0.56	0			0	No, Vu<V
SLU 58	1276	553	966	-171828		0	0	0.56	0			0	No, Vu<V
SLU 58	1456	3145	966	-353443		0	0	0.56	0			0	No, Vu<V
SLU 60	1276	-2341	124	-97752		0.46	182.97	0.62	3158			25.41	Si
SLU 60	1456	251	124	-127866		0	0	0.56	0			0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	1276	-1143	-1219	-181512		0	0	0.83	0			0	No, Vu<V
SLV 13	1456	221	-813	-24287		0	0	0.83	0			0	No, Vu<V
SLV 14	1276	-1143	-1219	-181512		0	0	0.83	0			0	No, Vu<V
SLV 14	1456	221	-813	-24287		0	0	0.83	0			0	No, Vu<V
SLV 6	1276	-272	1917	-35275		0	0	0.83	0			0	No, Vu<V
SLV 6	1456	1485	1492	-348007		0	0	0.83	0			0	No, Vu<V
SLV 9	1276	-256	853	-97497		0	0	0.83	0			0	No, Vu<V
SLV 9	1456	1188	722	-256016		0	0	0.83	0			0	No, Vu<V
SLV 4	1276	-1976	1615	16103		0.34	205.5	0.9	5190			3.21	Si
SLV 4	1456	678	1209	-224294		0	0	0.83	0			0	No, Vu<V
SLD 1	1276	-1398	1106	-37230		0.24	205.5	0.88	5075			4.59	Si
SLD 1	1456	779	863	-212593		0	0	0.83	0			0	No, Vu<V
SLV 5	1276	-272	1917	-35275		0	0	0.83	0			0	No, Vu<V
SLV 5	1456	1485	1492	-348007		0	0	0.83	0			0	No, Vu<V
SLV 12	1276	-2847	-1521	-130134		0.59	171.14	0.95	4563			3	Si
SLV 12	1456	-586	-1096	99427		0	0	0.83	0			0	No, Vu<V
SLV 10	1276	-256	853	-97497		0	0	0.83	0			0	No, Vu<V
SLV 10	1456	1188	722	-256016		0	0	0.83	0			0	No, Vu<V
SLV 11	1276	-2847	-1521	-130134		0.59	171.14	0.95	4563			3	Si
SLV 11	1456	-586	-1096	99427		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.53	0	383	23211	0	0	No, Trazione
SLV 9	14	0.53	0	194	23211	0	0	No, Trazione
SLV 5	14	0.53	0	383	23211	0	0	No, Trazione
SLV 4	14	0.53	0	-885	23211	0	0	No, e>t/2
SLV 2	14	0.53	0	-198	23211	0	0	No, e>t/2
SLV 10	14	0.53	0	194	23211	0	0	No, Trazione
SLV 14	14	0.53	0	-830	23211	0	0	No, e>t/2
SLV 13	14	0.53	0	-830	23211	0	0	No, e>t/2
SLV 1	14	0.53	0	-198	23211	0	0	No, e>t/2
SLV 3	14	0.53	0	-885	23211	0	0	No, e>t/2

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1344 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 8	44	-2857	476	0	0	0	0	915.209	No, Trazione
SLV 6	2477	-2217	-459	0	0	0	0	915.209	No, Trazione
SLV 9	1749	-1188	-495	0	0	0	0	915.209	No, Trazione
SLV 1	2475	-3641	-90	0	0	0	0	978.751	No, Trazione
SLV 7	44	-2857	476	0	0	0	0	915.209	No, Trazione
SLV 4	1745	-3833	191	0	0	0	0	978.751	No, Trazione
SLV 2	2475	-3641	-90	0	0	0	0	978.751	No, Trazione
SLV 10	1749	-1188	-495	0	0	0	0	915.209	No, Trazione
SLV 5	2477	-2217	-459	0	0	0	0	915.209	No, Trazione
SLV 3	1745	-3833	191	0	0	0	0	978.751	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 84	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 14	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 10	No
R_SLV	0	SLV 14	No

## Maschio 221

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.3	595.1	-206.3	595.1	L6	L7	194	28	316	316	316			



## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 29	1276	-3488	-121936	0.64	311647	2.556	Si
SLU 29	1456	-2414	127484	0.44	221364	1.736	Si
SLU 16	1276	-3217	-120838	0.59	289381	2.395	Si
SLU 16	1456	-2189	108039	0.4	201815	1.868	Si
SLU 30	1276	-3446	-123635	0.63	308247	2.493	Si
SLU 30	1456	-2416	129239	0.44	221543	1.714	Si
SLU 72	1276	-4224	-139025	0.78	370647	2.666	Si
SLU 72	1456	-2764	133164	0.51	251331	1.887	Si
SLU 17	1276	-3176	-122538	0.58	285931	2.333	Si
SLU 17	1456	-2191	109794	0.4	201996	1.84	Si
SLU 38	1276	-3304	-144047	0.61	296560	2.059	Si
SLU 38	1456	-2461	126289	0.45	225443	1.785	Si
SLU 40	1276	-2624	-128250	0.48	239469	1.867	Si
SLU 40	1456	-1805	45970	0.33	167923	3.653	Si
SLU 37	1276	-3346	-142347	0.62	299986	2.107	Si
SLU 37	1456	-2459	124533	0.45	225264	1.809	Si
SLU 8	1276	-3359	-100427	0.62	301122	2.998	Si
SLU 8	1456	-2144	110989	0.39	197862	1.783	Si
SLU 9	1276	-3318	-102126	0.61	297698	2.915	Si
SLU 9	1456	-2146	112744	0.4	198043	1.757	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 15	1276	-2194	-244056	0	0	0	No, e>l/2
SLV 15	1456	-1713	87272	0.32	161850	1.855	Si
SLD 15	1276	-2505	-154579	0.46	233818	1.513	Si
SLD 15	1456	-1625	57885	0.3	153779	2.657	Si
SLD 16	1276	-2505	-154579	0.46	233818	1.513	Si
SLD 16	1456	-1625	57885	0.3	153779	2.657	Si
SLV 16	1276	-2194	-244056	0	0	0	No, e>l/2
SLV 16	1456	-1713	87272	0.32	161850	1.855	Si
SLV 14	1276	-1990	-192498	0.37	187255	0.973	No, M>Mu
SLV 14	1456	-1579	113308	0.29	149539	1.32	Si
SLV 13	1276	-1990	-192498	0.37	187255	0.973	No, M>Mu
SLV 13	1456	-1579	113308	0.29	149539	1.32	Si
SLV 11	1276	-2884	-212914	0.53	267584	1.257	Si
SLV 11	1456	-1807	11756	0.33	170513	14.505	Si
SLV 12	1276	-2884	-212914	0.53	267584	1.257	Si
SLV 12	1456	-1807	11756	0.33	170513	14.505	Si
SLV 9	1276	-2203	-41055	0.41	206593	5.032	Si
SLV 9	1456	-1362	98545	0.25	129395	1.313	Si
SLV 10	1276	-2203	-41055	0.41	206593	5.032	Si
SLV 10	1456	-1362	98545	0.25	129395	1.313	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 36	1276	-3605	-2158	-137800		0.73	176.34	0.65	3224			1.49	Si
SLU 36	1456	-2840	-1964	129873		0.66	153.8	0.64	2771			1.41	Si
SLU 37	1276	-3346	-2092	-142347		0.73	163.36	0.65	2987			1.43	Si
SLU 37	1456	-2459	-1888	124533		0.63	139.07	0.64	2491			1.32	Si
SLU 78	1276	-4384	-2327	-153190		0.84	186.16	0.67	3480			1.5	Si
SLU 78	1456	-3188	-2131	133799		0.69	165.08	0.65	2993			1.4	Si
SLU 29	1276	-3488	-1894	-121936		0.67	186.12	0.64	3360			1.77	Si
SLU 29	1456	-2414	-1689	127484		0.65	132.55	0.64	2384			1.41	Si
SLU 30	1276	-3446	-1938	-123635		0.67	183.37	0.65	3312			1.71	Si
SLU 30	1456	-2416	-1732	129239		0.66	130.51	0.64	2352			1.36	Si
SLU 38	1276	-3304	-2136	-144047		0.74	160.21	0.65	2933			1.37	Si
SLU 38	1456	-2461	-1930	126289		0.64	137.05	0.64	2460			1.27	Si
SLU 80	1276	-4082	-2305	-159437		0.84	173.83	0.67	3248			1.41	Si
SLU 80	1456	-2809	-2097	130214		0.66	151.92	0.64	2738			1.31	Si
SLU 42	1276	-2934	-1890	-140522		0.71	147.3	0.65	2683			1.42	Si
SLU 42	1456	-2143	-1753	85497		0.45	171.29	0.62	2950			1.68	Si
SLU 79	1276	-4124	-2262	-157737		0.84	176.25	0.67	3291			1.46	Si
SLU 79	1456	-2807	-2055	128459		0.65	153.7	0.64	2765			1.35	Si
SLU 72	1276	-4224	-2107	-139025		0.78	192.27	0.66	3554			1.69	Si
SLU 72	1456	-2764	-1899	133164		0.67	146.45	0.65	2647			1.39	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 10	1276	-2203	-1299	-41055		0.41	194	0.91	4967			3.82	Si
SLV 10	1456	-1362	-1395	98545		0.66	73.93	0.96	1997			1.43	Si
SLV 14	1276	-1990	-2872	-192498		86.47	0.82	1.63	37			0.01	No, Vu<V
SLV 14	1456	-1579	-1621	113308		0.74	75.75	0.98	2083			1.29	Si
SLV 16	1276	-2194	-3076	-244056		0	0	0.83	0			0	No, Vu<V
SLV 16	1456	-1713	-1492	87272		0.44	138.14	0.92	3566			2.39	Si
SLD 15	1276	-2505	-1925	-154579		0.84	105.88	1	2972			1.54	Si
SLD 15	1456	-1625	-1221	57885		0.32	184.15	0.9	4622			3.79	Si
SLV 9	1276	-2203	-1299	-41055		0.41	194	0.91	4967			3.82	Si
SLV 9	1456	-1362	-1395	98545		0.66	73.93	0.96	1997			1.43	Si
SLV 15	1276	-2194	-3076	-244056		0	0	0.83	0			0	No, Vu<V
SLV 15	1456	-1713	-1492	87272		0.44	138.14	0.92	3566			2.39	Si
SLV 13	1276	-1990	-2872	-192498		86.47	0.82	1.63	37			0.01	No, Vu<V



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	1456	-1579	-1621	113308		0.74	75.75	0.98	2083			1.29	Si
SLV 12	1276	-2884	-1980	-212914		1.48	69.51	1.13	2199			1.11	Si
SLV 12	1456	-1807	-966	11756		0.33	194	0.9	4888			5.06	Si
SLV 11	1276	-2884	-1980	-212914		1.48	69.51	1.13	2199			1.11	Si
SLV 11	1456	-1807	-966	11756		0.33	194	0.9	4888			5.06	Si
SLD 16	1276	-2505	-1925	-154579		0.84	105.88	1	2972			1.54	Si
SLD 16	1456	-1625	-1221	57885		0.32	184.15	0.9	4622			3.79	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.53	0.38	-2085	21912	28267	1.29	Si
SLV 9	14	0.53	0.38	-2085	21912	28267	1.29	Si
SLV 6	14	0.53	0.4	-2148	21912	29099	1.33	Si
SLV 5	14	0.53	0.4	-2148	21912	29099	1.33	Si
SLV 14	14	0.53	0.42	-2293	21912	30997	1.41	Si
SLV 13	14	0.53	0.42	-2293	21912	30997	1.41	Si
SLV 1	14	0.53	0.46	-2505	21912	33748	1.54	Si
SLV 2	14	0.53	0.46	-2505	21912	33748	1.54	Si
SLV 15	14	0.53	0.47	-2536	21912	34145	1.56	Si
SLV 16	14	0.53	0.47	-2536	21912	34145	1.56	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1344 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	$\sigma_0$	M*	e*	a0*	aLim	Verifica
SLV 9	-943	-2404	-149	0.012	3.678	0.895	19.5	915.209	No
SLV 10	-943	-2404	-149	0.012	3.678	0.895	19.5	915.209	No
SLV 6	-866	-1878	-129	0.019	3.616	0.897	30.926	915.209	No
SLV 5	-866	-1878	-129	0.019	3.616	0.897	30.926	915.209	No
SLV 13	-1060	-3926	-119	0.025	3.775	0.892	40.852	978.751	No
SLV 14	-1060	-3926	-119	0.025	3.775	0.892	40.852	978.751	No
SLV 15	-1084	-4705	-73	0.043	3.795	0.892	69.361	978.751	No
SLV 16	-1084	-4705	-73	0.043	3.795	0.892	69.361	978.751	No
SLV 1	-803	-2171	-53	0.051	3.567	0.899	82.047	978.751	No
SLV 2	-803	-2171	-53	0.051	3.567	0.899	82.047	978.751	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.714	SLV 30	Si
V_SLV	1.275	SLV 38	Si
PF_SLV	0	SLV 15	No
V_SLV	0	SLV 15	No
PFFP_SLV	1.29	SLV 9	Si
R_SLV	0.021	SLV 9	No

## Maschio 222

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.3	-335.9	-12.3	595.1	L6	L7	931	28	316	316	316			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 1	1186	-19610	181893	0.75	8285360	45.551	Si
SLU 1	1502	-1000	74284	0.04	463440	6.239	Si
SLU 81	1186	-29630	258110	1.14	11868039	45.98	Si
SLU 81	1502	-1835	119779	0.07	846781	7.07	Si
SLU 60	1186	-27018	235678	1.04	10976796	46.575	Si
SLU 60	1502	-1274	95247	0.05	589395	6.188	Si
SLU 45	1186	-26440	257983	1.01	10775476	41.768	Si
SLU 45	1502	-2036	121195	0.08	938620	7.745	Si
SLU 18	1186	-22031	188801	0.85	9191334	48.683	Si
SLU 18	1502	-1166	81373	0.04	539839	6.634	Si
SLU 22	1186	-22221	204325	0.85	9261421	45.327	Si
SLU 22	1502	-1561	98816	0.06	721500	7.301	Si
SLU 43	1186	-24597	228770	0.94	10123764	44.253	Si
SLU 43	1502	-1108	88159	0.04	513074	5.82	Si
SLU 39	1186	-24642	211234	0.95	10139679	48.002	Si
SLU 39	1502	-1727	105904	0.07	797490	7.53	Si
SLU 62	1186	-28401	275308	1.09	11452296	41.598	Si
SLU 62	1502	-2269	134116	0.09	1044966	7.792	Si
SLU 64	1186	-27209	251202	1.04	11042724	43.959	Si
SLU 64	1502	-1669	112690	0.06	770869	6.841	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLD 11	1186	-21228	908499	0.81	9223154	10.152	Si
SLD 11	1502	-1127	228622	0.04	522662	2.286	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 7	1186	-20339	1654281	0.78	8863338	5.358	Si
SLV 7	1502	-1324	423664	0.05	613780	1.449	Si
SLV 10	1186	-21341	-1274913	0.82	9268552	7.27	Si
SLV 10	1502	-1064	-258242	0.04	493410	1.911	Si
SLV 15	1186	-23256	1039134	0.89	10035332	9.657	Si
SLV 15	1502	-722	195809	0.03	335503	1.713	Si
SLV 9	1186	-21341	-1274913	0.82	9268552	7.27	Si
SLV 9	1502	-1064	-258242	0.04	493410	1.911	Si
SLV 8	1186	-20339	1654281	0.78	8863338	5.358	Si
SLV 8	1502	-1324	423664	0.05	613780	1.449	Si
SLD 12	1186	-21228	908499	0.81	9223154	10.152	Si
SLD 12	1502	-1127	228622	0.04	522662	2.286	Si
SLV 12	1186	-21752	1880008	0.83	9434050	5.018	Si
SLV 12	1502	-1043	429615	0.04	483947	1.126	Si
SLV 11	1186	-21752	1880008	0.83	9434050	5.018	Si
SLV 11	1502	-1043	429615	0.04	483947	1.126	Si
SLV 16	1186	-23256	1039134	0.89	10035332	9.657	Si
SLV 16	1502	-722	195809	0.03	335503	1.713	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 43	1186	-24597	582	228770		0.94	931	0.68	17762			30.5	Si
SLU 43	1502	-1108	553	88159		0.04	931	0.56	14630			26.44	Si
SLU 18	1186	-22031	560	188801		0.85	931	0.67	17420			31.13	Si
SLU 18	1502	-1166	532	81373		0.04	931	0.56	14638			27.51	Si
SLU 64	1186	-27209	633	251202		1.04	931	0.69	18110			28.63	Si
SLU 64	1502	-1669	584	112690		0.06	931	0.56	14705			25.2	Si
SLU 39	1186	-24642	610	211234		0.95	931	0.68	17768			29.14	Si
SLU 39	1502	-1727	562	105904		0.07	931	0.56	14713			26.16	Si
SLU 81	1186	-29630	731	258110		1.14	931	0.71	18433			25.22	Si
SLU 81	1502	-1835	682	119779		0.07	931	0.56	14727			21.59	Si
SLU 61	1186	-27116	439	155986		1.04	931	0.69	18098			41.22	Si
SLU 61	1502	-1338	529	64394		0.05	931	0.56	14661			27.71	Si
SLU 74	1186	-30746	640	285251		1.18	931	0.71	18582			29.05	Si
SLU 74	1502	-2713	552	150689		0.1	931	0.57	14844			26.9	Si
SLU 83	1186	-31012	646	297740		1.19	931	0.71	18617			28.8	Si
SLU 83	1502	-2830	551	158648		0.11	931	0.57	14860			26.98	Si
SLU 60	1186	-27018	681	235678		1.04	931	0.69	18085			26.56	Si
SLU 60	1502	-1274	652	95247		0.05	931	0.56	14652			22.48	Si
SLU 82	1186	-29727	489	178418		1.14	931	0.71	18446			37.71	Si
SLU 82	1502	-1900	559	88925		0.07	931	0.57	14736			26.35	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 12	1186	-21228	4409	908499		0.81	931	1	25969			5.89	Si
SLD 12	1502	-1127	1749	228622		0.05	787.81	0.84	18607			10.64	Si
SLV 11	1186	-21752	9734	1880008		0.83	931	1	26074			2.68	Si
SLV 11	1502	-1043	3483	429615		0.23	160.84	0.88	3962			1.14	Si
SLV 6	1186	-19928	-8744	-1500640		0.76	931	0.99	25709			2.94	Si
SLV 6	1502	-1345	-2559	-264194		0.06	807	0.85	19099			7.46	Si
SLD 11	1186	-21228	4409	908499		0.81	931	1	25969			5.89	Si
SLD 11	1502	-1127	1749	228622		0.05	787.81	0.84	18607			10.64	Si
SLV 8	1186	-20339	9499	1654281		0.78	931	0.99	25791			2.72	Si
SLV 8	1502	-1324	3350	423664		0.11	436.57	0.85	10451			3.12	Si
SLV 7	1186	-20339	9499	1654281		0.78	931	0.99	25791			2.72	Si
SLV 7	1502	-1324	3350	423664		0.11	436.57	0.85	10451			3.12	Si
SLV 10	1186	-21341	-8509	-1274913		0.82	931	1	25991			3.05	Si
SLV 10	1502	-1064	-2426	-258242		0.06	668.04	0.84	15800			6.51	Si
SLV 5	1186	-19928	-8744	-1500640		0.76	931	0.99	25709			2.94	Si
SLV 5	1502	-1345	-2559	-264194		0.06	807	0.85	19099			7.46	Si
SLV 12	1186	-21752	9734	1880008		0.83	931	1	26074			2.68	Si
SLV 12	1502	-1043	3483	429615		0.23	160.84	0.88	3962			1.14	Si
SLV 9	1186	-21341	-8509	-1274913		0.82	931	1	25991			3.05	Si
SLV 9	1502	-1064	-2426	-258242		0.06	668.04	0.84	15800			6.51	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1344 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 2	14	0.53	0.38	-9926	108822	134634	1.24	Si
SLV 1	14	0.53	0.38	-9926	108822	134634	1.24	Si
SLV 4	14	0.53	0.38	-9971	108822	135227	1.24	Si
SLV 3	14	0.53	0.38	-9971	108822	135227	1.24	Si
SLV 5	14	0.53	0.39	-10054	108822	136308	1.25	Si
SLV 6	14	0.53	0.39	-10054	108822	136308	1.25	Si
SLV 7	14	0.53	0.39	-10204	108822	138285	1.27	Si
SLV 8	14	0.53	0.39	-10204	108822	138285	1.27	Si
SLV 10	14	0.53	0.39	-10208	108822	138335	1.27	Si
SLV 9	14	0.53	0.39	-10208	108822	138335	1.27	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1344 Wa = 0.05 Ta = 0.0596

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 1	-1665	-18424	-802	0	15.641	0.93	0	978.751	No
SLV 4	-1659	-18547	-802	0	15.638	0.93	0	978.751	No
SLV 3	-1659	-18547	-802	0	15.638	0.93	0	978.751	No
SLV 2	-1665	-18424	-802	0	15.641	0.93	0	978.751	No
SLV 6	-1345	-19928	-443	0.031	15.479	0.939	48.278	915.209	No
SLV 5	-1345	-19928	-443	0.031	15.479	0.939	48.278	915.209	No
SLV 7	-1324	-20339	-442	0.031	15.47	0.94	48.429	915.209	No



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 8	-1324	-20339	-442	0.031	15.47	0.94	48.429	915.209	No
SLV 16	-722	-23256	225	0.057	15.235	0.961	86.244	978.751	No
SLV 15	-722	-23256	225	0.057	15.235	0.961	86.244	978.751	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.82	SLU 43	Si
V_SLU	21.591	SLU 81	Si
PF_SLV	1.126	SLV 11	Si
V_SLV	1.137	SLV 11	Si
PFFP_SLV	1.237	SLV 1	Si
R_SLV	0	SLV 1	No

## Maschio 223

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X inl.	Y inl.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h inl.	h fin.	a	a.s.,sx	a.s.,dx
-1705.3	-500.9	-1705.3	-486.2	L6	F1	14.7	30	246.5	243.1	249.9			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 54	1186	-614	-2476	1.39	3734	1.508	Si
SLU 54	1398	-106	1712	0	0	0	No, e>l/2
SLU 57	1186	-555	-2083	1.26	3443	1.653	Si
SLU 57	1398	-25	1385	0	0	0	No, e>l/2
SLU 61	1186	-681	-2936	1.55	4052	1.38	Si
SLU 61	1398	-180	2077	0	0	0	No, e>l/2
SLU 58	1186	-360	-539	0.82	2376	4.413	Si
SLU 58	1398	45	335	0	0	0	No, Trazione
SLU 59	1186	-541	-1957	1.23	3371	1.722	Si
SLU 59	1398	-12	1284	0	0	0	No, e>l/2
SLU 53	1186	-433	-1057	0.98	2793	2.643	Si
SLU 53	1398	-50	763	0	0	0	No, e>l/2
SLU 60	1186	-501	-1517	1.14	3161	2.085	Si
SLU 60	1398	-124	1128	0	0	0	No, e>l/2
SLU 56	1186	-374	-664	0.85	2459	3.705	Si
SLU 56	1398	32	436	0	0	0	No, Trazione
SLU 42	1186	-548	-2593	1.24	3407	1.314	Si
SLU 42	1398	-44	1740	0	0	0	No, e>l/2
SLU 55	1186	-720	-3296	1.63	4224	1.282	Si
SLU 55	1398	-131	2243	0	0	0	No, e>l/2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 14	1186	-1201	-7556	2.73	6847	0.906	No, M>Mu
SLV 14	1398	-9	-812	0	0	0	No, e>l/2
SLV 13	1186	-1201	-7556	2.73	6847	0.906	No, M>Mu
SLV 13	1398	-9	-812	0	0	0	No, e>l/2
SLV 9	1186	-1941	-19326	0	0	0	No, e>l/2
SLV 9	1398	595	7322	0	0	0	No, Trazione
SLV 8	1186	1240	17502	0	0	0	No, Trazione
SLV 8	1398	-740	-5995	0	0	0	No, e>l/2
SLV 7	1186	1240	17502	0	0	0	No, Trazione
SLV 7	1398	-740	-5995	0	0	0	No, e>l/2
SLV 12	1186	994	16763	0	0	0	No, Trazione
SLV 12	1398	-830	-8285	0	0	0	No, e>l/2
SLV 10	1186	-1941	-19326	0	0	0	No, e>l/2
SLV 10	1398	595	7322	0	0	0	No, Trazione
SLD 1	1186	-351	-2554	0.8	2406	0.942	No, M>Mu
SLD 1	1398	75	3184	0	0	0	No, Trazione
SLV 11	1186	994	16763	0	0	0	No, Trazione
SLV 11	1398	-830	-8285	0	0	0	No, e>l/2
SLV 6	1186	-1695	-18587	0	0	0	No, e>l/2
SLV 6	1398	685	9612	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma M = 3$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 59	1186	-541	-29	-1957		1.61	11.16	0.77	258			8.85	Si
SLU 59	1398	-12	42	1284		0	0	0.56	0			0	No, Vu<V
SLU 61	1186	-681	-43	-2936		2.5	9.1	0.89	242			5.64	Si
SLU 61	1398	-180	96	2077		0	0	0.56	0			0	No, Vu<V
SLU 55	1186	-720	-48	-3296		2.9	8.29	0.94	234			4.87	Si
SLU 55	1398	-131	97	2243		0	0	0.56	0			0	No, Vu<V
SLU 57	1186	-555	-31	-2083		1.72	10.76	0.78	253			8.17	Si
SLU 57	1398	-25	48	1385		0	0	0.56	0			0	No, Vu<V
SLU 54	1186	-614	-36	-2476		2.06	9.92	0.83	247			6.78	Si
SLU 54	1398	-106	71	1712		0	0	0.56	0			0	No, Vu<V
SLU 56	1186	-374	-11	-664		0.85	14.68	0.67	295			27.28	Si
SLU 56	1398	32	0	436		0	0	0.56	0			0	No, Vu<V



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 58	1186	-360	-9	-539		0.82	14.68	0.66	293			32.75	Si
SLU 58	1398	45	-6	335		0	0	0.56	0			0	No, Vu<V
SLU 53	1186	-433	-16	-1057		0.98	14.68	0.69	302			18.63	Si
SLU 53	1398	-50	23	763		0	0	0.56	0			0	No, Vu<V
SLU 42	1186	-548	-39	-2593		2.34	7.82	0.87	203			5.26	Si
SLU 42	1398	-44	73	1740		0	0	0.56	0			0	No, Vu<V
SLU 60	1186	-501	-23	-1517		1.29	12.93	0.73	282			12.38	Si
SLU 60	1398	-124	48	1128		0	0	0.56	0			0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	1186	994	770	16763		0	0	0.83	0			0	No, Vu<V
SLV 12	1398	-830	-910	-8285		0	0	0.83	0			0	No, Vu<V
SLV 8	1186	1240	692	17502		0	0	0.83	0			0	No, Vu<V
SLV 8	1398	-740	-884	-5995		0	0	0.83	0			0	No, Vu<V
SLV 13	1186	-1201	-108	-7556		12.75	3.14	1.63	153			1.41	Si
SLV 13	1398	-9	258	-812		0	0	0.83	0			0	No, Vu<V
SLV 6	1186	-1695	-797	-18587		0	0	0.83	0			0	No, Vu<V
SLV 6	1398	685	959	9612		0	0	0.83	0			0	No, Vu<V
SLV 7	1186	1240	692	17502		0	0	0.83	0			0	No, Vu<V
SLV 7	1398	-740	-884	-5995		0	0	0.83	0			0	No, Vu<V
SLD 1	1186	-351	-155	-2554		0	0	0.83	0			0	No, Vu<V
SLD 1	1398	75	152	3184		0	0	0.83	0			0	No, Vu<V
SLV 11	1186	994	770	16763		0	0	0.83	0			0	No, Vu<V
SLV 11	1398	-830	-910	-8285		0	0	0.83	0			0	No, Vu<V
SLV 9	1186	-1941	-720	-19326		0	0	0.83	0			0	No, Vu<V
SLV 9	1398	595	933	7322		0	0	0.83	0			0	No, Vu<V
SLV 14	1186	-1201	-108	-7556		12.75	3.14	1.63	153			1.41	Si
SLV 14	1398	-9	258	-812		0	0	0.83	0			0	No, Vu<V
SLV 10	1186	-1941	-720	-19326		0	0	0.83	0			0	No, Vu<V
SLV 10	1398	595	933	7322		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1307.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.52	0	616	1040	0	0	No, Trazione
SLV 10	14	0.52	0	616	1040	0	0	No, Trazione
SLV 1	14	0.52	0	295	1040	0	0	No, Trazione
SLV 6	14	0.52	0	741	1040	0	0	No, Trazione
SLV 5	14	0.52	0	741	1040	0	0	No, Trazione
SLV 2	14	0.52	0	295	1040	0	0	No, Trazione
SLV 13	14	0.52	0.28	-123	1040	1796	1.73	Si
SLV 14	14	0.52	0.28	-123	1040	1796	1.73	Si
SLV 3	14	0.52	0.48	-213	1040	3062	2.94	Si
SLV 4	14	0.52	0.48	-213	1040	3062	2.94	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1307.5 Wa = 0.05 Ta = 0.0338

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 10	193	-1941	-30	0	0	0	0	635.273	No, Trazione
SLV 7	-127	1240	39	0	0	0	0	635.273	No, Trazione
SLV 6	384	-1695	-51	0	0	0	0	635.273	No, Trazione
SLV 2	428	-381	-43	0	0	0	0	658.182	No, Trazione
SLV 8	-127	1240	39	0	0	0	0	635.273	No, Trazione
SLV 9	193	-1941	-30	0	0	0	0	635.273	No, Trazione
SLV 3	275	500	-16	0	0	0	0	658.182	No, Trazione
SLV 5	384	-1695	-51	0	0	0	0	635.273	No, Trazione
SLV 1	428	-381	-43	0	0	0	0	658.182	No, Trazione
SLV 4	275	500	-16	0	0	0	0	658.182	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 80	No
V_SLU	0	SLU 2	No
PF_SLV	0	SLV 12	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 10	No
R_SLV	0	SLV 12	No

## Maschio 224

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1633.3	-335.9	-1720.3	-335.9	L6	F1	87	28	319.3	319.3	319.3			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 19	1186	-1783	-28322	0.73	70592	2.492	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 19	1396	-1295	9954	0.53	52646	5.289	Si
SLU 82	1186	-2467	-37906	1.01	93979	2.479	Si
SLU 82	1396	-1778	10323	0.73	70424	6.822	Si
SLU 10	1186	-1696	-26771	0.7	67458	2.52	Si
SLU 10	1396	-1443	10708	0.59	58199	5.435	Si
SLU 81	1186	-2633	-38677	1.08	99349	2.569	Si
SLU 81	1396	-1555	7707	0.64	62352	8.09	Si
SLU 40	1186	-1899	-31203	0.78	74689	2.394	Si
SLU 40	1396	-1542	8672	0.63	61875	7.135	Si
SLU 39	1186	-2065	-31974	0.85	80473	2.517	Si
SLU 39	1396	-1319	6056	0.54	53572	8.846	Si
SLU 31	1186	-1811	-29652	0.74	71599	2.415	Si
SLU 31	1396	-1690	9426	0.69	67268	7.136	Si
SLU 61	1186	-2352	-35025	0.97	90171	2.574	Si
SLU 61	1396	-1531	11605	0.63	61451	5.295	Si
SLU 52	1186	-2264	-33474	0.93	87255	2.607	Si
SLU 52	1396	-1679	12360	0.69	66851	5.409	Si
SLU 73	1186	-2380	-36355	0.98	91107	2.506	Si
SLU 73	1396	-1926	11077	0.79	75663	6.83	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 15	1186	-2271	-65138	0.93	91261	1.401	Si
SLV 15	1396	270	42080	0	0	0	No, Trazione
SLV 3	1186	114	30850	0	0	0	No, Trazione
SLV 3	1396	-2236	-96100	0.92	89941	0.936	No, M>Mu
SLV 9	1186	-5622	-74906	2.31	198362	2.648	Si
SLV 9	1396	-1293	129536	0	0	0	No, e>l/2
SLV 16	1186	-2271	-65138	0.93	91261	1.401	Si
SLV 16	1396	270	42080	0	0	0	No, Trazione
SLV 8	1186	1532	20604	0	0	0	No, Trazione
SLV 8	1396	-989	-120870	0	0	0	No, e>l/2
SLV 10	1186	-5622	-74906	2.31	198362	2.648	Si
SLV 10	1396	-1293	129536	0	0	0	No, e>l/2
SLD 10	1186	-3480	-46716	1.43	133695	2.862	Si
SLD 10	1396	-1189	54216	0	0	0	No, e>l/2
SLD 14	1186	-2937	-51627	1.21	115153	2.23	Si
SLD 14	1396	-668	46148	0	0	0	No, e>l/2
SLV 7	1186	1532	20604	0	0	0	No, Trazione
SLV 7	1396	-989	-120870	0	0	0	No, e>l/2
SLD 13	1186	-2937	-51627	1.21	115153	2.23	Si
SLD 13	1396	-668	46148	0	0	0	No, e>l/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 64	1186	-2711	-667	-35221		1.11	87	0.7	1715			2.57	Si
SLU 64	1396	-1553	55	4409		0.64	87	0.64	1560			28.53	Si
SLU 39	1186	-2065	-635	-31974		0.88	84.04	0.67	1583			2.49	Si
SLU 39	1396	-1319	47	6056		0.54	87	0.63	1529			32.82	Si
SLU 82	1186	-2467	-707	-37906		1.04	84.41	0.69	1642			2.32	Si
SLU 82	1396	-1778	7	10323		0.73	87	0.65	1590			241.78	Si
SLU 73	1186	-2380	-645	-36355		1	84.67	0.69	1634			2.53	Si
SLU 73	1396	-1926	4	11077		0.79	87	0.66	1610			403.03	Si
SLU 61	1186	-2352	-644	-35025		0.98	85.82	0.69	1648			2.56	Si
SLU 61	1396	-1531	-64	11605		0.63	87	0.64	1557			24.23	Si
SLU 74	1186	-3025	-668	-37006		1.24	87	0.72	1757			2.63	Si
SLU 74	1396	-2260	269	-2490		0.93	87	0.68	1655			6.15	Si
SLU 60	1186	-2518	-696	-35796		1.03	87	0.69	1689			2.43	Si
SLU 60	1396	-1308	-47	8990		0.54	87	0.63	1528			32.73	Si
SLU 83	1186	-2838	-656	-35560		1.16	87	0.71	1732			2.64	Si
SLU 83	1396	-2118	296	-3002		0.87	87	0.67	1636			5.53	Si
SLU 81	1186	-2633	-758	-38677		1.09	86.44	0.7	1696			2.24	Si
SLU 81	1396	-1555	24	7707		0.64	87	0.64	1561			64.55	Si
SLU 40	1186	-1899	-584	-31203		0.84	81.2	0.67	1516			2.6	Si
SLU 40	1396	-1542	29	8672		0.63	87	0.64	1559			53.76	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 13	1186	-2937	-778	-51627		1.35	77.77	1.1	2402			3.09	Si
SLD 13	1396	-668	-643	46148		0	0	0.83	0			0	No, Vu<V
SLD 10	1186	-3480	-380	-46716		1.43	87	1.12	2726			7.18	Si
SLD 10	1396	-1189	-318	54216		0	0	0.83	0			0	No, Vu<V
SLV 7	1186	1532	-861	20604		0	0	0.83	0			0	No, Vu<V
SLV 7	1396	-989	821	-120870		0	0	0.83	0			0	No, Vu<V
SLD 14	1186	-2937	-778	-51627		1.35	77.77	1.1	2402			3.09	Si
SLD 14	1396	-668	-643	46148		0	0	0.83	0			0	No, Vu<V
SLV 4	1186	114	94	30850		0	0	0.83	0			0	No, Vu<V
SLV 4	1396	-2236	1575	-96100		51.98	1.54	1.63	70			0.04	No, Vu<V
SLV 16	1186	-2271	-1476	-65138		1.82	44.46	1.2	1492			1.01	Si
SLV 16	1396	270	-1314	42080		0	0	0.83	0			0	No, Vu<V
SLV 10	1186	-5622	-174	-74906		2.31	87	1.29	3154			18.16	Si
SLV 10	1396	-1293	-780	129536		0	0	0.83	0			0	No, Vu<V
SLV 15	1186	-2271	-1476	-65138		1.82	44.46	1.2	1492			1.01	Si
SLV 15	1396	270	-1314	42080		0	0	0.83	0			0	No, Vu<V
SLD 9	1186	-3480	-380	-46716		1.43	87	1.12	2726			7.18	Si
SLD 9	1396	-1189	-318	54216		0	0	0.83	0			0	No, Vu<V
SLV 9	1186	-5622	-174	-74906		2.31	87	1.29	3154			18.16	Si
SLV 9	1396	-1293	-780	129536		0	0	0.83	0			0	No, Vu<V





## Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1345.6 Wa 0.05 denominatore 8  $\gamma M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 14	14	0.53	0	-457	10039	0	0	No, $e > t/2$
SLV 12	14	0.53	0	-246	10039	0	0	No, $e > t/2$
SLV 15	14	0.53	0	46	10039	0	0	No, Trazione
SLV 16	14	0.53	0	46	10039	0	0	No, Trazione
SLV 11	14	0.53	0	-246	10039	0	0	No, $e > t/2$
SLV 13	14	0.53	0	-457	10039	0	0	No, $e > t/2$
SLV 8	14	0.53	0.41	-999	10039	13514	1.35	Si
SLV 7	14	0.53	0.41	-999	10039	13514	1.35	Si
SLV 10	14	0.53	0.79	-1921	10039	25160	2.51	Si
SLV 9	14	0.53	0.79	-1921	10039	25160	2.51	Si

## Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1345.6 Wa = 0.05 Ta = 0.0608

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 8	-413	1532	152	0	0	0	0	932.072	No, Trazione
SLV 9	-123	-5622	-107	0	1.46	0.94	0	932.072	No
SLV 4	-366	114	25	0	0	0	0	998.302	No, Trazione
SLV 12	-376	817	175	0	0	0	0	932.072	No, Trazione
SLV 3	-366	114	25	0	0	0	0	998.302	No, Trazione
SLV 5	-159	-4906	-130	0	1.478	0.93	0	932.072	No
SLV 10	-123	-5622	-107	0	1.46	0.94	0	932.072	No
SLV 6	-159	-4906	-130	0	1.478	0.93	0	932.072	No
SLV 11	-376	817	175	0	0	0	0	932.072	No, Trazione
SLV 7	-413	1532	152	0	0	0	0	932.072	No, Trazione

## Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.394	SLV 40	Si
V_SLV	2.236	SLV 81	Si
PF_SLV	0	SLV 16	No
V_SLV	0	SLD 9	No
PFFP_SLV	0	SLV 16	No
R_SLV	0	SLV 12	No

## Maschio 225

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	-335.9	-1543.3	-335.9	L6	F1	168	28	319.1	319.1	319.2			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

## Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 61	1186	-4404	-54149	0.94	327388	6.046	Si
SLU 61	1396	-2742	83830	0.58	213862	2.551	Si
SLU 60	1186	-4370	-53952	0.93	325221	6.028	Si
SLU 60	1396	-2737	83538	0.58	213519	2.556	Si
SLU 31	1186	-3633	-51591	0.77	276212	5.354	Si
SLU 31	1396	-2638	77907	0.56	206331	2.648	Si
SLU 39	1186	-3520	-55797	0.75	268506	4.812	Si
SLU 39	1396	-2631	80792	0.56	205819	2.548	Si
SLU 19	1186	-3393	-47441	0.72	259800	5.476	Si
SLU 19	1396	-2221	70055	0.47	175723	2.508	Si
SLU 82	1186	-4563	-62702	0.97	337678	5.385	Si
SLU 82	1396	-3157	94860	0.67	243355	2.565	Si
SLU 10	1186	-3473	-43039	0.74	265269	6.163	Si
SLU 10	1396	-2223	66878	0.47	175893	2.63	Si
SLU 40	1186	-3553	-55994	0.76	270798	4.836	Si
SLU 40	1396	-2636	81085	0.56	206164	2.543	Si
SLU 81	1186	-4530	-62505	0.96	335535	5.368	Si
SLU 81	1396	-3152	94567	0.67	243020	2.57	Si
SLU 18	1186	-3360	-47245	0.71	257485	5.45	Si
SLU 18	1396	-2216	69763	0.47	175369	2.514	Si

## Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 10	1186	3120	-54646	0	0	0	No, Trazione
SLV 10	1396	-2104	257398	0	0	0	No, $e > l/2$
SLV 13	1186	-2173	-192341	0	0	0	No, $e > l/2$
SLV 13	1396	-3292	259655	0.7	260701	1.004	Si
SLV 3	1186	-4943	117143	1.05	379481	3.239	Si
SLV 3	1396	-1372	-131812	0	0	0	No, $e > l/2$
SLV 14	1186	-2173	-192341	0	0	0	No, $e > l/2$
SLV 14	1396	-3292	259655	0.7	260701	1.004	Si
SLV 4	1186	-4943	117143	1.05	379481	3.239	Si
SLV 4	1396	-1372	-131812	0	0	0	No, $e > l/2$



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 2	1186	-814	136512	0	0	0	No, $e>l/2$
SLV 2	1396	-1032	-42961	0.22	85128	1.982	Si
SLV 9	1186	3120	-54646	0	0	0	No, Trazione
SLV 9	1396	-2104	257398	0	0	0	No, $e>l/2$
SLV 1	1186	-814	136512	0	0	0	No, $e>l/2$
SLV 1	1396	-1032	-42961	0.22	85128	1.982	Si
SLV 5	1186	3527	44010	0	0	0	No, Trazione
SLV 5	1396	-1426	166613	0	0	0	No, $e>l/2$
SLV 6	1186	3527	44010	0	0	0	No, Trazione
SLV 6	1396	-1426	166613	0	0	0	No, $e>l/2$

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 75	1186	-5154	-1245	-47296		1.1	168	0.7	3301			2.65	Si
SLU 75	1396	-4004	-1240	99540		0.85	168	0.67	3147			2.54	Si
SLU 82	1186	-4563	-1191	-62702		0.97	168	0.68	3222			2.7	Si
SLU 82	1396	-3157	-1196	94860		0.7	161.86	0.65	2939			2.46	Si
SLU 84	1186	-4853	-1260	-49422		1.03	168	0.69	3260			2.59	Si
SLU 84	1396	-3770	-1254	94753		0.8	168	0.66	3116			2.49	Si
SLU 83	1186	-4820	-1274	-49226		1.02	168	0.69	3256			2.56	Si
SLU 83	1396	-3765	-1260	94460		0.8	168	0.66	3115			2.47	Si
SLU 79	1186	-5167	-1282	-31413		1.1	168	0.7	3302			2.58	Si
SLU 79	1396	-4377	-1256	90981		0.93	168	0.68	3197			2.55	Si
SLU 80	1186	-5201	-1268	-31609		1.11	168	0.7	3307			2.61	Si
SLU 80	1396	-4382	-1250	91274		0.93	168	0.68	3198			2.56	Si
SLU 77	1186	-5411	-1328	-33821		1.15	168	0.71	3335			2.51	Si
SLU 77	1396	-4612	-1304	99141		0.98	168	0.69	3228			2.48	Si
SLU 74	1186	-5121	-1260	-47100		1.09	168	0.7	3296			2.62	Si
SLU 74	1396	-3999	-1246	99248		0.85	168	0.67	3147			2.52	Si
SLU 81	1186	-4530	-1206	-62505		0.96	168	0.68	3217			2.67	Si
SLU 81	1396	-3152	-1202	94567		0.69	162.01	0.65	2940			2.45	Si
SLU 78	1186	-5444	-1314	-34017		1.16	168	0.71	3339			2.54	Si
SLU 78	1396	-4617	-1298	99434		0.98	168	0.69	3229			2.49	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	1186	-4943	2258	117143		1.05	168	1.04	4909			2.17	Si
SLV 3	1396	-1372	957	-131812		0	0	0.83	0			0	No, $Vu < V$
SLV 6	1186	3527	-2148	44010		0	0	0.83	0			0	No, $Vu < V$
SLV 6	1396	-1426	-2851	166613		0	0	0.83	0			0	No, $Vu < V$
SLV 14	1186	-2173	-3794	-192341		0	0	0.83	0			0	No, $Vu < V$
SLV 14	1396	-3292	-2485	259655		7.64	15.39	1.63	700			0.28	No, $Vu < V$
SLV 13	1186	-2173	-3794	-192341		0	0	0.83	0			0	No, $Vu < V$
SLV 13	1396	-3292	-2485	259655		7.64	15.39	1.63	700			0.28	No, $Vu < V$
SLV 4	1186	-4943	2258	117143		1.05	168	1.04	4909			2.17	Si
SLV 4	1396	-1372	957	-131812		0	0	0.83	0			0	No, $Vu < V$
SLV 2	1186	-814	999	136512		0	0	0.83	0			0	No, $Vu < V$
SLV 2	1396	-1032	-476	-42961		0.29	127.11	0.89	3172			6.67	Si
SLV 5	1186	3527	-2148	44010		0	0	0.83	0			0	No, $Vu < V$
SLV 5	1396	-1426	-2851	166613		0	0	0.83	0			0	No, $Vu < V$
SLV 1	1186	-814	999	136512		0	0	0.83	0			0	No, $Vu < V$
SLV 1	1396	-1032	-476	-42961		0.29	127.11	0.89	3172			6.67	Si
SLV 9	1186	3120	-3586	-54646		0	0	0.83	0			0	No, $Vu < V$
SLV 9	1396	-2104	-3454	257398		0	0	0.83	0			0	No, $Vu < V$
SLV 10	1186	3120	-3586	-54646		0	0	0.83	0			0	No, $Vu < V$
SLV 10	1396	-2104	-3454	257398		0	0	0.83	0			0	No, $Vu < V$

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1345.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.53	0	-679	19365	0	0	No, $e>t/2$
SLV 2	14	0.53	0	-1381	19365	0	0	No, $e>t/2$
SLV 1	14	0.53	0	-1381	19365	0	0	No, $e>t/2$
SLV 9	14	0.53	0	-679	19365	0	0	No, $e>t/2$
SLV 5	14	0.53	0	-244	19365	0	0	No, $e>t/2$
SLV 6	14	0.53	0	-244	19365	0	0	No, $e>t/2$
SLV 3	14	0.53	0.59	-2791	19365	37179	1.92	Si
SLV 4	14	0.53	0.59	-2791	19365	37179	1.92	Si
SLV 13	14	0.53	0.6	-2831	19365	37680	1.95	Si
SLV 14	14	0.53	0.6	-2831	19365	37680	1.95	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1345.5 Wa = 0.05 Ta = 0.0607

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 9	-592	3120	-2	0	0	0	0	931.219	No, Trazione
SLV 15	-1335	-6301	199	0	3.658	0.889	0	997.313	No
SLV 10	-592	3120	-2	0	0	0	0	931.219	No, Trazione
SLV 6	-578	3527	-66	0	0	0	0	931.219	No, Trazione
SLV 16	-1335	-6301	199	0	3.658	0.889	0	997.313	No
SLV 5	-578	3527	-66	0	0	0	0	931.219	No, Trazione
SLV 11	-1711	-10642	193	0	4.005	0.89	0.437	931.219	No
SLV 12	-1711	-10642	193	0	4.005	0.89	0.437	931.219	No
SLV 14	-999	-2173	140	0.009	3.362	0.891	15.373	997.313	No
SLV 13	-999	-2173	140	0.009	3.362	0.891	15.373	997.313	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.508	SLU 19	Si



Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	2.446	SLV 81	Si
PF_SLV	0	SLV 10	No
V_SLV	0	SLV 1	No
PFFP_SLV	0	SLV 1	No
R_SLV	0	SLV 10	No

## Maschio 226

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-944.8	-335.9	-1100.3	-335.9	L6	F1	155.5	28	318.8	318.8	318.9			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 39	1186	-2389	54551	0.55	173214	3.175	Si
SLV 39	1396	-2548	-61213	0.59	183906	3.004	Si
SLV 73	1186	-3253	56158	0.75	229712	4.09	Si
SLV 73	1396	-3029	-70960	0.7	215385	3.035	Si
SLV 19	1186	-2291	44113	0.53	166625	3.777	Si
SLV 19	1396	-2135	-52595	0.49	156013	2.966	Si
SLV 82	1186	-3151	60071	0.72	223241	3.716	Si
SLV 82	1396	-3039	-72422	0.7	216005	2.983	Si
SLV 40	1186	-2366	55267	0.54	171663	3.106	Si
SLV 40	1396	-2546	-61705	0.58	183727	2.977	Si
SLV 61	1186	-3077	48917	0.71	218460	4.466	Si
SLV 61	1396	-2628	-63311	0.6	189178	2.988	Si
SLV 10	1186	-2393	40199	0.55	173479	4.315	Si
SLV 10	1396	-2126	-51133	0.49	155355	3.038	Si
SLV 81	1186	-3174	59355	0.73	224713	3.786	Si
SLV 81	1396	-3041	-71930	0.7	216179	3.005	Si
SLV 18	1186	-2314	43397	0.53	168184	3.875	Si
SLV 18	1396	-2138	-52102	0.49	156197	2.998	Si
SLV 60	1186	-3100	48201	0.71	219940	4.563	Si
SLV 60	1396	-2631	-62819	0.6	189357	3.014	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 1	1186	-2440	154211	0.56	181036	1.174	Si
SLV 1	1396	-3972	-180900	0.91	285752	1.58	Si
SLV 7	1186	-875	90604	0	0	0	No, e>l/2
SLV 7	1396	-1820	-55125	0.42	136663	2.479	Si
SLV 15	1186	-2854	-84459	0.66	210000	2.486	Si
SLV 15	1396	-497	81036	0	0	0	No, e>l/2
SLV 14	1186	-3795	-95428	0.87	274038	2.872	Si
SLV 14	1396	-1012	62267	0.23	77175	1.239	Si
SLV 3	1186	-1499	165180	0	0	0	No, e>l/2
SLV 3	1396	-3457	-162131	0.79	251302	1.55	Si
SLV 8	1186	-875	90604	0	0	0	No, e>l/2
SLV 8	1396	-1820	-55125	0.42	136663	2.479	Si
SLV 4	1186	-1499	165180	0	0	0	No, e>l/2
SLV 4	1396	-3457	-162131	0.79	251302	1.55	Si
SLV 13	1186	-3795	-95428	0.87	274038	2.872	Si
SLV 13	1396	-1012	62267	0.23	77175	1.239	Si
SLV 16	1186	-2854	-84459	0.66	210000	2.486	Si
SLV 16	1396	-497	81036	0	0	0	No, e>l/2
SLV 2	1186	-2440	154211	0.56	181036	1.174	Si
SLV 2	1396	-3972	-180900	0.91	285752	1.58	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 82	1186	-3151	1389	60071		0.72	155.5	0.65	2839			2.04	Si
SLV 82	1396	-3039	1375	-72422		0.7	155.5	0.65	2824			2.05	Si
SLV 78	1186	-4442	1413	42775		1.02	155.5	0.69	3011			2.13	Si
SLV 78	1396	-4512	1383	-79973		1.04	155.5	0.69	3021			2.18	Si
SLV 81	1186	-3174	1382	59355		0.73	155.5	0.65	2842			2.06	Si
SLV 81	1396	-3041	1358	-71930		0.7	155.5	0.65	2824			2.08	Si
SLV 40	1186	-2366	1243	55267		0.54	155.5	0.63	2734			2.2	Si
SLV 40	1396	-2546	1231	-61705		0.58	155.5	0.63	2758			2.24	Si
SLV 73	1186	-3253	1317	56158		0.75	155.5	0.66	2853			2.17	Si
SLV 73	1396	-3029	1313	-70960		0.7	155.5	0.65	2823			2.15	Si
SLV 77	1186	-4465	1406	42059		1.03	155.5	0.69	3014			2.14	Si
SLV 77	1396	-4515	1366	-79481		1.04	155.5	0.69	3021			2.21	Si
SLV 75	1186	-3893	1403	49953		0.89	155.5	0.67	2938			2.09	Si
SLV 75	1396	-3862	1383	-78907		0.89	155.5	0.67	2934			2.12	Si
SLV 84	1186	-3701	1399	52892		0.85	155.5	0.67	2912			2.08	Si
SLV 84	1396	-3688	1376	-73488		0.85	155.5	0.67	2911			2.12	Si
SLV 83	1186	-3724	1392	52177		0.86	155.5	0.67	2915			2.09	Si
SLV 83	1396	-3691	1358	-72996		0.85	155.5	0.67	2911			2.14	Si
SLV 74	1186	-3916	1396	49238		0.9	155.5	0.68	2941			2.11	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 74	1396	-3865	1365	-78415		0.89	155.5	0.67	2934			2.15	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	1186	-1499	3769	165180		0	0	0.83	0			0	No, Vu<V
SLV 3	1396	-3457	2243	-162131		1.33	92.54	1.1	2851			1.27	Si
SLV 15	1186	-2854	-1347	-84459		0.71	144.47	0.97	3942			2.93	Si
SLV 15	1396	-497	-118	81036		0	0	0.83	0			0	No, Vu<V
SLV 1	1186	-2440	3083	154211		2	43.68	1.23	1507			0.49	No, Vu<V
SLV 1	1396	-3972	1825	-180900		1.47	96.61	1.13	3049			1.67	Si
SLV 7	1186	-875	2779	90604		0	0	0.83	0			0	No, Vu<V
SLV 7	1396	-1820	1905	-55125		0.46	142.38	0.92	3686			1.94	Si
SLD 4	1186	-2163	2101	90620		0.72	107.59	0.98	2943			1.4	Si
SLD 4	1396	-2760	1441	-98105		0.78	126.61	0.99	3506			2.43	Si
SLV 8	1186	-875	2779	90604		0	0	0.83	0			0	No, Vu<V
SLV 8	1396	-1820	1905	-55125		0.46	142.38	0.92	3686			1.94	Si
SLV 16	1186	-2854	-1347	-84459		0.71	144.47	0.97	3942			2.93	Si
SLV 16	1396	-497	-118	81036		0	0	0.83	0			0	No, Vu<V
SLD 3	1186	-2163	2101	90620		0.72	107.59	0.98	2943			1.4	Si
SLD 3	1396	-2760	1441	-98105		0.78	126.61	0.99	3506			2.43	Si
SLV 2	1186	-2440	3083	154211		2	43.68	1.23	1507			0.49	No, Vu<V
SLV 2	1396	-3972	1825	-180900		1.47	96.61	1.13	3049			1.67	Si
SLV 4	1186	-1499	3769	165180		0	0	0.83	0			0	No, Vu<V
SLV 4	1396	-3457	2243	-162131		1.33	92.54	1.1	2851			1.27	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1345.4 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 16	14	0.53	0	-875	17890	0	0	No, e>t/2
SLV 15	14	0.53	0	-875	17890	0	0	No, e>t/2
SLV 14	14	0.53	0.3	-1290	17890	17623	0.99	No, M>Mu
SLV 13	14	0.53	0.3	-1290	17890	17623	0.99	No, M>Mu
SLV 11	14	0.53	0.3	-1290	17890	17623	0.99	No, M>Mu
SLV 12	14	0.53	0.3	-1290	17890	17623	0.99	No, M>Mu
SLV 7	14	0.53	0.47	-2061	17890	27735	1.55	Si
SLV 8	14	0.53	0.47	-2061	17890	27735	1.55	Si
SLV 9	14	0.53	0.61	-2673	17890	35548	1.99	Si
SLV 10	14	0.53	0.61	-2673	17890	35548	1.99	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1345.4 Wa = 0.05 Ta = 0.0606

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 8	-1241	-875	175	0	3.389	0.889	0	929.695	No
SLV 4	-1174	-1499	210	0	3.329	0.889	0	995.545	No
SLV 1	-1018	-2440	161	0	3.19	0.89	0	995.545	No
SLV 2	-1018	-2440	161	0	3.19	0.89	0	995.545	No
SLV 3	-1174	-1499	210	0	3.329	0.889	0	995.545	No
SLV 7	-1241	-875	175	0	3.389	0.889	0	929.695	No
SLV 13	-688	-3795	-102	0.019	2.915	0.897	31.445	995.545	No
SLV 14	-688	-3795	-102	0.019	2.915	0.897	31.445	995.545	No
SLV 11	-1142	-1282	97	0.026	3.3	0.889	43.315	929.695	No
SLV 12	-1142	-1282	97	0.026	3.3	0.889	43.315	929.695	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.966	SLU 19	Si
V_SLU	2.044	SLU 82	Si
PF_SLV	0	SLV 3	No
V_SLV	0	SLV 3	No
PFFP_SLV	0	SLV 15	No
R_SLV	0	SLV 1	No

## Maschio 227

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-741.3	-335.9	-854.8	-335.9	L6	F1	113.5	28	318.7	318.6	318.7			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 31	1276	-2468	-8552	0.78	126685	14.814	Si
SLU 31	1456	-1625	-18330	0.51	86416	4.714	Si
SLU 2	1276	-2229	-3563	0.7	115603	32.448	Si
SLU 2	1456	-1325	-16209	0.42	71333	4.401	Si
SLU 82	1276	-2988	-12310	0.94	149989	12.184	Si
SLU 82	1456	-1716	-18877	0.54	90944	4.818	Si
SLU 61	1276	-2720	-8694	0.86	138161	15.891	Si
SLU 61	1456	-1438	-17612	0.45	77059	4.375	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 19	1276	-2162	-7433	0.68	112467	15.13	Si
SLU 19	1456	-1230	-15004	0.39	66478	4.431	Si
SLU 10	1276	-2200	-4936	0.69	114247	23.146	Si
SLU 10	1456	-1346	-17066	0.42	72419	4.244	Si
SLU 52	1276	-2758	-6197	0.87	139848	22.568	Si
SLU 52	1456	-1554	-19673	0.49	82893	4.213	Si
SLU 65	1276	-3054	-8440	0.96	152884	18.115	Si
SLU 65	1456	-1811	-20082	0.57	95596	4.76	Si
SLU 73	1276	-3026	-9813	0.95	151632	15.453	Si
SLU 73	1456	-1833	-20938	0.58	96637	4.615	Si
SLU 44	1276	-2787	-4824	0.88	141134	29.259	Si
SLU 44	1456	-1533	-18817	0.48	81827	4.349	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 4	1276	-761	100978	0	0	0	No, $e \geq l/2$
SLV 4	1456	-1143	-72716	0	0	0	No, $e \geq l/2$
SLV 11	1276	-1561	-85138	0.49	85020	0.999	No, $M > Mu$
SLV 11	1456	605	76148	0	0	0	No, Trazione
SLD 11	1276	-1968	-41032	0.62	106006	2.584	Si
SLD 11	1456	-421	24524	0	0	0	No, $e \geq l/2$
SLV 16	1276	-3093	-143705	0.97	161524	1.124	Si
SLV 16	1456	-121	88824	0	0	0	No, $e \geq l/2$
SLD 12	1276	-1968	-41032	0.62	106006	2.584	Si
SLD 12	1456	-421	24524	0	0	0	No, $e \geq l/2$
SLV 12	1276	-1561	-85138	0.49	85020	0.999	No, $M > Mu$
SLV 12	1456	605	76148	0	0	0	No, Trazione
SLV 8	1276	-862	-11734	0.27	47810	4.075	Si
SLV 8	1456	299	27686	0	0	0	No, Trazione
SLV 2	1276	-1375	124183	0	0	0	No, $e \geq l/2$
SLV 2	1456	-2073	-110313	0.65	111346	1.009	Si
SLV 3	1276	-761	100978	0	0	0	No, $e \geq l/2$
SLV 3	1456	-1143	-72716	0	0	0	No, $e \geq l/2$
SLV 7	1276	-862	-11734	0.27	47810	4.075	Si
SLV 7	1456	299	27686	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 27	1276	-3851	-345	-28628		1.21	113.5	0.72	2279			6.6	Si
SLU 27	1456	-2491	-181	-8155		0.78	113.5	0.66	2098			11.59	Si
SLU 35	1276	-3822	-341	-30002		1.2	113.5	0.72	2275			6.68	Si
SLU 35	1456	-2512	-139	-9011		0.79	113.5	0.66	2101			15.12	Si
SLU 72	1276	-4258	-346	-27063		1.34	113.5	0.73	2333			6.74	Si
SLU 72	1456	-2728	-167	-11923		0.86	113.5	0.67	2129			12.76	Si
SLU 71	1276	-4220	-350	-29927		1.33	113.5	0.73	2328			6.66	Si
SLU 71	1456	-2540	-190	-8280		0.8	113.5	0.66	2104			11.1	Si
SLU 29	1276	-3662	-353	-28666		1.15	113.5	0.71	2254			6.39	Si
SLU 29	1456	-2332	-203	-5672		0.73	113.5	0.65	2076			10.2	Si
SLU 79	1276	-4192	-345	-31300		1.32	113.5	0.73	2324			6.74	Si
SLU 79	1456	-2561	-147	-9137		0.81	113.5	0.66	2107			14.29	Si
SLU 38	1276	-3672	-345	-27176		1.16	113.5	0.71	2255			6.54	Si
SLU 38	1456	-2541	-139	-10171		0.8	113.5	0.66	2104			15.17	Si
SLU 28	1276	-3889	-342	-25765		1.22	113.5	0.72	2284			6.68	Si
SLU 28	1456	-2679	-158	-11797		0.84	113.5	0.67	2123			13.4	Si
SLU 30	1276	-3700	-349	-25803		1.16	113.5	0.71	2259			6.47	Si
SLU 30	1456	-2520	-181	-9315		0.79	113.5	0.66	2102			11.62	Si
SLU 37	1276	-3634	-348	-30039		1.14	113.5	0.71	2250			6.46	Si
SLU 37	1456	-2353	-161	-6529		0.74	113.5	0.65	2079			12.88	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 1	1276	-1375	2370	124183		0	0	0.83	0			0	No, $V_u < V$
SLV 1	1456	-2073	960	-110313		6.99	10.58	1.63	482			0.5	No, $V_u < V$
SLV 7	1276	-862	-564	-11734		0.27	113.5	0.89	2821			5	Si
SLV 7	1456	299	-1393	27686		0	0	0.83	0			0	No, $V_u < V$
SLV 4	1276	-761	1682	100978		0	0	0.83	0			0	No, $V_u < V$
SLV 4	1456	-1143	8	-72716		0	0	0.83	0			0	No, $V_u < V$
SLV 12	1276	-1561	-1801	-85138		8.43	6.62	1.63	301			0.17	No, $V_u < V$
SLV 12	1456	605	-1642	76148		0	0	0.83	0			0	No, $V_u < V$
SLV 3	1276	-761	1682	100978		0	0	0.83	0			0	No, $V_u < V$
SLV 3	1456	-1143	8	-72716		0	0	0.83	0			0	No, $V_u < V$
SLD 11	1276	-1968	-755	-41032		0.65	107.69	0.96	2906			3.85	Si
SLD 11	1456	-421	-616	24524		0	0	0.83	0			0	No, $V_u < V$
SLV 15	1276	-3093	-2441	-143705		3.58	30.84	1.55	1338			0.55	No, $V_u < V$
SLV 15	1456	-121	-821	88824		0	0	0.83	0			0	No, $V_u < V$
SLV 16	1276	-3093	-2441	-143705		3.58	30.84	1.55	1338			0.55	No, $V_u < V$
SLV 16	1456	-121	-821	88824		0	0	0.83	0			0	No, $V_u < V$
SLD 12	1276	-1968	-755	-41032		0.65	107.69	0.96	2906			3.85	Si
SLD 12	1456	-421	-616	24524		0	0	0.83	0			0	No, $V_u < V$
SLV 11	1276	-1561	-1801	-85138		8.43	6.62	1.63	301			0.17	No, $V_u < V$
SLV 11	1456	605	-1642	76148		0	0	0.83	0			0	No, $V_u < V$

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1345.3 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.53	0	2154	13044	0	0	No, Trazione
SLV 8	14	0.53	0	2790	13044	0	0	No, Trazione
SLV 7	14	0.53	0	2790	13044	0	0	No, Trazione
SLV 12	14	0.53	0	2154	13044	0	0	No, Trazione



Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 3	14	0.53	0	440	13044	0	0	No, Trazione
SLV 4	14	0.53	0	440	13044	0	0	No, Trazione
SLV 16	14	0.53	0.53	-1681	13044	22518	1.73	Si
SLV 15	14	0.53	0.53	-1681	13044	22518	1.73	Si
SLV 2	14	0.53	0.7	-2210	13044	29183	2.24	Si
SLV 1	14	0.53	0.7	-2210	13044	29183	2.24	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1345.3  $W_a = 0.05$   $T_a = 0.0606$

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 11	-904	1805	-124	0	0	0	0	928.836	No, Trazione
SLV 7	-903	1154	-118	0	0	0	0	928.836	No, Trazione
SLV 9	-435	-5904	130	0	2.075	0.901	0	928.836	No
SLV 10	-435	-5904	130	0	2.075	0.901	0	928.836	No
SLV 5	-434	-6556	135	0	2.074	0.901	0	928.836	No
SLV 8	-903	1154	-118	0	0	0	0	928.836	No, Trazione
SLV 12	-904	1805	-124	0	0	0	0	928.836	No, Trazione
SLV 6	-434	-6556	135	0	2.074	0.901	0	928.836	No
SLV 2	-597	-4617	53	0.035	2.203	0.893	57.559	994.549	No
SLV 1	-597	-4617	53	0.035	2.203	0.893	57.559	994.549	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.213	SLU 52	Si
V_SLU	6.388	SLU 29	Si
PF_SLV	0	SLV 12	No
V_SLV	0	SLD 11	No
PFFP_SLV	0	SLV 12	No
R_SLV	0	SLV 12	No

## Maschio 228

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-600.8	-335.9	-651.3	-335.9	L6	F1	50.5	28	318.5	318.5	318.6			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.l) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 40	1386	-397	-5475	0.28	9672	1.767	Si
SLU 40	1466	-473	3569	0.33	11448	3.207	Si
SLU 26	1386	-293	-3852	0.21	7220	1.875	Si
SLU 26	1466	-682	4081	0.48	16192	3.968	Si
SLU 13	1386	-270	-3478	0.19	6657	1.914	Si
SLU 13	1466	-541	3507	0.38	13016	3.711	Si
SLU 73	1386	-456	-6037	0.32	11069	1.833	Si
SLU 73	1466	-466	3720	0.33	11291	3.035	Si
SLU 31	1386	-325	-5116	0.23	7967	1.557	Si
SLU 31	1466	-398	3530	0.28	9707	2.75	Si
SLU 23	1386	-321	-4608	0.23	7881	1.71	Si
SLU 23	1466	-385	3111	0.27	9389	3.018	Si
SLU 34	1386	-297	-4360	0.21	7306	1.676	Si
SLU 34	1466	-695	4499	0.49	16493	3.665	Si
SLU 42	1386	-369	-4718	0.26	9020	1.912	Si
SLU 42	1466	-770	4539	0.54	18137	3.996	Si
SLU 2	1386	-294	-3726	0.21	7235	1.942	Si
SLU 2	1466	-230	2119	0.16	5702	2.691	Si
SLU 10	1386	-298	-4234	0.21	7321	1.729	Si
SLU 10	1466	-244	2538	0.17	6029	2.376	Si

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 15	1386	-462	-5872	0.33	11342	1.931	Si
SLV 15	1466	-175	13219	0	0	0	No, e>l/2
SLV 7	1386	1138	9400	0	0	0	No, Trazione
SLV 7	1466	868	-4644	0	0	0	No, Trazione
SLD 8	1386	181	1019	0	0	0	No, Trazione
SLD 8	1466	89	-581	0	0	0	No, Trazione
SLV 4	1386	396	4328	0	0	0	No, Trazione
SLV 4	1466	46	-10802	0	0	0	No, Trazione
SLV 8	1386	1138	9400	0	0	0	No, Trazione
SLV 8	1466	868	-4644	0	0	0	No, Trazione
SLV 12	1386	881	6340	0	0	0	No, Trazione
SLV 12	1466	802	2563	0	0	0	No, Trazione
SLV 3	1386	396	4328	0	0	0	No, Trazione
SLV 3	1466	46	-10802	0	0	0	No, Trazione
SLV 11	1386	881	6340	0	0	0	No, Trazione
SLV 11	1466	802	2563	0	0	0	No, Trazione
SLD 7	1386	181	1019	0	0	0	No, Trazione
SLD 7	1466	89	-581	0	0	0	No, Trazione



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 16	1386	-462	-5872	0.33	11342	1.931	Si
SLV 16	1466	-175	13219	0	0	0	No, $e>1/2$

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 72	1386	-468	-280	-4158		0.34	49.1	0.6	826			2.95	Si
SLU 72	1466	-1115	393	5102		0.79	50.5	0.66	934			2.38	Si
SLU 38	1386	-340	-270	-3744		0.28	42.69	0.59	709			2.62	Si
SLU 38	1466	-1061	400	5329		0.75	50.5	0.66	927			2.32	Si
SLU 36	1386	-503	-291	-4509		0.37	48.86	0.6	827			2.84	Si
SLU 36	1466	-1164	399	4935		0.82	50.5	0.67	941			2.36	Si
SLU 80	1386	-472	-304	-4666		0.37	46.07	0.6	780			2.56	Si
SLU 80	1466	-1129	425	5520		0.8	50.5	0.66	936			2.2	Si
SLU 78	1386	-635	-325	-5430		0.45	50.09	0.62	864			2.66	Si
SLU 78	1466	-1232	424	5126		0.87	50.5	0.67	950			2.24	Si
SLU 73	1386	-456	-266	-6037		0.45	36.07	0.62	622			2.33	Si
SLU 73	1466	-466	300	3720		0.33	50.5	0.6	848			2.83	Si
SLU 79	1386	-577	-305	-4878		0.41	50.41	0.61	861			2.82	Si
SLU 79	1466	-1232	406	5311		0.87	50.5	0.67	950			2.34	Si
SLU 34	1386	-297	-251	-4360		0.33	31.71	0.6	533			2.12	Si
SLU 34	1466	-695	343	4499		0.49	50.5	0.62	878			2.56	Si
SLU 76	1386	-429	-285	-5281		0.39	38.8	0.61	661			2.32	Si
SLU 76	1466	-763	369	4690		0.54	50.5	0.63	887			2.41	Si
SLU 31	1386	-325	-233	-5116		0.41	28.48	0.61	486			2.09	Si
SLU 31	1466	-398	274	3530		0.29	49.16	0.59	818			2.98	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	1386	-462	-505	-5872		0.44	37.58	0.92	969			1.92	Si
SLV 16	1466	-175	387	13219		0	0	0.83	0			0	No, $V_u < V$
SLV 8	1386	1138	227	9400		0	0	0.83	0			0	No, $V_u < V$
SLV 8	1466	868	622	-4644		0	0	0.83	0			0	No, $V_u < V$
SLD 7	1386	181	-18	1019		0	0	0.83	0			0	No, $V_u < V$
SLD 7	1466	89	361	-581		0	0	0.83	0			0	No, $V_u < V$
SLD 8	1386	181	-18	1019		0	0	0.83	0			0	No, $V_u < V$
SLD 8	1466	89	361	-581		0	0	0.83	0			0	No, $V_u < V$
SLV 4	1386	396	310	4328		0	0	0.83	0			0	No, $V_u < V$
SLV 4	1466	46	247	-10802		0	0	0.83	0			0	No, $V_u < V$
SLV 3	1386	396	310	4328		0	0	0.83	0			0	No, $V_u < V$
SLV 3	1466	46	247	-10802		0	0	0.83	0			0	No, $V_u < V$
SLV 15	1386	-462	-505	-5872		0.44	37.58	0.92	969			1.92	Si
SLV 15	1466	-175	387	13219		0	0	0.83	0			0	No, $V_u < V$
SLV 7	1386	1138	227	9400		0	0	0.83	0			0	No, $V_u < V$
SLV 7	1466	868	622	-4644		0	0	0.83	0			0	No, $V_u < V$
SLV 12	1386	881	-17	6340		0	0	0.83	0			0	No, $V_u < V$
SLV 12	1466	802	664	2563		0	0	0.83	0			0	No, $V_u < V$
SLV 11	1386	881	-17	6340		0	0	0.83	0			0	No, $V_u < V$
SLV 11	1466	802	664	2563		0	0	0.83	0			0	No, $V_u < V$

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1345.3 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.53	0	521	5799	0	0	No, Trazione
SLV 8	14	0.53	0	521	5799	0	0	No, Trazione
SLV 3	14	0.53	0	-255	5799	0	0	No, $e>t/2$
SLV 4	14	0.53	0	-255	5799	0	0	No, $e>t/2$
SLV 15	14	0.53	0	167	5799	0	0	No, Trazione
SLV 12	14	0.53	0	648	5799	0	0	No, Trazione
SLV 14	14	0.53	0	-371	5799	0	0	No, $e>t/2$
SLV 13	14	0.53	0	-371	5799	0	0	No, $e>t/2$
SLV 11	14	0.53	0	648	5799	0	0	No, Trazione
SLV 16	14	0.53	0	167	5799	0	0	No, Trazione

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzaria = 1345.3 Wa = 0.05 Ta = 0.0605

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 3	928	-476	-32	0	0	0	0	993.779	No, Trazione
SLV 11	1208	-492	-38	0	0	0	0	928.172	No, Trazione
SLV 7	1485	-467	-39	0	0	0	0	928.172	No, Trazione
SLV 12	1208	-492	-38	0	0	0	0	928.172	No, Trazione
SLV 2	175	-510	-25	0	0	0	0	993.779	No, Trazione
SLV 1	175	-510	-25	0	0	0	0	993.779	No, Trazione
SLV 15	6	-560	-28	0	0	0	0	993.779	No, Trazione
SLV 8	1485	-467	-39	0	0	0	0	928.172	No, Trazione
SLV 16	6	-560	-28	0	0	0	0	993.779	No, Trazione
SLV 4	928	-476	-32	0	0	0	0	993.779	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.557	SLV 31	Si
V_SLV	2.088	SLV 31	Si
PF_SLV	0	SLV 12	No
V_SLV	0	SLD 7	No
PFFP_SLV	0	SLV 16	No
R_SLV	0	SLV 16	No



## Maschio 229

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-318.3	-335.9	-550.8	-335.9	L6	F1	232.5	28	318.4	318.3	318.5			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 82	1386	-2907	9671	0.45	319414	33.028	Si
SLU 82	1466	-1691	20962	0.26	190304	9.079	Si
SLU 10	1386	-1938	8340	0.3	217036	26.022	Si
SLU 10	1466	-1041	17129	0.16	118695	6.929	Si
SLU 2	1386	-1971	2992	0.3	220576	73.714	Si
SLU 2	1466	-1052	14225	0.16	119891	8.428	Si
SLU 73	1386	-2812	8226	0.43	309536	37.631	Si
SLU 73	1466	-1614	21010	0.25	181941	8.66	Si
SLU 31	1386	-2243	7766	0.34	249753	32.16	Si
SLU 31	1466	-1340	18016	0.21	151827	8.427	Si
SLU 19	1386	-2033	9786	0.31	227279	23.225	Si
SLU 19	1466	-1118	17081	0.17	127250	7.45	Si
SLU 40	1386	-2339	9211	0.36	259869	28.212	Si
SLU 40	1466	-1417	17968	0.22	160282	8.92	Si
SLU 61	1386	-2601	10246	0.4	287586	28.069	Si
SLU 61	1466	-1393	20074	0.21	157632	7.853	Si
SLU 44	1386	-2539	3452	0.39	281038	81.413	Si
SLU 44	1466	-1327	17218	0.2	150352	8.732	Si
SLU 52	1386	-2506	8800	0.38	277580	31.543	Si
SLU 52	1466	-1316	20122	0.2	149169	7.413	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 8	1386	-2391	61562	0.37	269591	4.379	Si
SLV 8	1466	-1335	-51353	0.21	152555	2.971	Si
SLV 14	1386	-1900	-63937	0.29	215566	3.372	Si
SLV 14	1466	-1294	44238	0.2	147992	3.345	Si
SLV 12	1386	-2126	29663	0.33	240566	8.11	Si
SLV 12	1466	-1305	-42694	0.2	149259	3.496	Si
SLV 7	1386	-2391	61562	0.37	269591	4.379	Si
SLV 7	1466	-1335	-51353	0.21	152555	2.971	Si
SLV 10	1386	-2253	-57082	0.35	254477	4.458	Si
SLV 10	1466	-1341	75505	0.21	153226	2.029	Si
SLV 13	1386	-1900	-63937	0.29	215566	3.372	Si
SLV 13	1466	-1294	44238	0.2	147992	3.345	Si
SLV 6	1386	-2518	-25183	0.39	283404	11.254	Si
SLV 6	1466	-1370	66845	0.21	156518	2.342	Si
SLV 9	1386	-2253	-57082	0.35	254477	4.458	Si
SLV 9	1466	-1341	75505	0.21	153226	2.029	Si
SLV 11	1386	-2126	29663	0.33	240566	8.11	Si
SLV 11	1466	-1305	-42694	0.2	149259	3.496	Si
SLV 5	1386	-2518	-25183	0.39	283404	11.254	Si
SLV 5	1466	-1370	66845	0.21	156518	2.342	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 76	1386	-3298	-139	-4067		0.51	232.5	0.62	4056			29.13	Si
SLU 76	1466	-2087	-51	11214		0.32	232.5	0.6	3895			76.02	Si
SLU 31	1386	-2243	-142	7766		0.34	232.5	0.6	3916			27.57	Si
SLU 31	1466	-1340	-112	18016		0.21	232.5	0.58	3795			33.74	Si
SLU 23	1386	-2276	-141	2418		0.35	232.5	0.6	3920			27.8	Si
SLU 23	1466	-1351	-99	15112		0.21	232.5	0.58	3797			38.44	Si
SLU 34	1386	-2730	-152	-4526		0.42	232.5	0.61	3981			26.26	Si
SLU 34	1466	-1813	-46	8221		0.28	232.5	0.59	3858			83.58	Si
SLU 65	1386	-2845	-129	2878		0.44	232.5	0.61	3996			31.05	Si
SLU 65	1466	-1625	-104	18106		0.25	232.5	0.59	3833			36.92	Si
SLU 68	1386	-3331	-138	-9415		0.51	232.5	0.62	4061			29.38	Si
SLU 68	1466	-2098	-38	8310		0.32	232.5	0.6	3896			103.82	Si
SLU 5	1386	-2457	-125	-9300		0.38	232.5	0.61	3944			31.62	Si
SLU 5	1466	-1525	-14	4429		0.23	232.5	0.59	3820			274.46	Si
SLU 13	1386	-2424	-126	-3952		0.37	232.5	0.61	3940			31.33	Si
SLU 13	1466	-1514	-28	7333		0.23	232.5	0.59	3819			138.23	Si
SLU 26	1386	-2763	-151	-9874		0.42	232.5	0.61	3985			26.47	Si
SLU 26	1466	-1823	-32	5317		0.28	232.5	0.59	3860			118.91	Si
SLU 73	1386	-2812	-130	8226		0.43	232.5	0.61	3992			30.77	Si
SLU 73	1466	-1614	-118	21010		0.25	232.5	0.59	3832			32.6	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 7	1386	-2391	2137	61562		0.37	232.5	0.91	5903			2.76	Si
SLV 7	1466	-1335	1297	-51353		0.21	232.5	0.87	5692			4.39	Si
SLV 3	1386	-2744	2125	68416		0.42	232.5	0.92	5974			2.81	Si
SLV 3	1466	-1381	1186	-20087		0.21	232.5	0.88	5701			4.81	Si





Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 11	1386	-2126	1160	29663		0.33	232.5	0.9	5850			5.04	Si
SLV 11	1466	-1305	750	-42694		0.2	232.5	0.87	5686			7.58	Si
SLV 4	1386	-2744	2125	68416		0.42	232.5	0.92	5974			2.81	Si
SLV 4	1466	-1381	1186	-20087		0.21	232.5	0.88	5701			4.81	Si
SLV 12	1386	-2126	1160	29663		0.33	232.5	0.9	5850			5.04	Si
SLV 12	1466	-1305	750	-42694		0.2	232.5	0.87	5686			7.58	Si
SLV 14	1386	-1900	-2117	-63937		0.29	232.5	0.89	5805			2.74	Si
SLV 14	1466	-1294	-1281	44238		0.2	232.5	0.87	5684			4.44	Si
SLV 8	1386	-2391	2137	61562		0.37	232.5	0.91	5903			2.76	Si
SLV 8	1466	-1335	1297	-51353		0.21	232.5	0.87	5692			4.39	Si
SLV 10	1386	-2253	-2129	-57082		0.35	232.5	0.9	5876			2.76	Si
SLV 10	1466	-1341	-1392	75505		0.27	179.79	0.89	4463			3.21	Si
SLV 9	1386	-2253	-2129	-57082		0.35	232.5	0.9	5876			2.76	Si
SLV 9	1466	-1341	-1392	75505		0.27	179.79	0.89	4463			3.21	Si
SLV 13	1386	-1900	-2117	-63937		0.29	232.5	0.89	5805			2.74	Si
SLV 13	1466	-1294	-1281	44238		0.2	232.5	0.87	5684			4.44	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1345.2 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.53	0.34	-2239	26673	30461	1.14	Si
SLV 8	14	0.53	0.34	-2239	26673	30461	1.14	Si
SLV 4	14	0.53	0.36	-2342	26673	31818	1.19	Si
SLV 3	14	0.53	0.36	-2342	26673	31818	1.19	Si
SLV 11	14	0.53	0.37	-2407	26673	32684	1.23	Si
SLV 12	14	0.53	0.37	-2407	26673	32684	1.23	Si
SLV 2	14	0.53	0.4	-2598	26673	35189	1.32	Si
SLV 1	14	0.53	0.4	-2598	26673	35189	1.32	Si
SLV 16	14	0.53	0.45	-2904	26673	39166	1.47	Si
SLV 15	14	0.53	0.45	-2904	26673	39166	1.47	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 1345.2 Wa = 0.05 Ta = 0.0605

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 7	-1090	-2570	340	0	4.402	0.896	0	927.421	No
SLV 5	-490	-4631	-254	0	3.975	0.924	0	927.421	No
SLV 11	-1077	-2577	339	0	4.392	0.896	0	927.421	No
SLV 8	-1090	-2570	340	0	4.402	0.896	0	927.421	No
SLV 12	-1077	-2577	339	0	4.392	0.896	0	927.421	No
SLV 9	-477	-4638	-255	0	3.968	0.925	0	927.421	No
SLV 10	-477	-4638	-255	0	3.968	0.925	0	927.421	No
SLV 6	-490	-4631	-254	0	3.975	0.924	0	927.421	No
SLV 3	-895	-3284	133	0.025	4.25	0.901	40.988	992.91	No
SLV 4	-895	-3284	133	0.025	4.25	0.901	40.988	992.91	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	6.929	SLV 10	Si
V_SLV	26.263	SLV 34	Si
PF_SLV	2.029	SLV 9	Si
V_SLV	2.742	SLV 13	Si
PFFP_SLV	1.142	SLV 7	Si
R_SLV	0	SLV 5	No

## Maschio 230

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-12.3	-335.9	-228.3	-335.9	L6	F1	216	28	318.2	318.1	318.2			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 34	1276	-3277	-123153	0.54	330348	2.682	Si
SLU 34	1456	-2624	39645	0.43	268312	6.768	Si
SLU 73	1276	-3519	-123160	0.58	352896	2.865	Si
SLU 73	1456	-2318	35961	0.38	238519	6.633	Si
SLU 39	1276	-2795	-95736	0.46	284761	2.974	Si
SLU 39	1456	-2041	41034	0.34	211307	5.15	Si
SLU 13	1276	-3084	-103283	0.51	312213	3.023	Si
SLU 13	1456	-2232	31241	0.37	230099	7.365	Si
SLU 31	1276	-2732	-115898	0.45	278697	2.405	Si
SLU 31	1456	-1973	28634	0.33	204577	7.145	Si
SLU 10	1276	-2539	-96028	0.42	260102	2.709	Si
SLU 10	1456	-1581	20230	0.26	165244	8.168	Si
SLU 82	1276	-3501	-120306	0.58	351225	2.919	Si
SLU 82	1456	-2354	40670	0.39	242095	5.953	Si
SLU 19	1276	-2521	-93174	0.42	258353	2.773	Si
SLU 19	1456	-1617	24938	0.27	168938	6.774	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 40	1276	-2714	-113044	0.45	276964	2.45	Si
SLU 40	1456	-2010	33342	0.33	208209	6.245	Si
SLU 42	1276	-3259	-120299	0.54	328658	2.732	Si
SLU 42	1456	-2661	44353	0.44	271840	6.129	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 15	1276	-2315	-87044	0.38	242191	2.782	Si
SLV 15	1456	-1948	122337	0.32	204820	1.674	Si
SLV 9	1276	-3382	-197348	0.56	348571	1.766	Si
SLV 9	1456	-2061	-33481	0.34	216429	6.464	Si
SLV 16	1276	-2315	-87044	0.38	242191	2.782	Si
SLV 16	1456	-1948	122337	0.32	204820	1.674	Si
SLV 8	1276	-2318	80581	0.38	242497	3.009	Si
SLV 8	1456	-1376	105784	0.23	145844	1.379	Si
SLV 11	1276	-2111	41856	0.35	221511	5.292	Si
SLV 11	1456	-1559	141727	0.26	164791	1.163	Si
SLV 7	1276	-2318	80581	0.38	242497	3.009	Si
SLV 7	1456	-1376	105784	0.23	145844	1.379	Si
SLV 12	1276	-2111	41856	0.35	221511	5.292	Si
SLV 12	1456	-1559	141727	0.26	164791	1.163	Si
SLV 14	1276	-2696	-158806	0.45	280577	1.767	Si
SLV 14	1456	-2099	69775	0.35	220218	3.156	Si
SLV 10	1276	-3382	-197348	0.56	348571	1.766	Si
SLV 10	1456	-2061	-33481	0.34	216429	6.464	Si
SLV 13	1276	-2696	-158806	0.45	280577	1.767	Si
SLV 13	1456	-2099	69775	0.35	220218	3.156	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 76	1276	-4064	-1940	-130416		0.67	216	0.65	3902			2.01	Si
SLU 76	1456	-2968	-1829	46973		0.49	216	0.62	3756			2.05	Si
SLU 84	1276	-4046	-1976	-127562		0.67	216	0.64	3899			1.97	Si
SLU 84	1456	-3005	-1878	51681		0.5	216	0.62	3761			2	Si
SLU 78	1276	-4918	-2113	-120624		0.81	216	0.66	4016			1.9	Si
SLU 78	1456	-3966	-1985	71853		0.66	216	0.64	3889			1.96	Si
SLU 75	1276	-4373	-1935	-113369		0.72	216	0.65	3943			2.04	Si
SLU 75	1456	-3315	-1844	60841		0.55	216	0.63	3802			2.06	Si
SLU 36	1276	-4131	-1944	-113362		0.68	216	0.65	3911			2.01	Si
SLU 36	1456	-3622	-1818	64525		0.6	216	0.64	3843			2.11	Si
SLU 77	1276	-4999	-2018	-103316		0.83	216	0.67	4027			2	Si
SLU 77	1456	-3997	-1912	79545		0.66	216	0.64	3893			2.04	Si
SLU 80	1276	-4662	-2054	-126132		0.77	216	0.66	3982			1.94	Si
SLU 80	1456	-3640	-1921	63112		0.6	216	0.64	3845			2	Si
SLU 42	1276	-3259	-1807	-120299		0.55	213.25	0.63	3752			2.08	Si
SLU 42	1456	-2661	-1711	44353		0.44	216	0.61	3715			2.17	Si
SLU 38	1276	-3876	-1886	-118870		0.64	216	0.64	3877			2.06	Si
SLU 38	1456	-3296	-1754	55784		0.54	216	0.63	3799			2.17	Si
SLU 79	1276	-4744	-1959	-108824		0.78	216	0.66	3992			2.04	Si
SLU 79	1456	-3671	-1848	70804		0.61	216	0.64	3850			2.08	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 8	1276	-2318	-609	80581		0.38	216	0.91	5504			9.04	Si
SLV 8	1456	-1376	-1556	105784		0.53	93.37	0.94	2454			1.58	Si
SLV 16	1276	-2315	-2392	-87044		0.39	211.2	0.91	5391			2.25	Si
SLV 16	1456	-1948	-1156	122337		0.51	135.58	0.94	3553			3.07	Si
SLV 13	1276	-2696	-2418	-158806		0.65	147.31	0.96	3976			1.64	Si
SLV 13	1456	-2099	-845	69775		0.35	216	0.9	5460			6.46	Si
SLV 7	1276	-2318	-609	80581		0.38	216	0.91	5504			9.04	Si
SLV 7	1456	-1376	-1556	105784		0.53	93.37	0.94	2454			1.58	Si
SLV 11	1276	-2111	-1418	41856		0.35	216	0.9	5462			3.85	Si
SLV 11	1456	-1559	-1539	141727		1.09	51.22	1.05	1507			0.98	No, Vu<V
SLV 12	1276	-2111	-1418	41856		0.35	216	0.9	5462			3.85	Si
SLV 12	1456	-1559	-1539	141727		1.09	51.22	1.05	1507			0.98	No, Vu<V
SLV 9	1276	-3382	-1505	-197348		0.81	148.96	1	4152			2.76	Si
SLV 9	1456	-2061	-503	-33481		0.34	216	0.9	5452			10.85	Si
SLV 15	1276	-2315	-2392	-87044		0.39	211.2	0.91	5391			2.25	Si
SLV 15	1456	-1948	-1156	122337		0.51	135.58	0.94	3553			3.07	Si
SLV 14	1276	-2696	-2418	-158806		0.65	147.31	0.96	3976			1.64	Si
SLV 14	1456	-2099	-845	69775		0.35	216	0.9	5460			6.46	Si
SLV 10	1276	-3382	-1505	-197348		0.81	148.96	1	4152			2.76	Si
SLV 10	1456	-2061	-503	-33481		0.34	216	0.9	5452			10.85	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1345 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.53	0.35	-2136	24742	29037	1.17	Si
SLV 12	14	0.53	0.35	-2136	24742	29037	1.17	Si
SLV 8	14	0.53	0.37	-2215	24742	30077	1.22	Si
SLV 7	14	0.53	0.37	-2215	24742	30077	1.22	Si
SLV 16	14	0.53	0.37	-2229	24742	30266	1.22	Si
SLV 15	14	0.53	0.37	-2229	24742	30266	1.22	Si
SLV 13	14	0.53	0.39	-2388	24742	32351	1.31	Si
SLV 14	14	0.53	0.39	-2388	24742	32351	1.31	Si
SLV 3	14	0.53	0.41	-2492	24742	33714	1.36	Si
SLV 4	14	0.53	0.41	-2492	24742	33714	1.36	Si



## Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1345 Wa = 0.05 Ta = 0.0604

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 11	-916	-2511	161	0.012	4.011	0.898	19.554	926.214	No
SLV 12	-916	-2511	161	0.012	4.011	0.898	19.554	926.214	No
SLV 15	-1060	-4166	144	0.02	4.126	0.895	32.127	991.509	No
SLV 16	-1060	-4166	144	0.02	4.126	0.895	32.127	991.509	No
SLV 7	-856	-2021	116	0.029	3.965	0.9	46.196	926.214	No
SLV 8	-856	-2021	116	0.029	3.965	0.9	46.196	926.214	No
SLV 13	-1124	-5096	85	0.041	4.178	0.893	66.748	991.509	No
SLV 14	-1124	-5096	85	0.041	4.178	0.893	66.748	991.509	No
SLV 5	-1068	-5120	-81	0.042	4.132	0.894	68.616	926.214	No
SLV 6	-1068	-5120	-81	0.042	4.132	0.894	68.616	926.214	No

### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.405	SLU 31	Si
V_SLU	1.901	SLU 78	Si
PF_SLV	1.163	SLV 11	Si
V_SLV	0.979	SLV 11	No
PFFP_SLV	1.174	SLV 11	Si
R_SLV	0.021	SLV 11	No

## Maschio 233

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1376.3	-485.9	-1314.3	-485.9	L2	Z medio 312 cm	62	30	274	274	274			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>k</sub>	f <sub>vk0</sub>	f <sub>medio</sub>	$\tau 0$	f <sub>v0</sub>	$\mu$	$\phi$	f <sub>v,lim</sub>	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 84	38	-7117	11475	3.83	116992	10.195	Si
SLU 84	288	-11634	73464	6.25	83727	1.14	Si
SLU 76	38	-6889	12145	3.7	116458	9.589	Si
SLU 76	288	-11235	71227	6.04	90025	1.264	Si
SLU 79	38	-7050	11483	3.79	116858	10.177	Si
SLU 79	288	-11464	72324	6.16	86494	1.196	Si
SLU 78	38	-7037	11970	3.78	116829	9.76	Si
SLU 78	288	-11485	72922	6.17	86151	1.181	Si
SLU 83	38	-7128	11048	3.83	117011	10.591	Si
SLU 83	288	-11594	72591	6.23	84379	1.162	Si
SLU 75	38	-6894	11919	3.71	116470	9.772	Si
SLU 75	288	-11191	70370	6.02	90683	1.289	Si
SLU 77	38	-7048	11543	3.79	116852	10.124	Si
SLU 77	288	-11446	72049	6.15	86779	1.204	Si
SLU 81	38	-6984	10997	3.75	116706	10.613	Si
SLU 81	288	-11300	70039	6.08	89043	1.271	Si
SLU 82	38	-6973	11424	3.75	116680	10.213	Si
SLU 82	288	-11339	70912	6.1	88438	1.247	Si
SLU 80	38	-7040	11911	3.78	116835	9.809	Si
SLU 80	288	-11503	73197	6.18	85863	1.173	Si

### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 8	38	-592	-43541	0	0	0	No, e>/2
SLV 8	288	-4825	42167	2.59	117821	2.794	Si
SLV 11	38	-1051	20597	0.56	31064	1.508	Si
SLV 11	288	1150	-58450	0	0	0	No, Trazione
SLV 12	38	-1051	20597	0.56	31064	1.508	Si
SLV 12	288	1150	-58450	0	0	0	No, Trazione
SLV 16	38	-4427	109815	2.38	110512	1.006	Si
SLV 16	288	3972	-136712	0	0	0	No, Trazione
SLV 7	38	-592	-43541	0	0	0	No, e>/2
SLV 7	288	-4825	42167	2.59	117821	2.794	Si
SLV 14	38	-6863	122150	3.69	148505	1.216	Si
SLV 14	288	416	-103176	0	0	0	No, Trazione
SLV 15	38	-4427	109815	2.38	110512	1.006	Si
SLV 15	288	3972	-136712	0	0	0	No, Trazione
SLV 3	38	-2898	-103977	0	0	0	No, e>/2
SLV 3	288	-15943	198678	8.57	147521	0.743	No, M>Mu
SLV 4	38	-2898	-103977	0	0	0	No, e>/2
SLV 4	288	-15943	198678	8.57	147521	0.743	No, M>Mu
SLV 13	38	-6863	122150	3.69	148505	1.216	Si
SLV 13	288	416	-103176	0	0	0	No, Trazione

### Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	I'	f <sub>vd</sub>	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 77	38	-7048	324	11543		3.79	62	1.06	1973			6.08	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 77	288	-11446	-1749	72049		6.15	62	1.08	2015			1.15	Si
SLU 75	38	-6894	343	11919		3.71	62	1.05	1952			5.69	Si
SLU 75	288	-11191	-1721	70370		6.02	62	1.08	2015			1.17	Si
SLU 83	38	-7128	328	11048		3.83	62	1.07	1984			6.05	Si
SLU 83	288	-11594	-1766	72591		6.23	62	1.08	2015			1.14	Si
SLU 84	38	-7117	345	11475		3.83	62	1.07	1982			5.75	Si
SLU 84	288	-11634	-1796	73464		6.25	62	1.08	2015			1.12	Si
SLU 63	38	-6783	332	11012		3.65	62	1.04	1938			5.84	Si
SLU 63	288	-11078	-1717	69933		5.96	62	1.08	2015			1.17	Si
SLU 78	38	-7037	342	11970		3.78	62	1.06	1972			5.77	Si
SLU 78	288	-11485	-1780	72922		6.17	62	1.08	2015			1.13	Si
SLU 82	38	-6973	346	11424		3.75	62	1.06	1963			5.67	Si
SLU 82	288	-11339	-1738	70912		6.1	62	1.08	2015			1.16	Si
SLU 76	38	-6889	352	12145		3.7	62	1.05	1952			5.54	Si
SLU 76	288	-11235	-1747	71227		6.04	62	1.08	2015			1.15	Si
SLU 79	38	-7050	323	11483		3.79	62	1.06	1973			6.12	Si
SLU 79	288	-11464	-1756	72324		6.16	62	1.08	2015			1.15	Si
SLU 80	38	-7040	340	11911		3.78	62	1.06	1972			5.81	Si
SLU 80	288	-11503	-1786	73197		6.18	62	1.08	2015			1.13	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 15	38	-4427	541	109815		7.94	18.59	1.63	906			1.68	Si
SLV 15	288	3972	4669	-136712		0	0	0.83	0			0	No, Vu<V
SLV 11	38	-1051	-376	20597		1.02	34.19	1.04	1065			2.83	Si
SLV 11	288	1150	2075	-58450		0	0	0.83	0			0	No, Vu<V
SLV 7	38	-592	-695	-43541		0	0	0.83	0			0	No, Vu<V
SLV 7	288	-4825	-1130	42167		2.59	62	1.35	2515			2.23	Si
SLV 12	38	-1051	-376	20597		1.02	34.19	1.04	1065			2.83	Si
SLV 12	288	1150	2075	-58450		0	0	0.83	0			0	No, Vu<V
SLV 8	38	-592	-695	-43541		0	0	0.83	0			0	No, Vu<V
SLV 8	288	-4825	-1130	42167		2.59	62	1.35	2515			2.23	Si
SLV 16	38	-4427	541	109815		7.94	18.59	1.63	906			1.68	Si
SLV 16	288	3972	4669	-136712		0	0	0.83	0			0	No, Vu<V
SLV 13	38	-6863	1008	122150		5.78	39.6	1.63	1931			1.92	Si
SLV 13	288	416	3686	-103176		0	0	0.83	0			0	No, Vu<V
SLV 4	38	-2898	-521	-103977		0	0	0.83	0			0	No, Vu<V
SLV 4	288	-15943	-6017	198678		9.56	55.62	1.63	2711			0.45	No, Vu<V
SLV 3	38	-2898	-521	-103977		0	0	0.83	0			0	No, Vu<V
SLV 3	288	-15943	-6017	198678		9.56	55.62	1.63	2711			0.45	No, Vu<V
SLV 14	38	-6863	1008	122150		5.78	39.6	1.63	1931			1.92	Si
SLV 14	288	416	3686	-103176		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 175 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.28	0.52	-959	3008	13772	4.58	Si
SLV 11	14	0.28	0.52	-959	3008	13772	4.58	Si
SLV 15	14	0.28	1.27	-2364	3008	31771	10.56	Si
SLV 16	14	0.28	1.27	-2364	3008	31771	10.56	Si
SLV 7	14	0.28	1.35	-2504	3008	33416	11.11	Si
SLV 8	14	0.28	1.35	-2504	3008	33416	11.11	Si
SLV 14	14	0.28	2.75	-5114	3008	59445	19.76	Si
SLV 13	14	0.28	2.75	-5114	3008	59445	19.76	Si
SLV 4	14	0.28	4.04	-7514	3008	75445	25.08	Si
SLV 3	14	0.28	4.04	-7514	3008	75445	25.08	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 175 Wa = 0.05 Ta = 0.0418

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 15	1460	-4427	4	0	0	0	0	465.202	No, Trazione
SLV 12	263	-1051	-10	0	0	0	0	444.711	No, Trazione
SLV 16	1460	-4427	4	0	0	0	0	465.202	No, Trazione
SLV 11	263	-1051	-10	0	0	0	0	444.711	No, Trazione
SLV 3	-10887	-2898	-10	0.056	11.804	0.981	83.077	465.202	No
SLV 4	-10887	-2898	-10	0.056	11.804	0.981	83.077	465.202	No
SLV 1	-13565	-5333	-2	0.056	14.533	0.984	83.267	465.202	No
SLV 2	-13565	-5333	-2	0.056	14.533	0.984	83.267	465.202	No
SLV 6	-12369	-8710	12	0.056	13.314	0.983	82.389	444.711	No
SLV 5	-12369	-8710	12	0.056	13.314	0.983	82.389	444.711	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.14	SLU 84	Si
V_SLU	1.122	SLU 84	Si
PF_SLV	0	SLV 16	No
V_SLV	0	SLV 3	No
PFFP_SLV	4.578	SLV 11	Si
R_SLV	0	SLV 16	No

## Maschio 234

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



## Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1174.3	-485.9	-1101.3	-485.9	L2	Z medio 312 cm	73	30	274	274	274			

## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 76	38	-7765	5219	3.55	160056	30.668	Si
SLU 76	288	-11289	-44460	5.15	151302	3.403	Si
SLU 84	38	-7969	8603	3.64	160936	18.707	Si
SLU 84	288	-11717	-46209	5.35	146773	3.176	Si
SLU 80	38	-8054	5791	3.68	161250	27.843	Si
SLU 80	288	-11648	-44606	5.32	147551	3.308	Si
SLU 77	38	-8023	7211	3.66	161140	22.346	Si
SLU 77	288	-11613	-44188	5.3	147938	3.348	Si
SLU 81	38	-7676	10314	3.51	159621	15.477	Si
SLU 81	288	-11355	-45256	5.18	150652	3.329	Si
SLU 78	38	-8026	5841	3.66	161150	27.587	Si
SLU 78	288	-11615	-44672	5.3	147920	3.311	Si
SLU 83	38	-7967	9973	3.64	160926	16.137	Si
SLU 83	288	-11716	-45725	5.35	146791	3.21	Si
SLU 82	38	-7679	8944	3.51	159634	17.849	Si
SLU 82	288	-11356	-45740	5.19	150636	3.293	Si
SLU 75	38	-7735	6182	3.53	159915	25.867	Si
SLU 75	288	-11254	-44203	5.14	151632	3.43	Si
SLU 79	38	-8051	7161	3.68	161240	22.516	Si
SLU 79	288	-11647	-44122	5.32	147569	3.345	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 12	38	-249	35277	0	0	0	No, e>l/2
SLV 12	288	-4795	-39898	2.19	143645	3.6	Si
SLV 16	38	-1149	65843	0	0	0	No, e>l/2
SLV 16	288	-16226	-221184	7.41	233128	1.054	Si
SLV 15	38	-1149	65843	0	0	0	No, e>l/2
SLV 15	288	-16226	-221184	7.41	233128	1.054	Si
SLV 3	38	-7137	-50836	3.26	191026	3.758	Si
SLV 3	288	4287	191867	0	0	0	No, Trazione
SLV 11	38	-249	35277	0	0	0	No, e>l/2
SLV 11	288	-4795	-39898	2.19	143645	3.6	Si
SLV 1	38	-9705	-59641	4.43	225761	3.785	Si
SLV 1	288	642	160394	0	0	0	No, Trazione
SLV 8	38	-2046	273	0.93	68956	252.594	Si
SLV 8	288	1359	84018	0	0	0	No, Trazione
SLV 2	38	-9705	-59641	4.43	225761	3.785	Si
SLV 2	288	642	160394	0	0	0	No, Trazione
SLV 7	38	-2046	273	0.93	68956	252.594	Si
SLV 7	288	1359	84018	0	0	0	No, Trazione
SLV 4	38	-7137	-50836	3.26	191026	3.758	Si
SLV 4	288	4287	191867	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 84	38	-7969	263	8603		3.64	73	1.04	2279			8.65	Si
SLU 84	288	-11717	1262	-46209		5.35	73	1.08	2373			1.88	Si
SLU 80	38	-8054	219	5791		3.68	73	1.05	2290			10.48	Si
SLU 80	288	-11648	1217	-44606		5.32	73	1.08	2373			1.95	Si
SLU 83	38	-7967	295	9973		3.64	73	1.04	2279			7.71	Si
SLU 83	288	-11716	1253	-45725		5.35	73	1.08	2373			1.89	Si
SLU 82	38	-7679	278	8944		3.51	73	1.02	2241			8.06	Si
SLU 82	288	-11356	1246	-45740		5.19	73	1.08	2373			1.9	Si
SLU 76	38	-7765	212	5219		3.55	73	1.03	2252			10.64	Si
SLU 76	288	-11289	1207	-44460		5.15	73	1.08	2373			1.97	Si
SLU 81	38	-7676	310	10314		3.51	73	1.02	2240			7.22	Si
SLU 81	288	-11355	1237	-45256		5.18	73	1.08	2373			1.92	Si
SLU 77	38	-8023	253	7211		3.66	73	1.04	2286			9.02	Si
SLU 77	288	-11613	1207	-44188		5.3	73	1.08	2373			1.96	Si
SLU 63	38	-7576	252	7948		3.46	73	1.02	2227			8.84	Si
SLU 63	288	-11136	1206	-43997		5.08	73	1.08	2373			1.97	Si
SLU 78	38	-8026	221	5841		3.66	73	1.04	2287			10.33	Si
SLU 78	288	-11615	1217	-44672		5.3	73	1.08	2373			1.95	Si
SLU 79	38	-8051	251	7161		3.68	73	1.05	2290			9.14	Si
SLU 79	288	-11647	1208	-44122		5.32	73	1.08	2373			1.96	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 1	38	-9705	-496	-59641		4.43	73	1.63	3559			7.18	Si
SLV 1	288	642	-4003	160394		0	0	0.83	0			0	No, Vu<V
SLV 7	38	-2046	-826	273		0.93	73	1.02	2234			2.7	Si
SLV 7	288	1359	-2297	84018		0	0	0.83	0			0	No, Vu<V
SLV 3	38	-7137	-938	-50836		3.26	73	1.49	3252			3.47	Si
SLV 3	288	4287	-4924	191867		0	0	0.83	0			0	No, Vu<V
SLV 16	38	-1149	853	65843		0	0	0.83	0			0	No, Vu<V



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	288	-16226	5649	-221184		7.88	68.6	1.63	3344			0.59	No, Vu<V
SLV 8	38	-2046	-826	273		0.93	73	1.02	2234			2.7	Si
SLV 8	288	1359	-2297	84018		0	0	0.83	0			0	No, Vu<V
SLV 12	38	-249	-289	35277		0	0	0.83	0			0	No, Vu<V
SLV 12	288	-4795	875	-39898		2.19	73	1.27	2784			3.18	Si
SLV 4	38	-7137	-938	-50836		3.26	73	1.49	3252			3.47	Si
SLV 4	288	4287	-4924	191867		0	0	0.83	0			0	No, Vu<V
SLV 2	38	-9705	-496	-59641		4.43	73	1.63	3559			7.18	Si
SLV 2	288	642	-4003	160394		0	0	0.83	0			0	No, Vu<V
SLV 11	38	-249	-289	35277		0	0	0.83	0			0	No, Vu<V
SLV 11	288	-4795	875	-39898		2.19	73	1.27	2784			3.18	Si
SLV 15	38	-1149	853	65843		0	0	0.83	0			0	No, Vu<V
SLV 15	288	-16226	5649	-221184		7.88	68.6	1.63	3344			0.59	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 175 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.28	0.61	-1330	3542	18960	5.35	Si
SLV 7	14	0.28	0.61	-1330	3542	18960	5.35	Si
SLV 12	14	0.28	1.3	-2847	3542	38164	10.77	Si
SLV 11	14	0.28	1.3	-2847	3542	38164	10.77	Si
SLV 3	14	0.28	1.4	-3072	3542	40784	11.51	Si
SLV 4	14	0.28	1.4	-3072	3542	40784	11.51	Si
SLV 2	14	0.28	2.78	-6081	3542	70488	19.9	Si
SLV 1	14	0.28	2.78	-6081	3542	70488	19.9	Si
SLV 16	14	0.28	3.71	-8128	3542	84889	23.97	Si
SLV 15	14	0.28	3.71	-8128	3542	84889	23.97	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 175 Wa = 0.05 Ta = 0.0418

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 14	-12827	-3717	22	0.055	13.907	0.981	81.902	465.202	No
SLV 13	-12827	-3717	22	0.055	13.907	0.981	81.902	465.202	No
SLV 16	-9986	-1149	18	0.056	11.012	0.976	83.064	465.202	No
SLV 15	-9986	-1149	18	0.056	11.012	0.976	83.064	465.202	No
SLV 10	-12655	-8809	13	0.056	13.732	0.981	83.025	444.711	No
SLV 9	-12655	-8809	13	0.056	13.732	0.981	83.025	444.711	No
SLV 6	-9667	-10605	0	0.058	10.687	0.976	85.809	444.711	No
SLV 5	-9667	-10605	0	0.058	10.687	0.976	85.809	444.711	No
SLV 2	-2865	-9705	-18	0.058	3.77	0.937	89.983	465.202	No
SLV 1	-2865	-9705	-18	0.058	3.77	0.937	89.983	465.202	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.176	SLU 84	Si
V_SLU	1.88	SLU 84	Si
PF_SLV	0	SLV 8	No
V_SLV	0	SLV 1	No
PFFP_SLV	5.353	SLV 7	Si
R_SLV	0.176	SLV 13	No

## Maschio 235

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	-485.9	-1293.3	-485.9	Z medio 312 cm	Z medio 656 cm	82	30	344	344	344			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 84	407	-9480	15143	3.85	204817	13.526	Si
SLU 84	607	-8877	37215	3.61	202740	5.448	Si
SLU 76	407	-9193	14893	3.74	204014	13.699	Si
SLU 76	607	-8577	35985	3.49	201156	5.59	Si
SLU 57	407	-8945	14555	3.64	203049	13.951	Si
SLU 57	607	-8400	35651	3.41	200042	5.611	Si
SLU 59	407	-8954	14552	3.64	203091	13.956	Si
SLU 59	607	-8429	36059	3.43	200238	5.553	Si
SLU 77	407	-9412	15503	3.83	204657	13.201	Si
SLU 77	607	-8847	37091	3.6	202598	5.462	Si
SLU 78	407	-9422	15370	3.83	204682	13.317	Si
SLU 78	607	-8868	37560	3.6	202698	5.397	Si
SLU 80	407	-9432	15368	3.83	204706	13.32	Si
SLU 80	607	-8898	37968	3.62	202837	5.342	Si
SLU 58	407	-8944	14685	3.64	203045	13.826	Si
SLU 58	607	-8408	35591	3.42	200101	5.622	Si
SLU 79	407	-9421	15501	3.83	204680	13.204	Si
SLU 79	607	-8877	37500	3.61	202740	5.406	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 83	407	-9470	15276	3.85	204794	13.407	Si
SLU 83	607	-8856	36747	3.6	202641	5.515	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 8	407	-1160	-52618	0	0	0	No, $e \geq l/2$
SLV 8	607	-3417	36036	1.39	124184	3.446	Si
SLV 3	407	-3666	-169478	0	0	0	No, $e \geq l/2$
SLV 3	607	-11297	152836	4.59	289118	1.892	Si
SLV 11	407	-1941	53780	0.79	74455	1.384	Si
SLV 11	607	652	-46920	0	0	0	No, Trazione
SLV 14	407	-9198	191413	3.74	261734	1.367	Si
SLV 14	607	-418	-106526	0	0	0	No, $e \geq l/2$
SLV 4	407	-3666	-169478	0	0	0	No, $e \geq l/2$
SLV 4	607	-11297	152836	4.59	289118	1.892	Si
SLV 13	407	-9198	191413	3.74	261734	1.367	Si
SLV 13	607	-418	-106526	0	0	0	No, $e \geq l/2$
SLV 15	407	-6269	185181	2.55	203442	1.099	Si
SLV 15	607	2267	-123684	0	0	0	No, Trazione
SLV 12	407	-1941	53780	0.79	74455	1.384	Si
SLV 12	607	652	-46920	0	0	0	No, Trazione
SLV 7	407	-1160	-52618	0	0	0	No, $e \geq l/2$
SLV 7	607	-3417	36036	1.39	124184	3.446	Si
SLV 16	407	-6269	185181	2.55	203442	1.099	Si
SLV 16	607	2267	-123684	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 79	407	-9421	-415	15501		3.83	82	1.07	2623			6.31	Si
SLU 79	607	-8877	-429	37500		3.61	82	1.04	2550			5.95	Si
SLU 80	407	-9432	-424	15368		3.83	82	1.07	2624			6.19	Si
SLU 80	607	-8898	-434	37968		3.62	82	1.04	2553			5.88	Si
SLU 84	407	-9480	-412	15143		3.85	82	1.07	2631			6.39	Si
SLU 84	607	-8877	-407	37215		3.61	82	1.04	2550			6.27	Si
SLU 35	407	-7746	-341	12595		3.15	82	0.98	2399			7.04	Si
SLU 35	607	-7353	-379	31271		2.99	82	0.95	2347			6.2	Si
SLU 37	407	-7755	-347	12593		3.15	82	0.98	2401			6.92	Si
SLU 37	607	-7383	-390	31680		3	82	0.96	2351			6.03	Si
SLU 36	407	-7756	-349	12462		3.15	82	0.98	2401			6.87	Si
SLU 36	607	-7374	-384	31740		3	82	0.96	2350			6.12	Si
SLU 77	407	-9412	-409	15503		3.83	82	1.07	2622			6.4	Si
SLU 77	607	-8847	-418	37091		3.6	82	1.04	2546			6.09	Si
SLU 78	407	-9422	-418	15370		3.83	82	1.07	2623			6.28	Si
SLU 78	607	-8868	-423	37560		3.6	82	1.04	2549			6.02	Si
SLU 59	407	-8954	-414	14552		3.64	82	1.04	2561			6.19	Si
SLU 59	607	-8429	-400	36059		3.43	82	1.01	2491			6.23	Si
SLU 38	407	-7766	-356	12460		3.16	82	0.98	2402			6.76	Si
SLU 38	607	-7404	-395	32149		3.01	82	0.96	2354			5.96	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	407	-3666	-5525	-169478		0	0	0.83	0			0	No, Vu<V
SLV 4	607	-11297	-4645	152836		4.59	82	1.63	3998			0.86	No, Vu<V
SLV 14	407	-9198	5017	191413		5.06	60.57	1.63	2953			0.59	No, Vu<V
SLV 14	607	-418	4245	-106526		0	0	0.83	0			0	No, Vu<V
SLV 16	407	-6269	4154	185181		6.08	34.39	1.63	1677			0.4	No, Vu<V
SLV 16	607	2267	4445	-123684		0	0	0.83	0			0	No, Vu<V
SLV 11	407	-1941	-241	53780		1.62	39.89	1.16	1386			5.74	Si
SLV 11	607	652	1497	-46920		0	0	0.83	0			0	No, Vu<V
SLV 3	407	-3666	-5525	-169478		0	0	0.83	0			0	No, Vu<V
SLV 3	607	-11297	-4645	152836		4.59	82	1.63	3998			0.86	No, Vu<V
SLV 15	407	-6269	4154	185181		6.08	34.39	1.63	1677			0.4	No, Vu<V
SLV 15	607	2267	4445	-123684		0	0	0.83	0			0	No, Vu<V
SLV 13	407	-9198	5017	191413		5.06	60.57	1.63	2953			0.59	No, Vu<V
SLV 13	607	-418	4245	-106526		0	0	0.83	0			0	No, Vu<V
SLV 12	407	-1941	-241	53780		1.62	39.89	1.16	1386			5.74	Si
SLV 12	607	652	1497	-46920		0	0	0.83	0			0	No, Vu<V
SLV 7	407	-1160	-3145	-52618		0	0	0.83	0			0	No, Vu<V
SLV 7	607	-3417	-1230	36036		1.39	82	1.11	2734			2.22	Si
SLV 8	407	-1160	-3145	-52618		0	0	0.83	0			0	No, Vu<V
SLV 8	607	-3417	-1230	36036		1.39	82	1.11	2734			2.22	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 484 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.35	0.79	-1940	7718	27221	3.53	Si
SLV 11	14	0.35	0.79	-1940	7718	27221	3.53	Si
SLV 8	14	0.35	0.9	-2222	7718	30871	4	Si
SLV 7	14	0.35	0.9	-2222	7718	30871	4	Si
SLV 15	14	0.35	1.93	-4736	7718	59851	7.75	Si
SLV 16	14	0.35	1.93	-4736	7718	59851	7.75	Si
SLV 4	14	0.35	2.31	-5678	7718	69082	8.95	Si
SLV 3	14	0.35	2.31	-5678	7718	69082	8.95	Si
SLV 14	14	0.35	3.01	-7416	7718	83794	10.86	Si
SLV 13	14	0.35	3.01	-7416	7718	83794	10.86	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 484 Wa = 0.05 Ta = 0.0659



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 15	476	1607	8	0	0	0	0	778.898	No, Trazione
SLV 16	476	1607	8	0	0	0	0	778.898	No, Trazione
SLV 12	162	317	22	0	0	0	0	722.868	No, Trazione
SLV 11	162	317	22	0	0	0	0	722.868	No, Trazione
SLV 1	-9873	-14378	-8	0.046	11.243	0.968	69.041	778.898	No
SLV 2	-9873	-14378	-8	0.046	11.243	0.968	69.041	778.898	No
SLV 4	-7691	-11539	5	0.047	9.023	0.961	71.058	778.898	No
SLV 3	-7691	-11539	5	0.047	9.023	0.961	71.058	778.898	No
SLV 6	-9559	-13088	-22	0.045	10.924	0.967	67.197	722.868	No
SLV 5	-9559	-13088	-22	0.045	10.924	0.967	67.197	722.868	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.342	SLU 80	Si
V_SLU	5.878	SLU 80	Si
PF_SLV	0	SLV 16	No
V_SLV	0	SLV 3	No
PFFP_SLV	3.527	SLV 11	Si
R_SLV	0	SLV 16	No

## Maschio 236

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1193.3	-485.9	-1100.3	-485.9	Z medio 312 cm	Z medio 656 cm	93	30	344	344	344			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 61	407	-9731	-22556	3.49	258733	11.471	Si
SLU 61	607	-39054	-245397	2.99	245397	6.284	Si
SLU 79	407	-10816	-26319	3.88	263571	10.014	Si
SLU 79	607	-9172	-40480	3.29	254359	6.284	Si
SLU 82	407	-10292	-23931	3.69	261833	10.941	Si
SLU 82	607	-8807	-41132	3.16	250811	6.098	Si
SLU 77	407	-10766	-26079	3.86	263453	10.102	Si
SLU 77	607	-9129	-40575	3.27	253973	6.259	Si
SLU 60	407	-9709	-21564	3.48	258581	11.992	Si
SLU 60	607	-8342	-39718	2.99	245513	6.181	Si
SLU 83	407	-10706	-24712	3.84	263300	10.655	Si
SLU 83	607	-9158	-42195	3.28	254238	6.025	Si
SLU 84	407	-10729	-25705	3.85	263359	10.246	Si
SLU 84	607	-9149	-41530	3.28	254153	6.12	Si
SLU 62	407	-10146	-23338	3.64	261151	11.19	Si
SLU 62	607	-8685	-40116	3.11	249506	6.22	Si
SLU 74	407	-10329	-24305	3.7	261993	10.779	Si
SLU 74	607	-8787	-40177	3.15	250603	6.238	Si
SLU 81	407	-10269	-22938	3.68	261733	11.41	Si
SLU 81	607	-8816	-41796	3.16	250908	6.003	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 1	407	-11596	-223582	4.16	355776	1.591	Si
SLV 1	607	-1612	175787	0	0	0	No, e>1/2
SLV 11	407	-1002	59106	0	0	0	No, e>1/2
SLV 11	607	-3472	-49393	1.24	145011	2.936	Si
SLV 3	407	-8417	-214243	3.02	294741	1.376	Si
SLV 3	607	969	201721	0	0	0	No, Trazione
SLV 16	407	-2714	189531	0	0	0	No, e>1/2
SLV 16	607	-10495	-231158	3.76	337762	1.461	Si
SLV 7	407	-2712	-62026	0.97	116085	1.872	Si
SLV 7	607	-33	80471	0	0	0	No, e>1/2
SLV 15	407	-2714	189531	0	0	0	No, e>1/2
SLV 15	607	-10495	-231158	3.76	337762	1.461	Si
SLV 12	407	-1002	59106	0	0	0	No, e>1/2
SLV 12	607	-3472	-49393	1.24	145011	2.936	Si
SLV 4	407	-8417	-214243	3.02	294741	1.376	Si
SLV 4	607	969	201721	0	0	0	No, Trazione
SLV 2	407	-11596	-223582	4.16	355776	1.591	Si
SLV 2	607	-1612	175787	0	0	0	No, e>1/2
SLV 8	407	-2712	-62026	0.97	116085	1.872	Si
SLV 8	607	-33	80471	0	0	0	No, e>1/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	$\sigma N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 62	407	-10146	23	-23338		3.64	93	1.04	2903			127.16	Si
SLU 62	607	-8685	252	-40116		3.11	93	0.97	2708			10.74	Si
SLU 82	407	-10292	25	-23931		3.69	93	1.05	2922			116.22	Si
SLU 82	607	-8807	244	-41132		3.16	93	0.98	2724			11.17	Si





Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 39	407	-8428	32	-18453		3.02	93	0.96	2674			84.54	Si
SLU 39	607	-7269	244	-34804		2.61	93	0.9	2519			10.34	Si
SLU 18	407	-7868	46	-17079		2.82	93	0.93	2599			56.82	Si
SLU 18	607	-6795	221	-32726		2.44	93	0.88	2456			11.11	Si
SLU 60	407	-9709	52	-21564		3.48	93	1.02	2844			54.66	Si
SLU 60	607	-8342	245	-39718		2.99	93	0.95	2662			10.85	Si
SLU 81	407	-10269	38	-22938		3.68	93	1.05	2919			76.98	Si
SLU 81	607	-8816	268	-41796		3.16	93	0.98	2725			10.17	Si
SLU 83	407	-10706	9	-24712		3.84	93	1.07	2977			341.83	Si
SLU 83	607	-9158	274	-42195		3.28	93	0.99	2771			10.1	Si
SLU 84	407	-10729	-4	-25705		3.85	93	1.07	2980			733.01	Si
SLU 84	607	-9149	250	-41530		3.28	93	0.99	2770			11.06	Si
SLU 20	407	-8305	17	-18853		2.98	93	0.95	2657			160.73	Si
SLU 20	607	-7138	228	-33124		2.56	93	0.9	2502			10.99	Si
SLU 41	407	-8866	2	-20227		3.18	93	0.98	2732			1000	Si
SLU 41	607	-7611	250	-35202		2.73	93	0.92	2565			10.25	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	407	-2714	4742	189531		0	0	0.83	0			0	No, Vu<V
SLV 16	607	-10495	5117	-231158		4.76	73.42	1.63	3579			0.7	No, Vu<V
SLV 11	407	-1002	2200	59106		0	0	0.83	0			0	No, Vu<V
SLV 11	607	-3472	1450	-49393		1.24	93	1.08	3019			2.08	Si
SLV 1	407	-11596	-4724	-223582		4.73	81.65	1.63	3981			0.84	No, Vu<V
SLV 1	607	-1612	-4845	175787		0	0	0.83	0			0	No, Vu<V
SLV 4	407	-8417	-4215	-214243		4.44	63.13	1.63	3078			0.73	No, Vu<V
SLV 4	607	969	-4963	201721		0	0	0.83	0			0	No, Vu<V
SLV 2	407	-11596	-4724	-223582		4.73	81.65	1.63	3981			0.84	No, Vu<V
SLV 2	607	-1612	-4845	175787		0	0	0.83	0			0	No, Vu<V
SLV 12	407	-1002	2200	59106		0	0	0.83	0			0	No, Vu<V
SLV 12	607	-3472	1450	-49393		1.24	93	1.08	3019			2.08	Si
SLV 15	407	-2714	4742	189531		0	0	0.83	0			0	No, Vu<V
SLV 15	607	-10495	5117	-231158		4.76	73.42	1.63	3579			0.7	No, Vu<V
SLV 7	407	-2712	-487	-62026		1.28	70.89	1.09	2315			4.75	Si
SLV 7	607	-33	-1574	80471		0	0	0.83	0			0	No, Vu<V
SLV 8	407	-2712	-487	-62026		1.28	70.89	1.09	2315			4.75	Si
SLV 8	607	-33	-1574	80471		0	0	0.83	0			0	No, Vu<V
SLV 3	407	-8417	-4215	-214243		4.44	63.13	1.63	3078			0.73	No, Vu<V
SLV 3	607	969	-4963	201721		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 484 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.35	0.88	-2449	8752	34096	3.9	Si
SLV 11	14	0.35	0.88	-2449	8752	34096	3.9	Si
SLV 8	14	0.35	0.91	-2537	8752	35219	4.02	Si
SLV 7	14	0.35	0.91	-2537	8752	35219	4.02	Si
SLV 15	14	0.35	1.97	-5510	8752	69288	7.92	Si
SLV 16	14	0.35	1.97	-5510	8752	69288	7.92	Si
SLV 3	14	0.35	2.08	-5802	8752	72217	8.25	Si
SLV 4	14	0.35	2.08	-5802	8752	72217	8.25	Si
SLV 13	14	0.35	2.95	-8221	8752	93575	10.69	Si
SLV 14	14	0.35	2.95	-8221	8752	93575	10.69	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 484 Wa = 0.05 Ta = 0.0659

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 13	-8848	-13272	-9	0.047	10.361	0.961	70.452	778.898	No
SLV 14	-8848	-13272	-9	0.047	10.361	0.961	70.452	778.898	No
SLV 16	-6918	-10302	0	0.048	8.399	0.953	73.802	778.898	No
SLV 15	-6918	-10302	0	0.048	8.399	0.953	73.802	778.898	No
SLV 9	-8983	-13166	-16	0.046	10.498	0.962	69.297	722.868	No
SLV 10	-8983	-13166	-16	0.046	10.498	0.962	69.297	722.868	No
SLV 5	-7169	-10106	-13	0.047	8.653	0.954	71.048	722.868	No
SLV 6	-7169	-10106	-13	0.047	8.653	0.954	71.048	722.868	No
SLV 1	-2800	-3070	-1	0.054	4.234	0.917	85.026	778.898	No
SLV 2	-2800	-3070	-1	0.054	4.234	0.917	85.026	778.898	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.003	SLU 81	Si
V_SLU	10.097	SLU 83	Si
PF_SLV	0	SLV 4	No
V_SLV	0	SLV 1	No
PFFP_SLV	3.896	SLV 11	Si
R_SLV	0.09	SLV 13	No

## Maschio 237

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	-485.9	-1293.3	-485.9	Z medio 656 cm	Z medio 1008 cm	82	30	352	352	352			



## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 52	751	-5739	17575	2.33	167924	9.555	Si
SLU 52	951	-4174	21287	1.7	135500	6.365	Si
SLU 81	751	-6354	19541	2.58	177920	9.105	Si
SLU 81	951	-4616	22533	1.88	145668	6.465	Si
SLU 61	751	-5935	18131	2.41	171271	9.446	Si
SLU 61	951	-4320	21908	1.76	138941	6.342	Si
SLU 84	751	-6691	20236	2.72	182749	9.031	Si
SLU 84	951	-5067	24139	2.06	155233	6.431	Si
SLU 63	751	-6295	19137	2.56	177029	9.251	Si
SLU 63	951	-4786	22953	1.95	149379	6.508	Si
SLU 60	751	-5957	18442	2.42	171653	9.308	Si
SLU 60	951	-4335	21347	1.76	139295	6.525	Si
SLU 73	751	-6135	18674	2.49	174545	9.347	Si
SLU 73	951	-4455	22472	1.81	142058	6.321	Si
SLU 76	751	-6496	19680	2.64	180008	9.147	Si
SLU 76	951	-4922	23518	2	152238	6.473	Si
SLU 40	751	-5199	15532	2.11	157871	10.164	Si
SLU 40	951	-3779	19244	1.54	125719	6.533	Si
SLU 82	751	-6331	19230	2.57	177575	9.234	Si
SLU 82	951	-4601	23093	1.87	145332	6.293	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 11	751	-654	25517	0.27	26216	1.027	Si
SLV 11	951	4141	-12240	0	0	0	No, Trazione
SLD 16	751	-5461	57217	2.22	183247	3.203	Si
SLD 16	951	-356	-25204	0	0	0	No, $e \geq l/2$
SLV 7	751	1641	-38739	0	0	0	No, Trazione
SLV 7	951	1156	44674	0	0	0	No, Trazione
SLV 3	751	852	-99187	0	0	0	No, Trazione
SLV 3	951	-6443	110352	2.62	207565	1.881	Si
SLV 15	751	-6798	115002	2.76	215689	1.876	Si
SLV 15	951	3508	-79361	0	0	0	No, Trazione
SLV 4	751	852	-99187	0	0	0	No, Trazione
SLV 4	951	-6443	110352	2.62	207565	1.881	Si
SLV 13	751	-9769	127446	3.97	270378	2.122	Si
SLV 13	951	-20	-79980	0	0	0	No, $e \geq l/2$
SLV 12	751	-654	25517	0.27	26216	1.027	Si
SLV 12	951	4141	-12240	0	0	0	No, Trazione
SLV 14	751	-9769	127446	3.97	270378	2.122	Si
SLV 14	951	-20	-79980	0	0	0	No, $e \geq l/2$
SLV 8	751	1641	-38739	0	0	0	No, Trazione
SLV 8	951	1156	44674	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 65	751	-5715	159	17862		2.32	82	0.87	2129			13.43	Si
SLU 65	951	-4139	-53	20153		1.68	82	0.78	1919			35.99	Si
SLU 39	751	-5222	158	15843		2.12	82	0.84	2063			13.09	Si
SLU 39	951	-3794	-50	18684		1.54	82	0.76	1873			37.59	Si
SLU 61	751	-5935	164	18131		2.41	82	0.88	2158			13.19	Si
SLU 61	951	-4320	-75	21908		1.76	82	0.79	1943			25.88	Si
SLU 40	751	-5199	156	15532		2.11	82	0.84	2060			13.21	Si
SLU 40	951	-3779	-65	19244		1.54	82	0.76	1871			28.89	Si
SLU 52	751	-5739	155	17575		2.33	82	0.87	2132			13.71	Si
SLU 52	951	-4174	-76	21287		1.7	82	0.78	1923			25.22	Si
SLU 73	751	-6135	175	18674		2.49	82	0.89	2185			12.47	Si
SLU 73	951	-4455	-74	22472		1.81	82	0.8	1961			26.59	Si
SLU 82	751	-6331	183	19230		2.57	82	0.9	2211			12.05	Si
SLU 82	951	-4601	-73	23093		1.87	82	0.8	1980			27.29	Si
SLU 64	751	-5753	161	18381		2.34	82	0.87	2134			13.24	Si
SLU 64	951	-4164	-28	19219		1.69	82	0.78	1922			67.61	Si
SLU 60	751	-5957	165	18442		2.42	82	0.88	2161			13.08	Si
SLU 60	951	-4335	-60	21347		1.76	82	0.79	1945			32.34	Si
SLU 81	751	-6354	185	19541		2.58	82	0.9	2214			11.97	Si
SLU 81	951	-4616	-58	22533		1.88	82	0.81	1982			34.4	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 16	751	-5461	1865	57217		2.22	82	1.28	3142			1.68	Si
SLD 16	951	-356	1202	-25204		0	0	0.83	0			0	No, $V_u < V$
SLV 7	751	1641	-1213	-38739		0	0	0.83	0			0	No, $V_u < V$
SLV 7	951	1156	-1738	44674		0	0	0.83	0			0	No, $V_u < V$
SLV 13	751	-9769	4265	127446		3.97	82	1.63	3998			0.94	No, $V_u < V$
SLV 13	951	-20	3318	-79980		0	0	0.83	0			0	No, $V_u < V$
SLV 4	751	852	-4016	-99187		0	0	0.83	0			0	No, $V_u < V$
SLV 4	951	-6443	-3374	110352		3	71.63	1.43	3079			0.91	No, $V_u < V$
SLV 3	751	852	-4016	-99187		0	0	0.83	0			0	No, $V_u < V$
SLV 3	951	-6443	-3374	110352		3	71.63	1.43	3079			0.91	No, $V_u < V$
SLV 12	751	-654	1252	25517		3.7	5.88	1.57	278			0.22	No, $V_u < V$
SLV 12	951	4141	130	-12240		0	0	0.83	0			0	No, $V_u < V$
SLV 11	751	-654	1252	25517		3.7	5.88	1.57	278			0.22	No, $V_u < V$



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 11	951	4141	130	-12240		0	0	0.83	0			0	No, Vu<V
SLV 2	751	-2119	-3953	-86742		0	0	0.83				0	No, Vu<V
SLV 2	951	-9972	-2909	109733		4.05	82	1.63	3998			1.37	Si
SLV 14	751	-9769	4265	127446		3.97	82	1.63	3998			0.94	No, Vu<V
SLV 14	951	-20	3318	-79980		0	0	0.83	0			0	No, Vu<V
SLV 8	751	1641	-1213	-38739		0	0	0.83	0			0	No, Vu<V
SLV 8	951	1156	-1738	44674		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 832 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.42	0	1757	9786	0	0	No, Trazione
SLV 8	14	0.42	0	653	9786	0	0	No, Trazione
SLV 12	14	0.42	0	1757	9786	0	0	No, Trazione
SLV 7	14	0.42	0	653	9786	0	0	No, Trazione
SLV 15	14	0.42	0.29	-704	9786	10316	1.05	Si
SLV 16	14	0.42	0.29	-704	9786	10316	1.05	Si
SLV 14	14	0.42	1.59	-3917	9786	51097	5.22	Si
SLV 13	14	0.42	1.59	-3917	9786	51097	5.22	Si
SLV 3	14	0.42	1.78	-4382	9786	56146	5.74	Si
SLV 4	14	0.42	1.78	-4382	9786	56146	5.74	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 832 Wa = 0.05 Ta = 0.069

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 7	1754	-1405	32	0	0	0	0	873.467	No, Trazione
SLV 12	3527	-77	32	0	0	0	0	873.467	No, Trazione
SLV 11	3527	-77	32	0	0	0	0	873.467	No, Trazione
SLV 15	2039	-845	10	0	0	0	0	944.465	No, Trazione
SLV 16	2039	-845	10	0	0	0	0	944.465	No, Trazione
SLV 8	1754	-1405	32	0	0	0	0	873.467	No, Trazione
SLV 1	-6920	-7257	-10	0.046	8.266	0.956	69.352	944.465	No
SLV 2	-6920	-7257	-10	0.046	8.266	0.956	69.352	944.465	No
SLV 6	-8408	-8025	-33	0.043	9.78	0.963	64.451	873.467	No
SLV 5	-8408	-8025	-33	0.043	9.78	0.963	64.451	873.467	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.293	SLU 82	Si
V_SLU	11.968	SLU 81	Si
PF_SLV	0	SLV 16	No
V_SLV	0	SLD 15	No
PFFP_SLV	0	SLV 12	No
R_SLV	0	SLV 16	No

## Maschio 238

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1193.3	-485.9	-1114.3	-485.9	Z medio 656 cm	Z medio 1008 cm	79	30	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 81	751	-5834	-18494	2.46	160792	8.694	Si
SLU 81	951	-4649	-22729	1.96	139406	6.133	Si
SLU 84	751	-6196	-20744	2.61	166183	8.011	Si
SLU 84	951	-4941	-23578	2.08	145203	6.158	Si
SLU 61	751	-5504	-17294	2.32	155414	8.987	Si
SLU 61	951	-4391	-21464	1.85	133982	6.242	Si
SLU 62	751	-5842	-19181	2.47	160915	8.389	Si
SLU 62	951	-4667	-22529	1.97	139762	6.204	Si
SLU 79	751	-6373	-22325	2.69	168622	7.553	Si
SLU 79	951	-5062	-23655	2.14	147507	6.236	Si
SLU 63	751	-5854	-19362	2.47	161106	8.321	Si
SLU 63	951	-4675	-22421	1.97	139924	6.241	Si
SLU 83	751	-6184	-20562	2.61	166010	8.074	Si
SLU 83	951	-4933	-23686	2.08	145049	6.124	Si
SLU 77	751	-6318	-21992	2.67	167874	7.633	Si
SLU 77	951	-5013	-23537	2.12	146580	6.228	Si
SLU 82	751	-5846	-18675	2.47	160982	8.62	Si
SLU 82	951	-4657	-22621	1.97	139569	6.17	Si
SLU 60	751	-5492	-17113	2.32	155207	9.07	Si
SLU 60	951	-4383	-21572	1.85	133809	6.203	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 11	751	-214	26856	0	0	0	No, e>1/2



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 11	951	-1528	-4147	0.64	57175	13.788	Si
SLV 3	751	-6702	-104626	2.83	203444	1.944	Si
SLV 3	951	1210	104239	0	0	0	No, Trazione
SLV 1	751	-8416	-111679	3.55	235807	2.111	Si
SLV 1	951	-456	78320	0	0	0	No, e>l/2
SLV 7	751	-2285	-30030	0.96	83140	2.769	Si
SLV 7	951	633	59834	0	0	0	No, Trazione
SLV 16	751	202	84994	0	0	0	No, Trazione
SLV 16	951	-5993	-109029	2.53	187718	1.722	Si
SLV 15	751	202	84994	0	0	0	No, Trazione
SLV 15	951	-5993	-109029	2.53	187718	1.722	Si
SLV 2	751	-8416	-111679	3.55	235807	2.111	Si
SLV 2	951	-456	78320	0	0	0	No, e>l/2
SLV 4	751	-6702	-104626	2.83	203444	1.944	Si
SLV 4	951	1210	104239	0	0	0	No, Trazione
SLV 8	751	-2285	-30030	0.96	83140	2.769	Si
SLV 8	951	633	59834	0	0	0	No, Trazione
SLV 12	751	-214	26856	0	0	0	No, e>l/2
SLV 12	951	-1528	-4147	0.64	57175	13.788	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 30	751	-4957	-197	-18444		2.09	79	0.83	1977			10.06	Si
SLU 30	951	-3887	91	-17328		1.64	79	0.77	1835			20.11	Si
SLU 80	751	-6385	-217	-22506		2.69	79	0.91	2168			9.98	Si
SLU 80	951	-5070	151	-23547		2.14	79	0.84	1993			13.23	Si
SLU 78	751	-6330	-215	-22173		2.67	79	0.91	2161			10.07	Si
SLU 78	951	-5021	149	-23429		2.12	79	0.84	1986			13.29	Si
SLU 76	751	-6044	-205	-20559		2.55	79	0.9	2122			10.35	Si
SLU 76	951	-4792	153	-22518		2.02	79	0.83	1955			12.82	Si
SLU 68	751	-5668	-207	-19846		2.39	79	0.87	2072			10.03	Si
SLU 68	951	-4431	115	-20212		1.87	79	0.8	1907			16.57	Si
SLU 28	751	-4901	-194	-18111		2.07	79	0.83	1970			10.17	Si
SLU 28	951	-3838	90	-17211		1.62	79	0.77	1828			20.27	Si
SLU 72	751	-6010	-219	-21793		2.54	79	0.89	2118			9.68	Si
SLU 72	951	-4709	113	-21241		1.99	79	0.82	1944			17.18	Si
SLU 38	751	-5332	-195	-19157		2.25	79	0.86	2028			10.4	Si
SLU 38	951	-4248	129	-19634		1.79	79	0.79	1883			14.64	Si
SLU 26	751	-4615	-184	-16496		1.95	79	0.82	1932			10.48	Si
SLU 26	951	-3608	93	-16299		1.52	79	0.76	1798			19.29	Si
SLU 70	751	-5955	-216	-21460		2.51	79	0.89	2111			9.77	Si
SLU 70	951	-4660	112	-21124		1.97	79	0.82	1938			17.29	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	751	-1513	3843	77940		0	0	0.83	0			0	No, Vu<V
SLV 14	951	-7659	3247	-134948		3.89	65.63	1.61	3173			0.98	No, Vu<V
SLV 7	751	-2285	-786	-30030		0.96	79	1.03	2432			3.09	Si
SLV 7	951	633	-1017	59834		0	0	0.83	0			0	No, Vu<V
SLV 4	751	-6702	-4053	-104626		3.12	71.66	1.46	3132			0.77	No, Vu<V
SLV 4	951	1210	-3069	104239		0	0	0.83	0			0	No, Vu<V
SLV 12	751	-214	1682	26856		0	0	0.83	0			0	No, Vu<V
SLV 12	951	-1528	846	-4147		0.64	79	0.96	2281			2.7	Si
SLV 16	751	202	4174	84994		0	0	0.83	0			0	No, Vu<V
SLV 16	951	-5993	3143	-109029		3.13	63.91	1.46	2796			0.89	No, Vu<V
SLV 3	751	-6702	-4053	-104626		3.12	71.66	1.46	3132			0.77	No, Vu<V
SLV 3	951	1210	-3069	104239		0	0	0.83	0			0	No, Vu<V
SLV 13	751	-1513	3843	77940		0	0	0.83	0			0	No, Vu<V
SLV 13	951	-7659	3247	-134948		3.89	65.63	1.61	3173			0.98	No, Vu<V
SLV 11	751	-214	1682	26856		0	0	0.83	0			0	No, Vu<V
SLV 11	951	-1528	846	-4147		0.64	79	0.96	2281			2.7	Si
SLV 8	751	-2285	-786	-30030		0.96	79	1.03	2432			3.09	Si
SLV 8	951	633	-1017	59834		0	0	0.83	0			0	No, Vu<V
SLV 2	751	-8416	-4384	-111679		3.57	78.69	1.55	3650			0.83	No, Vu<V
SLV 2	951	-456	-2964	78320		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 832 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.42	0.35	-824	9427	12004	1.27	Si
SLV 12	14	0.42	0.35	-824	9427	12004	1.27	Si
SLV 15	14	0.42	0.69	-1625	9427	23001	2.44	Si
SLV 16	14	0.42	0.69	-1625	9427	23001	2.44	Si
SLV 7	14	0.42	0.72	-1705	9427	24067	2.55	Si
SLV 8	14	0.42	0.72	-1705	9427	24067	2.55	Si
SLV 13	14	0.42	1.35	-3192	9427	42603	4.52	Si
SLV 14	14	0.42	1.35	-3192	9427	42603	4.52	Si
SLV 4	14	0.42	1.92	-4562	9427	57646	6.12	Si
SLV 3	14	0.42	1.92	-4562	9427	57646	6.12	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzzeria = 832 Wa = 0.05 Ta = 0.069

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 13	-4803	-5470	-7	0.047	6.072	0.945	72.54	944.465	No
SLV 14	-4803	-5470	-7	0.047	6.072	0.945	72.54	944.465	No
SLV 9	-4834	-6071	-26	0.044	6.104	0.945	67.15	873.467	No
SLV 10	-4834	-6071	-26	0.044	6.104	0.945	67.15	873.467	No
SLV 6	-3742	-5290	-27	0.044	4.998	0.935	67.966	873.467	No
SLV 5	-3742	-5290	-27	0.044	4.998	0.935	67.966	873.467	No



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 15	-3684	-4175	9	0.048	4.938	0.934	74.369	944.465	No
SLV 16	-3684	-4175	9	0.048	4.938	0.934	74.369	944.465	No
SLV 11	-1104	-1753	26	0.046	2.37	0.892	74.425	873.467	No
SLV 12	-1104	-1753	26	0.046	2.37	0.892	74.425	873.467	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	6.124	SLU 83	Si
V_SLU	9.677	SLU 72	Si
PF_SLV	0	SLV 16	No
V_SLV	0	SLV 1	No
PFFP_SLV	1.273	SLV 11	Si
R_SLV	0.077	SLV 13	No

## Maschio 239

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1101.3	-478.4	-1376.3	-478.4	L1	L2	275	45	198	198	198			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma M = 3$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLU 17	-160	-28657	-18157	2.32	2820148	155.317	Si
SLU 17	38	-17159	-73431	1.39	1957734	26.661	Si
SLU 38	-160	-30394	-23025	2.46	2919122	126.781	Si
SLU 38	38	-18334	-82191	1.48	2062467	25.094	Si
SLU 15	-160	-28599	-14928	2.31	2816700	188.692	Si
SLU 15	38	-17118	-69608	1.38	1954071	28.073	Si
SLU 35	-160	-30451	-21159	2.46	2922227	138.109	Si
SLU 35	38	-18319	-77566	1.48	2061144	26.573	Si
SLU 80	-160	-36888	-16868	2.98	3216043	190.664	Si
SLU 80	38	-21960	-83377	1.77	2361725	28.326	Si
SLU 36	-160	-30336	-19795	2.45	2915950	147.307	Si
SLU 36	38	-18294	-78368	1.48	2058933	26.273	Si
SLU 29	-160	-27252	-27000	2.2	2734105	101.265	Si
SLU 29	38	-15810	-65506	1.28	1832951	27.981	Si
SLU 16	-160	-28772	-19521	2.32	2826952	144.815	Si
SLU 16	38	-17184	-72629	1.39	1960023	26.987	Si
SLU 30	-160	-27137	-25636	2.19	2726824	106.368	Si
SLU 30	38	-15785	-66308	1.28	1830568	27.607	Si
SLU 37	-160	-30509	-24389	2.47	2925381	119.948	Si
SLU 37	38	-18360	-81389	1.48	2064675	25.368	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma M = 2$

Comb.	Quota	N	M	$\sigma 0$	Mu	c.s.	Verifica
SLV 15	-160	-14135	-463734	1.14	1761859	3.799	Si
SLV 15	38	-6913	190130	0.56	907130	4.771	Si
SLV 1	-160	-35983	492368	2.91	3770243	7.657	Si
SLV 1	38	-22074	-232141	1.78	2592076	11.166	Si
SLV 3	-160	-25023	472107	2.02	2871295	6.082	Si
SLV 3	38	-15048	-221028	1.22	1863216	8.43	Si
SLV 2	-160	-35983	492368	2.91	3770243	7.657	Si
SLV 2	38	-22074	-232141	1.78	2592076	11.166	Si
SLV 12	-160	-5160	-159828	0.42	685243	4.287	Si
SLV 12	38	-1564	59191	0.13	212830	3.596	Si
SLV 16	-160	-14135	-463734	1.14	1761859	3.799	Si
SLV 16	38	-6913	190130	0.56	907130	4.771	Si
SLV 13	-160	-25094	-443473	2.03	2877836	6.489	Si
SLV 13	38	-13939	179017	1.13	1739933	9.719	Si
SLV 4	-160	-25023	472107	2.02	2871295	6.082	Si
SLV 4	38	-15048	-221028	1.22	1863216	8.43	Si
SLV 14	-160	-25094	-443473	2.03	2877836	6.489	Si
SLV 14	38	-13939	179017	1.13	1739933	9.719	Si
SLV 11	-160	-5160	-159828	0.42	685243	4.287	Si
SLV 11	38	-1564	59191	0.13	212830	3.596	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma M = 3$

Comb.	Quota	N	V par	M	$\sigma 0$	$\sigma N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 81	-160	-36517	-392	19981		2.95	275	0.95	11744			29.93	Si
SLU 81	38	-21873	-560	-46600		1.77	275	0.79	9791			17.48	Si
SLU 73	-160	-34929	-343	21135		2.82	275	0.93	11532			33.6	Si
SLU 73	38	-20738	-504	-41129		1.68	275	0.78	9640			19.11	Si
SLU 43	-160	-30125	-371	21119		2.43	275	0.88	10892			29.35	Si
SLU 43	38	-17055	-470	-15150		1.38	275	0.74	9149			19.45	Si
SLU 62	-160	-35720	-321	6302		2.89	275	0.94	11638			36.26	Si
SLU 62	38	-21300	-488	-59231		1.72	275	0.79	9715			19.89	Si
SLU 82	-160	-36402	-370	21345		2.94	275	0.95	11729			31.72	Si
SLU 82	38	-21848	-543	-47402		1.77	275	0.79	9788			18.03	Si
SLU 52	-160	-33191	-360	26003		2.68	275	0.91	11301			31.36	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 52	38	-19562	-505	-32369		1.58	275	0.77	9483			18.77	Si
SLU 60	-160	-34779	-410	24849		2.81	275	0.93	11512			28.11	Si
SLU 60	38	-20697	-561	-37840		1.67	275	0.78	9635			17.17	Si
SLU 61	-160	-34664	-387	26213		2.8	275	0.93	11497			29.71	Si
SLU 61	38	-20672	-544	-38642		1.67	275	0.78	9631			17.71	Si
SLU 53	-160	-34266	-325	8413		2.77	275	0.92	11444			35.16	Si
SLU 53	38	-20167	-475	-48601		1.63	275	0.77	9564			20.13	Si
SLU 64	-160	-31863	-354	16252		2.57	275	0.9	11123			31.42	Si
SLU 64	38	-18231	-469	-23910		1.47	275	0.75	9306			19.82	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	-160	-25094	-4921	-443473		2.03	275	1.24	15331			3.12	Si
SLV 14	38	-13939	-1962	179017		1.13	275	1.06	13100			6.68	Si
SLD 16	-160	-20417	-2201	-189261		1.65	275	1.16	14396			6.54	Si
SLD 16	38	-11272	-910	69634		0.91	275	1.02	12567			13.81	Si
SLV 13	-160	-25094	-4921	-443473		2.03	275	1.24	15331			3.12	Si
SLV 13	38	-13939	-1962	179017		1.13	275	1.06	13100			6.68	Si
SLV 1	-160	-35983	4193	492368		2.91	275	1.41	17509			4.18	Si
SLV 1	38	-22074	857	-232141		1.78	275	1.19	14727			17.19	Si
SLV 3	-160	-25023	4353	472107		2.02	275	1.24	15317			3.52	Si
SLV 3	38	-15048	1203	-221028		1.22	275	1.08	13322			11.07	Si
SLV 2	-160	-35983	4193	492368		2.91	275	1.41	17509			4.18	Si
SLV 2	38	-22074	857	-232141		1.78	275	1.19	14727			17.19	Si
SLD 15	-160	-20417	-2201	-189261		1.65	275	1.16	14396			6.54	Si
SLD 15	38	-11272	-910	69634		0.91	275	1.02	12567			13.81	Si
SLV 4	-160	-25023	4353	472107		2.02	275	1.24	15317			3.52	Si
SLV 4	38	-15048	1203	-221028		1.22	275	1.08	13322			11.07	Si
SLV 15	-160	-14135	-4761	-463734		1.14	275	1.06	13139			2.76	Si
SLV 15	38	-6913	-1616	190130		0.56	275	0.95	11695			7.24	Si
SLV 16	-160	-14135	-4761	-463734		1.14	275	1.06	13139			2.76	Si
SLV 16	38	-6913	-1616	190130		0.56	275	0.95	11695			7.24	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota -61 Wa 0.08 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 11	14	0.24	0.33	-4062	8890	88937	10	Si
SLV 12	14	0.24	0.33	-4062	8890	88937	10	Si
SLV 8	14	0.24	0.56	-6898	8890	148123	16.66	Si
SLV 7	14	0.24	0.56	-6898	8890	148123	16.66	Si
SLV 15	14	0.24	0.93	-11527	8890	239578	26.95	Si
SLV 16	14	0.24	0.93	-11527	8890	239578	26.95	Si
SLV 13	14	0.24	1.68	-20761	8890	402985	45.33	Si
SLV 14	14	0.24	1.68	-20761	8890	402985	45.33	Si
SLV 3	14	0.24	1.7	-20980	8890	406553	45.73	Si
SLV 4	14	0.24	1.7	-20980	8890	406553	45.73	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = -61 Wa = 0.08 Ta = 0.0145

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 10	-24983	-41691	-1207	0.078	28.886	0.964	118.277	274.706	No
SLV 9	-24983	-41691	-1207	0.078	28.886	0.964	118.277	274.706	No
SLV 6	-27423	-44958	-1214	0.081	31.37	0.967	121.979	274.706	No
SLV 5	-27423	-44958	-1214	0.081	31.37	0.967	121.979	274.706	No
SLV 14	-13939	-25094	-770	0.081	17.663	0.944	125.354	278.6	No
SLV 13	-13939	-25094	-770	0.081	17.663	0.944	125.354	278.6	No
SLV 1	-22074	-35983	-792	0.091	25.927	0.96	138.219	278.6	No
SLV 2	-22074	-35983	-792	0.091	25.927	0.96	138.219	278.6	No
SLV 15	-6913	-14135	-402	0.097	10.574	0.916	153.877	278.6	No
SLV 16	-6913	-14135	-402	0.097	10.574	0.916	153.877	278.6	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	25.094	SLU 38	Si
V_SLU	17.174	SLU 60	Si
PF_SLV	3.596	SLV 11	Si
V_SLV	2.76	SLV 15	Si
PFFP_SLV	10.005	SLV 11	Si
R_SLV	0.431	SLV 9	No

## Maschio 240

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.sx	a.s.dx
-1375.3	-485.9	-1293.3	-485.9	Z medio 1008 cm	F1	82	30	427.8	427.8	427.7			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>k</sub>	f <sub>vk0</sub>	f <sub>medio</sub>	$\tau_0$	f <sub>v0</sub>	$\mu$	$\phi$	f <sub>v,lim</sub>	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2



Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 80	1103	-3650	11059	1.48	122406	11.068	Si
SLU 80	1303	-2384	13699	0.97	86109	6.286	Si
SLU 16	1103	-2927	8410	1.19	102488	12.187	Si
SLU 16	1303	-1931	11518	0.78	71543	6.211	Si
SLU 36	1103	-3055	9081	1.24	106153	11.69	Si
SLU 36	1303	-2052	12225	0.83	75537	6.179	Si
SLU 35	1103	-3079	9019	1.25	106854	11.847	Si
SLU 35	1303	-2067	12381	0.84	76004	6.139	Si
SLU 38	1103	-3138	9207	1.28	108504	11.785	Si
SLU 38	1303	-2119	12812	0.86	77684	6.063	Si
SLU 79	1103	-3675	10998	1.49	123046	11.188	Si
SLU 79	1303	-2398	13855	0.97	86557	6.247	Si
SLU 30	1103	-3096	9928	1.26	107325	10.811	Si
SLU 30	1303	-2076	12193	0.84	76300	6.257	Si
SLU 37	1103	-3162	9146	1.29	109196	11.94	Si
SLU 37	1303	-2133	12968	0.87	78148	6.026	Si
SLU 17	1103	-2902	8471	1.18	101772	12.014	Si
SLU 17	1303	-1917	11362	0.78	71067	6.255	Si
SLU 29	1103	-3120	9866	1.27	108021	10.948	Si
SLU 29	1303	-2090	12349	0.85	76766	6.216	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 11	1103	3304	5291	0	0	0	No, Trazione
SLV 11	1303	890	11614	0	0	0	No, Trazione
SLD 7	1103	391	-13016	0	0	0	No, Trazione
SLD 7	1303	-566	22976	0.23	22779	0.991	No, M>Mu
SLV 4	1103	262	-75773	0	0	0	No, Trazione
SLV 4	1303	-1668	70707	0	0	0	No, e>/2
SLV 16	1103	-1041	75190	0	0	0	No, e>/2
SLV 16	1303	361	-45953	0	0	0	No, Trazione
SLV 13	1103	-4375	89814	1.78	153278	1.707	Si
SLV 13	1303	-701	-60298	0	0	0	No, e>/2
SLV 8	1103	3695	-39998	0	0	0	No, Trazione
SLV 8	1303	281	46612	0	0	0	No, Trazione
SLV 14	1103	-4375	89814	1.78	153278	1.707	Si
SLV 14	1303	-701	-60298	0	0	0	No, e>/2
SLD 8	1103	391	-13016	0	0	0	No, Trazione
SLD 8	1303	-566	22976	0.23	22779	0.991	No, M>Mu
SLV 12	1103	3304	5291	0	0	0	No, Trazione
SLV 12	1303	890	11614	0	0	0	No, Trazione
SLV 7	1103	3695	-39998	0	0	0	No, Trazione
SLV 7	1303	281	46612	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 43	1103	-2490	77	8869		1.01	82	0.69	1699			22.17	Si
SLU 43	1303	-1379	13	5500		0.56	82	0.63	1551			118.78	Si
SLU 61	1103	-2525	83	7900		1.03	82	0.69	1703			20.47	Si
SLU 61	1303	-1426	-21	6228		0.58	82	0.63	1557			75.08	Si
SLU 52	1103	-2491	106	8250		1.01	82	0.69	1699			16	Si
SLU 52	1303	-1398	-20	5859		0.57	82	0.63	1553			76.99	Si
SLU 23	1103	-2172	78	7854		0.88	82	0.67	1656			21.32	Si
SLU 23	1303	-1292	-6	5804		0.53	82	0.63	1539			258.97	Si
SLU 44	1103	-2449	120	8971		1	82	0.69	1693			14.15	Si
SLU 44	1303	-1355	-3	5240		0.55	82	0.63	1547			448	Si
SLU 65	1103	-2684	100	9707		1.09	82	0.7	1725			17.17	Si
SLU 65	1303	-1557	-3	6691		0.63	82	0.64	1574			517.96	Si
SLU 73	1103	-2726	87	8986		1.11	82	0.7	1730			19.89	Si
SLU 73	1303	-1600	-20	7309		0.65	82	0.64	1580			79.96	Si
SLU 10	1103	-1978	83	6398		0.8	82	0.66	1631			19.54	Si
SLU 10	1303	-1133	-23	4972		0.46	82	0.62	1518			65.77	Si
SLU 2	1103	-1937	97	7118		0.79	82	0.66	1625			16.77	Si
SLU 2	1303	-1090	-6	4353		0.44	82	0.61	1512			237.85	Si
SLU 47	1103	-2903	78	10028		1.18	82	0.71	1754			22.43	Si
SLU 47	1303	-1742	2	8383		0.71	82	0.65	1599			958.72	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 8	1103	3695	-1714	-39998		0	0	0.83	0			0	No, Vu<V
SLV 8	1303	281	-1498	46612		0	0	0.83	0			0	No, Vu<V
SLV 4	1103	262	-2425	-75773		0	0	0.83	0			0	No, Vu<V
SLV 4	1303	-1668	-1358	70707		0	0	0.83	0			0	No, Vu<V
SLD 11	1103	224	-158	6330		0	0	0.83	0			0	No, Vu<V
SLD 11	1303	-306	-376	8027		0.23	44.38	0.88	1171			3.12	Si
SLV 3	1103	262	-2425	-75773		0	0	0.83	0			0	No, Vu<V
SLV 3	1303	-1668	-1358	70707		0	0	0.83	0			0	No, Vu<V
SLD 7	1103	391	-705	-13016		0	0	0.83	0			0	No, Vu<V
SLD 7	1303	-566	-633	22976		14.79	1.28	1.63	62			0.1	No, Vu<V
SLD 12	1103	224	-158	6330		0	0	0.83	0			0	No, Vu<V
SLD 12	1303	-306	-376	8027		0.23	44.38	0.88	1171			3.12	Si
SLV 11	1103	3304	-434	5291		0	0	0.83	0			0	No, Vu<V
SLV 11	1303	890	-896	11614		0	0	0.83	0			0	No, Vu<V
SLV 15	1103	-1041	1843	75190		0	0	0.83	0			0	No, Vu<V
SLV 15	1303	361	648	-45953		0	0	0.83	0			0	No, Vu<V
SLV 7	1103	3695	-1714	-39998		0	0	0.83	0			0	No, Vu<V
SLV 7	1303	281	-1498	46612		0	0	0.83	0			0	No, Vu<V



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 16	1103	-1041	1843	75190		0	0	0.83	0			0	No, Vu<V
SLV 16	1303	361	648	-45953		0	0	0.83	0			0	No, Vu<V

#### Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1221.9 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.5	0	1911	17272	0	0	No, Trazione
SLV 4	14	0.5	0	-640	17272	0	0	No, e>t/2
SLV 11	14	0.5	0	1993	17272	0	0	No, Trazione
SLV 16	14	0.5	0	-368	17272	0	0	No, e>t/2
SLV 3	14	0.5	0	-640	17272	0	0	No, e>t/2
SLV 8	14	0.5	0	1911	17272	0	0	No, Trazione
SLV 12	14	0.5	0	1993	17272	0	0	No, Trazione
SLV 15	14	0.5	0	-368	17272	0	0	No, e>t/2
SLV 13	14	0.5	1.01	-2473	17272	34048	1.97	Si
SLV 14	14	0.5	1.01	-2473	17272	34048	1.97	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1221.9 Wa = 0.05 Ta = 0.1018

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 15	-220	535	-97	0	0	0	0	1723.128	No, Trazione
SLV 1	47	-3774	-25	0	0	0	0	1723.128	No, Trazione
SLV 3	341	-1546	-53	0	0	0	0	1723.128	No, Trazione
SLV 16	-220	535	-97	0	0	0	0	1723.128	No, Trazione
SLV 11	319	2407	-113	0	0	0	0	1574.237	No, Trazione
SLV 8	487	1783	-100	0	0	0	0	1574.237	No, Trazione
SLV 7	487	1783	-100	0	0	0	0	1574.237	No, Trazione
SLV 2	47	-3774	-25	0	0	0	0	1723.128	No, Trazione
SLV 4	341	-1546	-53	0	0	0	0	1723.128	No, Trazione
SLV 12	319	2407	-113	0	0	0	0	1574.237	No, Trazione

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF SLU	6.026	SLU 37	Si
V SLU	14.152	SLU 44	Si
PF SLV	0	SLV 16	No
V SLV	0	SLD 7	No
PFFP SLV	0	SLV 12	No
R SLV	0	SLV 16	No

## Maschio 241

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1193.3	-485.9	-1114.3	-485.9	Z medio 1008 cm	F1	79	30	427.6	427.6	427.6			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 38	1103	-2678	-7918	1.13	91111	11.507	Si
SLU 38	1303	-15292	-71956	0.86	71956	4.705	Si
SLU 80	1103	-3152	-8946	1.33	104179	11.646	Si
SLU 80	1303	-2288	-16449	0.97	79660	4.843	Si
SLU 36	1103	-2619	-7537	1.11	89425	11.865	Si
SLU 36	1303	-1976	-14747	0.83	70048	4.75	Si
SLU 77	1103	-3086	-8539	1.3	102395	11.991	Si
SLU 77	1303	-2237	-16126	0.94	78126	4.845	Si
SLU 16	1103	-2478	-7201	1.05	85298	11.846	Si
SLU 16	1303	-1849	-13686	0.78	66030	4.825	Si
SLU 14	1103	-2419	-6819	1.02	83563	12.254	Si
SLU 14	1303	-1788	-13141	0.75	64075	4.876	Si
SLU 29	1103	-2624	-8703	1.11	89552	10.29	Si
SLU 29	1303	-1999	-14637	0.84	70794	4.837	Si
SLU 37	1103	-2671	-7893	1.13	90887	11.515	Si
SLU 37	1303	-2047	-15514	0.86	72276	4.659	Si
SLU 79	1103	-3145	-8921	1.33	103970	11.655	Si
SLU 79	1303	-2298	-16671	0.97	79969	4.797	Si
SLU 35	1103	-2612	-7512	1.1	89198	11.874	Si
SLU 35	1303	-1986	-14969	0.84	70370	4.701	Si

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 12	1103	241	19492	0	0	0	No, Trazione
SLV 12	1303	158	1820	0	0	0	No, Trazione
SLV 4	1103	-3500	-55328	1.48	121535	2.197	Si
SLV 4	1303	295	56021	0	0	0	No, Trazione
SLV 11	1103	241	19492	0	0	0	No, Trazione
SLV 11	1303	158	1820	0	0	0	No, Trazione





Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 16	1103	654	51548	0	0	0	No, Trazione
SLV 16	1303	-1616	-54398	0.68	60279	1.108	Si
SLV 8	1103	-1005	-12570	0.42	38315	3.048	Si
SLV 8	1303	731	34945	0	0	0	No, Trazione
SLV 14	1103	-238	46962	0	0	0	No, e>/2
SLV 14	1303	-2564	-69459	1.08	92290	1.329	Si
SLV 2	1103	-4392	-59915	1.85	147175	2.456	Si
SLV 2	1303	-652	40960	0	0	0	No, e>/2
SLV 7	1103	-1005	-12570	0.42	38315	3.048	Si
SLV 7	1303	731	34945	0	0	0	No, Trazione
SLV 3	1103	-3500	-55328	1.48	121535	2.197	Si
SLV 3	1303	295	56021	0	0	0	No, Trazione
SLV 13	1103	-238	46962	0	0	0	No, e>/2
SLV 13	1303	-2564	-69459	1.08	92290	1.329	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 38	1103	-2678	99	-7918		1.13	79	0.71	1674			16.89	Si
SLU 38	1303	-2037	131	-15292		0.86	79	0.67	1588			12.09	Si
SLU 84	1103	-2857	44	-6702		1.21	79	0.72	1698			38.66	Si
SLU 84	1303	-1940	121	-13394		0.82	79	0.66	1575			13	Si
SLU 80	1103	-3152	86	-8946		1.33	79	0.73	1737			20.11	Si
SLU 80	1303	-2288	137	-16449		0.97	79	0.68	1622			11.8	Si
SLU 79	1103	-3145	128	-8921		1.33	79	0.73	1736			13.57	Si
SLU 79	1303	-2298	130	-16671		0.97	79	0.68	1623			12.51	Si
SLU 36	1103	-2619	91	-7537		1.11	79	0.7	1666			18.24	Si
SLU 36	1303	-1976	129	-14747		0.83	79	0.67	1580			12.2	Si
SLU 59	1103	-2959	62	-8253		1.25	79	0.72	1711			27.73	Si
SLU 59	1303	-2090	121	-14621		0.88	79	0.67	1595			13.18	Si
SLU 37	1103	-2671	141	-7893		1.13	79	0.71	1673			11.89	Si
SLU 37	1303	-2047	124	-15514		0.86	79	0.67	1590			12.85	Si
SLU 77	1103	-3086	120	-8539		1.3	79	0.73	1728			14.38	Si
SLU 77	1303	-2237	128	-16126		0.94	79	0.68	1615			12.63	Si
SLU 35	1103	-2612	133	-7512		1.1	79	0.7	1665			12.53	Si
SLU 35	1303	-1986	122	-14969		0.84	79	0.67	1581			12.99	Si
SLU 78	1103	-3094	79	-8564		1.31	79	0.73	1729			22	Si
SLU 78	1303	-2227	136	-15904		0.94	79	0.68	1614			11.9	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	1103	241	117	19492		0	0	0.83	0			0	No, Vu<V
SLV 12	1303	158	93	1820		0	0	0.83	0			0	No, Vu<V
SLV 13	1103	-238	2493	46962		0	0	0.83	0			0	No, Vu<V
SLV 13	1303	-2564	1200	-69459		2.3	37.21	1.29	1443			1.2	Si
SLV 3	1103	-3500	-2494	-55328		1.64	71.07	1.16	2477			0.99	No, Vu<V
SLV 3	1303	295	-1102	56021		0	0	0.83	0			0	No, Vu<V
SLV 16	1103	654	2146	51548		0	0	0.83	0			0	No, Vu<V
SLV 16	1303	-1616	1034	-54398		3.07	17.53	1.45	762			0.74	No, Vu<V
SLV 14	1103	-238	2493	46962		0	0	0.83	0			0	No, Vu<V
SLV 14	1303	-2564	1200	-69459		2.3	37.21	1.29	1443			1.2	Si
SLV 4	1103	-3500	-2494	-55328		1.64	71.07	1.16	2477			0.99	No, Vu<V
SLV 4	1303	295	-1102	56021		0	0	0.83	0			0	No, Vu<V
SLV 7	1103	-1005	-1275	-12570		0.42	79	0.92	2176			1.71	Si
SLV 7	1303	731	-548	34945		0	0	0.83	0			0	No, Vu<V
SLV 11	1103	241	117	19492		0	0	0.83	0			0	No, Vu<V
SLV 11	1303	158	93	1820		0	0	0.83	0			0	No, Vu<V
SLV 2	1103	-4392	-2147	-59915		1.89	77.57	1.21	2818			1.31	Si
SLV 2	1303	-652	-936	40960		0	0	0.83	0			0	No, Vu<V
SLV 8	1103	-1005	-1275	-12570		0.42	79	0.92	2176			1.71	Si
SLV 8	1303	731	-548	34945		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1221.8 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\alpha 0$	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.5	0	-10	16627	0	0	No, e>t/2
SLV 7	14	0.5	0	-10	16627	0	0	No, e>t/2
SLV 11	14	0.5	0	102	16627	0	0	No, Trazione
SLV 15	14	0.5	0	-816	16627	0	0	No, e>t/2
SLV 12	14	0.5	0	102	16627	0	0	No, Trazione
SLV 16	14	0.5	0	-816	16627	0	0	No, e>t/2
SLV 4	14	0.5	0.5	-1190	16627	17113	1.03	Si
SLV 3	14	0.5	0.5	-1190	16627	17113	1.03	Si
SLV 13	14	0.5	0.72	-1715	16627	24206	1.46	Si
SLV 14	14	0.5	0.72	-1715	16627	24206	1.46	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1221.8 Wa = 0.05 Ta = 0.1018

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 8	161	-513	-169	0	0	0	0	1572.989	No, Trazione
SLV 15	-488	-1020	-85	0	2.117	0.898	0	1721.855	No
SLV 12	-90	-346	-165	0	1.875	0.961	0	1572.989	No
SLV 1	259	-2322	-34	0	0	0	0	1721.855	No, Trazione
SLV 3	349	-1577	-98	0	0	0	0	1721.855	No, Trazione
SLV 2	259	-2322	-34	0	0	0	0	1721.855	No, Trazione
SLV 11	-90	-346	-165	0	1.875	0.961	0	1572.989	No
SLV 4	349	-1577	-98	0	0	0	0	1721.855	No, Trazione
SLV 7	161	-513	-169	0	0	0	0	1572.989	No, Trazione
SLV 16	-488	-1020	-85	0	2.117	0.898	0	1721.855	No



## Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	4.659	SLU 37	Si
V_SLU	11.797	SLU 80	Si
PF_SLV	0	SLV 16	No
V_SLV	0	SLV 1	No
PFFP_SLV	0	SLV 12	No
R_SLV	0	SLV 8	No

## Maschio 242

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1705.3	-500.9	-1705.3	-486.2	L3	L6	14.7	30	1077	1077	1077			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 31	834	-1014	-2771	2.3	5340	1.927	Si
SLU 31	1160	-437	929	0.99	2817	3.034	Si
SLU 42	834	-915	-2287	2.08	5003	2.187	Si
SLU 42	1160	-345	717	0.78	2289	3.193	Si
SLU 39	834	-787	-2121	1.79	4510	2.126	Si
SLU 39	1160	-261	548	0.59	1777	3.24	Si
SLU 33	834	-895	-2139	2.03	4929	2.304	Si
SLU 33	1160	-341	667	0.78	2268	3.402	Si
SLU 73	834	-1193	-2827	2.71	5844	2.067	Si
SLU 73	1160	-503	882	1.14	3176	3.602	Si
SLU 40	834	-942	-2696	2.14	5100	1.892	Si
SLU 40	1160	-372	842	0.85	2449	2.91	Si
SLU 10	834	-973	-2348	2.21	5206	2.217	Si
SLU 10	1160	-433	768	0.98	2793	3.635	Si
SLU 82	834	-1121	-2752	2.54	5656	2.055	Si
SLU 82	1160	-438	795	1	2825	3.555	Si
SLU 19	834	-901	-2273	2.05	4953	2.179	Si
SLU 19	1160	-368	681	0.84	2424	3.557	Si
SLU 34	834	-987	-2362	2.24	5251	2.223	Si
SLU 34	1160	-410	804	0.93	2664	3.315	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 11	834	-1130	10090	0	0	0	No, e>l/2
SLV 11	1160	397	5595	0	0	0	No, Trazione
SLV 9	834	-154	-15910	0	0	0	No, e>l/2
SLV 9	1160	-721	-2612	1.64	4582	1.754	Si
SLD 16	834	-683	-2124	1.55	4376	2.06	Si
SLD 16	1160	-69	2525	0	0	0	No, e>l/2
SLV 8	834	-1194	13916	0	0	0	No, e>l/2
SLV 8	1160	255	2901	0	0	0	No, Trazione
SLV 7	834	-1194	13916	0	0	0	No, e>l/2
SLV 7	1160	255	2901	0	0	0	No, Trazione
SLV 14	834	-421	-11274	0	0	0	No, e>l/2
SLV 14	1160	-163	3403	0	0	0	No, e>l/2
SLV 6	834	-218	-12083	0	0	0	No, e>l/2
SLV 6	1160	-863	-5306	1.96	5320	1.003	Si
SLV 12	834	-1130	10090	0	0	0	No, e>l/2
SLV 12	1160	397	5595	0	0	0	No, Trazione
SLV 10	834	-154	-15910	0	0	0	No, e>l/2
SLV 10	1160	-721	-2612	1.64	4582	1.754	Si
SLV 13	834	-421	-11274	0	0	0	No, e>l/2
SLV 13	1160	-163	3403	0	0	0	No, e>l/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 34	834	-987	-28	-2362		2.24	14.68	0.85	376			13.45	Si
SLU 34	1160	-410	219	804		0.93	14.68	0.68	299			1.37	Si
SLU 73	834	-1193	-32	-2827		2.71	14.68	0.92	404			12.46	Si
SLU 73	1160	-503	251	882		1.14	14.68	0.71	312			1.24	Si
SLU 31	834	-1014	-32	-2771		2.45	13.82	0.88	366			11.56	Si
SLU 31	1160	-437	247	929		0.99	14.68	0.69	303			1.23	Si
SLU 40	834	-942	-31	-2696		2.34	13.44	0.87	350			11.43	Si
SLU 40	1160	-372	209	842		0.85	14.68	0.67	294			1.41	Si
SLU 52	834	-1151	-28	-2404		2.61	14.68	0.9	398			14.43	Si
SLU 52	1160	-499	228	721		1.13	14.68	0.71	311			1.37	Si
SLU 23	834	-941	-24	-2052		2.14	14.68	0.84	370			15.52	Si
SLU 23	1160	-415	205	675		0.94	14.68	0.68	300			1.47	Si
SLU 65	834	-1119	-25	-2108		2.54	14.68	0.89	394			16	Si
SLU 65	1160	-481	209	628		1.09	14.68	0.7	309			1.48	Si
SLU 82	834	-1121	-31	-2752		2.55	14.65	0.9	394			12.55	Si
SLU 82	1160	-438	213	795		1	14.68	0.69	303			1.42	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 76	834	-1165	-29	-2418		2.65	14.68	0.91	400			13.91	Si
SLU 76	1160	-476	223	757		1.08	14.68	0.7	308			1.38	Si
SLU 10	834	-973	-27	-2348		2.21	14.68	0.85	374			13.96	Si
SLU 10	1160	-433	224	768		0.98	14.68	0.69	302			1.35	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 10	834	-154	-154	-15910		0	0	0.83	0			0	No, $V_u < V$
SLV 10	1160	-721	988	-2612		2.16	11.15	1.26	423			0.43	No, $V_u < V$
SLV 7	834	-1194	131	13916		0	0	0.83	0			0	No, $V_u < V$
SLV 7	1160	255	-869	2901		0	0	0.83	0			0	No, $V_u < V$
SLV 12	834	-1130	90	10090		0	0	0.83	0			0	No, $V_u < V$
SLV 12	1160	397	-817	5595		0	0	0.83	0			0	No, $V_u < V$
SLV 11	834	-1130	90	10090		0	0	0.83	0			0	No, $V_u < V$
SLV 11	1160	397	-817	5595		0	0	0.83	0			0	No, $V_u < V$
SLD 16	834	-683	-25	-2124		1.79	12.69	1.19	454			17.99	Si
SLD 16	1160	-69	-13	2525		0	0	0.83	0			0	No, $V_u < V$
SLV 8	834	-1194	131	13916		0	0	0.83	0			0	No, $V_u < V$
SLV 8	1160	255	-869	2901		0	0	0.83	0			0	No, $V_u < V$
SLV 14	834	-421	-116	-11274		0	0	0.83	0			0	No, $V_u < V$
SLV 14	1160	-163	417	3403		0	0	0.83	0			0	No, $V_u < V$
SLV 9	834	-154	-154	-15910		0	0	0.83	0			0	No, $V_u < V$
SLV 9	1160	-721	988	-2612		2.16	11.15	1.26	423			0.43	No, $V_u < V$
SLV 13	834	-421	-116	-11274		0	0	0.83	0			0	No, $V_u < V$
SLV 13	1160	-163	417	3403		0	0	0.83	0			0	No, $V_u < V$
SLV 6	834	-218	-114	-12083		0	0	0.83	0			0	No, $V_u < V$
SLV 6	1160	-863	936	-5306		8.03	3.58	1.63	175			0.19	No, $V_u < V$

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 647.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.38	0	-493	14562	0	0	No, $e > t/2$
SLV 13	14	0.38	0	-65	14562	0	0	No, $e > t/2$
SLV 9	14	0.38	0	-140	14562	0	0	No, $e > t/2$
SLV 6	14	0.38	0	-493	14562	0	0	No, $e > t/2$
SLV 16	14	0.38	0	-352	14562	0	0	No, $e > t/2$
SLV 14	14	0.38	0	-65	14562	0	0	No, $e > t/2$
SLV 10	14	0.38	0	-140	14562	0	0	No, $e > t/2$
SLV 15	14	0.38	0	-352	14562	0	0	No, $e > t/2$
SLV 12	14	0.38	2.5	-1099	14562	13117	0.9	No, $M > M_u$
SLV 11	14	0.38	2.5	-1099	14562	13117	0.9	No, $M > M_u$

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 647.5 Wa = 0.05 Ta = 0.6457

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 6	-185	1476	74	0	0	0	0	239.674	No, Trazione
SLV 7	67	712	-75	0	0	0	0	239.674	No, Trazione
SLV 10	-204	1220	73	0	0	0	0	239.674	No, Trazione
SLV 9	-204	1220	73	0	0	0	0	239.674	No, Trazione
SLV 5	-185	1476	74	0	0	0	0	239.674	No, Trazione
SLV 3	1	1279	-20	0	0	0	0	239.674	No, Trazione
SLV 4	1	1279	-20	0	0	0	0	239.674	No, Trazione
SLV 2	-75	1508	24	0	0	0	0	239.674	No, Trazione
SLV 8	67	712	-75	0	0	0	0	239.674	No, Trazione
SLV 1	-75	1508	24	0	0	0	0	239.674	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.892	SLU 40	Si
V_SLU	1.226	SLU 31	Si
PF_SLV	0	SLV 16	No
V_SLV	0	SLD 5	No
PFFP_SLV	0	SLV 5	No
R_SLV	0	SLV 16	No

## Maschio 243

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1705.3	-377.2	-1705.3	-349.9	L3	F1	27.3	30	1383.5	1377.3	1389.8			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 47	1186	-1042	-8565	1.27	11972	1.398	Si
SLU 47	1398	130	3027	0	0	0	No, Trazione
SLU 41	1186	-678	-3705	0.83	8296	2.239	Si
SLU 41	1398	-57	1574	0	0	0	No, $e > t/2$
SLU 44	1186	-977	-9409	1.2	11363	1.208	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 44	1398	193	3152	0	0	0	No, Trazione
SLU 49	1186	-1033	-4923	1.26	11891	2.415	Si
SLU 49	1398	-111	2172	0	0	0	No, $e \geq l/2$
SLU 39	1186	-614	-4549	0.75	7591	1.669	Si
SLU 39	1398	7	1698	0	0	0	No, Trazione
SLU 46	1186	-969	-5767	1.19	11280	1.956	Si
SLU 46	1398	-47	2297	0	0	0	No, $e \geq l/2$
SLU 40	1186	-775	-9249	0.95	9333	1.009	Si
SLU 40	1398	242	3017	0	0	0	No, Trazione
SLU 83	1186	-830	-3825	1.02	9901	2.588	Si
SLU 83	1398	-112	1713	0	0	0	No, $e \geq l/2$
SLU 42	1186	-839	-8405	1.03	9995	1.189	Si
SLU 42	1398	179	2892	0	0	0	No, Trazione
SLU 38	1186	-899	-6910	1.1	10594	1.533	Si
SLU 38	1398	81	2594	0	0	0	No, Trazione

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 9	1186	2895	10300	0	0	0	No, Trazione
SLV 9	1398	2346	28587	0	0	0	No, Trazione
SLV 1	1186	-557	1450	0.68	7163	4.941	Si
SLV 1	1398	165	9091	0	0	0	No, Trazione
SLV 10	1186	2895	10300	0	0	0	No, Trazione
SLV 10	1398	2346	28587	0	0	0	No, Trazione
SLV 2	1186	-557	1450	0.68	7163	4.941	Si
SLV 2	1398	165	9091	0	0	0	No, Trazione
SLV 5	1186	2331	10227	0	0	0	No, Trazione
SLV 5	1398	2093	28478	0	0	0	No, Trazione
SLD 1	1186	-589	-763	0.72	7552	9.9	Si
SLD 1	1398	-12	4171	0	0	0	No, $e \geq l/2$
SLV 13	1186	1325	1694	0	0	0	No, Trazione
SLV 13	1398	1010	9453	0	0	0	No, Trazione
SLV 15	1186	-585	-5756	0.72	7509	1.305	Si
SLV 15	1398	-389	-7055	0	0	0	No, $e \geq l/2$
SLV 6	1186	2331	10227	0	0	0	No, Trazione
SLV 6	1398	2093	28478	0	0	0	No, Trazione
SLV 14	1186	1325	1694	0	0	0	No, Trazione
SLV 14	1398	1010	9453	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 39	1186	-614	-130	-4549		1.1	18.64	0.7	392			3.01	Si
SLU 39	1398	7	93	1698		0	0	0.56	0			0	No, $V_u < V$
SLU 44	1186	-977	-249	-9409		2.72	12	0.92	330			1.33	Si
SLU 44	1398	193	222	3152		0	0	0.56	0			0	No, $V_u < V$
SLU 40	1186	-775	-260	-9249		5.09	5.08	1.08	165			0.64	No, $V_u < V$
SLU 40	1398	242	195	3017		0	0	0.56	0			0	No, $V_u < V$
SLU 38	1186	-899	-203	-6910		1.68	17.81	0.78	417			2.06	Si
SLU 38	1398	81	54	2594		0	0	0.56	0			0	No, $V_u < V$
SLU 41	1186	-678	-112	-3705		0.92	24.48	0.68	498			4.46	Si
SLU 41	1398	-57	30	1574		0	0	0.56	0			0	No, $V_u < V$
SLU 49	1186	-1033	-133	-4923		1.3	26.58	0.73	581			4.36	Si
SLU 49	1398	-111	42	2172		0	0	0.56	0			0	No, $V_u < V$
SLU 47	1186	-1042	-230	-8565		2.14	16.21	0.84	409			1.78	Si
SLU 47	1398	130	159	3027		0	0	0.56	0			0	No, $V_u < V$
SLU 46	1186	-969	-152	-5767		1.4	23.02	0.74	513			3.38	Si
SLU 46	1398	-47	105	2297		0	0	0.56	0			0	No, $V_u < V$
SLU 42	1186	-839	-241	-8405		2.58	10.84	0.9	293			1.21	Si
SLU 42	1398	179	132	2892		0	0	0.56	0			0	No, $V_u < V$
SLU 83	1186	-830	-111	-3825		1.02	27.05	0.69	562			5.04	Si
SLU 83	1398	-112	42	1713		0	0	0.56	0			0	No, $V_u < V$

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 13	1186	1325	-477	1694		0	0	0.83	0			0	No, $V_u < V$
SLV 13	1398	1010	491	9453		0	0	0.83	0			0	No, $V_u < V$
SLV 15	1186	-585	191	-5756		1.72	11.38	1.18	402			2.1	Si
SLV 15	1398	-389	-594	-7055		0	0	0.83	0			0	No, $V_u < V$
SLV 9	1186	2895	-1195	10300		0	0	0.83	0			0	No, $V_u < V$
SLV 9	1398	2346	1829	28587		0	0	0.83	0			0	No, $V_u < V$
SLV 10	1186	2895	-1195	10300		0	0	0.83	0			0	No, $V_u < V$
SLV 10	1398	2346	1829	28587		0	0	0.83	0			0	No, $V_u < V$
SLV 14	1186	1325	-477	1694		0	0	0.83	0			0	No, $V_u < V$
SLV 14	1398	1010	491	9453		0	0	0.83	0			0	No, $V_u < V$
SLV 2	1186	-557	-302	1450		0.68	27.25	0.97	793			2.62	Si
SLV 2	1398	165	697	9091		0	0	0.83	0			0	No, $V_u < V$
SLD 1	1186	-589	-152	-763		0.72	27.25	0.98	799			5.25	Si
SLD 1	1398	-12	308	4171		0	0	0.83	0			0	No, $V_u < V$
SLV 1	1186	-557	-302	1450		0.68	27.25	0.97	793			2.62	Si
SLV 1	1398	165	697	9091		0	0	0.83	0			0	No, $V_u < V$
SLV 5	1186	2331	-1143	10227		0	0	0.83	0			0	No, $V_u < V$
SLV 5	1398	2093	1891	28478		0	0	0.83	0			0	No, $V_u < V$
SLV 6	1186	2331	-1143	10227		0	0	0.83	0			0	No, $V_u < V$
SLV 6	1398	2093	1891	28478		0	0	0.83	0			0	No, $V_u < V$

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 797.6 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 8	14	0.41	0	-2532	48301	0	0	No, $e \geq t/2$



Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.41	0	-2532	48301	0	0	No, $e>t/2$
SLV 5	14	0.41	0	-188	48301	0	0	No, $e>t/2$
SLV 2	14	0.41	0	-1095	48301	0	0	No, $e>t/2$
SLV 4	14	0.41	0	-1798	48301	0	0	No, $e>t/2$
SLV 3	14	0.41	0	-1798	48301	0	0	No, $e>t/2$
SLV 1	14	0.41	0	-1095	48301	0	0	No, $e>t/2$
SLV 6	14	0.41	0	-188	48301	0	0	No, $e>t/2$
SLV 10	14	0.41	0	-115	48301	0	0	No, $e>t/2$
SLV 9	14	0.41	0	-115	48301	0	0	No, $e>t/2$

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 797.6 Wa = 0.05 Ta = 1.0655

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 1	85	-10136	-10	0	0	0	0	239.674	No, Trazione
SLV 8	-23	7903	-26	0	0	0	0	239.674	No, Trazione
SLV 4	-33	-1546	-24	0	2.077	0.985	0	239.674	No
SLV 9	498	-21221	35	0	0	0	0	239.674	No, Trazione
SLV 10	498	-21221	35	0	0	0	0	239.674	No, Trazione
SLV 5	371	-20731	22	0	0	0	0	239.674	No, Trazione
SLV 3	-33	-1546	-24	0	2.077	0.985	0	239.674	No
SLV 6	371	-20731	22	0	0	0	0	239.674	No, Trazione
SLV 7	-23	7903	-26	0	0	0	0	239.674	No, Trazione
SLV 2	85	-10136	-10	0	0	0	0	239.674	No, Trazione

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 84	No
V_SLU	0	SLU 2	No
PF_SLV	0	SLV 14	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 1	No
R_SLV	0	SLV 16	No

## Maschio 244

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	-335.9	-1389.3	-335.9	L4	L6	14	28	704	704	704			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 58	482	-1305	13295	0	0	0	No, $e>l/2$
SLU 58	1186	-382	1950	0.98	2355	1.208	Si
SLU 56	482	-1315	13318	0	0	0	No, $e>l/2$
SLU 56	1186	-403	2007	1.03	2465	1.229	Si
SLU 55	482	-1309	12869	0	0	0	No, $e>l/2$
SLU 55	1186	-406	1816	1.04	2483	1.367	Si
SLU 59	482	-1315	13296	0	0	0	No, $e>l/2$
SLU 59	1186	-388	1939	0.99	2384	1.229	Si
SLU 53	482	-1303	12890	0	0	0	No, $e>l/2$
SLU 53	1186	-418	1891	1.07	2545	1.346	Si
SLU 60	482	-1331	12762	0	0	0	No, $e>l/2$
SLU 60	1186	-427	1838	1.09	2587	1.408	Si
SLU 61	482	-1341	12764	0	0	0	No, $e>l/2$
SLU 61	1186	-432	1827	1.1	2614	1.431	Si
SLU 57	482	-1325	13319	0	0	0	No, $e>l/2$
SLU 57	1186	-408	1996	1.04	2493	1.249	Si
SLU 1	482	-915	9081	0	0	0	No, $e>l/2$
SLU 1	1186	-303	1190	0.77	1918	1.611	Si
SLU 54	482	-1312	12892	0	0	0	No, $e>l/2$
SLU 54	1186	-424	1880	1.08	2572	1.368	Si

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 7	482	-918	7182	0	0	0	No, $e>l/2$
SLV 7	1186	-1102	356	2.81	5940	16.689	Si
SLV 4	482	-775	15153	0	0	0	No, $e>l/2$
SLV 4	1186	-326	1685	0.83	2128	1.263	Si
SLV 1	482	-772	17752	0	0	0	No, $e>l/2$
SLV 1	1186	187	2410	0	0	0	No, Trazione
SLV 2	482	-772	17752	0	0	0	No, $e>l/2$
SLV 2	1186	187	2410	0	0	0	No, Trazione
SLV 9	482	-1029	11609	0	0	0	No, $e>l/2$
SLV 9	1186	459	2358	0	0	0	No, Trazione
SLV 3	482	-775	15153	0	0	0	No, $e>l/2$
SLV 3	1186	-326	1685	0.83	2128	1.263	Si
SLV 5	482	-909	15843	0	0	0	No, $e>l/2$
SLV 5	1186	610	2773	0	0	0	No, Trazione
SLD 1	482	-887	12945	0	0	0	No, $e>l/2$



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLD 1	1186	-105	1792	0	0	0	No, $e>l/2$
SLV 10	482	-1029	11609	0	0	0	No, $e>l/2$
SLV 10	1186	459	2358	0	0	0	No, Trazione
SLV 6	482	-909	15843	0	0	0	No, $e>l/2$
SLV 6	1186	610	2773	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 59	482	-1315	-249	13296		0	0	0.56	0			0	No, Vu<V
SLU 59	1186	-388	-67	1939		2.31	5.99	0.86	145			2.15	Si
SLU 58	482	-1305	-242	13295		0	0	0.56	0			0	No, Vu<V
SLU 58	1186	-382	-69	1950		2.4	5.7	0.88	140			2.02	Si
SLU 56	482	-1315	-248	13318		0	0	0.56	0			0	No, Vu<V
SLU 56	1186	-403	-70	2007		2.37	6.06	0.87	148			2.13	Si
SLU 60	482	-1331	-289	12762		0	0	0.56	0			0	No, Vu<V
SLU 60	1186	-427	-52	1838		1.89	8.08	0.81	183			3.51	Si
SLU 54	482	-1312	-271	12892		0	0	0.56	0			0	No, Vu<V
SLU 54	1186	-424	-57	1880		1.97	7.69	0.82	176			3.11	Si
SLU 53	482	-1303	-263	12890		0	0	0.56	0			0	No, Vu<V
SLU 53	1186	-418	-58	1891		2.01	7.44	0.82	172			2.94	Si
SLU 1	482	-915	-188	9081		0	0	0.56	0			0	No, Vu<V
SLU 1	1186	-303	-30	1190		1.17	9.2	0.71	183			6.15	Si
SLU 55	482	-1309	-269	12869		0	0	0.56	0			0	No, Vu<V
SLU 55	1186	-406	-55	1816		1.91	7.6	0.81	172			3.14	Si
SLU 61	482	-1341	-296	12764		0	0	0.56	0			0	No, Vu<V
SLU 61	1186	-432	-50	1827		1.86	8.31	0.8	187			3.72	Si
SLU 57	482	-1325	-256	13319		0	0	0.56	0			0	No, Vu<V
SLU 57	1186	-408	-68	1996		2.3	6.34	0.86	153			2.26	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 6	482	-909	101	15843		0	0	0.83	0			0	No, Vu<V
SLV 6	1186	610	-235	2773		0	0	0.83	0			0	No, Vu<V
SLV 1	482	-772	253	17752		0	0	0.83	0			0	No, Vu<V
SLV 1	1186	187	-82	2410		0	0	0.83	0			0	No, Vu<V
SLV 10	482	-1029	-143	11609		0	0	0.83	0			0	No, Vu<V
SLV 10	1186	459	-245	2358		0	0	0.83	0			0	No, Vu<V
SLD 1	482	-887	-13	12945		0	0	0.83	0			0	No, Vu<V
SLD 1	1186	-105	-56	1792		0	0	0.83	0			0	No, Vu<V
SLV 5	482	-909	101	15843		0	0	0.83	0			0	No, Vu<V
SLV 5	1186	610	-235	2773		0	0	0.83	0			0	No, Vu<V
SLV 4	482	-775	139	15153		0	0	0.83	0			0	No, Vu<V
SLV 4	1186	-326	40	1685		2.12	5.5	1.26	194			4.86	Si
SLV 9	482	-1029	-143	11609		0	0	0.83	0			0	No, Vu<V
SLV 9	1186	459	-245	2358		0	0	0.83	0			0	No, Vu<V
SLV 3	482	-775	139	15153		0	0	0.83	0			0	No, Vu<V
SLV 3	1186	-326	40	1685		2.12	5.5	1.26	194			4.86	Si
SLV 7	482	-918	-279	7182		0	0	0.83	0			0	No, Vu<V
SLV 7	1186	-1102	170	356		2.81	14	1.4	547			3.22	Si
SLV 2	482	-772	253	17752		0	0	0.83	0			0	No, Vu<V
SLV 2	1186	187	-82	2410		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 834 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.42	0	92	6253	0	0	No, Trazione
SLV 5	14	0.42	0	92	6253	0	0	No, Trazione
SLV 10	14	0.42	0	15	6253	0	0	No, Trazione
SLV 9	14	0.42	0	15	6253	0	0	No, Trazione
SLV 1	14	0.42	1.36	-533	6253	6633	1.06	Si
SLV 2	14	0.42	1.36	-533	6253	6633	1.06	Si
SLV 13	14	0.42	2.01	-789	6253	9226	1.48	Si
SLV 14	14	0.42	2.01	-789	6253	9226	1.48	Si
SLV 3	14	0.42	2.92	-1145	6253	12200	1.95	Si
SLV 4	14	0.42	2.92	-1145	6253	12200	1.95	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 834 Wa = 0.05 Ta = 0.2956

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 5	610	-909	-10	0	0	0	0	1506.252	No, Trazione
SLV 10	459	-1029	-21	0	0	0	0	1506.252	No, Trazione
SLV 6	610	-909	-10	0	0	0	0	1506.252	No, Trazione
SLV 9	459	-1029	-21	0	0	0	0	1506.252	No, Trazione
SLV 3	-326	-775	23	0	0.747	0.891	0	1290.016	No
SLV 2	187	-772	13	0	0	0	0	1290.016	No, Trazione
SLV 4	-326	-775	23	0	0.747	0.891	0	1290.016	No
SLV 13	-317	-1172	-22	0	0.739	0.89	0	1290.016	No
SLV 14	-317	-1172	-22	0	0.739	0.89	0	1290.016	No
SLV 1	187	-772	13	0	0	0	0	1290.016	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 1	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 10	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 10	No
R_SLV	0	SLV 10	No



## Maschio 245

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1627.8	-485.9	-1705.3	-485.9	L3	F1	77.5	30	1327	1327	1327			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 31	1186	-1603	-16973	0.69	56819	3.348	Si
SLU 31	1398	-727	9926	0.31	27070	2.727	Si
SLU 5	1186	-1471	-12117	0.63	52545	4.337	Si
SLU 5	1398	-633	8500	0.27	23679	2.786	Si
SLU 65	1186	-1900	-16812	0.82	66188	3.937	Si
SLU 65	1398	-779	11057	0.34	28933	2.617	Si
SLU 47	1186	-1848	-12916	0.8	64580	5	Si
SLU 47	1398	-737	9445	0.32	27422	2.903	Si
SLU 10	1186	-1560	-16863	0.67	55446	3.288	Si
SLU 10	1398	-688	10110	0.3	25665	2.539	Si
SLU 44	1186	-1857	-16702	0.8	64867	3.884	Si
SLU 44	1398	-740	11241	0.32	27536	2.45	Si
SLU 52	1186	-1937	-17663	0.83	67344	3.813	Si
SLU 52	1398	-792	11055	0.34	29385	2.658	Si
SLU 2	1186	-1480	-15903	0.64	52846	3.323	Si
SLU 2	1398	-636	10296	0.27	23794	2.311	Si
SLU 23	1186	-1523	-16013	0.66	54232	3.387	Si
SLU 23	1398	-675	10112	0.29	25208	2.493	Si
SLU 73	1186	-1980	-17773	0.85	68651	3.863	Si
SLU 73	1398	-831	10871	0.36	30773	2.831	Si

### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 2	1186	-2154	40627	0.93	77097	1.898	Si
SLV 2	1398	-814	-35715	0	0	0	No, e>l/2
SLV 8	1186	-2459	-12787	1.06	86969	6.801	Si
SLV 8	1398	53	22243	0	0	0	No, Trazione
SLV 11	1186	-1826	-35254	0.79	66153	1.876	Si
SLV 11	1398	194	40258	0	0	0	No, Trazione
SLV 13	1186	-44	-34264	0	0	0	No, e>l/2
SLV 13	1398	-347	24336	0	0	0	No, e>l/2
SLV 7	1186	-2459	-12787	1.06	86969	6.801	Si
SLV 7	1398	53	22243	0	0	0	No, Trazione
SLD 16	1186	-981	-21428	0.42	36688	1.712	Si
SLD 16	1398	-253	19075	0	0	0	No, e>l/2
SLV 12	1186	-1826	-35254	0.79	66153	1.876	Si
SLV 12	1398	194	40258	0	0	0	No, Trazione
SLV 1	1186	-2154	40627	0.93	77097	1.898	Si
SLV 1	1398	-814	-35715	0	0	0	No, e>l/2
SLV 15	1186	-526	-46819	0	0	0	No, e>l/2
SLV 15	1398	-22	41385	0	0	0	No, e>l/2
SLV 14	1186	-44	-34264	0	0	0	No, e>l/2
SLV 14	1398	-347	24336	0	0	0	No, e>l/2

### Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 38	1186	-1514	92	-4155		0.65	77.45	0.64	1493			16.28	Si
SLU 38	1398	-623	-207	3393		0.27	77.45	0.59	1374			6.65	Si
SLU 84	1186	-1935	25	-9153		0.83	77.45	0.67	1549			62.69	Si
SLU 84	1398	-753	-175	6054		0.32	77.45	0.6	1391			7.95	Si
SLU 42	1186	-1558	33	-8353		0.67	77.45	0.64	1499			45.29	Si
SLU 42	1398	-649	-187	5109		0.28	77.45	0.59	1377			7.37	Si
SLU 37	1186	-1409	156	3712		0.61	77.45	0.64	1479			9.48	Si
SLU 37	1398	-477	-184	-1020		0.21	77.45	0.58	1354			7.35	Si
SLU 80	1186	-1891	83	-4955		0.81	77.45	0.66	1543			18.52	Si
SLU 80	1398	-727	-195	4338		0.31	77.45	0.6	1388			7.13	Si
SLU 36	1186	-1517	80	-5108		0.65	77.45	0.64	1493			18.77	Si
SLU 36	1398	-627	-201	3766		0.27	77.45	0.59	1375			6.84	Si
SLU 78	1186	-1894	71	-5907		0.82	77.45	0.66	1543			21.68	Si
SLU 78	1398	-732	-189	4711		0.31	77.45	0.6	1388			7.35	Si
SLU 34	1186	-1594	-15	-13187		0.69	77.45	0.65	1503			100.74	Si
SLU 34	1398	-724	-179	8130		0.31	77.45	0.6	1387			7.75	Si
SLU 79	1186	-1786	148	2913		0.77	77.45	0.66	1529			10.36	Si
SLU 79	1398	-581	-172	-75		0.25	77.45	0.59	1368			7.94	Si
SLU 35	1186	-1412	144	2760		0.61	77.45	0.64	1479			10.28	Si
SLU 35	1398	-481	-179	-647		0.21	77.45	0.58	1355			7.59	Si

### Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 2	1186	-2154	862	40627		1.2	59.6	1.07	1921			2.23	Si
SLV 2	1398	-814	-1440	-35715		0	0	0.83	0			0	No, Vu<V



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLD 16	1186	-981	-361	-21428		0.65	50.67	0.96	1463			4.05	Si
SLD 16	1398	-253	560	19075		0	0	0.83	0			0	No, Vu<V
SLV 12	1186	-1826	-578	-35254		1.04	58.25	1.04	1821			3.15	Si
SLV 12	1398	194	1451	40258		0	0	0.83	0			0	No, Vu<V
SLV 8	1186	-2459	-129	-12787		1.06	77.45	1.04	2428			18.84	Si
SLV 8	1398	53	817	22243		0	0	0.83	0			0	No, Vu<V
SLV 13	1186	-44	-636	-34264		0	0	0.83	0			0	No, Vu<V
SLV 13	1398	-347	673	24336		0	0	0.83	0			0	No, Vu<V
SLV 7	1186	-2459	-129	-12787		1.06	77.45	1.04	2428			18.84	Si
SLV 7	1398	53	817	22243		0	0	0.83	0			0	No, Vu<V
SLV 14	1186	-44	-636	-34264		0	0	0.83	0			0	No, Vu<V
SLV 14	1398	-347	673	24336		0	0	0.83	0			0	No, Vu<V
SLV 1	1186	-2154	862	40627		1.2	59.6	1.07	1921			2.23	Si
SLV 1	1398	-814	-1440	-35715		0	0	0.83	0			0	No, Vu<V
SLV 11	1186	-1826	-578	-35254		1.04	58.25	1.04	1821			3.15	Si
SLV 11	1398	194	1451	40258		0	0	0.83	0			0	No, Vu<V
SLV 15	1186	-526	-852	-46819		0	0	0.83	0			0	No, Vu<V
SLV 15	1398	-22	1373	41385		0	0	0.83	0			0	No, Vu<V

#### Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 772.5 Wa 0.05 denominatore  $8 \gamma M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 3	14	0.41	0	-3739	124676	0	0	No, $e > t/2$
SLV 7	14	0.41	0	-692	124676	0	0	No, $e > t/2$
SLV 6	14	0.41	0	-7243	124676	0	0	No, $e > t/2$
SLV 5	14	0.41	0	-7243	124676	0	0	No, $e > t/2$
SLV 2	14	0.41	0	-5704	124676	0	0	No, $e > t/2$
SLV 10	14	0.41	0	-6597	124676	0	0	No, $e > t/2$
SLV 8	14	0.41	0	-692	124676	0	0	No, $e > t/2$
SLV 9	14	0.41	0	-6597	124676	0	0	No, $e > t/2$
SLV 1	14	0.41	0	-5704	124676	0	0	No, $e > t/2$
SLV 4	14	0.41	0	-3739	124676	0	0	No, $e > t/2$

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 772.5 Wa = 0.05 Ta = 0.9802

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 16	642	-4408	-12	0	0	0	0	239.674	No, Trazione
SLV 8	1241	-5580	25	0	0	0	0	239.674	No, Trazione
SLV 11	1469	-3688	17	0	0	0	0	239.674	No, Trazione
SLV 7	1241	-5580	25	0	0	0	0	239.674	No, Trazione
SLV 12	1469	-3688	17	0	0	0	0	239.674	No, Trazione
SLV 15	642	-4408	-12	0	0	0	0	239.674	No, Trazione
SLV 10	-1652	-12050	-36	0.01	6.573	0.895	16.497	239.674	No
SLV 9	-1652	-12050	-36	0.01	6.573	0.895	16.497	239.674	No
SLV 14	-294	-6916	-27	0.013	5.71	0.959	19.064	239.674	No
SLV 13	-294	-6916	-27	0.013	5.71	0.959	19.064	239.674	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.311	SLU 2	Si
V_SLU	6.653	SLU 38	Si
PF_SLV	0	SLV 12	No
V_SLV	0	SLD 7	No
PFFP_SLV	0	SLV 1	No
R_SLV	0	SLV 16	No

## Maschio 246

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	-485.9	-1443.8	-485.9	L3	F1	68.5	30	1326.8	1326.8	1326.8			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 2	1186	-1220	-4276	0.59	38775	9.069	Si
SLU 2	1398	-286	6566	0.14	9644	1.469	Si
SLU 43	1186	-1528	-5397	0.74	47588	8.818	Si
SLU 43	1398	-367	6590	0.18	12312	1.868	Si
SLU 47	1186	-1804	-4545	0.88	55173	12.14	Si
SLU 47	1398	-408	6917	0.2	13630	1.971	Si
SLU 52	1186	-1578	-4381	0.77	48989	11.182	Si
SLU 52	1398	-369	7073	0.18	12377	1.75	Si
SLU 44	1186	-1532	-5736	0.74	47699	8.315	Si
SLU 44	1398	-365	8303	0.18	12227	1.473	Si
SLU 46	1186	-1758	-4639	0.85	53930	11.625	Si
SLU 46	1398	-402	6473	0.2	13445	2.077	Si
SLU 23	1186	-1376	-3459	0.67	43279	12.512	Si
SLU 23	1398	-310	5747	0.15	10440	1.817	Si





Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 10	1186	-1266	-2920	0.62	40124	13.74	Si
SLU 10	1398	-291	5336	0.14	9795	1.836	Si
SLU 65	1186	-1687	-4920	0.82	52005	10.571	Si
SLU 65	1398	-389	7484	0.19	13015	1.739	Si
SLU 1	1186	-1216	-3936	0.59	38659	9.822	Si
SLU 1	1398	-289	4853	0.14	9730	2.005	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLD 1	1186	-1627	10869	0.79	52160	4.799	Si
SLD 1	1398	-267	-10627	0	0	0	No, $e \geq l/2$
SLV 6	1186	-4506	25232	2.19	126747	5.023	Si
SLV 6	1398	-564	-26928	0	0	0	No, $e \geq l/2$
SLV 12	1186	1958	-31862	0	0	0	No, Trazione
SLV 12	1398	-30	35463	0	0	0	No, $e \geq l/2$
SLV 14	1186	-2412	-24295	1.17	74726	3.076	Si
SLV 14	1398	-555	25703	0	0	0	No, $e \geq l/2$
SLV 13	1186	-2412	-24295	1.17	74726	3.076	Si
SLV 13	1398	-555	25703	0	0	0	No, $e \geq l/2$
SLV 11	1186	1958	-31862	0	0	0	No, Trazione
SLV 11	1398	-30	35463	0	0	0	No, $e \geq l/2$
SLV 5	1186	-4506	25232	2.19	126747	5.023	Si
SLV 5	1398	-564	-26928	0	0	0	No, $e \geq l/2$
SLV 4	1186	-136	17664	0	0	0	No, $e \geq l/2$
SLV 4	1398	-39	-17168	0	0	0	No, $e \geq l/2$
SLV 7	1186	2051	-15600	0	0	0	No, Trazione
SLV 7	1398	68	18512	0	0	0	No, Trazione
SLV 8	1186	2051	-15600	0	0	0	No, Trazione
SLV 8	1398	68	18512	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 65	1186	-1687	-94	-4920		0.82	68.55	0.66	1367			14.52	Si
SLU 65	1398	-389	137	7484		0.29	45.07	0.59	803			5.86	Si
SLU 73	1186	-1734	-59	-3564		0.84	68.55	0.67	1374			23.32	Si
SLU 73	1398	-393	112	6253		0.24	55.13	0.59	971			8.71	Si
SLU 23	1186	-1376	-59	-3459		0.67	68.55	0.64	1326			22.47	Si
SLU 23	1398	-310	110	5747		0.22	47.27	0.58	829			7.54	Si
SLU 44	1186	-1532	-129	-5736		0.74	68.55	0.65	1347			10.42	Si
SLU 44	1398	-365	152	8303		0.35	34.52	0.6	624			4.1	Si
SLU 43	1186	-1528	-113	-5397		0.74	68.55	0.65	1346			11.96	Si
SLU 43	1398	-367	100	6590		0.25	48.99	0.59	865			8.62	Si
SLU 2	1186	-1220	-94	-4276		0.59	68.55	0.63	1305			13.88	Si
SLU 2	1398	-286	125	6566		0.28	34.01	0.59	605			4.84	Si
SLU 47	1186	-1804	-70	-4545		0.88	68.55	0.67	1383			19.86	Si
SLU 47	1398	-408	121	6917		0.26	51.91	0.59	920			7.62	Si
SLU 10	1186	-1266	-59	-2920		0.62	68.55	0.64	1311			22.34	Si
SLU 10	1398	-291	99	5336		0.2	47.79	0.58	835			8.4	Si
SLU 52	1186	-1578	-94	-4381		0.77	68.55	0.66	1353			14.4	Si
SLU 52	1398	-369	127	7073		0.27	45.36	0.59	805			6.36	Si
SLU 46	1186	-1758	-74	-4639		0.85	68.55	0.67	1377			18.65	Si
SLU 46	1398	-402	105	6473		0.25	54.5	0.59	962			9.14	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 4	1186	-136	879	17664		0	0	0.83	0			0	No, $V_u < V$
SLV 4	1398	-39	-643	-17168		0	0	0.83	0			0	No, $V_u < V$
SLV 11	1186	1958	-1113	-31862		0	0	0.83	0			0	No, $V_u < V$
SLV 11	1398	-30	531	35463		0	0	0.83	0			0	No, $V_u < V$
SLV 8	1186	2051	-423	-15600		0	0	0.83	0			0	No, $V_u < V$
SLV 8	1398	68	65	18512		0	0	0.83	0			0	No, $V_u < V$
SLV 14	1186	-2412	-994	-24295		1.17	68.55	1.07	2196			2.21	Si
SLV 14	1398	-555	766	25703		0	0	0.83	0			0	No, $V_u < V$
SLV 13	1186	-2412	-994	-24295		1.17	68.55	1.07	2196			2.21	Si
SLV 13	1398	-555	766	25703		0	0	0.83	0			0	No, $V_u < V$
SLV 12	1186	1958	-1113	-31862		0	0	0.83	0			0	No, $V_u < V$
SLV 12	1398	-30	531	35463		0	0	0.83	0			0	No, $V_u < V$
SLV 7	1186	2051	-423	-15600		0	0	0.83	0			0	No, $V_u < V$
SLV 7	1398	68	65	18512		0	0	0.83	0			0	No, $V_u < V$
SLV 6	1186	-4506	998	25232		2.19	68.55	1.27	2615			2.62	Si
SLV 6	1398	-564	-408	-26928		0	0	0.83	0			0	No, $V_u < V$
SLV 5	1186	-4506	998	25232		2.19	68.55	1.27	2615			2.62	Si
SLV 5	1398	-564	-408	-26928		0	0	0.83	0			0	No, $V_u < V$
SLD 1	1186	-1627	522	10869		0.79	68.55	0.99	2039			3.91	Si
SLD 1	1398	-267	-297	-10627		0	0	0.83	0			0	No, $V_u < V$

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 772.4 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 13	14	0.41	0	-2802	110302	0	0	No, $e \geq t/2$
SLV 14	14	0.41	0	-2802	110302	0	0	No, $e \geq t/2$
SLV 3	14	0.41	0	-4458	110302	0	0	No, $e \geq t/2$
SLV 7	14	0.41	0	126	110302	0	0	No, Trazione
SLV 12	14	0.41	0	1415	110302	0	0	No, Trazione
SLV 1	14	0.41	0	-7098	110302	0	0	No, $e \geq t/2$
SLV 11	14	0.41	0	1415	110302	0	0	No, Trazione
SLV 4	14	0.41	0	-4458	110302	0	0	No, $e \geq t/2$
SLV 2	14	0.41	0	-7098	110302	0	0	No, $e \geq t/2$
SLV 8	14	0.41	0	126	110302	0	0	No, Trazione



## Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 772.4 Wa = 0.05 Ta = 0.9799

Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 8	257	-3068	-19	0	0	0	0	239.674	No, Trazione
SLV 12	144	950	-25	0	0	0	0	239.674	No, Trazione
SLV 16	-209	1695	-14	0	0	0	0	239.674	No, Trazione
SLV 4	167	-11699	7	0	0	0	0	239.674	No, Trazione
SLV 15	-209	1695	-14	0	0	0	0	239.674	No, Trazione
SLV 7	257	-3068	-19	0	0	0	0	239.674	No, Trazione
SLV 3	167	-11699	7	0	0	0	0	239.674	No, Trazione
SLV 11	144	950	-25	0	0	0	0	239.674	No, Trazione
SLV 5	-376	-14334	34	0.009	5.096	0.946	14.261	239.674	No
SLV 6	-376	-14334	34	0.009	5.096	0.946	14.261	239.674	No

### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.469	SLU 2	Si
V_SLU	4.098	SLU 44	Si
PF_SLV	0	SLV 12	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 12	No
R_SLV	0	SLV 16	No

## Maschio 247

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	-485.9	-1375.3	-470.9	L3	F1	15	28	1330.2	1326.8	1333.7			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau 0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLU 55	109	-2903	41548	0	0	0	No, e>l/2
SLU 55	1436	-42	1897	0	0	0	No, e>l/2
SLU 56	109	-2963	42374	0	0	0	No, e>l/2
SLU 56	1436	-57	2459	0	0	0	No, e>l/2
SLU 1	109	-2021	29095	0	0	0	No, e>l/2
SLU 1	1436	-17	872	0	0	0	No, e>l/2
SLU 54	109	-2903	41538	0	0	0	No, e>l/2
SLU 54	1436	-39	1789	0	0	0	No, e>l/2
SLU 58	109	-2963	42381	0	0	0	No, e>l/2
SLU 58	1436	-60	2555	0	0	0	No, e>l/2
SLU 61	109	-2958	42243	0	0	0	No, e>l/2
SLU 61	1436	-25	1274	0	0	0	No, e>l/2
SLU 53	109	-2903	41534	0	0	0	No, e>l/2
SLU 53	1436	-39	1770	0	0	0	No, e>l/2
SLU 59	109	-2964	42385	0	0	0	No, e>l/2
SLU 59	1436	-60	2574	0	0	0	No, e>l/2
SLU 57	109	-2963	42378	0	0	0	No, e>l/2
SLU 57	1436	-58	2478	0	0	0	No, e>l/2
SLU 60	109	-2958	42239	0	0	0	No, e>l/2
SLU 60	1436	-25	1255	0	0	0	No, e>l/2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\alpha 0$	Mu	c.s.	Verifica
SLV 6	109	-4074	54091	0	0	0	No, e>l/2
SLV 6	1436	-69	2565	0	0	0	No, e>l/2
SLV 11	109	-209	7334	0	0	0	No, e>l/2
SLV 11	1436	26	-484	0	0	0	No, Trazione
SLV 13	109	-1380	17501	0	0	0	No, e>l/2
SLV 13	1436	-105	3514	0	0	0	No, e>l/2
SLD 1	109	-2864	40881	0	0	0	No, e>l/2
SLD 1	1436	-3	519	0	0	0	No, e>l/2
SLV 14	109	-1380	17501	0	0	0	No, e>l/2
SLV 14	1436	-105	3514	0	0	0	No, e>l/2
SLV 8	109	-948	18467	0	0	0	No, e>l/2
SLV 8	1436	64	-1594	0	0	0	No, Trazione
SLV 10	109	-3336	42958	0	0	0	No, e>l/2
SLV 10	1436	-107	3675	0	0	0	No, e>l/2
SLV 7	109	-948	18467	0	0	0	No, e>l/2
SLV 7	1436	64	-1594	0	0	0	No, Trazione
SLV 12	109	-209	7334	0	0	0	No, e>l/2
SLV 12	1436	26	-484	0	0	0	No, Trazione
SLV 9	109	-3336	42958	0	0	0	No, e>l/2
SLV 9	1436	-107	3675	0	0	0	No, e>l/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\alpha 0$	$\alpha N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 57	109	-2963	284	42378		0	0	0.56	0			0	No, Vu<V
SLU 57	1436	-58	-20	2478		0	0	0.56	0			0	No, Vu<V



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 59	109	-2964	284	42385		0	0	0.56	0			0	No, Vu<V
SLU 59	1436	-60	-20	2574		0	0	0.56	0			0	No, Vu<V
SLU 61	109	-2958	279	42243		0	0	0.56	0			0	No, Vu<V
SLU 61	1436	-25	-15	1274		0	0	0.56	0			0	No, Vu<V
SLU 55	109	-2903	279	41548		0	0	0.56	0			0	No, Vu<V
SLU 55	1436	-42	-17	1897		0	0	0.56	0			0	No, Vu<V
SLU 58	109	-2963	285	42381		0	0	0.56	0			0	No, Vu<V
SLU 58	1436	-60	-20	2555		0	0	0.56	0			0	No, Vu<V
SLU 53	109	-2903	279	41534		0	0	0.56	0			0	No, Vu<V
SLU 53	1436	-39	-15	1770		0	0	0.56	0			0	No, Vu<V
SLU 60	109	-2958	280	42239		0	0	0.56	0			0	No, Vu<V
SLU 60	1436	-25	-15	1255		0	0	0.56	0			0	No, Vu<V
SLU 1	109	-2021	204	29095		0	0	0.56	0			0	No, Vu<V
SLU 1	1436	-17	-5	872		0	0	0.56	0			0	No, Vu<V
SLU 54	109	-2903	279	41538		0	0	0.56	0			0	No, Vu<V
SLU 54	1436	-39	-16	1789		0	0	0.56	0			0	No, Vu<V
SLU 56	109	-2963	284	42374		0	0	0.56	0			0	No, Vu<V
SLU 56	1436	-57	-20	2459		0	0	0.56	0			0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 11	109	-209	175	7334		0	0	0.83	0			0	No, Vu<V
SLV 11	1436	26	186	-484		0	0	0.83	0			0	No, Vu<V
SLV 6	109	-4074	244	54091		0	0	0.83	0			0	No, Vu<V
SLV 6	1436	-69	-203	2565		0	0	0.83	0			0	No, Vu<V
SLV 7	109	-948	342	18467		0	0	0.83	0			0	No, Vu<V
SLV 7	1436	64	218	-1594		0	0	0.83	0			0	No, Vu<V
SLV 9	109	-3336	77	42958		0	0	0.83	0			0	No, Vu<V
SLV 9	1436	-107	-235	3675		0	0	0.83	0			0	No, Vu<V
SLV 13	109	-1380	-83	17501		0	0	0.83	0			0	No, Vu<V
SLV 13	1436	-105	-125	3514		0	0	0.83	0			0	No, Vu<V
SLV 12	109	-209	175	7334		0	0	0.83	0			0	No, Vu<V
SLV 12	1436	26	186	-484		0	0	0.83	0			0	No, Vu<V
SLV 10	109	-3336	77	42958		0	0	0.83	0			0	No, Vu<V
SLV 10	1436	-107	-235	3675		0	0	0.83	0			0	No, Vu<V
SLV 14	109	-1380	-83	17501		0	0	0.83	0			0	No, Vu<V
SLV 14	1436	-105	-125	3514		0	0	0.83	0			0	No, Vu<V
SLV 8	109	-948	342	18467		0	0	0.83	0			0	No, Vu<V
SLV 8	1436	64	218	-1594		0	0	0.83	0			0	No, Vu<V
SLD 1	109	-2864	320	40881		0	0	0.83	0			0	No, Vu<V
SLD 1	1436	-3	-12	519		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 772.4 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 3	14	0.41	0	-582	23723	0	0	No, $e>t/2$
SLV 10	14	0.41	0	-1415	23723	0	0	No, $e>t/2$
SLV 5	14	0.41	0	-1452	23723	0	0	No, $e>t/2$
SLV 1	14	0.41	0	-1004	23723	0	0	No, $e>t/2$
SLV 7	14	0.41	0	-48	23723	0	0	No, $e>t/2$
SLV 6	14	0.41	0	-1452	23723	0	0	No, $e>t/2$
SLV 9	14	0.41	0	-1415	23723	0	0	No, $e>t/2$
SLV 2	14	0.41	0	-1004	23723	0	0	No, $e>t/2$
SLV 4	14	0.41	0	-582	23723	0	0	No, $e>t/2$
SLV 8	14	0.41	0	-48	23723	0	0	No, $e>t/2$

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 772.4 Wa = 0.05 Ta = 1.0554

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 12	26	-209	1	0	0	0	0	239.674	No, Trazione
SLV 7	64	-948	1	0	0	0	0	239.674	No, Trazione
SLV 3	62	-2904	1	0	0	0	0	239.674	No, Trazione
SLV 4	62	-2904	1	0	0	0	0	239.674	No, Trazione
SLV 8	64	-948	1	0	0	0	0	239.674	No, Trazione
SLV 11	26	-209	1	0	0	0	0	239.674	No, Trazione
SLV 1	22	-3842	1	0	0	0	0	239.674	No, Trazione
SLV 2	22	-3842	1	0	0	0	0	239.674	No, Trazione
SLV 13	-105	-1380	1	0.017	1.057	0.933	27.017	239.674	No
SLV 14	-105	-1380	1	0.017	1.057	0.933	27.017	239.674	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 1	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 12	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 1	No
R_SLV	0	SLV 12	No

## Maschio 248

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



## Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	-470.9	-1375.3	-349.9	Z medio 312 cm	F1	120.9	28	1158.7	1130.7	1186.6			

## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

## Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 46	312	-13705	-13946	4.05	416927	29.896	Si
SLU 46	1443	-255	2434	0.08	15259	6.27	Si
SLU 45	312	-13694	-14433	4.04	416923	28.887	Si
SLU 45	1443	-258	2624	0.08	15447	5.887	Si
SLU 2	312	-10541	-9941	3.11	393783	39.611	Si
SLU 2	1443	-153	2070	0.05	9171	4.43	Si
SLU 60	312	-15396	-16008	4.55	411299	25.693	Si
SLU 60	1443	-263	2415	0.08	15724	6.51	Si
SLU 65	312	-14296	-13042	4.22	416385	31.925	Si
SLU 65	1443	-250	2494	0.07	14989	6.01	Si
SLU 1	312	-10523	-10753	3.11	393536	36.598	Si
SLU 1	1443	-158	2388	0.05	9488	3.974	Si
SLU 64	312	-14278	-13854	4.22	416423	30.057	Si
SLU 64	1443	-255	2812	0.08	15303	5.443	Si
SLU 44	312	-13386	-13232	3.95	416583	31.483	Si
SLU 44	1443	-174	2939	0.05	10432	3.549	Si
SLU 43	312	-13369	-14044	3.95	416552	29.661	Si
SLU 43	1443	-179	3257	0.05	10748	3.3	Si
SLU 52	312	-14805	-14607	4.37	414690	28.39	Si
SLU 52	1443	-232	2350	0.07	13919	5.923	Si

## Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 7	312	-7102	36612	2.1	355714	9.716	Si
SLV 7	1443	1762	18209	0	0	0	No, Trazione
SLV 3	312	-14667	-28360	4.33	572458	20.186	Si
SLV 3	1443	932	36208	0	0	0	No, Trazione
SLV 15	312	-4328	41044	1.28	234322	5.709	Si
SLV 15	1443	-257	-28145	0	0	0	No, e>l/2
SLV 2	312	-18050	-63228	5.33	615252	9.731	Si
SLV 2	1443	-136	32330	0	0	0	No, e>l/2
SLV 1	312	-18050	-63228	5.33	615252	9.731	Si
SLV 1	1443	-136	32330	0	0	0	No, e>l/2
SLV 4	312	-14667	-28360	4.33	572458	20.186	Si
SLV 4	1443	932	36208	0	0	0	No, Trazione
SLV 8	312	-7102	36612	2.1	355714	9.716	Si
SLV 8	1443	1762	18209	0	0	0	No, Trazione
SLV 11	312	-4000	57433	1.18	218496	3.804	Si
SLV 11	1443	1405	-1097	0	0	0	No, Trazione
SLD 1	312	-14105	-33250	4.17	562097	16.905	Si
SLD 1	1443	-167	14789	0	0	0	No, e>l/2
SLV 12	312	-4000	57433	1.18	218496	3.804	Si
SLV 12	1443	1405	-1097	0	0	0	No, Trazione

## Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 79	312	-16297	-657	-16899		4.81	120.93	1.08	3668			5.58	Si
SLU 79	1443	-437	-971	-1413		0.13	120.93	0.57	1939			2	Si
SLU 78	312	-16334	-631	-15966		4.82	120.93	1.08	3668			5.82	Si
SLU 78	1443	-451	-946	-418		0.13	120.93	0.57	1941			2.05	Si
SLU 72	312	-14888	-409	-15037		4.4	120.93	1.08	3668			8.97	Si
SLU 72	1443	-375	-872	-1014		0.11	120.93	0.57	1931			2.21	Si
SLU 71	312	-14878	-444	-15524		4.39	120.93	1.08	3668			8.26	Si
SLU 71	1443	-378	-870	-824		0.11	120.93	0.57	1932			2.22	Si
SLU 77	312	-16323	-666	-16453		4.82	120.93	1.08	3668			5.51	Si
SLU 77	1443	-454	-945	-228		0.13	120.93	0.57	1942			2.06	Si
SLU 36	312	-13489	-570	-12675		3.98	120.93	1.08	3668			6.44	Si
SLU 36	1443	-430	-939	-1287		0.13	120.93	0.57	1938			2.06	Si
SLU 80	312	-16307	-622	-16412		4.82	120.93	1.08	3668			5.9	Si
SLU 80	1443	-434	-973	-1603		0.13	120.93	0.57	1939			1.99	Si
SLU 37	312	-13452	-596	-13608		3.97	120.93	1.08	3668			6.15	Si
SLU 37	1443	-416	-964	-2282		0.12	120.93	0.57	1937			2.01	Si
SLU 35	312	-13478	-605	-13162		3.98	120.93	1.08	3668			6.07	Si
SLU 35	1443	-433	-937	-1097		0.13	120.93	0.57	1939			2.07	Si
SLU 38	312	-13462	-561	-13121		3.98	120.93	1.08	3668			6.54	Si
SLU 38	1443	-413	-966	-2472		0.12	120.93	0.57	1936			2.01	Si

## Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche, γM = 2

Comb.	Quota	N	V par	M	σ0	σN	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	312	-4000	1089	57433		1.18	120.93	1.07	3622			3.33	Si
SLV 12	1443	1405	1551	-1097		0	0	0.83	0			0	No, Vu<V
SLV 11	312	-4000	1089	57433		1.18	120.93	1.07	3622			3.33	Si
SLV 11	1443	1405	1551	-1097		0	0	0.83	0			0	No, Vu<V
SLD 1	312	-14105	397	-33250		4.17	120.93	1.63	5502			13.86	Si
SLD 1	1443	-167	69	14789		0	0	0.83	0			0	No, Vu<V
SLV 3	312	-14667	2819	-28360		4.33	120.93	1.63	5502			1.95	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 3	1443	932	1909	36208		0	0	0.83	0			0	No, Vu<V
SLV 8	312	-7102	2617	36612		2.1	120.93	1.25	4242			1.62	Si
SLV 8	1443	1762	2452	18209		0	0	0.83	0			0	No, Vu<V
SLV 4	312	-14667	2819	-28360		4.33	120.93	1.63	5502			1.95	Si
SLV 4	1443	932	1909	36208		0	0	0.83	0			0	No, Vu<V
SLV 1	312	-18050	1464	-63228		5.33	120.93	1.63	5502			3.76	Si
SLV 1	1443	-136	542	32330		0	0	0.83	0			0	No, Vu<V
SLV 2	312	-18050	1464	-63228		5.33	120.93	1.63	5502			3.76	Si
SLV 2	1443	-136	542	32330		0	0	0.83	0			0	No, Vu<V
SLV 7	312	-7102	2617	36612		2.1	120.93	1.25	4242			1.62	Si
SLV 7	1443	1762	2452	18209		0	0	0.83	0			0	No, Vu<V
SLV 15	312	-4328	-2274	41044		1.28	120.93	1.09	3687			1.62	Si
SLV 15	1443	-257	-1095	-28145		0	0	0.83	0			0	No, Vu<V

#### Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 877.4 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 9	14	0.43	0	-6083	152959	0	0	No, e>t/2
SLV 8	14	0.43	0	-5025	152959	0	0	No, e>t/2
SLV 10	14	0.43	0	-6083	152959	0	0	No, e>t/2
SLV 2	14	0.43	0	-4901	152959	0	0	No, e>t/2
SLV 4	14	0.43	0	-4718	152959	0	0	No, e>t/2
SLV 5	14	0.43	0	-5637	152959	0	0	No, e>t/2
SLV 6	14	0.43	0	-5637	152959	0	0	No, e>t/2
SLV 3	14	0.43	0	-4718	152959	0	0	No, e>t/2
SLV 1	14	0.43	0	-4901	152959	0	0	No, e>t/2
SLV 7	14	0.43	0	-5025	152959	0	0	No, e>t/2

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 877.4 Wa = 0.05 Ta = 0.8007

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 12	1405	-4000	-17	0	0	0	0	239.674	No, Trazione
SLV 7	1762	-7102	-13	0	0	0	0	239.674	No, Trazione
SLV 11	1405	-4000	-17	0	0	0	0	239.674	No, Trazione
SLV 4	932	-14667	7	0	0	0	0	239.674	No, Trazione
SLV 3	932	-14667	7	0	0	0	0	239.674	No, Trazione
SLV 8	1762	-7102	-13	0	0	0	0	239.674	No, Trazione
SLV 5	-1798	-18377	30	0.014	8.123	0.899	23.285	239.674	No
SLV 6	-1798	-18377	30	0.014	8.123	0.899	23.285	239.674	No
SLV 9	-2155	-15276	26	0.015	8.406	0.895	24.397	239.674	No
SLV 10	-2155	-15276	26	0.015	8.406	0.895	24.397	239.674	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.3	SLU 43	Si
V_SLU	1.993	SLU 80	Si
PF_SLV	0	SLV 12	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 1	No
R_SLV	0	SLV 12	No

## Maschio 249

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Maschio considerato membratura sismica secondaria

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	-349.9	-1375.3	-331.4	L4	L7	18.6	28	1020	1020	1020			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 61	482	-1955	25450	0	0	0	No, e>l/2
SLU 61	1502	0	0	0	0	1000	Si
SLU 60	482	-1947	25184	0	0	0	No, e>l/2
SLU 60	1502	0	0	0	0	1000	Si
SLU 56	482	-1926	24492	0	0	0	No, e>l/2
SLU 56	1502	0	0	0	0	1000	Si
SLU 54	482	-1909	24614	0	0	0	No, e>l/2
SLU 54	1502	0	0	0	0	1000	Si
SLU 1	482	-1317	16873	0	0	0	No, e>l/2
SLU 1	1502	0	0	0	0	1000	Si
SLU 55	482	-1903	24596	0	0	0	No, e>l/2
SLU 55	1502	0	0	0	0	1000	Si
SLU 59	482	-1923	24562	0	0	0	No, e>l/2
SLU 59	1502	0	0	0	0	1000	Si
SLU 53	482	-1900	24349	0	0	0	No, e>l/2
SLU 53	1502	0	0	0	0	1000	Si
SLU 58	482	-1915	24296	0	0	0	No, e>l/2
SLU 58	1502	0	0	0	0	1000	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 57	482	-1934	24757	0	0	0	No, $e>l/2$
SLU 57	1502	0	0	0	0	1000	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 61	482	-1955	156	25450		0	0	0.56	0			0	No, $Vu<V$
SLU 61	1502	0	0	0		0	0	0.56	0			1000	Si
SLU 1	482	-1317	97	16873		0	0	0.56	0			0	No, $Vu<V$
SLU 1	1502	0	0	0		0	0	0.56	0			1000	Si
SLU 58	482	-1915	118	24296		0	0	0.56	0			0	No, $Vu<V$
SLU 58	1502	0	0	0		0	0	0.56	0			1000	Si
SLU 59	482	-1923	130	24562		0	0	0.56	0			0	No, $Vu<V$
SLU 59	1502	0	0	0		0	0	0.56	0			1000	Si
SLU 57	482	-1934	134	24757		0	0	0.56	0			0	No, $Vu<V$
SLU 57	1502	0	0	0		0	0	0.56	0			1000	Si
SLU 54	482	-1909	143	24614		0	0	0.56	0			0	No, $Vu<V$
SLU 54	1502	0	0	0		0	0	0.56	0			1000	Si
SLU 55	482	-1903	146	24596		0	0	0.56	0			0	No, $Vu<V$
SLU 55	1502	0	0	0		0	0	0.56	0			1000	Si
SLU 56	482	-1926	122	24492		0	0	0.56	0			0	No, $Vu<V$
SLU 56	1502	0	0	0		0	0	0.56	0			1000	Si
SLU 60	482	-1947	144	25184		0	0	0.56	0			0	No, $Vu<V$
SLU 60	1502	0	0	0		0	0	0.56	0			1000	Si
SLU 53	482	-1900	131	24349		0	0	0.56	0			0	No, $Vu<V$
SLU 53	1502	0	0	0		0	0	0.56	0			1000	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 992 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 14	14	0.45	0	-832	19222	0	0	No, $e>t/2$
SLV 9	14	0.45	0	574	19222	0	0	No, Trazione
SLV 6	14	0.45	0	833	19222	0	0	No, Trazione
SLV 2	14	0.45	0	30	19222	0	0	No, Trazione
SLV 4	14	0.45	0	-916	19222	0	0	No, $e>t/2$
SLV 1	14	0.45	0	30	19222	0	0	No, Trazione
SLV 5	14	0.45	0	833	19222	0	0	No, Trazione
SLV 3	14	0.45	0	-916	19222	0	0	No, $e>t/2$
SLV 13	14	0.45	0	-832	19222	0	0	No, $e>t/2$
SLV 10	14	0.45	0	574	19222	0	0	No, Trazione

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 992 Wa = 0.05 Ta = 0.6205

Comb.	N top	N base	V orto	$\sigma_0$	M*	e*	a0*	aLim	Verifica
SLV 3	0	-1338	0	0.027	0.973	1	39.895	239.674	No
SLV 6	0	-1652	0	0.027	0.973	1	39.895	239.674	No
SLV 7	0	-1167	0	0.027	0.973	1	39.895	239.674	No
SLV 1	0	-1484	0	0.027	0.973	1	39.895	239.674	No
SLV 4	0	-1338	0	0.027	0.973	1	39.895	239.674	No
SLV 10	0	-1651	0	0.027	0.973	1	39.895	239.674	No
SLV 8	0	-1167	0	0.027	0.973	1	39.895	239.674	No
SLV 5	0	-1652	0	0.027	0.973	1	39.895	239.674	No
SLV 2	0	-1484	0	0.027	0.973	1	39.895	239.674	No
SLV 9	0	-1651	0	0.027	0.973	1	39.895	239.674	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 1	No
V_SLU	0	SLU 1	No
PFFP_SLV	0	SLV 10	No
R_SLV	0.166	SLV 1	No

## Maschio 250

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	-331.4	-1375.3	-35.4	Z medio 569 cm	Z medio 921 cm	296	28	352	352	352			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 35	656	-23341	421338	2.82	2260153	5.364	Si
SLU 35	834	-15591	11632	1.88	1774585	152.557	Si
SLU 42	656	-23737	430847	2.86	2277885	5.287	Si
SLU 42	834	-16221	-4085	1.96	1823888	446.486	Si
SLU 79	656	-27917	452174	3.37	2423216	5.359	Si
SLU 79	834	-18870	7074	2.28	2012202	284.452	Si
SLU 81	656	-28162	443793	3.4	2429362	5.474	Si
SLU 81	834	-19608	-36745	2.37	2059161	56.04	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 84	656	-28549	463148	3.44	2438515	5.265	Si
SLU 84	834	-19670	-20096	2.37	2062963	102.657	Si
SLU 41	656	-23689	443220	2.86	2275805	5.135	Si
SLU 41	834	-16133	8245	1.95	1817083	220.398	Si
SLU 77	656	-28153	453639	3.4	2429134	5.355	Si
SLU 77	834	-19040	-4378	2.3	2023186	462.082	Si
SLU 83	656	-28502	475521	3.44	2437432	5.126	Si
SLU 83	834	-19581	-7766	2.36	2057492	264.932	Si
SLU 39	656	-23350	411492	2.82	2260576	5.494	Si
SLU 39	834	-16159	-20734	1.95	1819158	87.738	Si
SLU 37	656	-23105	419873	2.79	2249256	5.357	Si
SLU 37	834	-15422	23085	1.86	1761042	76.286	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 6	656	-18788	794612	2.27	2264771	2.85	Si
SLV 6	834	-8488	800070	1.02	1150957	1.439	Si
SLV 2	656	-19695	577217	2.38	2347999	4.068	Si
SLV 2	834	-11122	424856	1.34	1465243	3.449	Si
SLV 11	656	-20165	-345519	2.43	2390118	6.917	Si
SLV 11	834	-18594	-907281	2.24	2246591	2.476	Si
SLV 12	656	-20165	-345519	2.43	2390118	6.917	Si
SLV 12	834	-18594	-907281	2.24	2246591	2.476	Si
SLV 5	656	-18788	794612	2.27	2264771	2.85	Si
SLV 5	834	-8488	800070	1.02	1150957	1.439	Si
SLV 8	656	-20445	-225749	2.47	2414978	10.698	Si
SLV 8	834	-17998	-760670	2.17	2190291	2.879	Si
SLV 1	656	-19695	577217	2.38	2347999	4.068	Si
SLV 1	834	-11122	424856	1.34	1465243	3.449	Si
SLV 9	656	-18508	674842	2.23	2238552	3.317	Si
SLV 9	834	-9084	653460	1.1	1223814	1.873	Si
SLV 7	656	-20445	-225749	2.47	2414978	10.698	Si
SLV 7	834	-17998	-760670	2.17	2190291	2.879	Si
SLV 10	656	-18508	674842	2.23	2238552	3.317	Si
SLV 10	834	-9084	653460	1.1	1223814	1.873	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 10	656	-20531	974	279684		2.48	296	0.89	7342			7.54	Si
SLU 10	834	-14510	532	-48658		1.75	296	0.79	6539			12.29	Si
SLU 61	656	-26235	1087	375308		3.17	296	0.98	8102			7.45	Si
SLU 61	834	-18584	475	-42311		2.24	296	0.85	7082			14.91	Si
SLU 73	656	-27317	1067	368097		3.3	296	1	8247			7.73	Si
SLU 73	834	-19071	706	-71432		2.3	296	0.86	7147			10.13	Si
SLU 40	656	-23397	938	399119		2.82	296	0.93	7724			8.23	Si
SLU 40	834	-16248	466	-33063		1.96	296	0.82	6771			14.54	Si
SLU 19	656	-21423	966	343007		2.58	296	0.9	7461			7.72	Si
SLU 19	834	-15136	384	-26300		1.83	296	0.8	6623			17.26	Si
SLU 23	656	-20349	664	207289		2.46	296	0.88	7318			11.01	Si
SLU 23	834	-14026	729	-88411		1.69	296	0.78	6475			8.88	Si
SLU 52	656	-25343	1095	311985		3.06	296	0.96	7984			7.29	Si
SLU 52	834	-17959	624	-64669		2.17	296	0.84	6999			11.22	Si
SLU 82	656	-28210	1059	431420		3.4	296	1.01	8366			7.9	Si
SLU 82	834	-19697	557	-49074		2.38	296	0.87	7231			12.98	Si
SLU 65	656	-25162	785	239590		3.04	296	0.96	7959			10.14	Si
SLU 65	834	-17475	821	-104422		2.11	296	0.84	6934			8.45	Si
SLU 31	656	-22505	946	335796		2.72	296	0.92	7605			8.04	Si
SLU 31	834	-15623	614	-55421		1.88	296	0.81	6687			10.89	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 9	656	-18508	-10341	674842		2.23	296	1.28	10608			1.03	Si
SLV 9	834	-9084	-8620	653460		1.42	228.19	1.12	7141			0.83	No, Vu<V
SLV 16	656	-19258	8616	-128124		2.32	296	1.3	10758			1.25	Si
SLV 16	834	-15960	7810	-532067		1.93	296	1.22	10099			1.29	Si
SLV 11	656	-20165	13944	-345519		2.43	296	1.32	10940			0.78	No, Vu<V
SLV 11	834	-18594	11996	-907281		2.24	296	1.28	10625			0.89	No, Vu<V
SLV 12	656	-20165	13944	-345519		2.43	296	1.32	10940			0.78	No, Vu<V
SLV 12	834	-18594	11996	-907281		2.24	296	1.28	10625			0.89	No, Vu<V
SLV 8	656	-20445	11226	-225749		2.47	296	1.33	10996			0.98	No, Vu<V
SLV 8	834	-17998	9399	-760670		2.17	296	1.27	10506			1.12	Si
SLV 15	656	-19258	8616	-128124		2.32	296	1.3	10758			1.25	Si
SLV 15	834	-15960	7810	-532067		1.93	296	1.22	10099			1.29	Si
SLV 7	656	-20445	11226	-225749		2.47	296	1.33	10996			0.98	No, Vu<V
SLV 7	834	-17998	9399	-760670		2.17	296	1.27	10506			1.12	Si
SLV 10	656	-18508	-10341	674842		2.23	296	1.28	10608			1.03	Si
SLV 10	834	-9084	-8620	653460		1.42	228.19	1.12	7141			0.83	No, Vu<V
SLV 5	656	-18788	-13059	794612		2.27	296	1.29	10664			0.82	No, Vu<V
SLV 5	834	-8488	-11217	800070		1.88	161.23	1.21	5460			0.49	No, Vu<V
SLV 6	656	-18788	-13059	794612		2.27	296	1.29	10664			0.82	No, Vu<V
SLV 6	834	-8488	-11217	800070		1.88	161.23	1.21	5460			0.49	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 745 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.4	1.55	-12807	32316	156622	4.85	Si
SLV 6	14	0.4	1.55	-12807	32316	156622	4.85	Si
SLV 10	14	0.4	1.59	-13177	32316	160476	4.97	Si
SLV 9	14	0.4	1.59	-13177	32316	160476	4.97	Si



Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 2	14	0.4	1.75	-14534	32316	174273	5.39	Si
SLV 1	14	0.4	1.75	-14534	32316	174273	5.39	Si
SLV 14	14	0.4	1.9	-15768	32316	186383	5.77	Si
SLV 13	14	0.4	1.9	-15768	32316	186383	5.77	Si
SLV 4	14	0.4	1.98	-16385	32316	192272	5.95	Si
SLV 3	14	0.4	1.98	-16385	32316	192272	5.95	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 745  $W_a = 0.05$   $T_a = 0.0739$

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 9	-9084	-18508	159	0.035	13.443	0.92	55.465	905.669	No
SLV 10	-9084	-18508	159	0.035	13.443	0.92	55.465	905.669	No
SLV 14	-13107	-18761	106	0.04	17.498	0.935	61.682	984.331	No
SLV 13	-13107	-18761	106	0.04	17.498	0.935	61.682	984.331	No
SLV 5	-8488	-18788	136	0.037	12.847	0.917	58.575	905.669	No
SLV 6	-8488	-18788	136	0.037	12.847	0.917	58.575	905.669	No
SLV 15	-15960	-19258	37	0.043	20.386	0.943	66.917	984.331	No
SLV 16	-15960	-19258	37	0.043	20.386	0.943	66.917	984.331	No
SLV 7	-17998	-20445	-94	0.04	22.452	0.947	61.755	905.669	No
SLV 8	-17998	-20445	-94	0.04	22.452	0.947	61.755	905.669	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	5.126	SLU 83	Si
V_SLU	7.29	SLU 52	Si
PF_SLV	1.439	SLV 5	Si
V_SLV	0.487	SLV 5	No
PFFP_SLV	4.847	SLV 5	Si
R_SLV	0.061	SLV 9	No

## Maschio 251

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Maschio considerato membratura sismica secondaria

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1375.3	-331.4	-1375.3	-35.4	Z medio 921 cm	L7	296	28	581	494	668			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 56	1008	-11596	209796	1.4	1421396	6.775	Si
SLU 56	1502	39	-8530	0	0	0	No, Trazione
SLU 55	1008	-11236	162065	1.36	1386124	8.553	Si
SLU 55	1502	32	-7427	0	0	0	No, Trazione
SLU 58	1008	-11621	211997	1.4	1423810	6.716	Si
SLU 58	1502	40	-8689	0	0	0	No, Trazione
SLU 53	1008	-11311	172887	1.36	1393585	8.061	Si
SLU 53	1502	34	-7785	0	0	0	No, Trazione
SLU 59	1008	-11560	204183	1.39	1417947	6.944	Si
SLU 59	1502	38	-8379	0	0	0	No, Trazione
SLU 54	1008	-11251	165073	1.36	1387640	8.406	Si
SLU 54	1502	32	-7475	0	0	0	No, Trazione
SLU 57	1008	-11535	201982	1.39	1415527	7.008	Si
SLU 57	1502	37	-8220	0	0	0	No, Trazione
SLU 1	1008	-8240	111572	0.99	1070653	9.596	Si
SLU 1	1502	18	-5126	0	0	0	No, Trazione
SLU 60	1008	-11270	139478	1.36	1389508	9.962	Si
SLU 60	1502	33	-7545	0	0	0	No, Trazione
SLU 61	1008	-11210	131664	1.35	1383553	10.508	Si
SLU 61	1502	31	-7235	0	0	0	No, Trazione

#### Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 57	1008	-11535	7	201982		1.39	296	0.74	6142			875.54	Si
SLU 57	1502	37	95	-8220		0	0	0.56	0			0	No, Vu<V
SLU 58	1008	-11621	20	211997		1.4	296	0.74	6154			300.47	Si
SLU 58	1502	40	109	-8689		0	0	0.56	0			0	No, Vu<V
SLU 54	1008	-11251	3	165073		1.36	296	0.74	6105			1000	Si
SLU 54	1502	32	36	-7475		0	0	0.56	0			0	No, Vu<V
SLU 60	1008	-11270	30	139478		1.36	296	0.74	6107			201.28	Si
SLU 60	1502	33	-20	-7545		0	0	0.56	0			0	No, Vu<V
SLU 56	1008	-11596	13	209796		1.4	296	0.74	6151			479.85	Si
SLU 56	1502	39	99	-8530		0	0	0.56	0			0	No, Vu<V
SLU 55	1008	-11236	6	162065		1.36	296	0.74	6103			961.21	Si
SLU 55	1502	32	44	-7427		0	0	0.56	0			0	No, Vu<V
SLU 53	1008	-11311	8	172887		1.36	296	0.74	6113			731.53	Si
SLU 53	1502	34	40	-7785		0	0	0.56	0			0	No, Vu<V
SLU 1	1008	-8240	-28	111572		0.99	296	0.69	5703			205.04	Si





Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 1	1502	18	22	-5126		0	0	0.56	0			0	No, Vu<V
SLU 59	1008	-11560	15	204183		1.39	296	0.74	6146			418.69	Si
SLU 59	1502	38	106	-8379		0	0	0.56	0			0	No, Vu<V
SLU 61	1008	-11210	25	131664		1.35	296	0.74	6099			248.54	Si
SLU 61	1502	31	-24	-7235		0	0	0.56	0			0	No, Vu<V

#### Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 1255 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 2	14	0.51	0	-4151	111544	0	0	No, e>t/2
SLV 6	14	0.51	0	-4456	111544	0	0	No, e>t/2
SLV 5	14	0.51	0	-4456	111544	0	0	No, e>t/2
SLV 8	14	0.51	0	-3810	111544	0	0	No, e>t/2
SLV 7	14	0.51	0	-3810	111544	0	0	No, e>t/2
SLV 4	14	0.51	0	-3957	111544	0	0	No, e>t/2
SLV 9	14	0.51	0	-4523	111544	0	0	No, e>t/2
SLV 10	14	0.51	0	-4523	111544	0	0	No, e>t/2
SLV 3	14	0.51	0	-3957	111544	0	0	No, e>t/2
SLV 1	14	0.51	0	-4151	111544	0	0	No, e>t/2

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 1255 Wa = 0.05 Ta = 0.2013

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 4	40	-8694	14	0	0	0	0	2058.765	No, Trazione
SLV 3	40	-8694	14	0	0	0	0	2058.765	No, Trazione
SLV 1	143	-11691	28	0	0	0	0	2058.765	No, Trazione
SLV 2	143	-11691	28	0	0	0	0	2058.765	No, Trazione
SLV 10	169	-13021	17	0	0	0	0	2058.765	No, Trazione
SLV 5	213	-14020	29	0	0	0	0	2058.765	No, Trazione
SLV 9	169	-13021	17	0	0	0	0	2058.765	No, Trazione
SLV 6	213	-14020	29	0	0	0	0	2058.765	No, Trazione
SLV 12	-175	-3032	-30	0.041	8.849	0.982	60.18	2058.765	No
SLV 11	-175	-3032	-30	0.041	8.849	0.982	60.18	2058.765	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 84	No
V_SLU	0	SLU 1	No
PFFP_SLV	0	SLV 1	No
R_SLV	0	SLV 10	No

## Maschio 252

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1100.3	-485.9	-1100.3	-470.9	L3	F1	15	28	1330	1326.6	1333.5			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 60	109	-2751	37933	0	0	0	No, e>l/2
SLU 60	1436	-31	428	0	0	0	No, e>l/2
SLU 55	109	-2735	37760	0	0	0	No, e>l/2
SLU 55	1436	-49	728	0	0	0	No, e>l/2
SLU 61	109	-2743	37969	0	0	0	No, e>l/2
SLU 61	1436	-33	366	0	0	0	No, e>l/2
SLU 58	109	-2854	38938	0	0	0	No, e>l/2
SLU 58	1436	-59	1266	0	0	0	No, e>l/2
SLU 53	109	-2739	37590	0	0	0	No, e>l/2
SLU 53	1436	-44	775	0	0	0	No, e>l/2
SLU 1	109	-1881	25941	0	0	0	No, e>l/2
SLU 1	1436	-27	317	0	0	0	No, e>l/2
SLU 57	109	-2837	38862	0	0	0	No, e>l/2
SLU 57	1436	-60	1147	0	0	0	No, e>l/2
SLU 54	109	-2731	37626	0	0	0	No, e>l/2
SLU 54	1436	-46	713	0	0	0	No, e>l/2
SLU 59	109	-2846	38973	0	0	0	No, e>l/2
SLU 59	1436	-62	1204	0	0	0	No, e>l/2
SLU 56	109	-2845	38827	0	0	0	No, e>l/2
SLU 56	1436	-58	1209	0	0	0	No, e>l/2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 7	109	-211	7226	0	0	0	No, e>l/2
SLV 7	1436	-25	-1518	0	0	0	No, e>l/2
SLV 10	109	-3786	47756	0	0	0	No, e>l/2
SLV 10	1436	-32	2332	0	0	0	No, e>l/2
SLV 13	109	-3559	48016	0	0	0	No, e>l/2
SLV 13	1436	-56	183	0.13	414	2.268	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 8	109	-211	7226	0	0	0	No, e>l/2
SLV 8	1436	-25	-1518	0	0	0	No, e>l/2
SLV 11	109	-886	16750	0	0	0	No, e>l/2
SLV 11	1436	-42	-2047	0	0	0	No, e>l/2
SLD 1	109	-1704	22710	0	0	0	No, e>l/2
SLD 1	1436	-15	1055	0	0	0	No, e>l/2
SLV 14	109	-3559	48016	0	0	0	No, e>l/2
SLV 14	1436	-56	183	0.13	414	2.268	Si
SLV 6	109	-3111	38231	0	0	0	No, e>l/2
SLV 6	1436	-14	2861	0	0	0	No, e>l/2
SLV 9	109	-3786	47756	0	0	0	No, e>l/2
SLV 9	1436	-32	2332	0	0	0	No, e>l/2
SLV 12	109	-886	16750	0	0	0	No, e>l/2
SLV 12	1436	-42	-2047	0	0	0	No, e>l/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 54	109	-2731	213	37626		0	0	0.56	0			0	No, Vu<V
SLU 54	1436	-46	-45	713		0	0	0.56	0			0	No, Vu<V
SLU 1	109	-1881	148	25941		0	0	0.56	0			0	No, Vu<V
SLU 1	1436	-27	-12	317		0	0	0.56	0			0	No, Vu<V
SLU 58	109	-2854	205	38938		0	0	0.56	0			0	No, Vu<V
SLU 58	1436	-59	-88	1266		0	0	0.56	0			0	No, Vu<V
SLU 55	109	-2735	219	37760		0	0	0.56	0			0	No, Vu<V
SLU 55	1436	-49	-48	728		0	0	0.56	0			0	No, Vu<V
SLU 56	109	-2845	204	38827		0	0	0.56	0			0	No, Vu<V
SLU 56	1436	-58	-84	1209		0	0	0.56	0			0	No, Vu<V
SLU 53	109	-2739	205	37590		0	0	0.56	0			0	No, Vu<V
SLU 53	1436	-44	-48	775		0	0	0.56	0			0	No, Vu<V
SLU 57	109	-2837	212	38862		0	0	0.56	0			0	No, Vu<V
SLU 57	1436	-60	-80	1147		0	0	0.56	0			0	No, Vu<V
SLU 60	109	-2751	213	37933		0	0	0.56	0			0	No, Vu<V
SLU 60	1436	-31	-22	428		0	0	0.56	0			0	No, Vu<V
SLU 59	109	-2846	213	38973		0	0	0.56	0			0	No, Vu<V
SLU 59	1436	-62	-85	1204		0	0	0.56	0			0	No, Vu<V
SLU 61	109	-2743	221	37969		0	0	0.56	0			0	No, Vu<V
SLU 61	1436	-33	-19	366		0	0	0.56	0			0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	109	-886	246	16750		0	0	0.83	0			0	No, Vu<V
SLV 12	1436	-42	375	-2047		0	0	0.83	0			0	No, Vu<V
SLV 14	109	-3559	260	48016		0	0	0.83	0			0	No, Vu<V
SLV 14	1436	-56	-16	183		0.16	12.69	0.86	307		19.3	Si	
SLV 9	109	-3786	133	47756		0	0	0.83	0			0	No, Vu<V
SLV 9	1436	-32	-349	2332		0	0	0.83	0			0	No, Vu<V
SLV 7	109	-211	172	7226		0	0	0.83	0			0	No, Vu<V
SLV 7	1436	-25	307	-1518		0	0	0.83	0			0	No, Vu<V
SLV 11	109	-886	246	16750		0	0	0.83	0			0	No, Vu<V
SLV 11	1436	-42	375	-2047		0	0	0.83	0			0	No, Vu<V
SLD 1	109	-1704	92	22710		0	0	0.83	0			0	No, Vu<V
SLD 1	1436	-15	-115	1055		0	0	0.83	0			0	No, Vu<V
SLV 6	109	-3111	59	38231		0	0	0.83	0			0	No, Vu<V
SLV 6	1436	-14	-417	2861		0	0	0.83	0			0	No, Vu<V
SLV 13	109	-3559	260	48016		0	0	0.83	0			0	No, Vu<V
SLV 13	1436	-56	-16	183		0.16	12.69	0.86	307		19.3	Si	
SLV 8	109	-211	172	7226		0	0	0.83	0			0	No, Vu<V
SLV 8	1436	-25	307	-1518		0	0	0.83	0			0	No, Vu<V
SLV 10	109	-3786	133	47756		0	0	0.83	0			0	No, Vu<V
SLV 10	1436	-32	-349	2332		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 772.3 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 10	14	0.41	0	-1072	23715	0	0	No, e>t/2
SLV 1	14	0.41	0	-836	23715	0	0	No, e>t/2
SLV 3	14	0.41	0	-610	23715	0	0	No, e>t/2
SLV 5	14	0.41	0	-1085	23715	0	0	No, e>t/2
SLV 2	14	0.41	0	-836	23715	0	0	No, e>t/2
SLV 8	14	0.41	0	-331	23715	0	0	No, e>t/2
SLV 4	14	0.41	0	-610	23715	0	0	No, e>t/2
SLV 7	14	0.41	0	-331	23715	0	0	No, e>t/2
SLV 9	14	0.41	0	-1072	23715	0	0	No, e>t/2
SLV 6	14	0.41	0	-1085	23715	0	0	No, e>t/2

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 772.3 Wa = 0.05 Ta = 1.055

Comb.	N top	N base	V orto	$\sigma_0$	M*	e*	a0*	aLim	Verifica
SLV 10	-32	-3786	-47	0	1.029	0.973	0	239.674	No
SLV 6	-14	-3111	-29	0	1.026	0.987	0	239.674	No
SLV 2	2	-1308	19	0	0	0	0	239.674	No, Trazione
SLV 9	-32	-3786	-47	0	1.029	0.973	0	239.674	No
SLV 7	-25	-211	47	0	1.027	0.978	0	239.674	No
SLV 5	-14	-3111	-29	0	1.026	0.987	0	239.674	No
SLV 4	-1	-438	42	0	1.025	0.999	0	239.674	No
SLV 3	-1	-438	42	0	1.025	0.999	0	239.674	No
SLV 8	-25	-211	47	0	1.027	0.978	0	239.674	No
SLV 1	2	-1308	19	0	0	0	0	239.674	No, Trazione



## Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 1	No
V_SLU	0	SLU 1	No
PF_SLV	0	SLV 2	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 1	No
R_SLV	0	SLV 2	No

## Maschio 253

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-1100.3	-470.9	-1100.3	-350.9	Z medio 312 cm	F1	120	28	1158.2	1130.5	1186			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 47	312	-13313	-23402	3.96	410247	17.53	Si
SLU 47	1443	-631	15678	0.19	36975	2.358	Si
SLU 2	312	-10076	-15764	3	382001	24.233	Si
SLU 2	1443	-319	8045	0.09	18900	2.349	Si
SLU 43	312	-12850	-20888	3.82	409022	19.581	Si
SLU 43	1443	-367	10148	0.11	21724	2.141	Si
SLU 48	312	-13880	-26099	4.13	410467	15.727	Si
SLU 48	1443	-883	21772	0.26	51263	2.354	Si
SLU 44	312	-12788	-20390	3.81	408787	20.049	Si
SLU 44	1443	-362	9653	0.11	21451	2.222	Si
SLU 50	312	-13899	-26913	4.14	410449	15.251	Si
SLU 50	1443	-904	22199	0.27	52445	2.362	Si
SLU 45	312	-13356	-23087	3.97	410312	17.773	Si
SLU 45	1443	-614	15747	0.18	36035	2.288	Si
SLU 1	312	-10138	-16263	3.02	382972	23.549	Si
SLU 1	1443	-323	8541	0.1	19175	2.245	Si
SLU 46	312	-13318	-22788	3.96	410256	18.003	Si
SLU 46	1443	-612	15450	0.18	35874	2.322	Si
SLU 3	312	-10644	-18461	3.17	390272	21.14	Si
SLU 3	1443	-571	14140	0.17	33533	2.372	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLV 15	312	-8757	70627	2.61	413340	5.852	Si
SLV 15	1443	323	20968	0	0	0	No, Trazione
SLV 12	312	-4749	53592	1.41	251999	4.702	Si
SLV 12	1443	1359	-6254	0	0	0	No, Trazione
SLV 11	312	-4749	53592	1.41	251999	4.702	Si
SLV 11	1443	1359	-6254	0	0	0	No, Trazione
SLV 4	312	-9257	-76646	2.75	430174	5.612	Si
SLV 4	1443	-73	-14884	0	0	0	No, e>l/2
SLD 12	312	-8238	12393	2.45	395097	31.882	Si
SLD 12	1443	361	2729	0	0	0	No, Trazione
SLD 16	312	-9932	19836	2.96	451764	22.775	Si
SLD 16	1443	-78	14140	0	0	0	No, e>l/2
SLV 8	312	-4899	9410	1.46	258883	27.51	Si
SLV 8	1443	1240	-17010	0	0	0	No, Trazione
SLV 7	312	-4899	9410	1.46	258883	27.51	Si
SLV 7	1443	1240	-17010	0	0	0	No, Trazione
SLD 15	312	-9932	19836	2.96	451764	22.775	Si
SLD 15	1443	-78	14140	0	0	0	No, e>l/2
SLV 3	312	-9257	-76646	2.75	430174	5.612	Si
SLV 3	1443	-73	-14884	0	0	0	No, e>l/2

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 72	312	-14823	-1037	-27352		4.41	120	1.08	3640			3.51	Si
SLU 72	1443	-1057	-698	24687		0.34	109.93	0.6	1851			2.65	Si
SLU 36	312	-13445	-1144	-26555		4	120	1.08	3640			3.18	Si
SLU 36	1443	-1029	-741	22634		0.32	114	0.6	1911			2.58	Si
SLU 30	312	-12111	-923	-22726		3.6	120	1.04	3482			3.77	Si
SLU 30	1443	-1013	-706	23079		0.32	111.67	0.6	1872			2.65	Si
SLU 77	312	-16194	-1286	-31480		4.82	120	1.08	3640			2.83	Si
SLU 77	1443	-1075	-725	24539		0.34	111.54	0.6	1878			2.59	Si
SLU 80	312	-16176	-1262	-31995		4.81	120	1.08	3640			2.88	Si
SLU 80	1443	-1094	-754	24668		0.35	112.33	0.6	1893			2.51	Si
SLU 37	312	-13501	-1177	-27668		4.02	120	1.08	3640			3.09	Si
SLU 37	1443	-1053	-755	23358		0.33	113.44	0.6	1905			2.52	Si
SLU 78	312	-16157	-1258	-31181		4.81	120	1.08	3640			2.89	Si
SLU 78	1443	-1072	-733	24242		0.34	112.19	0.6	1888			2.58	Si
SLU 35	312	-13482	-1172	-26854		4.01	120	1.08	3640			3.11	Si



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 35	1443	-1032	-734	22931		0.33	113.32	0.6	1900			2.59	Si
SLU 38	312	-13464	-1148	-27369		4.01	120	1.08	3640			3.17	Si
SLU 38	1443	-1050	-762	23061		0.33	114.11	0.6	1915			2.51	Si
SLU 79	312	-16213	-1291	-32294		4.83	120	1.08	3640			2.82	Si
SLU 79	1443	-1096	-747	24966		0.35	111.69	0.6	1884			2.52	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 7	312	-4899	1044	9410		1.46	120	1.12	3780			3.62	Si
SLV 7	1443	1240	503	-17010		0	0	0.83	0			0	No, Vu<V
SLD 16	312	-9932	520	19836		2.96	120	1.42	4786			9.2	Si
SLD 16	1443	-78	536	14140		0	0	0.83	0			0	No, Vu<V
SLV 3	312	-9257	-2066	-76646		2.75	120	1.38	4651			2.25	Si
SLV 3	1443	-73	-1221	-14884		0	0	0.83	0			0	No, Vu<V
SLV 4	312	-9257	-2066	-76646		2.75	120	1.38	4651			2.25	Si
SLV 4	1443	-73	-1221	-14884		0	0	0.83	0			0	No, Vu<V
SLV 11	312	-4749	2303	53592		1.41	120	1.12	3750			1.63	Si
SLV 11	1443	1359	1323	-6254		0	0	0.83	0			0	No, Vu<V
SLV 15	312	-8757	2128	70627		2.61	120	1.35	4551			2.14	Si
SLV 15	1443	323	1513	20968		0	0	0.83	0			0	No, Vu<V
SLD 15	312	-9932	520	19836		2.96	120	1.42	4786			9.2	Si
SLD 15	1443	-78	536	14140		0	0	0.83	0			0	No, Vu<V
SLD 12	312	-8238	591	12393		2.45	120	1.32	4448			7.53	Si
SLD 12	1443	361	459	2729		0	0	0.83	0			0	No, Vu<V
SLV 8	312	-4899	1044	9410		1.46	120	1.12	3780			3.62	Si
SLV 8	1443	1240	503	-17010		0	0	0.83	0			0	No, Vu<V
SLV 12	312	-4749	2303	53592		1.41	120	1.12	3750			1.63	Si
SLV 12	1443	1359	1323	-6254		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 877.3 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 5	14	0.43	0	-7173	151664	0	0	No, e>t/2
SLV 10	14	0.43	0	-6717	151664	0	0	No, e>t/2
SLV 3	14	0.43	0	-5183	151664	0	0	No, e>t/2
SLV 1	14	0.43	0	-6347	151664	0	0	No, e>t/2
SLV 7	14	0.43	0	-3292	151664	0	0	No, e>t/2
SLV 4	14	0.43	0	-5183	151664	0	0	No, e>t/2
SLV 2	14	0.43	0	-6347	151664	0	0	No, e>t/2
SLV 6	14	0.43	0	-7173	151664	0	0	No, e>t/2
SLV 9	14	0.43	0	-6717	151664	0	0	No, e>t/2
SLV 8	14	0.43	0	-3292	151664	0	0	No, e>t/2

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 877.3 Wa = 0.05 Ta = 0.8001

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 12	1359	-4749	28	0	0	0	0	239.674	No, Trazione
SLV 7	1240	-4899	34	0	0	0	0	239.674	No, Trazione
SLV 16	323	-8757	-2	0	0	0	0	239.674	No, Trazione
SLV 15	323	-8757	-2	0	0	0	0	239.674	No, Trazione
SLV 8	1240	-4899	34	0	0	0	0	239.674	No, Trazione
SLV 11	1359	-4749	28	0	0	0	0	239.674	No, Trazione
SLV 9	-1997	-16699	-42	0.012	8.225	0.896	19.669	239.674	No
SLV 10	-1997	-16699	-42	0.012	8.225	0.896	19.669	239.674	No
SLV 6	-2115	-16849	-37	0.013	8.32	0.895	21.227	239.674	No
SLV 5	-2115	-16849	-37	0.013	8.32	0.895	21.227	239.674	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.141	SLU 43	Si
V_SLU	2.511	SLU 80	Si
PF_SLV	0	SLV 16	No
V_SLV	0	SLD 7	No
PFFP_SLV	0	SLV 1	No
R_SLV	0	SLV 16	No

## Maschio 254

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1100.3	-350.9	-1100.3	-331.4	Z medio 312 cm	L5	19.5	28	522	522	522			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>k</sub>	f <sub>vk0</sub>	f <sub>medio</sub>	$\tau_0$	f <sub>v0</sub>	$\mu$	$\phi$	f <sub>v,lim</sub>	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 20	312	-1695	-7714	3.1	10227	1.326	Si
SLU 20	834	-1190	-1647	2.18	8497	5.158	Si
SLU 42	312	-1837	-8117	3.36	10513	1.295	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 42	834	-1306	-1730	2.39	8993	5.199	Si
SLU 82	312	-2166	-8165	3.97	10834	1.327	Si
SLU 82	834	-1491	-2448	2.73	9665	3.947	Si
SLU 41	312	-1844	-8302	3.38	10524	1.268	Si
SLU 41	834	-1300	-1642	2.38	8971	5.464	Si
SLU 39	312	-1770	-7761	3.24	10390	1.339	Si
SLU 39	834	-1236	-1839	2.26	8702	4.733	Si
SLU 63	312	-2090	-8118	3.83	10802	1.331	Si
SLU 63	834	-1445	-2257	2.65	9511	4.214	Si
SLU 62	312	-2097	-8303	3.84	10806	1.301	Si
SLU 62	834	-1440	-2169	2.64	9493	4.377	Si
SLU 84	312	-2239	-8706	4.1	10840	1.245	Si
SLU 84	834	-1555	-2251	2.85	9862	4.38	Si
SLU 83	312	-2246	-8891	4.11	10840	1.219	Si
SLU 83	834	-1550	-2163	2.84	9846	4.551	Si
SLU 81	312	-2173	-8350	3.98	10835	1.298	Si
SLU 81	834	-1486	-2360	2.72	9647	4.087	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 10	312	-2399	-13932	4.39	14980	1.075	Si
SLV 10	834	-1375	635	2.52	10645	16.767	Si
SLV 16	312	-1821	-382	3.33	12908	33.766	Si
SLV 16	834	-826	-5122	1.51	7054	1.377	Si
SLV 5	312	-2129	-14077	3.9	14134	1.004	Si
SLV 5	834	-1426	2096	2.61	10934	5.218	Si
SLV 11	312	-1025	6654	1.88	8458	1.271	Si
SLV 11	834	-621	-5601	1.14	5493	0.981	No, $M > M_u$
SLV 12	312	-1025	6654	1.88	8458	1.271	Si
SLV 12	834	-621	-5601	1.14	5493	0.981	No, $M > M_u$
SLV 8	312	-755	6510	1.38	6528	1.003	Si
SLV 8	834	-672	-4140	1.23	5893	1.423	Si
SLV 15	312	-1821	-382	3.33	12908	33.766	Si
SLV 15	834	-826	-5122	1.51	7054	1.377	Si
SLV 9	312	-2399	-13932	4.39	14980	1.075	Si
SLV 9	834	-1375	635	2.52	10645	16.767	Si
SLV 6	312	-2129	-14077	3.9	14134	1.004	Si
SLV 6	834	-1426	2096	2.61	10934	5.218	Si
SLV 7	312	-755	6510	1.38	6528	1.003	Si
SLV 7	834	-672	-4140	1.23	5893	1.423	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLU 16	312	-1736	-141	-6893		3.58	17.33	1.03	501			3.56	Si
SLU 16	834	-1204	-68	-1417		2.21	19.5	0.85	464			6.86	Si
SLU 20	312	-1695	-139	-7714		3.88	15.59	1.07	469			3.36	Si
SLU 20	834	-1190	-51	-1647		2.18	19.5	0.85	462			9.04	Si
SLU 41	312	-1844	-153	-8302		4.18	15.74	1.08	477			3.13	Si
SLU 41	834	-1300	-61	-1642		2.38	19.5	0.87	477			7.86	Si
SLU 83	312	-2246	-160	-8891		4.62	17.38	1.08	527			3.3	Si
SLU 83	834	-1550	-64	-2163		2.84	19.5	0.93	510			8.02	Si
SLU 84	312	-2239	-150	-8706		4.55	17.59	1.08	533			3.55	Si
SLU 84	834	-1555	-60	-2251		2.85	19.5	0.94	511			8.47	Si
SLU 42	312	-1837	-143	-8117		4.1	15.99	1.08	485			3.39	Si
SLU 42	834	-1306	-57	-1730		2.39	19.5	0.87	477			8.32	Si
SLU 37	312	-1885	-154	-7482		3.88	17.34	1.07	521			3.39	Si
SLU 37	834	-1315	-77	-1411		2.41	19.5	0.88	479			6.2	Si
SLU 77	312	-2290	-158	-8003		4.36	18.77	1.08	569			3.59	Si
SLU 77	834	-1569	-78	-1945		2.87	19.5	0.94	513			6.6	Si
SLU 79	312	-2287	-161	-8071		4.38	18.66	1.08	566			3.52	Si
SLU 79	834	-1564	-80	-1932		2.86	19.5	0.94	512			6.39	Si
SLU 35	312	-1887	-151	-7414		3.86	17.46	1.07	523			3.46	Si
SLU 35	834	-1319	-75	-1424		2.42	19.5	0.88	479			6.42	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt <sub>lim</sub>	c.s.	Verifica
SLV 12	312	-1025	514	6654		3.75	9.77	1.58	433			0.84	No, $V_u < V$
SLV 12	834	-621	467	-5601		10.08	2.2	1.63	100			0.21	No, $V_u < V$
SLV 5	312	-2129	-630	-14077		8.08	9.42	1.63	428			0.68	No, $V_u < V$
SLV 5	834	-1426	-518	2096		2.61	19.5	1.36	740			1.43	Si
SLV 8	312	-755	516	6510		7.98	3.38	1.63	154			0.3	No, $V_u < V$
SLV 8	834	-672	343	-4140		2.23	10.77	1.28	386			1.12	Si
SLV 11	312	-1025	514	6654		3.75	9.77	1.58	433			0.84	No, $V_u < V$
SLV 11	834	-621	467	-5601		10.08	2.2	1.63	100			0.21	No, $V_u < V$
SLV 16	312	-1821	110	-382		3.33	19.5	1.5	819			7.44	Si
SLV 16	834	-826	310	-5122		2.77	10.64	1.39	413			1.33	Si
SLV 7	312	-755	516	6510		7.98	3.38	1.63	154			0.3	No, $V_u < V$
SLV 7	834	-672	343	-4140		2.23	10.77	1.28	386			1.12	Si
SLV 15	312	-1821	110	-382		3.33	19.5	1.5	819			7.44	Si
SLV 15	834	-826	310	-5122		2.77	10.64	1.39	413			1.33	Si
SLV 10	312	-2399	-632	-13932		7.24	11.83	1.63	538			0.85	No, $V_u < V$
SLV 10	834	-1375	-394	635		2.52	19.5	1.34	730			1.85	Si
SLV 9	312	-2399	-632	-13932		7.24	11.83	1.63	538			0.85	No, $V_u < V$
SLV 9	834	-1375	-394	635		2.52	19.5	1.34	730			1.85	Si
SLV 6	312	-2129	-630	-14077		8.08	9.42	1.63	428			0.68	No, $V_u < V$
SLV 6	834	-1426	-518	2096		2.61	19.5	1.36	740			1.43	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 573 Wa 0.05 denominatore 8  $\gamma_M = 2$



Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 12	14	0.36	1.67	-912	4260	11025	2.59	Si
SLV 11	14	0.36	1.67	-912	4260	11025	2.59	Si
SLV 7	14	0.36	1.78	-972	4260	11623	2.73	Si
SLV 8	14	0.36	1.78	-972	4260	11623	2.73	Si
SLV 16	14	0.36	1.93	-1054	4260	12425	2.92	Si
SLV 15	14	0.36	1.93	-1054	4260	12425	2.92	Si
SLV 13	14	0.36	2.26	-1235	4260	14091	3.31	Si
SLV 14	14	0.36	2.26	-1235	4260	14091	3.31	Si
SLV 3	14	0.36	2.29	-1253	4260	14244	3.34	Si
SLV 4	14	0.36	2.29	-1253	4260	14244	3.34	Si

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 573 Wa = 0.05 Ta = 0.1625

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 11	-621	-1025	23	0.008	1.048	0.906	12.999	1591.203	No
SLV 12	-621	-1025	23	0.008	1.048	0.906	12.999	1591.203	No
SLV 7	-672	-755	24	0.009	1.098	0.909	13.759	1591.203	No
SLV 8	-672	-755	24	0.009	1.098	0.909	13.759	1591.203	No
SLV 10	-1375	-2399	-23	0.017	1.805	0.938	26.417	1591.203	No
SLV 9	-1375	-2399	-23	0.017	1.805	0.938	26.417	1591.203	No
SLV 5	-1426	-2129	-22	0.018	1.857	0.939	27.284	1591.203	No
SLV 6	-1426	-2129	-22	0.018	1.857	0.939	27.284	1591.203	No
SLV 3	-996	-921	8	0.026	1.422	0.925	40.474	1591.203	No
SLV 4	-996	-921	8	0.026	1.422	0.925	40.474	1591.203	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.219	SLU 83	Si
V_SLU	3.129	SLU 41	Si
PF_SLV	0.981	SLV 11	No
V_SLV	0.214	SLV 11	No
PFFP_SLV	2.588	SLV 11	Si
R_SLV	0.008	SLV 11	No

## Maschio 255

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1100.3	-331.4	-1100.3	-35.4	Z medio 397 cm	Z medio 745 cm	296	28	348	174	352			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 70	482	-32864	95480	3.97	2496215	26.144	Si
SLU 70	656	-28502	116168	3.44	2437444	20.982	Si
SLU 28	482	-27229	84276	3.29	2404568	28.532	Si
SLU 28	656	-23712	104900	2.86	2276797	21.704	Si
SLU 69	482	-32870	94268	3.97	2496239	26.48	Si
SLU 69	656	-28515	118149	3.44	2437746	20.633	Si
SLU 25	482	-26294	95094	3.17	2375872	24.984	Si
SLU 25	656	-22795	101717	2.75	2234578	21.968	Si
SLU 67	482	-31928	106298	3.85	2490635	23.431	Si
SLU 67	656	-27585	112985	3.33	2414481	21.37	Si
SLU 27	482	-27235	83064	3.29	2404744	28.95	Si
SLU 27	656	-23725	106881	2.86	2277373	21.308	Si
SLU 72	482	-32596	84864	3.93	2495011	29.4	Si
SLU 72	656	-28227	106531	3.41	2430935	22.819	Si
SLU 24	482	-26300	93883	3.17	2376073	25.309	Si
SLU 24	656	-22808	103698	2.75	2235208	21.555	Si
SLU 66	482	-31934	105086	3.85	2490685	23.701	Si
SLU 66	656	-27598	114966	3.33	2414835	21.005	Si
SLU 71	482	-32603	83652	3.93	2495043	29.826	Si
SLU 71	656	-28240	108512	3.41	2431252	22.405	Si

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 12	482	-21165	491494	2.55	2477707	5.041	Si
SLV 12	656	-19414	134563	2.34	2322464	17.259	Si
SLV 6	482	-26827	-345145	3.24	2918610	8.456	Si
SLV 6	656	-22033	-4422	2.66	2551444	576.958	Si
SLV 5	482	-26827	-345145	3.24	2918610	8.456	Si
SLV 5	656	-22033	-4422	2.66	2551444	576.958	Si
SLV 11	482	-21165	491494	2.55	2477707	5.041	Si
SLV 11	656	-19414	134563	2.34	2322464	17.259	Si
SLV 9	482	-27202	-284979	3.28	2944460	10.332	Si
SLV 9	656	-23122	37632	2.79	2640700	70.173	Si
SLV 10	482	-27202	-284979	3.28	2944460	10.332	Si
SLV 10	656	-23122	37632	2.79	2640700	70.173	Si
SLV 8	482	-20790	431328	2.51	2445250	5.669	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 8	656	-18326	92510	2.21	2221413	24.013	Si
SLV 7	482	-20790	431328	2.51	2445250	5.669	Si
SLV 7	656	-18326	92510	2.21	2221413	24.013	Si
SLV 15	482	-23714	289923	2.86	2687838	9.271	Si
SLV 15	656	-21982	149700	2.65	2547116	17.015	Si
SLV 16	482	-23714	289923	2.86	2687838	9.271	Si
SLV 16	656	-21982	149700	2.65	2547116	17.015	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 40	482	-30111	234	85312		3.63	296	1.04	8619			36.81	Si
SLU 40	656	-26556	841	48723		3.2	296	0.98	8145			9.68	Si
SLU 82	482	-35745	296	96515		4.31	296	1.08	8979			30.37	Si
SLU 82	656	-31347	947	59991		3.78	296	1.06	8784			9.28	Si
SLU 8	482	-24021	-766	45970		2.9	296	0.94	7807			10.19	Si
SLU 8	656	-20814	-594	72361		2.51	296	0.89	7380			12.43	Si
SLU 73	482	-34235	398	100319		4.13	296	1.08	8979			22.58	Si
SLU 73	656	-29852	932	70723		3.6	296	1.04	8585			9.21	Si
SLU 61	482	-32799	356	70036		3.96	296	1.08	8978			25.19	Si
SLU 61	656	-28711	957	35108		3.46	296	1.02	8433			8.82	Si
SLU 31	482	-28600	336	89115		3.45	296	1.02	8418			25.05	Si
SLU 31	656	-25062	826	59455		3.02	296	0.96	7946			9.62	Si
SLU 10	482	-25654	397	62636		3.1	296	0.97	8025			20.23	Si
SLU 10	656	-22426	836	34573		2.71	296	0.92	7595			9.09	Si
SLU 52	482	-31289	458	73840		3.78	296	1.06	8776			19.15	Si
SLU 52	656	-27216	941	45840		3.28	296	0.99	8233			8.75	Si
SLU 19	482	-27164	295	58833		3.28	296	0.99	8226			27.9	Si
SLU 19	656	-23920	851	23841		2.89	296	0.94	7794			9.16	Si
SLU 29	482	-26968	-827	72449		3.25	296	0.99	8200			9.91	Si
SLU 29	656	-23450	-603	97244		2.83	296	0.93	7731			12.82	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 7	482	-20790	9784	431328		2.51	296	1.34	11065			1.13	Si
SLV 7	656	-18326	10219	92510		2.21	296	1.28	10572			1.03	Si
SLV 12	482	-21165	8168	491494		2.55	296	1.34	11140			1.36	Si
SLV 12	656	-19414	8493	134563		2.34	296	1.3	10790			1.27	Si
SLV 6	482	-26827	-7930	-345145		3.24	296	1.48	12272			1.55	Si
SLV 6	656	-22033	-7667	-4422		2.66	296	1.37	11313			1.48	Si
SLV 10	482	-27202	-9545	-284979		3.28	296	1.49	12347			1.29	Si
SLV 10	656	-23122	-9394	37632		2.79	296	1.39	11531			1.23	Si
SLV 5	482	-26827	-7930	-345145		3.24	296	1.48	12272			1.55	Si
SLV 5	656	-22033	-7667	-4422		2.66	296	1.37	11313			1.48	Si
SLV 3	482	-22466	5468	89368		2.71	296	1.38	11400			2.08	Si
SLV 3	656	-18354	5973	9521		2.21	296	1.28	10577			1.77	Si
SLV 9	482	-27202	-9545	-284979		3.28	296	1.49	12347			1.29	Si
SLV 9	656	-23122	-9394	37632		2.79	296	1.39	11531			1.23	Si
SLV 4	482	-22466	5468	89368		2.71	296	1.38	11400			2.08	Si
SLV 4	656	-18354	5973	9521		2.21	296	1.28	10577			1.77	Si
SLV 11	482	-21165	8168	491494		2.55	296	1.34	11140			1.36	Si
SLV 11	656	-19414	8493	134563		2.34	296	1.3	10790			1.27	Si
SLV 8	482	-20790	9784	431328		2.51	296	1.34	11065			1.13	Si
SLV 8	656	-18326	10219	92510		2.21	296	1.28	10572			1.03	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 569 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.36	2.44	-20189	28675	226300	7.89	Si
SLV 8	14	0.36	2.44	-20189	28675	226300	7.89	Si
SLV 4	14	0.36	2.47	-20437	28675	228375	7.96	Si
SLV 3	14	0.36	2.47	-20437	28675	228375	7.96	Si
SLV 11	14	0.36	2.55	-21108	28675	233917	8.16	Si
SLV 12	14	0.36	2.55	-21108	28675	233917	8.16	Si
SLV 1	14	0.36	2.6	-21567	28675	237639	8.29	Si
SLV 2	14	0.36	2.6	-21567	28675	237639	8.29	Si
SLV 16	14	0.36	2.84	-23499	28675	252645	8.81	Si
SLV 15	14	0.36	2.84	-23499	28675	252645	8.81	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 569 Wa = 0.05 Ta = 0.0722

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 3	-18354	-22466	-211	0.035	22.766	0.949	53.86	891.753	No
SLV 4	-18354	-22466	-211	0.035	22.766	0.949	53.86	891.753	No
SLV 8	-18326	-20790	-234	0.034	22.737	0.948	52.171	821.865	No
SLV 7	-18326	-20790	-234	0.034	22.737	0.948	52.171	821.865	No
SLV 1	-19466	-24277	-146	0.038	23.895	0.951	58.653	891.753	No
SLV 2	-19466	-24277	-146	0.038	23.895	0.951	58.653	891.753	No
SLV 11	-19414	-21165	-188	0.036	23.842	0.951	55.689	821.865	No
SLV 12	-19414	-21165	-188	0.036	23.842	0.951	55.689	821.865	No
SLV 15	-21982	-23714	-59	0.042	26.45	0.955	64.05	891.753	No
SLV 16	-21982	-23714	-59	0.042	26.45	0.955	64.05	891.753	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	20.633	SLU 69	Si
V_SLU	8.745	SLU 52	Si
PF_SLV	5.041	SLV 11	Si
V_SLV	1.035	SLV 7	Si



Stato limite	Coeff.s.	Comb.	Verifica
PFFP_SLV	7.892	SLV 7	Si
R_SLV	0.06	SLV 3	No

## Maschio 256

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1100.3	-35.4	-1100.3	104.6	L3	L5	140	28	725	725	725			

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	τ0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, γM = 3

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLU 75	109	-21550	128884	5.5	490442	3.805	Si
SLU 75	834	-15405	-25713	3.93	558119	21.706	Si
SLU 77	109	-21691	122775	5.53	486943	3.966	Si
SLU 77	834	-15926	-22152	4.06	558804	25.226	Si
SLU 78	109	-21729	124895	5.54	486000	3.891	Si
SLU 78	834	-15888	-23167	4.05	558795	24.12	Si
SLU 83	109	-22463	132416	5.73	466262	3.521	Si
SLU 83	834	-15968	-33783	4.07	558808	16.541	Si
SLU 76	109	-21340	127181	5.44	495503	3.896	Si
SLU 76	834	-15103	-26736	3.85	557177	20.84	Si
SLU 73	109	-21161	131169	5.4	499640	3.809	Si
SLU 73	834	-14620	-29281	3.73	554839	18.949	Si
SLU 82	109	-22322	138524	5.69	470238	3.395	Si
SLU 82	834	-15448	-37344	3.94	558219	14.948	Si
SLU 84	109	-22501	134536	5.74	465192	3.458	Si
SLU 84	834	-15931	-34799	4.06	558805	16.058	Si
SLU 74	109	-21513	126763	5.49	491356	3.876	Si
SLU 74	834	-15443	-24697	3.94	558209	22.602	Si
SLU 81	109	-22285	136404	5.68	471279	3.455	Si
SLU 81	834	-15485	-36328	3.95	558302	15.368	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, γM = 2

Comb.	Quota	N	M	σ0	Mu	c.s.	Verifica
SLD 7	109	-16663	153145	4.25	760630	4.967	Si
SLD 7	834	-9968	-27260	2.54	552551	20.27	Si
SLV 3	109	-19771	180364	5.04	812700	4.506	Si
SLV 3	834	-9161	-2469	2.34	518642	210.046	Si
SLV 7	109	-19769	245428	5.04	812684	3.311	Si
SLV 7	834	-9856	-47863	2.51	547962	11.448	Si
SLD 12	109	-15646	139782	3.99	737467	5.276	Si
SLD 12	834	-10202	-32947	2.6	562027	17.059	Si
SLV 11	109	-17296	214408	4.41	773535	3.608	Si
SLV 11	834	-10404	-61323	2.65	570100	9.297	Si
SLD 11	109	-15646	139782	3.99	737467	5.276	Si
SLD 11	834	-10202	-32947	2.6	562027	17.059	Si
SLV 4	109	-19771	180364	5.04	812700	4.506	Si
SLV 4	834	-9161	-2469	2.34	518642	210.046	Si
SLV 12	109	-17296	214408	4.41	773535	3.608	Si
SLV 12	834	-10404	-61323	2.65	570100	9.297	Si
SLD 8	109	-16663	153145	4.25	760630	4.967	Si
SLD 8	834	-9968	-27260	2.54	552551	20.27	Si
SLV 8	109	-19769	245428	5.04	812684	3.311	Si
SLV 8	834	-9856	-47863	2.51	547962	11.448	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche, γM = 3

Comb.	Quota	N	V par	M	σ0	σN	l'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 28	109	-15808	-595	86498		4.03	140	1.08	4247			7.13	Si
SLU 28	834	-11822	-889	727		3.02	140	0.96	3754			4.22	Si
SLU 8	109	-13358	-530	67523		3.41	140	1.01	3959			7.47	Si
SLU 8	834	-10042	-740	-2324		2.56	140	0.9	3517			4.75	Si
SLU 69	109	-18924	-680	102317		4.83	140	1.08	4247			6.25	Si
SLU 69	834	-14054	-943	-1757		3.59	140	1.03	4052			4.3	Si
SLU 29	109	-15535	-696	81262		3.96	140	1.08	4247			6.1	Si
SLU 29	834	-11583	-964	1398		2.95	140	0.95	3722			3.86	Si
SLU 70	109	-18962	-607	104437		4.84	140	1.08	4247			7	Si
SLU 70	834	-14017	-897	-2773		3.58	140	1.03	4047			4.51	Si
SLU 27	109	-15770	-668	84378		4.02	140	1.08	4247			6.36	Si
SLU 27	834	-11860	-936	1743		3.03	140	0.96	3759			4.02	Si
SLU 72	109	-18726	-635	101321		4.78	140	1.08	4247			6.69	Si
SLU 72	834	-13740	-925	-3118		3.51	140	1.02	4010			4.33	Si
SLU 37	109	-18302	-749	101720		4.67	140	1.08	4247			5.67	Si
SLU 37	834	-13454	-844	-18997		3.43	140	1.01	3972			4.71	Si
SLU 71	109	-18688	-708	99201		4.77	140	1.08	4247			6	Si
SLU 71	834	-13777	-972	-2102		3.51	140	1.02	4015			4.13	Si
SLU 30	109	-15572	-623	83382		3.97	140	1.08	4247			6.81	Si
SLU 30	834	-11545	-918	382		2.95	140	0.95	3717			4.05	Si





Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 7	109	-19769	3494	245428		5.04	140	1.63	6370			1.82	Si
SLV 7	834	-9856	3539	-47863		2.51	140	1.34	5238			1.48	Si
SLV 12	109	-17296	3130	214408		4.41	140	1.63	6370			2.03	Si
SLV 12	834	-10404	2775	-61323		2.65	140	1.36	5348			1.93	Si
SLV 8	109	-19769	3494	245428		5.04	140	1.63	6370			1.82	Si
SLV 8	834	-9856	3539	-47863		2.51	140	1.34	5238			1.48	Si
SLV 10	109	-9057	-4078	-74888		2.31	140	1.3	5078			1.25	Si
SLV 10	834	-10246	-4161	23507		2.61	140	1.36	5316			1.28	Si
SLV 14	109	-9056	-1979	-9825		2.31	140	1.3	5078			2.57	Si
SLV 14	834	-10941	-2626	-21887		2.79	140	1.39	5455			2.08	Si
SLV 5	109	-11530	-3714	-43868		2.94	140	1.42	5573			1.5	Si
SLV 5	834	-9698	-3396	36967		2.47	140	1.33	5206			1.53	Si
SLV 13	109	-9056	-1979	-9825		2.31	140	1.3	5078			2.57	Si
SLV 13	834	-10941	-2626	-21887		2.79	140	1.39	5455			2.08	Si
SLV 11	109	-17296	3130	214408		4.41	140	1.63	6370			2.03	Si
SLV 11	834	-10404	2775	-61323		2.65	140	1.36	5348			1.93	Si
SLV 6	109	-11530	-3714	-43868		2.94	140	1.42	5573			1.5	Si
SLV 6	834	-9698	-3396	36967		2.47	140	1.33	5206			1.53	Si
SLV 9	109	-9057	-4078	-74888		2.31	140	1.3	5078			1.25	Si
SLV 9	834	-10246	-4161	23507		2.61	140	1.36	5316			1.28	Si

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 471.5 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.34	2.74	-10736	55557	116613	2.1	Si
SLV 5	14	0.34	2.74	-10736	55557	116613	2.1	Si
SLV 1	14	0.34	2.91	-11393	55557	121566	2.19	Si
SLV 2	14	0.34	2.91	-11393	55557	121566	2.19	Si
SLV 9	14	0.34	2.94	-11543	55557	122657	2.21	Si
SLV 10	14	0.34	2.94	-11543	55557	122657	2.21	Si
SLV 4	14	0.34	3.26	-12764	55557	131079	2.36	Si
SLV 3	14	0.34	3.26	-12764	55557	131079	2.36	Si
SLV 13	14	0.34	3.59	-14084	55557	139199	2.51	Si
SLV 14	14	0.34	3.59	-14084	55557	139199	2.51	Si

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 471.5 Wa = 0.05 Ta = 0.3135

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 3	-9161	-19771	264	0.001	13.41	0.921	1.555	957.001	No
SLV 4	-9161	-19771	264	0.001	13.41	0.921	1.555	957.001	No
SLV 14	-10941	-9056	-279	0.002	15.2	0.929	3.619	957.001	No
SLV 13	-10941	-9056	-279	0.002	15.2	0.929	3.619	957.001	No
SLV 1	-9114	-17299	206	0.006	13.362	0.921	9.261	957.001	No
SLV 2	-9114	-17299	206	0.006	13.362	0.921	9.261	957.001	No
SLV 16	-10988	-11527	-221	0.007	15.248	0.929	10.396	957.001	No
SLV 15	-10988	-11527	-221	0.007	15.248	0.929	10.396	957.001	No
SLV 9	-10246	-9057	-177	0.009	14.501	0.926	14.718	1153.415	No
SLV 10	-10246	-9057	-177	0.009	14.501	0.926	14.718	1153.415	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	3.395	SLU 82	Si
V_SLU	3.86	SLU 29	Si
PF_SLV	3.311	SLV 7	Si
V_SLV	1.245	SLV 9	Si
PFFP_SLV	2.099	SLV 5	Si
R_SLV	0.002	SLV 3	No

## Maschio 257

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-1051.8	-485.9	-1100.3	-485.9	L3	F1	48.5	30	1326.6	1326.5	1326.6			

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 64	1186	-1078	2639	0.74	23735	8.994	Si
SLU 64	1398	-299	-3291	0.21	7054	2.143	Si
SLU 46	1186	-1116	2729	0.77	24480	8.97	Si
SLU 46	1398	-314	-3518	0.22	7399	2.103	Si
SLU 23	1186	-910	1662	0.63	20349	12.244	Si
SLU 23	1398	-234	-2651	0.16	5559	2.097	Si
SLU 43	1186	-989	3244	0.68	21949	6.766	Si
SLU 43	1398	-280	-3661	0.19	6620	1.808	Si
SLU 52	1186	-1075	2137	0.74	23679	11.079	Si
SLU 52	1398	-268	-3175	0.18	6352	2.001	Si



Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 44	1186	-1025	3175	0.71	22685	7.144	Si
SLU 44	1398	-275	-3964	0.19	6504	1.641	Si
SLU 1	1186	-784	2336	0.54	17735	7.593	Si
SLU 1	1398	-220	-2719	0.15	5237	1.926	Si
SLU 47	1186	-1152	2588	0.79	25198	9.738	Si
SLU 47	1398	-318	-3540	0.22	7500	2.118	Si
SLU 2	1186	-821	2267	0.56	18502	8.161	Si
SLU 2	1398	-215	-3021	0.15	5119	1.694	Si
SLU 65	1186	-1114	2570	0.77	24457	9.516	Si
SLU 65	1398	-294	-3594	0.2	6939	1.931	Si

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 13	1186	-257	-7168	0	0	0	No, $e \geq l/2$
SLV 13	1398	-114	20062	0	0	0	No, $e \geq l/2$
SLV 14	1186	-257	-7168	0	0	0	No, $e \geq l/2$
SLV 14	1398	-114	20062	0	0	0	No, $e \geq l/2$
SLV 12	1186	-137	-903	0.09	3300	3.655	Si
SLV 12	1398	-64	-3122	0	0	0	No, $e \geq l/2$
SLV 10	1186	-1085	-795	0.75	24681	31.047	Si
SLV 10	1398	-297	10584	0	0	0	No, $e \geq l/2$
SLV 4	1186	-1390	10901	0.96	31039	2.847	Si
SLV 4	1398	-333	-24838	0	0	0	No, $e \geq l/2$
SLV 11	1186	-137	-903	0.09	3300	3.655	Si
SLV 11	1398	-64	-3122	0	0	0	No, $e \geq l/2$
SLV 9	1186	-1085	-795	0.75	24681	31.047	Si
SLV 9	1398	-297	10584	0	0	0	No, $e \geq l/2$
SLV 7	1186	-562	4528	0.39	13193	2.914	Si
SLV 7	1398	-151	-15359	0	0	0	No, $e \geq l/2$
SLV 8	1186	-562	4528	0.39	13193	2.914	Si
SLV 8	1398	-151	-15359	0	0	0	No, $e \geq l/2$
SLD 1	1186	-1186	5749	0.82	26808	4.663	Si
SLD 1	1398	-299	-10198	0	0	0	No, $e \geq l/2$

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 47	1186	-1152	58	2588		0.79	48.45	0.66	961			16.6	Si
SLU 47	1398	-318	-97	-3540		0.27	39.29	0.59	697			7.21	Si
SLU 52	1186	-1075	53	2137		0.74	48.45	0.65	951			17.93	Si
SLU 52	1398	-268	-116	-3175		0.24	37.18	0.59	655			5.67	Si
SLU 73	1186	-1164	29	1532		0.8	48.45	0.66	963			33.3	Si
SLU 73	1398	-287	-91	-2805		0.22	43.38	0.58	761			8.32	Si
SLU 23	1186	-910	37	1662		0.63	48.45	0.64	929			25.22	Si
SLU 23	1398	-234	-99	-2651		0.2	38.7	0.58	676			6.82	Si
SLU 65	1186	-1114	63	2570		0.77	48.45	0.66	956			15.21	Si
SLU 65	1398	-294	-124	-3594		0.27	35.97	0.59	639			5.17	Si
SLU 37	1186	-1177	-57	-483		0.81	48.45	0.66	965			16.91	Si
SLU 37	1398	-319	104	-713		0.22	48.45	0.58	850			8.15	Si
SLU 10	1186	-870	27	1229		0.6	48.45	0.64	924			34.19	Si
SLU 10	1398	-209	-91	-2233		0.17	40.59	0.58	704			7.73	Si
SLU 2	1186	-821	61	2267		0.56	48.45	0.63	917			15.04	Si
SLU 2	1398	-215	-123	-3021		0.23	30.57	0.59	538			4.37	Si
SLU 44	1186	-1025	87	3175		0.71	48.45	0.65	944			10.86	Si
SLU 44	1398	-275	-148	-3964		0.31	29.41	0.6	527			3.56	Si
SLU 43	1186	-989	85	3244		0.68	48.45	0.65	939			11.03	Si
SLU 43	1398	-280	-79	-3661		0.28	33.43	0.59	595			7.55	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 12	1186	-137	-5	-903		0.09	48.45	0.85	1239			236.9	Si
SLV 12	1398	-64	-616	-3122		0	0	0.83	0			0	No, $V_u < V$
SLD 1	1186	-1186	402	5749		0.82	48.45	1	1448			3.6	Si
SLD 1	1398	-299	360	-10198		0	0	0.83	0			0	No, $V_u < V$
SLV 7	1186	-562	542	4528		0.39	48.45	0.91	1324			2.44	Si
SLV 7	1398	-151	-112	-15359		0	0	0.83	0			0	No, $V_u < V$
SLV 10	1186	-1085	-456	-795		0.75	48.45	0.98	1428			3.13	Si
SLV 10	1398	-297	36	10584		0	0	0.83	0			0	No, $V_u < V$
SLV 13	1186	-257	-936	-7168		0	0	0.83	0			0	No, $V_u < V$
SLV 13	1398	-114	-780	20062		0	0	0.83	0			0	No, $V_u < V$
SLV 11	1186	-137	-5	-903		0.09	48.45	0.85	1239			236.9	Si
SLV 11	1398	-64	-616	-3122		0	0	0.83	0			0	No, $V_u < V$
SLV 8	1186	-562	542	4528		0.39	48.45	0.91	1324			2.44	Si
SLV 8	1398	-151	-112	-15359		0	0	0.83	0			0	No, $V_u < V$
SLV 14	1186	-257	-936	-7168		0	0	0.83	0			0	No, $V_u < V$
SLV 14	1398	-114	-780	20062		0	0	0.83	0			0	No, $V_u < V$
SLV 4	1186	-1390	1022	10901		0.96	48.45	1.02	1489			1.46	Si
SLV 4	1398	-333	704	-24838		0	0	0.83	0			0	No, $V_u < V$
SLV 9	1186	-1085	-456	-795		0.75	48.45	0.98	1428			3.13	Si
SLV 9	1398	-297	36	10584		0	0	0.83	0			0	No, $V_u < V$

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 772.3 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.41	0	-3567	77934	0	0	No, $e \geq t/2$
SLV 3	14	0.41	0	-1809	77934	0	0	No, $e \geq t/2$
SLV 5	14	0.41	0	-3567	77934	0	0	No, $e \geq t/2$
SLV 10	14	0.41	0	-3811	77934	0	0	No, $e \geq t/2$
SLV 4	14	0.41	0	-1809	77934	0	0	No, $e \geq t/2$
SLV 9	14	0.41	0	-3811	77934	0	0	No, $e \geq t/2$



Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 7	14	0.41	0	-1300	77934	0	0	No, $e > t/2$
SLV 8	14	0.41	0	-1300	77934	0	0	No, $e > t/2$
SLV 2	14	0.41	0	-2489	77934	0	0	No, $e > t/2$
SLV 1	14	0.41	0	-2489	77934	0	0	No, $e > t/2$

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 772.3  $W_a = 0.05$   $T_a = 0.9796$

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 8	-43	963	-11	0	0	0	0	239.674	No, Trazione
SLV 3	-24	1734	-1	0	0	0	0	239.674	No, Trazione
SLV 4	-24	1734	-1	0	0	0	0	239.674	No, Trazione
SLV 7	-43	963	-11	0	0	0	0	239.674	No, Trazione
SLV 9	-57	-10406	18	0.012	3.542	0.985	18.436	239.674	No
SLV 10	-57	-10406	18	0.012	3.542	0.985	18.436	239.674	No
SLV 5	-42	-7274	17	0.013	3.54	0.989	18.542	239.674	No
SLV 6	-42	-7274	17	0.013	3.54	0.989	18.542	239.674	No
SLV 12	-59	-2170	-11	0.016	3.542	0.984	23.967	239.674	No
SLV 11	-59	-2170	-11	0.016	3.542	0.984	23.967	239.674	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	1.641	SLU 44	Si
V_SLU	3.565	SLU 44	Si
PF_SLV	0	SLV 16	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 1	No
R_SLV	0	SLV 8	No

## Maschio 258

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	l	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-772.3	-485.9	-867.8	-485.9	L3	F1	95.5	30	1326.4	1326.3	1326.4			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 23	1186	-2349	4684	0.82	100928	21.548	Si
SLU 23	1398	-851	-13957	0.3	39196	2.808	Si
SLU 65	1186	-2863	5074	1	120014	23.653	Si
SLU 65	1398	-979	-14895	0.34	44795	3.007	Si
SLU 44	1186	-2777	5397	0.97	116883	21.657	Si
SLU 44	1398	-922	-16036	0.32	42289	2.637	Si
SLU 52	1186	-2914	4412	1.02	121855	27.62	Si
SLU 52	1398	-1000	-16048	0.35	45715	2.849	Si
SLU 37	1186	-2046	-2758	0.71	89180	32.332	Si
SLU 37	1398	-646	10126	0.23	30023	2.965	Si
SLU 29	1186	-1908	-1773	0.67	83719	47.212	Si
SLU 29	1398	-568	10138	0.2	26484	2.612	Si
SLU 10	1186	-2400	4022	0.84	102876	25.58	Si
SLU 10	1398	-873	-15110	0.3	40126	2.656	Si
SLU 8	1186	-1822	-1450	0.64	80250	55.332	Si
SLU 8	1398	-511	8996	0.18	23883	2.655	Si
SLU 2	1186	-2263	5007	0.79	97614	19.497	Si
SLU 2	1398	-794	-15098	0.28	36660	2.428	Si
SLU 27	1186	-1913	-1409	0.67	83922	59.561	Si
SLU 27	1398	-572	8948	0.2	26642	2.978	Si

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche, $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 10	1186	-2455	77437	0.86	109073	1.409	Si
SLV 10	1398	727	97223	0	0	0	No, Trazione
SLV 1	1186	-304	39969	0	0	0	No, $e > l/2$
SLV 1	1398	857	5822	0	0	0	No, Trazione
SLD 1	1186	-1218	16794	0.42	56154	3.344	Si
SLD 1	1398	35	348	0	0	0	No, Trazione
SLV 5	1186	-1494	86436	0	0	0	No, $e > l/2$
SLV 5	1398	1282	84951	0	0	0	No, Trazione
SLV 9	1186	-2455	77437	0.86	109073	1.409	Si
SLV 9	1398	727	97223	0	0	0	No, Trazione
SLV 4	1186	-245	-8858	0.09	11640	1.314	Si
SLV 4	1398	-62	-49731	0	0	0	No, $e > l/2$
SLV 8	1186	-1299	-76322	0	0	0	No, $e > l/2$
SLV 8	1398	-1782	-100224	0	0	0	No, $e > l/2$
SLV 7	1186	-1299	-76322	0	0	0	No, $e > l/2$
SLV 7	1398	-1782	-100224	0	0	0	No, $e > l/2$
SLV 2	1186	-304	39969	0	0	0	No, $e > l/2$
SLV 2	1398	857	5822	0	0	0	No, Trazione
SLV 3	1186	-245	-8858	0.09	11640	1.314	Si
SLV 3	1398	-62	-49731	0	0	0	No, $e > l/2$



Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 36	1186	-2321	-40	51		0.81	95.55	0.66	1902			47.17	Si
SLU 36	1398	-833	215	971		0.29	95.55	0.59	1704			7.91	Si
SLU 34	1186	-2491	57	2508		0.87	95.55	0.67	1925			33.84	Si
SLU 34	1398	-941	227	-8558		0.33	95.55	0.6	1718			7.56	Si
SLU 31	1186	-2487	120	3699		0.87	95.55	0.67	1924			16.04	Si
SLU 31	1398	-930	200	-13968		0.32	95.55	0.6	1716			8.58	Si
SLU 80	1186	-2830	-34	77		0.99	95.55	0.69	1970			57.61	Si
SLU 80	1398	-957	211	1223		0.33	95.55	0.6	1720			8.15	Si
SLU 42	1186	-2370	2	456		0.83	95.55	0.67	1908			991.07	Si
SLU 42	1398	-852	217	-3253		0.3	95.55	0.6	1706			7.87	Si
SLU 76	1186	-3005	76	2898		1.05	95.55	0.7	1993			26.11	Si
SLU 76	1398	-1068	219	-9497		0.37	95.55	0.61	1735			7.92	Si
SLU 84	1186	-2885	21	846		1.01	95.55	0.69	1977			92.34	Si
SLU 84	1398	-979	209	-4192		0.34	95.55	0.6	1723			8.26	Si
SLU 38	1186	-2316	-54	-313		0.81	95.55	0.66	1901			35.42	Si
SLU 38	1398	-829	219	2161		0.29	95.55	0.59	1703			7.77	Si
SLU 78	1186	-2835	-21	441		0.99	95.55	0.69	1970			94.56	Si
SLU 78	1398	-960	207	33		0.33	95.55	0.6	1720			8.3	Si
SLU 40	1186	-2366	65	1646		0.83	95.55	0.67	1908			29.34	Si
SLU 40	1398	-841	190	-8663		0.29	95.55	0.59	1705			8.99	Si

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 10	1186	-2455	-550	77437		1.68	48.7	1.17	1709			3.1	Si
SLV 10	1398	727	482	97223		0	0	0.83	0			0	No, Vu<V
SLV 8	1186	-1299	609	-76322		0	0	0.83	0			0	No, Vu<V
SLV 8	1398	-1782	-394	-100224		0	0	0.83	0			0	No, Vu<V
SLV 6	1186	-1494	-126	86436		0	0	0.83	0			0	No, Vu<V
SLV 6	1398	1282	-240	84951		0	0	0.83	0			0	No, Vu<V
SLV 5	1186	-1494	-126	86436		0	0	0.83	0			0	No, Vu<V
SLV 5	1398	1282	-240	84951		0	0	0.83	0			0	No, Vu<V
SLV 9	1186	-2455	-550	77437		1.68	48.7	1.17	1709			3.1	Si
SLV 9	1398	727	482	97223		0	0	0.83	0			0	No, Vu<V
SLV 1	1186	-304	627	39969		0	0	0.83	0			0	No, Vu<V
SLV 1	1398	857	-1136	5822		0	0	0.83	0			0	No, Vu<V
SLV 2	1186	-304	627	39969		0	0	0.83	0			0	No, Vu<V
SLV 2	1398	857	-1136	5822		0	0	0.83	0			0	No, Vu<V
SLD 10	1186	-2119	-210	30390		0.74	95.55	0.98	2812			13.37	Si
SLD 10	1398	-56	236	37761		0	0	0.83	0			0	No, Vu<V
SLD 1	1186	-1218	287	16794		0.42	95.55	0.92	2632			9.16	Si
SLD 1	1398	35	-455	348		0	0	0.83	0			0	No, Vu<V
SLV 7	1186	-1299	609	-76322		0	0	0.83	0			0	No, Vu<V
SLV 7	1398	-1782	-394	-100224		0	0	0.83	0			0	No, Vu<V

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 772.2 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 4	14	0.41	0	-1566	153630	0	0	No, e>t/2
SLV 3	14	0.41	0	-1566	153630	0	0	No, e>t/2
SLV 1	14	0.41	0	-3788	153630	0	0	No, e>t/2
SLV 8	14	0.41	0	-394	153630	0	0	No, e>t/2
SLV 9	14	0.41	0	-9019	153630	0	0	No, e>t/2
SLV 7	14	0.41	0	-394	153630	0	0	No, e>t/2
SLV 6	14	0.41	0	-7801	153630	0	0	No, e>t/2
SLV 5	14	0.41	0	-7801	153630	0	0	No, e>t/2
SLV 2	14	0.41	0	-3788	153630	0	0	No, e>t/2
SLV 10	14	0.41	0	-9019	153630	0	0	No, e>t/2

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 772.2 Wa = 0.05 Ta = 0.9793

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 6	999	-11913	-17	0	0	0	0	239.674	No, Trazione
SLV 1	430	-6796	-56	0	0	0	0	239.674	No, Trazione
SLV 5	999	-11913	-17	0	0	0	0	239.674	No, Trazione
SLV 2	430	-6796	-56	0	0	0	0	239.674	No, Trazione
SLV 10	851	-13838	12	0	0	0	0	239.674	No, Trazione
SLV 9	851	-13838	12	0	0	0	0	239.674	No, Trazione
SLV 4	-207	-4335	-59	0.006	6.999	0.974	8.366	239.674	No
SLV 3	-207	-4335	-59	0.006	6.999	0.974	8.366	239.674	No
SLV 14	-66	-13211	42	0.01	6.978	0.991	15.075	239.674	No
SLV 13	-66	-13211	42	0.01	6.978	0.991	15.075	239.674	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	2.428	SLU 2	Si
V_SLU	7.561	SLU 34	Si
PF_SLV	0	SLV 10	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 1	No
R_SLV	0	SLV 10	No

## Maschio 259

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



## Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s,sx	a.s,dx
-772.3	-500.9	-772.3	-486.1	L3	F1	14.7	30	1322.8	1319.4	1326.2			

## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	t0	fv0	μ	φ	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 69	1186	-157	948	0.36	1109	1.17	Si
SLU 69	1398	-3	187	0	0	0	No, e>l/2
SLU 36	1186	-127	760	0.29	904	1.189	Si
SLU 36	1398	-19	331	0	0	0	No, e>l/2
SLU 35	1186	-119	731	0.27	850	1.162	Si
SLU 35	1398	13	211	0	0	0	No, Trazione
SLU 27	1186	-118	718	0.27	844	1.174	Si
SLU 27	1398	17	184	0	0	0	No, Trazione
SLU 29	1186	-119	721	0.27	846	1.174	Si
SLU 29	1398	21	188	0	0	0	No, Trazione
SLU 30	1186	-127	750	0.29	901	1.201	Si
SLU 30	1398	-11	308	0	0	0	No, e>l/2
SLU 71	1186	-158	950	0.36	1112	1.17	Si
SLU 71	1398	1	192	0	0	0	No, Trazione
SLU 32	1186	-123	751	0.28	879	1.171	Si
SLU 32	1398	-21	168	0	0	0	No, e>l/2
SLU 28	1186	-126	747	0.29	898	1.201	Si
SLU 28	1398	-15	304	0	0	0	No, e>l/2
SLU 70	1186	-165	977	0.37	1162	1.19	Si
SLU 70	1398	-36	308	0	0	0	No, e>l/2

Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 11	1186	-561	2310	1.27	3708	1.605	Si
SLV 11	1398	-343	19534	0	0	0	No, e>l/2
SLD 1	1186	-131	771	0.3	945	1.226	Si
SLD 1	1398	-53	-2620	0	0	0	No, e>l/2
SLV 14	1186	161	-247	0	0	0	No, Trazione
SLV 14	1398	108	-4590	0	0	0	No, Trazione
SLV 8	1186	-649	2612	1.47	4211	1.612	Si
SLV 8	1398	-385	18892	0	0	0	No, e>l/2
SLV 9	1186	392	-1082	0	0	0	No, Trazione
SLV 9	1398	275	-18733	0	0	0	No, Trazione
SLV 10	1186	392	-1082	0	0	0	No, Trazione
SLV 10	1398	275	-18733	0	0	0	No, Trazione
SLV 13	1186	161	-247	0	0	0	No, Trazione
SLV 13	1398	108	-4590	0	0	0	No, Trazione
SLV 12	1186	-561	2310	1.27	3708	1.605	Si
SLV 12	1398	-343	19534	0	0	0	No, e>l/2
SLV 7	1186	-649	2612	1.47	4211	1.612	Si
SLV 7	1398	-385	18892	0	0	0	No, e>l/2
SLV 6	1186	304	-780	0	0	0	No, Trazione
SLV 6	1398	232	-19375	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 50	1186	-159	14	952		1.27	4.16	0.73	90			6.58	Si
SLU 50	1398	-8	19	150		0	0	0.56	0			0	No, Vu<V
SLU 24	1186	-123	10	738		1.01	4.05	0.69	84			8.71	Si
SLU 24	1398	-17	30	140		0	0	0.56	0			0	No, Vu<V
SLU 29	1186	-119	10	721		1.01	3.91	0.69	81			7.9	Si
SLU 29	1398	21	21	188		0	0	0.56	0			0	No, Vu<V
SLU 27	1186	-118	10	718		1.01	3.9	0.69	81			8.11	Si
SLU 27	1398	17	23	184		0	0	0.56	0			0	No, Vu<V
SLU 37	1186	-120	9	733		1.07	3.72	0.7	78			8.26	Si
SLU 37	1398	18	33	216		0	0	0.56	0			0	No, Vu<V
SLU 28	1186	-126	9	747		0.97	4.35	0.68	89			10.39	Si
SLU 28	1398	-15	58	304		0	0	0.56	0			0	No, Vu<V
SLU 30	1186	-127	9	750		0.97	4.36	0.68	89			10.07	Si
SLU 30	1398	-11	55	308		0	0	0.56	0			0	No, Vu<V
SLU 56	1186	-159	13	962		1.32	4.01	0.73	88			6.96	Si
SLU 56	1398	-16	34	174		0	0	0.56	0			0	No, Vu<V
SLU 41	1186	-124	9	758		1.09	3.81	0.7	80			9.13	Si
SLU 41	1398	-18	44	184		0	0	0.56	0			0	No, Vu<V
SLU 36	1186	-127	8	760		1.01	4.18	0.69	87			11.1	Si
SLU 36	1398	-19	70	331		0	0	0.56	0			0	No, Vu<V

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 14	1186	161	-26	-247		0	0	0.83	0			0	No, Vu<V
SLV 14	1398	108	83	-4590		0	0	0.83	0			0	No, Vu<V
SLV 7	1186	-649	55	2612		2.15	10.05	1.26	381			6.94	Si
SLV 7	1398	-385	196	18892		0	0	0.83	0			0	No, Vu<V
SLV 11	1186	-561	40	2310		1.91	9.77	1.22	356			8.86	Si
SLV 11	1398	-343	263	19534		0	0	0.83	0			0	No, Vu<V
SLD 1	1186	-131	15	771		0.97	4.51	1.03	139			9.23	Si
SLD 1	1398	-53	-37	-2620		0	0	0.83	0			0	No, Vu<V



Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 6	1186	304	-21	-780		0	0	0.83	0			0	No, Vu<V
SLV 6	1398	232	-200	-19375		0	0	0.83	0			0	No, Vu<V
SLV 10	1186	392	-36	-1082		0	0	0.83	0			0	No, Vu<V
SLV 10	1398	275	-133	-18733		0	0	0.83	0			0	No, Vu<V
SLV 8	1186	-649	55	2612		2.15	10.05	1.26	381			6.94	Si
SLV 8	1398	-385	196	18892		0	0	0.83	0			0	No, Vu<V
SLV 13	1186	161	-26	-247		0	0	0.83	0			0	No, Vu<V
SLV 13	1398	108	83	-4590		0	0	0.83	0			0	No, Vu<V
SLV 9	1186	392	-36	-1082		0	0	0.83	0			0	No, Vu<V
SLV 9	1398	275	-133	-18733		0	0	0.83	0			0	No, Vu<V
SLV 12	1186	-561	40	2310		1.91	9.77	1.22	356			8.86	Si
SLV 12	1398	-343	263	19534		0	0	0.83	0			0	No, Vu<V

#### Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 768.7 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 6	14	0.41	0	87	23547	0	0	No, Trazione
SLV 4	14	0.41	0	-429	23547	0	0	No, e>t/2
SLV 3	14	0.41	0	-429	23547	0	0	No, e>t/2
SLV 8	14	0.41	0	-745	23547	0	0	No, e>t/2
SLV 9	14	0.41	0	65	23547	0	0	No, Trazione
SLV 2	14	0.41	0	-179	23547	0	0	No, e>t/2
SLV 1	14	0.41	0	-179	23547	0	0	No, e>t/2
SLV 5	14	0.41	0	87	23547	0	0	No, Trazione
SLV 10	14	0.41	0	65	23547	0	0	No, Trazione
SLV 7	14	0.41	0	-745	23547	0	0	No, e>t/2

#### Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzera = 768.7 Wa = 0.05 Ta = 0.974

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	a0*	aLim	Verifica
SLV 4	-111	363	92	0	0	0	0	239.674	No, Trazione
SLV 8	-177	1592	-85	0	0	0	0	239.674	No, Trazione
SLV 9	145	-2820	83	0	0	0	0	239.674	No, Trazione
SLV 7	-177	1592	-85	0	0	0	0	239.674	No, Trazione
SLV 3	-111	363	92	0	0	0	0	239.674	No, Trazione
SLV 2	-24	-898	166	0	1.076	0.98	0	239.674	No
SLV 6	114	-2612	161	0	0	0	0	239.674	No, Trazione
SLV 5	114	-2612	161	0	0	0	0	239.674	No, Trazione
SLV 1	-24	-898	166	0	1.076	0.98	0	239.674	No
SLV 10	145	-2820	83	0	0	0	0	239.674	No, Trazione

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 71	No
V_SLU	0	SLU 6	No
PF_SLV	0	SLV 14	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 10	No
R_SLV	0	SLV 14	No

## Maschio 260

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	X fin.	Y fin.	Quota i.	Quota.s	I	Sp.	h netta	h ini.	h fin.	a	a.s.,sx	a.s.,dx
-772.3	-377.1	-772.3	-349.9	L3	F1	27.3	30	1382.9	1376.6	1389.2			

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fk	fvk0	fmedio	$\tau_0$	fv0	$\mu$	$\phi$	fv,lim	E	G	FC
60			34.5	0.9	2	0.58	0.77	3.25	32000	12800	1.2

#### Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni non sismiche, $\gamma_M = 3$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLU 57	1186	-926	-6074	1.13	10860	1.788	Si
SLU 57	1398	106	3072	0	0	0	No, Trazione
SLU 42	1186	-695	-7130	0.85	8484	1.19	Si
SLU 42	1398	291	3335	0	0	0	No, Trazione
SLU 53	1186	-721	-2667	0.88	8757	3.283	Si
SLU 53	1398	-92	1693	0	0	0	No, e>l/2
SLU 60	1186	-607	-3230	0.74	7518	2.327	Si
SLU 60	1398	6	1814	0	0	0	No, Trazione
SLU 52	1186	-830	-8984	1.02	9901	1.102	Si
SLU 52	1398	363	4070	0	0	0	No, Trazione
SLU 54	1186	-849	-6384	1.04	10097	1.582	Si
SLU 54	1398	144	3156	0	0	0	No, Trazione
SLU 55	1186	-906	-8674	1.11	10669	1.23	Si
SLU 55	1398	325	3986	0	0	0	No, Trazione
SLU 49	1186	-945	-5046	1.16	11053	2.19	Si
SLU 49	1398	19	2645	0	0	0	No, Trazione
SLU 51	1186	-917	-4859	1.12	10769	2.217	Si
SLU 51	1398	42	2500	0	0	0	No, Trazione
SLU 59	1186	-897	-5886	1.1	10575	1.796	Si
SLU 59	1398	129	2927	0	0	0	No, Trazione



Verifica a pressoflessione nel piano secondo D.M. 17-01-18 NTC §7.8.2.2.1 in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	M	$\sigma_0$	Mu	c.s.	Verifica
SLV 3	1186	-344	-4769	0	0	0	No, $e \geq l/2$
SLV 3	1398	-1330	-9517	1.63	15712	1.651	Si
SLV 14	1186	-648	689	0.79	8251	11.984	Si
SLV 14	1398	1249	11977	0	0	0	No, Trazione
SLV 2	1186	1776	15422	0	0	0	No, Trazione
SLV 2	1398	117	7693	0	0	0	No, Trazione
SLD 1	1186	432	4882	0	0	0	No, Trazione
SLD 1	1398	13	3756	0	0	0	No, Trazione
SLV 5	1186	3402	33822	0	0	0	No, Trazione
SLV 5	1398	2201	29271	0	0	0	No, Trazione
SLV 10	1186	2675	29402	0	0	0	No, Trazione
SLV 10	1398	2541	30556	0	0	0	No, Trazione
SLV 4	1186	-344	-4769	0	0	0	No, $e \geq l/2$
SLV 4	1398	-1330	-9517	1.63	15712	1.651	Si
SLV 13	1186	-648	689	0.79	8251	11.984	Si
SLV 13	1398	1249	11977	0	0	0	No, Trazione
SLV 6	1186	3402	33822	0	0	0	No, Trazione
SLV 6	1398	2201	29271	0	0	0	No, Trazione
SLV 9	1186	2675	29402	0	0	0	No, Trazione
SLV 9	1398	2541	30556	0	0	0	No, Trazione

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni non sismiche,  $\gamma_M = 3$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLU 42	1186	-695	-261	-7130		2.29	10.11	0.86	261			1	Si
SLU 42	1398	291	226	3335		0	0	0.56	0			0	No, $V_u < V$
SLU 52	1186	-830	-308	-8984		3.29	8.41	0.99	251			0.81	No, $V_u < V$
SLU 52	1398	363	318	4070		0	0	0.56	0			0	No, $V_u < V$
SLU 53	1186	-721	-100	-2667		0.88	27.25	0.67	550			5.53	Si
SLU 53	1398	-92	117	1693		0	0	0.56	0			0	No, $V_u < V$
SLU 60	1186	-607	-118	-3230		0.81	24.91	0.66	496			4.2	Si
SLU 60	1398	6	161	1814		0	0	0.56	0			0	No, $V_u < V$
SLU 58	1186	-768	-88	-2170		0.94	27.25	0.68	557			6.34	Si
SLU 58	1398	-108	72	1464		0	0	0.56	0			0	No, $V_u < V$
SLU 51	1186	-917	-171	-4859		1.22	24.97	0.72	538			3.15	Si
SLU 51	1398	42	137	2500		0	0	0.56	0			0	No, $V_u < V$
SLU 54	1186	-849	-224	-6384		1.54	18.33	0.76	419			1.87	Si
SLU 54	1398	144	222	3156		0	0	0.56	0			0	No, $V_u < V$
SLU 55	1186	-906	-301	-8674		2.48	12.17	0.89	324			1.07	Si
SLU 55	1398	325	282	3986		0	0	0.56	0			0	No, $V_u < V$
SLU 57	1186	-926	-217	-6074		1.46	21.19	0.75	477			2.19	Si
SLU 57	1398	106	185	3072		0	0	0.56	0			0	No, $V_u < V$
SLU 59	1186	-897	-212	-5886		1.41	21.19	0.74	473			2.23	Si
SLU 59	1398	129	176	2927		0	0	0.56	0			0	No, $V_u < V$

Verifica a taglio nel piano secondo D.M. 17-01-18 (N.T.C.) §7.8.2.2.2 con rottura per scorrimento in combinazioni sismiche,  $\gamma_M = 2$

Comb.	Quota	N	V par	M	$\sigma_0$	$\sigma_N$	I'	fvd	Vt scorr.	Vt fess.diag.	Vt,lim	c.s.	Verifica
SLV 10	1186	2675	-1066	29402		0	0	0.83	0			0	No, $V_u < V$
SLV 10	1398	2541	2169	30556		0	0	0.83	0			0	No, $V_u < V$
SLV 9	1186	2675	-1066	29402		0	0	0.83	0			0	No, $V_u < V$
SLV 9	1398	2541	2169	30556		0	0	0.83	0			0	No, $V_u < V$
SLV 6	1186	3402	-800	33822		0	0	0.83	0			0	No, $V_u < V$
SLV 6	1398	2201	2081	29271		0	0	0.83	0			0	No, $V_u < V$
SLV 4	1186	-344	626	-4769		0	0	0.83	0			0	No, $V_u < V$
SLV 4	1398	-1330	-653	-9517		2.28	19.41	1.29	751			1.15	Si
SLV 2	1186	1776	111	15422		0	0	0.83	0			0	No, $V_u < V$
SLV 2	1398	117	561	7693		0	0	0.83	0			0	No, $V_u < V$
SLV 5	1186	3402	-800	33822		0	0	0.83	0			0	No, $V_u < V$
SLV 5	1398	2201	2081	29271		0	0	0.83	0			0	No, $V_u < V$
SLV 3	1186	-344	626	-4769		0	0	0.83	0			0	No, $V_u < V$
SLV 3	1398	-1330	-653	-9517		2.28	19.41	1.29	751			1.15	Si
SLV 13	1186	-648	-775	689		0.79	27.25	0.99	811			1.05	Si
SLV 13	1398	1249	855	11977		0	0	0.83	0			0	No, $V_u < V$
SLV 14	1186	-648	-775	689		0.79	27.25	0.99	811			1.05	Si
SLV 14	1398	1249	855	11977		0	0	0.83	0			0	No, $V_u < V$
SLD 1	1186	432	6	4882		0	0	0.83	0			0	No, $V_u < V$
SLD 1	1398	13	282	3756		0	0	0.83	0			0	No, $V_u < V$

Verifica a pressoflessione fuori piano D.M. 17-01-18 (N.T.C.)

quota 797.3 Wa 0.05 denominatore 8  $\gamma_M = 2$

Comb.	fd	Sa	$\sigma_0$	N	M	Mc	Coeff.s.	Verifica
SLV 1	14	0.41	0	-944	48246	0	0	No, $e > t/2$
SLV 8	14	0.41	0	-2494	48246	0	0	No, $e > t/2$
SLV 10	14	0.41	0	-450	48246	0	0	No, $e > t/2$
SLV 5	14	0.41	0	-328	48246	0	0	No, $e > t/2$
SLV 6	14	0.41	0	-328	48246	0	0	No, $e > t/2$
SLV 4	14	0.41	0	-1594	48246	0	0	No, $e > t/2$
SLV 2	14	0.41	0	-944	48246	0	0	No, $e > t/2$
SLV 9	14	0.41	0	-450	48246	0	0	No, $e > t/2$
SLV 3	14	0.41	0	-1594	48246	0	0	No, $e > t/2$
SLV 7	14	0.41	0	-2494	48246	0	0	No, $e > t/2$

Verifica dei meccanismi locali di collasso con analisi cinematica lineare

forza di aggancio al piano = 0 quota mezzeria = 797.3 Wa = 0.05 Ta = 1.0645

Comb.	N top	N base	V orto	$\alpha_0$	M*	e*	$\alpha_0^*$	aLim	Verifica
SLV 8	345	6445	-44	0	0	0	0	239.674	No, Trazione
SLV 3	387	-61	-44	0	0	0	0	239.674	No, Trazione
SLV 5	106	-14953	6	0	0	0	0	239.674	No, Trazione



Comb.	N top	N base	V orto	$\alpha 0$	M*	e*	a0*	aLim	Verifica
SLV 4	387	-61	-44	0	0	0	0	239.674	No, Trazione
SLV 12	237	5601	-29	0	0	0	0	239.674	No, Trazione
SLV 1	315	-6480	-29	0	0	0	0	239.674	No, Trazione
SLV 6	106	-14953	6	0	0	0	0	239.674	No, Trazione
SLV 7	345	6445	-44	0	0	0	0	239.674	No, Trazione
SLV 2	315	-6480	-29	0	0	0	0	239.674	No, Trazione
SLV 11	237	5601	-29	0	0	0	0	239.674	No, Trazione

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLU	0	SLU 84	No
V_SLU	0	SLU 2	No
PF_SLV	0	SLV 14	No
V_SLV	0	SLD 1	No
PFFP_SLV	0	SLV 1	No
R_SLV	0	SLV 16	No

## 1.6 Verifiche travi di accoppiamento in muratura

Le unità di misura elencate nel capitolo sono in [cm, daN] ove non espressamente specificato.

**X ini.:** coordinata punto iniziale. [cm]

**Y ini.:** coordinata punto iniziale. [cm]

**Z ini.inf.:** coordinata punto iniziale. [cm]

**Z ini.sup.:** coordinata punto iniziale. [cm]

**H ini.:** altezza della sezione iniziale. [cm]

**X fin.:** coordinata punto finale. [cm]

**Y fin.:** coordinata punto finale. [cm]

**Z fin.inf.:** coordinata punto finale. [cm]

**Z fin.sup.:** coordinata punto finale. [cm]

**H fin.:** altezza della sezione finale. [cm]

**Luce:** lunghezza della trave. [cm]

**Spessore:** spessore. [cm]

**R. Trazione:** resistenza a trazione dell'elemento teso disposto orizzontalmente. [daN]

**f<sub>b</sub>:** resistenza normalizzata a compressione in direzione orizzontale dei blocchi. [daN/cm<sup>2</sup>]

**f<sub>hk</sub>:** resistenza caratteristica a compressione della muratura utilizzata in direzione orizzontale. [daN/cm<sup>2</sup>]

**f<sub>vk0</sub>:** resistenza caratteristica a taglio in assenza di carichi verticali. [daN/cm<sup>2</sup>]

**f<sub>hmedio</sub>:** resistenza media a compressione della muratura utilizzata in direzione orizzontale. [daN/cm<sup>2</sup>]

**τ<sub>0</sub>:** resistenza media a taglio in assenza di azioni normali [C8.7.1.16]. [daN/cm<sup>2</sup>]

**f<sub>vd</sub>:** resistenza media a taglio in assenza di azioni normali [C8.7.1.17]. [daN/cm<sup>2</sup>]

**μ:** coefficiente di attrito [C8.7.1.17].

**φ:** coefficiente di ammortamento o ingranamento secondo Circolare 7 21-01-19 §C8.7.1.3.1.1.

**f<sub>vk,lim</sub>:** valore caratteristico massimo della resistenza a taglio che può essere impiegata nel calcolo (§11.10.3.3). [daN/cm<sup>2</sup>]

**E:** modulo di elasticità longitudinale della muratura utilizzato. [daN/cm<sup>2</sup>]

**G:** modulo di elasticità tangenziale della muratura utilizzato. [daN/cm<sup>2</sup>]

**FC:** fattore di confidenza della muratura.

**Sezione:** sezione di verifica.

**γ<sub>M</sub>:** fattore parziale di sicurezza del materiale.

**N:** sforzo normale. [daN]

**M:** momento flettente nel piano. [daN\*cm]

**M<sub>u</sub>:** momento ultimo. [daN\*cm]

**Comb.:** combinazione.

**c.s.:** coefficiente di sicurezza.

**Verifica:** stato di verifica.

**M:** momento flettente. [daN\*cm]

**V:** taglio nel piano. [daN]

**V<sub>t</sub>:** resistenza a taglio secondo [7.8.4]. [daN]

**V<sub>p</sub>:** resistenza a taglio secondo [7.8.6]. [daN]

**V<sub>t fess. diag.</sub>:** resistenza a taglio per fessurazione diagonale secondo §C8.7.1.3.1.1 formule [C8.7.1.16] ovvero [C8.7.1.17]. [daN]

**V<sub>t,lim</sub>:** taglio limite [C8.1.7.18]. [daN]

**Stato limite:** pF\_SLV=Presso flessione per azioni sismiche; V\_SLV=Taglio per azioni sismiche.

**Coeff.s.:** coefficiente di sicurezza.

### Trave di accoppiamento 1

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2465.3	227.1	60	109	49	-2465.3	127.1	60	109	49	100	45	30000





## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2733	-47931	54817	SLU 78	1.14	Si
fin.	3	-1101	-37172	54817	SLU 78	1.47	Si
ini.	3	-2709	-47456	54817	SLU 80	1.16	Si
fin.	3	-1102	-37028	54817	SLU 80	1.48	Si
ini.	3	-2803	-49404	54817	SLU 84	1.11	Si
fin.	3	-1093	-36571	54817	SLU 84	1.5	Si
ini.	3	-2703	-48810	54817	SLU 77	1.12	Si
fin.	3	-925	-36223	54817	SLU 77	1.51	Si
ini.	3	-2773	-50283	54817	SLU 83	1.09	Si
fin.	3	-917	-35622	54817	SLU 83	1.54	Si
ini.	3	-2679	-48335	54817	SLU 79	1.13	Si
fin.	3	-926	-36079	54817	SLU 79	1.52	Si
ini.	3	-2680	-48429	54817	SLU 74	1.13	Si
fin.	3	-903	-35355	54817	SLU 74	1.55	Si
ini.	3	-2781	-49023	54817	SLU 82	1.12	Si
fin.	3	-1070	-35703	54817	SLU 82	1.54	Si
ini.	3	-2751	-49902	54817	SLU 81	1.1	Si
fin.	3	-895	-34754	54817	SLU 81	1.58	Si
ini.	3	-2711	-47550	54817	SLU 75	1.15	Si
fin.	3	-1078	-36304	54817	SLU 75	1.51	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-2680	-48429	5333			1281	459	SLU 74	0.09	No
fin.	3	-903	-35355	-3532			807	318	SLU 74	0.09	No
ini.	3	-2709	-47456	5241			1289	461	SLU 80	0.09	No
fin.	3	-1102	-37028	-3666			860	337	SLU 80	0.09	No
ini.	3	-2803	-49404	5396			1314	467	SLU 84	0.09	No
fin.	3	-1093	-36571	-3657			857	336	SLU 84	0.09	No
ini.	3	-2703	-48810	5388			1287	461	SLU 77	0.09	No
fin.	3	-925	-36223	-3603			813	320	SLU 77	0.09	No
ini.	3	-2733	-47931	5288			1295	463	SLU 78	0.09	No
fin.	3	-1101	-37172	-3683			860	337	SLU 78	0.09	No
ini.	3	-2773	-50283	5496			1306	465	SLU 83	0.08	No
fin.	3	-917	-35622	-3577			811	319	SLU 83	0.09	No
ini.	3	-2751	-49902	5440			1300	464	SLU 81	0.09	No
fin.	3	-895	-34754	-3506			805	317	SLU 81	0.09	No
ini.	3	-2711	-47550	5232			1289	461	SLU 75	0.09	No
fin.	3	-1078	-36304	-3612			854	335	SLU 75	0.09	No
ini.	3	-2781	-49023	5340			1308	466	SLU 82	0.09	No
fin.	3	-1070	-35703	-3586			852	334	SLU 82	0.09	No
ini.	3	-2679	-48335	5341			1280	459	SLU 79	0.09	No
fin.	3	-926	-36079	-3586			813	320	SLU 79	0.09	No

## Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-4313	-54801	82225	SLV 3	1.5	Si
fin.	2	3433	-26688	82225	SLV 3	3.08	Si
ini.	2	-3090	-52857	82225	SLV 12	1.56	Si
fin.	2	-1087	13282	82225	SLV 12	6.19	Si
ini.	2	-4313	-54801	82225	SLV 4	1.5	Si
fin.	2	3433	-26688	82225	SLV 4	3.08	Si
ini.	2	-589	-12870	82225	SLV 6	6.39	Si
fin.	2	-222	-64457	82225	SLV 6	1.28	Si
ini.	2	-4245	-61631	82225	SLV 7	1.33	Si
fin.	2	1235	6257	82225	SLV 7	13.14	Si
ini.	2	-3090	-52857	82225	SLV 11	1.56	Si
fin.	2	-1087	13282	82225	SLV 11	6.19	Si
ini.	2	-4245	-61631	82225	SLV 8	1.33	Si
fin.	2	1235	6257	82225	SLV 8	13.14	Si
ini.	2	567	-4096	82225	SLV 9	20.08	Si
fin.	2	-2544	-57432	82225	SLV 9	1.43	Si
ini.	2	-589	-12870	82225	SLV 5	6.39	Si
fin.	2	-222	-64457	82225	SLV 5	1.28	Si
ini.	2	567	-4096	82225	SLV 10	20.08	Si
fin.	2	-2544	-57432	82225	SLV 10	1.43	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-4245	-61631	6521			1981	704	SLV 7	0.11	No
fin.	2	1235	6257	-1029			849	0	SLV 7	0	No
ini.	2	-2424	-36376	4558			1495	572	SLD 1	0.13	No
fin.	2	810	-35325	-3287			849	165	SLD 1	0.05	No
ini.	2	-2874	-42743	5076			1616	607	SLD 4	0.12	No
fin.	2	1003	-26400	-2814			849	96	SLD 4	0.03	No
ini.	2	-4245	-61631	6521			1981	704	SLV 8	0.11	No
fin.	2	1235	6257	-1029			849	0	SLV 8	0	No
ini.	2	-2424	-36376	4558			1495	572	SLD 2	0.13	No
fin.	2	810	-35325	-3287			849	165	SLD 2	0.05	No
ini.	2	-2874	-42743	5076			1616	607	SLD 3	0.12	No
fin.	2	1003	-26400	-2814			849	96	SLD 3	0.03	No
ini.	2	-3216	-40173	5730			1707	632	SLV 2	0.11	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	2996	-47902	-4357			849	0	SLV 2	0	No
ini.	2	-4313	-54801	6956			1999	708	SLV 3	0.1	No
fin.	2	3433	-26688	-3226			849	0	SLV 3	0	No
ini.	2	-3216	-40173	5730			1707	632	SLV 1	0.11	No
fin.	2	2996	-47902	-4357			849	0	SLV 1	0	No
ini.	2	-4313	-54801	6956			1999	708	SLV 4	0.1	No
fin.	2	3433	-26688	-3226			849	0	SLV 4	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.276	SLV 5	Si
V_SLV	0	SLV 1	No
PF_SLU	1.09	SLU 83	Si
V_SLU	0.085	SLU 83	No

## Trave di accoppiamento 2

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2176.3	587.6	-160	40	200	-2276.3	587.6	-160	40	200	100	45	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2685	-190251	913235	SLU 79	4.8	Si
fin.	3	-2537	-194635	913235	SLU 79	4.69	Si
ini.	3	-2621	-190671	913235	SLU 75	4.79	Si
fin.	3	-2489	-188912	913235	SLU 75	4.83	Si
ini.	3	-2750	-197480	913235	SLU 83	4.62	Si
fin.	3	-2620	-199339	913235	SLU 83	4.58	Si
ini.	3	-2668	-190793	913235	SLU 74	4.79	Si
fin.	3	-2552	-193186	913235	SLU 74	4.73	Si
ini.	3	-2703	-197358	913235	SLU 84	4.63	Si
fin.	3	-2556	-195065	913235	SLU 84	4.68	Si
ini.	3	-2718	-196679	913235	SLU 81	4.64	Si
fin.	3	-2618	-196591	913235	SLU 81	4.65	Si
ini.	3	-2653	-191472	913235	SLU 78	4.77	Si
fin.	3	-2491	-191660	913235	SLU 78	4.76	Si
ini.	3	-2670	-196557	913235	SLU 82	4.65	Si
fin.	3	-2554	-192317	913235	SLU 82	4.75	Si
ini.	3	-2701	-191594	913235	SLU 77	4.77	Si
fin.	3	-2554	-195934	913235	SLU 77	4.66	Si
ini.	3	-2637	-190129	913235	SLU 80	4.8	Si
fin.	3	-2474	-190361	913235	SLU 80	4.8	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-2541	-188445	-3401			4482	1773	SLU 73	0.52	No
fin.	3	-2427	-182015	4358			4437	1754	SLU 73	0.4	No
ini.	3	-2621	-190671	-3552			4514	1785	SLU 75	0.5	No
fin.	3	-2489	-188912	4400			4461	1764	SLU 75	0.4	No
ini.	3	-2703	-197358	-3724			4547	1798	SLU 84	0.48	No
fin.	3	-2556	-195065	4579			4489	1775	SLU 84	0.39	No
ini.	3	-2668	-190793	-3624			4533	1793	SLU 74	0.49	No
fin.	3	-2552	-193186	4445			4487	1774	SLU 74	0.4	No
ini.	3	-2653	-191472	-3633			4527	1791	SLU 78	0.49	No
fin.	3	-2491	-191660	4385			4462	1765	SLU 78	0.4	No
ini.	3	-2670	-196557	-3642			4534	1793	SLU 82	0.49	No
fin.	3	-2554	-192317	4594			4488	1775	SLU 82	0.39	No
ini.	3	-2750	-197480	-3796			4566	1806	SLU 83	0.48	No
fin.	3	-2620	-199339	4624			4514	1785	SLU 83	0.39	No
ini.	3	-2718	-196679	-3715			4553	1801	SLU 81	0.48	No
fin.	3	-2618	-196591	4639			4513	1785	SLU 81	0.38	No
ini.	3	-2701	-191594	-3706			4546	1798	SLU 77	0.49	No
fin.	3	-2554	-195934	4430			4488	1775	SLU 77	0.4	No
ini.	3	-2685	-190251	-3685			4540	1796	SLU 79	0.49	No
fin.	3	-2537	-194635	4401			4481	1772	SLU 79	0.4	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-4772	152131	1369853	SLV 3	9	Si
fin.	2	-39	-507734	1369853	SLV 3	2.7	Si
ini.	2	1061	-416767	1369853	SLV 14	3.29	Si
fin.	2	-3586	241133	1369853	SLV 14	5.68	Si
ini.	2	-4772	152131	1369853	SLV 4	9	Si
fin.	2	-39	-507734	1369853	SLV 4	2.7	Si
ini.	2	1061	-416767	1369853	SLV 13	3.29	Si
fin.	2	-3586	241133	1369853	SLV 13	5.68	Si
ini.	2	-5973	217545	1369853	SLV 8	6.3	Si
fin.	2	-1337	-612618	1369853	SLV 8	2.24	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-4864	99200	1369853	SLV 11	13.81	Si
fin.	2	-2412	-460549	1369853	SLV 11	2.97	Si
ini.	2	2262	-482181	1369853	SLV 10	2.84	Si
fin.	2	-2288	346017	1369853	SLV 10	3.96	Si
ini.	2	-5973	217545	1369853	SLV 7	6.3	Si
fin.	2	-1337	-612618	1369853	SLV 7	2.24	Si
ini.	2	-4864	99200	1369853	SLV 12	13.81	Si
fin.	2	-2412	-460549	1369853	SLV 12	2.97	Si
ini.	2	2262	-482181	1369853	SLV 9	2.84	Si
fin.	2	-2288	346017	1369853	SLV 9	3.96	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-1077	-242352	5137			5630	2178	SLV 15	0.42	No
fin.	2	-3623	-837	10718			6648	2629	SLV 15	0.25	No
ini.	2	-4772	152131	-12244			7108	2808	SLV 3	0.23	No
fin.	2	-39	-507734	-4633			5215	1965	SLV 3	0.42	No
ini.	2	-5973	217545	-8858			7588	2985	SLV 7	0.34	No
fin.	2	-1337	-612618	635			5734	2228	SLV 7	3.51	Si
ini.	2	1061	-416767	7450			5199	1710	SLV 13	0.23	No
fin.	2	-3586	241133	10809			6633	2623	SLV 13	0.24	No
ini.	2	-2634	-22283	-9931			6253	2463	SLV 1	0.25	No
fin.	2	-1	-265764	-4542			5200	1957	SLV 1	0.43	No
ini.	2	-1077	-242352	5137			5630	2178	SLV 16	0.42	No
fin.	2	-3623	-837	10718			6648	2629	SLV 16	0.25	No
ini.	2	-4772	152131	-12244			7108	2808	SLV 4	0.23	No
fin.	2	-39	-507734	-4633			5215	1965	SLV 4	0.42	No
ini.	2	-2634	-22283	-9931			6253	2463	SLV 2	0.25	No
fin.	2	-1	-265764	-4542			5200	1957	SLV 2	0.43	No
ini.	2	-5973	217545	-8858			7588	2985	SLV 8	0.34	No
fin.	2	-1337	-612618	635			5734	2228	SLV 8	3.51	Si
ini.	2	1061	-416767	7450			5199	1710	SLV 14	0.23	No
fin.	2	-3586	241133	10809			6633	2623	SLV 14	0.24	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.236	SLV 7	Si
V_SLV	0.229	SLV 3	No
PF_SLU	4.581	SLU 83	Si
V_SLU	0.385	SLU 81	No

### Trave di accoppiamento 3

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2176.3	587.6	80	109	29	-2276.3	587.6	80	109	29	100	45	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	1810	-22005	19201	SLU 79	0.87	No
fin.	3	1445	-22831	19201	SLU 79	0.84	No
ini.	3	1827	-22093	19201	SLU 77	0.87	No
fin.	3	1460	-22912	19201	SLU 77	0.84	No
ini.	3	1801	-23453	19201	SLU 81	0.82	No
fin.	3	1458	-23770	19201	SLU 81	0.81	No
ini.	3	1796	-23648	19201	SLU 84	0.81	No
fin.	3	1444	-23596	19201	SLU 84	0.81	No
ini.	3	1797	-22064	19201	SLU 74	0.87	No
fin.	3	1449	-22656	19201	SLU 74	0.85	No
ini.	3	1775	-22170	19201	SLU 80	0.87	No
fin.	3	1419	-22401	19201	SLU 80	0.86	No
ini.	3	1792	-22259	19201	SLU 78	0.86	No
fin.	3	1435	-22482	19201	SLU 78	0.85	No
ini.	3	1831	-23482	19201	SLU 83	0.82	No
fin.	3	1469	-24026	19201	SLU 83	0.8	No
ini.	3	1766	-23618	19201	SLU 82	0.81	No
fin.	3	1432	-23341	19201	SLU 82	0.82	No
ini.	3	1721	-22251	19201	SLU 76	0.86	No
fin.	3	1391	-21860	19201	SLU 76	0.88	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	1662	-20666	1355			335	0	SLU 60	0	No
fin.	3	1363	-20943	-1309			335	0	SLU 60	0	No
ini.	3	1658	-19277	1276			335	0	SLU 53	0	No
fin.	3	1354	-19829	-1237			335	0	SLU 53	0	No
ini.	3	1689	-19307	1283			335	0	SLU 56	0	No
fin.	3	1366	-20085	-1248			335	0	SLU 56	0	No
ini.	3	1623	-19443	1280			335	0	SLU 54	0	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	1329	-19400	-1216			335	0	SLU 54	0	No
ini.	3	1654	-19472	1288			335	0	SLU 57	0	No
fin.	3	1340	-19655	-1227			335	0	SLU 57	0	No
ini.	3	1637	-19384	1282			335	0	SLU 59	0	No
fin.	3	1324	-19574	-1222			335	0	SLU 59	0	No
ini.	3	1671	-19219	1278			335	0	SLU 58	0	No
fin.	3	1350	-20004	-1243			335	0	SLU 58	0	No
ini.	3	1583	-19465	1278			335	0	SLU 55	0	No
fin.	3	1296	-19033	-1197			335	0	SLU 55	0	No
ini.	3	1627	-20832	1360			335	0	SLU 61	0	No
fin.	3	1337	-20514	-1288			335	0	SLU 61	0	No
ini.	3	1182	-12768	851			335	0	SLU 1	0	No
fin.	3	982	-13137	-827			335	0	SLU 1	0	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	8310	-29794	28801	SLV 12	0.97	No
fin.	2	1426	-121768	28801	SLV 12	0.24	No
ini.	2	-5797	656	28801	SLV 6	43.9	Si
fin.	2	640	91946	28801	SLV 6	0.31	No
ini.	2	4770	21451	28801	SLV 4	1.34	Si
fin.	2	717	-86853	28801	SLV 4	0.33	No
ini.	2	-6567	-21686	28801	SLV 9	1.33	Si
fin.	2	879	113900	28801	SLV 9	0.25	No
ini.	2	9080	-7452	28801	SLV 7	3.86	Si
fin.	2	1187	-143723	28801	SLV 7	0.2	No
ini.	2	-5797	656	28801	SLV 5	43.9	Si
fin.	2	640	91946	28801	SLV 5	0.31	No
ini.	2	-6567	-21686	28801	SLV 10	1.33	Si
fin.	2	879	113900	28801	SLV 10	0.25	No
ini.	2	8310	-29794	28801	SLV 11	0.97	No
fin.	2	1426	-121768	28801	SLV 11	0.24	No
ini.	2	4770	21451	28801	SLV 3	1.34	Si
fin.	2	717	-86853	28801	SLV 3	0.33	No
ini.	2	9080	-7452	28801	SLV 8	3.86	Si
fin.	2	1187	-143723	28801	SLV 8	0.2	No

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	4770	21451	-340			503	0	SLV 4	0	No
fin.	2	717	-86853	-2314			503	0	SLV 4	0	No
ini.	2	9080	-7452	-490			503	0	SLV 8	0	No
fin.	2	1187	-143723	-1863			503	0	SLV 8	0	No
ini.	2	8310	-29794	82			503	0	SLV 12	0	No
fin.	2	1426	-121768	-1136			503	0	SLV 12	0	No
ini.	2	-2257	-50589	2267			1104	399	SLV 13	0.18	No
fin.	2	1348	57030	448			503	0	SLV 13	0	No
ini.	2	-2257	-50589	2267			1104	399	SLV 14	0.18	No
fin.	2	1348	57030	448			503	0	SLV 14	0	No
ini.	2	9080	-7452	-490			503	0	SLV 7	0	No
fin.	2	1187	-143723	-1863			503	0	SLV 7	0	No
ini.	2	896	1721	699			503	0	SLD 1	0	No
fin.	2	824	-16025	-1379			503	0	SLD 1	0	No
ini.	2	8310	-29794	82			503	0	SLV 11	0	No
fin.	2	1426	-121768	-1136			503	0	SLV 11	0	No
ini.	2	-6567	-21686	2416			2254	629	SLV 9	0.26	No
fin.	2	879	113900	-3			503	0	SLV 9	0	No
ini.	2	-6567	-21686	2416			2254	629	SLV 10	0.26	No
fin.	2	879	113900	-3			503	0	SLV 10	0	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.2	SLV 7	No
V_SLV	0	SLD 1	No
PF_SLU	0.799	SLU 83	No
V_SLU	0	SLU 1	No

#### Trave di accoppiamento 4

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1961.8	127.1	40	109	69	-1961.8	207.1	40	109	69	80	30	30000

##### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb_	fhk	fvk0	fkhmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	436	6369	72465	SLU 79	11.38	Si
fin.	3	-305	-83629	72465	SLU 79	0.87	No
ini.	3	399	7149	72465	SLU 74	10.14	Si
fin.	3	-360	-83782	72465	SLU 74	0.86	No



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	386	7741	72465	SLU 82	9.36	Si
fin.	3	-402	-85664	72465	SLU 82	0.85	No
ini.	3	433	6621	72465	SLU 77	10.94	Si
fin.	3	-321	-84591	72465	SLU 77	0.86	No
ini.	3	443	6005	72465	SLU 80	12.07	Si
fin.	3	-285	-82645	72465	SLU 80	0.88	No
ini.	3	419	7214	72465	SLU 84	10.04	Si
fin.	3	-363	-86473	72465	SLU 84	0.84	No
ini.	3	439	6258	72465	SLU 78	11.58	Si
fin.	3	-301	-83607	72465	SLU 78	0.87	No
ini.	3	406	6785	72465	SLU 75	10.68	Si
fin.	3	-340	-82798	72465	SLU 75	0.88	No
ini.	3	379	8105	72465	SLU 81	8.94	Si
fin.	3	-421	-86648	72465	SLU 81	0.84	No
ini.	3	413	7578	72465	SLU 83	9.56	Si
fin.	3	-382	-87457	72465	SLU 83	0.83	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	443	6005	327			688	155		0.47	No
fin.	3	-285	-82645	-3281			786	308	SLU 80	0.09	No
ini.	3	406	6785	291			688	166	SLU 75	0.57	No
fin.	3	-340	-82798	-3281			805	316	SLU 75	0.1	No
ini.	3	399	7149	279			688	168	SLU 74	0.6	No
fin.	3	-360	-83782	-3314			812	319	SLU 74	0.1	No
ini.	3	433	6621	309			688	158	SLU 77	0.51	No
fin.	3	-321	-84591	-3349			798	313	SLU 77	0.09	No
ini.	3	439	6258	320			688	156	SLU 78	0.49	No
fin.	3	-301	-83607	-3315			791	310	SLU 78	0.09	No
ini.	3	419	7214	298			688	162	SLU 84	0.54	No
fin.	3	-363	-86473	-3426			813	320	SLU 84	0.09	No
ini.	3	386	7741	268			688	172	SLU 82	0.64	No
fin.	3	-402	-85664	-3392			826	325	SLU 82	0.1	No
ini.	3	413	7578	286			688	164	SLU 83	0.57	No
fin.	3	-382	-87457	-3460			819	323	SLU 83	0.09	No
ini.	3	379	8105	257			688	174	SLU 81	0.68	No
fin.	3	-421	-86648	-3426			833	328	SLU 81	0.1	No
ini.	3	436	6369	316			688	157	SLU 79	0.5	No
fin.	3	-305	-83629	-3315			793	311	SLU 79	0.09	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1540	32053	108698	SLV 11	3.39	Si
fin.	2	-2973	-130297	108698	SLV 11	0.83	No
ini.	2	-1791	45582	108698	SLV 7	2.38	Si
fin.	2	-3646	-154248	108698	SLV 7	0.7	No
ini.	2	-597	22050	108698	SLD 8	4.93	Si
fin.	2	-1678	-97434	108698	SLD 8	1.12	Si
ini.	2	-1791	45582	108698	SLV 8	2.38	Si
fin.	2	-3646	-154248	108698	SLV 8	0.7	No
ini.	2	-733	37506	108698	SLV 4	2.9	Si
fin.	2	-2283	-121620	108698	SLV 4	0.89	No
ini.	2	-491	16336	108698	SLD 12	6.65	Si
fin.	2	-1391	-87230	108698	SLD 12	1.25	Si
ini.	2	-1540	32053	108698	SLV 12	3.39	Si
fin.	2	-2973	-130297	108698	SLV 12	0.83	No
ini.	2	-491	16336	108698	SLD 11	6.65	Si
fin.	2	-1391	-87230	108698	SLD 11	1.25	Si
ini.	2	-733	37506	108698	SLV 3	2.9	Si
fin.	2	-2283	-121620	108698	SLV 3	0.89	No
ini.	2	-597	22050	108698	SLD 7	4.93	Si
fin.	2	-1678	-97434	108698	SLD 7	1.12	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	2320	-36117	2142			1031	0	SLV 9	0	No
fin.	2	3165	42762	870			1031	0	SLV 9	0	No
ini.	2	2069	-22588	1799			1031	0	SLV 5	0	No
fin.	2	2492	18811	7			1031	0	SLV 5	0	No
ini.	2	1020	-6872	864			1031	47	SLD 6	0.05	No
fin.	2	911	-24256	-1275			1031	134	SLD 6	0.11	No
ini.	2	2320	-36117	2142			1031	0	SLV 10	0	No
fin.	2	3165	42762	870			1031	0	SLV 10	0	No
ini.	2	1262	-28041	1299			1031	0	SLV 13	0	No
fin.	2	1803	10133	21			1031	0	SLV 13	0	No
ini.	2	1020	-6872	864			1031	47	SLD 5	0.05	No
fin.	2	911	-24256	-1275			1031	134	SLD 5	0.11	No
ini.	2	2069	-22588	1799			1031	0	SLV 6	0	No
fin.	2	2492	18811	7			1031	0	SLV 6	0	No
ini.	2	1262	-28041	1299			1031	0	SLV 14	0	No
fin.	2	1803	10133	21			1031	0	SLV 14	0	No
ini.	2	1126	-12586	1011			1031	0	SLD 10	0	No
fin.	2	1197	-14052	-907			1031	0	SLD 10	0	No
ini.	2	1126	-12586	1011			1031	0	SLD 9	0	No
fin.	2	1197	-14052	-907			1031	0	SLD 9	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.705	SLV 7	No



Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	0	SLD 9	No
PF_SLU	0.829	SLU 83	No
V_SLU	0.093	SLU 83	No

## Trave di accoppiamento 5

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1961.8	485.1	40	109	69	-1961.8	565.1	40	109	69	80	30	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2393	-22547	72465	SLU 81	3.21	Si
fin.	3	-2303	-1432	72465	SLU 81	50.59	Si
ini.	3	-2393	-22650	72465	SLU 82	3.2	Si
fin.	3	-2296	-1229	72465	SLU 82	58.95	Si
ini.	3	-2398	-23178	72465	SLU 84	3.13	Si
fin.	3	-2299	-1204	72465	SLU 84	60.19	Si
ini.	3	-2303	-22433	72465	SLU 75	3.23	Si
fin.	3	-2215	-1132	72465	SLU 75	64.03	Si
ini.	3	-2283	-22439	72465	SLU 76	3.23	Si
fin.	3	-2185	-826	72465	SLU 76	87.73	Si
ini.	3	-2307	-22961	72465	SLU 78	3.16	Si
fin.	3	-2218	-1106	72465	SLU 78	65.5	Si
ini.	3	-2398	-23075	72465	SLU 83	3.14	Si
fin.	3	-2305	-1407	72465	SLU 83	51.5	Si
ini.	3	-2288	-22898	72465	SLU 80	3.16	Si
fin.	3	-2192	-936	72465	SLU 80	77.4	Si
ini.	3	-2307	-22858	72465	SLU 77	3.17	Si
fin.	3	-2224	-1310	72465	SLU 77	55.33	Si
ini.	3	-2288	-22795	72465	SLU 79	3.18	Si
fin.	3	-2199	-1139	72465	SLU 79	63.6	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-2398	-23178	8000			1515	547	SLU 84	0.07	No
fin.	3	-2299	-1204	-3328			1481	539	SLU 84	0.16	No
ini.	3	-2302	-22330	7699			1482	539	SLU 74	0.07	No
fin.	3	-2222	-1335	-3222			1454	532	SLU 74	0.16	No
ini.	3	-2398	-23075	8008			1515	547	SLU 83	0.07	No
fin.	3	-2305	-1407	-3342			1483	539	SLU 83	0.16	No
ini.	3	-2393	-22547	7860			1513	547	SLU 81	0.07	No
fin.	3	-2303	-1432	-3289			1482	539	SLU 81	0.16	No
ini.	3	-2288	-22898	7795			1477	538	SLU 80	0.07	No
fin.	3	-2192	-936	-3233			1444	529	SLU 80	0.16	No
ini.	3	-2288	-22795	7802			1477	538	SLU 79	0.07	No
fin.	3	-2199	-1139	-3247			1446	529	SLU 79	0.16	No
ini.	3	-2393	-22650	7852			1513	547	SLU 82	0.07	No
fin.	3	-2296	-1229	-3276			1480	538	SLU 82	0.16	No
ini.	3	-2303	-22433	7692			1482	539	SLU 75	0.07	No
fin.	3	-2215	-1132	-3209			1452	531	SLU 75	0.17	No
ini.	3	-2307	-22858	7847			1484	539	SLU 77	0.07	No
fin.	3	-2224	-1310	-3274			1455	532	SLU 77	0.16	No
ini.	3	-2307	-22961	7840			1484	539	SLU 78	0.07	No
fin.	3	-2218	-1106	-3261			1453	531	SLU 78	0.16	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-4301	-77801	108698	SLV 10	1.4	Si
fin.	2	-59	99411	108698	SLV 10	1.09	Si
ini.	2	1156	47034	108698	SLV 7	2.31	Si
fin.	2	-2967	-100450	108698	SLV 7	1.08	Si
ini.	2	-3848	-69045	108698	SLV 5	1.57	Si
fin.	2	-581	79806	108698	SLV 5	1.36	Si
ini.	2	703	38279	108698	SLV 11	2.84	Si
fin.	2	-2445	-80845	108698	SLV 11	1.34	Si
ini.	2	1156	47034	108698	SLV 8	2.31	Si
fin.	2	-2967	-100450	108698	SLV 8	1.08	Si
ini.	2	-67	16621	108698	SLV 3	6.54	Si
fin.	2	-2741	-60234	108698	SLV 3	1.8	Si
ini.	2	-67	16621	108698	SLV 4	6.54	Si
fin.	2	-2741	-60234	108698	SLV 4	1.8	Si
ini.	2	-3848	-69045	108698	SLV 6	1.57	Si
fin.	2	-581	79806	108698	SLV 6	1.36	Si
ini.	2	703	38279	108698	SLV 12	2.84	Si
fin.	2	-2445	-80845	108698	SLV 12	1.34	Si
ini.	2	-4301	-77801	108698	SLV 9	1.4	Si
fin.	2	-59	99411	108698	SLV 9	1.09	Si



## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-3078	-47387	7423			2093	774	SLV 14	0.1	No
fin.	2	-285	59195	-320			1130	438	SLV 14	1.37	Si
ini.	2	-3848	-69045	8427			2359	843	SLV 6	0.1	No
fin.	2	-581	79806	1501			1232	485	SLV 6	0.32	No
ini.	2	-2730	-41821	6859			1973	740	SLD 10	0.11	No
fin.	2	-913	41521	-455			1346	532	SLD 10	1.17	Si
ini.	2	1156	47034	1283			1031	0	SLV 7	0	No
fin.	2	-2967	-100450	-6269			2055	763	SLV 7	0.12	No
ini.	2	-3848	-69045	8427			2359	843	SLV 5	0.1	No
fin.	2	-581	79806	1501			1232	485	SLV 5	0.32	No
ini.	2	-3078	-47387	7423			2093	774	SLV 13	0.1	No
fin.	2	-285	59195	-320			1130	438	SLV 13	1.37	Si
ini.	2	-2730	-41821	6859			1973	740	SLD 9	0.11	No
fin.	2	-913	41521	-455			1346	532	SLD 9	1.17	Si
ini.	2	-4301	-77801	9118			2515	881	SLV 10	0.1	No
fin.	2	-59	99411	1916			1052	399	SLV 10	0.21	No
ini.	2	1156	47034	1283			1031	0	SLV 8	0	No
fin.	2	-2967	-100450	-6269			2055	763	SLV 8	0.12	No
ini.	2	-4301	-77801	9118			2515	881	SLV 9	0.1	No
fin.	2	-59	99411	1916			1052	399	SLV 9	0.21	No

### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.082	SLV 7	Si
V_SLV	0	SLV 7	No
PF_SLU	3.126	SLU 84	Si
V_SLU	0.068	SLU 83	No

## Trave di accoppiamento 6

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2154.3	-328.4	-160	40	200	-2254.3	-328.4	-160	40	200	100	45	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-3893	-71591	913235	SLU 83	12.76	Si
fin.	3	-2824	-211176	913235	SLU 83	4.32	Si
ini.	3	-3795	-74317	913235	SLU 81	12.29	Si
fin.	3	-2800	-204570	913235	SLU 81	4.46	Si
ini.	3	-3543	-62530	913235	SLU 56	14.6	Si
fin.	3	-2571	-191490	913235	SLU 56	4.77	Si
ini.	3	-3756	-69621	913235	SLU 74	13.12	Si
fin.	3	-2739	-204518	913235	SLU 74	4.47	Si
ini.	3	-3509	-59603	913235	SLU 71	15.32	Si
fin.	3	-2526	-192459	913235	SLU 71	4.75	Si
ini.	3	-3516	-60412	913235	SLU 69	15.12	Si
fin.	3	-2538	-193398	913235	SLU 69	4.72	Si
ini.	3	-3536	-61722	913235	SLU 58	14.8	Si
fin.	3	-2559	-190551	913235	SLU 58	4.79	Si
ini.	3	-3583	-67226	913235	SLU 62	13.58	Si
fin.	3	-2632	-191542	913235	SLU 62	4.77	Si
ini.	3	-3846	-66086	913235	SLU 79	13.82	Si
fin.	3	-2752	-210185	913235	SLU 79	4.34	Si
ini.	3	-3854	-66895	913235	SLU 77	13.65	Si
fin.	3	-2764	-211124	913235	SLU 77	4.33	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-3846	-66086	-8022			5004	1970	SLU 79	0.25	No
fin.	3	-2752	-210185	1471			4567	1806	SLU 79	1.23	Si
ini.	3	-4687	-29046	-7918			5341	2088	SLU 80	0.26	No
fin.	3	-3683	-169118	1639			4939	1947	SLU 80	1.19	Si
ini.	3	-3854	-66895	-8044			5007	1971	SLU 77	0.25	No
fin.	3	-2764	-211124	1492			4572	1808	SLU 77	1.21	Si
ini.	3	-3756	-69621	-7820			4968	1957	SLU 74	0.25	No
fin.	3	-2739	-204518	1606			4562	1804	SLU 74	1.12	Si
ini.	3	-3795	-74317	-7917			4984	1963	SLU 81	0.25	No
fin.	3	-2800	-204570	1783			4586	1814	SLU 81	1.02	Si
ini.	3	-4733	-34551	-8036			5359	2094	SLU 84	0.26	No
fin.	3	-3756	-170109	1837			4968	1957	SLU 84	1.07	Si
ini.	3	-3543	-62530	-7276			4883	1926	SLU 56	0.26	No
fin.	3	-2571	-191490	1389			4494	1777	SLU 56	1.28	Si
ini.	3	-3583	-67226	-7373			4899	1932	SLU 62	0.26	No
fin.	3	-2632	-191542	1566			4519	1787	SLU 62	1.14	Si
ini.	3	-3893	-71591	-8141			5023	1977	SLU 83	0.24	No
fin.	3	-2824	-211176	1670			4596	1817	SLU 83	1.09	Si



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-4694	-29855	-7940			5344	2089	SLU 78	0.26	No
fin.	3	-3695	-170057	1660			4944	1949	SLU 78	1.17	Si

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-4426	53203	1369853	SLV 3	25.75	Si
fin.	2	1981	-567245	1369853	SLV 3	2.41	Si
ini.	2	-8940	216072	1369853	SLV 1	6.34	Si
fin.	2	-2969	-360638	1369853	SLV 1	3.8	Si
ini.	2	-8940	216072	1369853	SLV 2	6.34	Si
fin.	2	-2969	-360638	1369853	SLV 2	3.8	Si
ini.	2	3788	-317943	1369853	SLV 15	4.31	Si
fin.	2	-886	83375	1369853	SLV 15	16.43	Si
ini.	2	6179	-378055	1369853	SLV 12	3.62	Si
fin.	2	5892	-385383	1369853	SLV 12	3.55	Si
ini.	2	3788	-317943	1369853	SLV 16	4.31	Si
fin.	2	-886	83375	1369853	SLV 16	16.43	Si
ini.	2	6179	-378055	1369853	SLV 11	3.62	Si
fin.	2	5892	-385383	1369853	SLV 11	3.55	Si
ini.	2	3715	-266711	1369853	SLV 8	5.14	Si
fin.	2	6752	-580569	1369853	SLV 8	2.36	Si
ini.	2	3715	-266711	1369853	SLV 7	5.14	Si
fin.	2	6752	-580569	1369853	SLV 7	2.36	Si
ini.	2	-4426	53203	1369853	SLV 4	25.75	Si
fin.	2	1981	-567245	1369853	SLV 4	2.41	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	6179	-378055	339			5199	0	SLV 11	0	No
fin.	2	5892	-385383	1665			5199	0	SLV 11	0	No
ini.	2	-8940	216072	-17415			8775	3381	SLV 1	0.19	No
fin.	2	-2969	-360638	-7744			6387	2521	SLV 1	0.33	No
ini.	2	-4426	53203	-16119			6970	2756	SLV 4	0.17	No
fin.	2	1981	-567245	-9197			5199	1464	SLV 4	0.16	No
ini.	2	6179	-378055	339			5199	0	SLV 12	0	No
fin.	2	5892	-385383	1665			5199	0	SLV 12	0	No
ini.	2	3715	-266711	-6559			5199	817	SLV 7	0.12	No
fin.	2	6752	-580569	-4131			5199	0	SLV 7	0	No
ini.	2	-8940	216072	-17415			8775	3381	SLV 2	0.19	No
fin.	2	-2969	-360638	-7744			6387	2521	SLV 2	0.33	No
ini.	2	-4426	53203	-16119			6970	2756	SLV 3	0.17	No
fin.	2	1981	-567245	-9197			5199	1464	SLV 3	0.16	No
ini.	2	3788	-317943	6874			5199	778	SLV 15	0.11	No
fin.	2	-886	83375	10121			5554	2141	SLV 15	0.21	No
ini.	2	3715	-266711	-6559			5199	817	SLV 8	0.12	No
fin.	2	6752	-580569	-4131			5199	0	SLV 8	0	No
ini.	2	3788	-317943	6874			5199	778	SLV 16	0.11	No
fin.	2	-886	83375	10121			5554	2141	SLV 16	0.21	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.36	SLV 7	Si
V_SLV	0	SLV 7	No
PF_SLU	4.325	SLU 83	Si
V_SLU	0.243	SLU 83	No

#### Trave di accoppiamento 7

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2154.3	-328.4	80	109	29	-2254.3	-328.4	80	109	29	100	45	30000

##### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	770	-12812	19201	SLU 41	1.5	Si
fin.	3	494	-23799	19201	SLU 41	0.81	No
ini.	3	893	-11576	19201	SLU 56	1.66	Si
fin.	3	604	-23430	19201	SLU 56	0.82	No
ini.	3	935	-14734	19201	SLU 83	1.3	Si
fin.	3	620	-27159	19201	SLU 83	0.71	No
ini.	3	929	-13744	19201	SLU 74	1.4	Si
fin.	3	626	-25747	19201	SLU 74	0.75	No
ini.	3	869	-13168	19201	SLU 62	1.46	Si
fin.	3	592	-23949	19201	SLU 62	0.8	No
ini.	3	959	-13142	19201	SLU 77	1.46	Si
fin.	3	632	-26640	19201	SLU 77	0.72	No
ini.	3	950	-13035	19201	SLU 79	1.47	Si
fin.	3	623	-26605	19201	SLU 79	0.72	No
ini.	3	884	-11469	19201	SLU 58	1.67	Si





Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	595	-23395	19201	SLU 58	0.82	No
ini.	3	905	-15336	19201	SLU 81	1.25	Si
fin.	3	615	-26266	19201	SLU 81	0.73	No
ini.	3	794	-11220	19201	SLU 35	1.71	Si
fin.	3	506	-23280	19201	SLU 35	0.82	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	935	-14734	1064			335	0	SLU 83	0	No
fin.	3	620	-27159	-1283			335	0	SLU 83	0	No
ini.	3	828	-9620	752			335	0	SLU 45	0	No
fin.	3	592	-19159	-918			335	0	SLU 45	0	No
ini.	3	789	-10115	759			335	0	SLU 43	0	No
fin.	3	577	-18231	-888			335	0	SLU 43	0	No
ini.	3	624	-8194	612			335	0	SLU 1	0	No
fin.	3	452	-14870	-720			335	0	SLU 1	0	No
ini.	3	849	-8910	734			335	0	SLU 50	0	No
fin.	3	588	-20018	-944			335	0	SLU 50	0	No
ini.	3	770	-12812	917			335	0	SLU 41	0	No
fin.	3	494	-23799	-1115			335	0	SLU 41	0	No
ini.	3	863	-12179	900			335	0	SLU 53	0	No
fin.	3	599	-22537	-1076			335	0	SLU 53	0	No
ini.	3	740	-13415	929			335	0	SLU 39	0	No
fin.	3	489	-22905	-1087			335	0	SLU 39	0	No
ini.	3	893	-11576	887			335	0	SLU 56	0	No
fin.	3	604	-23430	-1104			335	0	SLU 56	0	No
ini.	3	858	-9017	739			335	0	SLU 48	0	No
fin.	3	597	-20053	-946			335	0	SLU 48	0	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-833	-79623	28801	SLV 16	0.36	No
fin.	2	2306	24975	28801	SLV 16	1.15	Si
ini.	2	1878	10364	28801	SLV 4	2.78	Si
fin.	2	1526	-74765	28801	SLV 4	0.39	No
ini.	2	625	-80065	28801	SLV 8	0.36	No
fin.	2	5194	-58856	28801	SLV 8	0.49	No
ini.	2	1878	10364	28801	SLV 3	2.78	Si
fin.	2	1526	-74765	28801	SLV 3	0.39	No
ini.	2	1494	88317	28801	SLV 6	0.33	No
fin.	2	-4505	-4571	28801	SLV 6	6.3	Si
ini.	2	625	-80065	28801	SLV 7	0.36	No
fin.	2	5194	-58856	28801	SLV 7	0.49	No
ini.	2	-188	-107061	28801	SLV 12	0.27	No
fin.	2	5428	-28934	28801	SLV 12	1	No
ini.	2	-833	-79623	28801	SLV 15	0.36	No
fin.	2	2306	24975	28801	SLV 15	1.15	Si
ini.	2	1494	88317	28801	SLV 5	0.33	No
fin.	2	-4505	-4571	28801	SLV 5	6.3	Si
ini.	2	-188	-107061	28801	SLV 11	0.27	No
fin.	2	5428	-28934	28801	SLV 11	1	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-188	-107061	2122			553	215	SLV 12	0.1	No
fin.	2	5428	-28934	460			503	0	SLV 12	0	No
ini.	2	625	-80065	1431			503	39	SLV 8	0.03	No
fin.	2	5194	-58856	-390			503	0	SLV 8	0	No
ini.	2	681	61321	-62			503	0	SLV 10	0	No
fin.	2	-4271	25351	-1221			1642	520	SLV 10	0.43	No
ini.	2	1287	19733	60			503	0	SLD 1	0	No
fin.	2	-283	-34776	-1510			578	226	SLD 1	0.15	No
ini.	2	1494	88317	-753			503	0	SLV 5	0	No
fin.	2	-4505	-4571	-2072			1704	532	SLV 5	0.26	No
ini.	2	681	61321	-62			503	0	SLV 9	0	No
fin.	2	-4271	25351	-1221			1642	520	SLV 9	0.43	No
ini.	2	625	-80065	1431			503	39	SLV 7	0.03	No
fin.	2	5194	-58856	-390			503	0	SLV 7	0	No
ini.	2	1878	10364	-140			503	0	SLV 4	0	No
fin.	2	1526	-74765	-1971			503	0	SLV 4	0	No
ini.	2	1494	88317	-753			503	0	SLV 6	0	No
fin.	2	-4505	-4571	-2072			1704	532	SLV 6	0.26	No
ini.	2	-188	-107061	2122			553	215	SLV 11	0.1	No
fin.	2	5428	-28934	460			503	0	SLV 11	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.269	SLV 11	No
V_SLV	0	SLD 1	No
PF_SLU	0.707	SLU 83	No
V_SLU	0	SLU 1	No

## Trave di accoppiamento 8

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



## Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1731.3	-328.4	-160	40	200	-1831.3	-328.4	-160	40	200	100	45	30000

## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-281	-435472	913235	SLU 61	2.1	Si
fin.	3	192	-326148	913235	SLU 61	2.8	Si
ini.	3	-460	-439953	913235	SLU 78	2.08	Si
fin.	3	262	-350445	913235	SLU 78	2.61	Si
ini.	3	-8	-479484	913235	SLU 73	1.9	Si
fin.	3	629	-364855	913235	SLU 73	2.5	Si
ini.	3	-44	-437293	913235	SLU 55	2.09	Si
fin.	3	649	-343019	913235	SLU 55	2.66	Si
ini.	3	-353	-468904	913235	SLU 82	1.95	Si
fin.	3	183	-352432	913235	SLU 82	2.59	Si
ini.	3	-353	-448712	913235	SLU 75	2.04	Si
fin.	3	252	-345998	913235	SLU 75	2.64	Si
ini.	3	-115	-470725	913235	SLU 76	1.94	Si
fin.	3	640	-369302	913235	SLU 76	2.47	Si
ini.	3	-460	-460145	913235	SLU 84	1.98	Si
fin.	3	194	-356879	913235	SLU 84	2.56	Si
ini.	3	158	-440317	913235	SLU 65	2.07	Si
fin.	3	731	-335617	913235	SLU 65	2.72	Si
ini.	3	63	-446052	913235	SLU 52	2.05	Si
fin.	3	638	-338571	913235	SLU 52	2.7	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-353	-468904	-9453			3607	1379	SLU 82	0.15	No
fin.	3	183	-352432	8344			3466	1264	SLU 82	0.15	No
ini.	3	-115	-470725	-9573			3512	1329	SLU 76	0.14	No
fin.	3	640	-369302	7798			3466	1157	SLU 76	0.15	No
ini.	3	-460	-439953	-9549			3650	1401	SLU 78	0.15	No
fin.	3	262	-350445	7614			3466	1246	SLU 78	0.16	No
ini.	3	-495	-434600	-9546			3664	1408	SLU 80	0.15	No
fin.	3	248	-348796	7507			3466	1249	SLU 80	0.17	No
ini.	3	-460	-460145	-9708			3650	1401	SLU 84	0.14	No
fin.	3	194	-356879	8095			3466	1261	SLU 84	0.16	No
ini.	3	-8	-479484	-9318			3469	1306	SLU 73	0.14	No
fin.	3	629	-364855	8046			3466	1160	SLU 73	0.14	No
ini.	3	63	-446052	-8545			3466	1290	SLU 52	0.15	No
fin.	3	638	-338571	7448			3466	1157	SLU 52	0.16	No
ini.	3	-44	-437293	-8800			3483	1314	SLU 55	0.15	No
fin.	3	649	-343019	7199			3466	1155	SLU 55	0.16	No
ini.	3	-353	-448712	-9294			3607	1379	SLU 75	0.15	No
fin.	3	252	-345998	7862			3466	1248	SLU 75	0.16	No
ini.	3	51	-431558	-8601			3466	1293	SLU 68	0.15	No
fin.	3	741	-340065	7005			3466	1132	SLU 68	0.16	No

## Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	570	-481132	1369853	SLD 10	2.85	Si
fin.	2	-643	-196913	1369853	SLD 10	6.96	Si
ini.	2	1787	-550112	1369853	SLD 13	2.49	Si
fin.	2	-402	-175154	1369853	SLD 13	7.82	Si
ini.	2	4789	-903925	1369853	SLV 13	1.52	Si
fin.	2	-649	-123066	1369853	SLV 13	11.13	Si
ini.	2	1787	-550112	1369853	SLD 14	2.49	Si
fin.	2	-402	-175154	1369853	SLD 14	7.82	Si
ini.	2	4233	-720010	1369853	SLV 15	1.9	Si
fin.	2	-47	-132755	1369853	SLV 15	10.32	Si
ini.	2	1974	-753060	1369853	SLV 10	1.82	Si
fin.	2	-1275	-171153	1369853	SLV 10	8	Si
ini.	2	4789	-903925	1369853	SLV 14	1.52	Si
fin.	2	-649	-123066	1369853	SLV 14	11.13	Si
ini.	2	4233	-720010	1369853	SLV 16	1.9	Si
fin.	2	-47	-132755	1369853	SLV 16	10.32	Si
ini.	2	570	-481132	1369853	SLD 9	2.85	Si
fin.	2	-643	-196913	1369853	SLD 9	6.96	Si
ini.	2	1974	-753060	1369853	SLV 9	1.82	Si
fin.	2	-1275	-171153	1369853	SLV 9	8	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	4233	-720010	3646			5199	476	SLV 16	0.13	No
fin.	2	-47	-132755	16434			5218	1967	SLV 16	0.12	No
ini.	2	4233	-720010	3646			5199	476	SLV 15	0.13	No
fin.	2	-47	-132755	16434			5218	1967	SLV 15	0.12	No
ini.	2	1974	-753060	-5019			5199	1466	SLV 9	0.29	No
fin.	2	-1275	-171153	12946			5709	2216	SLV 9	0.17	No
ini.	2	1787	-550112	-2317			5199	1519	SLD 14	0.66	No
fin.	2	-402	-175154	11173			5360	2042	SLD 14	0.18	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1974	-753060	-5019			5199	1466	SLV 10	0.29	No
fin.	2	-1275	-171153	12946			5709	2216	SLV 10	0.17	No
ini.	2	-5104	140166	-15620			7241	2858	SLV 1	0.18	No
fin.	2	-431	-292758	-5246			5371	2048	SLV 1	0.39	No
ini.	2	4789	-903925	2588			5199	0	SLV 14	0	No
fin.	2	-649	-123066	18691			5459	2093	SLV 14	0.11	No
ini.	2	1787	-550112	-2317			5199	1519	SLD 13	0.66	No
fin.	2	-402	-175154	11173			5360	2042	SLD 13	0.18	No
ini.	2	-5104	140166	-15620			7241	2858	SLV 2	0.18	No
fin.	2	-431	-292758	-5246			5371	2048	SLV 2	0.39	No
ini.	2	4789	-903925	2588			5199	0	SLV 13	0	No
fin.	2	-649	-123066	18691			5459	2093	SLV 13	0.11	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.515	SLV 13	Si
V_SLV	0	SLV 13	No
PF_SLU	1.905	SLU 73	Si
V_SLU	0.139	SLU 76	No

## Trave di accoppiamento 9

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1731.3	-328.4	80	109	29	-1831.3	-328.4	80	109	29	100	45	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb_	fhk	fvk0	fhmmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	1489	-25759	19201	SLU 83	0.75	No
fin.	3	1991	-40726	19201	SLU 83	0.47	No
ini.	3	1599	-26314	19201	SLU 76	0.73	No
fin.	3	3116	-39773	19201	SLU 76	0.48	No
ini.	3	1525	-24931	19201	SLU 78	0.77	No
fin.	3	2597	-40509	19201	SLU 78	0.47	No
ini.	3	1605	-27887	19201	SLU 82	0.69	No
fin.	3	2784	-40195	19201	SLU 82	0.48	No
ini.	3	1407	-23279	19201	SLU 79	0.82	No
fin.	3	1840	-39882	19201	SLU 79	0.48	No
ini.	3	1601	-27119	19201	SLU 84	0.71	No
fin.	3	2718	-41358	19201	SLU 84	0.46	No
ini.	3	1519	-24639	19201	SLU 80	0.78	No
fin.	3	2566	-40515	19201	SLU 80	0.47	No
ini.	3	1413	-23571	19201	SLU 77	0.81	No
fin.	3	1870	-39877	19201	SLU 77	0.48	No
ini.	3	1529	-25699	19201	SLU 75	0.75	No
fin.	3	2663	-39346	19201	SLU 75	0.49	No
ini.	3	1493	-26527	19201	SLU 81	0.72	No
fin.	3	2058	-39563	19201	SLU 81	0.49	No

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	877	-14500	1307			335	0	SLU 1	0	No
fin.	3	1277	-23365	-2644			335	0	SLU 1	0	No
ini.	3	1265	-20280	1883			335	0	SLU 58	0	No
fin.	3	1667	-36079	-3921			335	0	SLU 58	0	No
ini.	3	1271	-20572	1899			335	0	SLU 56	0	No
fin.	3	1698	-36074	-3937			335	0	SLU 56	0	No
ini.	3	1464	-24887	2221			335	0	SLU 61	0	No
fin.	3	2611	-36392	-4081			335	0	SLU 61	0	No
ini.	3	1378	-21640	2056			335	0	SLU 59	0	No
fin.	3	2393	-36712	-3970			335	0	SLU 59	0	No
ini.	3	1457	-23314	2190			335	0	SLU 55	0	No
fin.	3	2944	-35970	-3948			335	0	SLU 55	0	No
ini.	3	1275	-21340	1917			335	0	SLU 53	0	No
fin.	3	1764	-34911	-3882			335	0	SLU 53	0	No
ini.	3	1388	-22700	2090			335	0	SLU 54	0	No
fin.	3	2491	-35543	-3932			335	0	SLU 54	0	No
ini.	3	1384	-21932	2072			335	0	SLU 57	0	No
fin.	3	2424	-36706	-3987			335	0	SLU 57	0	No
ini.	3	1351	-23528	2048			335	0	SLU 60	0	No
fin.	3	1885	-35760	-4031			335	0	SLU 60	0	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1405	-81801	28801	SLV 10	0.35	No
fin.	2	4644	61235	28801	SLV 10	0.47	No
ini.	2	534	48805	28801	SLV 7	0.59	No
fin.	2	-1878	-112813	28801	SLV 7	0.26	No
ini.	2	547	31272	28801	SLV 12	0.92	No



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	740	-99142	28801	SLV 12	0.29	No
ini.	2	1392	-64269	28801	SLV 6	0.45	No
fin.	2	2026	47563	28801	SLV 6	0.61	No
ini.	2	819	29684	28801	SLV 3	0.97	No
fin.	2	-3567	-72632	28801	SLV 3	0.4	No
ini.	2	1392	-64269	28801	SLV 5	0.45	No
fin.	2	2026	47563	28801	SLV 5	0.61	No
ini.	2	1405	-81801	28801	SLV 9	0.35	No
fin.	2	4644	61235	28801	SLV 9	0.47	No
ini.	2	547	31272	28801	SLV 11	0.92	No
fin.	2	740	-99142	28801	SLV 11	0.29	No
ini.	2	534	48805	28801	SLV 8	0.59	No
fin.	2	-1878	-112813	28801	SLV 8	0.26	No
ini.	2	819	29684	28801	SLV 4	0.97	No
fin.	2	-3567	-72632	28801	SLV 4	0.4	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1009	-10933	642			503	0	SLD 1	0	No
fin.	2	-245	-26287	-3624			568	222	SLD 1	0.06	No
ini.	2	1120	-62681	3504			503	0	SLV 14	0	No
fin.	2	6333	21054	-1925			503	0	SLV 14	0	No
ini.	2	1392	-64269	1056			503	0	SLV 6	0	No
fin.	2	2026	47563	-4476			503	0	SLV 6	0	No
ini.	2	547	31272	1861			503	76	SLV 11	0.04	No
fin.	2	740	-99142	-1347			503	0	SLV 11	0	No
ini.	2	1405	-81801	2248			503	0	SLV 10	0	No
fin.	2	4644	61235	-3675			503	0	SLV 10	0	No
ini.	2	1392	-64269	1056			503	0	SLV 5	0	No
fin.	2	2026	47563	-4476			503	0	SLV 5	0	No
ini.	2	1405	-81801	2248			503	0	SLV 9	0	No
fin.	2	4644	61235	-3675			503	0	SLV 9	0	No
ini.	2	547	31272	1861			503	76	SLV 12	0.04	No
fin.	2	740	-99142	-1347			503	0	SLV 12	0	No
ini.	2	819	29684	-586			503	0	SLV 4	0	No
fin.	2	-3567	-72632	-3898			1454	481	SLV 4	0.12	No
ini.	2	1120	-62681	3504			503	0	SLV 13	0	No
fin.	2	6333	21054	-1925			503	0	SLV 13	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.255	SLV 7	No
V_SLV	0	SLD 1	No
PF_SLU	0.464	SLU 84	No
V_SLU	0	SLU 1	No

## Trave di accoppiamento 10

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1422.3	-328.4	50	109	59	-1652.3	-328.4	50	109	59	230	45	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>tk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	901	-127324	79474	SLU 75	0.62	No
fin.	3	2420	-78614	79474	SLU 75	1.01	Si
ini.	3	946	-129425	79474	SLU 73	0.61	No
fin.	3	2468	-72783	79474	SLU 73	1.09	Si
ini.	3	862	-123973	79474	SLU 74	0.64	No
fin.	3	2389	-82978	79474	SLU 74	0.96	No
ini.	3	911	-128692	79474	SLU 76	0.62	No
fin.	3	2410	-76328	79474	SLU 76	1.04	Si
ini.	3	867	-126591	79474	SLU 78	0.63	No
fin.	3	2362	-82159	79474	SLU 78	0.97	No
ini.	3	878	-129726	79474	SLU 83	0.61	No
fin.	3	2464	-88992	79474	SLU 83	0.89	No
ini.	3	917	-133076	79474	SLU 84	0.6	No
fin.	3	2495	-84628	79474	SLU 84	0.94	No
ini.	3	912	-130459	79474	SLU 81	0.61	No
fin.	3	2522	-85447	79474	SLU 81	0.93	No
ini.	3	952	-133809	79474	SLU 82	0.59	No
fin.	3	2553	-81083	79474	SLU 82	0.98	No
ini.	3	850	-125726	79474	SLU 80	0.63	No
fin.	3	2332	-82782	79474	SLU 80	0.96	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	845	-116458	3142			682	55	SLU 54	0.02	No
fin.	3	2215	-70439	-2804			682	0	SLU 54	0	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	794	-114860	3121			682	82	SLU 59	0.03	No
fin.	3	2127	-74607	-2859			682	0	SLU 59	0	No
ini.	3	855	-117826	3159			682	47	SLU 55	0.02	No
fin.	3	2206	-68153	-2812			682	0	SLU 55	0	No
ini.	3	590	-77891	2126			682	148	SLU 1	0.07	No
fin.	3	1567	-47772	-1835			682	0	SLU 1	0	No
ini.	3	855	-119593	3266			682	47	SLU 60	0.01	No
fin.	3	2317	-77271	-2948			682	0	SLU 60	0	No
ini.	3	754	-111510	3072			682	99	SLU 58	0.03	No
fin.	3	2096	-78970	-2849			682	0	SLU 58	0	No
ini.	3	770	-112375	3088			682	92	SLU 56	0.03	No
fin.	3	2126	-78347	-2847			682	0	SLU 56	0	No
ini.	3	895	-122943	3315			682	0	SLU 61	0	No
fin.	3	2348	-72908	-2958			682	0	SLU 61	0	No
ini.	3	805	-113108	3093			682	77	SLU 53	0.02	No
fin.	3	2184	-74802	-2794			682	0	SLU 53	0	No
ini.	3	810	-115725	3136			682	75	SLU 57	0.02	No
fin.	3	2157	-73984	-2856			682	0	SLU 57	0	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	3056	-155632	119211	SLV 15	0.77	No
fin.	2	4175	87560	119211	SLV 15	1.36	Si
ini.	2	3185	-183446	119211	SLV 14	0.65	No
fin.	2	4696	100045	119211	SLV 14	1.19	Si
ini.	2	-1929	12631	119211	SLV 3	9.44	Si
fin.	2	-1306	-207450	119211	SLV 3	0.57	No
ini.	2	-1800	-15184	119211	SLV 2	7.85	Si
fin.	2	-785	-194965	119211	SLV 2	0.61	No
ini.	2	1590	-157004	119211	SLV 10	0.76	No
fin.	2	3386	11357	119211	SLV 10	10.5	Si
ini.	2	1590	-157004	119211	SLV 9	0.76	No
fin.	2	3386	11357	119211	SLV 9	10.5	Si
ini.	2	3056	-155632	119211	SLV 16	0.77	No
fin.	2	4175	87560	119211	SLV 16	1.36	Si
ini.	2	3185	-183446	119211	SLV 13	0.65	No
fin.	2	4696	100045	119211	SLV 13	1.19	Si
ini.	2	-1800	-15184	119211	SLV 1	7.85	Si
fin.	2	-785	-194965	119211	SLV 1	0.61	No
ini.	2	-1929	12631	119211	SLV 4	9.44	Si
fin.	2	-1306	-207450	119211	SLV 4	0.57	No

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1590	-157004	2959			1022	0	SLV 10	0	No
fin.	2	3386	11357	-221			1022	0	SLV 10	0	No
ini.	2	1652	-115302	3006			1022	0	SLD 16	0	No
fin.	2	2753	6798	-1382			1022	0	SLD 16	0	No
ini.	2	1161	-64290	2682			1022	136	SLV 12	0.05	No
fin.	2	1649	-30259	-2735			1022	0	SLV 12	0	No
ini.	2	95	-106525	1995			1022	371	SLV 6	0.19	No
fin.	2	1742	-77146	-1408			1022	0	SLV 6	0	No
ini.	2	3185	-183446	3987			1022	0	SLV 13	0	No
fin.	2	4696	100045	284			1022	0	SLV 13	0	No
ini.	2	3056	-155632	3904			1022	0	SLV 15	0	No
fin.	2	4175	87560	-470			1022	0	SLV 15	0	No
ini.	2	1161	-64290	2682			1022	136	SLV 11	0.05	No
fin.	2	1649	-30259	-2735			1022	0	SLV 11	0	No
ini.	2	1590	-157004	2959			1022	0	SLV 9	0	No
fin.	2	3386	11357	-221			1022	0	SLV 9	0	No
ini.	2	3185	-183446	3987			1022	0	SLV 14	0	No
fin.	2	4696	100045	284			1022	0	SLV 14	0	No
ini.	2	95	-106525	1995			1022	371	SLV 5	0.19	No
fin.	2	1742	-77146	-1408			1022	0	SLV 5	0	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		0.575	SLV 3
V_SLV		0	SLD 5
PF_SLU	0.594		SLU 82
V_SLU	0		SLU 1

#### Trave di accoppiamento 11

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1505.7	127.1	60	109	49	-1505.7	220.1	60	109	49	93	30	30000

##### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2



## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-32	-782	36545	SLU 83	46.71	Si
fin.	3	984	-50019	36545	SLU 83	0.73	No
ini.	3	-8	-1865	36545	SLU 38	19.6	Si
fin.	3	888	-46744	36545	SLU 38	0.78	No
ini.	3	-25	-996	36545	SLU 76	36.71	Si
fin.	3	929	-47114	36545	SLU 76	0.78	No
ini.	3	-13	-1874	36545	SLU 78	19.5	Si
fin.	3	994	-51502	36545	SLU 78	0.71	No
ini.	3	-11	-1951	36545	SLU 80	18.73	Si
fin.	3	999	-51980	36545	SLU 80	0.7	No
ini.	3	-32	-788	36545	SLU 84	46.37	Si
fin.	3	983	-49875	36545	SLU 84	0.73	No
ini.	3	-14	-1868	36545	SLU 77	19.56	Si
fin.	3	996	-51646	36545	SLU 77	0.71	No
ini.	3	-28	-909	36545	SLU 74	40.2	Si
fin.	3	927	-46876	36545	SLU 74	0.78	No
ini.	3	-9	-1859	36545	SLU 37	19.66	Si
fin.	3	889	-46888	36545	SLU 37	0.78	No
ini.	3	-12	-1945	36545	SLU 79	18.79	Si
fin.	3	1000	-52124	36545	SLU 79	0.7	No

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-20	-935	-36			383	145	SLU 55	4.05	Si
fin.	3	809	-40732	-256			377	0	SLU 55	0	No
ini.	3	-41	231	27			388	148	SLU 61	5.38	Si
fin.	3	794	-38723	-217			377	0	SLU 61	0	No
ini.	3	-22	-855	-32			383	145	SLU 54	4.49	Si
fin.	3	805	-40350	-239			377	0	SLU 54	0	No
ini.	3	-42	237	25			389	148	SLU 60	5.82	Si
fin.	3	795	-38867	-219			377	0	SLU 60	0	No
ini.	3	-7	-1885	-93			379	143	SLU 58	1.54	Si
fin.	3	880	-45743	-332			377	0	SLU 58	0	No
ini.	3	-9	-1808	-88			380	143	SLU 56	1.63	Si
fin.	3	875	-45264	-314			377	0	SLU 56	0	No
ini.	3	-8	-1814	-86			380	143	SLU 57	1.67	Si
fin.	3	874	-45120	-312			377	0	SLU 57	0	No
ini.	3	-23	-849	-34			384	145	SLU 53	4.22	Si
fin.	3	806	-40494	-241			377	0	SLU 53	0	No
ini.	3	-17	-356	-9			382	145	SLU 1	15.29	Si
fin.	3	507	-24747	-104			377	0	SLU 1	0	No
ini.	3	-6	-1891	-91			379	143	SLU 59	1.58	Si
fin.	3	879	-45599	-330			377	0	SLU 59	0	No

## Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1197	22377	54817	SLV 7	2.45	Si
fin.	2	362	-89589	54817	SLV 7	0.61	No
ini.	2	-1051	14677	54817	SLV 12	3.74	Si
fin.	2	593	-101187	54817	SLV 12	0.54	No
ini.	2	-1197	22377	54817	SLV 8	2.45	Si
fin.	2	362	-89589	54817	SLV 8	0.61	No
ini.	2	-449	5845	54817	SLD 12	9.38	Si
fin.	2	578	-58726	54817	SLD 12	0.93	No
ini.	2	-449	5845	54817	SLD 11	9.38	Si
fin.	2	578	-58726	54817	SLD 11	0.93	No
ini.	2	-509	9069	54817	SLD 8	6.04	Si
fin.	2	481	-53834	54817	SLD 8	1.02	Si
ini.	2	-1051	14677	54817	SLV 11	3.74	Si
fin.	2	593	-101187	54817	SLV 11	0.54	No
ini.	2	-111	-7442	54817	SLV 16	7.37	Si
fin.	2	933	-67790	54817	SLV 16	0.81	No
ini.	2	-509	9069	54817	SLD 7	6.04	Si
fin.	2	481	-53834	54817	SLD 7	1.02	Si
ini.	2	-111	-7442	54817	SLV 15	7.37	Si
fin.	2	933	-67790	54817	SLV 15	0.81	No

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	215	-7919	18			566	179	SLD 14	10.08	Si
fin.	2	754	-28121	-113			566	0	SLD 14	0	No
ini.	2	215	-7919	18			566	179	SLD 13	10.08	Si
fin.	2	754	-28121	-113			566	0	SLD 13	0	No
ini.	2	550	-18700	50			566	107	SLV 13	2.13	Si
fin.	2	993	-27566	-64			566	0	SLV 13	0	No
ini.	2	1151	-22851	1039			566	0	SLV 9	0	No
fin.	2	793	32894	656			566	0	SLV 9	0	No
ini.	2	550	-18700	50			566	107	SLV 14	2.13	Si
fin.	2	993	-27566	-64			566	0	SLV 14	0	No
ini.	2	1151	-22851	1039			566	0	SLV 10	0	No
fin.	2	793	32894	656			566	0	SLV 10	0	No
ini.	2	1006	-15151	1210			566	0	SLV 5	0	No
fin.	2	561	44493	761			566	104	SLV 5	0.14	No
ini.	2	-111	-7442	-626			596	229	SLV 15	0.36	No
fin.	2	933	-67790	-576			566	0	SLV 15	0	No
ini.	2	1006	-15151	1210			566	0	SLV 6	0	No
fin.	2	561	44493	761			566	104	SLV 6	0.14	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-111	-7442	-626			596	229	SLV 16	0.36	No
fin.	2	933	-67790	-576			566	0	SLV 16	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.542	SLV 11	No
V_SLV	0	SLD 13	No
PF_SLU	0.701	SLU 79	No
V_SLU	0	SLU 1	No

## Trave di accoppiamento 12

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1883.8	104.6	50	109	59	-1963.8	104.6	50	109	59	80	45	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fhk	fvk0	fhmmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-3687	-51571	79474	SLU 77	1.54	Si
fin.	3	-5642	-12447	79474	SLU 77	6.38	Si
ini.	3	-3664	-52920	79474	SLU 76	1.5	Si
fin.	3	-5394	-11531	79474	SLU 76	6.89	Si
ini.	3	-3849	-54621	79474	SLU 84	1.46	Si
fin.	3	-5747	-12758	79474	SLU 84	6.23	Si
ini.	3	-3818	-53726	79474	SLU 82	1.48	Si
fin.	3	-5693	-13166	79474	SLU 82	6.04	Si
ini.	3	-3830	-53242	79474	SLU 83	1.49	Si
fin.	3	-5825	-13388	79474	SLU 83	5.94	Si
ini.	3	-3683	-52896	79474	SLU 80	1.5	Si
fin.	3	-5500	-11543	79474	SLU 80	6.88	Si
ini.	3	-3799	-52347	79474	SLU 81	1.52	Si
fin.	3	-5772	-13795	79474	SLU 81	5.76	Si
ini.	3	-3706	-52950	79474	SLU 78	1.5	Si
fin.	3	-5563	-11818	79474	SLU 78	6.72	Si
ini.	3	-3675	-52054	79474	SLU 75	1.53	Si
fin.	3	-5510	-12226	79474	SLU 75	6.5	Si
ini.	3	-3633	-52025	79474	SLU 73	1.53	Si
fin.	3	-5340	-11939	79474	SLU 73	6.66	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-3687	-51571	6668			1842	645	SLU 77	0.1	No
fin.	3	-5642	-12447	-12948			2419	771	SLU 77	0.06	No
ini.	3	-3675	-52054	6535			1838	644	SLU 75	0.1	No
fin.	3	-5510	-12226	-12494			2379	763	SLU 75	0.06	No
ini.	3	-3830	-53242	6797			1884	655	SLU 83	0.1	No
fin.	3	-5825	-13388	-13173			2473	781	SLU 83	0.06	No
ini.	3	-3706	-52950	6698			1847	646	SLU 78	0.1	No
fin.	3	-5563	-11818	-12799			2395	766	SLU 78	0.06	No
ini.	3	-3849	-54621	6827			1889	656	SLU 84	0.1	No
fin.	3	-5747	-12758	-13024			2449	777	SLU 84	0.06	No
ini.	3	-3656	-50675	6505			1833	643	SLU 74	0.1	No
fin.	3	-5589	-12855	-12643			2403	767	SLU 74	0.06	No
ini.	3	-3799	-52347	6633			1875	653	SLU 81	0.1	No
fin.	3	-5772	-13795	-12868			2457	778	SLU 81	0.06	No
ini.	3	-3818	-53726	6663			1880	654	SLU 82	0.1	No
fin.	3	-5693	-13166	-12719			2433	774	SLU 82	0.06	No
ini.	3	-3664	-51517	6637			1835	643	SLU 79	0.1	No
fin.	3	-5579	-12173	-12837			2400	767	SLU 79	0.06	No
ini.	3	-3683	-52896	6668			1840	645	SLU 80	0.1	No
fin.	3	-5500	-11543	-12688			2377	762	SLU 80	0.06	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2326	-82585	119211	SLV 9	1.44	Si
fin.	2	407	16308	119211	SLV 9	7.31	Si
ini.	2	-1732	-69790	119211	SLD 14	1.71	Si
fin.	2	-36	7439	119211	SLD 14	16.02	Si
ini.	2	-1626	-63248	119211	SLD 16	1.88	Si
fin.	2	-462	3491	119211	SLD 16	34.15	Si
ini.	2	-1732	-69790	119211	SLD 13	1.71	Si
fin.	2	-36	7439	119211	SLD 13	16.02	Si
ini.	2	-497	-102365	119211	SLV 15	1.16	Si
fin.	2	3931	20163	119211	SLV 15	5.91	Si
ini.	2	-497	-102365	119211	SLV 16	1.16	Si
fin.	2	3931	20163	119211	SLV 16	5.91	Si
ini.	2	-2326	-82585	119211	SLV 10	1.44	Si
fin.	2	407	16308	119211	SLV 10	7.31	Si
ini.	2	-1626	-63248	119211	SLD 15	1.88	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	-462	3491	119211	SLD 15	34.15	Si
ini.	2	-745	-117799	119211	SLV 14	1.01	Si
fin.	2	4949	29220	119211	SLV 14	4.08	Si
ini.	2	-745	-117799	119211	SLV 13	1.01	Si
fin.	2	4949	29220	119211	SLV 13	4.08	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-497	-102365	7045			1278	499	SLV 15	0.07	No
fin.	2	3931	20163	-845			1131	0	SLV 15	0	No
ini.	2	-4187	49693	582			2366	868	SLV 4	1.49	Si
fin.	2	-12438	-46917	-16344			4800	1371	SLV 4	0.08	No
ini.	2	-2326	-82585	7009			1817	706	SLV 10	0.1	No
fin.	2	407	16308	-5278			1131	355	SLV 10	0.07	No
ini.	2	-4436	34259	1610			2440	887	SLV 2	0.55	No
fin.	2	-11420	-37861	-15886			4500	1319	SLV 2	0.08	No
ini.	2	-745	-117799	8072			1351	532	SLV 13	0.07	No
fin.	2	4949	29220	-388			1131	0	SLV 13	0	No
ini.	2	-2326	-82585	7009			1817	706	SLV 9	0.1	No
fin.	2	407	16308	-5278			1131	355	SLV 9	0.07	No
ini.	2	-4436	34259	1610			2440	887	SLV 1	0.55	No
fin.	2	-11420	-37861	-15886			4500	1319	SLV 1	0.08	No
ini.	2	-497	-102365	7045			1278	499	SLV 16	0.07	No
fin.	2	3931	20163	-845			1131	0	SLV 16	0	No
ini.	2	-745	-117799	8072			1351	532	SLV 14	0.07	No
fin.	2	4949	29220	-388			1131	0	SLV 14	0	No
ini.	2	-4187	49693	582			2366	868	SLV 3	1.49	Si
fin.	2	-12438	-46917	-16344			4800	1371	SLV 3	0.08	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.012	SLV 13	Si
V_SLV	0	SLV 13	No
PF_SLU	1.455	SLU 84	Si
V_SLU	0.059	SLU 83	No

## Trave di accoppiamento 13

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1406.3	104.6	50	109	59	-1506.3	104.6	50	109	59	100	45	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2934	-56926	79474	SLU 81	1.4	Si
fin.	3	-2881	-104485	79474	SLU 81	0.76	No
ini.	3	-2844	-55771	79474	SLU 74	1.43	Si
fin.	3	-2728	-100251	79474	SLU 74	0.79	No
ini.	3	-2941	-57842	79474	SLU 84	1.37	Si
fin.	3	-2850	-105136	79474	SLU 84	0.76	No
ini.	3	-2809	-55490	79474	SLU 75	1.43	Si
fin.	3	-2725	-100565	79474	SLU 75	0.79	No
ini.	3	-2774	-54814	79474	SLU 76	1.45	Si
fin.	3	-2692	-99488	79474	SLU 76	0.8	No
ini.	3	-2898	-56645	79474	SLU 82	1.4	Si
fin.	3	-2878	-104798	79474	SLU 82	0.76	No
ini.	3	-2841	-56198	79474	SLU 80	1.41	Si
fin.	3	-2666	-99618	79474	SLU 80	0.8	No
ini.	3	-2887	-56967	79474	SLU 77	1.4	Si
fin.	3	-2701	-100590	79474	SLU 77	0.79	No
ini.	3	-2977	-58123	79474	SLU 83	1.37	Si
fin.	3	-2853	-104823	79474	SLU 83	0.76	No
ini.	3	-2851	-56686	79474	SLU 78	1.4	Si
fin.	3	-2698	-100903	79474	SLU 78	0.79	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-2934	-56926	10841			1464	533	SLU 81	0.05	No
fin.	3	-2881	-104485	-6080			1450	529	SLU 81	0.09	No
ini.	3	-2809	-55490	10517			1431	524	SLU 75	0.05	No
fin.	3	-2725	-100565	-5874			1408	518	SLU 75	0.09	No
ini.	3	-2851	-56686	10712			1442	527	SLU 78	0.05	No
fin.	3	-2698	-100903	-5926			1401	516	SLU 78	0.09	No
ini.	3	-2977	-58123	11036			1475	536	SLU 83	0.05	No
fin.	3	-2853	-104823	-6132			1442	527	SLU 83	0.09	No
ini.	3	-2841	-56198	10624			1439	526	SLU 80	0.05	No
fin.	3	-2666	-99618	-5862			1393	514	SLU 80	0.09	No
ini.	3	-2876	-56479	10641			1449	529	SLU 79	0.05	No
fin.	3	-2670	-99305	-5850			1394	514	SLU 79	0.09	No





Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-2941	-57842	11018			1466	533	SLU 84	0.05	No
fin.	3	-2850	-105136	-6144			1442	527	SLU 84	0.09	No
ini.	3	-2844	-55771	10535			1440	527	SLU 74	0.05	No
fin.	3	-2728	-100251	-5862			1409	518	SLU 74	0.09	No
ini.	3	-2898	-56645	10823			1455	530	SLU 82	0.05	No
fin.	3	-2878	-104798	-6092			1449	529	SLU 82	0.09	No
ini.	3	-2887	-56967	10730			1452	530	SLU 77	0.05	No
fin.	3	-2701	-100590	-5914			1402	516	SLU 77	0.09	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-3904	-834	119211	SLV 4	142.86	Si
fin.	2	-9051	-196522	119211	SLV 4	0.61	No
ini.	2	-4774	-5226	119211	SLV 2	22.81	Si
fin.	2	-9072	-177265	119211	SLV 2	0.67	No
ini.	2	-1190	-19572	119211	SLV 8	6.09	Si
fin.	2	-3989	-135143	119211	SLV 8	0.88	No
ini.	2	-2761	-21659	119211	SLD 3	5.5	Si
fin.	2	-4931	-122370	119211	SLD 3	0.97	No
ini.	2	-3130	-23535	119211	SLD 2	5.07	Si
fin.	2	-4943	-114312	119211	SLD 2	1.04	Si
ini.	2	-4774	-5226	119211	SLV 1	22.81	Si
fin.	2	-9072	-177265	119211	SLV 1	0.67	No
ini.	2	-1190	-19572	119211	SLV 7	6.09	Si
fin.	2	-3989	-135143	119211	SLV 7	0.88	No
ini.	2	-3130	-23535	119211	SLD 1	5.07	Si
fin.	2	-4943	-114312	119211	SLD 1	1.04	Si
ini.	2	-3904	-834	119211	SLV 3	142.86	Si
fin.	2	-9051	-196522	119211	SLV 3	0.61	No
ini.	2	-2761	-21659	119211	SLD 4	5.5	Si
fin.	2	-4931	-122370	119211	SLD 4	0.97	No

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	266	-40024	9029			1022	344	SLV 11	0.04	No
fin.	2	329	-63274	-3990			1022	334	SLV 11	0.08	No
ini.	2	80	-73399	11285			1022	373	SLV 13	0.03	No
fin.	2	5322	62297	272			1022	0	SLV 13	0	No
ini.	2	-693	-50699	8982			1207	475	SLD 16	0.05	No
fin.	2	1214	-19914	-2432			1022	113	SLD 16	0.05	No
ini.	2	950	-69008	11710			1022	205	SLV 15	0.02	No
fin.	2	5342	43039	-462			1022	0	SLV 15	0	No
ini.	2	-693	-50699	8982			1207	475	SLD 15	0.05	No
fin.	2	1214	-19914	-2432			1022	113	SLD 15	0.05	No
ini.	2	-1063	-52575	8807			1306	516	SLD 13	0.06	No
fin.	2	1201	-11856	-2126			1022	119	SLD 13	0.06	No
ini.	2	950	-69008	11710			1022	205	SLV 16	0.02	No
fin.	2	5342	43039	-462			1022	0	SLV 16	0	No
ini.	2	-1063	-52575	8807			1306	516	SLD 14	0.06	No
fin.	2	1201	-11856	-2126			1022	119	SLD 14	0.06	No
ini.	2	80	-73399	11285			1022	373	SLV 14	0.03	No
fin.	2	5322	62297	272			1022	0	SLV 14	0	No
ini.	2	266	-40024	9029			1022	344	SLV 12	0.04	No
fin.	2	329	-63274	-3990			1022	334	SLV 12	0.08	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.607	SLV 3	No
V_SLV	0	SLV 13	No
PF_SLU	0.756	SLU 84	No
V_SLU	0.048	SLU 84	No

## Trave di accoppiamento 14

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1261.3	104.6	56	109	53	-1358.3	104.6	56	109	53	97	45	30000

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-3178	-15081	64132	SLU 77	4.25	Si
fin.	3	-1915	-98796	64132	SLU 77	0.65	No
ini.	3	-3124	-17419	64132	SLU 82	3.68	Si
fin.	3	-1913	-100309	64132	SLU 82	0.64	No
ini.	3	-3055	-15722	64132	SLU 75	4.08	Si
fin.	3	-1851	-97155	64132	SLU 75	0.66	No
ini.	3	-3153	-15091	64132	SLU 80	4.25	Si
fin.	3	-1882	-97613	64132	SLU 80	0.66	No
ini.	3	-3086	-15582	64132	SLU 74	4.12	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	-1884	-97412	64132	SLU 74	0.66	No
ini.	3	-3156	-17280	64132	SLU 81	3.71	Si
fin.	3	-1946	-100566	64132	SLU 81	0.64	No
ini.	3	-3216	-16918	64132	SLU 84	3.79	Si
fin.	3	-1943	-101693	64132	SLU 84	0.63	No
ini.	3	-3247	-16779	64132	SLU 83	3.82	Si
fin.	3	-1977	-101950	64132	SLU 83	0.63	No
ini.	3	-3185	-14952	64132	SLU 79	4.29	Si
fin.	3	-1915	-97870	64132	SLU 79	0.66	No
ini.	3	-3147	-15220	64132	SLU 78	4.21	Si
fin.	3	-1882	-98540	64132	SLU 78	0.65	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-3156	-17280	11582			1454	514	SLU 81	0.04	No
fin.	3	-1946	-100566	-7139			1131	428	SLU 81	0.06	No
ini.	3	-3041	-15684	11137			1423	506	SLU 76	0.05	No
fin.	3	-1829	-96058	-6845			1100	419	SLU 76	0.06	No
ini.	3	-3153	-15091	11286			1453	514	SLU 80	0.05	No
fin.	3	-1882	-97613	-6937			1114	423	SLU 80	0.06	No
ini.	3	-3216	-16918	11754			1470	518	SLU 84	0.04	No
fin.	3	-1943	-101693	-7227			1131	428	SLU 84	0.06	No
ini.	3	-3247	-16779	11740			1478	520	SLU 83	0.04	No
fin.	3	-1977	-101950	-7229			1139	430	SLU 83	0.06	No
ini.	3	-3086	-15582	11224			1435	509	SLU 74	0.05	No
fin.	3	-1884	-97412	-6921			1115	423	SLU 74	0.06	No
ini.	3	-3055	-15722	11237			1427	507	SLU 75	0.05	No
fin.	3	-1851	-97155	-6918			1106	420	SLU 75	0.06	No
ini.	3	-3147	-15220	11396			1451	513	SLU 78	0.05	No
fin.	3	-1882	-98540	-7009			1114	423	SLU 78	0.06	No
ini.	3	-3124	-17419	11595			1445	512	SLU 82	0.04	No
fin.	3	-1913	-100309	-7137			1122	425	SLU 82	0.06	No
ini.	3	-3178	-15081	11383			1460	515	SLU 77	0.05	No
fin.	3	-1915	-98796	-7011			1123	425	SLU 77	0.06	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2243	586	96198	SLD 9	164.02	Si
fin.	2	-1514	-66631	96198	SLD 9	1.44	Si
ini.	2	-1488	16116	96198	SLV 15	5.97	Si
fin.	2	1150	-69276	96198	SLV 15	1.39	Si
ini.	2	-2521	15658	96198	SLV 10	6.14	Si
fin.	2	-1858	-69156	96198	SLV 10	1.39	Si
ini.	2	-2521	15658	96198	SLV 9	6.14	Si
fin.	2	-1858	-69156	96198	SLV 9	1.39	Si
ini.	2	-1961	5089	96198	SLD 14	18.9	Si
fin.	2	-545	-67353	96198	SLD 14	1.43	Si
ini.	2	-2243	586	96198	SLD 10	164.02	Si
fin.	2	-1514	-66631	96198	SLD 10	1.44	Si
ini.	2	-1842	26052	96198	SLV 13	3.69	Si
fin.	2	426	-70992	96198	SLV 13	1.36	Si
ini.	2	-1961	5089	96198	SLD 13	18.9	Si
fin.	2	-545	-67353	96198	SLD 13	1.43	Si
ini.	2	-1488	16116	96198	SLV 16	5.97	Si
fin.	2	1150	-69276	96198	SLV 16	1.39	Si
ini.	2	-1842	26052	96198	SLV 14	3.69	Si
fin.	2	426	-70992	96198	SLV 14	1.36	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-1842	26052	10449			1410	551	SLV 13	0.05	No
fin.	2	426	-70992	-5667			919	277	SLV 13	0.05	No
ini.	2	-1339	-17460	9811			1276	504	SLV 11	0.05	No
fin.	2	555	-63438	-5344			919	253	SLV 11	0.05	No
ini.	2	-1961	5089	8739			1441	562	SLD 14	0.06	No
fin.	2	-545	-67353	-5065			1064	417	SLD 14	0.08	No
ini.	2	-1961	5089	8739			1441	562	SLD 13	0.06	No
fin.	2	-545	-67353	-5065			1064	417	SLD 13	0.08	No
ini.	2	-1339	-17460	9811			1276	504	SLV 12	0.05	No
fin.	2	555	-63438	-5344			919	253	SLV 12	0.05	No
ini.	2	-1813	945	9065			1402	549	SLD 16	0.06	No
fin.	2	-239	-66583	-5155			982	379	SLD 16	0.07	No
ini.	2	-1488	16116	11249			1315	518	SLV 16	0.05	No
fin.	2	1150	-69276	-5896			919	65	SLV 16	0.01	No
ini.	2	-1488	16116	11249			1315	518	SLV 15	0.05	No
fin.	2	1150	-69276	-5896			919	65	SLV 15	0.01	No
ini.	2	-1813	945	9065			1402	549	SLD 15	0.06	No
fin.	2	-239	-66583	-5155			982	379	SLD 15	0.07	No
ini.	2	-1842	26052	10449			1410	551	SLV 14	0.05	No
fin.	2	426	-70992	-5667			919	277	SLV 14	0.05	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.355	SLV 13	Si
V_SLV	0.011	SLV 15	No
PF_SLU	0.629	SLU 83	No
V_SLU	0.044	SLU 84	No



## Trave di accoppiamento 15

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1123.8	104.6	56	109	53	-1223.8	104.6	56	109	53	100	45	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2827	-28909	64132	SLU 74	2.22	Si
fin.	3	-2954	26224	64132	SLU 74	2.45	Si
ini.	3	-2884	-29431	64132	SLU 81	2.18	Si
fin.	3	-2960	25092	64132	SLU 81	2.56	Si
ini.	3	-2936	-30213	64132	SLU 84	2.12	Si
fin.	3	-3044	26335	64132	SLU 84	2.44	Si
ini.	3	-2906	-29828	64132	SLU 77	2.15	Si
fin.	3	-3077	27942	64132	SLU 77	2.3	Si
ini.	3	-2913	-29494	64132	SLU 79	2.17	Si
fin.	3	-3085	28021	64132	SLU 79	2.29	Si
ini.	3	-2800	-28771	64132	SLU 75	2.23	Si
fin.	3	-2916	25749	64132	SLU 75	2.49	Si
ini.	3	-2886	-29355	64132	SLU 80	2.18	Si
fin.	3	-3047	27547	64132	SLU 80	2.33	Si
ini.	3	-2857	-29293	64132	SLU 82	2.19	Si
fin.	3	-2922	24617	64132	SLU 82	2.61	Si
ini.	3	-2964	-30351	64132	SLU 83	2.11	Si
fin.	3	-3083	26810	64132	SLU 83	2.39	Si
ini.	3	-2879	-29690	64132	SLU 78	2.16	Si
fin.	3	-3039	27467	64132	SLU 78	2.33	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-2800	-28771	189			1359	490	SLU 75	2.59	Si
fin.	3	-2916	25749	1728			1390	498	SLU 75	0.29	No
ini.	3	-2857	-29293	196			1374	494	SLU 82	2.52	Si
fin.	3	-2922	24617	1725			1391	498	SLU 82	0.29	No
ini.	3	-2827	-28909	196			1366	492	SLU 74	2.51	Si
fin.	3	-2954	26224	1735			1400	500	SLU 74	0.29	No
ini.	3	-2906	-29828	215			1387	497	SLU 77	2.31	Si
fin.	3	-3077	27942	1786			1433	509	SLU 77	0.28	No
ini.	3	-2964	-30351	222			1403	501	SLU 83	2.26	Si
fin.	3	-3083	26810	1783			1434	509	SLU 83	0.29	No
ini.	3	-2886	-29355	214			1382	496	SLU 80	2.31	Si
fin.	3	-3047	27547	1759			1425	507	SLU 80	0.29	No
ini.	3	-2913	-29494	221			1389	498	SLU 79	2.25	Si
fin.	3	-3085	28021	1766			1435	509	SLU 79	0.29	No
ini.	3	-2936	-30213	215			1395	499	SLU 84	2.33	Si
fin.	3	-3044	26335	1776			1424	506	SLU 84	0.29	No
ini.	3	-2879	-29690	208			1380	495	SLU 78	2.38	Si
fin.	3	-3039	27467	1780			1423	506	SLU 78	0.28	No
ini.	3	-2884	-29431	203			1381	496	SLU 81	2.45	Si
fin.	3	-2960	25092	1731			1402	501	SLU 81	0.29	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2959	47003	96198	SLV 4	2.05	Si
fin.	2	456	-50104	96198	SLV 4	1.92	Si
ini.	2	-1431	-46667	96198	SLD 14	2.06	Si
fin.	2	-2997	46554	96198	SLD 14	2.07	Si
ini.	2	-2959	47003	96198	SLV 3	2.05	Si
fin.	2	456	-50104	96198	SLV 3	1.92	Si
ini.	2	-759	-75152	96198	SLV 16	1.28	Si
fin.	2	-3748	70996	96198	SLV 16	1.35	Si
ini.	2	-815	-84352	96198	SLV 14	1.14	Si
fin.	2	-4385	85454	96198	SLV 14	1.13	Si
ini.	2	-759	-75152	96198	SLV 15	1.28	Si
fin.	2	-3748	70996	96198	SLV 15	1.35	Si
ini.	2	-1651	-52332	96198	SLV 9	1.84	Si
fin.	2	-3657	59937	96198	SLV 9	1.6	Si
ini.	2	-1651	-52332	96198	SLV 10	1.84	Si
fin.	2	-3657	59937	96198	SLV 10	1.6	Si
ini.	2	-815	-84352	96198	SLV 13	1.14	Si
fin.	2	-4385	85454	96198	SLV 13	1.13	Si
ini.	2	-1431	-46667	96198	SLD 13	2.06	Si
fin.	2	-2997	46554	96198	SLD 13	2.07	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-1431	-46667	914			1300	513	SLD 13	0.56	No
fin.	2	-2997	46554	1891			1718	648	SLD 13	0.34	No
ini.	2	-1463	-21663	-21			1309	516	SLV 12	24.78	Si
fin.	2	-1533	11743	2067			1327	523	SLV 12	0.25	No



Sezione	$\gamma M$	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-1409	-42744	750			1294	510	SLD 16	0.68	No
fin.	2	-2728	40467	1984			1646	627	SLD 16	0.32	No
ini.	2	-815	-84352	1982			1136	449	SLV 14	0.23	No
fin.	2	-4385	85454	2872			2088	748	SLV 14	0.26	No
ini.	2	-759	-75152	1596			1121	442	SLV 16	0.28	No
fin.	2	-3748	70996	3088			1918	704	SLV 16	0.23	No
ini.	2	-815	-84352	1982			1136	449	SLV 13	0.23	No
fin.	2	-4385	85454	2872			2088	748	SLV 13	0.26	No
ini.	2	-1431	-46667	914			1300	513	SLD 14	0.56	No
fin.	2	-2997	46554	1891			1718	648	SLD 14	0.34	No
ini.	2	-1463	-21663	-21			1309	516	SLV 11	24.78	Si
fin.	2	-1533	11743	2067			1327	523	SLV 11	0.25	No
ini.	2	-1409	-42744	750			1294	510	SLD 15	0.68	No
fin.	2	-2728	40467	1984			1646	627	SLD 15	0.32	No
ini.	2	-759	-75152	1596			1121	442	SLV 15	0.28	No
fin.	2	-3748	70996	3088			1918	704	SLV 15	0.23	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.126	SLV 13	Si
V_SLV	0.226	SLV 13	No
PF_SLU	2.113	SLU 83	Si
V_SLU	0.284	SLU 78	No

## Trave di accoppiamento 16

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-971.3	104.6	50	109	59	-1071.3	104.6	50	109	59	100	45	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	$\tau_0$	f <sub>v0</sub>	$\mu$	$\phi$	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	$\gamma M$	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-4074	-50098	79474	SLU 81	1.59	Si
fin.	3	-2102	-57761	79474	SLU 81	1.38	Si
ini.	3	-3970	-49321	79474	SLU 79	1.61	Si
fin.	3	-2216	-57968	79474	SLU 79	1.37	Si
ini.	3	-4126	-51003	79474	SLU 83	1.56	Si
fin.	3	-2201	-59441	79474	SLU 83	1.34	Si
ini.	3	-3949	-48921	79474	SLU 74	1.62	Si
fin.	3	-2102	-56438	79474	SLU 74	1.41	Si
ini.	3	-4093	-50460	79474	SLU 82	1.57	Si
fin.	3	-2068	-56928	79474	SLU 82	1.4	Si
ini.	3	-4001	-49825	79474	SLU 77	1.6	Si
fin.	3	-2201	-58118	79474	SLU 77	1.37	Si
ini.	3	-4019	-50188	79474	SLU 78	1.58	Si
fin.	3	-2166	-57285	79474	SLU 78	1.39	Si
ini.	3	-3988	-49684	79474	SLU 80	1.6	Si
fin.	3	-2182	-57135	79474	SLU 80	1.39	Si
ini.	3	-4144	-51365	79474	SLU 84	1.55	Si
fin.	3	-2166	-58608	79474	SLU 84	1.36	Si
ini.	3	-3968	-49283	79474	SLU 75	1.61	Si
fin.	3	-2068	-55605	79474	SLU 75	1.43	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	$\gamma M$	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-3988	-49684	11632			1745	602	SLU 80	0.05	No
fin.	3	-2182	-57135	-5349			1263	478	SLU 80	0.09	No
ini.	3	-3949	-48921	11638			1735	600	SLU 74	0.05	No
fin.	3	-2102	-56438	-5334			1242	471	SLU 74	0.09	No
ini.	3	-3970	-49321	11605			1740	601	SLU 79	0.05	No
fin.	3	-2216	-57968	-5380			1273	480	SLU 79	0.09	No
ini.	3	-4144	-51365	12249			1787	611	SLU 84	0.05	No
fin.	3	-2166	-58608	-5578			1259	476	SLU 84	0.09	No
ini.	3	-4001	-49825	11730			1748	603	SLU 77	0.05	No
fin.	3	-2201	-58118	-5416			1268	479	SLU 77	0.09	No
ini.	3	-4074	-50098	12130			1768	607	SLU 81	0.05	No
fin.	3	-2102	-57761	-5526			1242	471	SLU 81	0.09	No
ini.	3	-3968	-49283	11666			1740	601	SLU 75	0.05	No
fin.	3	-2068	-55605	-5303			1233	469	SLU 75	0.09	No
ini.	3	-4126	-51003	12221			1782	610	SLU 83	0.05	No
fin.	3	-2201	-59441	-5609			1268	479	SLU 83	0.09	No
ini.	3	-4093	-50460	12157			1773	608	SLU 82	0.05	No
fin.	3	-2068	-56928	-5496			1233	469	SLU 82	0.09	No
ini.	3	-4019	-50188	11758			1753	604	SLU 78	0.05	No
fin.	3	-2166	-57285	-5386			1259	476	SLU 78	0.09	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	$\gamma M$	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-9073	-105363	119211	SLV 13	1.13	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	-3639	-26466	119211	SLV 13	4.5	Si
ini.	2	-9919	-123613	119211	SLV 15	0.96	No
fin.	2	-3087	-10176	119211	SLV 15	11.71	Si
ini.	2	-9919	-123613	119211	SLV 16	0.96	No
fin.	2	-3087	-10176	119211	SLV 16	11.71	Si
ini.	2	804	22412	119211	SLV 5	5.32	Si
fin.	2	-1732	-69627	119211	SLV 5	1.71	Si
ini.	2	-9073	-105363	119211	SLV 14	1.13	Si
fin.	2	-3639	-26466	119211	SLV 14	4.5	Si
ini.	2	-5755	-71403	119211	SLD 15	1.67	Si
fin.	2	-2121	-25357	119211	SLD 15	4.7	Si
ini.	2	-6117	-87567	119211	SLV 11	1.36	Si
fin.	2	-1071	-4178	119211	SLV 11	28.53	Si
ini.	2	-6117	-87567	119211	SLV 12	1.36	Si
fin.	2	-1071	-4178	119211	SLV 12	28.53	Si
ini.	2	804	22412	119211	SLV 6	5.32	Si
fin.	2	-1732	-69627	119211	SLV 6	1.71	Si
ini.	2	-5755	-71403	119211	SLD 16	1.67	Si
fin.	2	-2121	-25357	119211	SLD 16	4.7	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	4605	58459	2431			1022	0	SLV 2	0	No
fin.	2	285	-63630	-5951			1022	341	SLV 2	0.06	No
ini.	2	84	-1481	6239			1022	372	SLD 3	0.06	No
fin.	2	-448	-41512	-4531			1142	445	SLD 3	0.1	No
ini.	2	442	6249	5455			1022	314	SLD 2	0.06	No
fin.	2	-682	-48449	-4558			1204	473	SLD 2	0.1	No
ini.	2	-2013	-38420	9482			1559	610	SLV 7	0.06	No
fin.	2	106	-15327	-4135			1022	369	SLV 7	0.09	No
ini.	2	4605	58459	2431			1022	0	SLV 1	0	No
fin.	2	285	-63630	-5951			1022	341	SLV 1	0.06	No
ini.	2	3760	40209	4283			1022	0	SLV 3	0	No
fin.	2	837	-47340	-5889			1022	234	SLV 3	0.04	No
ini.	2	3760	40209	4283			1022	0	SLV 4	0	No
fin.	2	837	-47340	-5889			1022	234	SLV 4	0.04	No
ini.	2	442	6249	5455			1022	314	SLD 1	0.06	No
fin.	2	-682	-48449	-4558			1204	473	SLD 1	0.1	No
ini.	2	-2013	-38420	9482			1559	610	SLV 8	0.06	No
fin.	2	106	-15327	-4135			1022	369	SLV 8	0.09	No
ini.	2	84	-1481	6239			1022	372	SLD 4	0.06	No
fin.	2	-448	-41512	-4531			1142	445	SLD 4	0.1	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.964	SLV 15	No
V_SLV	0	SLV 1	No
PF_SLU	1.337	SLU 83	Si
V_SLU	0.05	SLU 84	No

## Trave di accoppiamento 17

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-652.8	104.6	50	109	59	-742.8	104.6	50	109	59	90	45	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-3309	-73667	79474	SLU 83	1.08	Si
fin.	3	-2084	-45040	79474	SLU 83	1.76	Si
ini.	3	-3242	-71365	79474	SLU 80	1.11	Si
fin.	3	-2002	-41601	79474	SLU 80	1.91	Si
ini.	3	-3158	-70903	79474	SLU 77	1.12	Si
fin.	3	-2005	-44193	79474	SLU 77	1.8	Si
ini.	3	-3268	-72005	79474	SLU 78	1.1	Si
fin.	3	-2004	-41551	79474	SLU 78	1.91	Si
ini.	3	-3260	-71187	79474	SLU 75	1.12	Si
fin.	3	-1998	-40688	79474	SLU 75	1.95	Si
ini.	3	-3300	-72849	79474	SLU 81	1.09	Si
fin.	3	-2078	-44178	79474	SLU 81	1.8	Si
ini.	3	-3307	-71281	79474	SLU 76	1.11	Si
fin.	3	-1996	-38977	79474	SLU 76	2.04	Si
ini.	3	-3410	-73951	79474	SLU 82	1.07	Si
fin.	3	-2078	-41536	79474	SLU 82	1.91	Si
ini.	3	-3418	-74769	79474	SLU 84	1.06	Si
fin.	3	-2084	-42398	79474	SLU 84	1.87	Si
ini.	3	-3298	-70463	79474	SLU 73	1.13	Si
fin.	3	-1990	-38115	79474	SLU 73	2.09	Si



## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-3260	-71187	8109			1551	555	SLU 75	0.07	No
fin.	3	-1998	-40688	-3251			1215	463	SLU 75	0.14	No
ini.	3	-3158	-70903	8200			1524	548	SLU 77	0.07	No
fin.	3	-2005	-44193	-3420			1216	464	SLU 77	0.14	No
ini.	3	-3133	-70263	8128			1517	547	SLU 79	0.07	No
fin.	3	-2003	-44244	-3406			1216	463	SLU 79	0.14	No
ini.	3	-3242	-71365	8161			1546	554	SLU 80	0.07	No
fin.	3	-2002	-41601	-3300			1216	463	SLU 80	0.14	No
ini.	3	-3309	-73667	8480			1564	558	SLU 83	0.07	No
fin.	3	-2084	-45040	-3500			1237	470	SLU 83	0.13	No
ini.	3	-3418	-74769	8512			1593	566	SLU 84	0.07	No
fin.	3	-2084	-42398	-3394			1237	470	SLU 84	0.14	No
ini.	3	-3150	-70085	8076			1522	548	SLU 74	0.07	No
fin.	3	-1999	-43331	-3356			1215	463	SLU 74	0.14	No
ini.	3	-3268	-72005	8233			1553	556	SLU 78	0.07	No
fin.	3	-2004	-41551	-3314			1216	464	SLU 78	0.14	No
ini.	3	-3300	-72849	8356			1562	558	SLU 81	0.07	No
fin.	3	-2078	-44178	-3436			1236	469	SLU 81	0.14	No
ini.	3	-3410	-73951	8389			1591	565	SLU 82	0.07	No
fin.	3	-2078	-41536	-3331			1236	469	SLU 82	0.14	No

## Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1480	-11147	119211	SLV 3	10.69	Si
fin.	2	-2370	-158975	119211	SLV 3	0.75	No
ini.	2	-779	-31774	119211	SLD 1	3.75	Si
fin.	2	-1941	-85549	119211	SLD 1	1.39	Si
ini.	2	-5714	-81208	119211	SLV 14	1.47	Si
fin.	2	-418	99395	119211	SLV 14	1.2	Si
ini.	2	1016	-12368	119211	SLV 1	9.64	Si
fin.	2	-2683	-160570	119211	SLV 1	0.74	No
ini.	2	-779	-31774	119211	SLD 2	3.75	Si
fin.	2	-1941	-85549	119211	SLD 2	1.39	Si
ini.	2	1016	-12368	119211	SLV 2	9.64	Si
fin.	2	-2683	-160570	119211	SLV 2	0.74	No
ini.	2	-5249	-79987	119211	SLV 15	1.49	Si
fin.	2	-104	100990	119211	SLV 15	1.18	Si
ini.	2	-5249	-79987	119211	SLV 16	1.49	Si
fin.	2	-104	100990	119211	SLV 16	1.18	Si
ini.	2	-5714	-81208	119211	SLV 13	1.47	Si
fin.	2	-418	99395	119211	SLV 13	1.2	Si
ini.	2	1480	-11147	119211	SLV 4	10.69	Si
fin.	2	-2370	-158975	119211	SLV 4	0.75	No

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1480	-11147	2880			1022	0	SLV 3	0	No
fin.	2	-2370	-158975	-6531			1654	642	SLV 3	0.1	No
ini.	2	-1361	-40920	5199			1385	548	SLD 7	0.11	No
fin.	2	-1320	-45322	-3000			1375	543	SLD 7	0.18	No
ini.	2	1016	-12368	2566			1022	186	SLV 1	0.07	No
fin.	2	-2683	-160570	-6222			1738	669	SLV 1	0.11	No
ini.	2	-334	-33816	5056			1111	430	SLV 7	0.09	No
fin.	2	-1211	-66127	-4012			1345	532	SLV 7	0.13	No
ini.	2	-334	-33816	5056			1111	430	SLV 8	0.09	No
fin.	2	-1211	-66127	-4012			1345	532	SLV 8	0.13	No
ini.	2	1480	-11147	2880			1022	0	SLV 4	0	No
fin.	2	-2370	-158975	-6531			1654	642	SLV 4	0.1	No
ini.	2	-2353	-54468	6607			1650	641	SLV 12	0.1	No
fin.	2	-531	11863	-1542			1164	455	SLV 12	0.3	No
ini.	2	-2353	-54468	6607			1650	641	SLV 11	0.1	No
fin.	2	-531	11863	-1542			1164	455	SLV 11	0.3	No
ini.	2	-1361	-40920	5199			1385	548	SLD 8	0.11	No
fin.	2	-1320	-45322	-3000			1375	543	SLD 8	0.18	No
ini.	2	1016	-12368	2566			1022	186	SLV 2	0.07	No
fin.	2	-2683	-160570	-6222			1738	669	SLV 2	0.11	No

## Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.742	SLV 1	No
V_SLV	0	SLV 3	No
PF_SLU	1.063	SLU 84	Si
V_SLU	0.066	SLU 83	No

## Trave di accoppiamento 18

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-508.8	104.6	50	109	59	-598.8	104.6	50	109	59	90	45	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti



fb	fhk	fvk0	fhmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-5565	-50041	79474	SLU 77	1.59	Si
fin.	3	-3423	-49464	79474	SLU 77	1.61	Si
ini.	3	-5682	-50133	79474	SLU 84	1.59	Si
fin.	3	-3698	-53037	79474	SLU 84	1.5	Si
ini.	3	-5711	-51041	79474	SLU 83	1.56	Si
fin.	3	-3586	-51944	79474	SLU 83	1.53	Si
ini.	3	-5249	-45956	79474	SLU 73	1.73	Si
fin.	3	-3557	-50528	79474	SLU 73	1.57	Si
ini.	3	-5431	-48145	79474	SLU 75	1.65	Si
fin.	3	-3524	-50360	79474	SLU 75	1.58	Si
ini.	3	-5478	-48538	79474	SLU 80	1.64	Si
fin.	3	-3506	-50193	79474	SLU 80	1.58	Si
ini.	3	-5577	-49145	79474	SLU 82	1.62	Si
fin.	3	-3686	-52840	79474	SLU 82	1.5	Si
ini.	3	-5537	-49133	79474	SLU 78	1.62	Si
fin.	3	-3536	-50556	79474	SLU 78	1.57	Si
ini.	3	-5605	-50053	79474	SLU 81	1.59	Si
fin.	3	-3574	-51748	79474	SLU 81	1.54	Si
ini.	3	-5354	-46944	79474	SLU 76	1.69	Si
fin.	3	-3569	-50724	79474	SLU 76	1.57	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-5460	-49053	11101			2138	687	SLU 74	0.06	No
fin.	3	-3411	-49267	-7706			1591	565	SLU 74	0.07	No
ini.	3	-5577	-49145	11141			2169	693	SLU 82	0.06	No
fin.	3	-3686	-52840	-7971			1665	583	SLU 82	0.07	No
ini.	3	-5565	-50041	11384			2166	693	SLU 77	0.06	No
fin.	3	-3423	-49464	-7829			1595	566	SLU 77	0.07	No
ini.	3	-5605	-50053	11313			2176	695	SLU 81	0.06	No
fin.	3	-3574	-51748	-7957			1635	576	SLU 81	0.07	No
ini.	3	-5682	-50133	11424			2197	699	SLU 84	0.06	No
fin.	3	-3698	-53037	-8094			1668	584	SLU 84	0.07	No
ini.	3	-5711	-51041	11596			2204	700	SLU 83	0.06	No
fin.	3	-3586	-51944	-8080			1638	577	SLU 83	0.07	No
ini.	3	-5431	-48145	10929			2130	685	SLU 75	0.06	No
fin.	3	-3524	-50360	-7720			1621	573	SLU 75	0.07	No
ini.	3	-5478	-48538	11120			2143	688	SLU 80	0.06	No
fin.	3	-3506	-50193	-7790			1616	571	SLU 80	0.07	No
ini.	3	-5537	-49133	11212			2158	691	SLU 78	0.06	No
fin.	3	-3536	-50556	-7843			1624	573	SLU 78	0.07	No
ini.	3	-5507	-49446	11291			2150	689	SLU 79	0.06	No
fin.	3	-3393	-49100	-7776			1587	564	SLU 79	0.07	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-7699	-58321	119211	SLD 14	2.04	Si
fin.	2	-4171	-31487	119211	SLD 14	3.79	Si
ini.	2	-8841	-88267	119211	SLV 12	1.35	Si
fin.	2	-3171	-20869	119211	SLV 12	5.71	Si
ini.	2	-7699	-58321	119211	SLD 13	2.04	Si
fin.	2	-4171	-31487	119211	SLD 13	3.79	Si
ini.	2	-8247	-67016	119211	SLD 16	1.78	Si
fin.	2	-4070	-28940	119211	SLD 16	4.12	Si
ini.	2	-14503	-113746	119211	SLV 16	1.05	Si
fin.	2	-6472	-23794	119211	SLV 16	5.01	Si
ini.	2	-8247	-67016	119211	SLD 15	1.78	Si
fin.	2	-4070	-28940	119211	SLD 15	4.12	Si
ini.	2	-8841	-88267	119211	SLV 11	1.35	Si
fin.	2	-3171	-20869	119211	SLV 11	5.71	Si
ini.	2	-14503	-113746	119211	SLV 15	1.05	Si
fin.	2	-6472	-23794	119211	SLV 15	5.01	Si
ini.	2	-13202	-93022	119211	SLV 14	1.28	Si
fin.	2	-6714	-29851	119211	SLV 14	3.99	Si
ini.	2	-13202	-93022	119211	SLV 13	1.28	Si
fin.	2	-6714	-29851	119211	SLV 13	3.99	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1058	2126	4577			1022	173	SLD 1	0.04	No
fin.	2	-493	-36536	-6227			1154	451	SLD 1	0.07	No
ini.	2	6012	28132	1915			1022	0	SLV 3	0	No
fin.	2	2151	-35625	-6833			1022	0	SLV 3	0	No
ini.	2	509	-6568	4988			1022	302	SLD 4	0.06	No
fin.	2	-392	-33988	-5845			1127	438	SLD 4	0.07	No
ini.	2	7314	48856	907			1022	0	SLV 1	0	No
fin.	2	1909	-41681	-7741			1022	0	SLV 1	0	No
ini.	2	509	-6568	4988			1022	302	SLD 3	0.06	No
fin.	2	-392	-33988	-5845			1127	438	SLD 3	0.07	No
ini.	2	1651	23377	3851			1022	0	SLV 6	0	No
fin.	2	-1392	-44607	-7274			1394	551	SLV 6	0.08	No
ini.	2	1651	23377	3851			1022	0	SLV 5	0	No
fin.	2	-1392	-44607	-7274			1394	551	SLV 5	0.08	No
ini.	2	6012	28132	1915			1022	0	SLV 4	0	No
fin.	2	2151	-35625	-6833			1022	0	SLV 4	0	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	7314	48856	907			1022	0	SLV 2	0	No
fin.	2	1909	-41681	-7741			1022	0	SLV 2	0	No
ini.	2	1058	2126	4577			1022	173	SLD 2	0.04	No
fin.	2	-493	-36536	-6227			1154	451	SLD 2	0.07	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.048	SLV 15	Si
V_SLV	0	SLV 1	No
PF_SLU	1.498	SLU 84	Si
V_SLU	0.06	SLU 83	No

## Trave di accoppiamento 19

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1239.3	318.1	60	109	49	-1239.3	127.1	60	109	49	191	30	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>mk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	2438	-13598	36545	SLU 81	2.69	Si
fin.	3	1682	-24128	36545	SLU 81	1.51	Si
ini.	3	2337	-13096	36545	SLU 75	2.79	Si
fin.	3	1644	-23637	36545	SLU 75	1.55	Si
ini.	3	2394	-13454	36545	SLU 84	2.72	Si
fin.	3	1698	-24376	36545	SLU 84	1.5	Si
ini.	3	2441	-13624	36545	SLU 82	2.68	Si
fin.	3	1689	-24267	36545	SLU 82	1.51	Si
ini.	3	2242	-12667	36545	SLU 80	2.89	Si
fin.	3	1627	-23346	36545	SLU 80	1.57	Si
ini.	3	2390	-13427	36545	SLU 83	2.72	Si
fin.	3	1690	-24237	36545	SLU 83	1.51	Si
ini.	3	2289	-12926	36545	SLU 78	2.83	Si
fin.	3	1653	-23746	36545	SLU 78	1.54	Si
ini.	3	2333	-13070	36545	SLU 74	2.8	Si
fin.	3	1637	-23498	36545	SLU 74	1.56	Si
ini.	3	2292	-12855	36545	SLU 76	2.84	Si
fin.	3	1623	-23330	36545	SLU 76	1.57	Si
ini.	3	2286	-12899	36545	SLU 77	2.83	Si
fin.	3	1645	-23607	36545	SLU 77	1.55	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	2048	-11491	3273			377	0	SLU 59	0	No
fin.	3	1462	-20915	-742			377	0	SLU 59	0	No
ini.	3	2143	-11920	3421			377	0	SLU 54	0	No
fin.	3	1479	-21206	-768			377	0	SLU 54	0	No
ini.	3	2092	-11723	3342			377	0	SLU 56	0	No
fin.	3	1480	-21175	-757			377	0	SLU 56	0	No
ini.	3	2244	-12422	3582			377	0	SLU 60	0	No
fin.	3	1517	-21697	-799			377	0	SLU 60	0	No
ini.	3	2098	-11679	3351			377	0	SLU 55	0	No
fin.	3	1459	-20899	-753			377	0	SLU 55	0	No
ini.	3	1509	-8285	2409			377	0	SLU 1	0	No
fin.	3	1007	-14412	-540			377	0	SLU 1	0	No
ini.	3	2139	-11894	3415			377	0	SLU 53	0	No
fin.	3	1472	-21067	-767			377	0	SLU 53	0	No
ini.	3	2248	-12448	3588			377	0	SLU 61	0	No
fin.	3	1524	-21836	-799			377	0	SLU 61	0	No
ini.	3	2096	-11750	3348			377	0	SLU 57	0	No
fin.	3	1488	-21314	-757			377	0	SLU 57	0	No
ini.	3	2044	-11465	3268			377	0	SLU 58	0	No
fin.	3	1455	-20776	-742			377	0	SLU 58	0	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-596	-6864	54817	SLV 9	7.99	Si
fin.	2	-4066	85434	54817	SLV 9	0.64	No
ini.	2	3863	-11200	54817	SLV 8	4.89	Si
fin.	2	6280	-117165	54817	SLV 8	0.47	No
ini.	2	-51	-9241	54817	SLV 6	5.93	Si
fin.	2	-2754	60523	54817	SLV 6	0.91	No
ini.	2	3319	-8823	54817	SLV 11	6.21	Si
fin.	2	4968	-92255	54817	SLV 11	0.59	No
ini.	2	-51	-9241	54817	SLV 5	5.93	Si
fin.	2	-2754	60523	54817	SLV 5	0.91	No
ini.	2	-596	-6864	54817	SLV 10	7.99	Si
fin.	2	-4066	85434	54817	SLV 10	0.64	No
ini.	2	3863	-11200	54817	SLV 7	4.89	Si





Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	6280	-117165	54817	SLV 7	0.47	No
ini.	2	3128	-13287	54817	SLV 4	4.13	Si
fin.	2	4649	-84036	54817	SLV 4	0.65	No
ini.	2	3319	-8823	54817	SLV 12	6.21	Si
fin.	2	4968	-92255	54817	SLV 12	0.59	No
ini.	2	3128	-13287	54817	SLV 3	4.13	Si
fin.	2	4649	-84036	54817	SLV 3	0.65	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	3319	-8823	4141			566	0	SLV 11	0	No
fin.	2	4968	-92255	-351			566	0	SLV 11	0	No
ini.	2	1314	-5364	1913			566	0	SLV 15	0	No
fin.	2	275	-1002	-713			566	169	SLV 15	0.24	No
ini.	2	1954	-12699	3303			566	0	SLV 2	0	No
fin.	2	1939	-30730	-454			566	0	SLV 2	0	No
ini.	2	3863	-11200	4902			566	0	SLV 7	0	No
fin.	2	6280	-117165	-219			566	0	SLV 7	0	No
ini.	2	1775	-10559	2905			566	0	SLD 1	0	No
fin.	2	1465	-22246	-530			566	0	SLD 1	0	No
ini.	2	3128	-13287	4451			566	0	SLV 3	0	No
fin.	2	4649	-84036	-275			566	0	SLV 3	0	No
ini.	2	1954	-12699	3303			566	0	SLV 1	0	No
fin.	2	1939	-30730	-454			566	0	SLV 1	0	No
ini.	2	3128	-13287	4451			566	0	SLV 4	0	No
fin.	2	4649	-84036	-275			566	0	SLV 4	0	No
ini.	2	3863	-11200	4902			566	0	SLV 8	0	No
fin.	2	6280	-117165	-219			566	0	SLV 8	0	No
ini.	2	3319	-8823	4141			566	0	SLV 12	0	No
fin.	2	4968	-92255	-351			566	0	SLV 12	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.468	SLV 7	No
V_SLV	0	SLD 1	No
PF_SLU	1.499	SLU 84	Si
V_SLU	0	SLU 1	No

## Trave di accoppiamento 20

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1475.8	333.1	60	109	49	-1375.8	333.1	60	109	49	100	30	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fhk	fvk0	fmedlo	t0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	61	-3437	36545	SLU 60	10.63	Si
fin.	3	599	-15896	36545	SLU 60	2.3	Si
ini.	3	62	-3445	36545	SLU 61	10.61	Si
fin.	3	599	-15911	36545	SLU 61	2.3	Si
ini.	3	51	-3365	36545	SLU 74	10.86	Si
fin.	3	603	-16069	36545	SLU 74	2.27	Si
ini.	3	51	-3373	36545	SLU 75	10.84	Si
fin.	3	604	-16084	36545	SLU 75	2.27	Si
ini.	3	49	-3423	36545	SLU 81	10.67	Si
fin.	3	650	-17285	36545	SLU 81	2.11	Si
ini.	3	36	-3099	36545	SLU 83	11.79	Si
fin.	3	620	-16492	36545	SLU 83	2.22	Si
ini.	3	45	-3187	36545	SLU 76	11.47	Si
fin.	3	591	-15725	36545	SLU 76	2.32	Si
ini.	3	49	-3431	36545	SLU 82	10.65	Si
fin.	3	650	-17301	36545	SLU 82	2.11	Si
ini.	3	36	-3107	36545	SLU 84	11.76	Si
fin.	3	621	-16507	36545	SLU 84	2.21	Si
ini.	3	58	-3512	36545	SLU 73	10.41	Si
fin.	3	621	-16518	36545	SLU 73	2.21	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	51	-3054	550			377	134	SLU 56	0.24	No
fin.	3	523	-13886	-614			377	0	SLU 56	0	No
ini.	3	45	-2871	557			377	135	SLU 59	0.24	No
fin.	3	511	-13532	-616			377	0	SLU 59	0	No
ini.	3	61	-3437	610			377	133	SLU 60	0.22	No
fin.	3	599	-15896	-683			377	0	SLU 60	0	No
ini.	3	44	-2863	557			377	135	SLU 58	0.24	No
fin.	3	510	-13516	-616			377	0	SLU 58	0	No
ini.	3	51	-3061	549			377	134	SLU 57	0.24	No
fin.	3	523	-13901	-614			377	0	SLU 57	0	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	12	-2252	726			377	140	SLU 42	0.19	No
fin.	3	519	-13815	-745			377	0	SLU 42	0	No
ini.	3	49	-3112	625			377	135	SLU 62	0.22	No
fin.	3	569	-15102	-687			377	0	SLU 62	0	No
ini.	3	62	-3445	610			377	133	SLU 61	0.22	No
fin.	3	599	-15911	-683			377	0	SLU 61	0	No
ini.	3	58	-3201	541			377	133	SLU 55	0.25	No
fin.	3	540	-14335	-613			377	0	SLU 55	0	No
ini.	3	64	-3386	534			377	132	SLU 54	0.25	No
fin.	3	553	-14694	-611			377	0	SLU 54	0	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	340	-13765	54817	SLV 6	3.98	Si
fin.	2	1118	-19754	54817	SLV 6	2.77	Si
ini.	2	-216	-5338	54817	SLV 9	10.27	Si
fin.	2	370	-23700	54817	SLV 9	2.31	Si
ini.	2	340	-13765	54817	SLV 5	3.98	Si
fin.	2	1118	-19754	54817	SLV 5	2.77	Si
ini.	2	984	-18857	54817	SLV 1	2.91	Si
fin.	2	1772	-7983	54817	SLV 1	6.87	Si
ini.	2	-216	-5338	54817	SLV 10	10.27	Si
fin.	2	370	-23700	54817	SLV 10	2.31	Si
ini.	2	984	-18857	54817	SLV 2	2.91	Si
fin.	2	1772	-7983	54817	SLV 2	6.87	Si
ini.	2	-868	9234	54817	SLV 14	5.94	Si
fin.	2	-720	-21135	54817	SLV 14	2.59	Si
ini.	2	-59	-3787	54817	SLD 9	14.48	Si
fin.	2	401	-16574	54817	SLD 9	3.31	Si
ini.	2	-59	-3787	54817	SLD 10	14.48	Si
fin.	2	401	-16574	54817	SLD 10	3.31	Si
ini.	2	-868	9234	54817	SLV 13	5.94	Si
fin.	2	-720	-21135	54817	SLV 13	2.59	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	981	-14793	784			566	0	SLV 4	0	No
fin.	2	1585	-1839	-224			566	0	SLV 4	0	No
ini.	2	448	-9445	515			566	133	SLD 1	0.26	No
fin.	2	1003	-9937	-336			566	0	SLD 1	0	No
ini.	2	448	-9445	515			566	133	SLD 2	0.26	No
fin.	2	1003	-9937	-336			566	0	SLD 2	0	No
ini.	2	340	-13765	333			566	156	SLV 5	0.47	No
fin.	2	1118	-19754	-299			566	0	SLV 5	0	No
ini.	2	984	-18857	688			566	0	SLV 2	0	No
fin.	2	1772	-7983	-177			566	0	SLV 2	0	No
ini.	2	340	-13765	333			566	156	SLV 6	0.47	No
fin.	2	1118	-19754	-299			566	0	SLV 6	0	No
ini.	2	984	-18857	688			566	0	SLV 1	0	No
fin.	2	1772	-7983	-177			566	0	SLV 1	0	No
ini.	2	981	-14793	784			566	0	SLV 3	0	No
fin.	2	1585	-1839	-224			566	0	SLV 3	0	No
ini.	2	448	-7790	555			566	133	SLD 3	0.24	No
fin.	2	926	-7393	-356			566	0	SLD 3	0	No
ini.	2	448	-7790	555			566	133	SLD 4	0.24	No
fin.	2	926	-7393	-356			566	0	SLD 4	0	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.313	SLV 9	Si
V_SLV	0	SLD 1	No
PF_SLU	2.112	SLU 82	Si
V_SLU	0	SLU 18	No

## Trave di accoppiamento 21

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1776.8	657.6	-160	40	200	-1676.8	657.6	-160	40	200	100	45	30000

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb_	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-3821	-272013	913235	SLU 83	3.36	Si
fin.	3	-7209	-12988	913235	SLU 83	70.32	Si
ini.	3	-3746	-270108	913235	SLU 81	3.38	Si
fin.	3	-7089	-12950	913235	SLU 81	70.52	Si
ini.	3	-3815	-271890	913235	SLU 84	3.36	Si
fin.	3	-7202	-12882	913235	SLU 84	70.89	Si
ini.	3	-3739	-269985	913235	SLU 82	3.38	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	-7082	-12844	913235	SLU 82	71.1	Si
ini.	3	-3766	-261966	913235	SLU 79	3.49	Si
fin.	3	-7046	-13205	913235	SLU 79	69.16	Si
ini.	3	-3709	-262647	913235	SLU 74	3.48	Si
fin.	3	-6973	-13038	913235	SLU 74	70.04	Si
ini.	3	-3702	-262524	913235	SLU 75	3.48	Si
fin.	3	-6966	-12933	913235	SLU 75	70.61	Si
ini.	3	-3759	-261843	913235	SLU 80	3.49	Si
fin.	3	-7039	-13100	913235	SLU 80	69.71	Si
ini.	3	-3784	-264552	913235	SLU 77	3.45	Si
fin.	3	-7093	-13076	913235	SLU 77	69.84	Si
ini.	3	-3777	-264429	913235	SLU 78	3.45	Si
fin.	3	-7086	-12971	913235	SLU 78	70.41	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-3759	-261843	1809			4970	1958	SLU 80	1.08	Si
fin.	3	-7039	-13100	11762			6282	2386	SLU 80	0.2	No
ini.	3	-3815	-271890	1912			4992	1966	SLU 84	1.03	Si
fin.	3	-7202	-12882	12112			6347	2405	SLU 84	0.2	No
ini.	3	-3702	-262524	1837			4947	1950	SLU 75	1.06	Si
fin.	3	-6966	-12933	11702			6252	2377	SLU 75	0.2	No
ini.	3	-3709	-262647	1832			4950	1951	SLU 74	1.06	Si
fin.	3	-6973	-13038	11709			6255	2378	SLU 74	0.2	No
ini.	3	-3746	-270108	1911			4965	1956	SLU 81	1.02	Si
fin.	3	-7089	-12950	11960			6302	2392	SLU 81	0.2	No
ini.	3	-3784	-264552	1828			4980	1961	SLU 77	1.07	Si
fin.	3	-7093	-13076	11867			6303	2392	SLU 77	0.2	No
ini.	3	-3777	-264429	1833			4977	1960	SLU 78	1.07	Si
fin.	3	-7086	-12971	11860			6300	2392	SLU 78	0.2	No
ini.	3	-3821	-272013	1907			4995	1967	SLU 83	1.03	Si
fin.	3	-7209	-12988	12119			6350	2406	SLU 83	0.2	No
ini.	3	-3739	-269985	1916			4962	1955	SLU 82	1.02	Si
fin.	3	-7082	-12844	11953			6299	2391	SLU 82	0.2	No
ini.	3	-3766	-261966	1804			4973	1959	SLU 79	1.09	Si
fin.	3	-7046	-13205	11769			6284	2387	SLU 79	0.2	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-3399	-375792	1369853	SLV 8	3.65	Si
fin.	2	-8254	103583	1369853	SLV 8	13.22	Si
ini.	2	-2171	-300735	1369853	SLD 3	4.56	Si
fin.	2	-6182	63636	1369853	SLD 3	21.53	Si
ini.	2	-911	-390737	1369853	SLV 1	3.51	Si
fin.	2	-6435	122136	1369853	SLV 1	11.22	Si
ini.	2	-2171	-300735	1369853	SLD 4	4.56	Si
fin.	2	-6182	63636	1369853	SLD 4	21.53	Si
ini.	2	-1853	-270602	1369853	SLD 1	5.06	Si
fin.	2	-5488	46391	1369853	SLD 1	29.53	Si
ini.	2	-1643	-463909	1369853	SLV 3	2.95	Si
fin.	2	-8076	162977	1369853	SLV 3	8.41	Si
ini.	2	-3399	-375792	1369853	SLV 7	3.65	Si
fin.	2	-8254	103583	1369853	SLV 7	13.22	Si
ini.	2	-1853	-270602	1369853	SLD 2	5.06	Si
fin.	2	-5488	46391	1369853	SLD 2	29.53	Si
ini.	2	-911	-390737	1369853	SLV 2	3.51	Si
fin.	2	-6435	122136	1369853	SLV 2	11.22	Si
ini.	2	-1643	-463909	1369853	SLV 4	2.95	Si
fin.	2	-8076	162977	1369853	SLV 4	8.41	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-1853	-270602	4518			5940	2325	SLD 1	0.51	No
fin.	2	-5488	46391	11215			7394	2915	SLD 1	0.26	No
ini.	2	-2171	-300735	4508			6067	2382	SLD 3	0.53	No
fin.	2	-6182	63636	12164			7672	3014	SLD 3	0.25	No
ini.	2	-1643	-463909	8870			5856	2286	SLV 3	0.26	No
fin.	2	-8076	162977	17756			8429	3271	SLV 3	0.18	No
ini.	2	-3399	-375792	3488			6559	2592	SLV 7	0.74	No
fin.	2	-8254	103583	14323			8500	3294	SLV 7	0.23	No
ini.	2	-2171	-300735	4508			6067	2382	SLD 4	0.53	No
fin.	2	-6182	63636	12164			7672	3014	SLD 4	0.25	No
ini.	2	-911	-390737	8896			5564	2145	SLV 1	0.24	No
fin.	2	-6435	122136	15512			7773	3050	SLV 1	0.2	No
ini.	2	-1643	-463909	8870			5856	2286	SLV 4	0.26	No
fin.	2	-8076	162977	17756			8429	3271	SLV 4	0.18	No
ini.	2	-1853	-270602	4518			5940	2325	SLD 2	0.51	No
fin.	2	-5488	46391	11215			7394	2915	SLD 2	0.26	No
ini.	2	-3399	-375792	3488			6559	2592	SLV 8	0.74	No
fin.	2	-8254	103583	14323			8500	3294	SLV 8	0.23	No
ini.	2	-911	-390737	8896			5564	2145	SLV 2	0.24	No
fin.	2	-6435	122136	15512			7773	3050	SLV 2	0.2	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.953	SLV 3	Si
V_SLV	0.184	SLV 3	No
PF_SLU	3.357	SLU 83	Si
V_SLU	0.199	SLU 83	No



## Trave di accoppiamento 22

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1776.8	657.6	80	109	29	-1676.8	657.6	80	109	29	100	45	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	1238	-29949	19201	SLU 83	0.64	No
fin.	3	2195	1722	19201	SLU 83	11.15	Si
ini.	3	1221	-29667	19201	SLU 82	0.65	No
fin.	3	2174	1873	19201	SLU 82	10.25	Si
ini.	3	1189	-28948	19201	SLU 75	0.66	No
fin.	3	2111	1598	19201	SLU 75	12.01	Si
ini.	3	1194	-28946	19201	SLU 80	0.66	No
fin.	3	2109	1395	19201	SLU 80	13.77	Si
ini.	3	1204	-29222	19201	SLU 78	0.66	No
fin.	3	2130	1470	19201	SLU 78	13.06	Si
ini.	3	1196	-28954	19201	SLU 79	0.66	No
fin.	3	2110	1372	19201	SLU 79	14	Si
ini.	3	1192	-28956	19201	SLU 74	0.66	No
fin.	3	2112	1575	19201	SLU 74	12.19	Si
ini.	3	1236	-29941	19201	SLU 84	0.64	No
fin.	3	2193	1745	19201	SLU 84	11	Si
ini.	3	1224	-29675	19201	SLU 81	0.65	No
fin.	3	2175	1850	19201	SLU 81	10.38	Si
ini.	3	1207	-29230	19201	SLU 77	0.66	No
fin.	3	2131	1447	19201	SLU 77	13.27	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	1070	-26187	1268			335	0	SLU 58	0	No
fin.	3	1887	1015	-312			335	0	SLU 58	0	No
ini.	3	1050	-25900	1253			335	0	SLU 55	0	No
fin.	3	1866	1182	-301			335	0	SLU 55	0	No
ini.	3	1094	-26900	1296			335	0	SLU 61	0	No
fin.	3	1951	1517	-298			335	0	SLU 61	0	No
ini.	3	1097	-26907	1297			335	0	SLU 60	0	No
fin.	3	1952	1493	-299			335	0	SLU 60	0	No
ini.	3	1080	-26462	1280			335	0	SLU 56	0	No
fin.	3	1908	1090	-312			335	0	SLU 56	0	No
ini.	3	1067	-26179	1267			335	0	SLU 59	0	No
fin.	3	1886	1038	-311			335	0	SLU 59	0	No
ini.	3	1077	-26455	1279			335	0	SLU 57	0	No
fin.	3	1907	1113	-311			335	0	SLU 57	0	No
ini.	3	731	-18175	886			335	0	SLU 1	0	No
fin.	3	1294	675	-222			335	0	SLU 1	0	No
ini.	3	1062	-26181	1266			335	0	SLU 54	0	No
fin.	3	1887	1242	-302			335	0	SLU 54	0	No
ini.	3	1065	-26188	1266			335	0	SLU 53	0	No
fin.	3	1889	1218	-303			335	0	SLU 53	0	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	624	-49616	28801	SLV 3	0.58	No
fin.	2	3360	34362	28801	SLV 3	0.84	No
ini.	2	723	-32522	28801	SLD 3	0.89	No
fin.	2	2248	15089	28801	SLD 3	1.91	Si
ini.	2	383	-32392	28801	SLD 2	0.89	No
fin.	2	1821	12781	28801	SLD 2	2.25	Si
ini.	2	986	9993	28801	SLV 14	2.88	Si
fin.	2	-507	-32513	28801	SLV 14	0.89	No
ini.	2	986	9993	28801	SLV 13	2.88	Si
fin.	2	-507	-32513	28801	SLV 13	0.89	No
ini.	2	-183	-49132	28801	SLV 1	0.59	No
fin.	2	2323	28602	28801	SLV 1	1.01	Si
ini.	2	723	-32522	28801	SLD 4	0.89	No
fin.	2	2248	15089	28801	SLD 4	1.91	Si
ini.	2	624	-49616	28801	SLV 4	0.58	No
fin.	2	3360	34362	28801	SLV 4	0.84	No
ini.	2	-183	-49132	28801	SLV 2	0.59	No
fin.	2	2323	28602	28801	SLV 2	1.01	Si
ini.	2	383	-32392	28801	SLD 1	0.89	No
fin.	2	1821	12781	28801	SLD 1	2.25	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	383	-32392	1344			503	121	SLD 1	0.09	No
fin.	2	1821	12781	166			503	0	SLD 1	0	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	986	9993	-174			503	0	SLV 13	0	No
fin.	2	-507	-32513	-980			638	252	SLV 13	0.26	No
ini.	2	624	-49616	2092			503	39	SLV 3	0.02	No
fin.	2	3360	34362	521			503	0	SLV 3	0	No
ini.	2	624	-49616	2092			503	39	SLV 4	0.02	No
fin.	2	3360	34362	521			503	0	SLV 4	0	No
ini.	2	986	9993	-174			503	0	SLV 14	0	No
fin.	2	-507	-32513	-980			638	252	SLV 14	0.26	No
ini.	2	1975	-29487	1653			503	0	SLV 8	0	No
fin.	2	3579	19692	-270			503	0	SLV 8	0	No
ini.	2	2326	-11749	1044			503	0	SLV 12	0	No
fin.	2	2730	1358	-772			503	0	SLV 12	0	No
ini.	2	2326	-11749	1044			503	0	SLV 11	0	No
fin.	2	2730	1358	-772			503	0	SLV 11	0	No
ini.	2	1975	-29487	1653			503	0	SLV 7	0	No
fin.	2	3579	19692	-270			503	0	SLV 7	0	No
ini.	2	-183	-49132	1858			551	214	SLV 2	0.12	No
fin.	2	2323	28602	695			503	0	SLV 2	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.58	SLV 3	No
V_SLV	0	SLD 1	No
PF_SLU	0.641	SLU 83	No
V_SLU	0	SLU 1	No

## Trave di accoppiamento 23

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1288.8	657.6	-160	40	200	-1188.8	657.6	-160	40	200	100	45	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-6834	-45299	913235	SLU 82	20.16	Si
fin.	3	-6873	-26109	913235	SLU 82	34.98	Si
ini.	3	-6983	-45352	913235	SLU 83	20.14	Si
fin.	3	-7028	-26549	913235	SLU 83	34.4	Si
ini.	3	-6736	-44121	913235	SLU 75	20.7	Si
fin.	3	-6775	-26017	913235	SLU 75	35.1	Si
ini.	3	-6844	-45236	913235	SLU 81	20.19	Si
fin.	3	-6884	-25961	913235	SLU 81	35.18	Si
ini.	3	-6848	-43776	913235	SLU 79	20.86	Si
fin.	3	-6894	-26344	913235	SLU 79	34.67	Si
ini.	3	-6884	-44174	913235	SLU 77	20.67	Si
fin.	3	-6930	-26456	913235	SLU 77	34.52	Si
ini.	3	-6875	-44237	913235	SLU 78	20.64	Si
fin.	3	-6919	-26605	913235	SLU 78	34.33	Si
ini.	3	-6745	-44057	913235	SLU 74	20.73	Si
fin.	3	-6786	-25868	913235	SLU 74	35.3	Si
ini.	3	-6973	-45416	913235	SLU 84	20.11	Si
fin.	3	-7017	-26697	913235	SLU 84	34.21	Si
ini.	3	-6839	-43839	913235	SLU 80	20.83	Si
fin.	3	-6883	-26492	913235	SLU 80	34.47	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-6834	-45299	-5892			6200	2362	SLU 82	0.4	No
fin.	3	-6873	-26109	6017			6215	2366	SLU 82	0.39	No
ini.	3	-6745	-44057	-5767			6164	2351	SLU 74	0.41	No
fin.	3	-6786	-25868	5883			6180	2356	SLU 74	0.4	No
ini.	3	-6844	-45236	-5895			6203	2363	SLU 81	0.4	No
fin.	3	-6884	-25961	6026			6219	2368	SLU 81	0.39	No
ini.	3	-6973	-45416	-5996			6255	2378	SLU 84	0.4	No
fin.	3	-7017	-26697	6124			6273	2383	SLU 84	0.39	No
ini.	3	-6875	-44237	-5867			6216	2366	SLU 78	0.4	No
fin.	3	-6919	-26605	5982			6234	2372	SLU 78	0.4	No
ini.	3	-6839	-43839	-5836			6201	2362	SLU 80	0.4	No
fin.	3	-6883	-26492	5947			6219	2367	SLU 80	0.4	No
ini.	3	-6884	-44174	-5871			6220	2368	SLU 77	0.4	No
fin.	3	-6930	-26456	5990			6238	2373	SLU 77	0.4	No
ini.	3	-6848	-43776	-5839			6205	2363	SLU 79	0.4	No
fin.	3	-6894	-26344	5956			6224	2369	SLU 79	0.4	No
ini.	3	-6983	-45352	-5999			6259	2379	SLU 83	0.4	No
fin.	3	-7028	-26549	6133			6277	2385	SLU 83	0.39	No
ini.	3	-6736	-44121	-5763			6160	2350	SLU 75	0.41	No
fin.	3	-6775	-26017	5875			6176	2354	SLU 75	0.4	No



## Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1165	-293429	1369853	SLV 6	4.67	Si
fin.	2	-128	-160437	1369853	SLV 6	8.54	Si
ini.	2	-5196	83931	1369853	SLV 14	16.32	Si
fin.	2	-1011	-262441	1369853	SLV 14	5.22	Si
ini.	2	-9102	125133	1369853	SLV 8	10.95	Si
fin.	2	-10376	235312	1369853	SLV 8	5.82	Si
ini.	2	1165	-293429	1369853	SLV 5	4.67	Si
fin.	2	-128	-160437	1369853	SLV 5	8.54	Si
ini.	2	-9102	125133	1369853	SLV 7	10.95	Si
fin.	2	-10376	235312	1369853	SLV 7	5.82	Si
ini.	2	-938	-271243	1369853	SLV 1	5.05	Si
fin.	2	-5171	107584	1369853	SLV 1	12.73	Si
ini.	2	-112	-186876	1369853	SLV 10	7.33	Si
fin.	2	1120	-271445	1369853	SLV 10	5.05	Si
ini.	2	-112	-186876	1369853	SLV 9	7.33	Si
fin.	2	1120	-271445	1369853	SLV 9	5.05	Si
ini.	2	-938	-271243	1369853	SLV 2	5.05	Si
fin.	2	-5171	107584	1369853	SLV 2	12.73	Si
ini.	2	-5196	83931	1369853	SLV 13	16.32	Si
fin.	2	-1011	-262441	1369853	SLV 13	5.22	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-4882	19349	-7015			7152	2825	SLD 14	0.4	No
fin.	2	-3102	-121769	487			6440	2543	SLD 14	5.22	Si
ini.	2	-8276	209499	-12202			8509	3297	SLV 16	0.27	No
fin.	2	-4085	-143717	-3094			6833	2702	SLV 16	0.87	No
ini.	2	-5196	83931	-11144			7277	2872	SLV 13	0.26	No
fin.	2	-1011	-262441	-4154			5603	2165	SLV 13	0.52	No
ini.	2	-4018	-145675	3329			6806	2692	SLV 4	0.81	No
fin.	2	-8245	226309	12080			8497	3293	SLV 4	0.27	No
ini.	2	-8276	209499	-12202			8509	3297	SLV 15	0.27	No
fin.	2	-4085	-143717	-3094			6833	2702	SLV 15	0.87	No
ini.	2	-4018	-145675	3329			6806	2692	SLV 3	0.81	No
fin.	2	-8245	226309	12080			8497	3293	SLV 3	0.27	No
ini.	2	-5196	83931	-11144			7277	2872	SLV 14	0.26	No
fin.	2	-1011	-262441	-4154			5603	2165	SLV 14	0.52	No
ini.	2	-4882	19349	-7015			7152	2825	SLD 13	0.4	No
fin.	2	-3102	-121769	487			6440	2543	SLD 13	5.22	Si
ini.	2	-938	-271243	4388			5574	2151	SLV 1	0.49	No
fin.	2	-5171	107584	11020			7267	2868	SLV 1	0.26	No
ini.	2	-938	-271243	4388			5574	2151	SLV 2	0.49	No
fin.	2	-5171	107584	11020			7267	2868	SLV 2	0.26	No

## Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.668	SLV 5	Si
V_SLV	0.258	SLV 13	No
PF_SLU	20.108	SLU 84	Si
V_SLU	0.389	SLU 83	No

## Trave di accoppiamento 24

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1288.8	657.6	80	109	29	-1188.8	657.6	80	109	29	100	45	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	22	-23354	19201	SLU 81	0.82	No
fin.	3	133	-22861	19201	SLU 81	0.84	No
ini.	3	60	-22339	19201	SLU 80	0.86	No
fin.	3	167	-22180	19201	SLU 80	0.87	No
ini.	3	63	-22457	19201	SLU 78	0.85	No
fin.	3	171	-22259	19201	SLU 78	0.86	No
ini.	3	51	-22288	19201	SLU 74	0.86	No
fin.	3	159	-21931	19201	SLU 74	0.88	No
ini.	3	34	-23523	19201	SLU 84	0.82	No
fin.	3	146	-23189	19201	SLU 84	0.83	No
ini.	3	62	-22478	19201	SLU 77	0.85	No
fin.	3	171	-22271	19201	SLU 77	0.86	No
ini.	3	59	-22360	19201	SLU 79	0.86	No
fin.	3	166	-22192	19201	SLU 79	0.87	No
ini.	3	52	-22267	19201	SLU 75	0.86	No
fin.	3	159	-21920	19201	SLU 75	0.88	No
ini.	3	33	-23544	19201	SLU 83	0.82	No
fin.	3	145	-23201	19201	SLU 83	0.83	No



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	23	-23333	19201	SLU 82	0.82	No
fin.	3	134	-22849	19201	SLU 82	0.84	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	34	-23523	1390			335	121	SLU 84	0.09	No
fin.	3	146	-23189	-1397			335	103	SLU 84	0.07	No
ini.	3	59	-22360	1322			335	117	SLU 79	0.09	No
fin.	3	166	-22192	-1337			335	99	SLU 79	0.07	No
ini.	3	22	-23354	1380			335	123	SLU 81	0.09	No
fin.	3	133	-22861	-1379			335	105	SLU 81	0.08	No
ini.	3	63	-22457	1328			335	117	SLU 78	0.09	No
fin.	3	171	-22259	-1341			335	98	SLU 78	0.07	No
ini.	3	60	-22339	1321			335	117	SLU 80	0.09	No
fin.	3	167	-22180	-1336			335	99	SLU 80	0.07	No
ini.	3	51	-22288	1318			335	119	SLU 74	0.09	No
fin.	3	159	-21931	-1324			335	101	SLU 74	0.08	No
ini.	3	23	-23333	1379			335	123	SLU 82	0.09	No
fin.	3	134	-22849	-1379			335	105	SLU 82	0.08	No
ini.	3	52	-22267	1317			335	118	SLU 75	0.09	No
fin.	3	159	-21920	-1323			335	100	SLU 75	0.08	No
ini.	3	62	-22478	1329			335	117	SLU 77	0.09	No
fin.	3	171	-22271	-1342			335	98	SLU 77	0.07	No
ini.	3	33	-23544	1390			335	121	SLU 83	0.09	No
fin.	3	145	-23201	-1398			335	103	SLU 83	0.07	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2286	-40807	28801	SLV 3	0.71	No
fin.	2	249	17603	28801	SLV 3	1.64	Si
ini.	2	3618	-31475	28801	SLV 6	0.92	No
fin.	2	4376	-12415	28801	SLV 6	2.32	Si
ini.	2	30	16151	28801	SLV 15	1.78	Si
fin.	2	-2330	-42299	28801	SLV 15	0.68	No
ini.	2	2381	11257	28801	SLV 13	2.56	Si
fin.	2	-9	-46477	28801	SLV 13	0.62	No
ini.	2	30	16151	28801	SLV 16	1.78	Si
fin.	2	-2330	-42299	28801	SLV 16	0.68	No
ini.	2	3618	-31475	28801	SLV 5	0.92	No
fin.	2	4376	-12415	28801	SLV 5	2.32	Si
ini.	2	2381	11257	28801	SLV 14	2.56	Si
fin.	2	-9	-46477	28801	SLV 14	0.62	No
ini.	2	-2286	-40807	28801	SLV 4	0.71	No
fin.	2	249	17603	28801	SLV 4	1.64	Si
ini.	2	65	-45701	28801	SLV 1	0.63	No
fin.	2	2571	13425	28801	SLV 1	2.15	Si
ini.	2	65	-45701	28801	SLV 2	0.63	No
fin.	2	2571	13425	28801	SLV 2	2.15	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1527	-21721	790			503	0	SLD 6	0	No
fin.	2	1892	-13440	-546			503	0	SLD 6	0	No
ini.	2	65	-45701	1718			503	179	SLV 1	0.1	No
fin.	2	2571	13425	291			503	0	SLV 1	0	No
ini.	2	1032	-3587	385			503	0	SLD 14	0	No
fin.	2	48	-28118	-1253			503	182	SLD 14	0.15	No
ini.	2	3618	-31475	645			503	0	SLV 6	0	No
fin.	2	4376	-12415	-72			503	0	SLV 6	0	No
ini.	2	1825	-14416	534			503	0	SLD 10	0	No
fin.	2	1560	-21135	-807			503	0	SLD 10	0	No
ini.	2	4313	-14388	45			503	0	SLV 10	0	No
fin.	2	3602	-30386	-683			503	0	SLV 10	0	No
ini.	2	3618	-31475	645			503	0	SLV 5	0	No
fin.	2	4376	-12415	-72			503	0	SLV 5	0	No
ini.	2	1032	-3587	385			503	0	SLD 13	0	No
fin.	2	48	-28118	-1253			503	182	SLD 13	0.15	No
ini.	2	1825	-14416	534			503	0	SLD 9	0	No
fin.	2	1560	-21135	-807			503	0	SLD 9	0	No
ini.	2	40	-27939	1241			503	183	SLD 1	0.15	No
fin.	2	1155	-2467	-381			503	0	SLD 1	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.62	SLV 13	No
V_SLV	0	SLD 1	No
PF_SLU	0.816	SLU 83	No
V_SLU	0.073	SLU 78	No

## Trave di accoppiamento 25

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-800.8	657.6	-160	40	200	-700.8	657.6	-160	40	200	100	45	30000



## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-5755	74835	913235	SLU 81	12.2	Si
fin.	3	-3307	-171647	913235	SLU 81	5.32	Si
ini.	3	-5746	74867	913235	SLU 82	12.2	Si
fin.	3	-3298	-172009	913235	SLU 82	5.31	Si
ini.	3	-5893	77499	913235	SLU 84	11.78	Si
fin.	3	-3381	-176055	913235	SLU 84	5.19	Si
ini.	3	-5823	76116	913235	SLU 79	12	Si
fin.	3	-3357	-172511	913235	SLU 79	5.29	Si
ini.	3	-5842	76714	913235	SLU 78	11.9	Si
fin.	3	-3360	-174059	913235	SLU 78	5.25	Si
ini.	3	-5694	74082	913235	SLU 75	12.33	Si
fin.	3	-3277	-170013	913235	SLU 75	5.37	Si
ini.	3	-5851	76682	913235	SLU 77	11.91	Si
fin.	3	-3369	-173697	913235	SLU 77	5.26	Si
ini.	3	-5703	74050	913235	SLU 74	12.33	Si
fin.	3	-3287	-169651	913235	SLU 74	5.38	Si
ini.	3	-5814	76148	913235	SLU 80	11.99	Si
fin.	3	-3347	-172873	913235	SLU 80	5.28	Si
ini.	3	-5902	77467	913235	SLU 83	11.79	Si
fin.	3	-3390	-175693	913235	SLU 83	5.2	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-5814	76148	-8079			5791	2236	SLU 80	0.28	No
fin.	3	-3347	-172873	-1906			4805	1897	SLU 80	1	No
ini.	3	-5703	74050	-7909			5747	2222	SLU 74	0.28	No
fin.	3	-3287	-169651	-1868			4781	1888	SLU 74	1.01	Si
ini.	3	-5746	74867	-7994			5764	2227	SLU 82	0.28	No
fin.	3	-3298	-172009	-1910			4785	1890	SLU 82	0.99	No
ini.	3	-5694	74082	-7908			5744	2221	SLU 75	0.28	No
fin.	3	-3277	-170013	-1878			4777	1887	SLU 75	1	Si
ini.	3	-5851	76682	-8132			5806	2240	SLU 77	0.28	No
fin.	3	-3369	-173697	-1910			4814	1901	SLU 77	0.99	No
ini.	3	-5842	76714	-8131			5803	2239	SLU 78	0.28	No
fin.	3	-3360	-174059	-1920			4810	1899	SLU 78	0.99	No
ini.	3	-5902	77467	-8218			5827	2247	SLU 83	0.27	No
fin.	3	-3390	-175693	-1943			4822	1904	SLU 83	0.98	No
ini.	3	-5893	77499	-8217			5823	2246	SLU 84	0.27	No
fin.	3	-3381	-176055	-1952			4818	1902	SLU 84	0.97	No
ini.	3	-5755	74835	-7995			5768	2228	SLU 81	0.28	No
fin.	3	-3307	-171647	-1901			4789	1891	SLU 81	1	No
ini.	3	-5823	76116	-8080			5795	2237	SLU 79	0.28	No
fin.	3	-3357	-172511	-1896			4809	1899	SLU 79	1	Si

## Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-3102	-142972	1369853	SLV 4	9.58	Si
fin.	2	-4497	264544	1369853	SLV 4	5.18	Si
ini.	2	-1349	38386	1369853	SLV 9	35.69	Si
fin.	2	1220	-325435	1369853	SLV 9	4.21	Si
ini.	2	-3102	-142972	1369853	SLV 3	9.58	Si
fin.	2	-4497	264544	1369853	SLV 3	5.18	Si
ini.	2	-4219	129847	1369853	SLD 13	10.55	Si
fin.	2	-1311	-276827	1369853	SLD 13	4.95	Si
ini.	2	-4219	129847	1369853	SLD 14	10.55	Si
fin.	2	-1311	-276827	1369853	SLD 14	4.95	Si
ini.	2	-6479	282970	1369853	SLV 15	4.84	Si
fin.	2	-1877	-430270	1369853	SLV 15	3.18	Si
ini.	2	-4657	238891	1369853	SLV 13	5.73	Si
fin.	2	-24	-494124	1369853	SLV 13	2.77	Si
ini.	2	-4657	238891	1369853	SLV 14	5.73	Si
fin.	2	-24	-494124	1369853	SLV 14	2.77	Si
ini.	2	-1349	38386	1369853	SLV 10	35.69	Si
fin.	2	1220	-325435	1369853	SLV 10	4.21	Si
ini.	2	-6479	282970	1369853	SLV 16	4.84	Si
fin.	2	-1877	-430270	1369853	SLV 16	3.18	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-4657	238891	-14040			7062	2791	SLV 13	0.2	No
fin.	2	-24	-494124	-9387			5209	1962	SLV 13	0.21	No
ini.	2	-7424	185315	-9891			8168	3185	SLV 11	0.32	No
fin.	2	-4956	-112589	-3141			7181	2836	SLV 11	0.9	No
ini.	2	-4219	129847	-9037			6886	2723	SLD 13	0.3	No
fin.	2	-1311	-276827	-4736			5724	2223	SLD 13	0.47	No
ini.	2	-4987	148470	-9496			7194	2841	SLD 16	0.3	No
fin.	2	-2088	-250285	-4607			6034	2367	SLD 16	0.51	No
ini.	2	-4219	129847	-9037			6886	2723	SLD 14	0.3	No
fin.	2	-1311	-276827	-4736			5724	2223	SLD 14	0.47	No
ini.	2	-7424	185315	-9891			8168	3185	SLV 12	0.32	No
fin.	2	-4956	-112589	-3141			7181	2836	SLV 12	0.9	No
ini.	2	-6479	282970	-15130			7791	3056	SLV 16	0.2	No





Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	-1877	-430270	-9083			5950	2329	SLV 16	0.26	No
ini.	2	-4987	148470	-9496			7194	2841	SLD 15	0.3	No
fin.	2	-2088	-250285	-4607			6034	2367	SLD 15	0.51	No
ini.	2	-4657	238891	-14040			7062	2791	SLV 14	0.2	No
fin.	2	-24	-494124	-9387			5209	1962	SLV 14	0.21	No
ini.	2	-6479	282970	-15130			7791	3056	SLV 15	0.2	No
fin.	2	-1877	-430270	-9083			5950	2329	SLV 15	0.26	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.772	SLV 13	Si
V_SLV	0.199	SLV 13	No
PF_SLU	5.187	SLU 84	Si
V_SLU	0.273	SLU 84	No

## Trave di accoppiamento 26

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-800.8	657.6	80	109	29	-700.8	657.6	80	109	29	100	45	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	874	-796	19201	SLU 74	24.14	Si
fin.	3	-154	-28859	19201	SLU 74	0.67	No
ini.	3	899	-701	19201	SLU 78	27.4	Si
fin.	3	-160	-29664	19201	SLU 78	0.65	No
ini.	3	893	-753	19201	SLU 82	25.5	Si
fin.	3	-149	-29072	19201	SLU 82	0.66	No
ini.	3	877	-760	19201	SLU 75	25.25	Si
fin.	3	-153	-28846	19201	SLU 75	0.67	No
ini.	3	889	-752	19201	SLU 79	25.55	Si
fin.	3	-161	-29496	19201	SLU 79	0.65	No
ini.	3	912	-728	19201	SLU 83	26.36	Si
fin.	3	-158	-29903	19201	SLU 83	0.64	No
ini.	3	915	-693	19201	SLU 84	27.7	Si
fin.	3	-156	-29890	19201	SLU 84	0.64	No
ini.	3	896	-736	19201	SLU 77	26.1	Si
fin.	3	-162	-29677	19201	SLU 77	0.65	No
ini.	3	892	-717	19201	SLU 80	26.8	Si
fin.	3	-160	-29484	19201	SLU 80	0.65	No
ini.	3	890	-788	19201	SLU 81	24.36	Si
fin.	3	-150	-29084	19201	SLU 81	0.66	No

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	780	-907	342			335	0	SLU 54	0	No
fin.	3	-137	-25965	-1349			372	145	SLU 54	0.11	No
ini.	3	793	-935	346			335	0	SLU 60	0	No
fin.	3	-135	-26203	-1361			371	144	SLU 60	0.11	No
ini.	3	777	-942	344			335	0	SLU 53	0	No
fin.	3	-139	-25977	-1350			372	145	SLU 53	0.11	No
ini.	3	799	-882	348			335	0	SLU 56	0	No
fin.	3	-146	-26795	-1391			374	146	SLU 56	0.1	No
ini.	3	518	-893	252			335	0	SLU 1	0	No
fin.	3	-97	-17777	-932			361	139	SLU 1	0.15	No
ini.	3	792	-898	347			335	0	SLU 58	0	No
fin.	3	-146	-26615	-1382			374	146	SLU 58	0.11	No
ini.	3	796	-900	345			335	0	SLU 61	0	No
fin.	3	-133	-26190	-1359			371	144	SLU 61	0.11	No
ini.	3	802	-847	347			335	0	SLU 57	0	No
fin.	3	-145	-26783	-1389			374	146	SLU 57	0.1	No
ini.	3	795	-863	345			335	0	SLU 59	0	No
fin.	3	-145	-26602	-1380			374	146	SLU 59	0.11	No
ini.	3	775	-900	340			335	0	SLU 55	0	No
fin.	3	-136	-25775	-1339			371	144	SLU 55	0.11	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2962	33226	28801	SLV 13	0.87	No
fin.	2	202	-49990	28801	SLV 13	0.58	No
ini.	2	-1809	-34818	28801	SLV 3	0.83	No
fin.	2	-411	11157	28801	SLV 3	2.58	Si
ini.	2	-588	-37467	28801	SLV 1	0.77	No
fin.	2	940	14477	28801	SLV 1	1.99	Si
ini.	2	-927	14222	28801	SLV 11	2.03	Si
fin.	2	-2466	-34621	28801	SLV 11	0.83	No
ini.	2	-927	14222	28801	SLV 12	2.03	Si
fin.	2	-2466	-34621	28801	SLV 12	0.83	No



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1741	35874	28801	SLV 15	0.8	No
fin.	2	-1148	-53310	28801	SLV 15	0.54	No
ini.	2	-1809	-34818	28801	SLV 4	0.83	No
fin.	2	-411	11157	28801	SLV 4	2.58	Si
ini.	2	-588	-37467	28801	SLV 2	0.77	No
fin.	2	940	14477	28801	SLV 2	1.99	Si
ini.	2	1741	35874	28801	SLV 16	0.8	No
fin.	2	-1148	-53310	28801	SLV 16	0.54	No
ini.	2	2962	33226	28801	SLV 14	0.87	No
fin.	2	202	-49990	28801	SLV 14	0.58	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	3145	5393	-335			503	0	SLV 9	0	No
fin.	2	2037	-23553	-995			503	0	SLV 9	0	No
ini.	2	2962	33226	-797			503	0	SLV 13	0	No
fin.	2	202	-49990	-2064			503	157	SLV 13	0.08	No
ini.	2	1084	14895	-112			503	0	SLD 16	0	No
fin.	2	-550	-33926	-1555			649	257	SLD 16	0.17	No
ini.	2	3145	5393	-335			503	0	SLV 10	0	No
fin.	2	2037	-23553	-995			503	0	SLV 10	0	No
ini.	2	2080	-15815	245			503	0	SLV 5	0	No
fin.	2	2258	-4213	-298			503	0	SLV 5	0	No
ini.	2	1741	35874	-613			503	0	SLV 15	0	No
fin.	2	-1148	-53310	-2283			809	314	SLV 15	0.14	No
ini.	2	2962	33226	-797			503	0	SLV 14	0	No
fin.	2	202	-49990	-2064			503	157	SLV 14	0.08	No
ini.	2	-588	-37467	1137			659	261	SLV 2	0.23	No
fin.	2	940	14477	260			503	0	SLV 2	0	No
ini.	2	-588	-37467	1137			659	261	SLV 1	0.23	No
fin.	2	940	14477	260			503	0	SLV 1	0	No
ini.	2	2080	-15815	245			503	0	SLV 6	0	No
fin.	2	2258	-4213	-298			503	0	SLV 6	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.54	SLV 15	No
V_SLV	0	SLD 5	No
PF_SLU	0.642	SLU 83	No
V_SLU	0	SLU 1	No

## Trave di accoppiamento 27

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-972.8	127.1	60	109	49	-972.8	220.1	60	109	49	93	30	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	23	-2546	36545	SLU 80	14.35	Si
fin.	3	639	-76474	36545	SLU 80	0.48	No
ini.	3	-1	-1197	36545	SLU 84	30.53	Si
fin.	3	611	-73915	36545	SLU 84	0.49	No
ini.	3	2	-1306	36545	SLU 74	27.98	Si
fin.	3	578	-69603	36545	SLU 74	0.53	No
ini.	3	5	-1409	36545	SLU 76	25.94	Si
fin.	3	581	-69830	36545	SLU 76	0.52	No
ini.	3	21	-2426	36545	SLU 78	15.07	Si
fin.	3	633	-75794	36545	SLU 78	0.48	No
ini.	3	24	-2551	36545	SLU 37	14.32	Si
fin.	3	576	-69321	36545	SLU 37	0.53	No
ini.	3	-1	-1208	36545	SLU 83	30.26	Si
fin.	3	612	-74187	36545	SLU 83	0.49	No
ini.	3	23	-2557	36545	SLU 79	14.29	Si
fin.	3	640	-76746	36545	SLU 79	0.48	No
ini.	3	20	-2436	36545	SLU 77	15	Si
fin.	3	635	-76066	36545	SLU 77	0.48	No
ini.	3	3	-1295	36545	SLU 75	28.21	Si
fin.	3	577	-69331	36545	SLU 75	0.53	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	0	-940	-116			377	142	SLU 53	1.23	Si
fin.	3	493	-59088	-1086			377	0	SLU 53	0	No
ini.	3	-1	-1208	-143			378	142	SLU 83	0.99	No
fin.	3	612	-74187	-1378			377	0	SLU 83	0	No
ini.	3	3	-1043	-117			377	142	SLU 55	1.21	Si
fin.	3	496	-59315	-1090			377	0	SLU 55	0	No
ini.	3	-18	-72	-71			382	145	SLU 39	2.05	Si



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	492	-60298	-1172			377	0	SLU 39	0	No
ini.	3	0	-1202	-134			377	142	SLU 41	1.06	Si
fin.	3	548	-66761	-1240			377	0	SLU 41	0	No
ini.	3	0	-1192	-130			377	142	SLU 42	1.09	Si
fin.	3	547	-66489	-1237			377	0	SLU 42	0	No
ini.	3	1	-930	-113			377	142	SLU 54	1.26	Si
fin.	3	492	-58816	-1083			377	0	SLU 54	0	No
ini.	3	24	-2541	-199			377	139	SLU 38	0.69	No
fin.	3	574	-69048	-1215			377	0	SLU 38	0	No
ini.	3	-18	-62	-67			382	145	SLU 40	2.14	Si
fin.	3	490	-60026	-1169			377	0	SLU 40	0	No
ini.	3	18	-2070	-179			377	139	SLU 56	0.78	No
fin.	3	550	-65551	-1154			377	0	SLU 56	0	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-885	15096	54817	SLV 8	3.63	Si
fin.	2	151	-126998	54817	SLV 8	0.43	No
ini.	2	-367	5854	54817	SLD 7	9.36	Si
fin.	2	266	-77854	54817	SLD 7	0.7	No
ini.	2	-79	-4948	54817	SLV 4	11.08	Si
fin.	2	481	-86521	54817	SLV 4	0.63	No
ini.	2	-1010	21162	54817	SLV 11	2.59	Si
fin.	2	27	-114630	54817	SLV 11	0.48	No
ini.	2	-79	-4948	54817	SLV 3	11.08	Si
fin.	2	481	-86521	54817	SLV 3	0.63	No
ini.	2	-367	5854	54817	SLD 8	9.36	Si
fin.	2	266	-77854	54817	SLD 8	0.7	No
ini.	2	-418	8364	54817	SLD 11	6.55	Si
fin.	2	215	-72621	54817	SLD 11	0.75	No
ini.	2	-1010	21162	54817	SLV 12	2.59	Si
fin.	2	27	-114630	54817	SLV 12	0.48	No
ini.	2	-418	8364	54817	SLD 12	6.55	Si
fin.	2	215	-72621	54817	SLD 12	0.75	No
ini.	2	-885	15096	54817	SLV 7	3.63	Si
fin.	2	151	-126998	54817	SLV 7	0.43	No

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-885	15096	-1203			802	316	SLV 8	0.26	No
fin.	2	151	-126998	-1380			566	190	SLV 8	0.14	No
ini.	2	488	-16062	-35			566	124	SLV 2	3.5	Si
fin.	2	640	-39459	-708			566	77	SLV 2	0.11	No
ini.	2	-885	15096	-1203			802	316	SLV 7	0.26	No
fin.	2	151	-126998	-1380			566	190	SLV 7	0.14	No
ini.	2	1002	-21951	899			566	0	SLV 5	0	No
fin.	2	682	29876	-258			566	57	SLV 5	0.22	No
ini.	2	1002	-21951	899			566	0	SLV 6	0	No
fin.	2	682	29876	-258			566	57	SLV 6	0.22	No
ini.	2	-79	-4948	-666			587	224	SLV 4	0.34	No
fin.	2	481	-86521	-1044			566	125	SLV 4	0.12	No
ini.	2	877	-15885	1069			566	0	SLV 9	0	No
fin.	2	558	42243	-209			566	105	SLV 9	0.5	No
ini.	2	877	-15885	1069			566	0	SLV 10	0	No
fin.	2	558	42243	-209			566	105	SLV 10	0.5	No
ini.	2	-79	-4948	-666			587	224	SLV 3	0.34	No
fin.	2	481	-86521	-1044			566	125	SLV 3	0.12	No
ini.	2	488	-16062	-35			566	124	SLV 1	3.5	Si
fin.	2	640	-39459	-708			566	77	SLV 1	0.11	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.432	SLV 7	No
V_SLV	0	SLV 5	No
PF_SLU	0.476	SLU 79	No
V_SLU	0	SLU 16	No

## Trave di accoppiamento 28

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1055.3	-328.4	45	109	64	-825.3	-328.4	45	109	64	230	45	30000

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb_	fhk	fvk0	fkhmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	665	-100917	93515	SLU 81	0.93	No
fin.	3	2188	-82751	93515	SLU 81	1.13	Si
ini.	3	684	-100780	93515	SLU 75	0.93	No
fin.	3	2137	-75721	93515	SLU 75	1.24	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	663	-101817	93515	SLU 83	0.92	No
fin.	3	2200	-85319	93515	SLU 83	1.1	Si
ini.	3	652	-98629	93515	SLU 77	0.95	No
fin.	3	2134	-82606	93515	SLU 77	1.13	Si
ini.	3	674	-101230	93515	SLU 80	0.92	No
fin.	3	2137	-78685	93515	SLU 80	1.19	Si
ini.	3	695	-103968	93515	SLU 82	0.9	No
fin.	3	2204	-78434	93515	SLU 82	1.19	Si
ini.	3	698	-101464	93515	SLU 73	0.92	No
fin.	3	2123	-70670	93515	SLU 73	1.32	Si
ini.	3	682	-101680	93515	SLU 78	0.92	No
fin.	3	2150	-78289	93515	SLU 78	1.19	Si
ini.	3	693	-104869	93515	SLU 84	0.89	No
fin.	3	2216	-81002	93515	SLU 84	1.15	Si
ini.	3	696	-102364	93515	SLU 76	0.91	No
fin.	3	2135	-73238	93515	SLU 76	1.28	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	626	-92126	3139			739	164	SLU 54	0.05	No
fin.	3	1932	-69224	-2286			739	0	SLU 54	0	No
ini.	3	586	-89525	3125			739	174	SLU 58	0.06	No
fin.	3	1916	-76506	-2325			739	0	SLU 58	0	No
ini.	3	594	-89975	3133			739	172	SLU 56	0.05	No
fin.	3	1929	-76110	-2325			739	0	SLU 56	0	No
ini.	3	637	-95315	3270			739	161	SLU 61	0.05	No
fin.	3	1998	-71937	-2368			739	0	SLU 61	0	No
ini.	3	624	-93026	3176			739	165	SLU 57	0.05	No
fin.	3	1944	-71793	-2326			739	0	SLU 57	0	No
ini.	3	616	-92576	3168			739	166	SLU 59	0.05	No
fin.	3	1932	-72189	-2327			739	0	SLU 59	0	No
ini.	3	438	-61617	2116			739	205	SLU 1	0.1	No
fin.	3	1345	-47843	-1561			739	0	SLU 1	0	No
ini.	3	607	-92263	3227			739	169	SLU 60	0.05	No
fin.	3	1983	-76254	-2367			739	0	SLU 60	0	No
ini.	3	596	-89075	3096			739	171	SLU 53	0.06	No
fin.	3	1916	-73541	-2285			739	0	SLU 53	0	No
ini.	3	638	-93710	3160			739	161	SLU 55	0.05	No
fin.	3	1930	-66742	-2288			739	0	SLU 55	0	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1500	12734	140273	SLV 13	11.02	Si
fin.	2	-877	-203482	140273	SLV 13	0.69	No
ini.	2	2540	-170114	140273	SLV 1	0.82	No
fin.	2	5618	99724	140273	SLV 1	1.41	Si
ini.	2	2431	-146965	140273	SLV 4	0.95	No
fin.	2	3806	97570	140273	SLV 4	1.44	Si
ini.	2	1253	-133124	140273	SLV 6	1.05	Si
fin.	2	5458	-3885	140273	SLV 6	36.11	Si
ini.	2	2431	-146965	140273	SLV 3	0.95	No
fin.	2	3806	97570	140273	SLV 3	1.44	Si
ini.	2	-1500	12734	140273	SLV 14	11.02	Si
fin.	2	-877	-203482	140273	SLV 14	0.69	No
ini.	2	-1608	35883	140273	SLV 15	3.91	Si
fin.	2	-2689	-205636	140273	SLV 15	0.68	No
ini.	2	-1608	35883	140273	SLV 16	3.91	Si
fin.	2	-2689	-205636	140273	SLV 16	0.68	No
ini.	2	2540	-170114	140273	SLV 2	0.82	No
fin.	2	5618	99724	140273	SLV 2	1.41	Si
ini.	2	1253	-133124	140273	SLV 5	1.05	Si
fin.	2	5458	-3885	140273	SLV 5	36.11	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1337	-110768	3076			1109	112	SLD 1	0.04	No
fin.	2	3225	12234	-895			1109	0	SLD 1	0	No
ini.	2	1253	-133124	3060			1109	151	SLV 5	0.05	No
fin.	2	5458	-3885	-1225			1109	0	SLV 5	0	No
ini.	2	1290	-100946	3018			1109	135	SLD 3	0.04	No
fin.	2	2480	11258	-872			1109	0	SLD 3	0	No
ini.	2	289	-71863	2199			1109	373	SLD 9	0.17	No
fin.	2	2291	-70741	-1983			1109	0	SLD 9	0	No
ini.	2	798	-95108	2635			1109	279	SLD 6	0.11	No
fin.	2	3123	-31919	-1494			1109	0	SLD 6	0	No
ini.	2	1290	-100946	3018			1109	135	SLD 4	0.04	No
fin.	2	2480	11258	-872			1109	0	SLD 4	0	No
ini.	2	1337	-110768	3076			1109	112	SLD 2	0.04	No
fin.	2	3225	12234	-895			1109	0	SLD 2	0	No
ini.	2	798	-95108	2635			1109	279	SLD 5	0.11	No
fin.	2	3123	-31919	-1494			1109	0	SLD 5	0	No
ini.	2	1253	-133124	3060			1109	151	SLV 6	0.05	No
fin.	2	5458	-3885	-1225			1109	0	SLV 6	0	No
ini.	2	289	-71863	2199			1109	373	SLD 10	0.17	No
fin.	2	2291	-70741	-1983			1109	0	SLD 10	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.682	SLV 15	No



Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	0	SLD 1	No
PF_SLU	0.892	SLU 84	No
V_SLU	0	SLU 1	No

## Trave di accoppiamento 29

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-746.3	-328.4	-160	40	200	-646.3	-328.4	-160	40	200	100	45	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-91	-423790	913235	SLU 55	2.15	Si
fin.	3	-107	-237396	913235	SLU 55	3.85	Si
ini.	3	-336	-437157	913235	SLU 75	2.09	Si
fin.	3	-502	-235973	913235	SLU 75	3.87	Si
ini.	3	-112	-459152	913235	SLU 76	1.99	Si
fin.	3	-152	-256350	913235	SLU 76	3.56	Si
ini.	3	-67	-458714	913235	SLU 73	1.99	Si
fin.	3	-158	-252287	913235	SLU 73	3.62	Si
ini.	3	-381	-437595	913235	SLU 78	2.09	Si
fin.	3	-496	-240037	913235	SLU 78	3.8	Si
ini.	3	-399	-434314	913235	SLU 80	2.1	Si
fin.	3	-500	-239334	913235	SLU 80	3.82	Si
ini.	3	-46	-423352	913235	SLU 52	2.16	Si
fin.	3	-113	-233333	913235	SLU 52	3.91	Si
ini.	3	16	-421952	913235	SLU 68	2.16	Si
fin.	3	-24	-235131	913235	SLU 68	3.88	Si
ini.	3	-409	-449818	913235	SLU 84	2.03	Si
fin.	3	-561	-244364	913235	SLU 84	3.74	Si
ini.	3	-364	-449380	913235	SLU 82	2.03	Si
fin.	3	-566	-240301	913235	SLU 82	3.8	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-112	-459152	-6657			3511	1328	SLU 76	0.2	No
fin.	3	-152	-256350	9292			3527	1337	SLU 76	0.14	No
ini.	3	61	-421514	-5777			3466	1291	SLU 65	0.22	No
fin.	3	-30	-231068	8455			3478	1311	SLU 65	0.16	No
ini.	3	-364	-449380	-6556			3612	1381	SLU 82	0.21	No
fin.	3	-566	-240301	9610			3693	1422	SLU 82	0.15	No
ini.	3	-399	-434314	-6583			3626	1388	SLU 80	0.21	No
fin.	3	-500	-239334	9174			3666	1409	SLU 80	0.15	No
ini.	3	-409	-449818	-6723			3630	1390	SLU 84	0.21	No
fin.	3	-561	-244364	9578			3690	1421	SLU 84	0.15	No
ini.	3	-336	-437157	-6418			3600	1375	SLU 75	0.21	No
fin.	3	-502	-235973	9284			3667	1409	SLU 75	0.15	No
ini.	3	16	-421952	-5943			3466	1301	SLU 68	0.22	No
fin.	3	-24	-235131	8424			3476	1310	SLU 68	0.16	No
ini.	3	-381	-437595	-6584			3618	1385	SLU 78	0.21	No
fin.	3	-496	-240037	9252			3664	1408	SLU 78	0.15	No
ini.	3	-46	-423352	-5967			3485	1314	SLU 52	0.22	No
fin.	3	-113	-233333	8557			3511	1329	SLU 52	0.16	No
ini.	3	-67	-458714	-6491			3493	1319	SLU 73	0.2	No
fin.	3	-158	-252287	9324			3529	1338	SLU 73	0.14	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	4365	-872015	1369853	SLV 2	1.57	Si
fin.	2	-1692	-21243	1369853	SLV 2	64.48	Si
ini.	2	1598	-530592	1369853	SLD 2	2.58	Si
fin.	2	-1121	-90006	1369853	SLD 2	15.22	Si
ini.	2	452	-469333	1369853	SLD 6	2.92	Si
fin.	2	-1612	-93578	1369853	SLD 6	14.64	Si
ini.	2	1735	-736649	1369853	SLV 6	1.86	Si
fin.	2	-2950	-23597	1369853	SLV 6	58.05	Si
ini.	2	1735	-736649	1369853	SLV 5	1.86	Si
fin.	2	-2950	-23597	1369853	SLV 5	58.05	Si
ini.	2	1598	-530592	1369853	SLD 1	2.58	Si
fin.	2	-1121	-90006	1369853	SLD 1	15.22	Si
ini.	2	3876	-687333	1369853	SLV 3	1.99	Si
fin.	2	-418	-74088	1369853	SLV 3	18.49	Si
ini.	2	452	-469333	1369853	SLD 5	2.92	Si
fin.	2	-1612	-93578	1369853	SLD 5	14.64	Si
ini.	2	3876	-687333	1369853	SLV 4	1.99	Si
fin.	2	-418	-74088	1369853	SLV 4	18.49	Si
ini.	2	4365	-872015	1369853	SLV 1	1.57	Si
fin.	2	-1692	-21243	1369853	SLV 1	64.48	Si



## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	3876	-687333	6325			5199	728	SLV 3	0.12	No
fin.	2	-418	-74088	17275			5366	2045	SLV 3	0.12	No
ini.	2	1407	-454629	364			5199	1622	SLD 4	4.45	Si
fin.	2	-616	-110311	11058			5445	2086	SLD 4	0.19	No
ini.	2	1735	-736649	-3547			5199	1534	SLV 6	0.43	No
fin.	2	-2950	-23597	14048			6379	2517	SLV 6	0.18	No
ini.	2	3876	-687333	6325			5199	728	SLV 4	0.12	No
fin.	2	-418	-74088	17275			5366	2045	SLV 4	0.12	No
ini.	2	1407	-454629	364			5199	1622	SLD 3	4.45	Si
fin.	2	-616	-110311	11058			5445	2086	SLD 3	0.19	No
ini.	2	1598	-530592	-238			5199	1571	SLD 1	6.6	Si
fin.	2	-1121	-90006	12077			5647	2187	SLD 1	0.18	No
ini.	2	4365	-872015	4897			5199	338	SLV 2	0.07	No
fin.	2	-1692	-21243	19682			5876	2295	SLV 2	0.12	No
ini.	2	1735	-736649	-3547			5199	1534	SLV 5	0.43	No
fin.	2	-2950	-23597	14048			6379	2517	SLV 5	0.18	No
ini.	2	4365	-872015	4897			5199	338	SLV 1	0.07	No
fin.	2	-1692	-21243	19682			5876	2295	SLV 1	0.12	No
ini.	2	1598	-530592	-238			5199	1571	SLD 2	6.6	Si
fin.	2	-1121	-90006	12077			5647	2187	SLD 2	0.18	No

### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.571	SLV 1	Si
V_SLV	0.069	SLV 1	No
PF_SLU	1.989	SLU 76	Si
V_SLU	0.144	SLU 73	No

## Trave di accoppiamento 30

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-746.3	-328.4	80	109	29	-646.3	-328.4	80	109	29	100	45	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fhk	fvk0	fhmmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	1391	-29842	19201	SLU 76	0.64	No
fin.	3	2611	-15725	19201	SLU 76	1.22	Si
ini.	3	1247	-29414	19201	SLU 81	0.65	No
fin.	3	1701	-18472	19201	SLU 81	1.04	Si
ini.	3	1359	-30853	19201	SLU 82	0.62	No
fin.	3	2288	-17194	19201	SLU 82	1.12	Si
ini.	3	1266	-29101	19201	SLU 83	0.66	No
fin.	3	1696	-19185	19201	SLU 83	1	Si
ini.	3	1378	-30540	19201	SLU 84	0.63	No
fin.	3	2283	-17907	19201	SLU 84	1.07	Si
ini.	3	1372	-30155	19201	SLU 73	0.64	No
fin.	3	2616	-15011	19201	SLU 73	1.28	Si
ini.	3	1335	-28569	19201	SLU 80	0.67	No
fin.	3	2215	-17290	19201	SLU 80	1.11	Si
ini.	3	1237	-27701	19201	SLU 61	0.69	No
fin.	3	2132	-15055	19201	SLU 61	1.28	Si
ini.	3	1336	-28800	19201	SLU 78	0.67	No
fin.	3	2232	-17161	19201	SLU 78	1.12	Si
ini.	3	1317	-29113	19201	SLU 75	0.66	No
fin.	3	2237	-16448	19201	SLU 75	1.17	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	1195	-25960	2124			335	0	SLU 54	0	No
fin.	3	2081	-14309	-1560			335	0	SLU 54	0	No
ini.	3	1213	-25416	2115			335	0	SLU 59	0	No
fin.	3	2059	-15151	-1592			335	0	SLU 59	0	No
ini.	3	1125	-26261	2076			335	0	SLU 60	0	No
fin.	3	1545	-16333	-1657			335	0	SLU 60	0	No
ini.	3	1269	-26689	2216			335	0	SLU 55	0	No
fin.	3	2455	-13586	-1542			335	0	SLU 55	0	No
ini.	3	1083	-24521	1969			335	0	SLU 53	0	No
fin.	3	1494	-15587	-1586			335	0	SLU 53	0	No
ini.	3	738	-16781	1345			335	0	SLU 1	0	No
fin.	3	1068	-9717	-1055			335	0	SLU 1	0	No
ini.	3	1237	-27701	2231			335	0	SLU 61	0	No
fin.	3	2132	-15055	-1631			335	0	SLU 61	0	No
ini.	3	1102	-24207	1972			335	0	SLU 56	0	No
fin.	3	1489	-16300	-1619			335	0	SLU 56	0	No
ini.	3	1214	-25647	2127			335	0	SLU 57	0	No
fin.	3	2076	-15022	-1593			335	0	SLU 57	0	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	1101	-23976	1960			335	0	SLU 58	0	No
fin.	3	1473	-16429	-1618			335	0	SLU 58	0	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	933	35843	28801	SLV 15	0.8	No
fin.	2	-4096	-58534	28801	SLV 15	0.49	No
ini.	2	933	35843	28801	SLV 16	0.8	No
fin.	2	-4096	-58534	28801	SLV 16	0.49	No
ini.	2	696	-73417	28801	SLV 2	0.39	No
fin.	2	6406	36104	28801	SLV 2	0.8	No
ini.	2	420	54133	28801	SLV 12	0.53	No
fin.	2	-5400	-43971	28801	SLV 12	0.66	No
ini.	2	1364	-70110	28801	SLV 10	0.41	No
fin.	2	5544	-3180	28801	SLV 10	9.06	Si
ini.	2	1208	-91706	28801	SLV 5	0.31	No
fin.	2	7710	21540	28801	SLV 5	1.34	Si
ini.	2	696	-73417	28801	SLV 1	0.39	No
fin.	2	6406	36104	28801	SLV 1	0.8	No
ini.	2	1364	-70110	28801	SLV 9	0.41	No
fin.	2	5544	-3180	28801	SLV 9	9.06	Si
ini.	2	420	54133	28801	SLV 11	0.53	No
fin.	2	-5400	-43971	28801	SLV 11	0.66	No
ini.	2	1208	-91706	28801	SLV 6	0.31	No
fin.	2	7710	21540	28801	SLV 6	1.34	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1208	-91706	2351			503	0	SLV 6	0	No
fin.	2	7710	21540	-1104			503	0	SLV 6	0	No
ini.	2	765	-41784	2483			503	0	SLD 1	0	No
fin.	2	3332	8803	-594			503	0	SLD 1	0	No
ini.	2	1216	-1430	-775			503	0	SLV 13	0	No
fin.	2	-813	-46297	-2764			719	283	SLV 13	0.1	No
ini.	2	1364	-70110	962			503	0	SLV 10	0	No
fin.	2	5544	-3180	-1989			503	0	SLV 10	0	No
ini.	2	1364	-70110	962			503	0	SLV 9	0	No
fin.	2	5544	-3180	-1989			503	0	SLV 9	0	No
ini.	2	413	-36144	3758			503	115	SLV 3	0.03	No
fin.	2	3122	23867	408			503	0	SLV 3	0	No
ini.	2	413	-36144	3758			503	115	SLV 4	0.03	No
fin.	2	3122	23867	408			503	0	SLV 4	0	No
ini.	2	1208	-91706	2351			503	0	SLV 5	0	No
fin.	2	7710	21540	-1104			503	0	SLV 5	0	No
ini.	2	696	-73417	3857			503	0	SLV 2	0	No
fin.	2	6406	36104	187			503	0	SLV 2	0	No
ini.	2	1216	-1430	-775			503	0	SLV 14	0	No
fin.	2	-813	-46297	-2764			719	283	SLV 14	0.1	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.314	SLV 5	No
V_SLV	0	SLD 1	No
PF_SLU	0.622	SLU 82	No
V_SLU	0	SLU 1	No

### Trave di accoppiamento 31

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-323.3	-328.4	-160	40	200	-223.3	-328.4	-160	40	200	100	45	30000

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2698	-41971	913235	SLU 60	21.76	Si
fin.	3	-2024	-201364	913235	SLU 60	4.54	Si
ini.	3	-2915	-44972	913235	SLU 81	20.31	Si
fin.	3	-2173	-221163	913235	SLU 81	4.13	Si
ini.	3	-2891	-42760	913235	SLU 77	21.36	Si
fin.	3	-2155	-221191	913235	SLU 77	4.13	Si
ini.	3	-2882	-42450	913235	SLU 79	21.51	Si
fin.	3	-2149	-219663	913235	SLU 79	4.16	Si
ini.	3	-2738	-41348	913235	SLU 62	22.09	Si
fin.	3	-2051	-204933	913235	SLU 62	4.46	Si
ini.	3	-2674	-39759	913235	SLU 56	22.97	Si
fin.	3	-2006	-201392	913235	SLU 56	4.53	Si
ini.	3	-2624	-39783	913235	SLU 69	22.96	Si
fin.	3	-1976	-201039	913235	SLU 69	4.54	Si
ini.	3	-2665	-39449	913235	SLU 58	23.15	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	-2001	-199865	913235	SLU 58	4.57	Si
ini.	3	-2956	-44349	913235	SLU 83	20.59	Si
fin.	3	-2199	-224731	913235	SLU 83	4.06	Si
ini.	3	-2851	-43383	913235	SLU 74	21.05	Si
fin.	3	-2128	-217622	913235	SLU 74	4.2	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-3683	-8248	-5076			4939	1947	SLU 78	0.38	No
fin.	3	-3006	-180003	-504			4668	1846	SLU 78	3.66	Si
ini.	3	-2956	-44349	-5337			4648	1838	SLU 83	0.34	No
fin.	3	-2199	-224731	-597			4346	1717	SLU 83	2.88	Si
ini.	3	-3747	-9837	-5219			4965	1956	SLU 84	0.37	No
fin.	3	-3050	-183544	-461			4686	1852	SLU 84	4.02	Si
ini.	3	-2698	-41971	-4715			4545	1798	SLU 60	0.38	No
fin.	3	-2024	-201364	-580			4276	1688	SLU 60	2.91	Si
ini.	3	-3707	-10460	-5131			4949	1950	SLU 82	0.38	No
fin.	3	-3024	-179975	-433			4676	1848	SLU 82	4.27	Si
ini.	3	-2915	-44972	-5249			4632	1832	SLU 81	0.35	No
fin.	3	-2173	-221163	-569			4335	1713	SLU 81	3.01	Si
ini.	3	-2851	-43383	-5106			4606	1822	SLU 74	0.36	No
fin.	3	-2128	-217622	-613			4317	1705	SLU 74	2.78	Si
ini.	3	-2891	-42760	-5194			4622	1828	SLU 77	0.35	No
fin.	3	-2155	-221191	-640			4328	1710	SLU 77	2.67	Si
ini.	3	-2882	-42450	-5165			4619	1826	SLU 79	0.35	No
fin.	3	-2149	-219663	-637			4325	1709	SLU 79	2.68	Si
ini.	3	-2738	-41348	-4803			4561	1804	SLU 62	0.38	No
fin.	3	-2051	-204933	-607			4286	1692	SLU 62	2.79	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	3136	-379309	1369853	SLV 4	3.61	Si
fin.	2	-75	129324	1369853	SLV 4	10.59	Si
ini.	2	4183	-202314	1369853	SLV 11	6.77	Si
fin.	2	6428	-602267	1369853	SLV 11	2.27	Si
ini.	2	4183	-202314	1369853	SLV 12	6.77	Si
fin.	2	6428	-602267	1369853	SLV 12	2.27	Si
ini.	2	5981	-365555	1369853	SLV 7	3.75	Si
fin.	2	5900	-374061	1369853	SLV 7	3.66	Si
ini.	2	-7092	316282	1369853	SLV 13	4.33	Si
fin.	2	-2911	-428096	1369853	SLV 13	3.2	Si
ini.	2	5981	-365555	1369853	SLV 8	3.75	Si
fin.	2	5900	-374061	1369853	SLV 8	3.66	Si
ini.	2	3136	-379309	1369853	SLV 3	3.61	Si
fin.	2	-75	129324	1369853	SLV 3	10.59	Si
ini.	2	-2856	164830	1369853	SLV 15	8.31	Si
fin.	2	1683	-631363	1369853	SLV 15	2.17	Si
ini.	2	-2856	164830	1369853	SLV 16	8.31	Si
fin.	2	1683	-631363	1369853	SLV 16	2.17	Si
ini.	2	-7092	316282	1369853	SLV 14	4.33	Si
fin.	2	-2911	-428096	1369853	SLV 14	3.2	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	3136	-379309	7848			5199	1077	SLV 3	0.14	No
fin.	2	-75	129324	8815			5229	1973	SLV 3	0.22	No
ini.	2	5981	-365555	733			5199	0	SLV 8	0	No
fin.	2	5900	-374061	605			5199	0	SLV 8	0	No
ini.	2	4183	-202314	-5878			5199	519	SLV 12	0.09	No
fin.	2	6428	-602267	-5302			5199	0	SLV 12	0	No
ini.	2	4183	-202314	-5878			5199	519	SLV 11	0.09	No
fin.	2	6428	-602267	-5302			5199	0	SLV 11	0	No
ini.	2	-7092	316282	-14700			8036	3140	SLV 14	0.21	No
fin.	2	-2911	-428096	-9743			6364	2511	SLV 14	0.26	No
ini.	2	3136	-379309	7848			5199	1077	SLV 4	0.14	No
fin.	2	-75	129324	8815			5229	1973	SLV 4	0.22	No
ini.	2	-7092	316282	-14700			8036	3140	SLV 13	0.21	No
fin.	2	-2911	-428096	-9743			6364	2511	SLV 13	0.26	No
ini.	2	-2856	164830	-14188			6341	2501	SLV 15	0.18	No
fin.	2	1683	-631363	-10874			5199	1548	SLV 15	0.14	No
ini.	2	-2856	164830	-14188			6341	2501	SLV 16	0.18	No
fin.	2	1683	-631363	-10874			5199	1548	SLV 16	0.14	No
ini.	2	5981	-365555	733			5199	0	SLV 7	0	No
fin.	2	5900	-374061	605			5199	0	SLV 7	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.17	SLV 15	Si
V_SLV	0	SLV 7	No
PF_SLU	4.064	SLU 83	Si
V_SLU	0.344	SLU 83	No

## Trave di accoppiamento 32

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)





## Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-323.3	-328.4	80	109	29	-223.3	-328.4	80	109	29	100	45	30000

## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	997	-12462	19201	SLU 77	1.54	Si
fin.	3	626	-19199	19201	SLU 77	1	Si
ini.	3	982	-13498	19201	SLU 83	1.42	Si
fin.	3	605	-20082	19201	SLU 83	0.96	No
ini.	3	807	-11930	19201	SLU 41	1.61	Si
fin.	3	481	-17697	19201	SLU 41	1.08	Si
ini.	3	895	-11929	19201	SLU 60	1.61	Si
fin.	3	567	-17321	19201	SLU 60	1.11	Si
ini.	3	962	-13563	19201	SLU 81	1.42	Si
fin.	3	593	-19789	19201	SLU 81	0.97	No
ini.	3	787	-11995	19201	SLU 39	1.6	Si
fin.	3	469	-17404	19201	SLU 39	1.1	Si
ini.	3	821	-10894	19201	SLU 35	1.76	Si
fin.	3	502	-16814	19201	SLU 35	1.14	Si
ini.	3	977	-12527	19201	SLU 74	1.53	Si
fin.	3	614	-18906	19201	SLU 74	1.02	Si
ini.	3	915	-11864	19201	SLU 62	1.62	Si
fin.	3	579	-17614	19201	SLU 62	1.09	Si
ini.	3	985	-12453	19201	SLU 79	1.54	Si
fin.	3	618	-19126	19201	SLU 79	1	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	440	-5885	776			335	0	SLU 51	0	No
fin.	3	213	-8780	-653			335	90	SLU 51	0.14	No
ini.	3	918	-10819	1178			335	0	SLU 58	0	No
fin.	3	591	-16658	-1127			335	0	SLU 58	0	No
ini.	3	480	-8172	974			335	0	SLU 59	0	No
fin.	3	212	-11695	-836			335	90	SLU 59	0.11	No
ini.	3	895	-11929	1256			335	0	SLU 60	0	No
fin.	3	567	-17321	-1177			335	0	SLU 60	0	No
ini.	3	492	-8180	978			335	0	SLU 57	0	No
fin.	3	220	-11769	-840			335	89	SLU 57	0.11	No
ini.	3	930	-10828	1183			335	0	SLU 56	0	No
fin.	3	599	-16732	-1131			335	0	SLU 56	0	No
ini.	3	452	-5894	780			335	0	SLU 49	0	No
fin.	3	221	-8853	-658			335	88	SLU 49	0.13	No
ini.	3	662	-7094	789			335	0	SLU 1	0	No
fin.	3	444	-10771	-745			335	0	SLU 1	0	No
ini.	3	472	-8245	975			335	0	SLU 54	0	No
fin.	3	208	-11476	-826			335	91	SLU 54	0.11	No
ini.	3	910	-10893	1179			335	0	SLU 53	0	No
fin.	3	587	-16438	-1117			335	0	SLU 53	0	No

## Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2397	11781	28801	SLV 16	2.44	Si
fin.	2	-175	-84262	28801	SLV 16	0.34	No
ini.	2	-276	-104306	28801	SLV 8	0.28	No
fin.	2	3091	-62724	28801	SLV 8	0.46	No
ini.	2	-276	-104306	28801	SLV 7	0.28	No
fin.	2	3091	-62724	28801	SLV 7	0.46	No
ini.	2	1661	87876	28801	SLV 9	0.33	No
fin.	2	-2189	38107	28801	SLV 9	0.76	No
ini.	2	-1264	-77802	28801	SLV 3	0.37	No
fin.	2	2427	20010	28801	SLV 3	1.44	Si
ini.	2	822	-77431	28801	SLV 11	0.37	No
fin.	2	2310	-94006	28801	SLV 11	0.31	No
ini.	2	1661	87876	28801	SLV 10	0.33	No
fin.	2	-2189	38107	28801	SLV 10	0.76	No
ini.	2	2397	11781	28801	SLV 15	2.44	Si
fin.	2	-175	-84262	28801	SLV 15	0.34	No
ini.	2	822	-77431	28801	SLV 12	0.37	No
fin.	2	2310	-94006	28801	SLV 12	0.31	No
ini.	2	-1264	-77802	28801	SLV 4	0.37	No
fin.	2	2427	20010	28801	SLV 4	1.44	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	2649	61373	-753			503	0	SLV 14	0	No
fin.	2	-1525	-44628	-1987			909	345	SLV 14	0.17	No
ini.	2	1661	87876	-600			503	0	SLV 9	0	No
fin.	2	-2189	38107	-378			1086	395	SLV 9	1.04	Si
ini.	2	822	-77431	1590			503	0	SLV 12	0	No
fin.	2	2310	-94006	-2149			503	0	SLV 12	0	No
ini.	2	-276	-104306	2378			576	226	SLV 8	0.09	No
fin.	2	3091	-62724	-1302			503	0	SLV 8	0	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	822	-77431	1590			503	0	SLV 11	0	No
fin.	2	2310	-94006	-2149			503	0	SLV 11	0	No
ini.	2	-1264	-77802	2531			840	324	SLV 4	0.13	No
fin.	2	2427	20010	306			503	0	SLV 4	0	No
ini.	2	2649	61373	-753			503	0	SLV 13	0	No
fin.	2	-1525	-44628	-1987			909	345	SLV 13	0.17	No
ini.	2	-41	-17389	1318			514	195	SLD 1	0.15	No
fin.	2	741	17512	-127			503	0	SLD 1	0	No
ini.	2	1661	87876	-600			503	0	SLV 10	0	No
fin.	2	-2189	38107	-378			1086	395	SLV 10	1.04	Si
ini.	2	-276	-104306	2378			576	226	SLV 7	0.09	No
fin.	2	3091	-62724	-1302			503	0	SLV 7	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.276	SLV 7	No
V_SLV	0	SLD 1	No
PF_SLU	0.956	SLU 83	No
V_SLU	0	SLU 1	No

## Trave di accoppiamento 33

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-515.8	127.1	50	109	59	-515.8	207.1	50	109	59	80	30	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb_	fhk	fvk0	fhmmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	376	15768	52983	SLU 81	3.36	Si
fin.	3	-663	-73939	52983	SLU 81	0.72	No
ini.	3	395	15250	52983	SLU 79	3.47	Si
fin.	3	-621	-72863	52983	SLU 79	0.73	No
ini.	3	403	14959	52983	SLU 78	3.54	Si
fin.	3	-601	-72318	52983	SLU 78	0.73	No
ini.	3	388	14719	52983	SLU 75	3.6	Si
fin.	3	-598	-70860	52983	SLU 75	0.75	No
ini.	3	403	14797	52983	SLU 80	3.58	Si
fin.	3	-592	-71726	52983	SLU 80	0.74	No
ini.	3	399	15555	52983	SLU 84	3.41	Si
fin.	3	-637	-74260	52983	SLU 84	0.71	No
ini.	3	391	16008	52983	SLU 83	3.31	Si
fin.	3	-666	-75397	52983	SLU 83	0.7	No
ini.	3	384	15315	52983	SLU 82	3.46	Si
fin.	3	-635	-72802	52983	SLU 82	0.73	No
ini.	3	395	15412	52983	SLU 77	3.44	Si
fin.	3	-629	-73454	52983	SLU 77	0.72	No
ini.	3	380	15172	52983	SLU 74	3.49	Si
fin.	3	-627	-71996	52983	SLU 74	0.74	No

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	395	15250	257			503	109	SLU 79	0.42	No
fin.	3	-621	-72863	-3233			686	271	SLU 79	0.08	No
ini.	3	399	15555	265			503	108	SLU 84	0.41	No
fin.	3	-637	-74260	-3300			691	273	SLU 84	0.08	No
ini.	3	395	15412	255			503	109	SLU 77	0.43	No
fin.	3	-629	-73454	-3257			688	272	SLU 77	0.08	No
ini.	3	391	16008	252			503	110	SLU 83	0.44	No
fin.	3	-666	-75397	-3342			699	276	SLU 83	0.08	No
ini.	3	403	14797	270			503	107	SLU 80	0.39	No
fin.	3	-592	-71726	-3191			677	268	SLU 80	0.08	No
ini.	3	376	15768	243			503	114	SLU 81	0.47	No
fin.	3	-663	-73939	-3278			698	276	SLU 81	0.08	No
ini.	3	384	15315	257			503	112	SLU 82	0.44	No
fin.	3	-635	-72802	-3235			690	273	SLU 82	0.08	No
ini.	3	380	15172	247			503	113	SLU 74	0.46	No
fin.	3	-627	-71996	-3193			688	272	SLU 74	0.09	No
ini.	3	388	14719	260			503	111	SLU 75	0.43	No
fin.	3	-598	-70860	-3150			679	268	SLU 75	0.09	No
ini.	3	403	14959	268			503	106	SLU 78	0.4	No
fin.	3	-601	-72318	-3215			680	269	SLU 78	0.08	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1566	29691	79474	SLV 7	2.68	Si
fin.	2	-3254	-103075	79474	SLV 7	0.77	No
ini.	2	-815	27231	79474	SLV 16	2.92	Si
fin.	2	-2054	-79652	79474	SLV 16	1	No
ini.	2	-1566	29691	79474	SLV 8	2.68	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	-3254	-103075	79474	SLV 8	0.77	No
ini.	2	-625	21061	79474	SLD 11	3.77	Si
fin.	2	-1789	-74653	79474	SLD 11	1.06	Si
ini.	2	-625	21061	79474	SLD 12	3.77	Si
fin.	2	-1789	-74653	79474	SLD 12	1.06	Si
ini.	2	-1856	36003	79474	SLV 12	2.21	Si
fin.	2	-3693	-111640	79474	SLV 12	0.71	No
ini.	2	-505	18328	79474	SLD 7	4.34	Si
fin.	2	-1602	-70997	79474	SLD 7	1.12	Si
ini.	2	-1856	36003	79474	SLV 11	2.21	Si
fin.	2	-3693	-111640	79474	SLV 11	0.71	No
ini.	2	-505	18328	79474	SLD 8	4.34	Si
fin.	2	-1602	-70997	79474	SLD 8	1.12	Si
ini.	2	-815	27231	79474	SLV 15	2.92	Si
fin.	2	-2054	-79652	79474	SLV 15	1	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1334	-7641	780			754	0	SLV 1	0	No
fin.	2	1256	-15115	-830			754	0	SLV 1	0	No
ini.	2	2084	-10101	1392			754	0	SLV 10	0	No
fin.	2	2456	8308	-337			754	0	SLV 10	0	No
ini.	2	1334	-7641	780			754	0	SLV 2	0	No
fin.	2	1256	-15115	-830			754	0	SLV 2	0	No
ini.	2	1144	-1471	743			754	0	SLD 5	0	No
fin.	2	991	-20114	-1185			754	0	SLD 5	0	No
ini.	2	1144	-1471	743			754	0	SLD 6	0	No
fin.	2	991	-20114	-1185			754	0	SLD 6	0	No
ini.	2	2084	-10101	1392			754	0	SLV 9	0	No
fin.	2	2456	8308	-337			754	0	SLV 9	0	No
ini.	2	1024	1263	687			754	0	SLD 10	0	No
fin.	2	805	-23770	-1360			754	85	SLD 10	0.06	No
ini.	2	2374	-16413	1523			754	0	SLV 5	0	No
fin.	2	2895	16873	74			754	0	SLV 5	0	No
ini.	2	2374	-16413	1523			754	0	SLV 6	0	No
fin.	2	2895	16873	74			754	0	SLV 6	0	No
ini.	2	1024	1263	687			754	0	SLD 9	0	No
fin.	2	805	-23770	-1360			754	85	SLD 9	0.06	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.712	SLV 11	No
V_SLV	0	SLD 5	No
PF_SLU	0.703	SLU 83	No
V_SLU	0.083	SLU 83	No

## Trave di accoppiamento 34

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-301.3	587.6	-160	40	200	-201.3	587.6	-160	40	200	100	45	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>tk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2589	-13803	913235	SLU 75	66.16	Si
fin.	3	-2147	-184635	913235	SLU 75	4.95	Si
ini.	3	-2669	-15161	913235	SLU 84	60.24	Si
fin.	3	-2212	-190392	913235	SLU 84	4.8	Si
ini.	3	-2710	-14961	913235	SLU 83	61.04	Si
fin.	3	-2264	-193019	913235	SLU 83	4.73	Si
ini.	3	-2516	-13205	913235	SLU 73	69.16	Si
fin.	3	-2070	-182009	913235	SLU 73	5.02	Si
ini.	3	-2682	-13272	913235	SLU 81	68.81	Si
fin.	3	-2230	-194173	913235	SLU 81	4.7	Si
ini.	3	-2630	-13603	913235	SLU 74	67.14	Si
fin.	3	-2199	-187262	913235	SLU 74	4.88	Si
ini.	3	-2639	-16249	913235	SLU 79	56.2	Si
fin.	3	-2224	-184081	913235	SLU 79	4.96	Si
ini.	3	-2657	-15291	913235	SLU 77	59.72	Si
fin.	3	-2233	-186109	913235	SLU 77	4.91	Si
ini.	3	-2616	-15492	913235	SLU 78	58.95	Si
fin.	3	-2181	-183482	913235	SLU 78	4.98	Si
ini.	3	-2641	-13472	913235	SLU 82	67.79	Si
fin.	3	-2178	-191545	913235	SLU 82	4.77	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-2710	-14961	-4884			4550	1799	SLU 83	0.37	No
fin.	3	-2264	-193019	-114			4372	1728	SLU 83	15.12	Si



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-2669	-15161	-4832			4534	1793	SLU 84	0.37	No
fin.	3	-2212	-190392	-128			4351	1719	SLU 84	13.4	Si
ini.	3	-2589	-13803	-4637			4502	1780	SLU 75	0.38	No
fin.	3	-2147	-184635	-179			4325	1709	SLU 75	9.56	Si
ini.	3	-2682	-13272	-4879			4539	1795	SLU 81	0.37	No
fin.	3	-2230	-194173	-177			4358	1722	SLU 81	9.71	Si
ini.	3	-2639	-16249	-4641			4522	1788	SLU 79	0.39	No
fin.	3	-2224	-184081	-75			4356	1721	SLU 79	22.92	Si
ini.	3	-2598	-16449	-4589			4505	1782	SLU 80	0.39	No
fin.	3	-2172	-181454	-89			4335	1713	SLU 80	19.21	Si
ini.	3	-2657	-15291	-4693			4529	1791	SLU 77	0.38	No
fin.	3	-2233	-186109	-102			4359	1723	SLU 77	16.96	Si
ini.	3	-2641	-13472	-4827			4523	1789	SLU 82	0.37	No
fin.	3	-2178	-191545	-191			4337	1714	SLU 82	8.95	Si
ini.	3	-2616	-15492	-4641			4513	1785	SLU 78	0.38	No
fin.	3	-2181	-183482	-116			4339	1714	SLU 78	14.83	Si
ini.	3	-2630	-13603	-4689			4518	1787	SLU 74	0.38	No
fin.	3	-2199	-187262	-165			4346	1717	SLU 74	10.43	Si

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	5480	-670526	1369853	SLV 5	2.04	Si
fin.	2	1846	192896	1369853	SLV 5	7.1	Si
ini.	2	5480	-670526	1369853	SLV 6	2.04	Si
fin.	2	1846	192896	1369853	SLV 6	7.1	Si
ini.	2	4467	-492520	1369853	SLV 9	2.78	Si
fin.	2	2439	-12805	1369853	SLV 9	106.98	Si
ini.	2	1900	-477638	1369853	SLV 1	2.87	Si
fin.	2	-1424	278036	1369853	SLV 1	4.93	Si
ini.	2	-9138	651941	1369853	SLV 12	2.1	Si
fin.	2	-4923	-455220	1369853	SLV 12	3.01	Si
ini.	2	-5558	459053	1369853	SLV 16	2.98	Si
fin.	2	-1654	-540360	1369853	SLV 16	2.54	Si
ini.	2	-5558	459053	1369853	SLV 15	2.98	Si
fin.	2	-1654	-540360	1369853	SLV 15	2.54	Si
ini.	2	1900	-477638	1369853	SLV 2	2.87	Si
fin.	2	-1424	278036	1369853	SLV 2	4.93	Si
ini.	2	-9138	651941	1369853	SLV 11	2.1	Si
fin.	2	-4923	-455220	1369853	SLV 11	3.01	Si
ini.	2	4467	-492520	1369853	SLV 10	2.78	Si
fin.	2	2439	-12805	1369853	SLV 10	106.98	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-1477	115715	-11558			5790	2255	SLV 13	0.2	No
fin.	2	555	-407635	-8846			5199	1832	SLV 13	0.21	No
ini.	2	1900	-477638	7733			5199	1487	SLV 2	0.19	No
fin.	2	-1424	278036	9667			5769	2245	SLV 2	0.23	No
ini.	2	5480	-670526	3922			5199	0	SLV 6	0	No
fin.	2	1846	192896	4597			5199	1503	SLV 6	0.33	No
ini.	2	-5558	459053	-14078			7422	2925	SLV 15	0.21	No
fin.	2	-1654	-540360	-10054			5861	2288	SLV 15	0.23	No
ini.	2	-5558	459053	-14078			7422	2925	SLV 16	0.21	No
fin.	2	-1654	-540360	-10054			5861	2288	SLV 16	0.23	No
ini.	2	4467	-492520	-1865			5199	168	SLV 10	0.09	No
fin.	2	2439	-12805	-957			5199	1324	SLV 10	1.38	Si
ini.	2	1900	-477638	7733			5199	1487	SLV 1	0.19	No
fin.	2	-1424	278036	9667			5769	2245	SLV 1	0.23	No
ini.	2	-1477	115715	-11558			5790	2255	SLV 14	0.2	No
fin.	2	555	-407635	-8846			5199	1832	SLV 14	0.21	No
ini.	2	5480	-670526	3922			5199	0	SLV 5	0	No
fin.	2	1846	192896	4597			5199	1503	SLV 5	0.33	No
ini.	2	4467	-492520	-1865			5199	168	SLV 9	0.09	No
fin.	2	2439	-12805	-957			5199	1324	SLV 9	1.38	Si

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.043	SLV 5	Si
V_SLV	0	SLV 5	No
PF_SLU	4.703	SLU 81	Si
V_SLU	0.368	SLU 81	No

## Trave di accoppiamento 35

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-301.3	587.6	80	109	29	-201.3	587.6	80	109	29	100	45	30000

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2



## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	269	-21123	19201	SLU 82	0.91	No
fin.	3	81	-24979	19201	SLU 82	0.77	No
ini.	3	288	-21034	19201	SLU 81	0.91	No
fin.	3	99	-25288	19201	SLU 81	0.76	No
ini.	3	254	-21742	19201	SLU 84	0.88	No
fin.	3	83	-24774	19201	SLU 84	0.78	No
ini.	3	291	-20204	19201	SLU 74	0.95	No
fin.	3	122	-23718	19201	SLU 74	0.81	No
ini.	3	274	-21653	19201	SLU 83	0.89	No
fin.	3	100	-25083	19201	SLU 83	0.77	No
ini.	3	268	-20875	19201	SLU 79	0.92	No
fin.	3	122	-23320	19201	SLU 79	0.82	No
ini.	3	276	-20824	19201	SLU 77	0.92	No
fin.	3	123	-23513	19201	SLU 77	0.82	No
ini.	3	257	-20912	19201	SLU 78	0.92	No
fin.	3	105	-23205	19201	SLU 78	0.83	No
ini.	3	265	-19785	19201	SLU 73	0.97	No
fin.	3	89	-23216	19201	SLU 73	0.83	No
ini.	3	271	-20293	19201	SLU 75	0.95	No
fin.	3	104	-23410	19201	SLU 75	0.82	No

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	300	-18246	1335			335	70	SLU 60	0.05	No
fin.	3	127	-22479	-1232			335	106	SLU 60	0.09	No
ini.	3	288	-21034	1519			335	73	SLU 81	0.05	No
fin.	3	99	-25288	-1385			335	111	SLU 81	0.08	No
ini.	3	276	-20824	1495			335	76	SLU 77	0.05	No
fin.	3	123	-23513	-1293			335	107	SLU 77	0.08	No
ini.	3	254	-21742	1554			335	81	SLU 84	0.05	No
fin.	3	83	-24774	-1362			335	113	SLU 84	0.08	No
ini.	3	274	-21653	1552			335	77	SLU 83	0.05	No
fin.	3	100	-25083	-1378			335	111	SLU 83	0.08	No
ini.	3	257	-20912	1496			335	81	SLU 78	0.05	No
fin.	3	105	-23205	-1277			335	110	SLU 78	0.09	No
ini.	3	291	-20204	1461			335	73	SLU 74	0.05	No
fin.	3	122	-23718	-1300			335	107	SLU 74	0.08	No
ini.	3	271	-20293	1463			335	77	SLU 75	0.05	No
fin.	3	104	-23410	-1285			335	110	SLU 75	0.09	No
ini.	3	269	-21123	1520			335	78	SLU 82	0.05	No
fin.	3	81	-24979	-1369			335	114	SLU 82	0.08	No
ini.	3	268	-20875	1494			335	78	SLU 79	0.05	No
fin.	3	122	-23320	-1285			335	107	SLU 79	0.08	No

## Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	370	119387	28801	SLV 11	0.24	No
fin.	2	-7470	-18141	28801	SLV 11	1.59	Si
ini.	2	-773	-87266	28801	SLV 2	0.33	No
fin.	2	3378	22732	28801	SLV 2	1.27	Si
ini.	2	-272	96536	28801	SLV 7	0.3	No
fin.	2	-6823	6869	28801	SLV 7	4.19	Si
ini.	2	370	119387	28801	SLV 12	0.24	No
fin.	2	-7470	-18141	28801	SLV 12	1.59	Si
ini.	2	111	-145222	28801	SLV 5	0.2	No
fin.	2	7710	-13618	28801	SLV 5	2.11	Si
ini.	2	-272	96536	28801	SLV 8	0.3	No
fin.	2	-6823	6869	28801	SLV 8	4.19	Si
ini.	2	753	-122371	28801	SLV 9	0.24	No
fin.	2	7062	-38629	28801	SLV 9	0.75	No
ini.	2	111	-145222	28801	SLV 6	0.2	No
fin.	2	7710	-13618	28801	SLV 6	2.11	Si
ini.	2	753	-122371	28801	SLV 10	0.24	No
fin.	2	7062	-38629	28801	SLV 10	0.75	No
ini.	2	-773	-87266	28801	SLV 1	0.33	No
fin.	2	3378	22732	28801	SLV 1	1.27	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1254	61432	-403			503	0	SLV 15	0	No
fin.	2	-3139	-54491	-2354			1340	456	SLV 15	0.19	No
ini.	2	1368	-11096	154			503	0	SLV 14	0	No
fin.	2	1221	-60637	-2010			503	0	SLV 14	0	No
ini.	2	-773	-87266	2310			709	279	SLV 2	0.12	No
fin.	2	3378	22732	614			503	0	SLV 2	0	No
ini.	2	1368	-11096	154			503	0	SLV 13	0	No
fin.	2	1221	-60637	-2010			503	0	SLV 13	0	No
ini.	2	753	-122371	1558			503	0	SLV 9	0	No
fin.	2	7062	-38629	-692			503	0	SLV 9	0	No
ini.	2	111	-145222	2205			503	172	SLV 5	0.08	No
fin.	2	7710	-13618	96			503	0	SLV 5	0	No
ini.	2	753	-122371	1558			503	0	SLV 10	0	No
fin.	2	7062	-38629	-692			503	0	SLV 10	0	No
ini.	2	111	-145222	2205			503	172	SLV 6	0.08	No
fin.	2	7710	-13618	96			503	0	SLV 6	0	No
ini.	2	-773	-87266	2310			709	279	SLV 1	0.12	No
fin.	2	3378	22732	614			503	0	SLV 1	0	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-202	-43555	1527			557	216	SLD 1	0.14	No
fin.	2	1468	478	-239			503	0	SLD 1	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.198	SLV 5	No
V_SLV	0	SLD 1	No
PF_SLU	0.759	SLU 81	No
V_SLU	0.048	SLU 81	No

## Trave di accoppiamento 36

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2176.3	595.1	109	199	90	-2276.3	595.1	109	199	90	100	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fhk	fvk0	fhmmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	5884	84394	115068	SLU 74	1.36	Si
fin.	3	6232	6619	115068	SLU 74	17.39	Si
ini.	3	5686	84710	115068	SLU 76	1.36	Si
fin.	3	6017	2979	115068	SLU 76	38.62	Si
ini.	3	5903	87716	115068	SLU 79	1.31	Si
fin.	3	6268	4459	115068	SLU 79	25.81	Si
ini.	3	5988	87887	115068	SLU 84	1.31	Si
fin.	3	6340	3950	115068	SLU 84	29.13	Si
ini.	3	5854	88622	115068	SLU 78	1.3	Si
fin.	3	6212	2580	115068	SLU 78	44.59	Si
ini.	3	6080	87428	115068	SLU 83	1.32	Si
fin.	3	6442	6019	115068	SLU 83	19.12	Si
ini.	3	5810	88174	115068	SLU 80	1.31	Si
fin.	3	6166	2390	115068	SLU 80	48.15	Si
ini.	3	5925	84117	115068	SLU 82	1.37	Si
fin.	3	6259	5919	115068	SLU 82	19.44	Si
ini.	3	5792	84853	115068	SLU 75	1.36	Si
fin.	3	6130	4549	115068	SLU 75	25.29	Si
ini.	3	5947	88164	115068	SLU 77	1.31	Si
fin.	3	6313	4650	115068	SLU 77	24.75	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	5482	74217	-1032			873	0	SLU 60	0	No
fin.	3	5781	9771	-726			873	0	SLU 60	0	No
ini.	3	5274	78733	-1146			873	0	SLU 59	0	No
fin.	3	5586	4172	-842			873	0	SLU 59	0	No
ini.	3	5150	75269	-1080			873	0	SLU 55	0	No
fin.	3	5437	4761	-805			873	0	SLU 55	0	No
ini.	3	5366	78274	-1128			873	0	SLU 58	0	No
fin.	3	5688	6241	-807			873	0	SLU 58	0	No
ini.	3	5317	79181	-1155			873	0	SLU 57	0	No
fin.	3	5631	4362	-841			873	0	SLU 57	0	No
ini.	3	5389	74675	-1051			873	0	SLU 61	0	No
fin.	3	5679	7701	-761			873	0	SLU 61	0	No
ini.	3	5348	74953	-1058			873	0	SLU 53	0	No
fin.	3	5652	8401	-745			873	0	SLU 53	0	No
ini.	3	3744	50652	-682			873	0	SLU 1	0	No
fin.	3	3945	8094	-486			873	0	SLU 1	0	No
ini.	3	5410	78722	-1137			873	0	SLU 56	0	No
fin.	3	5733	6432	-806			873	0	SLU 56	0	No
ini.	3	5255	75411	-1077			873	0	SLU 54	0	No
fin.	3	5550	6331	-780			873	0	SLU 54	0	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	10982	-88995	172601	SLV 16	1.94	Si
fin.	2	9121	204714	172601	SLV 16	0.84	No
ini.	2	23029	243241	172601	SLV 8	0.71	No
fin.	2	24289	84289	172601	SLV 8	2.05	Si
ini.	2	23029	243241	172601	SLV 7	0.71	No
fin.	2	24289	84289	172601	SLV 7	2.05	Si
ini.	2	8719	279696	172601	SLV 4	0.62	No
fin.	2	11253	-115119	172601	SLV 4	1.5	Si
ini.	2	23708	132634	172601	SLV 11	1.3	Si
fin.	2	23649	180239	172601	SLV 11	0.96	No
ini.	2	-2868	200336	172601	SLV 1	0.86	No
fin.	2	-560	-190090	172601	SLV 1	0.91	No
ini.	2	10982	-88995	172601	SLV 15	1.94	Si
fin.	2	9121	204714	172601	SLV 15	0.84	No
ini.	2	8719	279696	172601	SLV 3	0.62	No



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	11253	-115119	172601	SLV 3	1.5	Si
ini.	2	23708	132634	172601	SLV 12	1.3	Si
fin.	2	23649	180239	172601	SLV 12	0.96	No
ini.	2	-2868	200336	172601	SLV 2	0.86	No
fin.	2	-560	-190090	172601	SLV 2	0.91	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1211	117863	-2060			1310	97	SLD 1	0.05	No
fin.	2	2335	-76131	-1888			1310	0	SLD 1	0	No
ini.	2	23029	243241	-7700			1310	0	SLV 8	0	No
fin.	2	24289	84289	-5657			1310	0	SLV 8	0	No
ini.	2	23708	132634	-4928			1310	0	SLV 11	0	No
fin.	2	23649	180239	-3102			1310	0	SLV 11	0	No
ini.	2	23029	243241	-7700			1310	0	SLV 7	0	No
fin.	2	24289	84289	-5657			1310	0	SLV 7	0	No
ini.	2	8719	279696	-7054			1310	0	SLV 3	0	No
fin.	2	11253	-115119	-5953			1310	0	SLV 3	0	No
ini.	2	10982	-88995	2184			1310	0	SLV 15	0	No
fin.	2	9121	204714	2563			1310	0	SLV 15	0	No
ini.	2	23708	132634	-4928			1310	0	SLV 12	0	No
fin.	2	23649	180239	-3102			1310	0	SLV 12	0	No
ini.	2	2175	-38687	1875			1310	0	SLD 14	0	No
fin.	2	1412	60090	1741			1310	0	SLD 14	0	No
ini.	2	8719	279696	-7054			1310	0	SLV 4	0	No
fin.	2	11253	-115119	-5953			1310	0	SLV 4	0	No
ini.	2	6903	-6521	515			1310	0	SLD 15	0	No
fin.	2	6227	90755	799			1310	0	SLD 15	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.617	SLV 3	No
V_SLV	0	SLD 1	No
PF_SLU	1.298	SLU 78	Si
V_SLU	0	SLU 1	No

## Trave di accoppiamento 37

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2176.3	595.1	389	482	93	-2276.3	595.1	389	482	93	100	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1631	-9915	122867	SLU 82	12.39	Si
fin.	3	-2290	-43584	122867	SLU 82	2.82	Si
ini.	3	-1680	-10802	122867	SLU 81	11.37	Si
fin.	3	-2324	-43687	122867	SLU 81	2.81	Si
ini.	3	-1890	-9115	122867	SLU 79	13.48	Si
fin.	3	-2498	-45099	122867	SLU 79	2.72	Si
ini.	3	-1708	-9191	122867	SLU 75	13.37	Si
fin.	3	-2339	-43715	122867	SLU 75	2.81	Si
ini.	3	-1756	-10077	122867	SLU 74	12.19	Si
fin.	3	-2373	-43818	122867	SLU 74	2.8	Si
ini.	3	-1841	-8228	122867	SLU 80	14.93	Si
fin.	3	-2465	-44997	122867	SLU 80	2.73	Si
ini.	3	-1880	-9275	122867	SLU 77	13.25	Si
fin.	3	-2501	-45456	122867	SLU 77	2.7	Si
ini.	3	-1832	-8388	122867	SLU 78	14.65	Si
fin.	3	-2468	-45353	122867	SLU 78	2.71	Si
ini.	3	-1803	-10000	122867	SLU 83	12.29	Si
fin.	3	-2452	-45325	122867	SLU 83	2.71	Si
ini.	3	-1755	-9113	122867	SLU 84	13.48	Si
fin.	3	-2419	-45222	122867	SLU 84	2.72	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1631	-9915	2086			1539	595	SLU 82	0.29	No
fin.	3	-2290	-43584	-3979			1785	669	SLU 82	0.17	No
ini.	3	-1880	-9275	2057			1632	625	SLU 77	0.3	No
fin.	3	-2501	-45456	-3997			1863	691	SLU 77	0.17	No
ini.	3	-1832	-8388	2015			1614	619	SLU 78	0.31	No
fin.	3	-2468	-45353	-3972			1851	688	SLU 78	0.17	No
ini.	3	-1708	-9191	2010			1568	605	SLU 75	0.3	No
fin.	3	-2339	-43715	-3890			1803	675	SLU 75	0.17	No
ini.	3	-1680	-10802	2128			1557	601	SLU 81	0.28	No
fin.	3	-2324	-43687	-4005			1797	673	SLU 81	0.17	No
ini.	3	-1890	-9115	2043			1636	626	SLU 79	0.31	No
fin.	3	-2498	-45099	-3965			1862	691	SLU 79	0.17	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1755	-9113	2090			1585	610	SLU 84	0.29	No
fin.	3	-2419	-45222	-4061			1832	683	SLU 84	0.17	No
ini.	3	-1841	-8228	2001			1617	620	SLU 80	0.31	No
fin.	3	-2465	-44997	-3940			1849	688	SLU 80	0.17	No
ini.	3	-1803	-10000	2133			1603	616	SLU 83	0.29	No
fin.	3	-2452	-45325	-4086			1845	686	SLU 83	0.17	No
ini.	3	-1756	-10077	2052			1586	610	SLU 74	0.3	No
fin.	3	-2373	-43818	-3916			1815	678	SLU 74	0.17	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2860	-124460	184300	SLV 14	1.48	Si
fin.	2	2663	88288	184300	SLV 14	2.09	Si
ini.	2	-4206	-133511	184300	SLV 16	1.38	Si
fin.	2	1284	71264	184300	SLV 16	2.59	Si
ini.	2	1827	117131	184300	SLV 2	1.57	Si
fin.	2	-4439	-129263	184300	SLV 2	1.43	Si
ini.	2	-2729	12964	184300	SLV 8	14.22	Si
fin.	2	-4941	-90007	184300	SLV 8	2.05	Si
ini.	2	-4206	-133511	184300	SLV 15	1.38	Si
fin.	2	1284	71264	184300	SLV 15	2.59	Si
ini.	2	-2729	12964	184300	SLV 7	14.22	Si
fin.	2	-4941	-90007	184300	SLV 7	2.05	Si
ini.	2	-2860	-124460	184300	SLV 13	1.48	Si
fin.	2	2663	88288	184300	SLV 13	2.09	Si
ini.	2	482	108080	184300	SLV 3	1.71	Si
fin.	2	-5818	-146288	184300	SLV 3	1.26	Si
ini.	2	482	108080	184300	SLV 4	1.71	Si
fin.	2	-5818	-146288	184300	SLV 4	1.26	Si
ini.	2	1827	117131	184300	SLV 1	1.57	Si
fin.	2	-4439	-129263	184300	SLV 1	1.43	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1757	43133	-1324			1399	0	SLV 5	0	No
fin.	2	-344	-33258	-2438			1527	592	SLV 5	0.24	No
ini.	2	1827	117131	-3891			1399	0	SLV 2	0	No
fin.	2	-4439	-129263	-7357			3050	1105	SLV 2	0.15	No
ini.	2	1827	117131	-3891			1399	0	SLV 1	0	No
fin.	2	-4439	-129263	-7357			3050	1105	SLV 1	0.15	No
ini.	2	-2860	-124460	5965			2463	941	SLV 13	0.16	No
fin.	2	2663	88288	3211			1399	0	SLV 13	0	No
ini.	2	-4206	-133511	6722			2963	1083	SLV 15	0.16	No
fin.	2	1284	71264	2166			1399	62	SLV 15	0.03	No
ini.	2	1757	43133	-1324			1399	0	SLV 6	0	No
fin.	2	-344	-33258	-2438			1527	592	SLV 6	0.24	No
ini.	2	-4206	-133511	6722			2963	1083	SLV 16	0.16	No
fin.	2	1284	71264	2166			1399	62	SLV 16	0.03	No
ini.	2	350	-29344	1633			1399	450	SLV 9	0.28	No
fin.	2	1786	32007	732			1399	0	SLV 9	0	No
ini.	2	350	-29344	1633			1399	450	SLV 10	0.28	No
fin.	2	1786	32007	732			1399	0	SLV 10	0	No
ini.	2	-2860	-124460	5965			2463	941	SLV 14	0.16	No
fin.	2	2663	88288	3211			1399	0	SLV 14	0	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.26	SLV 3	Si
V_SLV	0	SLV 1	No
PF_SLU	2.703	SLU 77	Si
V_SLU	0.168	SLU 83	No

### Trave di accoppiamento 38

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2154.3	-335.9	109	199	90	-2254.3	-335.9	109	199	90	100	28	30000

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	11592	112160	115068	SLU 68	1.03	Si
fin.	3	11812	-24723	115068	SLU 68	4.65	Si
ini.	3	10605	113724	115068	SLU 75	1.01	Si
fin.	3	10875	-35047	115068	SLU 75	3.28	Si
ini.	3	11511	109159	115068	SLU 65	1.05	Si
fin.	3	11707	-22998	115068	SLU 65	5	Si
ini.	3	10624	116167	115068	SLU 80	0.99	No
fin.	3	10918	-36536	115068	SLU 80	3.15	Si
ini.	3	10861	117530	115068	SLU 84	0.98	No





Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	11143	-37305	115068	SLU 84	3.08	Si
ini.	3	12254	119341	115068	SLU 73	0.96	No
fin.	3	12477	-28816	115068	SLU 73	3.99	Si
ini.	3	11618	112032	115068	SLU 55	1.03	Si
fin.	3	11828	-24644	115068	SLU 55	4.67	Si
ini.	3	12335	122341	115068	SLU 76	0.94	No
fin.	3	12583	-30540	115068	SLU 76	3.77	Si
ini.	3	10686	116725	115068	SLU 78	0.99	No
fin.	3	10980	-36771	115068	SLU 78	3.13	Si
ini.	3	10781	114529	115068	SLU 82	1	Si
fin.	3	11038	-35581	115068	SLU 82	3.23	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	9969	106415	-1487			873	0	SLU 57	0	No
fin.	3	10225	-30875	-1610			873	0	SLU 57	0	No
ini.	3	5047	61113	-1028			873	0	SLU 1	0	No
fin.	3	5220	-22926	-882			873	0	SLU 1	0	No
ini.	3	7201	89652	-1548			873	0	SLU 53	0	No
fin.	3	7465	-35559	-1298			873	0	SLU 53	0	No
ini.	3	7376	90457	-1560			873	0	SLU 60	0	No
fin.	3	7628	-36092	-1310			873	0	SLU 60	0	No
ini.	3	9888	103414	-1423			873	0	SLU 54	0	No
fin.	3	10120	-29151	-1561			873	0	SLU 54	0	No
ini.	3	7282	92653	-1612			873	0	SLU 56	0	No
fin.	3	7570	-37283	-1347			873	0	SLU 56	0	No
ini.	3	10064	104220	-1435			873	0	SLU 61	0	No
fin.	3	10283	-29684	-1572			873	0	SLU 61	0	No
ini.	3	9907	105858	-1475			873	0	SLU 59	0	No
fin.	3	10163	-30640	-1605			873	0	SLU 59	0	No
ini.	3	11618	112032	-1327			873	0	SLU 55	0	No
fin.	3	11828	-24644	-1731			873	0	SLU 55	0	No
ini.	3	7219	92095	-1600			873	0	SLU 58	0	No
fin.	3	7508	-37047	-1343			873	0	SLU 58	0	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	9789	334158	172601	SLV 1	0.52	No
fin.	2	11495	-254515	172601	SLV 1	0.68	No
ini.	2	-573	298612	172601	SLV 4	0.58	No
fin.	2	1534	-289630	172601	SLV 4	0.6	No
ini.	2	11501	-164677	172601	SLV 14	1.05	Si
fin.	2	9778	237086	172601	SLV 14	0.73	No
ini.	2	1139	-200224	172601	SLV 16	0.86	No
fin.	2	-183	201971	172601	SLV 16	0.85	No
ini.	2	22478	201037	172601	SLV 6	0.86	No
fin.	2	22516	-41488	172601	SLV 6	4.16	Si
ini.	2	9789	334158	172601	SLV 2	0.52	No
fin.	2	11495	-254515	172601	SLV 2	0.68	No
ini.	2	1139	-200224	172601	SLV 15	0.86	No
fin.	2	-183	201971	172601	SLV 15	0.85	No
ini.	2	22478	201037	172601	SLV 5	0.86	No
fin.	2	22516	-41488	172601	SLV 5	4.16	Si
ini.	2	11501	-164677	172601	SLV 13	1.05	Si
fin.	2	9778	237086	172601	SLV 13	0.73	No
ini.	2	-573	298612	172601	SLV 3	0.58	No
fin.	2	1534	-289630	172601	SLV 3	0.6	No

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-573	298612	-7322			1516	595	SLV 4	0.08	No
fin.	2	1534	-289630	-6312			1310	0	SLV 4	0	No
ini.	2	7124	179995	-3579			1310	0	SLD 1	0	No
fin.	2	7982	-123932	-3404			1310	0	SLD 1	0	No
ini.	2	11501	-164677	5026			1310	0	SLV 13	0	No
fin.	2	9778	237086	4373			1310	0	SLV 13	0	No
ini.	2	22478	201037	-2115			1310	0	SLV 6	0	No
fin.	2	22516	-41488	-3264			1310	0	SLV 6	0	No
ini.	2	22991	51386	1443			1310	0	SLV 9	0	No
fin.	2	22001	105993	56			1310	0	SLV 9	0	No
ini.	2	9789	334158	-6835			1310	0	SLV 2	0	No
fin.	2	11495	-254515	-6693			1310	0	SLV 2	0	No
ini.	2	11501	-164677	5026			1310	0	SLV 14	0	No
fin.	2	9778	237086	4373			1310	0	SLV 14	0	No
ini.	2	-573	298612	-7322			1516	595	SLV 3	0.08	No
fin.	2	1534	-289630	-6312			1310	0	SLV 3	0	No
ini.	2	22991	51386	1443			1310	0	SLV 10	0	No
fin.	2	22001	105993	56			1310	0	SLV 10	0	No
ini.	2	22478	201037	-2115			1310	0	SLV 5	0	No
fin.	2	22516	-41488	-3264			1310	0	SLV 5	0	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.517	SLV 1	No
V_SLV	0	SLD 1	No
PF_SLU	0.941	SLU 76	No
V_SLU	0	SLU 1	No



## Trave di accoppiamento 39

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2154.3	-335.9	389	482	93	-2254.3	-335.9	389	482	93	100	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	112	30739	122867	SLU 77	4	Si
fin.	3	-2641	-72147	122867	SLU 77	1.7	Si
ini.	3	276	40290	122867	SLU 76	3.05	Si
fin.	3	-2805	-70971	122867	SLU 76	1.73	Si
ini.	3	234	37743	122867	SLU 84	3.26	Si
fin.	3	-2797	-73531	122867	SLU 84	1.67	Si
ini.	3	213	37059	122867	SLU 78	3.32	Si
fin.	3	-2797	-73052	122867	SLU 78	1.68	Si
ini.	3	133	31423	122867	SLU 83	3.91	Si
fin.	3	-2641	-72625	122867	SLU 83	1.69	Si
ini.	3	146	30635	122867	SLU 81	4.01	Si
fin.	3	-2555	-70458	122867	SLU 81	1.74	Si
ini.	3	195	36864	122867	SLU 80	3.33	Si
fin.	3	-2788	-72534	122867	SLU 80	1.69	Si
ini.	3	226	36272	122867	SLU 75	3.39	Si
fin.	3	-2711	-70885	122867	SLU 75	1.73	Si
ini.	3	247	36956	122867	SLU 82	3.32	Si
fin.	3	-2711	-71364	122867	SLU 82	1.72	Si
ini.	3	94	30544	122867	SLU 79	4.02	Si
fin.	3	-2632	-71629	122867	SLU 79	1.72	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	112	30739	1409			933	327	SLU 77	0.23	No
fin.	3	-2641	-72147	-4838			1915	706	SLU 77	0.15	No
ini.	3	226	36272	999			933	302	SLU 75	0.3	No
fin.	3	-2711	-70885	-4792			1941	713	SLU 75	0.15	No
ini.	3	247	36956	1087			933	297	SLU 82	0.27	No
fin.	3	-2711	-71364	-4878			1941	713	SLU 82	0.15	No
ini.	3	234	37743	1071			933	300	SLU 84	0.28	No
fin.	3	-2797	-73531	-4984			1973	721	SLU 84	0.14	No
ini.	3	146	30635	1514			933	320	SLU 81	0.21	No
fin.	3	-2555	-70458	-4818			1883	697	SLU 81	0.14	No
ini.	3	213	37059	983			933	305	SLU 78	0.31	No
fin.	3	-2797	-73052	-4898			1973	721	SLU 78	0.15	No
ini.	3	125	29951	1426			933	325	SLU 74	0.23	No
fin.	3	-2555	-69979	-4732			1883	697	SLU 74	0.15	No
ini.	3	94	30544	1395			933	331	SLU 79	0.24	No
fin.	3	-2632	-71629	-4800			1912	705	SLU 79	0.15	No
ini.	3	133	31423	1498			933	323	SLU 83	0.22	No
fin.	3	-2641	-72625	-4924			1915	706	SLU 83	0.14	No
ini.	3	195	36864	968			933	309	SLU 80	0.32	No
fin.	3	-2788	-72534	-4860			1970	720	SLU 80	0.15	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	4359	143842	184300	SLV 3	1.28	Si
fin.	2	-6050	-214111	184300	SLV 3	0.86	No
ini.	2	-4268	-104799	184300	SLV 13	1.76	Si
fin.	2	2588	121153	184300	SLV 13	1.52	Si
ini.	2	1473	64700	184300	SLD 1	2.85	Si
fin.	2	-3781	-122907	184300	SLD 1	1.5	Si
ini.	2	-3281	-85755	184300	SLV 16	2.15	Si
fin.	2	3076	132749	184300	SLV 16	1.39	Si
ini.	2	4359	143842	184300	SLV 4	1.28	Si
fin.	2	-6050	-214111	184300	SLV 4	0.86	No
ini.	2	-4268	-104799	184300	SLV 14	1.76	Si
fin.	2	2588	121153	184300	SLV 14	1.52	Si
ini.	2	3372	124797	184300	SLV 2	1.48	Si
fin.	2	-6538	-225707	184300	SLV 2	0.82	No
ini.	2	1473	64700	184300	SLD 2	2.85	Si
fin.	2	-3781	-122907	184300	SLD 2	1.5	Si
ini.	2	3372	124797	184300	SLV 1	1.48	Si
fin.	2	-6538	-225707	184300	SLV 1	0.82	No
ini.	2	-3281	-85755	184300	SLV 15	2.15	Si
fin.	2	3076	132749	184300	SLV 15	1.39	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1473	64700	-1619			1399	0	SLD 1	0	No
fin.	2	-3781	-122907	-6335			2806	1040	SLD 1	0.16	No
ini.	2	-3281	-85755	7000			2619	988	SLV 15	0.14	No
fin.	2	3076	132749	4320			1399	0	SLV 15	0	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	3372	124797	-5063			1399	0	SLV 2	0	No
fin.	2	-6538	-225707	-10620			3831	1292	SLV 2	0.12	No
ini.	2	2837	85702	-3071			1399	0	SLV 7	0	No
fin.	2	-2287	-79183	-4511			2250	874	SLV 7	0.19	No
ini.	2	4359	143842	-6290			1399	0	SLV 4	0	No
fin.	2	-6050	-214111	-10135			3649	1251	SLV 4	0.12	No
ini.	2	4359	143842	-6290			1399	0	SLV 3	0	No
fin.	2	-6050	-214111	-10135			3649	1251	SLV 3	0.12	No
ini.	2	-4268	-104799	8228			2987	1089	SLV 13	0.13	No
fin.	2	2588	121153	3835			1399	0	SLV 13	0	No
ini.	2	-4268	-104799	8228			2987	1089	SLV 14	0.13	No
fin.	2	2588	121153	3835			1399	0	SLV 14	0	No
ini.	2	3372	124797	-5063			1399	0	SLV 1	0	No
fin.	2	-6538	-225707	-10620			3831	1292	SLV 1	0.12	No
ini.	2	2837	85702	-3071			1399	0	SLV 8	0	No
fin.	2	-2287	-79183	-4511			2250	874	SLV 8	0.19	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.817	SLV 1	No
V_SLV	0	SLD 1	No
PF_SLU	1.671	SLU 84	Si
V_SLU	0.143	SLU 83	No

## Trave di accoppiamento 40

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1886.8	-335.9	109	309	200	-1936.8	-335.9	109	309	200	50	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2544	-119198	568235	SLU 83	4.77	Si
fin.	3	755	426432	568235	SLU 83	1.33	Si
ini.	3	-3340	-203841	568235	SLU 75	2.79	Si
fin.	3	973	430691	568235	SLU 75	1.32	Si
ini.	3	-3833	-257672	568235	SLU 73	2.21	Si
fin.	3	1137	439740	568235	SLU 73	1.29	Si
ini.	3	-3337	-202886	568235	SLU 82	2.8	Si
fin.	3	1012	445341	568235	SLU 82	1.28	Si
ini.	3	-3390	-205856	568235	SLU 84	2.76	Si
fin.	3	1018	444545	568235	SLU 84	1.28	Si
ini.	3	-2491	-116227	568235	SLU 81	4.89	Si
fin.	3	748	427228	568235	SLU 81	1.33	Si
ini.	3	-3375	-205841	568235	SLU 80	2.76	Si
fin.	3	974	426073	568235	SLU 80	1.33	Si
ini.	3	-3886	-260643	568235	SLU 76	2.18	Si
fin.	3	1144	438944	568235	SLU 76	1.29	Si
ini.	3	-2493	-117182	568235	SLU 74	4.85	Si
fin.	3	710	412578	568235	SLU 74	1.38	Si
ini.	3	-3393	-206812	568235	SLU 78	2.75	Si
fin.	3	979	429895	568235	SLU 78	1.32	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-3833	-257672	1366			3690	1418	SLU 73	1.04	Si
fin.	3	1137	439740	8081			2157	507	SLU 73	0.06	No
ini.	3	-3340	-203841	1333			3492	1355	SLU 75	1.02	Si
fin.	3	973	430691	8097			2157	562	SLU 75	0.07	No
ini.	3	-3393	-206812	1250			3514	1362	SLU 78	1.09	Si
fin.	3	979	429895	8049			2157	560	SLU 78	0.07	No
ini.	3	-3390	-205856	1361			3513	1362	SLU 84	1	Si
fin.	3	1018	444545	8349			2157	547	SLU 84	0.07	No
ini.	3	-3681	-249044	1289			3629	1399	SLU 52	1.09	Si
fin.	3	1015	404862	7420			2157	548	SLU 52	0.07	No
ini.	3	-3337	-202886	1444			3491	1355	SLU 82	0.94	No
fin.	3	1012	445341	8396			2157	549	SLU 82	0.07	No
ini.	3	-3672	-250704	1247			3625	1398	SLU 65	1.12	Si
fin.	3	1022	398496	7293			2157	546	SLU 65	0.07	No
ini.	3	-3375	-205841	1227			3507	1360	SLU 80	1.11	Si
fin.	3	974	426073	7963			2157	561	SLU 80	0.07	No
ini.	3	-3735	-252015	1206			3650	1406	SLU 55	1.17	Si
fin.	3	1021	404066	7373			2157	546	SLU 55	0.07	No
ini.	3	-3886	-260643	1283			3711	1425	SLU 76	1.11	Si
fin.	3	1144	438944	8033			2157	505	SLU 76	0.06	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	8022	552515	852353	SLV 11	1.54	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	1045	180497	852353	SLV 11	4.72	Si
ini.	2	-11526	-716201	852353	SLV 5	1.19	Si
fin.	2	-136	394366	852353	SLV 5	2.16	Si
ini.	2	-11058	-706668	852353	SLV 10	1.21	Si
fin.	2	-1691	519031	852353	SLV 10	1.64	Si
ini.	2	7554	542983	852353	SLV 7	1.57	Si
fin.	2	2601	55833	852353	SLV 7	15.27	Si
ini.	2	-3835	-254833	852353	SLV 13	3.34	Si
fin.	2	-2548	545986	852353	SLV 13	1.56	Si
ini.	2	7554	542983	852353	SLV 8	1.57	Si
fin.	2	2601	55833	852353	SLV 8	15.27	Si
ini.	2	-11058	-706668	852353	SLV 9	1.21	Si
fin.	2	-1691	519031	852353	SLV 9	1.64	Si
ini.	2	8022	552515	852353	SLV 12	1.54	Si
fin.	2	1045	180497	852353	SLV 12	4.72	Si
ini.	2	-3835	-254833	852353	SLV 14	3.34	Si
fin.	2	-2548	545986	852353	SLV 14	1.56	Si
ini.	2	-11526	-716201	852353	SLV 6	1.19	Si
fin.	2	-136	394366	852353	SLV 6	2.16	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	7554	542983	-650			3235	0	SLV 7	0	No
fin.	2	2601	55833	-157			3235	325	SLV 7	2.07	Si
ini.	2	-5394	-286608	-9500			5392	2083	SLV 1	0.22	No
fin.	2	2636	130437	-4079			3235	294	SLV 1	0.07	No
ini.	2	7554	542983	-650			3235	0	SLV 8	0	No
fin.	2	2601	55833	-157			3235	325	SLV 8	2.07	Si
ini.	2	1890	122922	11557			3235	694	SLV 15	0.06	No
fin.	2	-1727	444426	15372			3926	1548	SLV 15	0.1	No
ini.	2	330	91147	-8685			3235	1143	SLV 3	0.13	No
fin.	2	3457	28877	-5667			3235	0	SLV 3	0	No
ini.	2	8022	552515	5423			3235	0	SLV 11	0	No
fin.	2	1045	180497	6155			3235	964	SLV 11	0.16	No
ini.	2	-5394	-286608	-9500			5392	2083	SLV 2	0.22	No
fin.	2	2636	130437	-4079			3235	294	SLV 2	0.07	No
ini.	2	1890	122922	11557			3235	694	SLV 16	0.06	No
fin.	2	-1727	444426	15372			3926	1548	SLV 16	0.1	No
ini.	2	8022	552515	5423			3235	0	SLV 12	0	No
fin.	2	1045	180497	6155			3235	964	SLV 12	0.16	No
ini.	2	330	91147	-8685			3235	1143	SLV 4	0.13	No
fin.	2	3457	28877	-5667			3235	0	SLV 4	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.19	SLV 5	Si
V_SLV	0	SLV 3	No
PF_SLU	1.276	SLU 82	Si
V_SLU	0.063	SLU 73	No

## Trave di accoppiamento 41

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1886.8	-335.9	389	482	93	-1936.8	-335.9	389	482	93	50	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	2140	-25781	122867	SLU 52	4.77	Si
fin.	3	2530	53442	122867	SLU 52	2.3	Si
ini.	3	2304	-28110	122867	SLU 73	4.37	Si
fin.	3	2723	56849	122867	SLU 73	2.16	Si
ini.	3	2071	-29988	122867	SLU 84	4.1	Si
fin.	3	2485	51240	122867	SLU 84	2.4	Si
ini.	3	2209	-28077	122867	SLU 82	4.38	Si
fin.	3	2608	53509	122867	SLU 82	2.3	Si
ini.	3	2165	-30021	122867	SLU 76	4.09	Si
fin.	3	2600	54581	122867	SLU 76	2.25	Si
ini.	3	2002	-27692	122867	SLU 55	4.44	Si
fin.	3	2407	51173	122867	SLU 55	2.4	Si
ini.	3	2140	-25063	122867	SLU 65	4.9	Si
fin.	3	2518	52830	122867	SLU 65	2.33	Si
ini.	3	2066	-28362	122867	SLU 75	4.33	Si
fin.	3	2460	50478	122867	SLU 75	2.43	Si
ini.	3	2046	-25747	122867	SLU 61	4.77	Si
fin.	3	2414	50102	122867	SLU 61	2.45	Si
ini.	3	2001	-26974	122867	SLU 68	4.56	Si
fin.	3	2395	50561	122867	SLU 68	2.43	Si



Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	1765	-27944	2789			1003	0	SLU 57	0	No
fin.	3	2144	44802	-396			1003	0	SLU 57	0	No
ini.	3	1452	-26254	2548			1003	0	SLU 58	0	No
fin.	3	1776	36247	-693			1003	0	SLU 58	0	No
ini.	3	1903	-26033	2774			1003	0	SLU 54	0	No
fin.	3	2267	47071	-382			1003	0	SLU 54	0	No
ini.	3	1247	-15525	1776			1003	0	SLU 1	0	No
fin.	3	1449	29180	-458			1003	0	SLU 1	0	No
ini.	3	1799	-23738	2643			1003	0	SLU 60	0	No
fin.	3	2110	42508	-710			1003	0	SLU 60	0	No
ini.	3	1699	-28263	2769			1003	0	SLU 59	0	No
fin.	3	2081	43841	-381			1003	0	SLU 59	0	No
ini.	3	2002	-27692	2900			1003	0	SLU 55	0	No
fin.	3	2407	51173	-159			1003	0	SLU 55	0	No
ini.	3	1518	-25935	2569			1003	0	SLU 56	0	No
fin.	3	1839	37208	-708			1003	0	SLU 56	0	No
ini.	3	2046	-25747	2863			1003	0	SLU 61	0	No
fin.	3	2414	50102	-398			1003	0	SLU 61	0	No
ini.	3	1656	-24023	2554			1003	0	SLU 53	0	No
fin.	3	1962	39476	-693			1003	0	SLU 53	0	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-4415	-22775	184300	SLV 3	8.09	Si
fin.	2	-4863	-106042	184300	SLV 3	1.74	Si
ini.	2	3774	-15116	184300	SLD 13	12.19	Si
fin.	2	4281	89335	184300	SLD 13	2.06	Si
ini.	2	-4415	-22775	184300	SLV 4	8.09	Si
fin.	2	-4863	-106042	184300	SLV 4	1.74	Si
ini.	2	7095	-11348	184300	SLV 13	16.24	Si
fin.	2	7988	168646	184300	SLV 13	1.09	Si
ini.	2	5527	32736	184300	SLV 9	5.63	Si
fin.	2	5975	133283	184300	SLV 9	1.38	Si
ini.	2	7095	-11348	184300	SLV 14	16.24	Si
fin.	2	7988	168646	184300	SLV 14	1.09	Si
ini.	2	5527	32736	184300	SLV 10	5.63	Si
fin.	2	5975	133283	184300	SLV 10	1.38	Si
ini.	2	3774	-15116	184300	SLD 14	12.19	Si
fin.	2	4281	89335	184300	SLD 14	2.06	Si
ini.	2	5474	-43051	184300	SLV 15	4.28	Si
fin.	2	6349	128573	184300	SLV 15	1.43	Si
ini.	2	5474	-43051	184300	SLV 16	4.28	Si
fin.	2	6349	128573	184300	SLV 16	1.43	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	7095	-11348	5659			1504	0	SLV 14	0	No
fin.	2	7988	168646	2431			1504	0	SLV 14	0	No
ini.	2	2560	38819	1520			1504	0	SLV 6	0	No
fin.	2	2612	62899	-3445			1504	0	SLV 6	0	No
ini.	2	3115	-27934	3365			1504	0	SLD 15	0	No
fin.	2	3624	73494	1210			1504	0	SLD 15	0	No
ini.	2	5474	-43051	5267			1504	0	SLV 15	0	No
fin.	2	6349	128573	3555			1504	0	SLV 15	0	No
ini.	2	2560	38819	1520			1504	0	SLV 5	0	No
fin.	2	2612	62899	-3445			1504	0	SLV 5	0	No
ini.	2	7095	-11348	5659			1504	0	SLV 13	0	No
fin.	2	7988	168646	2431			1504	0	SLV 13	0	No
ini.	2	5527	32736	3641			1504	0	SLV 9	0	No
fin.	2	5975	133283	-1338			1504	0	SLV 9	0	No
ini.	2	5527	32736	3641			1504	0	SLV 10	0	No
fin.	2	5975	133283	-1338			1504	0	SLV 10	0	No
ini.	2	3115	-27934	3365			1504	0	SLD 16	0	No
fin.	2	3624	73494	1210			1504	0	SLD 16	0	No
ini.	2	3774	-15116	3502			1504	0	SLD 14	0	No
fin.	2	4281	89335	757			1504	0	SLD 14	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.093	SLV 13	Si
V_SLV	0	SLD 5	No
PF_SLU	2.161	SLU 73	Si
V_SLU	0	SLU 1	No

Trave di accoppiamento 42

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1731.3	-335.9	109	199	90	-1831.3	-335.9	109	199	90	100	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti



fb	fhk	fvk0	fhmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2704	-136862	115068	SLU 81	0.84	No
fin.	3	-3268	-47576	115068	SLU 81	2.42	Si
ini.	3	-3330	-147456	115068	SLU 73	0.78	No
fin.	3	-4910	-83342	115068	SLU 73	1.38	Si
ini.	3	-3146	-137504	115068	SLU 75	0.84	No
fin.	3	-4280	-73117	115068	SLU 75	1.57	Si
ini.	3	-3436	-140867	115068	SLU 76	0.82	No
fin.	3	-4954	-88935	115068	SLU 76	1.29	Si
ini.	3	-3149	-136988	115068	SLU 52	0.84	No
fin.	3	-4698	-78130	115068	SLU 52	1.47	Si
ini.	3	-3109	-135209	115068	SLU 65	0.85	No
fin.	3	-4671	-79206	115068	SLU 65	1.45	Si
ini.	3	-3252	-130915	115068	SLU 78	0.88	No
fin.	3	-4324	-78710	115068	SLU 78	1.46	Si
ini.	3	-3136	-146368	115068	SLU 82	0.79	No
fin.	3	-4315	-70099	115068	SLU 82	1.64	Si
ini.	3	-3243	-139779	115068	SLU 84	0.82	No
fin.	3	-4359	-75692	115068	SLU 84	1.52	Si
ini.	3	-2955	-135900	115068	SLU 61	0.85	No
fin.	3	-4103	-64887	115068	SLU 61	1.77	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-2704	-136862	393			1847	675	SLU 81	1.72	Si
fin.	3	-3268	-47576	3901			2050	727	SLU 81	0.19	No
ini.	3	-3243	-139779	302			2041	725	SLU 84	2.4	Si
fin.	3	-4359	-75692	4071			2443	818	SLU 84	0.2	No
ini.	3	-3136	-146368	462			2002	715	SLU 82	1.55	Si
fin.	3	-4315	-70099	4194			2427	814	SLU 82	0.19	No
ini.	3	-2713	-127998	268			1850	676	SLU 74	2.52	Si
fin.	3	-3234	-50593	3706			2037	724	SLU 74	0.2	No
ini.	3	-2388	-119365	378			1733	644	SLU 64	1.71	Si
fin.	3	-2927	-41667	3417			1927	696	SLU 64	0.2	No
ini.	3	-2810	-130273	233			1885	685	SLU 83	2.94	Si
fin.	3	-3313	-53169	3779			2066	731	SLU 83	0.19	No
ini.	3	-2820	-121409	108			1889	686	SLU 77	6.34	Si
fin.	3	-3278	-56186	3583			2053	728	SLU 77	0.2	No
ini.	3	-3146	-137504	338			2006	716	SLU 75	2.12	Si
fin.	3	-4280	-73117	3998			2414	811	SLU 75	0.2	No
ini.	3	-3330	-147456	504			2072	732	SLU 73	1.45	Si
fin.	3	-4910	-83342	4243			2641	860	SLU 73	0.2	No
ini.	3	-2523	-126394	393			1782	658	SLU 60	1.67	Si
fin.	3	-3057	-42364	3615			1974	708	SLU 60	0.2	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-7774	-280533	172601	SLV 9	0.62	No
fin.	2	-12812	-33013	172601	SLV 9	5.23	Si
ini.	2	2896	-320191	172601	SLV 15	0.54	No
fin.	2	571	157320	172601	SLV 15	1.1	Si
ini.	2	-1528	-218338	172601	SLD 14	0.79	No
fin.	2	-3653	36050	172601	SLD 14	4.79	Si
ini.	2	2896	-320191	172601	SLV 16	0.54	No
fin.	2	571	157320	172601	SLV 16	1.1	Si
ini.	2	-1145	-385895	172601	SLV 13	0.45	No
fin.	2	-5700	125532	172601	SLV 13	1.37	Si
ini.	2	-1145	-385895	172601	SLV 14	0.45	No
fin.	2	-5700	125532	172601	SLV 14	1.37	Si
ini.	2	-6616	134154	172601	SLV 1	1.29	Si
fin.	2	-5118	-221496	172601	SLV 1	0.78	No
ini.	2	-1528	-218338	172601	SLD 13	0.79	No
fin.	2	-3653	36050	172601	SLD 13	4.79	Si
ini.	2	-6616	134154	172601	SLV 2	1.29	Si
fin.	2	-5118	-221496	172601	SLV 2	0.78	No
ini.	2	-7774	-280533	172601	SLV 10	0.62	No
fin.	2	-12812	-33013	172601	SLV 10	5.23	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	5695	-61518	-4725			1310	0	SLV 12	0	No
fin.	2	8090	72946	1273			1310	0	SLV 12	0	No
ini.	2	579	-12120	-3186			1310	362	SLD 7	0.11	No
fin.	2	1913	-35631	639			1310	0	SLV 7	0	No
ini.	2	5695	-61518	-4725			1310	0	SLV 11	0	No
fin.	2	8090	72946	1273			1310	0	SLV 11	0	No
ini.	2	2896	-320191	4286			1310	0	SLV 15	0	No
fin.	2	571	157320	7513			1310	365	SLV 15	0.05	No
ini.	2	1281	-78747	-1641			1310	0	SLD 11	0	No
fin.	2	1832	8594	2121			1310	0	SLD 11	0	No
ini.	2	4054	94497	-8350			1310	0	SLV 8	0	No
fin.	2	8265	-31162	-2201			1310	0	SLV 8	0	No
ini.	2	4054	94497	-8350			1310	0	SLV 7	0	No
fin.	2	8265	-31162	-2201			1310	0	SLV 7	0	No
ini.	2	1281	-78747	-1641			1310	0	SLD 12	0	No
fin.	2	1832	8594	2121			1310	0	SLD 12	0	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	579	-12120	-3186			1310	362	SLD 8	0.11	No
fin.	2	1913	-35631	639			1310	0	SLD 8	0	No
ini.	2	2896	-320191	4286			1310	0	SLV 16	0	No
fin.	2	571	157320	7513			1310	365	SLV 16	0.05	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.447	SLV 13	No
V_SLV	0	SLD 7	No
PF_SLU	0.78	SLU 73	No
V_SLU	0.186	SLU 81	No

## Trave di accoppiamento 43

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1731.3	-335.9	389	482	93	-1831.3	-335.9	389	482	93	100	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>mk</sub>	f <sub>vk0</sub>	f <sub>m</sub> medio	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	396	-34497	122867	SLU 83	3.56	Si
fin.	3	1707	10376	122867	SLU 83	11.84	Si
ini.	3	303	-33265	122867	SLU 62	3.69	Si
fin.	3	1548	10090	122867	SLU 62	12.18	Si
ini.	3	283	-34289	122867	SLU 60	3.58	Si
fin.	3	1713	14542	122867	SLU 60	8.45	Si
ini.	3	295	-32358	122867	SLU 53	3.8	Si
fin.	3	1555	11211	122867	SLU 53	10.96	Si
ini.	3	395	-32123	122867	SLU 79	3.82	Si
fin.	3	1479	5802	122867	SLU 79	21.18	Si
ini.	3	505	-31741	122867	SLU 84	3.87	Si
fin.	3	1969	14432	122867	SLU 84	8.51	Si
ini.	3	388	-33590	122867	SLU 74	3.66	Si
fin.	3	1715	11497	122867	SLU 74	10.69	Si
ini.	3	485	-32765	122867	SLU 82	3.75	Si
fin.	3	2133	18884	122867	SLU 82	6.51	Si
ini.	3	377	-35521	122867	SLU 81	3.46	Si
fin.	3	1872	14828	122867	SLU 81	8.29	Si
ini.	3	408	-32566	122867	SLU 77	3.77	Si
fin.	3	1550	7045	122867	SLU 77	17.44	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	283	-34289	4220			933	288	SLU 60	0.07	No
fin.	3	1713	14542	-1976			933	0	SLU 60	0	No
ini.	3	423	-28578	3971			933	251	SLU 57	0.06	No
fin.	3	1652	10816	-2073			933	0	SLU 57	0	No
ini.	3	392	-31533	4279			933	260	SLU 61	0.06	No
fin.	3	1974	18598	-1863			933	0	SLU 61	0	No
ini.	3	295	-32358	4004			933	285	SLU 53	0.07	No
fin.	3	1555	11211	-2010			933	0	SLU 53	0	No
ini.	3	403	-29602	4063			933	257	SLU 54	0.06	No
fin.	3	1817	15267	-1896			933	0	SLU 54	0	No
ini.	3	410	-28135	3911			933	255	SLU 59	0.07	No
fin.	3	1582	9572	-2096			933	0	SLU 59	0	No
ini.	3	463	-27322	4041			933	240	SLU 55	0.06	No
fin.	3	1920	16728	-1843			933	0	SLU 55	0	No
ini.	3	302	-30891	3852			933	283	SLU 58	0.07	No
fin.	3	1320	5516	-2209			933	0	SLU 58	0	No
ini.	3	314	-31334	3913			933	280	SLU 56	0.07	No
fin.	3	1391	6760	-2187			933	0	SLU 56	0	No
ini.	3	190	-23240	2859			933	310	SLU 1	0.11	No
fin.	3	1196	10946	-1276			933	0	SLU 1	0	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1191	-129667	184300	SLV 5	1.42	Si
fin.	2	2409	34864	184300	SLV 5	5.29	Si
ini.	2	-1702	-156874	184300	SLV 9	1.17	Si
fin.	2	5358	121083	184300	SLV 9	1.52	Si
ini.	2	-119	-34202	184300	SLV 15	5.39	Si
fin.	2	5419	134749	184300	SLV 15	1.37	Si
ini.	2	-1191	-129667	184300	SLV 6	1.42	Si
fin.	2	2409	34864	184300	SLV 6	5.29	Si
ini.	2	-1702	-156874	184300	SLV 10	1.17	Si
fin.	2	5358	121083	184300	SLV 10	1.52	Si
ini.	2	1586	56487	184300	SLV 3	3.26	Si
fin.	2	-4410	-152647	184300	SLV 3	1.21	Si
ini.	2	-1125	-105469	184300	SLV 13	1.75	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	6979	174867	184300	SLV 13	1.05	Si
ini.	2	1586	56487	184300	SLV 4	3.26	Si
fin.	2	-4410	-152647	184300	SLV 4	1.21	Si
ini.	2	-1125	-105469	184300	SLV 14	1.75	Si
fin.	2	6979	174867	184300	SLV 14	1.05	Si
ini.	2	-119	-34202	184300	SLV 16	5.39	Si
fin.	2	5419	134749	184300	SLV 16	1.37	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-1125	-105469	7765			1817	719	SLV 14	0.09	No
fin.	2	6979	174867	4316			1399	0	SLV 14	0	No
ini.	2	64	-29443	4183			1399	513	SLD 16	0.12	No
fin.	2	3066	64196	398			1399	0	SLD 16	0	No
ini.	2	1652	80684	592			1399	0	SLV 11	0	No
fin.	2	160	-12644	-2456			1399	493	SLV 11	0.2	No
ini.	2	1652	80684	592			1399	0	SLV 12	0	No
fin.	2	160	-12644	-2456			1399	493	SLV 12	0.2	No
ini.	2	-1191	-129667	5561			1842	728	SLV 6	0.13	No
fin.	2	2409	34864	-401			1399	0	SLV 6	0	No
ini.	2	-1702	-156874	7732			2032	800	SLV 9	0.1	No
fin.	2	5358	121083	2592			1399	0	SLV 9	0	No
ini.	2	2163	107891	-1579			1399	0	SLV 7	0	No
fin.	2	-2789	-98863	-5449			2436	933	SLV 7	0.17	No
ini.	2	-1125	-105469	7765			1817	719	SLV 13	0.09	No
fin.	2	6979	174867	4316			1399	0	SLV 13	0	No
ini.	2	2163	107891	-1579			1399	0	SLV 8	0	No
fin.	2	-2789	-98863	-5449			2436	933	SLV 8	0.17	No
ini.	2	-1702	-156874	7732			2032	800	SLV 10	0.1	No
fin.	2	5358	121083	2592			1399	0	SLV 10	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.054	SLV 13	Si
V_SLV	0	SLD 5	No
PF_SLU	3.459	SLU 81	Si
V_SLU	0	SLU 1	No

## Trave di accoppiamento 44

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1705.3	-486.2	435	482	47	-1705.3	-377.2	435	482	47	109	30	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fhk	fvk0	fmedlo	t0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-470	3411	33622	SLU 23	9.86	Si
fin.	3	795	-16654	33622	SLU 23	2.02	Si
ini.	3	-590	4926	33622	SLU 47	6.83	Si
fin.	3	972	-21393	33622	SLU 47	1.57	Si
ini.	3	-591	4371	33622	SLU 55	7.69	Si
fin.	3	890	-17873	33622	SLU 55	1.88	Si
ini.	3	-471	3745	33622	SLU 2	8.98	Si
fin.	3	833	-18495	33622	SLU 2	1.82	Si
ini.	3	-474	4022	33622	SLU 5	8.36	Si
fin.	3	904	-20919	33622	SLU 5	1.61	Si
ini.	3	-586	4315	33622	SLU 65	7.79	Si
fin.	3	862	-17129	33622	SLU 65	1.96	Si
ini.	3	-590	4592	33622	SLU 68	7.32	Si
fin.	3	933	-19552	33622	SLU 68	1.72	Si
ini.	3	-474	3688	33622	SLU 26	9.12	Si
fin.	3	866	-19077	33622	SLU 26	1.76	Si
ini.	3	-475	3467	33622	SLU 13	9.7	Si
fin.	3	823	-17398	33622	SLU 13	1.93	Si
ini.	3	-587	4649	33622	SLU 44	7.23	Si
fin.	3	901	-18970	33622	SLU 44	1.77	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-560	4757	-897			511	202	SLU 51	0.22	No
fin.	3	782	-16210	933			362	0	SLU 51	0	No
ini.	3	-445	2966	-724			481	190	SLU 38	0.26	No
fin.	3	595	-10373	1049			362	0	SLU 38	0	No
ini.	3	-444	2856	-717			480	190	SLU 36	0.26	No
fin.	3	572	-9539	1070			362	0	SLU 36	0	No
ini.	3	-587	4094	-984			519	204	SLU 52	0.21	No
fin.	3	819	-15449	1175			362	0	SLU 52	0	No
ini.	3	-475	3134	-852			489	193	SLU 34	0.23	No
fin.	3	785	-15556	1116			362	0	SLU 34	0	No





Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-555	4371	-867			510	201	SLU 46	0.23	No
fin.	3	688	-12953	967			362	0	SLU 46	0	No
ini.	3	-442	2451	-693			480	190	SLU 42	0.27	No
fin.	3	489	-6441	1132			362	0	SLU 42	0	No
ini.	3	-587	4649	-1002			518	204	SLU 44	0.2	No
fin.	3	901	-18970	1013			362	0	SLU 44	0	No
ini.	3	-559	4647	-890			511	202	SLU 49	0.23	No
fin.	3	759	-15376	954			362	0	SLU 49	0	No
ini.	3	-590	4926	-1025			519	205	SLU 47	0.2	No
fin.	3	972	-21393	1000			362	0	SLU 47	0	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1205	40613	50433	SLV 8	1.24	Si
fin.	2	6187	-193127	50433	SLV 8	0.26	No
ini.	2	131	-14352	50433	SLV 13	3.51	Si
fin.	2	-2647	92229	50433	SLV 13	0.55	No
ini.	2	254	-32389	50433	SLV 6	1.56	Si
fin.	2	-5247	176385	50433	SLV 6	0.29	No
ini.	2	-1205	40613	50433	SLV 7	1.24	Si
fin.	2	6187	-193127	50433	SLV 7	0.26	No
ini.	2	-1026	37145	50433	SLV 11	1.36	Si
fin.	2	5540	-172278	50433	SLV 11	0.29	No
ini.	2	254	-32389	50433	SLV 5	1.56	Si
fin.	2	-5247	176385	50433	SLV 5	0.29	No
ini.	2	131	-14352	50433	SLV 14	3.51	Si
fin.	2	-2647	92229	50433	SLV 14	0.55	No
ini.	2	433	-35856	50433	SLV 9	1.41	Si
fin.	2	-5894	197235	50433	SLV 9	0.26	No
ini.	2	-1026	37145	50433	SLV 12	1.36	Si
fin.	2	5540	-172278	50433	SLV 12	0.29	No
ini.	2	433	-35856	50433	SLV 10	1.41	Si
fin.	2	-5894	197235	50433	SLV 10	0.26	No

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-641	15998	-1159			714	282	SLD 11	0.24	No
fin.	2	2257	-66206	909			543	0	SLD 11	0	No
ini.	2	-1026	37145	-2270			817	320	SLV 11	0.14	No
fin.	2	5540	-172278	1073			543	0	SLV 11	0	No
ini.	2	-903	19108	-1699			784	309	SLV 3	0.18	No
fin.	2	2940	-88122	653			543	0	SLV 3	0	No
ini.	2	-1205	40613	-2649			864	336	SLV 8	0.13	No
fin.	2	6187	-193127	950			543	0	SLV 8	0	No
ini.	2	-717	17400	-1319			734	290	SLD 7	0.22	No
fin.	2	2525	-74849	855			543	0	SLD 7	0	No
ini.	2	-307	7549	-435			625	245	SLV 16	0.56	No
fin.	2	784	-18624	1061			543	0	SLV 16	0	No
ini.	2	-307	7549	-435			625	245	SLV 15	0.56	No
fin.	2	784	-18624	1061			543	0	SLV 15	0	No
ini.	2	-1205	40613	-2649			864	336	SLV 7	0.13	No
fin.	2	6187	-193127	950			543	0	SLV 7	0	No
ini.	2	-903	19108	-1699			784	309	SLV 4	0.18	No
fin.	2	2940	-88122	653			543	0	SLV 4	0	No
ini.	2	-641	15998	-1159			714	282	SLD 12	0.24	No
fin.	2	2257	-66206	909			543	0	SLD 12	0	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.256	SLV 9	No
V_SLV	0	SLD 3	No
PF_SLU	1.572	SLU 47	Si
V_SLU	0	SLU 2	No

## Trave di accoppiamento 45

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1548.3	-335.9	319	482	163	-1638.3	-335.9	319	482	163	90	28	30000

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb_	fhk	fvk0	fkhmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2129	-25323	377436	SLU 77	14.91	Si
fin.	3	-2162	-238309	377436	SLU 77	1.58	Si
ini.	3	-2143	-19671	377436	SLU 79	19.19	Si
fin.	3	-2182	-238539	377436	SLU 79	1.58	Si
ini.	3	-2187	-60474	377436	SLU 84	6.24	Si
fin.	3	-2183	-241573	377436	SLU 84	1.56	Si
ini.	3	-2107	-63931	377436	SLU 75	5.9	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	-2085	-232507	377436	SLU 75	1.62	Si
ini.	3	-2109	-33099	377436	SLU 59	11.4	Si
fin.	3	-2109	-228618	377436	SLU 59	1.65	Si
ini.	3	-2175	-41640	377436	SLU 80	9.06	Si
fin.	3	-2186	-243740	377436	SLU 80	1.55	Si
ini.	3	-2161	-47292	377436	SLU 78	7.98	Si
fin.	3	-2165	-243510	377436	SLU 78	1.55	Si
ini.	3	-2142	-72925	377436	SLU 76	5.18	Si
fin.	3	-2108	-236205	377436	SLU 76	1.6	Si
ini.	3	-2133	-77113	377436	SLU 82	4.89	Si
fin.	3	-2103	-230571	377436	SLU 82	1.64	Si
ini.	3	-2155	-38505	377436	SLU 83	9.8	Si
fin.	3	-2179	-236372	377436	SLU 83	1.6	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-2129	-25323	-1277			2609	1025	SLU 77	0.8	No
fin.	3	-2162	-238309	-6983			2622	1029	SLU 77	0.15	No
ini.	3	-2161	-47292	-1059			2622	1029	SLU 78	0.97	No
fin.	3	-2165	-243510	-6857			2624	1030	SLU 78	0.15	No
ini.	3	-2187	-60474	-820			2632	1033	SLU 84	1.26	Si
fin.	3	-2183	-241573	-6908			2631	1032	SLU 84	0.15	No
ini.	3	-2133	-77113	-486			2611	1025	SLU 82	2.11	Si
fin.	3	-2103	-230571	-6621			2599	1021	SLU 82	0.15	No
ini.	3	-2175	-41640	-1134			2628	1031	SLU 80	0.91	No
fin.	3	-2186	-243740	-6873			2632	1033	SLU 80	0.15	No
ini.	3	-2101	-55144	-704			2598	1021	SLU 81	1.45	Si
fin.	3	-2099	-225370	-6746			2597	1020	SLU 81	0.15	No
ini.	3	-2107	-63931	-726			2600	1021	SLU 75	1.41	Si
fin.	3	-2085	-232507	-6569			2592	1018	SLU 75	0.16	No
ini.	3	-2155	-38505	-1038			2620	1028	SLU 83	0.99	No
fin.	3	-2179	-236372	-7034			2629	1032	SLU 83	0.15	No
ini.	3	-2075	-41961	-944			2588	1017	SLU 74	1.08	Si
fin.	3	-2082	-227306	-6695			2590	1018	SLU 74	0.15	No
ini.	3	-2143	-19671	-1352			2615	1027	SLU 79	0.76	No
fin.	3	-2182	-238539	-6998			2631	1032	SLU 79	0.15	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1297	-709624	566154	SLV 14	0.8	No
fin.	2	47	127730	566154	SLV 14	4.43	Si
ini.	2	-1657	636872	566154	SLV 3	0.89	No
fin.	2	-2952	-434274	566154	SLV 3	1.3	Si
ini.	2	-3528	580278	566154	SLV 1	0.98	No
fin.	2	-4773	-548627	566154	SLV 1	1.03	Si
ini.	2	-4930	62786	566154	SLV 5	9.02	Si
fin.	2	-5211	-445313	566154	SLV 5	1.27	Si
ini.	2	-1297	-709624	566154	SLV 13	0.8	No
fin.	2	47	127730	566154	SLV 13	4.43	Si
ini.	2	-4930	62786	566154	SLV 6	9.02	Si
fin.	2	-5211	-445313	566154	SLV 6	1.27	Si
ini.	2	574	-653030	566154	SLV 15	0.87	No
fin.	2	1869	242083	566154	SLV 15	2.34	Si
ini.	2	-1657	636872	566154	SLV 4	0.89	No
fin.	2	-2952	-434274	566154	SLV 4	1.3	Si
ini.	2	-3528	580278	566154	SLV 2	0.98	No
fin.	2	-4773	-548627	566154	SLV 2	1.03	Si
ini.	2	574	-653030	566154	SLV 16	0.87	No
fin.	2	1869	242083	566154	SLV 16	2.34	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-3528	580278	-14292			4048	1583	SLV 2	0.11	No
fin.	2	-4773	-548627	-14782			4546	1745	SLV 2	0.12	No
ini.	2	1977	-135538	8352			2637	363	SLV 12	0.04	No
fin.	2	2307	138770	1626			2637	0	SLV 12	0	No
ini.	2	-1297	-709624	10144			3155	1243	SLV 14	0.12	No
fin.	2	47	127730	3910			2637	982	SLV 14	0.25	No
ini.	2	574	-653030	13264			2637	858	SLV 16	0.06	No
fin.	2	1869	242083	5875			2637	422	SLV 16	0.07	No
ini.	2	-1657	636872	-11171			3299	1303	SLV 4	0.12	No
fin.	2	-2952	-434274	-12817			3817	1503	SLV 4	0.12	No
ini.	2	1977	-135538	8352			2637	363	SLV 11	0.04	No
fin.	2	2307	138770	1626			2637	0	SLV 11	0	No
ini.	2	574	-653030	13264			2637	858	SLV 15	0.06	No
fin.	2	1869	242083	5875			2637	422	SLV 15	0.07	No
ini.	2	-1657	636872	-11171			3299	1303	SLV 3	0.12	No
fin.	2	-2952	-434274	-12817			3817	1503	SLV 3	0.12	No
ini.	2	-1297	-709624	10144			3155	1243	SLV 13	0.12	No
fin.	2	47	127730	3910			2637	982	SLV 13	0.25	No
ini.	2	-3528	580278	-14292			4048	1583	SLV 1	0.11	No
fin.	2	-4773	-548627	-14782			4546	1745	SLV 1	0.12	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.798	SLV 13	No
V_SLV	0	SLV 11	No
PF_SLU	1.549	SLU 80	Si
V_SLU	0.147	SLU 83	No



## Trave di accoppiamento 46

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1443.8	-485.9	435	482	47	-1627.8	-485.9	435	482	47	184	30	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	423	-11391	33622	SLU 43	2.95	Si
fin.	3	68	9853	33622	SLU 43	3.41	Si
ini.	3	404	-10366	33622	SLU 65	3.24	Si
fin.	3	89	10354	33622	SLU 65	3.25	Si
ini.	3	348	-8491	33622	SLU 68	3.96	Si
fin.	3	120	8687	33622	SLU 68	3.87	Si
ini.	3	396	-10354	33622	SLU 46	3.25	Si
fin.	3	81	9733	33622	SLU 46	3.45	Si
ini.	3	377	-9811	33622	SLU 45	3.43	Si
fin.	3	96	8457	33622	SLU 45	3.98	Si
ini.	3	372	-9460	33622	SLU 64	3.55	Si
fin.	3	113	8228	33622	SLU 64	4.09	Si
ini.	3	455	-12297	33622	SLU 44	2.73	Si
fin.	3	43	11979	33622	SLU 44	2.81	Si
ini.	3	399	-10422	33622	SLU 47	3.23	Si
fin.	3	75	10312	33622	SLU 47	3.26	Si
ini.	3	365	-8903	33622	SLU 52	3.78	Si
fin.	3	124	9108	33622	SLU 52	3.69	Si
ini.	3	344	-9159	33622	SLU 2	3.67	Si
fin.	3	40	9277	33622	SLU 2	3.62	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	262	-5154	-301			362	91	SLU 82	0.3	No
fin.	3	214	5401	804			362	100	SLU 82	0.13	No
ini.	3	179	-2610	-332			362	107	SLU 77	0.32	No
fin.	3	254	2294	728			362	92	SLU 77	0.13	No
ini.	3	206	-3280	-327			362	102	SLU 84	0.31	No
fin.	3	246	3734	788			362	94	SLU 84	0.12	No
ini.	3	243	-4611	-312			362	95	SLU 81	0.3	No
fin.	3	229	4126	767			362	98	SLU 81	0.13	No
ini.	3	258	-5097	-291			362	92	SLU 76	0.32	No
fin.	3	202	5816	798			362	103	SLU 76	0.13	No
ini.	3	189	-2860	-323			362	105	SLU 80	0.33	No
fin.	3	243	3298	759			362	95	SLU 80	0.12	No
ini.	3	254	-5029	-295			362	92	SLU 75	0.31	No
fin.	3	208	5236	780			362	102	SLU 75	0.13	No
ini.	3	187	-2736	-338			362	106	SLU 83	0.31	No
fin.	3	261	2459	752			362	91	SLU 83	0.12	No
ini.	3	198	-3154	-321			362	104	SLU 78	0.32	No
fin.	3	239	3569	764			362	95	SLU 78	0.12	No
ini.	3	170	-2316	-334			362	109	SLU 79	0.33	No
fin.	3	258	2023	722			362	92	SLU 79	0.13	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1711	-72858	50433	SLV 12	0.69	No
fin.	2	-1803	65350	50433	SLV 12	0.77	No
ini.	2	3336	-105383	50433	SLV 14	0.48	No
fin.	2	-1836	98522	50433	SLV 14	0.51	No
ini.	2	-3079	112029	50433	SLV 1	0.45	No
fin.	2	2764	-104232	50433	SLV 1	0.48	No
ini.	2	3622	-125492	50433	SLV 15	0.4	No
fin.	2	-2563	115964	50433	SLV 15	0.43	No
ini.	2	-2793	91920	50433	SLV 3	0.55	No
fin.	2	2036	-86790	50433	SLV 3	0.58	No
ini.	2	-3079	112029	50433	SLV 2	0.45	No
fin.	2	2764	-104232	50433	SLV 2	0.48	No
ini.	2	1711	-72858	50433	SLV 11	0.69	No
fin.	2	-1803	65350	50433	SLV 11	0.77	No
ini.	2	3336	-105383	50433	SLV 13	0.48	No
fin.	2	-1836	98522	50433	SLV 13	0.51	No
ini.	2	3622	-125492	50433	SLV 16	0.4	No
fin.	2	-2563	115964	50433	SLV 16	0.43	No
ini.	2	-2793	91920	50433	SLV 4	0.55	No
fin.	2	2036	-86790	50433	SLV 4	0.58	No

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	3336	-105383	1006			543	0	SLV 14	0	No
fin.	2	-1836	98522	626			1033	388	SLV 14	0.62	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	756	-5828	-206			543	0	SLV 10	0	No
fin.	2	623	7209	945			543	70	SLV 10	0.07	No
ini.	2	-1156	43852	-785			851	332	SLD 1	0.42	No
fin.	2	1232	-41016	632			543	0	SLD 1	0	No
ini.	2	3336	-105383	1006			543	0	SLV 13	0	No
fin.	2	-1836	98522	626			1033	388	SLV 13	0.62	No
ini.	2	1711	-72858	642			543	0	SLV 11	0	No
fin.	2	-1803	65350	141			1024	385	SLV 11	2.73	Si
ini.	2	-1168	59396	-990			855	333	SLV 6	0.34	No
fin.	2	2003	-53617	977			543	0	SLV 6	0	No
ini.	2	-1168	59396	-990			855	333	SLV 5	0.34	No
fin.	2	2003	-53617	977			543	0	SLV 5	0	No
ini.	2	1711	-72858	642			543	0	SLV 12	0	No
fin.	2	-1803	65350	141			1024	385	SLV 12	2.73	Si
ini.	2	756	-5828	-206			543	0	SLV 9	0	No
fin.	2	623	7209	945			543	70	SLV 9	0.07	No
ini.	2	-2793	91920	-1354			1288	455	SLV 4	0.34	No
fin.	2	2036	-86790	492			543	0	SLV 4	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.402	SLV 15	No
V_SLV	0	SLD 1	No
PF_SLU	2.734	SLU 44	Si
V_SLU	0.119	SLU 84	No

## Trave di accoppiamento 47

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1375.3	-22.8	319	482	163	-1375.3	67.2	319	482	163	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	121	-165466	377436	SLU 70	2.28	Si
fin.	3	121	50893	377436	SLU 70	7.42	Si
ini.	3	159	-170316	377436	SLU 77	2.22	Si
fin.	3	159	55588	377436	SLU 77	6.79	Si
ini.	3	119	-160342	377436	SLU 35	2.35	Si
fin.	3	119	48008	377436	SLU 35	7.86	Si
ini.	3	159	-171750	377436	SLU 79	2.2	Si
fin.	3	159	55121	377436	SLU 79	6.85	Si
ini.	3	120	-179542	377436	SLU 69	2.1	Si
fin.	3	120	51663	377436	SLU 69	7.31	Si
ini.	3	119	-161776	377436	SLU 37	2.33	Si
fin.	3	119	47540	377436	SLU 37	7.94	Si
ini.	3	121	-166900	377436	SLU 72	2.26	Si
fin.	3	121	50425	377436	SLU 72	7.49	Si
ini.	3	80	-169568	377436	SLU 27	2.23	Si
fin.	3	80	44082	377436	SLU 27	8.56	Si
ini.	3	120	-180976	377436	SLU 71	2.09	Si
fin.	3	120	51195	377436	SLU 71	7.37	Si
ini.	3	80	-171002	377436	SLU 29	2.21	Si
fin.	3	80	43614	377436	SLU 29	8.65	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	159	-171750	2983			1758	626	SLU 79	0.21	No
fin.	3	159	55121	2067			1758	626	SLU 79	0.3	No
ini.	3	160	-156240	2807			1758	626	SLU 78	0.22	No
fin.	3	160	54818	1892			1758	626	SLU 78	0.33	No
ini.	3	120	-180976	3041			1758	635	SLU 71	0.21	No
fin.	3	120	51195	2126			1758	635	SLU 71	0.3	No
ini.	3	80	-169568	2735			1758	644	SLU 27	0.24	No
fin.	3	80	44082	2019			1758	644	SLU 27	0.32	No
ini.	3	159	-170316	2972			1758	626	SLU 77	0.21	No
fin.	3	159	55588	2056			1758	626	SLU 77	0.3	No
ini.	3	121	-166900	2876			1758	635	SLU 72	0.22	No
fin.	3	121	50425	1961			1758	635	SLU 72	0.32	No
ini.	3	80	-171002	2746			1758	644	SLU 29	0.23	No
fin.	3	80	43614	2030			1758	644	SLU 29	0.32	No
ini.	3	121	-165466	2866			1758	635	SLU 70	0.22	No
fin.	3	121	50893	1950			1758	635	SLU 70	0.33	No
ini.	3	120	-179542	3031			1758	635	SLU 69	0.21	No
fin.	3	120	51663	2115			1758	635	SLU 69	0.3	No
ini.	3	160	-157673	2818			1758	626	SLU 80	0.22	No
fin.	3	160	54351	1902			1758	626	SLU 80	0.33	No



## Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-856	-758752	566154	SLV 9	0.75	No
fin.	2	-1045	129939	566154	SLV 9	4.36	Si
ini.	2	-856	-758752	566154	SLV 10	0.75	No
fin.	2	-1045	129939	566154	SLV 10	4.36	Si
ini.	2	-1704	-652233	566154	SLV 1	0.87	No
fin.	2	-934	37861	566154	SLV 1	14.95	Si
ini.	2	-1704	-961259	566154	SLV 6	0.59	No
fin.	2	-1437	115766	566154	SLV 6	4.89	Si
ini.	2	1121	596696	566154	SLV 8	0.95	No
fin.	2	1311	-59575	566154	SLV 8	9.5	Si
ini.	2	-1704	-961259	566154	SLV 5	0.59	No
fin.	2	-1437	115766	566154	SLV 5	4.89	Si
ini.	2	1969	799203	566154	SLV 11	0.71	No
fin.	2	1703	-45402	566154	SLV 11	12.47	Si
ini.	2	1121	596696	566154	SLV 7	0.95	No
fin.	2	1311	-59575	566154	SLV 7	9.5	Si
ini.	2	-1704	-652233	566154	SLV 2	0.87	No
fin.	2	-934	37861	566154	SLV 2	14.95	Si
ini.	2	1969	799203	566154	SLV 12	0.71	No
fin.	2	1703	-45402	566154	SLV 12	12.47	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-856	-758752	10414			2979	1163	SLV 10	0.11	No
fin.	2	-1045	129939	9508			3054	1198	SLV 10	0.13	No
ini.	2	1970	490177	-3820			2637	367	SLV 15	0.1	No
fin.	2	1199	32503	-5008			2637	683	SLV 15	0.14	No
ini.	2	-1704	-961259	11973			3318	1311	SLV 5	0.11	No
fin.	2	-1437	115766	11371			3211	1267	SLV 5	0.11	No
ini.	2	1969	799203	-8685			2637	367	SLV 11	0.04	No
fin.	2	1703	-45402	-9481			2637	500	SLV 11	0.05	No
ini.	2	-856	-758752	10414			2979	1163	SLV 9	0.11	No
fin.	2	-1045	129939	9508			3054	1198	SLV 9	0.13	No
ini.	2	1121	596696	-7126			2637	708	SLV 7	0.1	No
fin.	2	1311	-59575	-7618			2637	647	SLV 7	0.08	No
ini.	2	1969	799203	-8685			2637	367	SLV 12	0.04	No
fin.	2	1703	-45402	-9481			2637	500	SLV 12	0.05	No
ini.	2	1970	490177	-3820			2637	367	SLV 16	0.1	No
fin.	2	1199	32503	-5008			2637	683	SLV 16	0.14	No
ini.	2	-1704	-961259	11973			3318	1311	SLV 6	0.11	No
fin.	2	-1437	115766	11371			3211	1267	SLV 6	0.11	No
ini.	2	1121	596696	-7126			2637	708	SLV 8	0.1	No
fin.	2	1311	-59575	-7618			2637	647	SLV 8	0.08	No

## Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.589	SLV 5	No
V_SLV	0.042	SLV 11	No
PF_SLU	2.086	SLU 71	Si
V_SLU	0.209	SLU 71	No

## Trave di accoppiamento 48

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1986.8	104.6	319	482	163	-2066.8	104.6	319	482	163	80	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb_	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2089	63543	377436	SLU 35	5.94	Si
fin.	3	-2089	-173610	377436	SLU 35	2.17	Si
ini.	3	-2629	68557	377436	SLU 77	5.51	Si
fin.	3	-2629	-194975	377436	SLU 77	1.94	Si
ini.	3	-2444	64864	377436	SLU 69	5.82	Si
fin.	3	-2444	-174786	377436	SLU 69	2.16	Si
ini.	3	-2680	57587	377436	SLU 74	6.55	Si
fin.	3	-2680	-181641	377436	SLU 74	2.08	Si
ini.	3	-2681	61176	377436	SLU 78	6.17	Si
fin.	3	-2681	-185946	377436	SLU 78	2.03	Si
ini.	3	-2621	67860	377436	SLU 79	5.56	Si
fin.	3	-2621	-192336	377436	SLU 79	1.96	Si
ini.	3	-2673	60478	377436	SLU 80	6.24	Si
fin.	3	-2673	-183306	377436	SLU 80	2.06	Si
ini.	3	-2802	47502	377436	SLU 81	7.95	Si
fin.	3	-2802	-174321	377436	SLU 81	2.17	Si
ini.	3	-2804	51091	377436	SLU 84	7.39	Si
fin.	3	-2804	-178625	377436	SLU 84	2.11	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2751	58472	377436	SLU 83	6.45	Si
fin.	3	-2751	-187655	377436	SLU 83	2.01	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-2621	67860	-2249			2806	1091	SLU 79	0.49	No
fin.	3	-2621	-192336	-4308			2806	1091	SLU 79	0.25	No
ini.	3	-2089	63543	-2066			2593	1019	SLU 35	0.49	No
fin.	3	-2089	-173610	-3901			2593	1019	SLU 35	0.26	No
ini.	3	-2444	64864	-2188			2735	1068	SLU 69	0.49	No
fin.	3	-2444	-174786	-3855			2735	1068	SLU 69	0.28	No
ini.	3	-2680	57587	-1987			2829	1099	SLU 74	0.55	No
fin.	3	-2680	-181641	-4046			2829	1099	SLU 74	0.27	No
ini.	3	-2681	61176	-2086			2830	1099	SLU 78	0.53	No
fin.	3	-2681	-185946	-4144			2830	1099	SLU 78	0.27	No
ini.	3	-2081	62846	-2024			2590	1018	SLU 37	0.5	No
fin.	3	-2081	-170970	-3859			2590	1018	SLU 37	0.26	No
ini.	3	-2629	68557	-2291			2809	1092	SLU 77	0.48	No
fin.	3	-2629	-194975	-4350			2809	1092	SLU 77	0.25	No
ini.	3	-2673	60478	-2044			2827	1098	SLU 80	0.54	No
fin.	3	-2673	-183306	-4103			2827	1098	SLU 80	0.27	No
ini.	3	-2751	58472	-1990			2858	1108	SLU 83	0.56	No
fin.	3	-2751	-187655	-4216			2858	1108	SLU 83	0.26	No
ini.	3	-2211	53458	-1764			2642	1036	SLU 41	0.59	No
fin.	3	-2211	-166289	-3767			2642	1036	SLU 41	0.28	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-224	-505600	566154	SLV 14	1.12	Si
fin.	2	23	556717	566154	SLV 14	1.02	Si
ini.	2	-3155	598687	566154	SLV 1	0.95	No
fin.	2	-3093	-778020	566154	SLV 1	0.73	No
ini.	2	-3746	568467	566154	SLV 4	1	No
fin.	2	-3993	-781217	566154	SLV 4	0.72	No
ini.	2	-814	-535819	566154	SLV 15	1.06	Si
fin.	2	-877	553519	566154	SLV 15	1.02	Si
ini.	2	-224	-505600	566154	SLV 13	1.12	Si
fin.	2	23	556717	566154	SLV 13	1.02	Si
ini.	2	-3746	568467	566154	SLV 3	1	No
fin.	2	-3993	-781217	566154	SLV 3	0.72	No
ini.	2	-2729	261177	566154	SLD 4	2.17	Si
fin.	2	-2830	-397955	566154	SLD 4	1.42	Si
ini.	2	-2729	261177	566154	SLD 3	2.17	Si
fin.	2	-2830	-397955	566154	SLD 3	1.42	Si
ini.	2	-3155	598687	566154	SLV 2	0.95	No
fin.	2	-3093	-778020	566154	SLV 2	0.73	No
ini.	2	-814	-535819	566154	SLV 16	1.06	Si
fin.	2	-877	553519	566154	SLV 16	1.02	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-224	-505600	14201			2726	1040	SLV 13	0.07	No
fin.	2	23	556717	12513			2637	987	SLV 13	0.08	No
ini.	2	-1440	247442	-5652			3212	1267	SLV 5	0.22	No
fin.	2	-952	-307131	-8151			3017	1181	SLV 5	0.14	No
ini.	2	-3746	568467	-16512			4135	1613	SLV 4	0.1	No
fin.	2	-3993	-781217	-17468			4234	1645	SLV 4	0.09	No
ini.	2	-3155	598687	-16451			3898	1531	SLV 2	0.09	No
fin.	2	-3093	-778020	-18116			3874	1523	SLV 2	0.08	No
ini.	2	-3155	598687	-16451			3898	1531	SLV 1	0.09	No
fin.	2	-3093	-778020	-18116			3874	1523	SLV 1	0.08	No
ini.	2	-1440	247442	-5652			3212	1267	SLV 6	0.22	No
fin.	2	-952	-307131	-8151			3017	1181	SLV 6	0.14	No
ini.	2	-3746	568467	-16512			4135	1613	SLV 3	0.1	No
fin.	2	-3993	-781217	-17468			4234	1645	SLV 3	0.09	No
ini.	2	-224	-505600	14201			2726	1040	SLV 14	0.07	No
fin.	2	23	556717	12513			2637	987	SLV 14	0.08	No
ini.	2	-814	-535819	14140			2962	1156	SLV 15	0.08	No
fin.	2	-877	553519	13160			2987	1167	SLV 15	0.09	No
ini.	2	-814	-535819	14140			2962	1156	SLV 16	0.08	No
fin.	2	-877	553519	13160			2987	1167	SLV 16	0.09	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.725	SLV 3	No
V_SLV	0.073	SLV 13	No
PF_SLU	1.936	SLU 77	Si
V_SLU	0.251	SLU 77	No

## Trave di accoppiamento 49

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1116.3	104.6	359	482	123	-1228.3	104.6	359	482	123	112	28	30000



## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-5580	-91782	214921	SLU 37	2.34	Si
fin.	3	-5580	55821	214921	SLU 37	3.85	Si
ini.	3	-5698	-97961	214921	SLU 71	2.19	Si
fin.	3	-5698	69656	214921	SLU 71	3.09	Si
ini.	3	-5806	-96088	214921	SLU 72	2.24	Si
fin.	3	-5806	70312	214921	SLU 72	3.06	Si
ini.	3	-6524	-102901	214921	SLU 79	2.09	Si
fin.	3	-6524	66728	214921	SLU 79	3.22	Si
ini.	3	-6633	-101028	214921	SLU 80	2.13	Si
fin.	3	-6633	67384	214921	SLU 80	3.19	Si
ini.	3	-6678	-99485	214921	SLU 78	2.16	Si
fin.	3	-6678	66931	214921	SLU 78	3.21	Si
ini.	3	-5743	-96418	214921	SLU 69	2.23	Si
fin.	3	-5743	69203	214921	SLU 69	3.11	Si
ini.	3	-6569	-101357	214921	SLU 77	2.12	Si
fin.	3	-6569	66275	214921	SLU 77	3.24	Si
ini.	3	-5851	-94545	214921	SLU 70	2.27	Si
fin.	3	-5851	69859	214921	SLU 70	3.08	Si
ini.	3	-6821	-92918	214921	SLU 83	2.31	Si
fin.	3	-6821	54779	214921	SLU 83	3.92	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt <sub>lim</sub>	Comb.	c.s.	Verifica
ini.	3	-5689	-89909	2615			3602	1218	SLU 38	0.47	No
fin.	3	-5689	56476	19			3602	1218	SLU 38	62.64	Si
ini.	3	-6633	-101028	2946			3979	1299	SLU 80	0.44	No
fin.	3	-6633	67384	73			3979	1299	SLU 80	17.87	Si
ini.	3	-6524	-102901	2957			3936	1290	SLU 79	0.44	No
fin.	3	-6524	66728	84			3936	1290	SLU 79	15.44	Si
ini.	3	-6821	-92918	2917			4055	1315	SLU 83	0.45	No
fin.	3	-6821	54779	-259			4055	1315	SLU 83	5.08	Si
ini.	3	-6929	-91045	2906			4098	1324	SLU 84	0.46	No
fin.	3	-6929	55435	-270			4098	1324	SLU 84	4.91	Si
ini.	3	-5827	-90964	2615			3657	1230	SLU 58	0.47	No
fin.	3	-5827	66261	191			3657	1230	SLU 58	6.43	Si
ini.	3	-5625	-90239	2608			3576	1212	SLU 35	0.46	No
fin.	3	-5625	55367	12			3576	1212	SLU 35	97.14	Si
ini.	3	-6569	-101357	2939			3954	1294	SLU 77	0.44	No
fin.	3	-6569	66275	66			3954	1294	SLU 77	19.68	Si
ini.	3	-5580	-91782	2626			3558	1208	SLU 37	0.46	No
fin.	3	-5580	55821	30			3558	1208	SLU 37	39.86	Si
ini.	3	-6678	-99485	2928			3997	1303	SLU 78	0.45	No
fin.	3	-6678	66931	55			3997	1303	SLU 78	23.74	Si

## Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-10272	-460449	322381	SLV 16	0.7	No
fin.	2	-10191	635311	322381	SLV 16	0.51	No
ini.	2	1367	482608	322381	SLV 4	0.67	No
fin.	2	1261	-688714	322381	SLV 4	0.47	No
ini.	2	1517	349394	322381	SLV 1	0.92	No
fin.	2	1436	-562932	322381	SLV 1	0.57	No
ini.	2	-5873	-419009	322381	SLV 9	0.77	No
fin.	2	-5804	444430	322381	SLV 9	0.73	No
ini.	2	1517	349394	322381	SLV 2	0.92	No
fin.	2	1436	-562932	322381	SLV 2	0.57	No
ini.	2	1367	482608	322381	SLV 3	0.67	No
fin.	2	1261	-688714	322381	SLV 3	0.47	No
ini.	2	-10272	-460449	322381	SLV 15	0.7	No
fin.	2	-10191	635311	322381	SLV 15	0.51	No
ini.	2	-10122	-593663	322381	SLV 14	0.54	No
fin.	2	-10016	761093	322381	SLV 14	0.42	No
ini.	2	-10122	-593663	322381	SLV 13	0.54	No
fin.	2	-10016	761093	322381	SLV 13	0.42	No
ini.	2	-5873	-419009	322381	SLV 10	0.77	No
fin.	2	-5804	444430	322381	SLV 10	0.73	No

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt <sub>lim</sub>	Comb.	c.s.	Verifica
ini.	2	-2882	307954	-5240			3142	1224	SLV 7	0.23	No
fin.	2	-2952	-372051	-6924			3170	1233	SLV 7	0.18	No
ini.	2	-2882	307954	-5240			3142	1224	SLV 8	0.23	No
fin.	2	-2952	-372051	-6924			3170	1233	SLV 8	0.18	No
ini.	2	1367	482608	-9587			1990	340	SLV 3	0.04	No
fin.	2	1261	-688714	-11227			1990	387	SLV 3	0.03	No
ini.	2	-5873	-419009	8642			4339	1572	SLV 9	0.18	No
fin.	2	-5804	444430	6786			4311	1565	SLV 9	0.23	No
ini.	2	1517	349394	-7244			1990	258	SLV 1	0.04	No
fin.	2	1436	-562932	-8914			1990	305	SLV 1	0.03	No
ini.	2	-5873	-419009	8642			4339	1572	SLV 10	0.18	No
fin.	2	-5804	444430	6786			4311	1565	SLV 10	0.23	No
ini.	2	1367	482608	-9587			1990	340	SLV 4	0.04	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	1261	-688714	-11227			1990	387	SLV 4	0.03	No
ini.	2	-10122	-593663	12990			6038	1964	SLV 13	0.15	No
fin.	2	-10016	761093	11089			5996	1955	SLV 13	0.18	No
ini.	2	1517	349394	-7244			1990	258	SLV 2	0.04	No
fin.	2	1436	-562932	-8914			1990	305	SLV 2	0.03	No
ini.	2	-10122	-593663	12990			6038	1964	SLV 14	0.15	No
fin.	2	-10016	761093	11089			5996	1955	SLV 14	0.18	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.424	SLV 13	No
V_SLV	0.034	SLV 1	No
PF_SLU	2.089	SLU 79	Si
V_SLU	0.436	SLU 79	No

## Trave di accoppiamento 50

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-416.8	104.6	319	482	163	-496.8	104.6	319	482	163	80	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2708	-135271	377436	SLU 71	2.79	Si
fin.	3	-2708	91791	377436	SLU 71	4.11	Si
ini.	3	-2508	-137984	377436	SLU 35	2.74	Si
fin.	3	-2508	94001	377436	SLU 35	4.02	Si
ini.	3	-2518	-135779	377436	SLU 37	2.78	Si
fin.	3	-2518	93187	377436	SLU 37	4.05	Si
ini.	3	-3012	-142530	377436	SLU 80	2.65	Si
fin.	3	-3012	90091	377436	SLU 80	4.19	Si
ini.	3	-2964	-139119	377436	SLU 74	2.71	Si
fin.	3	-2964	86703	377436	SLU 74	4.35	Si
ini.	3	-2983	-153381	377436	SLU 77	2.46	Si
fin.	3	-2983	101235	377436	SLU 77	3.73	Si
ini.	3	-3002	-144735	377436	SLU 78	2.61	Si
fin.	3	-3002	90905	377436	SLU 78	4.15	Si
ini.	3	-2993	-151177	377436	SLU 79	2.5	Si
fin.	3	-2993	100421	377436	SLU 79	3.76	Si
ini.	3	-2698	-137475	377436	SLU 69	2.75	Si
fin.	3	-2698	92604	377436	SLU 69	4.08	Si
ini.	3	-3096	-143731	377436	SLU 83	2.63	Si
fin.	3	-3096	89588	377436	SLU 83	4.21	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-2518	-135779	3804			2765	1078	SLU 37	0.28	No
fin.	3	-2518	93187	1981			2765	1078	SLU 37	0.54	No
ini.	3	-2708	-135271	3704			2841	1103	SLU 71	0.3	No
fin.	3	-2708	91791	2054			2841	1103	SLU 71	0.54	No
ini.	3	-2508	-137984	3841			2761	1076	SLU 35	0.28	No
fin.	3	-2508	94001	2019			2761	1076	SLU 35	0.53	No
ini.	3	-2698	-137475	3742			2837	1102	SLU 69	0.29	No
fin.	3	-2698	92604	2091			2837	1102	SLU 69	0.53	No
ini.	3	-2964	-139119	3884			2943	1136	SLU 74	0.29	No
fin.	3	-2964	86703	1843			2943	1136	SLU 74	0.62	No
ini.	3	-3012	-142530	3969			2962	1142	SLU 80	0.29	No
fin.	3	-3012	90091	1928			2962	1142	SLU 80	0.59	No
ini.	3	-2983	-153381	4244			2951	1138	SLU 77	0.27	No
fin.	3	-2983	101235	2202			2951	1138	SLU 77	0.52	No
ini.	3	-3002	-144735	4007			2958	1140	SLU 78	0.28	No
fin.	3	-3002	90905	1965			2958	1140	SLU 78	0.58	No
ini.	3	-2993	-151177	4207			2955	1139	SLU 79	0.27	No
fin.	3	-2993	100421	2165			2955	1139	SLU 79	0.53	No
ini.	3	-3096	-143731	4062			2996	1152	SLU 83	0.28	No
fin.	3	-3096	89588	1852			2996	1152	SLU 83	0.62	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-3719	552200	566154	SLV 4	1.03	Si
fin.	2	-3625	-379620	566154	SLV 4	1.49	Si
ini.	2	-427	-717305	566154	SLV 13	0.79	No
fin.	2	-520	474618	566154	SLV 13	1.19	Si
ini.	2	-1450	-366774	566154	SLD 16	1.54	Si
fin.	2	-1311	214173	566154	SLD 16	2.64	Si
ini.	2	-1450	-366774	566154	SLD 15	1.54	Si
fin.	2	-1311	214173	566154	SLD 15	2.64	Si
ini.	2	-3531	583654	566154	SLV 2	0.97	No
fin.	2	-3867	-342218	566154	SLV 2	1.65	Si





Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-3531	583654	566154	SLV 1	0.97	No
fin.	2	-3867	-342218	566154	SLV 1	1.65	Si
ini.	2	-427	-717305	566154	SLV 14	0.79	No
fin.	2	-520	474618	566154	SLV 14	1.19	Si
ini.	2	-615	-748759	566154	SLV 15	0.76	No
fin.	2	-279	437216	566154	SLV 15	1.29	Si
ini.	2	-615	-748759	566154	SLV 16	0.76	No
fin.	2	-279	437216	566154	SLV 16	1.29	Si
ini.	2	-3719	552200	566154	SLV 3	1.03	Si
fin.	2	-3625	-379620	566154	SLV 3	1.49	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-3531	583654	-11118			4049	1584	SLV 1	0.14	No
fin.	2	-3867	-342218	-12289			4183	1629	SLV 1	0.13	No
ini.	2	-427	-717305	15616			2807	1081	SLV 14	0.07	No
fin.	2	-520	474618	14341			2845	1099	SLV 14	0.08	No
ini.	2	-3719	552200	-10992			4124	1609	SLV 4	0.15	No
fin.	2	-3625	-379620	-12336			4087	1596	SLV 4	0.13	No
ini.	2	-615	-748759	15743			2882	1118	SLV 15	0.07	No
fin.	2	-279	437216	14294			2748	1051	SLV 15	0.07	No
ini.	2	-1373	-353925	7996			3186	1256	SLD 13	0.16	No
fin.	2	-1409	229591	6701			3200	1262	SLD 13	0.19	No
ini.	2	-3531	583654	-11118			4049	1584	SLV 2	0.14	No
fin.	2	-3867	-342218	-12289			4183	1629	SLV 2	0.13	No
ini.	2	-1373	-353925	7996			3186	1256	SLD 14	0.16	No
fin.	2	-1409	229591	6701			3200	1262	SLD 14	0.19	No
ini.	2	-427	-717305	15616			2807	1081	SLV 13	0.07	No
fin.	2	-520	474618	14341			2845	1099	SLV 13	0.08	No
ini.	2	-615	-748759	15743			2882	1118	SLV 16	0.07	No
fin.	2	-279	437216	14294			2748	1051	SLV 16	0.07	No
ini.	2	-3719	552200	-10992			4124	1609	SLV 3	0.15	No
fin.	2	-3625	-379620	-12336			4087	1596	SLV 3	0.13	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.756	SLV 15	No
V_SLV	0.069	SLV 13	No
PF_SLU	2.461	SLU 77	Si
V_SLU	0.268	SLU 77	No

## Trave di accoppiamento 51

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1776.8	666.1	109	199	90	-1676.8	666.1	109	199	90	100	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	3833	80541	115068	SLU 83	1.43	Si
fin.	3	2877	47622	115068	SLU 83	2.42	Si
ini.	3	3678	79618	115068	SLU 78	1.45	Si
fin.	3	2752	46621	115068	SLU 78	2.47	Si
ini.	3	3630	79512	115068	SLU 79	1.45	Si
fin.	3	2716	45952	115068	SLU 79	2.5	Si
ini.	3	3695	77963	115068	SLU 75	1.48	Si
fin.	3	2773	45967	115068	SLU 75	2.5	Si
ini.	3	3849	78887	115068	SLU 81	1.46	Si
fin.	3	2898	46968	115068	SLU 81	2.45	Si
ini.	3	3835	80150	115068	SLU 84	1.44	Si
fin.	3	2877	47797	115068	SLU 84	2.41	Si
ini.	3	3676	80009	115068	SLU 77	1.44	Si
fin.	3	2751	46446	115068	SLU 77	2.48	Si
ini.	3	3632	79121	115068	SLU 80	1.45	Si
fin.	3	2716	46127	115068	SLU 80	2.49	Si
ini.	3	3693	78354	115068	SLU 74	1.47	Si
fin.	3	2773	45792	115068	SLU 74	2.51	Si
ini.	3	3851	78495	115068	SLU 82	1.47	Si
fin.	3	2898	47143	115068	SLU 82	2.44	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	3299	73035	-293			873	0	SLU 56	0	No
fin.	3	2471	41566	330			873	0	SLU 56	0	No
ini.	3	2291	50274	-177			873	0	SLU 1	0	No
fin.	3	1728	27704	183			873	0	SLU 1	0	No
ini.	3	3472	71912	-270			873	0	SLU 60	0	No
fin.	3	2617	42088	358			873	0	SLU 60	0	No
ini.	3	3254	72146	-283			873	0	SLU 59	0	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	2435	41248	326			873	0	SLU 59	0	No
ini.	3	3474	71521	-262			873	0	SLU 61	0	No
fin.	3	2618	42264	364			873	0	SLU 61	0	No
ini.	3	3317	70988	-266			873	0	SLU 54	0	No
fin.	3	2492	41088	333			873	0	SLU 54	0	No
ini.	3	3301	72643	-285			873	0	SLU 57	0	No
fin.	3	2471	41742	336			873	0	SLU 57	0	No
ini.	3	3252	72538	-291			873	0	SLU 58	0	No
fin.	3	2435	41072	320			873	0	SLU 58	0	No
ini.	3	3272	70231	-259			873	0	SLU 55	0	No
fin.	3	2457	40711	327			873	0	SLU 55	0	No
ini.	3	3315	71380	-274			873	0	SLU 53	0	No
fin.	3	2492	40912	327			873	0	SLU 53	0	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	4926	-110235	172601	SLV 3	1.57	Si
fin.	2	2735	249123	172601	SLV 3	0.69	No
ini.	2	1713	299281	172601	SLV 16	0.58	No
fin.	2	4079	-165036	172601	SLV 16	1.05	Si
ini.	2	4695	250372	172601	SLV 11	0.69	No
fin.	2	7122	6510	172601	SLV 11	26.51	Si
ini.	2	4926	-110235	172601	SLV 4	1.57	Si
fin.	2	2735	249123	172601	SLV 4	0.69	No
ini.	2	1713	299281	172601	SLV 15	0.58	No
fin.	2	4079	-165036	172601	SLV 15	1.05	Si
ini.	2	3334	-191168	172601	SLV 1	0.9	No
fin.	2	-276	226331	172601	SLV 1	0.76	No
ini.	2	4695	250372	172601	SLV 12	0.69	No
fin.	2	7122	6510	172601	SLV 12	26.51	Si
ini.	2	3334	-191168	172601	SLV 2	0.9	No
fin.	2	-276	226331	172601	SLV 2	0.76	No
ini.	2	121	218348	172601	SLV 13	0.79	No
fin.	2	1069	-187828	172601	SLV 13	0.92	No
ini.	2	121	218348	172601	SLV 14	0.79	No
fin.	2	1069	-187828	172601	SLV 14	0.92	No

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1713	299281	-5219			1310	0	SLV 15	0	No
fin.	2	4079	-165036	-5146			1310	0	SLV 15	0	No
ini.	2	5659	127517	327			1310	0	SLV 8	0	No
fin.	2	6718	130758	1049			1310	0	SLV 8	0	No
ini.	2	4695	250372	-2521			1310	0	SLV 11	0	No
fin.	2	7122	6510	-2048			1310	0	SLV 11	0	No
ini.	2	5659	127517	327			1310	0	SLV 7	0	No
fin.	2	6718	130758	1049			1310	0	SLV 7	0	No
ini.	2	4926	-110235	4275			1310	0	SLV 3	0	No
fin.	2	2735	249123	5176			1310	0	SLV 3	0	No
ini.	2	3334	-191168	4811			1310	0	SLV 1	0	No
fin.	2	-276	226331	5617			1409	544	SLV 1	0.1	No
ini.	2	4926	-110235	4275			1310	0	SLV 4	0	No
fin.	2	2735	249123	5176			1310	0	SLV 4	0	No
ini.	2	2869	-50407	1940			1310	0	SLD 1	0	No
fin.	2	984	114247	2536			1310	231	SLD 1	0.09	No
ini.	2	3334	-191168	4811			1310	0	SLV 2	0	No
fin.	2	-276	226331	5617			1409	544	SLV 2	0.1	No
ini.	2	4695	250372	-2521			1310	0	SLV 12	0	No
fin.	2	7122	6510	-2048			1310	0	SLV 12	0	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.577	SLV 15	No
V_SLV	0	SLD 1	No
PF_SLU	1.429	SLU 83	Si
V_SLU	0	SLU 1	No

## Trave di accoppiamento 52

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1776.8	666.1	389	482	93	-1676.8	666.1	389	482	93	100	28	30000

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb_	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2136	-31225	122867	SLU 74	3.93	Si
fin.	3	-2426	-46950	122867	SLU 74	2.62	Si
ini.	3	-2135	-31314	122867	SLU 75	3.92	Si
fin.	3	-2415	-46714	122867	SLU 75	2.63	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2154	-31228	122867	SLU 82	3.93	Si
fin.	3	-2489	-47486	122867	SLU 82	2.59	Si
ini.	3	-2209	-32330	122867	SLU 83	3.8	Si
fin.	3	-2518	-48444	122867	SLU 83	2.54	Si
ini.	3	-2189	-32506	122867	SLU 78	3.78	Si
fin.	3	-2433	-47436	122867	SLU 78	2.59	Si
ini.	3	-2173	-32272	122867	SLU 80	3.81	Si
fin.	3	-2409	-46992	122867	SLU 80	2.61	Si
ini.	3	-2190	-32417	122867	SLU 77	3.79	Si
fin.	3	-2444	-47672	122867	SLU 77	2.58	Si
ini.	3	-2155	-31138	122867	SLU 81	3.95	Si
fin.	3	-2501	-47722	122867	SLU 81	2.57	Si
ini.	3	-2208	-32419	122867	SLU 84	3.79	Si
fin.	3	-2507	-48208	122867	SLU 84	2.55	Si
ini.	3	-2174	-32183	122867	SLU 79	3.82	Si
fin.	3	-2420	-47227	122867	SLU 79	2.6	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-2209	-32330	3165			1754	661	SLU 83	0.21	No
fin.	3	-2518	-48444	-5238			1869	693	SLU 83	0.13	No
ini.	3	-2136	-31225	3032			1727	653	SLU 74	0.22	No
fin.	3	-2426	-46950	-5016			1835	684	SLU 74	0.14	No
ini.	3	-2190	-32417	3069			1747	659	SLU 77	0.21	No
fin.	3	-2444	-47672	-5036			1842	686	SLU 77	0.14	No
ini.	3	-2174	-32183	3037			1741	657	SLU 79	0.22	No
fin.	3	-2420	-47227	-4978			1833	683	SLU 79	0.14	No
ini.	3	-2155	-31138	3128			1734	655	SLU 81	0.21	No
fin.	3	-2501	-47722	-5217			1863	691	SLU 81	0.13	No
ini.	3	-2189	-32506	3074			1747	659	SLU 78	0.21	No
fin.	3	-2433	-47436	-5024			1838	684	SLU 78	0.14	No
ini.	3	-2135	-31314	3037			1727	653	SLU 75	0.21	No
fin.	3	-2415	-46714	-5004			1831	683	SLU 75	0.14	No
ini.	3	-2154	-31228	3133			1734	655	SLU 82	0.21	No
fin.	3	-2489	-47486	-5205			1859	690	SLU 82	0.13	No
ini.	3	-2208	-32419	3169			1754	661	SLU 84	0.21	No
fin.	3	-2507	-48208	-5226			1865	692	SLU 84	0.13	No
ini.	3	-2173	-32272	3042			1741	657	SLU 80	0.22	No
fin.	3	-2409	-46992	-4966			1829	682	SLU 80	0.14	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-4972	-157363	184300	SLV 2	1.17	Si
fin.	2	2036	87610	184300	SLV 2	2.1	Si
ini.	2	2847	123959	184300	SLV 14	1.49	Si
fin.	2	-4534	-134502	184300	SLV 14	1.37	Si
ini.	2	2847	123959	184300	SLV 13	1.49	Si
fin.	2	-4534	-134502	184300	SLV 13	1.37	Si
ini.	2	2091	115992	184300	SLV 15	1.59	Si
fin.	2	-5332	-151630	184300	SLV 15	1.22	Si
ini.	2	-4972	-157363	184300	SLV 1	1.17	Si
fin.	2	2036	87610	184300	SLV 1	2.1	Si
ini.	2	-1528	8234	184300	SLV 12	22.38	Si
fin.	2	-3963	-93874	184300	SLV 12	1.96	Si
ini.	2	-5728	-165330	184300	SLV 4	1.11	Si
fin.	2	1238	70482	184300	SLV 4	2.61	Si
ini.	2	-1528	8234	184300	SLV 11	22.38	Si
fin.	2	-3963	-93874	184300	SLV 11	1.96	Si
ini.	2	2091	115992	184300	SLV 16	1.59	Si
fin.	2	-5332	-151630	184300	SLV 16	1.22	Si
ini.	2	-5728	-165330	184300	SLV 3	1.11	Si
fin.	2	1238	70482	184300	SLV 3	2.61	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	2091	115992	-4041			1399	0	SLV 16	0	No
fin.	2	-5332	-151630	-9022			3382	1188	SLV 16	0.13	No
ini.	2	72	37738	-574			1399	512	SLD 15	0.89	No
fin.	2	-3217	-83080	-5774			2596	981	SLD 15	0.17	No
ini.	2	2091	115992	-4041			1399	0	SLV 15	0	No
fin.	2	-5332	-151630	-9022			3382	1188	SLV 15	0.13	No
ini.	2	-4972	-157363	8076			3249	1156	SLV 2	0.14	No
fin.	2	2036	87610	2315			1399	0	SLV 2	0	No
ini.	2	2847	123959	-4563			1399	0	SLV 13	0	No
fin.	2	-4534	-134502	-8312			3086	1115	SLV 13	0.13	No
ini.	2	72	37738	-574			1399	512	SLD 16	0.89	No
fin.	2	-3217	-83080	-5774			2596	981	SLD 16	0.17	No
ini.	2	-4972	-157363	8076			3249	1156	SLV 1	0.14	No
fin.	2	2036	87610	2315			1399	0	SLV 1	0	No
ini.	2	2847	123959	-4563			1399	0	SLV 14	0	No
fin.	2	-4534	-134502	-8312			3086	1115	SLV 14	0.13	No
ini.	2	-5728	-165330	8599			3530	1223	SLV 4	0.14	No
fin.	2	1238	70482	1605			1399	116	SLV 4	0.07	No
ini.	2	-5728	-165330	8599			3530	1223	SLV 3	0.14	No
fin.	2	1238	70482	1605			1399	116	SLV 3	0.07	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.115	SLV 3	Si



Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	0	SLV 1	No
PF_SLU	2.536	SLU 83	Si
V_SLU	0.132	SLU 83	No

## Trave di accoppiamento 53

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1288.8	666.1	109	199	90	-1188.8	666.1	109	199	90	100	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	2739	52710	115068	SLU 82	2.18	Si
fin.	3	2629	67447	115068	SLU 82	1.71	Si
ini.	3	2712	51877	115068	SLU 80	2.22	Si
fin.	3	2605	66616	115068	SLU 80	1.73	Si
ini.	3	2735	52303	115068	SLU 78	2.2	Si
fin.	3	2627	67183	115068	SLU 78	1.71	Si
ini.	3	2735	52784	115068	SLU 81	2.18	Si
fin.	3	2624	67578	115068	SLU 81	1.7	Si
ini.	3	2690	51549	115068	SLU 75	2.23	Si
fin.	3	2583	66057	115068	SLU 75	1.74	Si
ini.	3	2708	51951	115068	SLU 79	2.21	Si
fin.	3	2601	66747	115068	SLU 79	1.72	Si
ini.	3	2731	52377	115068	SLU 77	2.2	Si
fin.	3	2622	67314	115068	SLU 77	1.71	Si
ini.	3	2686	51622	115068	SLU 74	2.23	Si
fin.	3	2579	66188	115068	SLU 74	1.74	Si
ini.	3	2780	53539	115068	SLU 83	2.15	Si
fin.	3	2667	68704	115068	SLU 83	1.67	Si
ini.	3	2784	53465	115068	SLU 84	2.15	Si
fin.	3	2672	68573	115068	SLU 84	1.68	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	2476	46783	-100			873	0	SLU 56	0	No
fin.	3	2376	60715	411			873	0	SLU 56	0	No
ini.	3	2415	45480	-88			873	0	SLU 55	0	No
fin.	3	2319	58804	380			873	0	SLU 55	0	No
ini.	3	2435	45955	-92			873	0	SLU 54	0	No
fin.	3	2338	59459	389			873	0	SLU 54	0	No
ini.	3	2484	47117	-93			873	0	SLU 61	0	No
fin.	3	2383	60849	394			873	0	SLU 61	0	No
ini.	3	2453	46357	-96			873	0	SLU 58	0	No
fin.	3	2355	60149	404			873	0	SLU 58	0	No
ini.	3	2431	46029	-92			873	0	SLU 53	0	No
fin.	3	2333	59590	390			873	0	SLU 53	0	No
ini.	3	2480	46710	-100			873	0	SLU 57	0	No
fin.	3	2381	60584	410			873	0	SLU 57	0	No
ini.	3	1678	31769	-49			873	0	SLU 1	0	No
fin.	3	1612	40744	236			873	0	SLU 1	0	No
ini.	3	2480	47190	-93			873	0	SLU 60	0	No
fin.	3	2378	60980	396			873	0	SLU 60	0	No
ini.	3	2457	46284	-96			873	0	SLU 59	0	No
fin.	3	2360	60017	402			873	0	SLU 59	0	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	5900	-165706	172601	SLV 3	1.04	Si
fin.	2	2287	341880	172601	SLV 3	0.5	No
ini.	2	-9413	25960	172601	SLV 10	6.65	Si
fin.	2	-4415	-276284	172601	SLV 10	0.62	No
ini.	2	-2243	235563	172601	SLV 14	0.73	No
fin.	2	1223	-252512	172601	SLV 14	0.68	No
ini.	2	4363	281162	172601	SLV 16	0.61	No
fin.	2	5187	-99671	172601	SLV 16	1.73	Si
ini.	2	13069	43898	172601	SLV 7	3.93	Si
fin.	2	7925	365652	172601	SLV 7	0.47	No
ini.	2	13069	43898	172601	SLV 8	3.93	Si
fin.	2	7925	365652	172601	SLV 8	0.47	No
ini.	2	4363	281162	172601	SLV 15	0.61	No
fin.	2	5187	-99671	172601	SLV 15	1.73	Si
ini.	2	-2243	235563	172601	SLV 13	0.73	No
fin.	2	1223	-252512	172601	SLV 13	0.68	No
ini.	2	-9413	25960	172601	SLV 9	6.65	Si
fin.	2	-4415	-276284	172601	SLV 9	0.62	No
ini.	2	5900	-165706	172601	SLV 4	1.04	Si
fin.	2	2287	341880	172601	SLV 4	0.5	No



## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	5900	-165706	5351			1310	0	SLV 3	0	No
fin.	2	2287	341880	6076			1310	0	SLV 3	0	No
ini.	2	2858	139850	-2522			1310	0	SLD 16	0	No
fin.	2	3195	-18138	-1984			1310	0	SLD 16	0	No
ini.	2	12608	177958	-2290			1310	0	SLV 12	0	No
fin.	2	8795	233187	-528			1310	0	SLV 12	0	No
ini.	2	13069	43898	1060			1310	0	SLV 7	0	No
fin.	2	7925	365652	2796			1310	0	SLV 7	0	No
ini.	2	4363	281162	-5816			1310	0	SLV 15	0	No
fin.	2	5187	-99671	-5004			1310	0	SLV 15	0	No
ini.	2	137	120957	-2390			1310	465	SLD 14	0.19	No
fin.	2	1561	-81202	-2195			1310	0	SLD 14	0	No
ini.	2	5900	-165706	5351			1310	0	SLV 4	0	No
fin.	2	2287	341880	6076			1310	0	SLV 4	0	No
ini.	2	13069	43898	1060			1310	0	SLV 8	0	No
fin.	2	7925	365652	2796			1310	0	SLV 8	0	No
ini.	2	12608	177958	-2290			1310	0	SLV 11	0	No
fin.	2	8795	233187	-528			1310	0	SLV 11	0	No
ini.	2	2858	139850	-2522			1310	0	SLD 15	0	No
fin.	2	3195	-18138	-1984			1310	0	SLD 15	0	No

### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.472	SLV 7	No
V_SLV	0	SLD 3	No
PF_SLU	1.675	SLU 83	Si
V_SLU	0	SLU 1	No

## Trave di accoppiamento 54

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1288.8	666.1	389	482	93	-1188.8	666.1	389	482	93	100	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fhk	fvk0	fhmmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2829	-45098	122867	SLU 78	2.72	Si
fin.	3	-2724	-41017	122867	SLU 78	3	Si
ini.	3	-2987	-45403	122867	SLU 81	2.71	Si
fin.	3	-2867	-40991	122867	SLU 81	3	Si
ini.	3	-2840	-44310	122867	SLU 75	2.77	Si
fin.	3	-2730	-40141	122867	SLU 75	3.06	Si
ini.	3	-2801	-44745	122867	SLU 79	2.75	Si
fin.	3	-2698	-40751	122867	SLU 79	3.02	Si
ini.	3	-2976	-46192	122867	SLU 83	2.66	Si
fin.	3	-2861	-41867	122867	SLU 83	2.93	Si
ini.	3	-2793	-44649	122867	SLU 80	2.75	Si
fin.	3	-2691	-40663	122867	SLU 80	3.02	Si
ini.	3	-2968	-46096	122867	SLU 84	2.67	Si
fin.	3	-2854	-41779	122867	SLU 84	2.94	Si
ini.	3	-2837	-45194	122867	SLU 77	2.72	Si
fin.	3	-2732	-41105	122867	SLU 77	2.99	Si
ini.	3	-2848	-44405	122867	SLU 74	2.77	Si
fin.	3	-2737	-40229	122867	SLU 74	3.05	Si
ini.	3	-2979	-45307	122867	SLU 82	2.71	Si
fin.	3	-2859	-40903	122867	SLU 82	3	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-2979	-45307	4407			2041	739	SLU 82	0.17	No
fin.	3	-2859	-40903	-4087			1996	727	SLU 82	0.18	No
ini.	3	-2837	-45194	4338			1988	725	SLU 77	0.17	No
fin.	3	-2732	-41105	-4045			1949	715	SLU 77	0.18	No
ini.	3	-2840	-44310	4273			1989	725	SLU 75	0.17	No
fin.	3	-2730	-40141	-3973			1948	715	SLU 75	0.18	No
ini.	3	-2848	-44405	4278			1992	726	SLU 74	0.17	No
fin.	3	-2737	-40229	-3977			1951	715	SLU 74	0.18	No
ini.	3	-2801	-44745	4295			1974	722	SLU 79	0.17	No
fin.	3	-2698	-40751	-4008			1936	711	SLU 79	0.18	No
ini.	3	-2976	-46192	4471			2040	739	SLU 83	0.17	No
fin.	3	-2861	-41867	-4159			1997	727	SLU 83	0.17	No
ini.	3	-2793	-44649	4290			1972	721	SLU 80	0.17	No
fin.	3	-2691	-40663	-4004			1934	711	SLU 80	0.18	No
ini.	3	-2968	-46096	4467			2037	738	SLU 84	0.17	No
fin.	3	-2854	-41779	-4155			1994	727	SLU 84	0.17	No
ini.	3	-2987	-45403	4411			2044	740	SLU 81	0.17	No
fin.	3	-2867	-40991	-4091			1999	728	SLU 81	0.18	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-2829	-45098	4334			1985	724	SLU 78	0.17	No
fin.	3	-2724	-41017	-4041			1946	714	SLU 78	0.18	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-5980	-158193	184300	SLV 1	1.17	Si
fin.	2	2593	111331	184300	SLV 1	1.66	Si
ini.	2	2865	110581	184300	SLV 14	1.67	Si
fin.	2	-5693	-157197	184300	SLV 14	1.17	Si
ini.	2	2155	98936	184300	SLV 15	1.86	Si
fin.	2	-6261	-164731	184300	SLV 15	1.12	Si
ini.	2	-6689	-169838	184300	SLV 4	1.09	Si
fin.	2	2025	103797	184300	SLV 4	1.78	Si
ini.	2	-5980	-158193	184300	SLV 2	1.17	Si
fin.	2	2593	111331	184300	SLV 2	1.66	Si
ini.	2	-3950	-89514	184300	SLD 3	2.06	Si
fin.	2	-182	29112	184300	SLD 3	6.33	Si
ini.	2	2155	98936	184300	SLV 16	1.86	Si
fin.	2	-6261	-164731	184300	SLV 16	1.12	Si
ini.	2	2865	110581	184300	SLV 13	1.67	Si
fin.	2	-5693	-157197	184300	SLV 13	1.17	Si
ini.	2	-3950	-89514	184300	SLD 4	2.06	Si
fin.	2	-182	29112	184300	SLD 4	6.33	Si
ini.	2	-6689	-169838	184300	SLV 3	1.09	Si
fin.	2	2025	103797	184300	SLV 3	1.78	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	2155	98936	-3603			1399	0	SLV 15	0	No
fin.	2	-6261	-164731	-9632			3728	1269	SLV 15	0.13	No
ini.	2	-5980	-158193	9271			3623	1245	SLV 1	0.13	No
fin.	2	2593	111331	4383			1399	0	SLV 1	0	No
ini.	2	2865	110581	-4259			1399	0	SLV 14	0	No
fin.	2	-5693	-157197	-9190			3517	1220	SLV 14	0.13	No
ini.	2	2865	110581	-4259			1399	0	SLV 13	0	No
fin.	2	-5693	-157197	-9190			3517	1220	SLV 13	0.13	No
ini.	2	-3950	-89514	5862			2868	1057	SLD 4	0.18	No
fin.	2	-182	29112	184			1467	562	SLD 4	3.06	Si
ini.	2	-6689	-169838	9926			3887	1304	SLV 4	0.13	No
fin.	2	2025	103797	3941			1399	0	SLV 4	0	No
ini.	2	-5980	-158193	9271			3623	1245	SLV 2	0.13	No
fin.	2	2593	111331	4383			1399	0	SLV 2	0	No
ini.	2	2155	98936	-3603			1399	0	SLV 16	0	No
fin.	2	-6261	-164731	-9632			3728	1269	SLV 16	0.13	No
ini.	2	-3950	-89514	5862			2868	1057	SLD 3	0.18	No
fin.	2	-182	29112	184			1467	562	SLD 3	3.06	Si
ini.	2	-6689	-169838	9926			3887	1304	SLV 3	0.13	No
fin.	2	2025	103797	3941			1399	0	SLV 3	0	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF SLV	1.085	SLV 3	Si
V SLV	0	SLV 1	No
PF SLU	2.66	SLU 83	Si
V SLU	0.165	SLU 84	No

## Trave di accoppiamento 55

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-800.8	666.1	109	199	90	-700.8	666.1	109	199	90	100	28	30000

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	3166	43322	115068	SLU 83	2.66	Si
fin.	3	4236	96788	115068	SLU 83	1.19	Si
ini.	3	3105	43734	115068	SLU 78	2.63	Si
fin.	3	4164	95649	115068	SLU 78	1.2	Si
ini.	3	3077	43551	115068	SLU 80	2.64	Si
fin.	3	4129	95034	115068	SLU 80	1.21	Si
ini.	3	3166	43559	115068	SLU 84	2.64	Si
fin.	3	4238	96225	115068	SLU 84	1.2	Si
ini.	3	3047	41745	115068	SLU 75	2.76	Si
fin.	3	4077	93464	115068	SLU 75	1.23	Si
ini.	3	3109	41332	115068	SLU 81	2.78	Si
fin.	3	4149	94603	115068	SLU 81	1.22	Si
ini.	3	3109	41570	115068	SLU 82	2.77	Si
fin.	3	4151	94040	115068	SLU 82	1.22	Si
ini.	3	3047	41508	115068	SLU 74	2.77	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	4075	94027	115068	SLU 74	1.22	Si
ini.	3	3077	43314	115068	SLU 79	2.66	Si
fin.	3	4127	95597	115068	SLU 79	1.2	Si
ini.	3	3104	43497	115068	SLU 77	2.65	Si
fin.	3	4162	96212	115068	SLU 77	1.2	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	2789	36988	-229			873	0	SLU 61	0	No
fin.	3	3719	85176	505			873	0	SLU 61	0	No
ini.	3	2785	39153	-253			873	0	SLU 57	0	No
fin.	3	3732	86785	512			873	0	SLU 57	0	No
ini.	3	1854	24358	-94			873	0	SLU 1	0	No
fin.	3	2469	59634	341			873	0	SLU 1	0	No
ini.	3	2785	38915	-245			873	0	SLU 56	0	No
fin.	3	3730	87348	523			873	0	SLU 56	0	No
ini.	3	2727	36926	-216			873	0	SLU 53	0	No
fin.	3	3643	85163	507			873	0	SLU 53	0	No
ini.	3	2727	37163	-224			873	0	SLU 54	0	No
fin.	3	3645	84600	497			873	0	SLU 54	0	No
ini.	3	2789	36751	-221			873	0	SLU 60	0	No
fin.	3	3717	85739	516			873	0	SLU 60	0	No
ini.	3	2757	38732	-242			873	0	SLU 58	0	No
fin.	3	3695	86733	516			873	0	SLU 58	0	No
ini.	3	2758	38970	-250			873	0	SLU 59	0	No
fin.	3	3697	86170	506			873	0	SLU 59	0	No
ini.	3	2700	37139	-226			873	0	SLU 55	0	No
fin.	3	3611	83610	483			873	0	SLU 55	0	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	909	229213	172601	SLV 14	0.75	No
fin.	2	4973	-187996	172601	SLV 14	0.92	No
ini.	2	909	229213	172601	SLV 13	0.75	No
fin.	2	4973	-187996	172601	SLV 13	0.92	No
ini.	2	3843	251680	172601	SLV 15	0.69	No
fin.	2	6020	-75227	172601	SLV 15	2.29	Si
ini.	2	3177	-175217	172601	SLV 3	0.99	No
fin.	2	474	316830	172601	SLV 3	0.54	No
ini.	2	3843	251680	172601	SLV 16	0.69	No
fin.	2	6020	-75227	172601	SLV 16	2.29	Si
ini.	2	242	-197684	172601	SLV 2	0.87	No
fin.	2	-574	204061	172601	SLV 2	0.85	No
ini.	2	6833	409	172601	SLV 8	422.42	Si
fin.	2	3637	311174	172601	SLV 8	0.55	No
ini.	2	3177	-175217	172601	SLV 4	0.99	No
fin.	2	474	316830	172601	SLV 4	0.54	No
ini.	2	242	-197684	172601	SLV 1	0.87	No
fin.	2	-574	204061	172601	SLV 1	0.85	No
ini.	2	6833	409	172601	SLV 7	422.42	Si
fin.	2	3637	311174	172601	SLV 7	0.55	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	909	229213	-5699			1310	260	SLV 14	0.05	No
fin.	2	4973	-187996	-4849			1310	0	SLV 14	0	No
ini.	2	1285	-69032	1962			1310	0	SLD 1	0	No
fin.	2	1310	124478	2405			1310	0	SLD 1	0	No
ini.	2	-2748	53587	-2788			2299	879	SLV 9	0.32	No
fin.	2	1810	-182340	-1969			1310	0	SLV 9	0	No
ini.	2	909	229213	-5699			1310	260	SLV 13	0.05	No
fin.	2	4973	-187996	-4849			1310	0	SLV 13	0	No
ini.	2	-2748	53587	-2788			2299	879	SLV 10	0.32	No
fin.	2	1810	-182340	-1969			1310	0	SLV 10	0	No
ini.	2	6833	409	2511			1310	0	SLV 7	0	No
fin.	2	3637	311174	2739			1310	0	SLV 7	0	No
ini.	2	7033	128478	-631			1310	0	SLV 12	0	No
fin.	2	5301	193557	-246			1310	0	SLV 12	0	No
ini.	2	3177	-175217	5421			1310	0	SLV 4	0	No
fin.	2	474	316830	5619			1310	390	SLV 4	0.07	No
ini.	2	6833	409	2511			1310	0	SLV 8	0	No
fin.	2	3637	311174	2739			1310	0	SLV 8	0	No
ini.	2	7033	128478	-631			1310	0	SLV 11	0	No
fin.	2	5301	193557	-246			1310	0	SLV 11	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.545	SLV 3	No
V_SLV	0	SLD 1	No
PF_SLU	1.189	SLU 83	Si
V_SLU	0	SLU 1	No

## Trave di accoppiamento 56

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



## Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-800.8	666.1	389	482	93	-700.8	666.1	389	482	93	100	28	30000

## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-3058	-46557	122867	SLU 83	2.64	Si
fin.	3	-2956	-40658	122867	SLU 83	3.02	Si
ini.	3	-2962	-45566	122867	SLU 78	2.7	Si
fin.	3	-2972	-42200	122867	SLU 78	2.91	Si
ini.	3	-3042	-46263	122867	SLU 84	2.66	Si
fin.	3	-2952	-40757	122867	SLU 84	3.01	Si
ini.	3	-2949	-45419	122867	SLU 79	2.71	Si
fin.	3	-2964	-42127	122867	SLU 79	2.92	Si
ini.	3	-2933	-45125	122867	SLU 80	2.72	Si
fin.	3	-2960	-42227	122867	SLU 80	2.91	Si
ini.	3	-2930	-44891	122867	SLU 75	2.74	Si
fin.	3	-2848	-39222	122867	SLU 75	3.13	Si
ini.	3	-2977	-45860	122867	SLU 77	2.68	Si
fin.	3	-2976	-42101	122867	SLU 77	2.92	Si
ini.	3	-2946	-45185	122867	SLU 74	2.72	Si
fin.	3	-2852	-39123	122867	SLU 74	3.14	Si
ini.	3	-3026	-45882	122867	SLU 81	2.68	Si
fin.	3	-2832	-37680	122867	SLU 81	3.26	Si
ini.	3	-3011	-45588	122867	SLU 82	2.7	Si
fin.	3	-2828	-37779	122867	SLU 82	3.25	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-2933	-45125	5319			2024	734	SLU 80	0.14	No
fin.	3	-2960	-42227	-3127			2034	737	SLU 80	0.24	No
ini.	3	-2962	-45566	5377			2034	737	SLU 78	0.14	No
fin.	3	-2972	-42200	-3142			2038	738	SLU 78	0.23	No
ini.	3	-2949	-45419	5335			2029	736	SLU 79	0.14	No
fin.	3	-2964	-42127	-3122			2035	737	SLU 79	0.24	No
ini.	3	-3011	-45588	5513			2053	742	SLU 82	0.13	No
fin.	3	-2828	-37779	-3026			1985	724	SLU 82	0.24	No
ini.	3	-2930	-44891	5325			2023	734	SLU 75	0.14	No
fin.	3	-2848	-39222	-3016			1992	726	SLU 75	0.24	No
ini.	3	-3042	-46263	5565			2064	745	SLU 84	0.13	No
fin.	3	-2952	-40757	-3152			2031	736	SLU 84	0.23	No
ini.	3	-3058	-46557	5580			2070	746	SLU 83	0.13	No
fin.	3	-2956	-40658	-3147			2032	737	SLU 83	0.23	No
ini.	3	-2977	-45860	5392			2040	739	SLU 77	0.14	No
fin.	3	-2976	-42101	-3137			2040	739	SLU 77	0.24	No
ini.	3	-2946	-45185	5340			2028	736	SLU 74	0.14	No
fin.	3	-2852	-39123	-3011			1994	727	SLU 74	0.24	No
ini.	3	-3026	-45882	5528			2058	743	SLU 81	0.13	No
fin.	3	-2832	-37680	-3021			1986	725	SLU 81	0.24	No

## Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-4999	-124624	184300	SLV 1	1.48	Si
fin.	2	1946	128096	184300	SLV 1	1.44	Si
ini.	2	-5866	-140354	184300	SLV 3	1.31	Si
fin.	2	1252	125818	184300	SLV 3	1.46	Si
ini.	2	1018	62906	184300	SLV 16	2.93	Si
fin.	2	-5729	-178462	184300	SLV 16	1.03	Si
ini.	2	-5866	-140354	184300	SLV 4	1.31	Si
fin.	2	1252	125818	184300	SLV 4	1.46	Si
ini.	2	-699	9283	184300	SLD 15	19.85	Si
fin.	2	-3527	-90697	184300	SLD 15	2.03	Si
ini.	2	1885	78635	184300	SLV 13	2.34	Si
fin.	2	-5034	-176184	184300	SLV 13	1.05	Si
ini.	2	1885	78635	184300	SLV 14	2.34	Si
fin.	2	-5034	-176184	184300	SLV 14	1.05	Si
ini.	2	1018	62906	184300	SLV 15	2.93	Si
fin.	2	-5729	-178462	184300	SLV 15	1.03	Si
ini.	2	-699	9283	184300	SLD 16	19.85	Si
fin.	2	-3527	-90697	184300	SLD 16	2.03	Si
ini.	2	-4999	-124624	184300	SLV 2	1.48	Si
fin.	2	1946	128096	184300	SLV 2	1.44	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-4468	-87564	6412			3061	1108	SLV 8	0.17	No
fin.	2	-2002	16662	-659			2144	839	SLV 8	1.27	Si
ini.	2	-4999	-124624	8292			3258	1158	SLV 1	0.14	No
fin.	2	1946	128096	4411			1399	0	SLV 1	0	No
ini.	2	-4468	-87564	6412			3061	1108	SLV 7	0.17	No
fin.	2	-2002	16662	-659			2144	839	SLV 7	1.27	Si
ini.	2	1885	78635	-1994			1399	0	SLV 14	0	No
fin.	2	-5034	-176184	-8001			3271	1161	SLV 14	0.15	No





Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1018	62906	-1200			1399	246	SLV 16	0.2	No
fin.	2	-5729	-178462	-8336			3530	1223	SLV 16	0.15	No
ini.	2	1885	78635	-1994			1399	0	SLV 13	0	No
fin.	2	-5034	-176184	-8001			3271	1161	SLV 13	0.15	No
ini.	2	1018	62906	-1200			1399	246	SLV 15	0.2	No
fin.	2	-5729	-178462	-8336			3530	1223	SLV 15	0.15	No
ini.	2	-5866	-140354	9086			3581	1235	SLV 4	0.14	No
fin.	2	1252	125818	4076			1399	103	SLV 4	0.03	No
ini.	2	-4999	-124624	8292			3258	1158	SLV 2	0.14	No
fin.	2	1946	128096	4411			1399	0	SLV 2	0	No
ini.	2	-5866	-140354	9086			3581	1235	SLV 3	0.14	No
fin.	2	1252	125818	4076			1399	103	SLV 3	0.03	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.033	SLV 15	Si
V_SLV	0	SLV 1	No
PF_SLU	2.639	SLU 83	Si
V_SLU	0.134	SLU 83	No

## Trave di accoppiamento 57

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-867.8	-485.9	435	482	47	-1051.8	-485.9	435	482	47	184	30	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-174	3140	33622	SLU 46	10.71	Si
fin.	3	64	-11083	33622	SLU 46	3.03	Si
ini.	3	35	-10513	33622	SLU 79	3.2	Si
fin.	3	-162	3399	33622	SLU 79	9.89	Si
ini.	3	-224	4947	33622	SLU 43	6.8	Si
fin.	3	79	-13615	33622	SLU 43	2.47	Si
ini.	3	-167	3491	33622	SLU 47	9.63	Si
fin.	3	77	-11107	33622	SLU 47	3.03	Si
ini.	3	-185	4300	33622	SLU 65	7.82	Si
fin.	3	84	-12059	33622	SLU 65	2.79	Si
ini.	3	-170	5446	33622	SLU 2	6.17	Si
fin.	3	104	-11407	33622	SLU 2	2.95	Si
ini.	3	93	-10998	33622	SLU 38	3.06	Si
fin.	3	-160	6337	33622	SLU 38	5.31	Si
ini.	3	100	-12474	33622	SLU 37	2.7	Si
fin.	3	-194	7433	33622	SLU 37	4.52	Si
ini.	3	88	-11841	33622	SLU 35	2.84	Si
fin.	3	-185	6726	33622	SLU 35	5	Si
ini.	3	-235	7407	33622	SLU 44	4.54	Si
fin.	3	135	-15441	33622	SLU 44	2.18	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-45	-5964	100			374	143	SLU 74	1.43	Si
fin.	3	-96	-1643	676			387	149	SLU 74	0.22	No
ini.	3	23	-9880	143			362	133	SLU 77	0.93	No
fin.	3	-153	2692	757			403	157	SLU 77	0.21	No
ini.	3	28	-9037	134			362	132	SLU 80	0.98	No
fin.	3	-128	2303	748			396	154	SLU 80	0.21	No
ini.	3	-15	-7406	122			366	138	SLU 58	1.14	Si
fin.	3	-111	16	685			392	151	SLU 58	0.22	No
ini.	3	16	-8404	127			362	134	SLU 78	1.06	Si
fin.	3	-120	1596	736			394	153	SLU 78	0.21	No
ini.	3	-51	-4488	84			376	143	SLU 75	1.71	Si
fin.	3	-62	-2739	655			378	145	SLU 75	0.22	No
ini.	3	35	-10513	150			362	131	SLU 79	0.87	No
fin.	3	-162	3399	769			405	158	SLU 79	0.21	No
ini.	3	-2	-8535	125			362	136	SLU 83	1.09	Si
fin.	3	-136	1191	742			398	155	SLU 83	0.21	No
ini.	3	-9	-7059	109			364	137	SLU 84	1.26	Si
fin.	3	-102	95	721			389	150	SLU 84	0.21	No
ini.	3	-44	-4137	81			374	143	SLU 76	1.77	Si
fin.	3	-48	-2762	653			375	143	SLU 76	0.22	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1393	91713	50433	SLV 7	0.55	No
fin.	2	1652	-102114	50433	SLV 7	0.49	No
ini.	2	-1746	129313	50433	SLV 1	0.39	No
fin.	2	2518	-145250	50433	SLV 1	0.35	No
ini.	2	1928	-156519	50433	SLV 13	0.32	No



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	-2984	160307	50433	SLV 13	0.31	No
ini.	2	1498	-127701	50433	SLV 16	0.39	No
fin.	2	-2495	130857	50433	SLV 16	0.39	No
ini.	2	1928	-156519	50433	SLV 14	0.32	No
fin.	2	-2984	160307	50433	SLV 14	0.31	No
ini.	2	-1393	91713	50433	SLV 8	0.55	No
fin.	2	1652	-102114	50433	SLV 8	0.49	No
ini.	2	-2176	158132	50433	SLV 3	0.32	No
fin.	2	3007	-174700	50433	SLV 3	0.29	No
ini.	2	-2176	158132	50433	SLV 4	0.32	No
fin.	2	3007	-174700	50433	SLV 4	0.29	No
ini.	2	-1746	129313	50433	SLV 2	0.39	No
fin.	2	2518	-145250	50433	SLV 2	0.35	No
ini.	2	1498	-127701	50433	SLV 15	0.39	No
fin.	2	-2495	130857	50433	SLV 15	0.39	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-2176	158132	-1543			1123	413	SLV 3	0.27	No
fin.	2	3007	-174700	-2096			543	0	SLV 3	0	No
ini.	2	-1746	129313	-1517			1009	381	SLV 2	0.25	No
fin.	2	2518	-145250	-1685			543	0	SLV 2	0	No
ini.	2	-818	55675	-632			761	300	SLD 1	0.48	No
fin.	2	1079	-66046	-497			543	0	SLD 1	0	No
ini.	2	-1393	91713	-486			914	352	SLV 7	0.73	No
fin.	2	1652	-102114	-982			543	0	SLV 7	0	No
ini.	2	-2176	158132	-1543			1123	413	SLV 4	0.27	No
fin.	2	3007	-174700	-2096			543	0	SLV 4	0	No
ini.	2	1928	-156519	1588			543	0	SLV 13	0	No
fin.	2	-2984	160307	2870			1339	467	SLV 13	0.16	No
ini.	2	1928	-156519	1588			543	0	SLV 14	0	No
fin.	2	-2984	160307	2870			1339	467	SLV 14	0.16	No
ini.	2	1145	-90100	532			543	0	SLV 9	0	No
fin.	2	-1629	87720	1756			977	372	SLV 9	0.21	No
ini.	2	1145	-90100	532			543	0	SLV 10	0	No
fin.	2	-1629	87720	1756			977	372	SLV 10	0.21	No
ini.	2	-1393	91713	-486			914	352	SLV 8	0.73	No
fin.	2	1652	-102114	-982			543	0	SLV 8	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.289	SLV 3	No
V_SLV	0	SLD 1	No
PF_SLU	2.177	SLU 44	Si
V_SLU	0.206	SLU 79	No

## Trave di accoppiamento 58

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-854.8	-335.9	319	482	163	-944.8	-335.9	319	482	163	90	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fthk	fvk0	fthmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2494	-202260	377436	SLU 78	1.87	Si
fin.	3	-2494	-63531	377436	SLU 78	5.94	Si
ini.	3	-2544	-200806	377436	SLU 84	1.88	Si
fin.	3	-2544	-70373	377436	SLU 84	5.36	Si
ini.	3	-2470	-197438	377436	SLU 79	1.91	Si
fin.	3	-2470	-40181	377436	SLU 79	9.39	Si
ini.	3	-2376	-191006	377436	SLU 57	1.98	Si
fin.	3	-2376	-52398	377436	SLU 57	7.2	Si
ini.	3	-2464	-196888	377436	SLU 77	1.92	Si
fin.	3	-2464	-43837	377436	SLU 77	8.61	Si
ini.	3	-2500	-202810	377436	SLU 80	1.86	Si
fin.	3	-2500	-59875	377436	SLU 80	6.3	Si
ini.	3	-2430	-192037	377436	SLU 75	1.97	Si
fin.	3	-2430	-72073	377436	SLU 75	5.24	Si
ini.	3	-2514	-195434	377436	SLU 83	1.93	Si
fin.	3	-2514	-50680	377436	SLU 83	7.45	Si
ini.	3	-2455	-196168	377436	SLU 76	1.92	Si
fin.	3	-2455	-81546	377436	SLU 76	4.63	Si
ini.	3	-2382	-191556	377436	SLU 59	1.97	Si
fin.	3	-2382	-48742	377436	SLU 59	7.74	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-2500	-202810	2450			2758	1075	SLU 80	0.44	No
fin.	3	-2500	-59875	794			2758	1075	SLU 80	1.36	Si



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-2217	-178259	2336			2644	1037	SLU 71	0.44	No
fin.	3	-2217	-35617	901			2644	1037	SLU 71	1.15	Si
ini.	3	-2494	-202260	2403			2755	1075	SLU 78	0.45	No
fin.	3	-2494	-63531	747			2755	1075	SLU 78	1.44	Si
ini.	3	-2347	-185634	2470			2696	1055	SLU 56	0.43	No
fin.	3	-2347	-32704	1000			2696	1055	SLU 56	1.06	Si
ini.	3	-2470	-197438	2609			2746	1071	SLU 79	0.41	No
fin.	3	-2470	-40181	953			2746	1071	SLU 79	1.12	Si
ini.	3	-2397	-184180	2425			2716	1061	SLU 62	0.44	No
fin.	3	-2397	-39547	860			2716	1061	SLU 62	1.23	Si
ini.	3	-2352	-186184	2517			2699	1055	SLU 58	0.42	No
fin.	3	-2352	-29048	1046			2699	1055	SLU 58	1.01	Si
ini.	3	-2514	-195434	2518			2763	1077	SLU 83	0.43	No
fin.	3	-2514	-50680	766			2763	1077	SLU 83	1.41	Si
ini.	3	-2382	-191556	2358			2711	1060	SLU 59	0.45	No
fin.	3	-2382	-48742	887			2711	1060	SLU 59	1.19	Si
ini.	3	-2464	-196888	2563			2743	1071	SLU 77	0.42	No
fin.	3	-2464	-43837	906			2743	1071	SLU 77	1.18	Si

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2920	-513773	566154	SLV 16	1.1	Si
fin.	2	-2096	659712	566154	SLV 16	0.86	No
ini.	2	-386	264972	566154	SLV 2	2.14	Si
fin.	2	-1210	-738505	566154	SLV 2	0.77	No
ini.	2	-386	264972	566154	SLV 1	2.14	Si
fin.	2	-1210	-738505	566154	SLV 1	0.77	No
ini.	2	-2920	-513773	566154	SLV 15	1.1	Si
fin.	2	-2096	659712	566154	SLV 15	0.86	No
ini.	2	291	449991	566154	SLV 3	1.26	Si
fin.	2	771	-675935	566154	SLV 3	0.84	No
ini.	2	-3263	-577331	566154	SLV 9	0.98	No
fin.	2	-5385	56666	566154	SLV 9	9.99	Si
ini.	2	-3597	-698793	566154	SLV 13	0.81	No
fin.	2	-4077	597141	566154	SLV 13	0.95	No
ini.	2	-3263	-577331	566154	SLV 10	0.98	No
fin.	2	-5385	56666	566154	SLV 10	9.99	Si
ini.	2	-3597	-698793	566154	SLV 14	0.81	No
fin.	2	-4077	597141	566154	SLV 14	0.95	No
ini.	2	291	449991	566154	SLV 4	1.26	Si
fin.	2	771	-675935	566154	SLV 4	0.84	No

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-3597	-698793	14499			4075	1593	SLV 13	0.11	No
fin.	2	-4077	597141	13814			4267	1656	SLV 13	0.12	No
ini.	2	-386	264972	-10623			2791	1073	SLV 2	0.1	No
fin.	2	-1210	-738505	-11796			3121	1227	SLV 2	0.1	No
ini.	2	-43	328530	-3581			2654	1001	SLV 8	0.28	No
fin.	2	2079	-135460	-5439			2637	296	SLV 8	0.05	No
ini.	2	-386	264972	-10623			2791	1073	SLV 1	0.1	No
fin.	2	-1210	-738505	-11796			3121	1227	SLV 1	0.1	No
ini.	2	-3597	-698793	14499			4075	1593	SLV 14	0.11	No
fin.	2	-4077	597141	13814			4267	1656	SLV 14	0.12	No
ini.	2	291	449991	-11431			2637	927	SLV 3	0.08	No
fin.	2	771	-675935	-12999			2637	807	SLV 3	0.06	No
ini.	2	-43	328530	-3581			2654	1001	SLV 7	0.28	No
fin.	2	2079	-135460	-5439			2637	296	SLV 7	0.05	No
ini.	2	-2920	-513773	13691			3805	1498	SLV 15	0.11	No
fin.	2	-2096	659712	12611			3475	1374	SLV 15	0.11	No
ini.	2	291	449991	-11431			2637	927	SLV 4	0.08	No
fin.	2	771	-675935	-12999			2637	807	SLV 4	0.06	No
ini.	2	-2920	-513773	13691			3805	1498	SLV 16	0.11	No
fin.	2	-2096	659712	12611			3475	1374	SLV 16	0.11	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		SLV 1	No
V_SLV		SLV 7	No
PF_SLU		SLU 80	Si
V_SLU		SLU 79	No

#### Trave di accoppiamento 59

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-772.3	-486.1	435	482	47	-772.3	-377.1	435	482	47	109	30	30000

##### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2



#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-212	3017	33622	SLU 26	11.14	Si
fin.	3	703	-15453	33622	SLU 26	2.18	Si
ini.	3	-258	4013	33622	SLU 44	8.38	Si
fin.	3	772	-16696	33622	SLU 44	2.01	Si
ini.	3	-250	3512	33622	SLU 65	9.57	Si
fin.	3	711	-14413	33622	SLU 65	2.33	Si
ini.	3	-220	3518	33622	SLU 5	9.56	Si
fin.	3	764	-17736	33622	SLU 5	1.9	Si
ini.	3	-214	3340	33622	SLU 2	10.07	Si
fin.	3	727	-16607	33622	SLU 2	2.02	Si
ini.	3	-206	2839	33622	SLU 23	11.84	Si
fin.	3	666	-14324	33622	SLU 23	2.35	Si
ini.	3	-255	3690	33622	SLU 68	9.11	Si
fin.	3	748	-15542	33622	SLU 68	2.16	Si
ini.	3	-207	2776	33622	SLU 13	12.11	Si
fin.	3	665	-14211	33622	SLU 13	2.37	Si
ini.	3	-263	4191	33622	SLU 47	8.02	Si
fin.	3	809	-17825	33622	SLU 47	1.89	Si
ini.	3	-251	3449	33622	SLU 55	9.75	Si
fin.	3	710	-14300	33622	SLU 55	2.35	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-212	3017	-576			418	164	SLU 26	0.28	No
fin.	3	703	-15453	1032			362	0	SLU 26	0	No
ini.	3	-250	3512	-624			429	169	SLU 65	0.27	No
fin.	3	711	-14413	1204			362	0	SLU 65	0	No
ini.	3	-206	2839	-553			417	163	SLU 23	0.3	No
fin.	3	666	-14324	1022			362	0	SLU 23	0	No
ini.	3	-225	2959	-502			422	166	SLU 59	0.33	No
fin.	3	487	-7860	1221			362	0	SLU 59	0	No
ini.	3	-186	2527	-448			412	161	SLU 30	0.36	No
fin.	3	480	-9013	1003			362	0	SLU 30	0	No
ini.	3	-255	3690	-647			430	169	SLU 68	0.26	No
fin.	3	748	-15542	1214			362	0	SLU 68	0	No
ini.	3	-194	2097	-507			414	162	SLU 31	0.32	No
fin.	3	567	-10799	1206			362	0	SLU 31	0	No
ini.	3	-222	2850	-492			421	165	SLU 57	0.34	No
fin.	3	471	-7272	1236			362	0	SLU 57	0	No
ini.	3	-258	4013	-653			431	170	SLU 44	0.26	No
fin.	3	772	-16696	1056			362	0	SLU 44	0	No
ini.	3	-221	2913	-486			421	165	SLU 67	0.34	No
fin.	3	473	-7385	1190			362	0	SLU 67	0	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-810	31684	50433	SLV 8	1.59	Si
fin.	2	5667	-177518	50433	SLV 8	0.28	No
ini.	2	550	-29053	50433	SLV 10	1.74	Si
fin.	2	-5598	185465	50433	SLV 10	0.27	No
ini.	2	550	-29053	50433	SLV 9	1.74	Si
fin.	2	-5598	185465	50433	SLV 9	0.27	No
ini.	2	823	-35956	50433	SLV 5	1.4	Si
fin.	2	-6400	211479	50433	SLV 5	0.24	No
ini.	2	570	-20337	50433	SLV 1	2.48	Si
fin.	2	-3113	105679	50433	SLV 1	0.48	No
ini.	2	570	-20337	50433	SLV 2	2.48	Si
fin.	2	-3113	105679	50433	SLV 2	0.48	No
ini.	2	-1083	38587	50433	SLV 11	1.31	Si
fin.	2	6469	-203531	50433	SLV 11	0.25	No
ini.	2	-1083	38587	50433	SLV 12	1.31	Si
fin.	2	6469	-203531	50433	SLV 12	0.25	No
ini.	2	-810	31684	50433	SLV 7	1.59	Si
fin.	2	5667	-177518	50433	SLV 7	0.28	No
ini.	2	823	-35956	50433	SLV 6	1.4	Si
fin.	2	-6400	211479	50433	SLV 6	0.24	No

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-810	31684	-3601			759	300	SLV 8	0.08	No
fin.	2	5667	-177518	822			543	0	SLV 8	0	No
ini.	2	823	-35956	3572			543	0	SLV 6	0	No
fin.	2	-6400	211479	1092			2250	649	SLV 6	0.59	No
ini.	2	-810	31684	-3601			759	300	SLV 7	0.08	No
fin.	2	5667	-177518	822			543	0	SLV 7	0	No
ini.	2	-505	16005	-1647			678	268	SLD 12	0.16	No
fin.	2	2552	-77278	786			543	0	SLD 12	0	No
ini.	2	-411	9933	-823			653	257	SLD 16	0.31	No
fin.	2	1278	-36278	734			543	0	SLD 16	0	No
ini.	2	823	-35956	3572			543	0	SLV 5	0	No
fin.	2	-6400	211479	1092			2250	649	SLV 5	0.59	No
ini.	2	-1083	38587	-3938			832	325	SLV 11	0.08	No
fin.	2	6469	-203531	648			543	0	SLV 11	0	No
ini.	2	-411	9933	-823			653	257	SLD 15	0.31	No
fin.	2	1278	-36278	734			543	0	SLD 15	0	No
ini.	2	-830	22968	-1819			764	302	SLV 15	0.17	No
fin.	2	3182	-97732	539			543	0	SLV 15	0	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-1083	38587	-3938			832	325	SLV 12	0.08	No
fin.	2	6469	-203531	648			543	0	SLV 12	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.238	SLV 5	No
V_SLV	0	SLD 7	No
PF_SLU	1.886	SLU 47	Si
V_SLU	0	SLU 2	No

## Trave di accoppiamento 60

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-515.8	600.6	109	309	200	-515.8	650.6	109	309	200	50	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fhk	fvk0	fhmmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	739	-287806	568235	SLU 79	1.97	Si
fin.	3	-451	-192997	568235	SLU 79	2.94	Si
ini.	3	750	-290121	568235	SLU 81	1.96	Si
fin.	3	-464	-187506	568235	SLU 81	3.03	Si
ini.	3	763	-295809	568235	SLU 83	1.92	Si
fin.	3	-469	-194110	568235	SLU 83	2.93	Si
ini.	3	731	-284961	568235	SLU 74	1.99	Si
fin.	3	-452	-187435	568235	SLU 74	3.03	Si
ini.	3	734	-285550	568235	SLU 75	1.99	Si
fin.	3	-453	-187071	568235	SLU 75	3.04	Si
ini.	3	752	-290710	568235	SLU 82	1.95	Si
fin.	3	-465	-187141	568235	SLU 82	3.04	Si
ini.	3	744	-290649	568235	SLU 77	1.96	Si
fin.	3	-457	-194039	568235	SLU 77	2.93	Si
ini.	3	741	-288395	568235	SLU 80	1.97	Si
fin.	3	-452	-192633	568235	SLU 80	2.95	Si
ini.	3	746	-291238	568235	SLU 78	1.95	Si
fin.	3	-458	-193675	568235	SLU 78	2.93	Si
ini.	3	765	-296398	568235	SLU 84	1.92	Si
fin.	3	-470	-193745	568235	SLU 84	2.93	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	752	-290710	-2965			2157	627	SLU 82	0.21	No
fin.	3	-465	-187141	17992			2343	907	SLU 82	0.05	No
ini.	3	734	-285550	-3121			2157	632	SLU 75	0.2	No
fin.	3	-453	-187071	17800			2338	905	SLU 75	0.05	No
ini.	3	746	-291238	-3369			2157	629	SLU 78	0.19	No
fin.	3	-458	-193675	18272			2340	906	SLU 78	0.05	No
ini.	3	744	-290649	-3418			2157	629	SLU 77	0.18	No
fin.	3	-457	-194039	18281			2340	906	SLU 77	0.05	No
ini.	3	739	-287806	-3433			2157	631	SLU 79	0.18	No
fin.	3	-451	-192997	18145			2337	904	SLU 79	0.05	No
ini.	3	765	-296398	-3213			2157	624	SLU 84	0.19	No
fin.	3	-470	-193745	18465			2345	908	SLU 84	0.05	No
ini.	3	731	-284961	-3170			2157	633	SLU 74	0.2	No
fin.	3	-452	-187435	17808			2337	905	SLU 74	0.05	No
ini.	3	750	-290121	-3015			2157	628	SLU 81	0.21	No
fin.	3	-464	-187506	18001			2342	907	SLU 81	0.05	No
ini.	3	741	-288395	-3384			2157	630	SLU 80	0.19	No
fin.	3	-452	-192633	18137			2338	905	SLU 80	0.05	No
ini.	3	763	-295809	-3263			2157	624	SLU 83	0.19	No
fin.	3	-469	-194110	18473			2344	908	SLU 83	0.05	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1661	-582061	852353	SLV 13	1.46	Si
fin.	2	-1082	-184422	852353	SLV 13	4.62	Si
ini.	2	988	-357491	852353	SLD 13	2.38	Si
fin.	2	-636	-150655	852353	SLD 13	5.66	Si
ini.	2	1174	-515121	852353	SLV 15	1.65	Si
fin.	2	-1233	-209165	852353	SLV 15	4.08	Si
ini.	2	988	-357491	852353	SLD 14	2.38	Si
fin.	2	-636	-150655	852353	SLD 14	5.66	Si
ini.	2	784	-329612	852353	SLD 16	2.59	Si
fin.	2	-700	-161153	852353	SLD 16	5.29	Si
ini.	2	784	-329612	852353	SLD 15	2.59	Si
fin.	2	-700	-161153	852353	SLD 15	5.29	Si
ini.	2	1661	-582061	852353	SLV 14	1.46	Si
fin.	2	-1082	-184422	852353	SLV 14	4.62	Si
ini.	2	1174	-515121	852353	SLV 16	1.65	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	-1233	-209165	852353	SLV 16	4.08	Si
ini.	2	1580	-409550	852353	SLV 9	2.08	Si
fin.	2	-309	-105531	852353	SLV 9	8.08	Si
ini.	2	1580	-409550	852353	SLV 10	2.08	Si
fin.	2	-309	-105531	852353	SLV 10	8.08	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1661	-582061	7628			3235	777	SLV 13	0.1	No
fin.	2	-1082	-184422	23506			3668	1433	SLV 13	0.06	No
ini.	2	784	-329612	1138			3235	1033	SLD 16	0.91	No
fin.	2	-700	-161153	17346			3515	1361	SLD 16	0.08	No
ini.	2	1174	-515121	5495			3235	928	SLV 15	0.17	No
fin.	2	-1233	-209165	24638			3728	1461	SLV 15	0.06	No
ini.	2	-41	-186416	-3055			3252	1226	SLV 12	0.4	No
fin.	2	-810	-188008	17452			3559	1382	SLV 12	0.08	No
ini.	2	-41	-186416	-3055			3252	1226	SLV 11	0.4	No
fin.	2	-810	-188008	17452			3559	1382	SLV 11	0.08	No
ini.	2	1174	-515121	5495			3235	928	SLV 16	0.17	No
fin.	2	-1233	-209165	24638			3728	1461	SLV 16	0.06	No
ini.	2	1661	-582061	7628			3235	777	SLV 14	0.1	No
fin.	2	-1082	-184422	23506			3668	1433	SLV 14	0.06	No
ini.	2	988	-357491	2051			3235	979	SLD 13	0.48	No
fin.	2	-636	-150655	16875			3489	1349	SLD 13	0.08	No
ini.	2	988	-357491	2051			3235	979	SLD 14	0.48	No
fin.	2	-636	-150655	16875			3489	1349	SLD 14	0.08	No
ini.	2	784	-329612	1138			3235	1033	SLD 15	0.91	No
fin.	2	-700	-161153	17346			3515	1361	SLD 15	0.08	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.464	SLV 13	Si
V_SLV	0.059	SLV 15	No
PF_SLU	1.917	SLU 84	Si
V_SLU	0.049	SLU 83	No

## Trave di accoppiamento 61

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-515.8	600.6	389	482	93	-515.8	650.6	389	482	93	50	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-738	-40663	122867	SLU 73	3.02	Si
fin.	3	-51	28351	122867	SLU 73	4.33	Si
ini.	3	-707	-40014	122867	SLU 75	3.07	Si
fin.	3	-30	29656	122867	SLU 75	4.14	Si
ini.	3	-689	-39273	122867	SLU 76	3.13	Si
fin.	3	-24	29468	122867	SLU 76	4.17	Si
ini.	3	-709	-38710	122867	SLU 61	3.17	Si
fin.	3	-53	26470	122867	SLU 61	4.64	Si
ini.	3	-784	-42755	122867	SLU 81	2.87	Si
fin.	3	-61	29680	122867	SLU 81	4.14	Si
ini.	3	-794	-43224	122867	SLU 82	2.84	Si
fin.	3	-63	29643	122867	SLU 82	4.14	Si
ini.	3	-735	-41365	122867	SLU 83	2.97	Si
fin.	3	-34	30797	122867	SLU 83	3.99	Si
ini.	3	-698	-39545	122867	SLU 74	3.11	Si
fin.	3	-28	29693	122867	SLU 74	4.14	Si
ini.	3	-744	-41834	122867	SLU 84	2.94	Si
fin.	3	-37	30760	122867	SLU 84	3.99	Si
ini.	3	-658	-38623	122867	SLU 78	3.18	Si
fin.	3	-4	30773	122867	SLU 78	3.99	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-735	-41365	3965			1297	513	SLU 83	0.13	No
fin.	3	-34	30797	-211			1017	385	SLU 83	1.83	Si
ini.	3	-707	-40014	3831			1286	508	SLU 75	0.13	No
fin.	3	-30	29656	-202			1015	384	SLU 75	1.9	Si
ini.	3	-624	-37101	3887			1252	495	SLU 79	0.13	No
fin.	3	6	30646	-512			1003	376	SLU 79	0.73	No
ini.	3	-633	-37570	3893			1256	496	SLU 80	0.13	No
fin.	3	4	30609	-481			1003	377	SLU 80	0.78	No
ini.	3	-784	-42755	3866			1317	521	SLU 81	0.13	No
fin.	3	-61	29680	17			1027	390	SLU 81	23.57	Si
ini.	3	-698	-39545	3825			1282	507	SLU 74	0.13	No
fin.	3	-28	29693	-233			1014	383	SLU 74	1.65	Si



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-649	-38155	3924			1262	499	SLU 77	0.13	No
fin.	3	-1	30810	-460			1003	378	SLU 77	0.82	No
ini.	3	-689	-39273	3798			1278	505	SLU 76	0.13	No
fin.	3	-24	29468	-234			1013	383	SLU 76	1.64	Si
ini.	3	-744	-41834	3972			1301	514	SLU 84	0.13	No
fin.	3	-37	30760	-179			1018	385	SLU 84	2.15	Si
ini.	3	-658	-38623	3930			1266	500	SLU 78	0.13	No
fin.	3	-4	30773	-429			1004	378	SLU 78	0.88	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2558	123490	184300	SLV 4	1.49	Si
fin.	2	598	10191	184300	SLV 4	18.08	Si
ini.	2	2558	123490	184300	SLV 3	1.49	Si
fin.	2	598	10191	184300	SLV 3	18.08	Si
ini.	2	1901	97175	184300	SLV 2	1.9	Si
fin.	2	307	3042	184300	SLV 2	60.58	Si
ini.	2	-3492	-176378	184300	SLV 13	1.04	Si
fin.	2	-633	29262	184300	SLV 13	6.3	Si
ini.	2	1901	97175	184300	SLV 1	1.9	Si
fin.	2	307	3042	184300	SLV 1	60.58	Si
ini.	2	-2836	-150063	184300	SLV 16	1.23	Si
fin.	2	-342	36411	184300	SLV 16	5.06	Si
ini.	2	-3492	-176378	184300	SLV 14	1.04	Si
fin.	2	-633	29262	184300	SLV 14	6.3	Si
ini.	2	-2371	-111337	184300	SLV 9	1.66	Si
fin.	2	-644	11745	184300	SLV 9	15.69	Si
ini.	2	-2371	-111337	184300	SLV 10	1.66	Si
fin.	2	-644	11745	184300	SLV 10	15.69	Si
ini.	2	-2836	-150063	184300	SLV 15	1.23	Si
fin.	2	-342	36411	184300	SLV 15	5.06	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1901	97175	-1503			1504	0	SLV 2	0	No
fin.	2	307	3042	-6664			1504	495	SLV 2	0.07	No
ini.	2	-3492	-176378	6634			2901	1086	SLV 13	0.16	No
fin.	2	-633	29262	7751			1758	690	SLV 13	0.09	No
ini.	2	1436	58449	1267			1504	0	SLV 7	0	No
fin.	2	608	27708	-4525			1504	413	SLV 7	0.09	No
ini.	2	-2836	-150063	6598			2638	1009	SLV 16	0.15	No
fin.	2	-342	36411	6410			1641	636	SLV 16	0.1	No
ini.	2	2558	123490	-1539			1504	0	SLV 4	0	No
fin.	2	598	10191	-8005			1504	416	SLV 4	0.05	No
ini.	2	-3492	-176378	6634			2901	1086	SLV 14	0.16	No
fin.	2	-633	29262	7751			1758	690	SLV 14	0.09	No
ini.	2	2558	123490	-1539			1504	0	SLV 3	0	No
fin.	2	598	10191	-8005			1504	416	SLV 3	0.05	No
ini.	2	1901	97175	-1503			1504	0	SLV 1	0	No
fin.	2	307	3042	-6664			1504	495	SLV 1	0.07	No
ini.	2	-2836	-150063	6598			2638	1009	SLV 15	0.15	No
fin.	2	-342	36411	6410			1641	636	SLV 15	0.1	No
ini.	2	1436	58449	1267			1504	0	SLV 8	0	No
fin.	2	608	27708	-4525			1504	413	SLV 8	0.09	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.045	SLV 13	Si
V_SLV	0	SLV 1	No
PF_SLU	2.843	SLU 82	Si
V_SLU	0.127	SLU 77	No

## Trave di accoppiamento 62

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-646.3	-335.9	109	199	90	-746.3	-335.9	109	199	90	100	28	30000

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-5299	-170450	115068	SLU 73	0.68	No
fin.	3	-4055	-86331	115068	SLU 73	1.33	Si
ini.	3	-4777	-159761	115068	SLU 75	0.72	No
fin.	3	-3856	-81635	115068	SLU 75	1.41	Si
ini.	3	-4903	-165343	115068	SLU 84	0.7	No
fin.	3	-3997	-83333	115068	SLU 84	1.38	Si
ini.	3	-4815	-161012	115068	SLU 82	0.71	No
fin.	3	-3886	-85988	115068	SLU 82	1.34	Si
ini.	3	-4844	-163885	115068	SLU 80	0.7	No



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	-3964	-77414	115068	SLU 80	1.49	Si
ini.	3	-5047	-161272	115068	SLU 68	0.71	No
fin.	3	-3828	-76058	115068	SLU 68	1.51	Si
ini.	3	-4864	-164092	115068	SLU 78	0.7	No
fin.	3	-3968	-78981	115068	SLU 78	1.46	Si
ini.	3	-5088	-162684	115068	SLU 55	0.71	No
fin.	3	-3902	-75571	115068	SLU 55	1.52	Si
ini.	3	-5000	-158352	115068	SLU 52	0.73	No
fin.	3	-3790	-78225	115068	SLU 52	1.47	Si
ini.	3	-5387	-174782	115068	SLU 76	0.66	No
fin.	3	-4166	-83677	115068	SLU 76	1.38	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-3601	-128944	-280			2170	756	SLU 58	2.7	Si
fin.	3	-3229	-63896	1063			2036	723	SLU 58	0.68	No
ini.	3	-3900	-141042	-332			2277	781	SLU 79	2.35	Si
fin.	3	-3494	-72002	1148			2131	747	SLU 79	0.65	No
ini.	3	-4864	-164092	-469			2625	857	SLU 78	1.83	Si
fin.	3	-3968	-78981	1153			2302	786	SLU 78	0.68	No
ini.	3	-4903	-165343	-516			2638	859	SLU 84	1.67	Si
fin.	3	-3997	-83333	1126			2312	789	SLU 84	0.7	No
ini.	3	-3621	-129151	-307			2177	757	SLU 56	2.46	Si
fin.	3	-3233	-65463	1049			2037	724	SLU 56	0.69	No
ini.	3	-3559	-127532	-303			2155	752	SLU 71	2.49	Si
fin.	3	-3156	-64384	1020			2009	717	SLU 71	0.7	No
ini.	3	-4844	-163885	-442			2617	855	SLU 80	1.94	Si
fin.	3	-3964	-77414	1168			2300	786	SLU 80	0.67	No
ini.	3	-3919	-141249	-360			2284	782	SLU 77	2.17	Si
fin.	3	-3498	-73569	1133			2133	747	SLU 77	0.66	No
ini.	3	-3266	-119593	-260			2049	727	SLU 37	2.79	Si
fin.	3	-2948	-59927	1000			1935	698	SLU 37	0.7	No
ini.	3	-3958	-142500	-407			2298	786	SLU 83	1.93	Si
fin.	3	-3527	-77921	1106			2143	749	SLU 83	0.68	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-5278	87175	172601	SLV 1	1.98	Si
fin.	2	-1878	-383611	172601	SLV 1	0.45	No
ini.	2	651	115010	172601	SLV 4	1.5	Si
fin.	2	2632	-268625	172601	SLV 4	0.64	No
ini.	2	-5920	-300287	172601	SLV 14	0.57	No
fin.	2	-7220	160616	172601	SLV 14	1.07	Si
ini.	2	-5920	-300287	172601	SLV 13	0.57	No
fin.	2	-7220	160616	172601	SLV 13	1.07	Si
ini.	2	9	-272452	172601	SLV 15	0.63	No
fin.	2	-2711	275602	172601	SLV 15	0.63	No
ini.	2	651	115010	172601	SLV 3	1.5	Si
fin.	2	2632	-268625	172601	SLV 3	0.64	No
ini.	2	9	-272452	172601	SLV 16	0.63	No
fin.	2	-2711	275602	172601	SLV 16	0.63	No
ini.	2	-5278	87175	172601	SLV 2	1.98	Si
fin.	2	-1878	-383611	172601	SLV 2	0.45	No
ini.	2	-12420	-80911	172601	SLV 6	2.13	Si
fin.	2	-9008	-327282	172601	SLV 6	0.53	No
ini.	2	-12420	-80911	172601	SLV 5	2.13	Si
fin.	2	-9008	-327282	172601	SLV 5	0.53	No

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1358	-50944	-422			1310	0	SLD 8	0	No
fin.	2	1177	-8917	-759			1310	127	SLD 8	0.17	No
ini.	2	1282	-100393	1104			1310	0	SLD 11	0	No
fin.	2	491	60901	868			1310	385	SLD 11	0.44	No
ini.	2	651	115010	-5796			1310	343	SLV 4	0.06	No
fin.	2	2632	-268625	-6179			1310	0	SLV 4	0	No
ini.	2	7343	11872	-493			1310	0	SLV 8	0	No
fin.	2	6022	56004	-2780			1310	0	SLV 8	0	No
ini.	2	7343	11872	-493			1310	0	SLV 7	0	No
fin.	2	6022	56004	-2780			1310	0	SLV 7	0	No
ini.	2	1282	-100393	1104			1310	0	SLD 12	0	No
fin.	2	491	60901	868			1310	385	SLD 12	0.44	No
ini.	2	7150	-104366	3082			1310	0	SLV 12	0	No
fin.	2	4420	219273	1045			1310	0	SLV 12	0	No
ini.	2	1358	-50944	-422			1310	0	SLD 7	0	No
fin.	2	1177	-8917	-759			1310	127	SLD 7	0.17	No
ini.	2	7150	-104366	3082			1310	0	SLV 11	0	No
fin.	2	4420	219273	1045			1310	0	SLV 11	0	No
ini.	2	651	115010	-5796			1310	343	SLV 3	0.06	No
fin.	2	2632	-268625	-6179			1310	0	SLV 3	0	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.45	SLV 1	No
V_SLV	0	SLD 7	No
PF_SLU	0.658	SLU 76	No
V_SLU	0.65	SLU 79	No





## Trave di accoppiamento 63

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-646.3	-335.9	389	482	93	-746.3	-335.9	389	482	93	100	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fhk	fvk0	fhmmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	1004	-35254	122867	SLU 80	3.49	Si
fin.	3	1153	11812	122867	SLU 80	10.4	Si
ini.	3	1106	-34588	122867	SLU 84	3.55	Si
fin.	3	1172	11464	122867	SLU 84	10.72	Si
ini.	3	870	-34169	122867	SLU 74	3.6	Si
fin.	3	998	7501	122867	SLU 74	16.38	Si
ini.	3	927	-33889	122867	SLU 81	3.63	Si
fin.	3	1007	7350	122867	SLU 81	16.72	Si
ini.	3	734	-37185	122867	SLU 79	3.3	Si
fin.	3	1011	8498	122867	SLU 79	14.46	Si
ini.	3	1049	-34869	122867	SLU 78	3.52	Si
fin.	3	1162	11616	122867	SLU 78	10.58	Si
ini.	3	779	-36799	122867	SLU 77	3.34	Si
fin.	3	1020	8302	122867	SLU 77	14.8	Si
ini.	3	638	-33939	122867	SLU 58	3.62	Si
fin.	3	873	6729	122867	SLU 58	18.26	Si
ini.	3	683	-33554	122867	SLU 56	3.66	Si
fin.	3	883	6533	122867	SLU 56	18.81	Si
ini.	3	836	-36519	122867	SLU 83	3.36	Si
fin.	3	1029	8151	122867	SLU 83	15.07	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	1179	-28092	3658			933	0	SLU 55	0	No
fin.	3	1089	11451	-2399			933	0	SLU 55	0	No
ini.	3	1010	-31343	3905			933	0	SLU 63	0	No
fin.	3	1034	9695	-2476			933	0	SLU 63	0	No
ini.	3	1101	-28713	3750			933	0	SLU 61	0	No
fin.	3	1012	8894	-2498			933	0	SLU 61	0	No
ini.	3	741	-33274	3949			933	134	SLU 62	0.03	No
fin.	3	892	6381	-2438			933	0	SLU 62	0	No
ini.	3	683	-33554	3885			933	162	SLU 56	0.04	No
fin.	3	883	6533	-2349			933	0	SLU 56	0	No
ini.	3	908	-32009	3842			933	0	SLU 59	0	No
fin.	3	1016	10043	-2352			933	0	SLU 59	0	No
ini.	3	831	-30644	3794			933	72	SLU 60	0.02	No
fin.	3	870	5580	-2460			933	0	SLU 60	0	No
ini.	3	638	-33939	3886			933	181	SLU 58	0.05	No
fin.	3	873	6729	-2314			933	0	SLU 58	0	No
ini.	3	948	-29883	3736			933	0	SLU 42	0	No
fin.	3	1038	10992	-2242			933	0	SLU 42	0	No
ini.	3	953	-31623	3841			933	0	SLU 57	0	No
fin.	3	1025	9847	-2386			933	0	SLU 57	0	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-3774	-97923	184300	SLV 12	1.88	Si
fin.	2	1276	150145	184300	SLV 12	1.23	Si
ini.	2	-3665	-125115	184300	SLV 14	1.47	Si
fin.	2	1753	29244	184300	SLV 14	6.3	Si
ini.	2	-5396	-150022	184300	SLV 15	1.23	Si
fin.	2	1908	105366	184300	SLV 15	1.75	Si
ini.	2	5115	54666	184300	SLV 6	3.37	Si
fin.	2	59	-141336	184300	SLV 6	1.3	Si
ini.	2	-3665	-125115	184300	SLV 13	1.47	Si
fin.	2	1753	29244	184300	SLV 13	6.3	Si
ini.	2	-5396	-150022	184300	SLV 16	1.23	Si
fin.	2	1908	105366	184300	SLV 16	1.75	Si
ini.	2	5115	54666	184300	SLV 5	3.37	Si
fin.	2	59	-141336	184300	SLV 5	1.3	Si
ini.	2	-654	-28358	184300	SLV 8	6.5	Si
fin.	2	579	112404	184300	SLV 8	1.64	Si
ini.	2	-3774	-97923	184300	SLV 11	1.88	Si
fin.	2	1276	150145	184300	SLV 11	1.23	Si
ini.	2	-654	-28358	184300	SLV 7	6.5	Si
fin.	2	579	112404	184300	SLV 7	1.64	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	3243	33061	377			1399	0	SLD 1	0	No
fin.	2	144	-37470	-3878			1399	496	SLD 1	0.13	No
ini.	2	5006	81859	-1860			1399	0	SLV 3	0	No
fin.	2	-417	-20435	-4926			1554	605	SLV 3	0.12	No



Sezione	$\gamma M$	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1994	-14898	2668			1399	0	SLV 9	0	No
fin.	2	757	-103595	-3596			1399	341	SLV 9	0.09	No
ini.	2	6736	106766	-2818			1399	0	SLV 2	0	No
fin.	2	-573	-96557	-6719			1612	632	SLV 2	0.09	No
ini.	2	5115	54666	-379			1399	0	SLV 6	0	No
fin.	2	59	-141336	-6003			1399	514	SLV 6	0.09	No
ini.	2	5115	54666	-379			1399	0	SLV 5	0	No
fin.	2	59	-141336	-6003			1399	514	SLV 5	0.09	No
ini.	2	5006	81859	-1860			1399	0	SLV 4	0	No
fin.	2	-417	-20435	-4926			1554	605	SLV 4	0.12	No
ini.	2	1994	-14898	2668			1399	0	SLV 10	0	No
fin.	2	757	-103595	-3596			1399	341	SLV 10	0.09	No
ini.	2	-3665	-125115	7340			2762	1028	SLV 13	0.14	No
fin.	2	1753	29244	1304			1399	0	SLV 13	0	No
ini.	2	-3665	-125115	7340			2762	1028	SLV 14	0.14	No
fin.	2	1753	29244	1304			1399	0	SLV 14	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.227	SLV 11	Si
V_SLV	0	SLD 1	No
PF_SLU	3.304	SLU 79	Si
V_SLU	0	SLU 2	No

## Trave di accoppiamento 64

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-550.8	-335.9	109	309	200	-600.8	-335.9	109	309	200	50	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	$\tau_0$	f <sub>v0</sub>	$\mu$	$\phi$	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	$\gamma M$	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1409	366244	568235	SLU 75	1.55	Si
fin.	3	-3427	-224008	568235	SLU 75	2.54	Si
ini.	3	-1440	379604	568235	SLU 84	1.5	Si
fin.	3	-3502	-228046	568235	SLU 84	2.49	Si
ini.	3	-1267	380965	568235	SLU 77	1.49	Si
fin.	3	-2750	-156716	568235	SLU 77	3.63	Si
ini.	3	-1391	375971	568235	SLU 82	1.51	Si
fin.	3	-3431	-224026	568235	SLU 82	2.54	Si
ini.	3	-1249	390692	568235	SLU 83	1.45	Si
fin.	3	-2754	-156734	568235	SLU 83	3.63	Si
ini.	3	-1264	378172	568235	SLU 79	1.5	Si
fin.	3	-2735	-155784	568235	SLU 79	3.65	Si
ini.	3	-1455	367084	568235	SLU 80	1.55	Si
fin.	3	-3483	-227096	568235	SLU 80	2.5	Si
ini.	3	-1200	387060	568235	SLU 81	1.47	Si
fin.	3	-2683	-152714	568235	SLU 81	3.72	Si
ini.	3	-1218	377332	568235	SLU 74	1.51	Si
fin.	3	-2679	-152696	568235	SLU 74	3.72	Si
ini.	3	-1458	369877	568235	SLU 78	1.54	Si
fin.	3	-3497	-228028	568235	SLU 78	2.49	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	$\gamma M$	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1440	379604	-9849			2733	1080	SLU 84	0.11	No
fin.	3	-3502	-228046	-6804			3557	1376	SLU 84	0.2	No
ini.	3	-1455	367084	-9592			2739	1083	SLU 80	0.11	No
fin.	3	-3483	-227096	-6641			3550	1374	SLU 80	0.21	No
ini.	3	-1200	387060	-9501			2636	1040	SLU 81	0.11	No
fin.	3	-2683	-152714	-6568			3230	1267	SLU 81	0.19	No
ini.	3	-1391	375971	-9715			2713	1072	SLU 82	0.11	No
fin.	3	-3431	-224026	-6709			3529	1367	SLU 82	0.2	No
ini.	3	-1218	377332	-9312			2644	1043	SLU 74	0.11	No
fin.	3	-2679	-152696	-6449			3228	1267	SLU 74	0.2	No
ini.	3	-1458	369877	-9660			2740	1083	SLU 78	0.11	No
fin.	3	-3497	-228028	-6684			3555	1376	SLU 78	0.21	No
ini.	3	-1409	366244	-9525			2720	1075	SLU 75	0.11	No
fin.	3	-3427	-224008	-6589			3527	1367	SLU 75	0.21	No
ini.	3	-1264	378172	-9379			2662	1051	SLU 79	0.11	No
fin.	3	-2735	-155784	-6501			3251	1274	SLU 79	0.2	No
ini.	3	-1249	390692	-9636			2656	1049	SLU 83	0.11	No
fin.	3	-2754	-156734	-6663			3258	1277	SLU 83	0.19	No
ini.	3	-1267	380965	-9446			2663	1052	SLU 77	0.11	No
fin.	3	-2750	-156716	-6544			3256	1276	SLU 77	0.2	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	$\gamma M$	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1372	652190	852353	SLV 4	1.31	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	334	38680	852353	SLV 4	22.04	Si
ini.	2	2907	484426	852353	SLV 7	1.76	Si
fin.	2	6457	424820	852353	SLV 7	2.01	Si
ini.	2	-5681	248993	852353	SLV 5	3.42	Si
fin.	2	-10365	-645486	852353	SLV 5	1.32	Si
ini.	2	2907	484426	852353	SLV 8	1.76	Si
fin.	2	6457	424820	852353	SLV 8	2.01	Si
ini.	2	-4590	34565	852353	SLV 10	24.66	Si
fin.	2	-10164	-635601	852353	SLV 10	1.34	Si
ini.	2	-5681	248993	852353	SLV 6	3.42	Si
fin.	2	-10365	-645486	852353	SLV 6	1.32	Si
ini.	2	-4590	34565	852353	SLV 9	24.66	Si
fin.	2	-10164	-635601	852353	SLV 9	1.34	Si
ini.	2	-3949	581561	852353	SLV 2	1.47	Si
fin.	2	-4713	-282412	852353	SLV 2	3.02	Si
ini.	2	-1372	652190	852353	SLV 3	1.31	Si
fin.	2	334	38680	852353	SLV 3	22.04	Si
ini.	2	-3949	581561	852353	SLV 1	1.47	Si
fin.	2	-4713	-282412	852353	SLV 1	3.02	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt <sub>lim</sub>	Comb.	c.s.	Verifica
ini.	2	2907	484426	-7131			3235	0	SLV 7	0	No
fin.	2	6457	424820	-7499			3235	0	SLV 7	0	No
ini.	2	-1372	652190	-16208			3784	1486	SLV 3	0.09	No
fin.	2	334	38680	-14849			3235	1143	SLV 3	0.08	No
ini.	2	2265	-62570	4906			3235	532	SLV 15	0.11	No
fin.	2	1006	71631	6017			3235	974	SLV 15	0.16	No
ini.	2	3998	269998	-796			3235	0	SLV 12	0	No
fin.	2	6658	434705	-1239			3235	0	SLV 12	0	No
ini.	2	3998	269998	-796			3235	0	SLV 11	0	No
fin.	2	6658	434705	-1239			3235	0	SLV 11	0	No
ini.	2	2907	484426	-7131			3235	0	SLV 8	0	No
fin.	2	6457	424820	-7499			3235	0	SLV 8	0	No
ini.	2	-3949	581561	-17655			4814	1890	SLV 1	0.11	No
fin.	2	-4713	-282412	-14889			5120	1994	SLV 1	0.13	No
ini.	2	-1372	652190	-16208			3784	1486	SLV 4	0.09	No
fin.	2	334	38680	-14849			3235	1143	SLV 4	0.08	No
ini.	2	2265	-62570	4906			3235	532	SLV 16	0.11	No
fin.	2	1006	71631	6017			3235	974	SLV 16	0.16	No
ini.	2	-3949	581561	-17655			4814	1890	SLV 2	0.11	No
fin.	2	-4713	-282412	-14889			5120	1994	SLV 2	0.13	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.307	SLV 3	Si
V_SLV	0	SLV 7	No
PF_SLU	1.454	SLU 83	Si
V_SLU	0.109	SLU 83	No

### Trave di accoppiamento 65

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-550.8	-335.9	389	482	93	-600.8	-335.9	389	482	93	50	28	30000

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>tk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	1844	72884	122867	SLU 55	1.69	Si
fin.	3	940	-59112	122867	SLU 55	2.08	Si
ini.	3	1801	74397	122867	SLU 78	1.65	Si
fin.	3	814	-66341	122867	SLU 78	1.85	Si
ini.	3	2004	79199	122867	SLU 76	1.55	Si
fin.	3	1010	-65092	122867	SLU 76	1.89	Si
ini.	3	1956	72992	122867	SLU 65	1.68	Si
fin.	3	1089	-55817	122867	SLU 65	2.2	Si
ini.	3	1865	76272	122867	SLU 84	1.61	Si
fin.	3	863	-67010	122867	SLU 84	1.83	Si
ini.	3	2066	79181	122867	SLU 73	1.55	Si
fin.	3	1098	-62795	122867	SLU 73	1.96	Si
ini.	3	1864	74378	122867	SLU 75	1.65	Si
fin.	3	902	-64044	122867	SLU 75	1.92	Si
ini.	3	1927	76254	122867	SLU 82	1.61	Si
fin.	3	951	-64713	122867	SLU 82	1.9	Si
ini.	3	1894	73011	122867	SLU 68	1.68	Si
fin.	3	1001	-58113	122867	SLU 68	2.11	Si
ini.	3	1755	73639	122867	SLU 80	1.67	Si
fin.	3	771	-66316	122867	SLU 80	1.85	Si



Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	1363	59713	-1921			1003	0	SLU 56	0	No
fin.	3	517	-58753	-5746			1003	240	SLU 56	0.04	No
ini.	3	1642	68081	-2177			1003	0	SLU 57	0	No
fin.	3	744	-60362	-5977			1003	143	SLU 57	0.02	No
ini.	3	1704	68063	-2126			1003	0	SLU 54	0	No
fin.	3	832	-58065	-5860			1003	77	SLU 54	0.01	No
ini.	3	1844	72884	-2288			1003	0	SLU 55	0	No
fin.	3	940	-59112	-5973			1003	0	SLU 55	0	No
ini.	3	1317	58955	-1913			1003	0	SLU 58	0	No
fin.	3	473	-58727	-5705			1003	254	SLU 58	0.04	No
ini.	3	1066	42227	-1279			1003	0	SLU 1	0	No
fin.	3	511	-37850	-3851			1003	242	SLU 1	0.06	No
ini.	3	1768	69938	-2162			1003	0	SLU 61	0	No
fin.	3	880	-58734	-5992			1003	0	SLU 61	0	No
ini.	3	1425	59694	-1871			1003	0	SLU 53	0	No
fin.	3	605	-56456	-5629			1003	208	SLU 53	0.04	No
ini.	3	1596	67323	-2168			1003	0	SLU 59	0	No
fin.	3	700	-60336	-5936			1003	166	SLU 59	0.03	No
ini.	3	1489	61570	-1907			1003	0	SLU 60	0	No
fin.	3	653	-57125	-5761			1003	188	SLU 60	0.03	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	5579	181634	184300	SLV 3	1.01	Si
fin.	2	4024	-19255	184300	SLV 3	9.57	Si
ini.	2	7797	217747	184300	SLV 1	0.85	No
fin.	2	5950	-16403	184300	SLV 1	11.24	Si
ini.	2	7797	217747	184300	SLV 2	0.85	No
fin.	2	5950	-16403	184300	SLV 2	11.24	Si
ini.	2	-5511	-126148	184300	SLV 15	1.46	Si
fin.	2	-4883	-66703	184300	SLV 15	2.76	Si
ini.	2	5579	181634	184300	SLV 4	1.01	Si
fin.	2	4024	-19255	184300	SLV 4	9.57	Si
ini.	2	6503	152154	184300	SLV 6	1.21	Si
fin.	2	5080	-29681	184300	SLV 6	6.21	Si
ini.	2	6503	152154	184300	SLV 5	1.21	Si
fin.	2	5080	-29681	184300	SLV 5	6.21	Si
ini.	2	-5511	-126148	184300	SLV 16	1.46	Si
fin.	2	-4883	-66703	184300	SLV 16	2.76	Si
ini.	2	3955	118523	184300	SLD 1	1.55	Si
fin.	2	2827	-30771	184300	SLD 1	5.99	Si
ini.	2	3955	118523	184300	SLD 2	1.55	Si
fin.	2	2827	-30771	184300	SLD 2	5.99	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	3955	118523	-2649			1504	0	SLD 1	0	No
fin.	2	2827	-30771	-5839			1504	0	SLD 1	0	No
ini.	2	6503	152154	-1392			1504	0	SLV 5	0	No
fin.	2	5080	-29681	-6579			1504	0	SLV 5	0	No
ini.	2	3176	59819	530			1504	0	SLV 10	0	No
fin.	2	2408	-43915	-4508			1504	0	SLV 10	0	No
ini.	2	3339	88991	-1409			1504	0	SLD 6	0	No
fin.	2	2410	-36282	-5160			1504	0	SLD 6	0	No
ini.	2	1919	49585	-589			1504	0	SLD 9	0	No
fin.	2	1269	-42348	-4277			1504	90	SLD 9	0.02	No
ini.	2	3176	59819	530			1504	0	SLV 9	0	No
fin.	2	2408	-43915	-4508			1504	0	SLV 9	0	No
ini.	2	5579	181634	-4895			1504	0	SLV 3	0	No
fin.	2	4024	-19255	-7272			1504	0	SLV 3	0	No
ini.	2	1919	49585	-589			1504	0	SLD 10	0	No
fin.	2	1269	-42348	-4277			1504	90	SLD 10	0.02	No
ini.	2	6503	152154	-1392			1504	0	SLV 6	0	No
fin.	2	5080	-29681	-6579			1504	0	SLV 6	0	No
ini.	2	5579	181634	-4895			1504	0	SLV 4	0	No
fin.	2	4024	-19255	-7272			1504	0	SLV 4	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.846	SLV 1	No
V_SLV	0	SLD 1	No
PF_SLU	1.551	SLU 76	Si
V_SLU	0	SLU 1	No

Trave di accoppiamento 66

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-223.3	-335.9	109	199	90	-323.3	-335.9	109	199	90	100	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti



fb	fhk	fvk0	fhmedio	t0	fv0	$\mu$	$\phi$	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	10578	-11751	115068	SLU 82	9.79	Si
fin.	3	10268	97152	115068	SLU 82	1.18	Si
ini.	3	11958	-6122	115068	SLU 73	18.8	Si
fin.	3	11704	102347	115068	SLU 73	1.12	Si
ini.	3	10528	-9667	115068	SLU 78	11.9	Si
fin.	3	10216	96128	115068	SLU 78	1.2	Si
ini.	3	10466	-9376	115068	SLU 80	12.27	Si
fin.	3	10157	95458	115068	SLU 80	1.21	Si
ini.	3	11329	-3055	115068	SLU 55	37.67	Si
fin.	3	11107	95568	115068	SLU 55	1.2	Si
ini.	3	10426	-10108	115068	SLU 75	11.38	Si
fin.	3	10121	95121	115068	SLU 75	1.21	Si
ini.	3	12061	-5681	115068	SLU 76	20.26	Si
fin.	3	11799	103354	115068	SLU 76	1.11	Si
ini.	3	11226	-3496	115068	SLU 52	32.91	Si
fin.	3	11013	94561	115068	SLU 52	1.22	Si
ini.	3	10681	-11310	115068	SLU 84	10.17	Si
fin.	3	10362	98158	115068	SLU 84	1.17	Si
ini.	3	11321	-2198	115068	SLU 68	52.35	Si
fin.	3	11101	94704	115068	SLU 68	1.22	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	9846	-9125	1492			873	0	SLU 61	0	No
fin.	3	9576	89366	1150			873	0	SLU 61	0	No
ini.	3	7149	-13688	1137			873	0	SLU 53	0	No
fin.	3	6826	73981	1296			873	0	SLU 53	0	No
ini.	3	9735	-6750	1434			873	0	SLU 59	0	No
fin.	3	9466	87672	1107			873	0	SLU 59	0	No
ini.	3	9694	-7482	1442			873	0	SLU 54	0	No
fin.	3	9430	87335	1105			873	0	SLU 54	0	No
ini.	3	7189	-12956	1129			873	0	SLU 58	0	No
fin.	3	6862	74318	1297			873	0	SLU 58	0	No
ini.	3	7251	-13246	1137			873	0	SLU 56	0	No
fin.	3	6920	74988	1313			873	0	SLU 56	0	No
ini.	3	7301	-15331	1188			873	0	SLU 60	0	No
fin.	3	6973	76012	1340			873	0	SLU 60	0	No
ini.	3	4997	-8658	792			873	0	SLU 1	0	No
fin.	3	4779	51019	873			873	0	SLU 1	0	No
ini.	3	9796	-7041	1442			873	0	SLU 57	0	No
fin.	3	9524	88342	1123			873	0	SLU 57	0	No
ini.	3	11329	-3055	1637			873	0	SLU 55	0	No
fin.	3	11107	95568	962			873	0	SLU 55	0	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	21673	-9495	172601	SLV 10	18.18	Si
fin.	2	21387	184129	172601	SLV 10	0.94	No
ini.	2	2453	-250586	172601	SLV 16	0.69	No
fin.	2	-1340	283085	172601	SLV 16	0.61	No
ini.	2	8382	229780	172601	SLV 1	0.75	No
fin.	2	11692	-171656	172601	SLV 1	1.01	Si
ini.	2	-1056	189616	172601	SLV 4	0.91	No
fin.	2	1692	-204795	172601	SLV 4	0.84	No
ini.	2	11891	-210423	172601	SLV 14	0.82	No
fin.	2	8660	316224	172601	SLV 14	0.55	No
ini.	2	21673	-9495	172601	SLV 9	18.18	Si
fin.	2	21387	184129	172601	SLV 9	0.94	No
ini.	2	11891	-210423	172601	SLV 13	0.82	No
fin.	2	8660	316224	172601	SLV 13	0.55	No
ini.	2	2453	-250586	172601	SLV 15	0.69	No
fin.	2	-1340	283085	172601	SLV 15	0.61	No
ini.	2	8382	229780	172601	SLV 2	0.75	No
fin.	2	11692	-171656	172601	SLV 2	1.01	Si
ini.	2	-1056	189616	172601	SLV 3	0.91	No
fin.	2	1692	-204795	172601	SLV 3	0.84	No

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-1056	189616	-5434			1690	668	SLV 4	0.12	No
fin.	2	1692	-204795	-4674			1310	0	SLV 4	0	No
ini.	2	6505	91196	-1157			1310	0	SLD 1	0	No
fin.	2	7772	-41438	-1730			1310	0	SLD 1	0	No
ini.	2	-1056	189616	-5434			1690	668	SLV 3	0.12	No
fin.	2	1692	-204795	-4674			1310	0	SLV 3	0	No
ini.	2	21673	-9495	5211			1310	0	SLV 10	0	No
fin.	2	21387	184129	1593			1310	0	SLV 10	0	No
ini.	2	8382	229780	-3813			1310	0	SLV 2	0	No
fin.	2	11692	-171656	-5382			1310	0	SLV 2	0	No
ini.	2	20621	122566	1919			1310	0	SLV 6	0	No
fin.	2	22297	37765	-2007			1310	0	SLV 6	0	No
ini.	2	11891	-210423	7160			1310	0	SLV 13	0	No
fin.	2	8660	316224	6619			1310	0	SLV 13	0	No
ini.	2	20621	122566	1919			1310	0	SLV 5	0	No
fin.	2	22297	37765	-2007			1310	0	SLV 5	0	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	21673	-9495	5211			1310	0	SLV 9	0	No
fin.	2	21387	184129	1593			1310	0	SLV 9	0	No
ini.	2	11891	-210423	7160			1310	0	SLV 14	0	No
fin.	2	8660	316224	6619			1310	0	SLV 14	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.546	SLV 13	No
V_SLV	0	SLD 1	No
PF_SLU	1.113	SLU 76	Si
V_SLU	0	SLU 1	No

## Trave di accoppiamento 67

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-223.3	-335.9	389	482	93	-323.3	-335.9	389	482	93	100	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>mk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2310	-74605	122867	SLU 83	1.65	Si
fin.	3	-752	20446	122867	SLU 83	6.01	Si
ini.	3	-2466	-76985	122867	SLU 73	1.6	Si
fin.	3	-642	32044	122867	SLU 73	3.83	Si
ini.	3	-2462	-76567	122867	SLU 78	1.6	Si
fin.	3	-754	26567	122867	SLU 78	4.62	Si
ini.	3	-2434	-77805	122867	SLU 82	1.58	Si
fin.	3	-673	28237	122867	SLU 82	4.35	Si
ini.	3	-2449	-75778	122867	SLU 80	1.62	Si
fin.	3	-764	26196	122867	SLU 80	4.69	Si
ini.	3	-2484	-78500	122867	SLU 84	1.57	Si
fin.	3	-726	27747	122867	SLU 84	4.43	Si
ini.	3	-2516	-77680	122867	SLU 76	1.58	Si
fin.	3	-694	31553	122867	SLU 76	3.89	Si
ini.	3	-2412	-75871	122867	SLU 75	1.62	Si
fin.	3	-701	27058	122867	SLU 75	4.54	Si
ini.	3	-2287	-72671	122867	SLU 77	1.69	Si
fin.	3	-780	19267	122867	SLU 77	6.38	Si
ini.	3	-2260	-73909	122867	SLU 81	1.66	Si
fin.	3	-700	20937	122867	SLU 81	5.87	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-2310	-74605	3760			1792	672	SLU 83	0.18	No
fin.	3	-752	20446	-761			1212	480	SLU 83	0.63	No
ini.	3	-2287	-72671	3658			1784	669	SLU 77	0.18	No
fin.	3	-780	19267	-755			1223	484	SLU 77	0.64	No
ini.	3	-2434	-77805	3837			1838	685	SLU 82	0.18	No
fin.	3	-673	28237	-391			1183	468	SLU 82	1.2	Si
ini.	3	-2412	-75871	3735			1830	682	SLU 75	0.18	No
fin.	3	-701	27058	-384			1193	472	SLU 75	1.23	Si
ini.	3	-2466	-76985	3740			1850	688	SLU 73	0.18	No
fin.	3	-642	32044	-130			1171	463	SLU 73	3.57	Si
ini.	3	-2237	-71976	3626			1765	664	SLU 74	0.18	No
fin.	3	-727	19757	-719			1203	476	SLU 74	0.66	No
ini.	3	-2516	-77680	3772			1868	693	SLU 76	0.18	No
fin.	3	-694	31553	-165			1191	471	SLU 76	2.85	Si
ini.	3	-2260	-73909	3728			1773	666	SLU 81	0.18	No
fin.	3	-700	20937	-726			1193	472	SLU 81	0.65	No
ini.	3	-2462	-76567	3767			1849	687	SLU 78	0.18	No
fin.	3	-754	26567	-420			1213	480	SLU 78	1.14	Si
ini.	3	-2484	-78500	3869			1857	690	SLU 84	0.18	No
fin.	3	-726	27747	-426			1203	476	SLU 84	1.12	Si

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-3287	-142672	184300	SLD 14	1.29	Si
fin.	2	362	82174	184300	SLD 14	2.24	Si
ini.	2	2573	171845	184300	SLV 4	1.07	Si
fin.	2	-2529	-146731	184300	SLV 4	1.26	Si
ini.	2	1728	157030	184300	SLV 2	1.17	Si
fin.	2	-3561	-158433	184300	SLV 2	1.16	Si
ini.	2	-4798	-254394	184300	SLV 15	0.72	No
fin.	2	2546	185562	184300	SLV 15	0.99	No
ini.	2	-5643	-269209	184300	SLV 13	0.68	No
fin.	2	1514	173860	184300	SLV 13	1.06	Si
ini.	2	-4798	-254394	184300	SLV 16	0.72	No
fin.	2	2546	185562	184300	SLV 16	0.99	No
ini.	2	-5643	-269209	184300	SLV 14	0.68	No



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	1514	173860	184300	SLV 14	1.06	Si
ini.	2	2573	171845	184300	SLV 3	1.07	Si
fin.	2	-2529	-146731	184300	SLV 3	1.26	Si
ini.	2	1728	157030	184300	SLV 1	1.17	Si
fin.	2	-3561	-158433	184300	SLV 1	1.16	Si
ini.	2	-3287	-142672	184300	SLD 13	1.29	Si
fin.	2	362	82174	184300	SLD 13	2.24	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-5643	-269209	9494			3498	1216	SLV 14	0.13	No
fin.	2	1514	173860	5761			1399	0	SLV 14	0	No
ini.	2	-5643	-269209	9494			3498	1216	SLV 13	0.13	No
fin.	2	1514	173860	5761			1399	0	SLV 13	0	No
ini.	2	1728	157030	-4179			1399	0	SLV 1	0	No
fin.	2	-3561	-158433	-7518			2724	1017	SLV 1	0.14	No
ini.	2	-4798	-254394	9103			3184	1140	SLV 15	0.13	No
fin.	2	2546	185562	6575			1399	0	SLV 15	0	No
ini.	2	2573	171845	-4569			1399	0	SLV 4	0	No
fin.	2	-2529	-146731	-6704			2340	903	SLV 4	0.13	No
ini.	2	-4798	-254394	9103			3184	1140	SLV 16	0.13	No
fin.	2	2546	185562	6575			1399	0	SLV 16	0	No
ini.	2	1728	157030	-4179			1399	0	SLV 2	0	No
fin.	2	-3561	-158433	-7518			2724	1017	SLV 2	0.14	No
ini.	2	2573	171845	-4569			1399	0	SLV 3	0	No
fin.	2	-2529	-146731	-6704			2340	903	SLV 3	0.13	No
ini.	2	-1232	-87926	3863			1857	735	SLV 11	0.19	No
fin.	2	1975	82912	2877			1399	0	SLV 11	0	No
ini.	2	-1232	-87926	3863			1857	735	SLV 12	0.19	No
fin.	2	1975	82912	2877			1399	0	SLV 12	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.685	SLV 13	No
V_SLV	0	SLV 1	No
PF_SLU	1.565	SLU 84	Si
V_SLU	0.178	SLU 84	No

## Trave di accoppiamento 68

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-201.3	595.1	109	199	90	-301.3	595.1	109	199	90	100	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fhk	fvk0	fmedlo	t0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	6397	2581	115068	SLU 78	44.58	Si
fin.	3	6245	96937	115068	SLU 78	1.19	Si
ini.	3	6449	5466	115068	SLU 79	21.05	Si
fin.	3	6303	95531	115068	SLU 79	1.2	Si
ini.	3	6199	1194	115068	SLU 76	96.39	Si
fin.	3	6039	93868	115068	SLU 76	1.23	Si
ini.	3	6549	5204	115068	SLU 81	22.11	Si
fin.	3	6360	94160	115068	SLU 81	1.22	Si
ini.	3	6631	4988	115068	SLU 83	23.07	Si
fin.	3	6458	96844	115068	SLU 83	1.19	Si
ini.	3	6498	5274	115068	SLU 77	21.82	Si
fin.	3	6345	96324	115068	SLU 77	1.19	Si
ini.	3	6348	2773	115068	SLU 80	41.5	Si
fin.	3	6204	96144	115068	SLU 80	1.2	Si
ini.	3	6530	2295	115068	SLU 84	50.14	Si
fin.	3	6358	97456	115068	SLU 84	1.18	Si
ini.	3	6315	2797	115068	SLU 75	41.13	Si
fin.	3	6147	94253	115068	SLU 75	1.22	Si
ini.	3	6448	2511	115068	SLU 82	45.82	Si
fin.	3	6260	94772	115068	SLU 82	1.21	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	5848	6937	902			873	0	SLU 58	0	No
fin.	3	5719	85591	1132			873	0	SLU 58	0	No
ini.	3	4058	6527	606			873	0	SLU 1	0	No
fin.	3	3949	57159	725			873	0	SLU 1	0	No
ini.	3	5814	6962	892			873	0	SLU 53	0	No
fin.	3	5662	83700	1105			873	0	SLU 53	0	No
ini.	3	5746	4244	945			873	0	SLU 59	0	No
fin.	3	5619	86204	1162			873	0	SLU 59	0	No
ini.	3	5948	6676	914			873	0	SLU 60	0	No
fin.	3	5775	84220	1111			873	0	SLU 60	0	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	5597	2665	956			873	0	SLU 55	0	No
fin.	3	5455	83928	1137			873	0	SLU 55	0	No
ini.	3	5713	4269	936			873	0	SLU 54	0	No
fin.	3	5563	84313	1134			873	0	SLU 54	0	No
ini.	3	5847	3983	957			873	0	SLU 61	0	No
fin.	3	5676	84832	1140			873	0	SLU 61	0	No
ini.	3	5795	4053	954			873	0	SLU 57	0	No
fin.	3	5660	86997	1179			873	0	SLU 57	0	No
ini.	3	5896	6746	911			873	0	SLU 56	0	No
fin.	3	5760	86384	1149			873	0	SLU 56	0	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	9865	241370	172601	SLV 3	0.72	No
fin.	2	11605	-107958	172601	SLV 3	1.6	Si
ini.	2	22467	186943	172601	SLV 8	0.92	No
fin.	2	23558	109326	172601	SLV 8	1.58	Si
ini.	2	22440	67381	172601	SLV 12	2.56	Si
fin.	2	22544	231054	172601	SLV 12	0.75	No
ini.	2	9775	-157172	172601	SLV 15	1.1	Si
fin.	2	8225	297801	172601	SLV 15	0.58	No
ini.	2	9865	241370	172601	SLV 4	0.72	No
fin.	2	11605	-107958	172601	SLV 4	1.6	Si
ini.	2	-1054	-230083	172601	SLV 14	0.75	No
fin.	2	-3035	233284	172601	SLV 14	0.74	No
ini.	2	22440	67381	172601	SLV 11	2.56	Si
fin.	2	22544	231054	172601	SLV 11	0.75	No
ini.	2	-1054	-230083	172601	SLV 13	0.75	No
fin.	2	-3035	233284	172601	SLV 13	0.74	No
ini.	2	9775	-157172	172601	SLV 16	1.1	Si
fin.	2	8225	297801	172601	SLV 16	0.58	No
ini.	2	22467	186943	172601	SLV 7	0.92	No
fin.	2	23558	109326	172601	SLV 7	1.58	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	9865	241370	-2981			1310	0	SLV 3	0	No
fin.	2	11605	-107958	-2887			1310	0	SLV 3	0	No
ini.	2	2255	-92603	2243			1310	0	SLD 14	0	No
fin.	2	1303	135503	2423			1310	0	SLD 14	0	No
ini.	2	22440	67381	5923			1310	0	SLV 11	0	No
fin.	2	22544	231054	6007			1310	0	SLV 11	0	No
ini.	2	22467	186943	3046			1310	0	SLV 7	0	No
fin.	2	23558	109326	3111			1310	0	SLV 7	0	No
ini.	2	2219	74639	-1835			1310	0	SLD 1	0	No
fin.	2	2752	-36043	-1695			1310	0	SLD 1	0	No
ini.	2	6592	-63352	3175			1310	0	SLD 15	0	No
fin.	2	5818	161369	3333			1310	0	SLD 15	0	No
ini.	2	22467	186943	3046			1310	0	SLV 8	0	No
fin.	2	23558	109326	3111			1310	0	SLV 8	0	No
ini.	2	9775	-157172	6610			1310	0	SLV 15	0	No
fin.	2	8225	297801	6769			1310	0	SLV 15	0	No
ini.	2	9865	241370	-2981			1310	0	SLV 4	0	No
fin.	2	11605	-107958	-2887			1310	0	SLV 4	0	No
ini.	2	22440	67381	5923			1310	0	SLV 12	0	No
fin.	2	22544	231054	6007			1310	0	SLV 12	0	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.58	SLV 15	No
V_SLV	0	SLD 1	No
PF_SLU	1.181	SLU 84	Si
V_SLU	0	SLU 1	No

### Trave di accoppiamento 69

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-201.3	595.1	389	482	93	-301.3	595.1	389	482	93	100	28	30000

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb_	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2677	-57403	122867	SLU 84	2.14	Si
fin.	3	-2199	-2909	122867	SLU 84	42.24	Si
ini.	3	-2574	-57467	122867	SLU 82	2.14	Si
fin.	3	-2011	-2039	122867	SLU 82	60.25	Si
ini.	3	-2598	-55554	122867	SLU 75	2.21	Si
fin.	3	-2128	-3227	122867	SLU 75	38.08	Si
ini.	3	-2454	-54733	122867	SLU 73	2.24	Si





Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	-1917	-1889	122867	SLU 73	65,05	Si
ini.	3	-2619	-57514	122867	SLU 81	2,14	Si
fin.	3	-2076	-2963	122867	SLU 81	41,47	Si
ini.	3	-2702	-55491	122867	SLU 78	2,21	Si
fin.	3	-2316	-4096	122867	SLU 78	29,99	Si
ini.	3	-2747	-55538	122867	SLU 77	2,21	Si
fin.	3	-2380	-5020	122867	SLU 77	24,48	Si
ini.	3	-2722	-57450	122867	SLU 83	2,14	Si
fin.	3	-2264	-3832	122867	SLU 83	32,06	Si
ini.	3	-2736	-54685	122867	SLU 79	2,25	Si
fin.	3	-2400	-5167	122867	SLU 79	23,78	Si
ini.	3	-2643	-55601	122867	SLU 74	2,21	Si
fin.	3	-2192	-4151	122867	SLU 74	29,6	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-2736	-54685	3086			1950	715	SLU 79	0,23	No
fin.	3	-2400	-5167	-3446			1826	681	SLU 79	0,2	No
ini.	3	-2702	-55491	3116			1938	712	SLU 78	0,23	No
fin.	3	-2316	-4096	-3395			1794	672	SLU 78	0,2	No
ini.	3	-2643	-55601	3135			1916	706	SLU 74	0,23	No
fin.	3	-2192	-4151	-3344			1748	659	SLU 74	0,2	No
ini.	3	-2722	-57450	3258			1945	714	SLU 83	0,22	No
fin.	3	-2264	-3832	-3496			1775	667	SLU 83	0,19	No
ini.	3	-2619	-57514	3266			1907	703	SLU 81	0,22	No
fin.	3	-2076	-2963	-3383			1705	646	SLU 81	0,19	No
ini.	3	-2691	-54638	3075			1934	711	SLU 80	0,23	No
fin.	3	-2336	-4244	-3384			1802	674	SLU 80	0,2	No
ini.	3	-2574	-57467	3255			1890	699	SLU 82	0,21	No
fin.	3	-2011	-2039	-3320			1681	639	SLU 82	0,19	No
ini.	3	-2677	-57403	3248			1929	709	SLU 84	0,22	No
fin.	3	-2199	-2909	-3434			1751	660	SLU 84	0,19	No
ini.	3	-2598	-55554	3124			1899	701	SLU 75	0,22	No
fin.	3	-2128	-3227	-3282			1724	652	SLU 75	0,2	No
ini.	3	-2747	-55538	3127			1954	716	SLU 77	0,23	No
fin.	3	-2380	-5020	-3457			1818	679	SLU 77	0,2	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-5181	-112873	184300	SLV 11	1,63	Si
fin.	2	-2596	467	184300	SLV 11	394,69	Si
ini.	2	-4149	-182547	184300	SLV 14	1,01	Si
fin.	2	2379	86992	184300	SLV 14	2,12	Si
ini.	2	-3421	-106890	184300	SLD 15	1,72	Si
fin.	2	-352	29780	184300	SLD 15	6,19	Si
ini.	2	2047	124256	184300	SLV 1	1,48	Si
fin.	2	-4027	-80643	184300	SLV 1	2,29	Si
ini.	2	-3421	-106890	184300	SLD 16	1,72	Si
fin.	2	-352	29780	184300	SLD 16	6,19	Si
ini.	2	2047	124256	184300	SLV 2	1,48	Si
fin.	2	-4027	-80643	184300	SLV 2	2,29	Si
ini.	2	-5181	-112873	184300	SLV 12	1,63	Si
fin.	2	-2596	467	184300	SLV 12	394,69	Si
ini.	2	-5626	-199950	184300	SLV 15	0,92	No
fin.	2	1118	74137	184300	SLV 15	2,49	Si
ini.	2	-4149	-182547	184300	SLV 13	1,01	Si
fin.	2	2379	86992	184300	SLV 13	2,12	Si
ini.	2	-5626	-199950	184300	SLV 16	0,92	No
fin.	2	1118	74137	184300	SLV 16	2,49	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-4149	-182547	7285			2942	1077	SLV 13	0,15	No
fin.	2	2379	86992	3762			1399	0	SLV 13	0	No
ini.	2	2047	124256	-3751			1399	0	SLV 1	0	No
fin.	2	-4027	-80643	-6912			2897	1065	SLV 1	0,15	No
ini.	2	-5626	-199950	8002			3492	1214	SLV 15	0,15	No
fin.	2	1118	74137	2496			1399	198	SLV 15	0,08	No
ini.	2	1602	37179	-725			1399	0	SLV 6	0	No
fin.	2	-314	-6973	-1700			1516	586	SLV 6	0,35	No
ini.	2	-257	-54862	2585			1495	576	SLV 10	0,22	No
fin.	2	1608	43317	1502			1399	0	SLV 10	0	No
ini.	2	-5626	-199950	8002			3492	1214	SLV 16	0,15	No
fin.	2	1118	74137	2496			1399	198	SLV 16	0,08	No
ini.	2	-4149	-182547	7285			2942	1077	SLV 14	0,15	No
fin.	2	2379	86992	3762			1399	0	SLV 14	0	No
ini.	2	-257	-54862	2585			1495	576	SLV 9	0,22	No
fin.	2	1608	43317	1502			1399	0	SLV 9	0	No
ini.	2	2047	124256	-3751			1399	0	SLV 2	0	No
fin.	2	-4027	-80643	-6912			2897	1065	SLV 2	0,15	No
ini.	2	1602	37179	-725			1399	0	SLV 5	0	No
fin.	2	-314	-6973	-1700			1516	586	SLV 5	0,35	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0,922	SLV 15	No
V_SLV	0	SLV 1	No
PF_SLU	2,136	SLU 81	Si
V_SLU	0,191	SLU 83	No



## Trave di accoppiamento 70

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2467.8	126.6	692	834	142	-2467.8	206.6	692	834	142	80	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	772	-50937	286447	SLU 51	5.62	Si
fin.	3	772	57497	286447	SLU 51	4.98	Si
ini.	3	793	-47564	286447	SLU 49	6.02	Si
fin.	3	793	54098	286447	SLU 49	5.29	Si
ini.	3	600	-37500	286447	SLU 7	7.64	Si
fin.	3	600	44073	286447	SLU 7	6.5	Si
ini.	3	1066	-40339	286447	SLU 68	7.1	Si
fin.	3	1066	45077	286447	SLU 68	6.35	Si
ini.	3	1139	-53916	286447	SLU 44	5.31	Si
fin.	3	1139	53496	286447	SLU 44	5.35	Si
ini.	3	946	-43852	286447	SLU 2	6.53	Si
fin.	3	946	43471	286447	SLU 2	6.59	Si
ini.	3	930	-42800	286447	SLU 46	6.69	Si
fin.	3	930	46403	286447	SLU 46	6.17	Si
ini.	3	579	-40873	286447	SLU 9	7.01	Si
fin.	3	579	47472	286447	SLU 9	6.03	Si
ini.	3	808	-48616	286447	SLU 5	5.89	Si
fin.	3	808	51165	286447	SLU 5	5.6	Si
ini.	3	1001	-58680	286447	SLU 47	4.88	Si
fin.	3	1001	61191	286447	SLU 47	4.68	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	1275	-29436	1066			1531	112	SLU 52	0.11	No
fin.	3	1275	30063	363			1531	112	SLU 52	0.31	No
ini.	3	1001	-58680	1821			1531	285	SLU 47	0.16	No
fin.	3	1001	61191	1118			1531	285	SLU 47	0.26	No
ini.	3	1204	-35576	1239			1531	175	SLU 65	0.14	No
fin.	3	1204	37382	528			1531	175	SLU 65	0.33	No
ini.	3	1340	-11096	640			1531	0	SLU 73	0	No
fin.	3	1340	13949	-70			1531	0	SLU 73	0	No
ini.	3	1170	30662	-363			1531	197	SLU 81	0.54	No
fin.	3	1170	-24562	-1074			1531	197	SLU 81	0.18	No
ini.	3	1139	-53916	1665			1531	216	SLU 44	0.13	No
fin.	3	1139	53496	962			1531	216	SLU 44	0.22	No
ini.	3	1138	-34200	1222			1531	217	SLU 55	0.18	No
fin.	3	1138	37758	519			1531	217	SLU 55	0.42	No
ini.	3	930	-42800	1438			1531	315	SLU 46	0.22	No
fin.	3	930	46403	734			1531	315	SLU 46	0.43	No
ini.	3	1307	11902	85			1531	67	SLU 82	0.79	No
fin.	3	1307	-7481	-626			1531	67	SLU 82	0.11	No
ini.	3	1066	-40339	1395			1531	255	SLU 68	0.18	No
fin.	3	1066	45077	684			1531	255	SLU 68	0.37	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1245	-176518	429671	SLV 6	2.43	Si
fin.	2	1308	179921	429671	SLV 6	2.39	Si
ini.	2	-447	-176335	429671	SLV 13	2.44	Si
fin.	2	-511	172399	429671	SLV 13	2.49	Si
ini.	2	495	-244298	429671	SLV 9	1.76	Si
fin.	2	512	243681	429671	SLV 9	1.76	Si
ini.	2	495	-244298	429671	SLV 10	1.76	Si
fin.	2	512	243681	429671	SLV 10	1.76	Si
ini.	2	304	175815	429671	SLV 12	2.44	Si
fin.	2	241	-172516	429671	SLV 12	2.49	Si
ini.	2	1054	243595	429671	SLV 8	1.76	Si
fin.	2	1037	-236276	429671	SLV 8	1.82	Si
ini.	2	1245	-176518	429671	SLV 5	2.43	Si
fin.	2	1308	179921	429671	SLV 5	2.39	Si
ini.	2	-447	-176335	429671	SLV 14	2.44	Si
fin.	2	-511	172399	429671	SLV 14	2.49	Si
ini.	2	304	175815	429671	SLV 11	2.44	Si
fin.	2	241	-172516	429671	SLV 11	2.49	Si
ini.	2	1054	243595	429671	SLV 7	1.76	Si
fin.	2	1037	-236276	429671	SLV 7	1.82	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1054	243595	-5752			2297	592	SLV 8	0.1	No
fin.	2	1037	-236276	-6311			2297	598	SLV 8	0.09	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	2053	49598	-932			2297	0	SLV 2	0	No
fin.	2	2141	-40134	-1409			2297	0	SLV 2	0	No
ini.	2	2053	49598	-932			2297	0	SLV 1	0	No
fin.	2	2141	-40134	-1409			2297	0	SLV 1	0	No
ini.	2	1996	175632	-4061			2297	0	SLV 4	0	No
fin.	2	2060	-164994	-4556			2297	0	SLV 4	0	No
ini.	2	495	-244298	6355			2297	749	SLV 10	0.12	No
fin.	2	512	243681	5823			2297	745	SLV 10	0.13	No
ini.	2	1245	-176518	4676			2297	528	SLV 5	0.11	No
fin.	2	1308	179921	4180			2297	506	SLV 5	0.12	No
ini.	2	1245	-176518	4676			2297	528	SLV 6	0.11	No
fin.	2	1308	179921	4180			2297	506	SLV 6	0.12	No
ini.	2	495	-244298	6355			2297	749	SLV 9	0.12	No
fin.	2	512	243681	5823			2297	745	SLV 9	0.13	No
ini.	2	1996	175632	-4061			2297	0	SLV 3	0	No
fin.	2	2060	-164994	-4556			2297	0	SLV 3	0	No
ini.	2	1054	243595	-5752			2297	592	SLV 7	0.1	No
fin.	2	1037	-236276	-6311			2297	598	SLV 7	0.09	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.759	SLV 9	Si
V_SLV	0	SLV 1	No
PF_SLU	4.681	SLU 47	Si
V_SLU	0	SLU 73	No

## Trave di accoppiamento 71

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2181.3	595.1	482	572	90	-2271.3	595.1	482	572	90	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1685	24800	115068	SLU 83	4.64	Si
fin.	3	-1036	11886	115068	SLU 83	9.68	Si
ini.	3	-1456	23901	115068	SLU 82	4.81	Si
fin.	3	-796	8687	115068	SLU 82	13.25	Si
ini.	3	-1861	24452	115068	SLU 79	4.71	Si
fin.	3	-1252	14891	115068	SLU 79	7.73	Si
ini.	3	-1658	24669	115068	SLU 84	4.66	Si
fin.	3	-994	11547	115068	SLU 84	9.97	Si
ini.	3	-1811	24565	115068	SLU 78	4.68	Si
fin.	3	-1175	13970	115068	SLU 78	8.24	Si
ini.	3	-1609	23797	115068	SLU 75	4.84	Si
fin.	3	-977	11111	115068	SLU 75	10.36	Si
ini.	3	-1482	24032	115068	SLU 81	4.79	Si
fin.	3	-838	9027	115068	SLU 81	12.75	Si
ini.	3	-1834	24321	115068	SLU 80	4.73	Si
fin.	3	-1211	14551	115068	SLU 80	7.91	Si
ini.	3	-1636	23928	115068	SLU 74	4.81	Si
fin.	3	-1019	11450	115068	SLU 74	10.05	Si
ini.	3	-1838	24696	115068	SLU 77	4.66	Si
fin.	3	-1217	14309	115068	SLU 77	8.04	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1685	24800	-1819			1645	633	SLU 83	0.35	No
fin.	3	-1036	11886	1347			1385	546	SLU 83	0.41	No
ini.	3	-1320	21281	-1657			1498	586	SLU 60	0.35	No
fin.	3	-773	7970	1224			1280	506	SLU 60	0.41	No
ini.	3	-1293	21150	-1640			1488	582	SLU 61	0.35	No
fin.	3	-731	7631	1173			1263	499	SLU 61	0.43	No
ini.	3	-1609	23797	-1775			1614	624	SLU 75	0.35	No
fin.	3	-977	11111	1308			1361	537	SLU 75	0.41	No
ini.	3	-1411	22698	-1718			1535	598	SLU 73	0.35	No
fin.	3	-787	8607	1189			1285	508	SLU 73	0.43	No
ini.	3	-1482	24032	-1810			1563	607	SLU 81	0.34	No
fin.	3	-838	9027	1270			1306	516	SLU 81	0.41	No
ini.	3	-1614	23466	-1727			1616	624	SLU 76	0.36	No
fin.	3	-985	11466	1266			1364	538	SLU 76	0.43	No
ini.	3	-1658	24669	-1802			1634	630	SLU 84	0.35	No
fin.	3	-994	11547	1296			1368	540	SLU 84	0.42	No
ini.	3	-1456	23901	-1793			1553	604	SLU 82	0.34	No
fin.	3	-796	8687	1219			1289	510	SLU 82	0.42	No
ini.	3	-1636	23928	-1792			1625	627	SLU 74	0.35	No
fin.	3	-1019	11450	1359			1378	543	SLU 74	0.4	No



## Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-3020	103398	172601	SLV 2	1.67	Si
fin.	2	2960	-71739	172601	SLV 2	2.41	Si
ini.	2	-4599	121947	172601	SLV 4	1.42	Si
fin.	2	1569	-58695	172601	SLV 4	2.94	Si
ini.	2	-4512	75752	172601	SLV 7	2.28	Si
fin.	2	-2104	7067	172601	SLV 7	24.42	Si
ini.	2	913	-71866	172601	SLV 15	2.4	Si
fin.	2	-4291	85716	172601	SLV 15	2.01	Si
ini.	2	2492	-90415	172601	SLV 14	1.91	Si
fin.	2	-2900	72672	172601	SLV 14	2.38	Si
ini.	2	2492	-90415	172601	SLV 13	1.91	Si
fin.	2	-2900	72672	172601	SLV 13	2.38	Si
ini.	2	-4512	75752	172601	SLV 8	2.28	Si
fin.	2	-2104	7067	172601	SLV 8	24.42	Si
ini.	2	913	-71866	172601	SLV 16	2.4	Si
fin.	2	-4291	85716	172601	SLV 16	2.01	Si
ini.	2	-3020	103398	172601	SLV 1	1.67	Si
fin.	2	2960	-71739	172601	SLV 1	2.41	Si
ini.	2	-4599	121947	172601	SLV 3	1.42	Si
fin.	2	1569	-58695	172601	SLV 3	2.94	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-3020	103398	-5757			2664	1010	SLV 2	0.18	No
fin.	2	2960	-71739	-3788			1456	0	SLV 2	0	No
ini.	2	2492	-90415	4010			1456	0	SLV 13	0	No
fin.	2	-2900	72672	4960			2616	995	SLV 13	0.2	No
ini.	2	-4599	121947	-6484			3295	1181	SLV 3	0.18	No
fin.	2	1569	-58695	-3013			1456	0	SLV 3	0	No
ini.	2	2405	-44220	1440			1456	0	SLV 10	0	No
fin.	2	773	6910	994			1456	341	SLV 10	0.34	No
ini.	2	2405	-44220	1440			1456	0	SLV 9	0	No
fin.	2	773	6910	994			1456	341	SLV 9	0.34	No
ini.	2	751	13924	-1491			1456	348	SLV 6	0.23	No
fin.	2	2531	-36414	-1631			1456	0	SLV 6	0	No
ini.	2	751	13924	-1491			1456	348	SLV 5	0.23	No
fin.	2	2531	-36414	-1631			1456	0	SLV 5	0	No
ini.	2	-3020	103398	-5757			2664	1010	SLV 1	0.18	No
fin.	2	2960	-71739	-3788			1456	0	SLV 1	0	No
ini.	2	2492	-90415	4010			1456	0	SLV 14	0	No
fin.	2	-2900	72672	4960			2616	995	SLV 14	0.2	No
ini.	2	-4599	121947	-6484			3295	1181	SLV 4	0.18	No
fin.	2	1569	-58695	-3013			1456	0	SLV 4	0	No

## Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.415	SLV 3	Si
V_SLV	0	SLV 1	No
PF_SLU	4.64	SLU 83	Si
V_SLU	0.335	SLU 81	No

## Trave di accoppiamento 72

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2181.3	595.1	752	834	82	-2271.3	595.1	752	834	82	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-594	-20891	95520	SLU 72	4.57	Si
fin.	3	-438	-9992	95520	SLU 72	9.56	Si
ini.	3	-620	-20773	95520	SLU 79	4.6	Si
fin.	3	-570	-12180	95520	SLU 79	7.84	Si
ini.	3	-561	-19580	95520	SLU 29	4.88	Si
fin.	3	-354	-8009	95520	SLU 29	11.93	Si
ini.	3	-585	-19854	95520	SLU 77	4.81	Si
fin.	3	-584	-12693	95520	SLU 77	7.53	Si
ini.	3	-575	-19431	95520	SLU 78	4.92	Si
fin.	3	-585	-12614	95520	SLU 78	7.57	Si
ini.	3	-535	-19462	95520	SLU 50	4.91	Si
fin.	3	-349	-8606	95520	SLU 50	11.1	Si
ini.	3	-604	-21313	95520	SLU 71	4.48	Si
fin.	3	-437	-10072	95520	SLU 71	9.48	Si
ini.	3	-570	-20394	95520	SLU 69	4.68	Si
fin.	3	-451	-10584	95520	SLU 69	9.02	Si
ini.	3	-559	-19971	95520	SLU 70	4.78	Si
fin.	3	-452	-10505	95520	SLU 70	9.09	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-610	-20351	95520	SLU 80	4.69	Si
fin.	3	-571	-12101	95520	SLU 80	7.89	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-492	-15624	1929			985	389	SLU 83	0.2	No
fin.	3	-681	-14087	-2707			1054	417	SLU 83	0.15	No
ini.	3	-357	-10706	1817			936	367	SLU 81	0.2	No
fin.	3	-735	-15090	-2890			1074	425	SLU 81	0.15	No
ini.	3	-440	-14513	1831			966	380	SLU 75	0.21	No
fin.	3	-639	-13617	-2598			1039	411	SLU 75	0.16	No
ini.	3	-481	-15201	1905			981	387	SLU 84	0.2	No
fin.	3	-682	-14008	-2690			1054	417	SLU 84	0.15	No
ini.	3	-347	-10284	1792			932	365	SLU 82	0.2	No
fin.	3	-736	-15010	-2873			1074	425	SLU 82	0.15	No
ini.	3	-333	-10233	1702			927	363	SLU 73	0.21	No
fin.	3	-680	-14054	-2685			1053	417	SLU 73	0.16	No
ini.	3	-277	-8432	1587			907	354	SLU 61	0.22	No
fin.	3	-648	-13545	-2591			1042	412	SLU 61	0.16	No
ini.	3	-450	-14936	1855			970	382	SLU 74	0.21	No
fin.	3	-638	-13696	-2614			1038	411	SLU 74	0.16	No
ini.	3	-287	-8855	1612			910	356	SLU 60	0.22	No
fin.	3	-647	-13625	-2608			1042	412	SLU 60	0.16	No
ini.	3	-468	-15151	1814			976	385	SLU 76	0.21	No
fin.	3	-626	-13051	-2502			1034	409	SLU 76	0.16	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1419	19533	143281	SLV 7	7.34	Si
fin.	2	-2004	-50871	143281	SLV 7	2.82	Si
ini.	2	1419	19533	143281	SLV 8	7.34	Si
fin.	2	-2004	-50871	143281	SLV 8	2.82	Si
ini.	2	2756	69833	143281	SLV 3	2.05	Si
fin.	2	-2895	-79656	143281	SLV 3	1.8	Si
ini.	2	-2744	-83487	143281	SLV 15	1.72	Si
fin.	2	1473	47147	143281	SLV 15	3.04	Si
ini.	2	2756	69833	143281	SLV 4	2.05	Si
fin.	2	-2895	-79656	143281	SLV 4	1.8	Si
ini.	2	-3249	-86369	143281	SLV 13	1.66	Si
fin.	2	2019	60515	143281	SLV 13	2.37	Si
ini.	2	-3249	-86369	143281	SLV 14	1.66	Si
fin.	2	2019	60515	143281	SLV 14	2.37	Si
ini.	2	2251	66952	143281	SLV 2	2.14	Si
fin.	2	-2348	-66288	143281	SLV 2	2.16	Si
ini.	2	-2744	-83487	143281	SLV 16	1.72	Si
fin.	2	1473	47147	143281	SLV 16	3.04	Si
ini.	2	2251	66952	143281	SLV 1	2.14	Si
fin.	2	-2348	-66288	143281	SLV 1	2.16	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	2251	66952	-2967			1208	0	SLV 1	0	No
fin.	2	-2348	-66288	-5402			2064	794	SLV 1	0.15	No
ini.	2	-2744	-83487	5392			2209	837	SLV 15	0.16	No
fin.	2	1473	47147	1752			1208	0	SLV 15	0	No
ini.	2	1419	19533	998			1208	0	SLV 8	0	No
fin.	2	-2004	-50871	-4136			1939	754	SLV 8	0.18	No
ini.	2	-3249	-86369	4819			2392	890	SLV 13	0.18	No
fin.	2	2019	60515	2434			1208	0	SLV 13	0	No
ini.	2	-3249	-86369	4819			2392	890	SLV 14	0.18	No
fin.	2	2019	60515	2434			1208	0	SLV 14	0	No
ini.	2	2756	69833	-2395			1208	0	SLV 3	0	No
fin.	2	-2895	-79656	-6083			2263	853	SLV 3	0.14	No
ini.	2	2756	69833	-2395			1208	0	SLV 4	0	No
fin.	2	-2895	-79656	-6083			2263	853	SLV 4	0.14	No
ini.	2	-2744	-83487	5392			2209	837	SLV 16	0.16	No
fin.	2	1473	47147	1752			1208	0	SLV 16	0	No
ini.	2	2251	66952	-2967			1208	0	SLV 2	0	No
fin.	2	-2348	-66288	-5402			2064	794	SLV 2	0.15	No
ini.	2	1419	19533	998			1208	0	SLV 7	0	No
fin.	2	-2004	-50871	-4136			1939	754	SLV 7	0.18	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.659	SLV 13	Si
V_SLV	0	SLV 1	No
PF_SLU	4.482	SLU 71	Si
V_SLU	0.147	SLU 81	No

## Trave di accoppiamento 73

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2159.3	-335.9	482	572	90	-2249.3	-335.9	482	572	90	90	28	30000



## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2435	81164	115068	SLU 75	1.42	Si
fin.	3	-78	-24038	115068	SLU 75	4.79	Si
ini.	3	-2501	82931	115068	SLU 78	1.39	Si
fin.	3	-89	-24498	115068	SLU 78	4.7	Si
ini.	3	-2492	83589	115068	SLU 84	1.38	Si
fin.	3	-54	-24979	115068	SLU 84	4.61	Si
ini.	3	-2496	82175	115068	SLU 80	1.4	Si
fin.	3	-105	-24115	115068	SLU 80	4.77	Si
ini.	3	-2450	76821	115068	SLU 55	1.5	Si
fin.	3	-235	-22207	115068	SLU 55	5.18	Si
ini.	3	-2542	83373	115068	SLU 73	1.38	Si
fin.	3	-125	-25396	115068	SLU 73	4.53	Si
ini.	3	-2225	76491	115068	SLU 83	1.5	Si
fin.	3	11	-21676	115068	SLU 83	5.31	Si
ini.	3	-2608	85140	115068	SLU 76	1.35	Si
fin.	3	-136	-25857	115068	SLU 76	4.45	Si
ini.	3	-2426	81822	115068	SLU 82	1.41	Si
fin.	3	-42	-24518	115068	SLU 82	4.69	Si
ini.	3	-2464	77718	115068	SLU 68	1.48	Si
fin.	3	-228	-22767	115068	SLU 68	5.05	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt <sub>lim</sub>	Comb.	c.s.	Verifica
ini.	3	-2159	74724	-2734			1834	690	SLU 81	0.25	No
fin.	3	22	-21215	-891			970	360	SLU 81	0.4	No
ini.	3	-2426	81822	-2867			1941	720	SLU 82	0.25	No
fin.	3	-42	-24518	-1239			987	374	SLU 82	0.3	No
ini.	3	-2492	83589	-2942			1967	727	SLU 84	0.25	No
fin.	3	-54	-24979	-1247			992	377	SLU 84	0.3	No
ini.	3	-2234	75833	-2804			1864	699	SLU 77	0.25	No
fin.	3	-25	-21195	-837			980	371	SLU 77	0.44	No
ini.	3	-2225	76491	-2808			1860	698	SLU 83	0.25	No
fin.	3	11	-21676	-899			970	363	SLU 83	0.4	No
ini.	3	-2229	75077	-2769			1862	698	SLU 79	0.25	No
fin.	3	-40	-20812	-832			987	374	SLU 79	0.45	No
ini.	3	-2501	82931	-2937			1971	728	SLU 78	0.25	No
fin.	3	-89	-24498	-1185			1006	384	SLU 78	0.32	No
ini.	3	-2168	74066	-2730			1838	691	SLU 74	0.25	No
fin.	3	-13	-20735	-828			976	368	SLU 74	0.44	No
ini.	3	-2435	81164	-2863			1945	721	SLU 75	0.25	No
fin.	3	-78	-24038	-1176			1002	382	SLU 75	0.32	No
ini.	3	-2496	82175	-2903			1969	728	SLU 80	0.25	No
fin.	3	-105	-24115	-1180			1012	387	SLU 80	0.33	No

## Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2898	133294	172601	SLV 6	1.29	Si
fin.	2	-402	-53315	172601	SLV 6	3.24	Si
ini.	2	-4135	210762	172601	SLV 3	0.82	No
fin.	2	3440	-121572	172601	SLV 3	1.42	Si
ini.	2	-2898	133294	172601	SLV 5	1.29	Si
fin.	2	-402	-53315	172601	SLV 5	3.24	Si
ini.	2	-2770	126550	172601	SLD 1	1.36	Si
fin.	2	1106	-61180	172601	SLD 1	2.82	Si
ini.	2	-4466	230212	172601	SLV 1	0.75	No
fin.	2	2681	-125833	172601	SLV 1	1.37	Si
ini.	2	-4135	210762	172601	SLV 4	0.82	No
fin.	2	3440	-121572	172601	SLV 4	1.42	Si
ini.	2	-2770	126550	172601	SLD 2	1.36	Si
fin.	2	1106	-61180	172601	SLD 2	2.82	Si
ini.	2	1448	-130980	172601	SLV 16	1.32	Si
fin.	2	-2840	99823	172601	SLV 16	1.73	Si
ini.	2	-4466	230212	172601	SLV 2	0.75	No
fin.	2	2681	-125833	172601	SLV 2	1.37	Si
ini.	2	1448	-130980	172601	SLV 15	1.32	Si
fin.	2	-2840	99823	172601	SLV 15	1.73	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt <sub>lim</sub>	Comb.	c.s.	Verifica
ini.	2	-2634	118515	-4424			2509	963	SLD 3	0.22	No
fin.	2	1407	-59145	-3064			1456	0	SLD 3	0	No
ini.	2	-1794	68461	-3294			2173	853	SLV 7	0.26	No
fin.	2	2127	-39113	-3630			1456	0	SLV 7	0	No
ini.	2	-2634	118515	-4424			2509	963	SLD 4	0.22	No
fin.	2	1407	-59145	-3064			1456	0	SLD 4	0	No
ini.	2	-4466	230212	-8167			3242	1168	SLV 1	0.14	No
fin.	2	2681	-125833	-5676			1456	0	SLV 1	0	No
ini.	2	1448	-130980	4525			1456	0	SLV 15	0	No
fin.	2	-2840	99823	4675			2592	988	SLV 15	0.21	No
ini.	2	-1794	68461	-3294			2173	853	SLV 8	0.26	No
fin.	2	2127	-39113	-3630			1456	0	SLV 8	0	No
ini.	2	1448	-130980	4525			1456	0	SLV 16	0	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	-2840	99823	4675			2592	988	SLV 16	0.21	No
ini.	2	-4135	210762	-7930			3110	1134	SLV 3	0.14	No
fin.	2	3440	-121572	-6544			1456	0	SLV 3	0	No
ini.	2	-4135	210762	-7930			3110	1134	SLV 4	0.14	No
fin.	2	3440	-121572	-6544			1456	0	SLV 4	0	No
ini.	2	-4466	230212	-8167			3242	1168	SLV 2	0.14	No
fin.	2	2681	-125833	-5676			1456	0	SLV 2	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.75	SLV 1	No
V_SLV	0	SLD 3	No
PF_SLU	1.352	SLU 76	Si
V_SLU	0.247	SLU 84	No

## Trave di accoppiamento 74

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2159.3	-335.9	752	834	82	-2249.3	-335.9	752	834	82	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-388	39453	95520	SLU 84	2.42	Si
fin.	3	-2372	-61350	95520	SLU 84	1.56	Si
ini.	3	-360	38379	95520	SLU 75	2.49	Si
fin.	3	-2283	-59521	95520	SLU 75	1.6	Si
ini.	3	-394	38465	95520	SLU 80	2.48	Si
fin.	3	-2328	-60063	95520	SLU 80	1.59	Si
ini.	3	-302	35271	95520	SLU 77	2.71	Si
fin.	3	-2096	-56256	95520	SLU 77	1.7	Si
ini.	3	-409	36133	95520	SLU 68	2.64	Si
fin.	3	-2210	-55974	95520	SLU 68	1.71	Si
ini.	3	-373	38666	95520	SLU 82	2.47	Si
fin.	3	-2320	-60126	95520	SLU 82	1.59	Si
ini.	3	-316	35558	95520	SLU 83	2.69	Si
fin.	3	-2132	-56861	95520	SLU 83	1.68	Si
ini.	3	-428	40275	95520	SLU 76	2.37	Si
fin.	3	-2435	-61832	95520	SLU 76	1.54	Si
ini.	3	-374	39166	95520	SLU 78	2.44	Si
fin.	3	-2336	-60745	95520	SLU 78	1.57	Si
ini.	3	-413	39488	95520	SLU 73	2.42	Si
fin.	3	-2383	-60608	95520	SLU 73	1.58	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-316	35558	-380			921	360	SLU 83	0.95	No
fin.	3	-2132	-56861	-4124			1583	590	SLU 83	0.14	No
ini.	3	-302	35271	-387			916	358	SLU 77	0.92	No
fin.	3	-2096	-56256	-4063			1569	586	SLU 77	0.14	No
ini.	3	-360	38379	-550			937	368	SLU 75	0.67	No
fin.	3	-2283	-59521	-4143			1638	605	SLU 75	0.15	No
ini.	3	-301	34771	-363			915	358	SLU 81	0.99	No
fin.	3	-2080	-55638	-4043			1564	585	SLU 81	0.14	No
ini.	3	-388	39453	-560			947	372	SLU 84	0.66	No
fin.	3	-2372	-61350	-4286			1670	614	SLU 84	0.14	No
ini.	3	-287	34484	-370			910	356	SLU 74	0.96	No
fin.	3	-2044	-55033	-3981			1550	581	SLU 74	0.15	No
ini.	3	-373	38666	-543			942	370	SLU 82	0.68	No
fin.	3	-2320	-60126	-4205			1651	609	SLU 82	0.14	No
ini.	3	-322	34570	-375			923	361	SLU 79	0.96	No
fin.	3	-2088	-55574	-4009			1567	585	SLU 79	0.15	No
ini.	3	-374	39166	-567			942	370	SLU 78	0.65	No
fin.	3	-2336	-60745	-4224			1657	610	SLU 78	0.14	No
ini.	3	-394	38465	-555			949	373	SLU 80	0.67	No
fin.	3	-2328	-60063	-4171			1654	609	SLU 80	0.15	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	908	148751	143281	SLV 4	0.96	No
fin.	2	-4132	-124906	143281	SLV 4	1.15	Si
ini.	2	-1680	-121704	143281	SLV 15	1.18	Si
fin.	2	2036	66373	143281	SLV 15	2.16	Si
ini.	2	732	91688	143281	SLV 5	1.56	Si
fin.	2	-3346	-89785	143281	SLV 5	1.6	Si
ini.	2	1245	166103	143281	SLV 1	0.86	No
fin.	2	-4765	-139596	143281	SLV 1	1.03	Si
ini.	2	-1343	-104352	143281	SLV 13	1.37	Si
fin.	2	1402	51683	143281	SLV 13	2.77	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	732	91688	143281	SLV 6	1.56	Si
fin.	2	-3346	-89785	143281	SLV 6	1.6	Si
ini.	2	-1680	-121704	143281	SLV 16	1.18	Si
fin.	2	2036	66373	143281	SLV 16	2.16	Si
ini.	2	-1343	-104352	143281	SLV 14	1.37	Si
fin.	2	1402	51683	143281	SLV 14	2.77	Si
ini.	2	1245	166103	143281	SLV 2	0.86	No
fin.	2	-4765	-139596	143281	SLV 2	1.03	Si
ini.	2	908	148751	143281	SLV 3	0.96	No
fin.	2	-4132	-124906	143281	SLV 3	1.15	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	732	91688	-1276			1208	274	SLV 5	0.21	No
fin.	2	-3346	-89785	-5174			2428	900	SLV 5	0.17	No
ini.	2	1245	166103	-4586			1208	0	SLV 2	0	No
fin.	2	-4765	-139596	-7744			2945	1032	SLV 2	0.13	No
ini.	2	908	148751	-4751			1208	208	SLV 3	0.04	No
fin.	2	-4132	-124906	-7079			2714	975	SLV 3	0.14	No
ini.	2	-1343	-104352	4320			1698	670	SLV 14	0.16	No
fin.	2	1402	51683	1815			1208	0	SLV 14	0	No
ini.	2	908	148751	-4751			1208	208	SLV 4	0.04	No
fin.	2	-4132	-124906	-7079			2714	975	SLV 4	0.14	No
ini.	2	-1680	-121704	4154			1821	714	SLV 15	0.17	No
fin.	2	2036	66373	2479			1208	0	SLV 15	0	No
ini.	2	-1343	-104352	4320			1698	670	SLV 13	0.16	No
fin.	2	1402	51683	1815			1208	0	SLV 13	0	No
ini.	2	-1680	-121704	4154			1821	714	SLV 16	0.17	No
fin.	2	2036	66373	2479			1208	0	SLV 16	0	No
ini.	2	732	91688	-1276			1208	274	SLV 6	0.21	No
fin.	2	-3346	-89785	-5174			2428	900	SLV 6	0.17	No
ini.	2	1245	166103	-4586			1208	0	SLV 1	0	No
fin.	2	-4765	-139596	-7744			2945	1032	SLV 1	0.13	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.863	SLV 1	No
V_SLV	0	SLV 1	No
PF_SLU	1.545	SLU 76	Si
V_SLU	0.143	SLU 83	No

## Trave di accoppiamento 75

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1886.8	-335.9	482	682	200	-1936.8	-335.9	482	682	200	50	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1454	14481	568235	SLU 82	39.24	Si
fin.	3	-1853	92354	568235	SLU 82	6.15	Si
ini.	3	-1425	15527	568235	SLU 76	36.6	Si
fin.	3	-1860	88292	568235	SLU 76	6.44	Si
ini.	3	-1407	19601	568235	SLU 84	28.99	Si
fin.	3	-1821	92050	568235	SLU 84	6.17	Si
ini.	3	-1400	17613	568235	SLU 75	32.26	Si
fin.	3	-1794	87764	568235	SLU 75	6.47	Si
ini.	3	-1390	18533	568235	SLU 81	30.66	Si
fin.	3	-1731	90319	568235	SLU 81	6.29	Si
ini.	3	-1336	21666	568235	SLU 74	26.23	Si
fin.	3	-1672	85729	568235	SLU 74	6.63	Si
ini.	3	-1343	23654	568235	SLU 83	24.02	Si
fin.	3	-1698	90015	568235	SLU 83	6.31	Si
ini.	3	-1335	23349	568235	SLU 80	24.34	Si
fin.	3	-1746	86632	568235	SLU 80	6.56	Si
ini.	3	-1353	22734	568235	SLU 78	25	Si
fin.	3	-1762	87460	568235	SLU 78	6.5	Si
ini.	3	-1472	10407	568235	SLU 73	54.6	Si
fin.	3	-1892	88597	568235	SLU 73	6.41	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1400	17613	1798			2717	1074	SLU 75	0.6	No
fin.	3	-1794	87764	3809			2874	1137	SLU 75	0.3	No
ini.	3	-1353	22734	1711			2698	1066	SLU 78	0.62	No
fin.	3	-1762	87460	3752			2861	1132	SLU 78	0.3	No
ini.	3	-1472	10407	2045			2746	1085	SLU 73	0.53	No
fin.	3	-1892	88597	3931			2913	1152	SLU 73	0.29	No
ini.	3	-1425	9570	1860			2727	1078	SLU 61	0.58	No





Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	-1794	83082	3712			2874	1137	SLU 61	0.31	No
ini.	3	-1454	14481	1955			2738	1083	SLU 82	0.55	No
fin.	3	-1853	92354	3990			2898	1146	SLU 82	0.29	No
ini.	3	-1390	18533	1692			2713	1072	SLU 81	0.63	No
fin.	3	-1731	90319	3819			2849	1127	SLU 81	0.3	No
ini.	3	-1407	19601	1869			2719	1075	SLU 84	0.58	No
fin.	3	-1821	92050	3933			2885	1141	SLU 84	0.29	No
ini.	3	-1343	23654	1606			2694	1064	SLU 83	0.66	No
fin.	3	-1698	90015	3762			2836	1122	SLU 83	0.3	No
ini.	3	-1425	15527	1959			2727	1078	SLU 76	0.55	No
fin.	3	-1860	88292	3874			2900	1147	SLU 76	0.3	No
ini.	3	-1335	23349	1697			2690	1063	SLU 80	0.63	No
fin.	3	-1746	86632	3702			2855	1129	SLU 80	0.3	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	20	-4665	852353	SLV 12	182.71	Si
fin.	2	-780	138978	852353	SLV 12	6.13	Si
ini.	2	-2084	-182416	852353	SLV 16	4.67	Si
fin.	2	-3159	207975	852353	SLV 16	4.1	Si
ini.	2	947	231691	852353	SLV 3	3.68	Si
fin.	2	1365	-68655	852353	SLV 3	12.42	Si
ini.	2	947	231691	852353	SLV 4	3.68	Si
fin.	2	1365	-68655	852353	SLV 4	12.42	Si
ini.	2	53	203566	852353	SLV 1	4.19	Si
fin.	2	684	-92504	852353	SLV 1	9.21	Si
ini.	2	-2084	-182416	852353	SLV 15	4.67	Si
fin.	2	-3159	207975	852353	SLV 15	4.1	Si
ini.	2	-2978	-210541	852353	SLV 13	4.05	Si
fin.	2	-3840	184126	852353	SLV 13	4.63	Si
ini.	2	20	-4665	852353	SLV 11	182.71	Si
fin.	2	-780	138978	852353	SLV 11	6.13	Si
ini.	2	-2978	-210541	852353	SLV 14	4.05	Si
fin.	2	-3840	184126	852353	SLV 14	4.63	Si
ini.	2	53	203566	852353	SLV 2	4.19	Si
fin.	2	684	-92504	852353	SLV 2	9.21	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	947	231691	-7404			3235	990	SLV 3	0.13	No
fin.	2	1365	-68655	-5490			3235	871	SLV 3	0.16	No
ini.	2	53	203566	-7913			3235	1206	SLV 1	0.15	No
fin.	2	684	-92504	-5543			3235	1058	SLV 1	0.19	No
ini.	2	-2978	-210541	9642			4426	1749	SLV 13	0.18	No
fin.	2	-3840	184126	10585			4771	1875	SLV 13	0.18	No
ini.	2	-2084	-182416	10151			4069	1608	SLV 16	0.16	No
fin.	2	-3159	207975	10638			4498	1776	SLV 16	0.17	No
ini.	2	53	203566	-7913			3235	1206	SLV 2	0.15	No
fin.	2	684	-92504	-5543			3235	1058	SLV 2	0.19	No
ini.	2	-2978	-210541	9642			4426	1749	SLV 14	0.18	No
fin.	2	-3840	184126	10585			4771	1875	SLV 14	0.18	No
ini.	2	20	-4665	4600			3235	1213	SLV 11	0.26	No
fin.	2	-780	138978	5056			3547	1377	SLV 11	0.27	No
ini.	2	947	231691	-7404			3235	990	SLV 4	0.13	No
fin.	2	1365	-68655	-5490			3235	871	SLV 4	0.16	No
ini.	2	20	-4665	4600			3235	1213	SLV 12	0.26	No
fin.	2	-780	138978	5056			3547	1377	SLV 12	0.27	No
ini.	2	-2084	-182416	10151			4069	1608	SLV 15	0.16	No
fin.	2	-3159	207975	10638			4498	1776	SLV 15	0.17	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.679	SLV 3	Si
V_SLV	0.134	SLV 3	No
PF_SLU	6.153	SLU 82	Si
V_SLU	0.287	SLU 82	No

#### Trave di accoppiamento 76

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1886.8	-335.9	762	834	72	-1936.8	-335.9	762	834	72	50	28	30000

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	201	-9674	73643	SLU 37	7.61	Si
fin.	3	224	316	73643	SLU 37	233.03	Si
ini.	3	358	-9093	73643	SLU 80	8.1	Si
fin.	3	365	3075	73643	SLU 80	23.95	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	351	-10209	73643	SLU 77	7.21	Si
fin.	3	362	1640	73643	SLU 77	44.9	Si
ini.	3	247	-9424	73643	SLU 35	7.81	Si
fin.	3	265	708	73643	SLU 35	103.94	Si
ini.	3	306	-10460	73643	SLU 79	7.04	Si
fin.	3	320	1248	73643	SLU 79	59.03	Si
ini.	3	303	-9143	73643	SLU 41	8.05	Si
fin.	3	326	2381	73643	SLU 41	30.93	Si
ini.	3	334	-9064	73643	SLU 56	8.12	Si
fin.	3	341	1596	73643	SLU 56	46.16	Si
ini.	3	289	-9314	73643	SLU 58	7.91	Si
fin.	3	299	1203	73643	SLU 58	61.21	Si
ini.	3	449	-8861	73643	SLU 74	8.31	Si
fin.	3	451	3418	73643	SLU 74	21.55	Si
ini.	3	408	-9928	73643	SLU 83	7.42	Si
fin.	3	423	3313	73643	SLU 83	22.23	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	540	-6069	897			776	129	SLU 61	0.14	No
fin.	3	535	6873	-1165			776	132	SLU 61	0.11	No
ini.	3	576	-3579	775			776	111	SLU 65	0.14	No
fin.	3	539	7178	-1087			776	130	SLU 65	0.12	No
ini.	3	570	-4340	822			776	114	SLU 52	0.14	No
fin.	3	550	7804	-1067			776	124	SLU 52	0.12	No
ini.	3	460	-8562	992			776	164	SLU 84	0.17	No
fin.	3	467	5140	-1318			776	161	SLU 84	0.12	No
ini.	3	587	-5486	913			776	104	SLU 73	0.11	No
fin.	3	572	7849	-1200			776	113	SLU 73	0.09	No
ini.	3	505	-8580	1012			776	146	SLU 81	0.14	No
fin.	3	512	5090	-1373			776	143	SLU 81	0.1	No
ini.	3	501	-7495	944			776	148	SLU 75	0.16	No
fin.	3	495	5245	-1299			776	150	SLU 75	0.12	No
ini.	3	488	-7435	922			776	153	SLU 60	0.17	No
fin.	3	490	5046	-1240			776	152	SLU 60	0.12	No
ini.	3	557	-7214	988			776	121	SLU 82	0.12	No
fin.	3	556	6918	-1298			776	121	SLU 82	0.09	No
ini.	3	449	-8861	969			776	168	SLU 74	0.17	No
fin.	3	451	3418	-1374			776	168	SLU 74	0.12	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	3888	-11245	110465	SLV 13	9.82	Si
fin.	2	4581	81220	110465	SLV 13	1.36	Si
ini.	2	3131	-31124	110465	SLV 16	3.55	Si
fin.	2	3856	68365	110465	SLV 16	1.62	Si
ini.	2	-2380	21527	110465	SLV 1	5.13	Si
fin.	2	-3131	-61644	110465	SLV 1	1.79	Si
ini.	2	2577	23417	110465	SLV 9	4.72	Si
fin.	2	2727	46216	110465	SLV 9	2.39	Si
ini.	2	3888	-11245	110465	SLV 14	9.82	Si
fin.	2	4581	81220	110465	SLV 14	1.36	Si
ini.	2	2577	23417	110465	SLV 10	4.72	Si
fin.	2	2727	46216	110465	SLV 10	2.39	Si
ini.	2	-3136	1649	110465	SLV 3	67.01	Si
fin.	2	-3856	-74499	110465	SLV 3	1.48	Si
ini.	2	-2380	21527	110465	SLV 2	5.13	Si
fin.	2	-3131	-61644	110465	SLV 2	1.79	Si
ini.	2	3131	-31124	110465	SLV 15	3.55	Si
fin.	2	3856	68365	110465	SLV 15	1.62	Si
ini.	2	-3136	1649	110465	SLV 4	67.01	Si
fin.	2	-3856	-74499	110465	SLV 4	1.48	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	3888	-11245	2474			1165	0	SLV 13	0	No
fin.	2	4581	81220	1427			1165	0	SLV 13	0	No
ini.	2	1867	-7715	1431			1165	0	SLD 13	0	No
fin.	2	2153	36379	77			1165	0	SLD 13	0	No
ini.	2	1559	-15892	1719			1165	0	SLD 16	0	No
fin.	2	1864	31344	388			1165	0	SLD 16	0	No
ini.	2	1867	-7715	1431			1165	0	SLD 14	0	No
fin.	2	2153	36379	77			1165	0	SLD 14	0	No
ini.	2	3131	-31124	3176			1165	0	SLV 15	0	No
fin.	2	3856	68365	2179			1165	0	SLV 15	0	No
ini.	2	1559	-15892	1719			1165	0	SLD 15	0	No
fin.	2	1864	31344	388			1165	0	SLD 15	0	No
ini.	2	3131	-31124	3176			1165	0	SLV 16	0	No
fin.	2	3856	68365	2179			1165	0	SLV 16	0	No
ini.	2	2577	23417	130			1165	0	SLV 10	0	No
fin.	2	2727	46216	-1366			1165	0	SLV 10	0	No
ini.	2	3888	-11245	2474			1165	0	SLV 14	0	No
fin.	2	4581	81220	1427			1165	0	SLV 14	0	No
ini.	2	2577	23417	130			1165	0	SLV 9	0	No
fin.	2	2727	46216	-1366			1165	0	SLV 9	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.36	SLV 13	Si



Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	0	SLD 9	No
PF_SLU	7.041	SLU 79	Si
V_SLU	0.094	SLU 82	No

## Trave di accoppiamento 77

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1736.3	-335.9	482	572	90	-1826.3	-335.9	482	572	90	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	638	-24123	115068	SLU 44	4.77	Si
fin.	3	-902	48946	115068	SLU 44	2.35	Si
ini.	3	692	-18062	115068	SLU 84	6.37	Si
fin.	3	-772	50665	115068	SLU 84	2.27	Si
ini.	3	720	-21106	115068	SLU 76	5.45	Si
fin.	3	-803	51811	115068	SLU 76	2.22	Si
ini.	3	777	-23283	115068	SLU 82	4.94	Si
fin.	3	-871	54874	115068	SLU 82	2.1	Si
ini.	3	723	-25217	115068	SLU 52	4.56	Si
fin.	3	-918	53004	115068	SLU 52	2.17	Si
ini.	3	720	-25232	115068	SLU 65	4.56	Si
fin.	3	-886	51963	115068	SLU 65	2.21	Si
ini.	3	691	-19131	115068	SLU 75	6.01	Si
fin.	3	-789	50419	115068	SLU 75	2.28	Si
ini.	3	695	-22173	115068	SLU 61	5.19	Si
fin.	3	-887	51858	115068	SLU 61	2.22	Si
ini.	3	681	-18014	115068	SLU 81	6.39	Si
fin.	3	-815	50546	115068	SLU 81	2.28	Si
ini.	3	805	-26327	115068	SLU 73	4.37	Si
fin.	3	-902	56021	115068	SLU 73	2.05	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	720	-21106	-312			970	138	SLU 76	0.44	No
fin.	3	-803	51811	3486			1292	511	SLU 76	0.15	No
ini.	3	777	-23283	-213			970	100	SLU 82	0.47	No
fin.	3	-871	54874	3645			1319	521	SLU 82	0.14	No
ini.	3	691	-19131	-405			970	154	SLU 75	0.38	No
fin.	3	-789	50419	3468			1286	509	SLU 75	0.15	No
ini.	3	695	-22173	-192			970	152	SLU 61	0.79	No
fin.	3	-887	51858	3463			1325	524	SLU 61	0.15	No
ini.	3	692	-18062	-459			970	153	SLU 84	0.33	No
fin.	3	-772	50665	3484			1279	506	SLU 84	0.15	No
ini.	3	595	-12793	-667			970	197	SLU 83	0.3	No
fin.	3	-716	46336	3330			1257	497	SLU 83	0.15	No
ini.	3	681	-18014	-421			970	159	SLU 81	0.38	No
fin.	3	-815	50546	3491			1296	513	SLU 81	0.15	No
ini.	3	606	-13910	-651			970	193	SLU 78	0.3	No
fin.	3	-690	46209	3307			1246	493	SLU 78	0.15	No
ini.	3	594	-13862	-613			970	198	SLU 74	0.32	No
fin.	3	-732	46091	3314			1263	500	SLU 74	0.15	No
ini.	3	805	-26327	-66			970	75	SLU 73	1.14	Si
fin.	3	-902	56021	3646			1331	526	SLU 73	0.14	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2671	-163124	172601	SLV 15	1.06	Si
fin.	2	-2945	130266	172601	SLV 15	1.32	Si
ini.	2	2809	-104393	172601	SLV 9	1.65	Si
fin.	2	-2349	129756	172601	SLV 9	1.33	Si
ini.	2	-2735	163301	172601	SLV 4	1.06	Si
fin.	2	2279	-96887	172601	SLV 4	1.78	Si
ini.	2	3608	-188747	172601	SLV 14	0.91	No
fin.	2	-3514	166724	172601	SLV 14	1.04	Si
ini.	2	2809	-104393	172601	SLV 10	1.65	Si
fin.	2	-2349	129756	172601	SLV 10	1.33	Si
ini.	2	-1798	137677	172601	SLV 2	1.25	Si
fin.	2	1710	-60428	172601	SLV 2	2.86	Si
ini.	2	2671	-163124	172601	SLV 16	1.06	Si
fin.	2	-2945	130266	172601	SLV 16	1.32	Si
ini.	2	3608	-188747	172601	SLV 13	0.91	No
fin.	2	-3514	166724	172601	SLV 13	1.04	Si
ini.	2	-2735	163301	172601	SLV 3	1.06	Si
fin.	2	2279	-96887	172601	SLV 3	1.78	Si
ini.	2	-1798	137677	172601	SLV 1	1.25	Si
fin.	2	1710	-60428	172601	SLV 1	2.86	Si



## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-2735	163301	-7719			2550	975	SLV 4	0.13	No
fin.	2	2279	-96887	-3712			1456	0	SLV 4	0	No
ini.	2	-2735	163301	-7719			2550	975	SLV 3	0.13	No
fin.	2	2279	-96887	-3712			1456	0	SLV 3	0	No
ini.	2	2809	-104393	4147			1456	0	SLV 10	0	No
fin.	2	-2349	129756	7429			2395	927	SLV 10	0.12	No
ini.	2	2809	-104393	4147			1456	0	SLV 9	0	No
fin.	2	-2349	129756	7429			2395	927	SLV 9	0.12	No
ini.	2	-1798	137677	-6252			2175	853	SLV 2	0.14	No
fin.	2	1710	-60428	-1651			1456	0	SLV 2	0	No
ini.	2	1407	-77373	2258			1456	0	SLD 16	0	No
fin.	2	-1615	76101	4233			2102	828	SLD 16	0.2	No
ini.	2	2671	-163124	5644			1456	0	SLV 15	0	No
fin.	2	-2945	130266	6559			2634	1001	SLV 15	0.15	No
ini.	2	-1798	137677	-6252			2175	853	SLV 1	0.14	No
fin.	2	1710	-60428	-1651			1456	0	SLV 1	0	No
ini.	2	3608	-188747	7111			1456	0	SLV 13	0	No
fin.	2	-3514	166724	8619			2861	1066	SLV 13	0.12	No
ini.	2	3608	-188747	7111			1456	0	SLV 14	0	No
fin.	2	-3514	166724	8619			2861	1066	SLV 14	0.12	No

### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.914	SLV 13	No
V_SLV	0	SLD 9	No
PF_SLU	2.054	SLU 73	Si
V_SLU	0.143	SLU 82	No

## Trave di accoppiamento 78

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1736.3	-335.9	752	834	82	-1826.3	-335.9	752	834	82	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-372	-25670	95520	SLU 73	3.72	Si
fin.	3	459	9308	95520	SLU 73	10.26	Si
ini.	3	-308	-22843	95520	SLU 65	4.18	Si
fin.	3	478	10017	95520	SLU 65	9.54	Si
ini.	3	-347	-25960	95520	SLU 82	3.68	Si
fin.	3	381	5783	95520	SLU 82	16.52	Si
ini.	3	-295	-23716	95520	SLU 60	4.03	Si
fin.	3	272	2071	95520	SLU 60	46.12	Si
ini.	3	-234	-22788	95520	SLU 76	4.19	Si
fin.	3	347	4729	95520	SLU 76	20.2	Si
ini.	3	-374	-25099	95520	SLU 61	3.81	Si
fin.	3	377	6903	95520	SLU 61	13.84	Si
ini.	3	-195	-22631	95520	SLU 75	4.22	Si
fin.	3	320	2431	95520	SLU 75	39.3	Si
ini.	3	-209	-23077	95520	SLU 84	4.14	Si
fin.	3	269	1204	95520	SLU 84	79.35	Si
ini.	3	-268	-24576	95520	SLU 81	3.89	Si
fin.	3	277	951	95520	SLU 81	100.4	Si
ini.	3	-400	-24810	95520	SLU 52	3.85	Si
fin.	3	454	10428	95520	SLU 52	9.16	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-116	-21248	2324			848	325	SLU 74	0.14	No
fin.	3	216	-2401	-1586			806	257	SLU 74	0.16	No
ini.	3	-44	-18983	2170			822	312	SLU 80	0.14	No
fin.	3	166	-3072	-1600			806	268	SLU 80	0.17	No
ini.	3	-130	-21694	2369			853	328	SLU 83	0.14	No
fin.	3	165	-3628	-1685			806	268	SLU 83	0.16	No
ini.	3	-209	-23077	2444			882	342	SLU 84	0.14	No
fin.	3	269	1204	-1454			806	244	SLU 84	0.17	No
ini.	3	-268	-24576	2533			903	352	SLU 81	0.14	No
fin.	3	277	951	-1462			806	242	SLU 81	0.17	No
ini.	3	35	-17600	2095			806	296	SLU 79	0.14	No
fin.	3	62	-7905	-1831			806	291	SLU 79	0.16	No
ini.	3	22	-18365	2159			806	299	SLU 77	0.14	No
fin.	3	104	-6981	-1809			806	282	SLU 77	0.16	No
ini.	3	-195	-22631	2399			877	340	SLU 75	0.14	No
fin.	3	320	2431	-1355			806	231	SLU 75	0.17	No
ini.	3	-57	-19749	2234			826	314	SLU 78	0.14	No
fin.	3	209	-2149	-1578			806	259	SLU 78	0.16	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-347	-25960	2608			932	366	SLU 82	0.14	No
fin.	3	381	5783	-1231			806	215	SLU 82	0.17	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	403	52174	143281	SLV 4	2.75	Si
fin.	2	-3938	-125525	143281	SLV 4	1.14	Si
ini.	2	29	-89905	143281	SLV 10	1.59	Si
fin.	2	3246	85878	143281	SLV 10	1.67	Si
ini.	2	-722	-85007	143281	SLV 14	1.69	Si
fin.	2	4393	128633	143281	SLV 14	1.11	Si
ini.	2	403	52174	143281	SLV 3	2.75	Si
fin.	2	-3938	-125525	143281	SLV 3	1.14	Si
ini.	2	-722	-85007	143281	SLV 13	1.69	Si
fin.	2	4393	128633	143281	SLV 13	1.11	Si
ini.	2	-958	-50121	143281	SLV 15	2.86	Si
fin.	2	3227	98171	143281	SLV 15	1.46	Si
ini.	2	-958	-50121	143281	SLV 16	2.86	Si
fin.	2	3227	98171	143281	SLV 16	1.46	Si
ini.	2	638	17288	143281	SLV 2	8.29	Si
fin.	2	-2772	-95063	143281	SLV 2	1.51	Si
ini.	2	638	17288	143281	SLV 1	8.29	Si
fin.	2	-2772	-95063	143281	SLV 1	1.51	Si
ini.	2	29	-89905	143281	SLV 9	1.59	Si
fin.	2	3246	85878	143281	SLV 9	1.67	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	29	-89905	4924			1208	449	SLV 9	0.09	No
fin.	2	3246	85878	1943			1208	0	SLV 9	0	No
ini.	2	-402	-45136	3317			1355	528	SLD 14	0.16	No
fin.	2	1994	55462	1110			1208	0	SLD 14	0	No
ini.	2	-722	-85007	5529			1472	580	SLV 13	0.1	No
fin.	2	4393	128633	3879			1208	0	SLV 13	0	No
ini.	2	-958	-50121	4164			1558	616	SLV 16	0.15	No
fin.	2	3227	98171	2934			1208	0	SLV 16	0	No
ini.	2	-722	-85007	5529			1472	580	SLV 14	0.1	No
fin.	2	4393	128633	3879			1208	0	SLV 14	0	No
ini.	2	-493	-31069	2776			1388	544	SLD 15	0.2	No
fin.	2	1527	43261	730			1208	0	SLD 15	0	No
ini.	2	29	-89905	4924			1208	449	SLV 10	0.09	No
fin.	2	3246	85878	1943			1208	0	SLV 10	0	No
ini.	2	-493	-31069	2776			1388	544	SLD 16	0.2	No
fin.	2	1527	43261	730			1208	0	SLD 16	0	No
ini.	2	-402	-45136	3317			1355	528	SLD 13	0.16	No
fin.	2	1994	55462	1110			1208	0	SLD 13	0	No
ini.	2	-958	-50121	4164			1558	616	SLV 15	0.15	No
fin.	2	3227	98171	2934			1208	0	SLV 15	0	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.114	SLV 13	Si
V_SLV	0	SLD 9	No
PF_SLU	3.68	SLU 82	Si
V_SLU	0.138	SLU 77	No

#### Trave di accoppiamento 79

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1705.3	-486.2	808	834	26	-1705.3	-377.2	808	834	26	109	30	30000

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1	-3523	10289	SLU 18	2.92	Si
fin.	3	-1	7025	10289	SLU 18	1.46	Si
ini.	3	10	-3561	10289	SLU 19	2.89	Si
fin.	3	10	7072	10289	SLU 19	1.45	Si
ini.	3	11	-3613	10289	SLU 42	2.85	Si
fin.	3	11	7009	10289	SLU 42	1.47	Si
ini.	3	10	-4561	10289	SLU 82	2.26	Si
fin.	3	10	9007	10289	SLU 82	1.14	Si
ini.	3	-1	-4306	10289	SLU 39	2.39	Si
fin.	3	-1	9048	10289	SLU 39	1.14	Si
ini.	3	11	-4343	10289	SLU 40	2.37	Si
fin.	3	11	9095	10289	SLU 40	1.13	Si
ini.	3	18	-3798	10289	SLU 31	2.71	Si
fin.	3	18	7624	10289	SLU 31	1.35	Si
ini.	3	10	-3779	10289	SLU 61	2.72	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	10	6984	10289	SLU 61	1.47	Si
ini.	3	18	-4016	10289	SLU 73	2.56	Si
fin.	3	18	7536	10289	SLU 73	1.37	Si
ini.	3	-1	-4524	10289	SLU 81	2.27	Si
fin.	3	-1	8960	10289	SLU 81	1.15	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1	-4306	179			201	75	SLU 39	0.42	No
fin.	3	-1	9048	66			201	75	SLU 39	1.15	Si
ini.	3	10	-4561	198			200	74	SLU 82	0.37	No
fin.	3	10	9007	51			200	74	SLU 82	1.45	Si
ini.	3	11	-3831	172			200	74	SLU 84	0.43	No
fin.	3	11	6921	25			200	74	SLU 84	2.95	Si
ini.	3	11	-4343	180			200	74	SLU 40	0.41	No
fin.	3	11	9095	67			200	74	SLU 40	1.11	Si
ini.	3	-1	-3793	171			200	75	SLU 83	0.44	No
fin.	3	-1	6874	24			200	75	SLU 83	3.11	Si
ini.	3	-2	-3741	172			201	76	SLU 60	0.44	No
fin.	3	-2	6937	24			201	76	SLU 60	3.11	Si
ini.	3	18	-4016	180			200	73	SLU 73	0.41	No
fin.	3	18	7536	32			200	73	SLU 73	2.25	Si
ini.	3	18	-3798	161			200	73	SLU 31	0.45	No
fin.	3	18	7624	48			200	73	SLU 31	1.51	Si
ini.	3	10	-3779	172			200	74	SLU 61	0.43	No
fin.	3	10	6984	25			200	74	SLU 61	2.94	Si
ini.	3	-1	-4524	197			201	76	SLU 81	0.38	No
fin.	3	-1	8960	50			201	76	SLU 81	1.51	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	171	-16287	15434	SLV 6	0.95	No
fin.	2	142	45153	15434	SLV 6	0.34	No
ini.	2	89	-15545	15434	SLV 13	0.99	No
fin.	2	79	44264	15434	SLV 13	0.35	No
ini.	2	-194	16847	15434	SLV 7	0.92	No
fin.	2	-164	-53482	15434	SLV 7	0.29	No
ini.	2	-173	11837	15434	SLV 11	1.3	Si
fin.	2	-144	-37959	15434	SLV 11	0.41	No
ini.	2	-194	16847	15434	SLV 8	0.92	No
fin.	2	-164	-53482	15434	SLV 8	0.29	No
ini.	2	89	-15545	15434	SLV 14	0.99	No
fin.	2	79	44264	15434	SLV 14	0.35	No
ini.	2	171	-16287	15434	SLV 5	0.95	No
fin.	2	142	45153	15434	SLV 5	0.34	No
ini.	2	-173	11837	15434	SLV 12	1.3	Si
fin.	2	-144	-37959	15434	SLV 12	0.41	No
ini.	2	192	-21297	15434	SLV 10	0.72	No
fin.	2	162	60676	15434	SLV 10	0.25	No
ini.	2	192	-21297	15434	SLV 9	0.72	No
fin.	2	162	60676	15434	SLV 9	0.25	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	78	-9922	439			300	101	SLD 10	0.23	No
fin.	2	66	26670	911			300	103	SLD 10	0.11	No
ini.	2	-173	11837	-497			346	136	SLV 11	0.27	No
fin.	2	-144	-37959	-2205			339	132	SLV 11	0.06	No
ini.	2	78	-9922	439			300	101	SLD 9	0.23	No
fin.	2	66	26670	911			300	103	SLD 9	0.11	No
ini.	2	-194	16847	-701			352	138	SLV 8	0.2	No
fin.	2	-164	-53482	-2323			344	135	SLV 8	0.06	No
ini.	2	192	-21297	921			300	81	SLV 9	0.09	No
fin.	2	162	60676	2316			300	86	SLV 9	0.04	No
ini.	2	-194	16847	-701			352	138	SLV 7	0.2	No
fin.	2	-164	-53482	-2323			344	135	SLV 7	0.06	No
ini.	2	171	-16287	717			300	85	SLV 5	0.12	No
fin.	2	142	45153	2199			300	90	SLV 5	0.04	No
ini.	2	171	-16287	717			300	85	SLV 6	0.12	No
fin.	2	142	45153	2199			300	90	SLV 6	0.04	No
ini.	2	192	-21297	921			300	81	SLV 10	0.09	No
fin.	2	162	60676	2316			300	86	SLV 10	0.04	No
ini.	2	-173	11837	-497			346	136	SLV 12	0.27	No
fin.	2	-144	-37959	-2205			339	132	SLV 12	0.06	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.254	SLV 9	No
V_SLV	0.037	SLV 9	No
PF_SLU	1.131	SLU 40	Si
V_SLU	0.373	SLU 82	No

## Trave di accoppiamento 80

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



## Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1543.3	-335.9	692	834	142	-1633.3	-335.9	692	834	142	90	28	30000

## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-86	-100774	286447	SLU 75	2.84	Si
fin.	3	-86	76051	286447	SLU 75	3.77	Si
ini.	3	-224	-112777	286447	SLU 82	2.54	Si
fin.	3	-224	89065	286447	SLU 82	3.22	Si
ini.	3	-118	-99172	286447	SLU 84	2.89	Si
fin.	3	-118	75724	286447	SLU 84	3.78	Si
ini.	3	-118	-99039	286447	SLU 31	2.89	Si
fin.	3	-118	81805	286447	SLU 31	3.5	Si
ini.	3	-78	-101727	286447	SLU 76	2.82	Si
fin.	3	-78	79108	286447	SLU 76	3.62	Si
ini.	3	-245	-105090	286447	SLU 52	2.73	Si
fin.	3	-245	83121	286447	SLU 52	3.45	Si
ini.	3	-184	-115332	286447	SLU 73	2.48	Si
fin.	3	-184	92449	286447	SLU 73	3.1	Si
ini.	3	-244	-103856	286447	SLU 81	2.76	Si
fin.	3	-244	78442	286447	SLU 81	3.65	Si
ini.	3	-284	-102534	286447	SLU 61	2.79	Si
fin.	3	-284	79738	286447	SLU 61	3.59	Si
ini.	3	-123	-107419	286447	SLU 65	2.67	Si
fin.	3	-123	83819	286447	SLU 65	3.42	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-245	-105090	2749			1629	627	SLU 52	0.23	No
fin.	3	-245	83121	1390			1629	627	SLU 52	0.45	No
ini.	3	-118	-99172	2741			1578	601	SLU 84	0.22	No
fin.	3	-118	75724	1103			1578	601	SLU 84	0.54	No
ini.	3	-123	-107419	2765			1580	602	SLU 65	0.22	No
fin.	3	-123	83819	1443			1580	602	SLU 65	0.42	No
ini.	3	-157	-96484	2640			1594	609	SLU 40	0.23	No
fin.	3	-157	78421	1216			1594	609	SLU 40	0.5	No
ini.	3	-118	-99039	2658			1578	601	SLU 31	0.23	No
fin.	3	-118	81805	1329			1578	601	SLU 31	0.45	No
ini.	3	-184	-115332	3059			1605	615	SLU 73	0.2	No
fin.	3	-184	92449	1516			1605	615	SLU 73	0.41	No
ini.	3	-78	-101727	2760			1562	593	SLU 76	0.21	No
fin.	3	-78	79108	1217			1562	593	SLU 76	0.49	No
ini.	3	-86	-100774	2715			1566	595	SLU 75	0.22	No
fin.	3	-86	76051	1172			1566	595	SLU 75	0.51	No
ini.	3	-244	-103856	2824			1629	627	SLU 81	0.22	No
fin.	3	-244	78442	1186			1629	627	SLU 81	0.53	No
ini.	3	-224	-112777	3041			1621	623	SLU 82	0.2	No
fin.	3	-224	89065	1403			1621	623	SLU 82	0.44	No

## Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2176	-524993	429671	SLV 14	0.82	No
fin.	2	2197	391963	429671	SLV 14	1.1	Si
ini.	2	501	-516248	429671	SLV 16	0.83	No
fin.	2	1029	401026	429671	SLV 16	1.07	Si
ini.	2	-2480	382587	429671	SLV 4	1.12	Si
fin.	2	-2500	-289419	429671	SLV 4	1.48	Si
ini.	2	-805	373841	429671	SLV 2	1.15	Si
fin.	2	-1332	-298481	429671	SLV 2	1.44	Si
ini.	2	825	-265021	429671	SLD 14	1.62	Si
fin.	2	840	196659	429671	SLD 14	2.18	Si
ini.	2	-2480	382587	429671	SLV 3	1.12	Si
fin.	2	-2500	-289419	429671	SLV 3	1.48	Si
ini.	2	-805	373841	429671	SLV 1	1.15	Si
fin.	2	-1332	-298481	429671	SLV 1	1.44	Si
ini.	2	501	-516248	429671	SLV 15	0.83	No
fin.	2	1029	401026	429671	SLV 15	1.07	Si
ini.	2	825	-265021	429671	SLD 13	1.62	Si
fin.	2	840	196659	429671	SLD 13	2.18	Si
ini.	2	2176	-524993	429671	SLV 13	0.82	No
fin.	2	2197	391963	429671	SLV 13	1.1	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	2176	-524993	10745			2297	0	SLV 14	0	No
fin.	2	2197	391963	9675			2297	0	SLV 14	0	No
ini.	2	3087	-220604	4179			2297	0	SLV 10	0	No
fin.	2	2324	139735	3154			2297	0	SLV 10	0	No
ini.	2	2193	49046	-1218			2297	0	SLV 5	0	No
fin.	2	1265	-67398	-2221			2297	521	SLV 5	0.23	No
ini.	2	825	-265021	5658			2297	661	SLD 13	0.12	No
fin.	2	840	196659	4609			2297	657	SLD 13	0.14	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	501	-516248	10975			2297	747	SLV 15	0.07	No
fin.	2	1029	401026	9890			2297	600	SLV 15	0.06	No
ini.	2	2193	49046	-1218			2297	0	SLV 6	0	No
fin.	2	1265	-67398	-2221			2297	521	SLV 6	0.23	No
ini.	2	825	-265021	5658			2297	661	SLD 14	0.12	No
fin.	2	840	196659	4609			2297	657	SLD 14	0.14	No
ini.	2	2176	-524993	10745			2297	0	SLV 13	0	No
fin.	2	2197	391963	9675			2297	0	SLV 13	0	No
ini.	2	3087	-220604	4179			2297	0	SLV 9	0	No
fin.	2	2324	139735	3154			2297	0	SLV 9	0	No
ini.	2	501	-516248	10975			2297	747	SLV 16	0.07	No
fin.	2	1029	401026	9890			2297	600	SLV 16	0.06	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.818	SLV 13	No
V_SLV	0	SLV 5	No
PF_SLU	2.484	SLU 73	Si
V_SLU	0.201	SLU 73	No

## Trave di accoppiamento 81

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1443.8	-485.9	808	834	26	-1627.8	-485.9	808	834	26	184	30	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb_	fhk	fvk0	fmed	t0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-5	-6715	10289	SLU 52	1.53	Si
fin.	3	-5	-1098	10289	SLU 52	9.37	Si
ini.	3	3	-6985	10289	SLU 46	1.47	Si
fin.	3	3	-730	10289	SLU 46	14.09	Si
ini.	3	0	-6289	10289	SLU 2	1.64	Si
fin.	3	0	314	10289	SLU 2	32.77	Si
ini.	3	0	-8326	10289	SLU 44	1.24	Si
fin.	3	0	577	10289	SLU 44	17.82	Si
ini.	3	-2	-6533	10289	SLU 64	1.58	Si
fin.	3	-2	-1230	10289	SLU 64	8.36	Si
ini.	3	4	-6022	10289	SLU 68	1.71	Si
fin.	3	4	-1725	10289	SLU 68	5.96	Si
ini.	3	0	-7255	10289	SLU 65	1.42	Si
fin.	3	0	-529	10289	SLU 65	19.43	Si
ini.	3	-2	-7604	10289	SLU 43	1.35	Si
fin.	3	-2	-123	10289	SLU 43	83.39	Si
ini.	3	2	-6552	10289	SLU 45	1.57	Si
fin.	3	2	-1151	10289	SLU 45	8.94	Si
ini.	3	4	-7093	10289	SLU 47	1.45	Si
fin.	3	4	-618	10289	SLU 47	16.64	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	4	-7093	158			200	75	SLU 47	0.47	No
fin.	3	4	-618	-88			200	75	SLU 47	0.85	No
ini.	3	-2	-6533	152			201	76	SLU 64	0.5	No
fin.	3	-2	-1230	-94			201	76	SLU 64	0.8	No
ini.	3	3	-5914	145			200	75	SLU 67	0.52	No
fin.	3	3	-1837	-101			200	75	SLU 67	0.74	No
ini.	3	-2	-7604	164			201	76	SLU 43	0.46	No
fin.	3	-2	-123	-82			201	76	SLU 43	0.92	No
ini.	3	3	-6985	157			200	75	SLU 46	0.48	No
fin.	3	3	-730	-89			200	75	SLU 46	0.84	No
ini.	3	4	-6022	146			200	75	SLU 68	0.51	No
fin.	3	4	-1725	-100			200	75	SLU 68	0.75	No
ini.	3	0	-8326	171			200	75	SLU 44	0.44	No
fin.	3	0	577	-75			200	75	SLU 44	1.01	Si
ini.	3	-5	-6715	154			201	76	SLU 52	0.49	No
fin.	3	-5	-1098	-93			201	76	SLU 52	0.82	No
ini.	3	2	-6552	152			200	75	SLU 45	0.49	No
fin.	3	2	-1151	-94			200	75	SLU 45	0.8	No
ini.	3	0	-7255	160			200	75	SLU 65	0.47	No
fin.	3	0	-529	-87			200	75	SLU 65	0.87	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	192	45465	15434	SLV 2	0.34	No
fin.	2	191	-49474	15434	SLV 2	0.31	No
ini.	2	-52	-36259	15434	SLV 12	0.43	No
fin.	2	-113	29569	15434	SLV 12	0.52	No
ini.	2	198	34665	15434	SLV 4	0.45	No





Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	157	-38752	15434	SLV 4	0.4	No
ini.	2	198	34665	15434	SLV 3	0.45	No
fin.	2	157	-38752	15434	SLV 3	0.4	No
ini.	2	-203	-44266	15434	SLV 14	0.35	No
fin.	2	-162	36388	15434	SLV 14	0.42	No
ini.	2	-203	-44266	15434	SLV 13	0.35	No
fin.	2	-162	36388	15434	SLV 13	0.42	No
ini.	2	-197	-55065	15434	SLV 15	0.28	No
fin.	2	-197	47111	15434	SLV 15	0.33	No
ini.	2	-52	-36259	15434	SLV 11	0.43	No
fin.	2	-113	29569	15434	SLV 11	0.52	No
ini.	2	192	45465	15434	SLV 1	0.34	No
fin.	2	191	-49474	15434	SLV 1	0.31	No
ini.	2	-197	-55065	15434	SLV 16	0.28	No
fin.	2	-197	47111	15434	SLV 16	0.33	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	192	45465	-410			300	81	SLV 1	0.2	No
fin.	2	191	-49474	-567			300	81	SLV 1	0.14	No
ini.	2	198	34665	-343			300	79	SLV 3	0.23	No
fin.	2	157	-38752	-545			300	87	SLV 3	0.16	No
ini.	2	192	45465	-410			300	81	SLV 2	0.2	No
fin.	2	191	-49474	-567			300	81	SLV 2	0.14	No
ini.	2	-203	-44266	571			354	139	SLV 13	0.24	No
fin.	2	-162	36388	395			344	134	SLV 13	0.34	No
ini.	2	-197	-55065	639			353	139	SLV 15	0.22	No
fin.	2	-197	47111	417			353	139	SLV 15	0.33	No
ini.	2	-203	-44266	571			354	139	SLV 14	0.24	No
fin.	2	-162	36388	395			344	134	SLV 14	0.34	No
ini.	2	-197	-55065	639			353	139	SLV 16	0.22	No
fin.	2	-197	47111	417			353	139	SLV 16	0.33	No
ini.	2	-52	-36259	374			314	120	SLV 12	0.32	No
fin.	2	-113	29569	106			331	128	SLV 12	1.21	Si
ini.	2	-52	-36259	374			314	120	SLV 11	0.32	No
fin.	2	-113	29569	106			331	128	SLV 11	1.21	Si
ini.	2	198	34665	-343			300	79	SLV 4	0.23	No
fin.	2	157	-38752	-545			300	87	SLV 4	0.16	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.28	SLV 15	No
V_SLV	0.142	SLV 1	No
PF_SLU	1.236	SLU 44	Si
V_SLU	0.44	SLU 44	No

## Trave di accoppiamento 82

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1375.3	-22.8	692	834	142	-1375.3	67.2	692	834	142	90	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fthk	fvk0	fthmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-99	-146747	286447	SLU 70	1.95	Si
fin.	3	-99	53508	286447	SLU 70	5.35	Si
ini.	3	-99	-145583	286447	SLU 29	1.97	Si
fin.	3	-99	52525	286447	SLU 29	5.45	Si
ini.	3	-104	-140255	286447	SLU 28	2.04	Si
fin.	3	-104	49630	286447	SLU 28	5.77	Si
ini.	3	-97	-154466	286447	SLU 69	1.85	Si
fin.	3	-97	56120	286447	SLU 69	5.1	Si
ini.	3	-64	-130088	286447	SLU 79	2.2	Si
fin.	3	-64	57427	286447	SLU 79	4.99	Si
ini.	3	-98	-144357	286447	SLU 72	1.98	Si
fin.	3	-98	53791	286447	SLU 72	5.33	Si
ini.	3	-102	-137865	286447	SLU 30	2.08	Si
fin.	3	-102	49913	286447	SLU 30	5.74	Si
ini.	3	-101	-147973	286447	SLU 27	1.94	Si
fin.	3	-101	52241	286447	SLU 27	5.48	Si
ini.	3	-95	-152075	286447	SLU 71	1.88	Si
fin.	3	-95	56403	286447	SLU 71	5.08	Si
ini.	3	-66	-132478	286447	SLU 77	2.16	Si
fin.	3	-66	57144	286447	SLU 77	5.01	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-99	-146747	2662			1571	597	SLU 70	0.22	No
fin.	3	-99	53508	1831			1571	597	SLU 70	0.33	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-98	-144357	2639			1570	597	SLU 72	0.23	No
fin.	3	-98	53791	1808			1570	597	SLU 72	0.33	No
ini.	3	-64	-130088	2521			1557	590	SLU 79	0.23	No
fin.	3	-64	57427	1690			1557	590	SLU 79	0.35	No
ini.	3	-68	-124760	2430			1559	591	SLU 78	0.24	No
fin.	3	-68	54532	1598			1559	591	SLU 78	0.37	No
ini.	3	-99	-145583	2543			1571	597	SLU 29	0.23	No
fin.	3	-99	52525	1892			1571	597	SLU 29	0.32	No
ini.	3	-104	-140255	2452			1573	598	SLU 28	0.24	No
fin.	3	-104	49630	1801			1573	598	SLU 28	0.33	No
ini.	3	-101	-147973	2566			1572	598	SLU 27	0.23	No
fin.	3	-101	52241	1916			1572	598	SLU 27	0.31	No
ini.	3	-97	-154466	2777			1570	597	SLU 69	0.21	No
fin.	3	-97	56120	1946			1570	597	SLU 69	0.31	No
ini.	3	-95	-152075	2754			1569	596	SLU 71	0.22	No
fin.	3	-95	56403	1923			1569	596	SLU 71	0.31	No
ini.	3	-66	-132478	2544			1557	590	SLU 77	0.23	No
fin.	3	-66	57144	1713			1557	590	SLU 77	0.34	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1150	-402217	429671	SLV 2	1.07	Si
fin.	2	-1954	85840	429671	SLV 2	5.01	Si
ini.	2	-1260	-455877	429671	SLV 9	0.94	No
fin.	2	-1097	211637	429671	SLV 9	2.03	Si
ini.	2	1267	331031	429671	SLV 8	1.3	Si
fin.	2	1103	-159012	429671	SLV 8	2.7	Si
ini.	2	1692	453100	429671	SLV 11	0.95	No
fin.	2	1999	-161175	429671	SLV 11	2.67	Si
ini.	2	-1686	-577946	429671	SLV 5	0.74	No
fin.	2	-1993	213800	429671	SLV 5	2.01	Si
ini.	2	1267	331031	429671	SLV 7	1.3	Si
fin.	2	1103	-159012	429671	SLV 7	2.7	Si
ini.	2	-1150	-402217	429671	SLV 1	1.07	Si
fin.	2	-1954	85840	429671	SLV 1	5.01	Si
ini.	2	1692	453100	429671	SLV 12	0.95	No
fin.	2	1999	-161175	429671	SLV 12	2.67	Si
ini.	2	-1686	-577946	429671	SLV 6	0.74	No
fin.	2	-1993	213800	429671	SLV 6	2.01	Si
ini.	2	-1260	-455877	429671	SLV 10	0.94	No
fin.	2	-1097	211637	429671	SLV 10	2.03	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1692	453100	-6500			2297	333	SLV 12	0.05	No
fin.	2	1999	-161175	-7146			2297	0	SLV 12	0	No
ini.	2	1267	331031	-4802			2297	521	SLV 8	0.11	No
fin.	2	1103	-159012	-5300			2297	577	SLV 8	0.11	No
ini.	2	-1260	-455877	7442			2801	1105	SLV 10	0.15	No
fin.	2	-1097	211637	6671			2736	1077	SLV 10	0.16	No
ini.	2	1692	453100	-6500			2297	333	SLV 11	0.05	No
fin.	2	1999	-161175	-7146			2297	0	SLV 11	0	No
ini.	2	-1686	-577946	9141			2971	1175	SLV 6	0.13	No
fin.	2	-1993	213800	8517			3094	1223	SLV 6	0.14	No
ini.	2	1156	277371	-3602			2297	559	SLV 16	0.16	No
fin.	2	1960	-33214	-4463			2297	102	SLV 16	0.02	No
ini.	2	1156	277371	-3602			2297	559	SLV 15	0.16	No
fin.	2	1960	-33214	-4463			2297	102	SLV 15	0.02	No
ini.	2	-1260	-455877	7442			2801	1105	SLV 9	0.15	No
fin.	2	-1097	211637	6671			2736	1077	SLV 9	0.16	No
ini.	2	1267	331031	-4802			2297	521	SLV 7	0.11	No
fin.	2	1103	-159012	-5300			2297	577	SLV 7	0.11	No
ini.	2	-1686	-577946	9141			2971	1175	SLV 5	0.13	No
fin.	2	-1993	213800	8517			3094	1223	SLV 5	0.14	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.743	SLV 5	No
V_SLV	0	SLV 11	No
PF_SLU	1.854	SLU 69	Si
V_SLU	0.215	SLU 69	No

### Trave di accoppiamento 83

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1074.8	333.1	672	834	162	-994.8	333.1	672	834	162	80	14	30000

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2



#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	279	626805	186410	SLU 82	0.3	No
fin.	3	279	127010	186410	SLU 82	1.47	Si
ini.	3	284	628987	186410	SLU 83	0.3	No
fin.	3	284	126468	186410	SLU 83	1.47	Si
ini.	3	284	629555	186410	SLU 84	0.3	No
fin.	3	284	126570	186410	SLU 84	1.47	Si
ini.	3	275	605915	186410	SLU 78	0.31	No
fin.	3	275	120310	186410	SLU 78	1.55	Si
ini.	3	275	605347	186410	SLU 77	0.31	No
fin.	3	275	120208	186410	SLU 77	1.55	Si
ini.	3	270	594572	186410	SLU 80	0.31	No
fin.	3	270	118285	186410	SLU 80	1.58	Si
ini.	3	270	602598	186410	SLU 74	0.31	No
fin.	3	270	120649	186410	SLU 74	1.55	Si
ini.	3	270	603166	186410	SLU 75	0.31	No
fin.	3	270	120751	186410	SLU 75	1.54	Si
ini.	3	279	626237	186410	SLU 81	0.3	No
fin.	3	279	126908	186410	SLU 81	1.47	Si
ini.	3	270	594004	186410	SLU 79	0.31	No
fin.	3	270	118183	186410	SLU 79	1.58	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	270	594004	-5332			873	264	SLU 79	0.05	No
fin.	3	270	118183	-6500			873	264	SLU 79	0.04	No
ini.	3	270	603166	-5415			873	264	SLU 75	0.05	No
fin.	3	270	120751	-6583			873	264	SLU 75	0.04	No
ini.	3	275	605915	-5454			873	262	SLU 78	0.05	No
fin.	3	275	120310	-6622			873	262	SLU 78	0.04	No
ini.	3	284	628987	-5615			873	260	SLU 83	0.05	No
fin.	3	284	126468	-6884			873	260	SLU 83	0.04	No
ini.	3	279	626805	-5581			873	261	SLU 82	0.05	No
fin.	3	279	127010	-6850			873	261	SLU 82	0.04	No
ini.	3	270	602598	-5409			873	264	SLU 74	0.05	No
fin.	3	270	120649	-6577			873	264	SLU 74	0.04	No
ini.	3	270	594572	-5338			873	263	SLU 80	0.05	No
fin.	3	270	118285	-6506			873	263	SLU 80	0.04	No
ini.	3	279	626237	-5575			873	261	SLU 81	0.05	No
fin.	3	279	126908	-6845			873	261	SLU 81	0.04	No
ini.	3	284	629555	-5621			873	260	SLU 84	0.05	No
fin.	3	284	126570	-6890			873	260	SLU 84	0.04	No
ini.	3	275	605347	-5449			873	262	SLU 77	0.05	No
fin.	3	275	120208	-6617			873	262	SLU 77	0.04	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	355	621916	279614	SLD 8	0.45	No
fin.	2	387	128151	279614	SLD 8	2.18	Si
ini.	2	355	621916	279614	SLD 7	0.45	No
fin.	2	387	128151	279614	SLD 7	2.18	Si
ini.	2	1072	742821	279614	SLV 4	0.38	No
fin.	2	466	180598	279614	SLV 4	1.55	Si
ini.	2	1072	742821	279614	SLV 3	0.38	No
fin.	2	466	180598	279614	SLV 3	1.55	Si
ini.	2	140	569189	279614	SLD 12	0.49	No
fin.	2	351	110311	279614	SLD 12	2.53	Si
ini.	2	97	805268	279614	SLV 11	0.35	No
fin.	2	618	152930	279614	SLV 11	1.83	Si
ini.	2	97	805268	279614	SLV 12	0.35	No
fin.	2	618	152930	279614	SLV 12	1.83	Si
ini.	2	140	569189	279614	SLD 11	0.49	No
fin.	2	351	110311	279614	SLD 11	2.53	Si
ini.	2	607	929328	279614	SLV 8	0.3	No
fin.	2	708	196452	279614	SLV 8	1.42	Si
ini.	2	607	929328	279614	SLV 7	0.3	No
fin.	2	708	196452	279614	SLV 7	1.42	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	355	621916	-5626			1310	409	SLD 7	0.07	No
fin.	2	387	128151	-6546			1310	400	SLD 7	0.06	No
ini.	2	140	569189	-5723			1310	462	SLD 11	0.08	No
fin.	2	351	110311	-6553			1310	410	SLD 11	0.06	No
ini.	2	97	805268	-8683			1310	471	SLV 11	0.05	No
fin.	2	618	152930	-9669			1310	332	SLV 11	0.03	No
ini.	2	607	929328	-8448			1310	336	SLV 7	0.04	No
fin.	2	708	196452	-9632			1310	302	SLV 7	0.03	No
ini.	2	607	929328	-8448			1310	336	SLV 8	0.04	No
fin.	2	708	196452	-9632			1310	302	SLV 8	0.03	No
ini.	2	1072	742821	-4654			1310	115	SLV 3	0.02	No
fin.	2	466	180598	-5829			1310	378	SLV 3	0.06	No
ini.	2	97	805268	-8683			1310	471	SLV 12	0.05	No
fin.	2	618	152930	-9669			1310	332	SLV 12	0.03	No
ini.	2	355	621916	-5626			1310	409	SLD 8	0.07	No
fin.	2	387	128151	-6546			1310	400	SLD 8	0.06	No
ini.	2	140	569189	-5723			1310	462	SLD 12	0.08	No
fin.	2	351	110311	-6553			1310	410	SLD 12	0.06	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1072	742821	-4654			1310	115	SLV 4	0.02	No
fin.	2	466	180598	-5829			1310	378	SLV 4	0.06	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.301	SLV 7	No
V_SLV	0.025	SLV 3	No
PF_SLU	0.296	SLU 84	No
V_SLU	0.038	SLU 84	No

## Trave di accoppiamento 84

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1771.8	666.1	482	572	90	-1681.8	666.1	482	572	90	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1427	7133	115068	SLU 78	16.13	Si
fin.	3	-1183	18066	115068	SLU 78	6.37	Si
ini.	3	-1403	6734	115068	SLU 80	17.09	Si
fin.	3	-1167	17918	115068	SLU 80	6.42	Si
ini.	3	-1447	8316	115068	SLU 75	13.84	Si
fin.	3	-1166	17574	115068	SLU 75	6.55	Si
ini.	3	-1501	9646	115068	SLU 82	11.93	Si
fin.	3	-1165	17793	115068	SLU 82	6.47	Si
ini.	3	-1481	8463	115068	SLU 84	13.6	Si
fin.	3	-1183	18285	115068	SLU 84	6.29	Si
ini.	3	-1410	6963	115068	SLU 79	16.53	Si
fin.	3	-1164	17764	115068	SLU 79	6.48	Si
ini.	3	-1434	7362	115068	SLU 77	15.63	Si
fin.	3	-1180	17912	115068	SLU 77	6.42	Si
ini.	3	-1489	8692	115068	SLU 83	13.24	Si
fin.	3	-1180	18131	115068	SLU 83	6.35	Si
ini.	3	-1508	9875	115068	SLU 81	11.65	Si
fin.	3	-1162	17639	115068	SLU 81	6.52	Si
ini.	3	-1418	7765	115068	SLU 76	14.82	Si
fin.	3	-1152	17528	115068	SLU 76	6.56	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1418	7765	-1721			1537	599	SLU 76	0.35	No
fin.	3	-1152	17528	3022			1431	562	SLU 76	0.19	No
ini.	3	-1403	6734	-1706			1532	597	SLU 80	0.35	No
fin.	3	-1167	17918	3099			1437	565	SLU 80	0.18	No
ini.	3	-1489	8692	-1810			1566	608	SLU 83	0.34	No
fin.	3	-1180	18131	3106			1442	566	SLU 83	0.18	No
ini.	3	-1447	8316	-1773			1549	603	SLU 75	0.34	No
fin.	3	-1166	17574	3065			1437	564	SLU 75	0.18	No
ini.	3	-1434	7362	-1762			1544	601	SLU 77	0.34	No
fin.	3	-1180	17912	3140			1443	566	SLU 77	0.18	No
ini.	3	-1427	7133	-1750			1541	600	SLU 78	0.34	No
fin.	3	-1183	18066	3145			1444	567	SLU 78	0.18	No
ini.	3	-1481	8463	-1797			1563	607	SLU 84	0.34	No
fin.	3	-1183	18285	3111			1444	567	SLU 84	0.18	No
ini.	3	-1454	8545	-1785			1552	604	SLU 74	0.34	No
fin.	3	-1163	17420	3060			1436	564	SLU 74	0.18	No
ini.	3	-1410	6963	-1718			1535	598	SLU 79	0.35	No
fin.	3	-1164	17764	3094			1436	564	SLU 79	0.18	No
ini.	3	-1501	9646	-1821			1571	610	SLU 82	0.33	No
fin.	3	-1165	17793	3030			1437	564	SLU 82	0.19	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	423	-44136	172601	SLV 5	3.91	Si
fin.	2	-2202	80824	172601	SLV 5	2.14	Si
ini.	2	832	-110210	172601	SLV 4	1.57	Si
fin.	2	-5703	107517	172601	SLV 4	1.61	Si
ini.	2	832	-110210	172601	SLV 3	1.57	Si
fin.	2	-5703	107517	172601	SLV 3	1.61	Si
ini.	2	1321	-118770	172601	SLV 2	1.45	Si
fin.	2	-5660	129808	172601	SLV 2	1.33	Si
ini.	2	-2874	123000	172601	SLV 14	1.4	Si
fin.	2	4076	-84449	172601	SLV 14	2.04	Si
ini.	2	-2874	123000	172601	SLV 13	1.4	Si
fin.	2	4076	-84449	172601	SLV 13	2.04	Si
ini.	2	-3363	131560	172601	SLV 15	1.31	Si
fin.	2	4032	-106739	172601	SLV 15	1.62	Si
ini.	2	423	-44136	172601	SLV 6	3.91	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	-2202	80824	172601	SLV 6	2.14	Si
ini.	2	1321	-118770	172601	SLV 1	1.45	Si
fin.	2	-5660	129808	172601	SLV 1	1.33	Si
ini.	2	-3363	131560	172601	SLV 16	1.31	Si
fin.	2	4032	-106739	172601	SLV 16	1.62	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-1818	56321	-3520			2183	856	SLD 14	0.24	No
fin.	2	1273	-29519	-868			1456	0	SLD 14	0	No
ini.	2	-3363	131560	-7015			2801	1049	SLV 15	0.15	No
fin.	2	4032	-106739	-4177			1456	0	SLV 15	0	No
ini.	2	-2874	123000	-6564			2605	992	SLV 13	0.15	No
fin.	2	4076	-84449	-4853			1456	0	SLV 13	0	No
ini.	2	1321	-118770	4520			1456	0	SLV 2	0	No
fin.	2	-5660	129808	8374			3720	1284	SLV 2	0.15	No
ini.	2	1321	-118770	4520			1456	0	SLV 1	0	No
fin.	2	-5660	129808	8374			3720	1284	SLV 1	0.15	No
ini.	2	-1818	56321	-3520			2183	856	SLD 13	0.24	No
fin.	2	1273	-29519	-868			1456	0	SLD 13	0	No
ini.	2	-2016	59754	-3710			2262	883	SLD 16	0.24	No
fin.	2	1258	-38945	-586			1456	22	SLD 16	0.04	No
ini.	2	-2874	123000	-6564			2605	992	SLV 14	0.15	No
fin.	2	4076	-84449	-4853			1456	0	SLV 14	0	No
ini.	2	-3363	131560	-7015			2801	1049	SLV 16	0.15	No
fin.	2	4032	-106739	-4177			1456	0	SLV 16	0	No
ini.	2	-2016	59754	-3710			2262	883	SLD 15	0.24	No
fin.	2	1258	-38945	-586			1456	22	SLD 15	0.04	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.312	SLV 15	Si
V_SLV	0	SLD 13	No
PF_SLU	6.293	SLU 84	Si
V_SLU	0.18	SLU 78	No

## Trave di accoppiamento 85

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1771.8	666.1	752	834	82	-1681.8	666.1	752	834	82	90	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-491	-21766	95520	SLU 79	4.39	Si
fin.	3	-121	-3567	95520	SLU 79	26.78	Si
ini.	3	-418	-20127	95520	SLU 69	4.75	Si
fin.	3	-31	-2962	95520	SLU 69	32.24	Si
ini.	3	-492	-20149	95520	SLU 84	4.74	Si
fin.	3	-342	-5358	95520	SLU 84	17.83	Si
ini.	3	-425	-20425	95520	SLU 72	4.68	Si
fin.	3	17	-2270	95520	SLU 72	42.08	Si
ini.	3	-492	-21769	95520	SLU 78	4.39	Si
fin.	3	-155	-3894	95520	SLU 78	24.53	Si
ini.	3	-488	-19999	95520	SLU 83	4.78	Si
fin.	3	-348	-5541	95520	SLU 83	17.24	Si
ini.	3	-488	-21619	95520	SLU 77	4.42	Si
fin.	3	-162	-4077	95520	SLU 77	23.43	Si
ini.	3	-422	-20278	95520	SLU 70	4.71	Si
fin.	3	-24	-2779	95520	SLU 70	34.37	Si
ini.	3	-495	-21917	95520	SLU 80	4.36	Si
fin.	3	-115	-3384	95520	SLU 80	28.23	Si
ini.	3	-421	-20275	95520	SLU 71	4.71	Si
fin.	3	10	-2453	95520	SLU 71	38.94	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-491	-21766	2732			985	388	SLU 79	0.14	No
fin.	3	-121	-3567	-2680			850	326	SLU 79	0.12	No
ini.	3	-455	-17592	2733			972	383	SLU 81	0.14	No
fin.	3	-519	-7037	-3217			995	393	SLU 81	0.12	No
ini.	3	-488	-21619	2766			983	388	SLU 77	0.14	No
fin.	3	-162	-4077	-2774			865	334	SLU 77	0.12	No
ini.	3	-495	-21917	2740			986	389	SLU 80	0.14	No
fin.	3	-115	-3384	-2669			847	325	SLU 80	0.12	No
ini.	3	-455	-19212	2695			972	383	SLU 74	0.14	No
fin.	3	-333	-5573	-2945			927	363	SLU 74	0.12	No
ini.	3	-488	-19999	2805			984	388	SLU 83	0.14	No
fin.	3	-348	-5541	-3046			933	366	SLU 83	0.12	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-459	-19363	2702			973	383	SLU 75	0.14	No
fin.	3	-326	-5390	-2933			924	362	SLU 75	0.12	No
ini.	3	-492	-21769	2774			985	389	SLU 78	0.14	No
fin.	3	-155	-3894	-2763			862	332	SLU 78	0.12	No
ini.	3	-459	-17742	2740			973	384	SLU 82	0.14	No
fin.	3	-512	-6854	-3206			992	392	SLU 82	0.12	No
ini.	3	-492	-20149	2812			985	389	SLU 84	0.14	No
fin.	3	-342	-5358	-3035			930	365	SLU 84	0.12	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2851	104744	143281	SLV 13	1.37	Si
fin.	2	-2959	-80811	143281	SLV 13	1.77	Si
ini.	2	-2212	-62874	143281	SLV 8	2.28	Si
fin.	2	-151	6288	143281	SLV 8	22.79	Si
ini.	2	-2751	-117748	143281	SLV 1	1.22	Si
fin.	2	2831	80062	143281	SLV 1	1.79	Si
ini.	2	-2751	-117748	143281	SLV 2	1.22	Si
fin.	2	2831	80062	143281	SLV 2	1.79	Si
ini.	2	-2212	-62874	143281	SLV 7	2.28	Si
fin.	2	-151	6288	143281	SLV 7	22.79	Si
ini.	2	-3407	-128362	143281	SLV 3	1.12	Si
fin.	2	2390	71999	143281	SLV 3	1.99	Si
ini.	2	2195	94129	143281	SLV 15	1.52	Si
fin.	2	-3400	-88873	143281	SLV 15	1.61	Si
ini.	2	2195	94129	143281	SLV 16	1.52	Si
fin.	2	-3400	-88873	143281	SLV 16	1.61	Si
ini.	2	2851	104744	143281	SLV 14	1.37	Si
fin.	2	-2959	-80811	143281	SLV 14	1.77	Si
ini.	2	-3407	-128362	143281	SLV 4	1.12	Si
fin.	2	2390	71999	143281	SLV 4	1.99	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1656	39256	-847			1208	0	SLV 10	0	No
fin.	2	-418	-15100	-2939			1361	531	SLV 10	0.18	No
ini.	2	2851	104744	-4013			1208	0	SLV 14	0	No
fin.	2	-2959	-80811	-6346			2287	860	SLV 14	0.14	No
ini.	2	1656	39256	-847			1208	0	SLV 9	0	No
fin.	2	-418	-15100	-2939			1361	531	SLV 9	0.18	No
ini.	2	2851	104744	-4013			1208	0	SLV 13	0	No
fin.	2	-2959	-80811	-6346			2287	860	SLV 13	0.14	No
ini.	2	-24	-27492	2443			1217	460	SLV 6	0.19	No
fin.	2	1319	33162	-273			1208	0	SLV 6	0	No
ini.	2	-3407	-128362	7529			2450	906	SLV 4	0.12	No
fin.	2	2390	71999	2286			1208	0	SLV 4	0	No
ini.	2	-3407	-128362	7529			2450	906	SLV 3	0.12	No
fin.	2	2390	71999	2286			1208	0	SLV 3	0	No
ini.	2	-24	-27492	2443			1217	460	SLV 5	0.19	No
fin.	2	1319	33162	-273			1208	0	SLV 5	0	No
ini.	2	2195	94129	-3436			1208	0	SLV 16	0	No
fin.	2	-3400	-88873	-6601			2447	905	SLV 16	0.14	No
ini.	2	-2751	-117748	6953			2211	838	SLV 2	0.12	No
fin.	2	2831	80062	2540			1208	0	SLV 2	0	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.116	SLV 3	Si
V_SLV	0	SLV 1	No
PF_SLU	4.358	SLU 80	Si
V_SLU	0.12	SLU 83	No

## Trave di accoppiamento 86

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1283.8	666.1	482	572	90	-1193.8	666.1	482	572	90	90	28	30000

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1733	19518	115068	SLU 75	5.9	Si
fin.	3	-1843	20857	115068	SLU 75	5.52	Si
ini.	3	-1784	20190	115068	SLU 83	5.7	Si
fin.	3	-1899	21570	115068	SLU 83	5.33	Si
ini.	3	-1738	19541	115068	SLU 74	5.89	Si
fin.	3	-1848	20887	115068	SLU 74	5.51	Si
ini.	3	-1751	19917	115068	SLU 73	5.78	Si
fin.	3	-1863	21455	115068	SLU 73	5.36	Si
ini.	3	-1675	18889	115068	SLU 61	6.09	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	-1798	20926	115068	SLU 61	5.5	Si
ini.	3	-1846	21097	115068	SLU 81	5.45	Si
fin.	3	-1966	22778	115068	SLU 81	5.05	Si
ini.	3	-1689	19011	115068	SLU 76	6.05	Si
fin.	3	-1796	20247	115068	SLU 76	5.68	Si
ini.	3	-1841	21074	115068	SLU 82	5.46	Si
fin.	3	-1961	22748	115068	SLU 82	5.06	Si
ini.	3	-1779	20167	115068	SLU 84	5.71	Si
fin.	3	-1894	21540	115068	SLU 84	5.34	Si
ini.	3	-1680	18913	115068	SLU 60	6.08	Si
fin.	3	-1803	20957	115068	SLU 60	5.49	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1475	15973	-2338			1560	606	SLU 69	0.26	No
fin.	3	-1562	16711	2357			1595	618	SLU 69	0.26	No
ini.	3	-1779	20167	-2469			1682	645	SLU 84	0.26	No
fin.	3	-1894	21540	2519			1728	659	SLU 84	0.26	No
ini.	3	-1784	20190	-2473			1684	646	SLU 83	0.26	No
fin.	3	-1899	21570	2523			1730	660	SLU 83	0.26	No
ini.	3	-1434	15480	-2300			1544	601	SLU 71	0.26	No
fin.	3	-1519	16121	2316			1578	612	SLU 71	0.26	No
ini.	3	-1631	18119	-2466			1623	626	SLU 80	0.25	No
fin.	3	-1733	19060	2498			1664	639	SLU 80	0.26	No
ini.	3	-1469	15949	-2334			1558	606	SLU 70	0.26	No
fin.	3	-1557	16680	2353			1593	617	SLU 70	0.26	No
ini.	3	-1636	18142	-2470			1625	627	SLU 79	0.25	No
fin.	3	-1738	19090	2502			1666	640	SLU 79	0.26	No
ini.	3	-1429	15457	-2296			1542	600	SLU 72	0.26	No
fin.	3	-1513	16091	2311			1576	611	SLU 72	0.26	No
ini.	3	-1676	18634	-2508			1641	632	SLU 77	0.25	No
fin.	3	-1782	19680	2544			1683	645	SLU 77	0.25	No
ini.	3	-1671	18611	-2504			1639	631	SLU 78	0.25	No
fin.	3	-1776	19649	2540			1681	645	SLU 78	0.25	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-5097	129292	172601	SLV 14	1.33	Si
fin.	2	3155	-110953	172601	SLV 14	1.56	Si
ini.	2	2658	-102124	172601	SLV 4	1.69	Si
fin.	2	-5751	140368	172601	SLV 4	1.23	Si
ini.	2	-5097	129292	172601	SLV 13	1.33	Si
fin.	2	3155	-110953	172601	SLV 13	1.56	Si
ini.	2	3166	-110574	172601	SLV 2	1.56	Si
fin.	2	-5185	131207	172601	SLV 2	1.32	Si
ini.	2	440	-35849	172601	SLD 4	4.81	Si
fin.	2	-3197	68336	172601	SLD 4	2.53	Si
ini.	2	-5605	137742	172601	SLV 16	1.25	Si
fin.	2	2589	-101792	172601	SLV 16	1.7	Si
ini.	2	2658	-102124	172601	SLV 3	1.69	Si
fin.	2	-5751	140368	172601	SLV 3	1.23	Si
ini.	2	-5605	137742	172601	SLV 15	1.25	Si
fin.	2	2589	-101792	172601	SLV 15	1.7	Si
ini.	2	440	-35849	172601	SLD 3	4.81	Si
fin.	2	-3197	68336	172601	SLD 3	2.53	Si
ini.	2	3166	-110574	172601	SLV 1	1.56	Si
fin.	2	-5185	131207	172601	SLV 1	1.32	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-5097	129292	-8151			3495	1231	SLV 14	0.15	No
fin.	2	3155	-110953	-5340			1456	0	SLV 14	0	No
ini.	2	3166	-110574	5316			1456	0	SLV 1	0	No
fin.	2	-5185	131207	8079			3530	1239	SLV 1	0.15	No
ini.	2	-5605	137742	-8644			3698	1279	SLV 15	0.15	No
fin.	2	2589	-101792	-4678			1456	0	SLV 15	0	No
ini.	2	-1612	35480	-2863			2101	827	SLV 10	0.29	No
fin.	2	896	-36885	-1416			1456	294	SLV 10	0.21	No
ini.	2	3166	-110574	5316			1456	0	SLV 2	0	No
fin.	2	-5185	131207	8079			3530	1239	SLV 2	0.15	No
ini.	2	-5097	129292	-8151			3495	1231	SLV 13	0.15	No
fin.	2	3155	-110953	-5340			1456	0	SLV 13	0	No
ini.	2	-1612	35480	-2863			2101	827	SLV 9	0.29	No
fin.	2	896	-36885	-1416			1456	294	SLV 9	0.21	No
ini.	2	-5605	137742	-8644			3698	1279	SLV 16	0.15	No
fin.	2	2589	-101792	-4678			1456	0	SLV 16	0	No
ini.	2	2658	-102124	4823			1456	0	SLV 4	0	No
fin.	2	-5751	140368	8741			3756	1292	SLV 4	0.15	No
ini.	2	2658	-102124	4823			1456	0	SLV 3	0	No
fin.	2	-5751	140368	8741			3756	1292	SLV 3	0.15	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.23	SLV 3	Si
V_SLV	0	SLV 1	No
PF_SLU	5.052	SLU 81	Si
V_SLU	0.252	SLU 77	No



## Trave di accoppiamento 87

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1283.8	666.1	752	834	82	-1193.8	666.1	752	834	82	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1076	-17719	95520	SLU 73	5.39	Si
fin.	3	-1088	-18488	95520	SLU 73	5.17	Si
ini.	3	-1166	-18868	95520	SLU 82	5.06	Si
fin.	3	-1175	-19576	95520	SLU 82	4.88	Si
ini.	3	-1003	-18030	95520	SLU 83	5.3	Si
fin.	3	-1038	-19261	95520	SLU 83	4.96	Si
ini.	3	-798	-16524	95520	SLU 78	5.78	Si
fin.	3	-859	-18253	95520	SLU 78	5.23	Si
ini.	3	-964	-17404	95520	SLU 75	5.49	Si
fin.	3	-997	-18598	95520	SLU 75	5.14	Si
ini.	3	-1168	-18910	95520	SLU 81	5.05	Si
fin.	3	-1176	-19606	95520	SLU 81	4.87	Si
ini.	3	-1001	-17988	95520	SLU 84	5.31	Si
fin.	3	-1037	-19231	95520	SLU 84	4.97	Si
ini.	3	-911	-16839	95520	SLU 76	5.67	Si
fin.	3	-950	-18142	95520	SLU 76	5.27	Si
ini.	3	-800	-16567	95520	SLU 77	5.77	Si
fin.	3	-860	-18283	95520	SLU 77	5.22	Si
ini.	3	-965	-17447	95520	SLU 74	5.48	Si
fin.	3	-998	-18628	95520	SLU 74	5.13	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-592	-13910	2637			1021	404	SLU 70	0.15	No
fin.	3	-659	-15760	-2711			1046	414	SLU 70	0.15	No
ini.	3	-800	-16567	2974			1097	434	SLU 77	0.15	No
fin.	3	-860	-18283	-3030			1119	442	SLU 77	0.15	No
ini.	3	-749	-16030	2925			1079	426	SLU 79	0.15	No
fin.	3	-814	-17847	-2989			1102	436	SLU 79	0.15	No
ini.	3	-594	-13952	2640			1022	404	SLU 69	0.15	No
fin.	3	-660	-15790	-2713			1046	414	SLU 69	0.15	No
ini.	3	-1001	-17988	3027			1170	461	SLU 84	0.15	No
fin.	3	-1037	-19231	-3050			1183	465	SLU 84	0.15	No
ini.	3	-798	-16524	2971			1097	433	SLU 78	0.15	No
fin.	3	-859	-18253	-3028			1119	442	SLU 78	0.15	No
ini.	3	-1003	-18030	3030			1171	461	SLU 83	0.15	No
fin.	3	-1038	-19261	-3052			1184	465	SLU 83	0.15	No
ini.	3	-541	-13373	2589			1003	396	SLU 72	0.15	No
fin.	3	-613	-15324	-2671			1029	407	SLU 72	0.15	No
ini.	3	-747	-15988	2922			1078	426	SLU 80	0.15	No
fin.	3	-813	-17817	-2987			1102	435	SLU 80	0.15	No
ini.	3	-543	-13416	2592			1003	396	SLU 71	0.15	No
fin.	3	-614	-15354	-2673			1029	407	SLU 71	0.15	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-4578	-126255	143281	SLV 4	1.13	Si
fin.	2	2912	90314	143281	SLV 4	1.59	Si
ini.	2	-4578	-126255	143281	SLV 3	1.13	Si
fin.	2	2912	90314	143281	SLV 3	1.59	Si
ini.	2	3159	102156	143281	SLV 13	1.4	Si
fin.	2	-4344	-115406	143281	SLV 13	1.24	Si
ini.	2	-4359	-114241	143281	SLV 1	1.25	Si
fin.	2	3074	103943	143281	SLV 1	1.38	Si
ini.	2	2939	90142	143281	SLV 15	1.59	Si
fin.	2	-4505	-129034	143281	SLV 15	1.11	Si
ini.	2	2939	90142	143281	SLV 16	1.59	Si
fin.	2	-4505	-129034	143281	SLV 16	1.11	Si
ini.	2	52	386	143281	SLV 11	371	Si
fin.	2	-2097	-68162	143281	SLV 11	2.1	Si
ini.	2	-4359	-114241	143281	SLV 2	1.25	Si
fin.	2	3074	103943	143281	SLV 2	1.38	Si
ini.	2	3159	102156	143281	SLV 14	1.4	Si
fin.	2	-4344	-115406	143281	SLV 14	1.24	Si
ini.	2	52	386	143281	SLV 12	371	Si
fin.	2	-2097	-68162	143281	SLV 12	2.1	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-4359	-114241	7817			2797	996	SLV 2	0.13	No
fin.	2	3074	103943	4242			1208	0	SLV 2	0	No
ini.	2	3159	102156	-4220			1208	0	SLV 13	0	No
fin.	2	-4344	-115406	-7856			2791	995	SLV 13	0.13	No





Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-4359	-114241	7817			2797	996	SLV 1	0.13	No
fin.	2	3074	103943	4242			1208	0	SLV 1	0	No
ini.	2	2939	90142	-3889			1208	0	SLV 16	0	No
fin.	2	-4505	-129034	-8168			2850	1009	SLV 16	0.12	No
ini.	2	3159	102156	-4220			1208	0	SLV 14	0	No
fin.	2	-4344	-115406	-7856			2791	995	SLV 14	0.13	No
ini.	2	-4578	-126255	8148			2877	1016	SLV 4	0.12	No
fin.	2	2912	90314	3931			1208	0	SLV 4	0	No
ini.	2	2939	90142	-3889			1208	0	SLV 15	0	No
fin.	2	-4505	-129034	-8168			2850	1009	SLV 15	0.12	No
ini.	2	849	31660	-535			1208	232	SLD 16	0.43	No
fin.	2	-2333	-62228	-4612			2059	792	SLD 16	0.17	No
ini.	2	849	31660	-535			1208	232	SLD 15	0.43	No
fin.	2	-2333	-62228	-4612			2059	792	SLD 15	0.17	No
ini.	2	-4578	-126255	8148			2877	1016	SLV 3	0.12	No
fin.	2	2912	90314	3931			1208	0	SLV 3	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.11	SLV 15	Si
V_SLV	0	SLV 1	No
PF_SLU	4.872	SLU 81	Si
V_SLU	0.146	SLU 79	No

## Trave di accoppiamento 88

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-795.8	666.1	482	572	90	-705.8	666.1	482	572	90	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1340	10579	115068	SLU 51	10.88	Si
fin.	3	-1165	-4067	115068	SLU 51	28.29	Si
ini.	3	-1621	10478	115068	SLU 78	10.98	Si
fin.	3	-1461	-3174	115068	SLU 78	36.25	Si
ini.	3	-1492	10710	115068	SLU 70	10.74	Si
fin.	3	-1320	-3723	115068	SLU 70	30.91	Si
ini.	3	-1478	11041	115068	SLU 72	10.42	Si
fin.	3	-1296	-4203	115068	SLU 72	27.38	Si
ini.	3	-1608	10809	115068	SLU 80	10.65	Si
fin.	3	-1437	-3655	115068	SLU 80	31.49	Si
ini.	3	-1607	10478	115068	SLU 79	10.98	Si
fin.	3	-1444	-3396	115068	SLU 79	33.88	Si
ini.	3	-1354	10248	115068	SLU 49	11.23	Si
fin.	3	-1189	-3587	115068	SLU 49	32.08	Si
ini.	3	-1470	10347	115068	SLU 59	11.12	Si
fin.	3	-1306	-3519	115068	SLU 59	32.7	Si
ini.	3	-1491	10379	115068	SLU 69	11.09	Si
fin.	3	-1328	-3464	115068	SLU 69	33.21	Si
ini.	3	-1478	10710	115068	SLU 71	10.74	Si
fin.	3	-1304	-3945	115068	SLU 71	29.17	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1552	4919	-1172			1591	616	SLU 81	0.53	No
fin.	3	-1527	1511	1575			1581	613	SLU 81	0.39	No
ini.	3	-1566	7748	-1286			1597	618	SLU 75	0.48	No
fin.	3	-1473	-838	1510			1559	606	SLU 75	0.4	No
ini.	3	-1497	5570	-1152			1569	609	SLU 73	0.53	No
fin.	3	-1455	845	1492			1552	604	SLU 73	0.4	No
ini.	3	-1608	7980	-1314			1614	623	SLU 84	0.47	No
fin.	3	-1509	-1083	1528			1574	611	SLU 84	0.4	No
ini.	3	-1553	8300	-1286			1592	616	SLU 76	0.48	No
fin.	3	-1444	-1491	1459			1548	602	SLU 76	0.41	No
ini.	3	-1552	5250	-1180			1591	616	SLU 82	0.52	No
fin.	3	-1520	1253	1561			1578	612	SLU 82	0.39	No
ini.	3	-1620	10147	-1412			1619	625	SLU 77	0.44	No
fin.	3	-1469	-2916	1492			1558	605	SLU 77	0.41	No
ini.	3	-1621	10478	-1420			1619	625	SLU 78	0.44	No
fin.	3	-1461	-3174	1477			1555	605	SLU 78	0.41	No
ini.	3	-1565	7418	-1278			1596	618	SLU 74	0.48	No
fin.	3	-1480	-580	1524			1562	607	SLU 74	0.4	No
ini.	3	-1607	7649	-1307			1613	623	SLU 83	0.48	No
fin.	3	-1516	-825	1543			1577	612	SLU 83	0.4	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-4269	187401	172601	SLV 15	0.92	No



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	380	-130400	172601	SLV 15	1.32	Si
ini.	2	2153	-179659	172601	SLV 1	0.96	No
fin.	2	-2443	131892	172601	SLV 1	1.31	Si
ini.	2	-4269	187401	172601	SLV 16	0.92	No
fin.	2	380	-130400	172601	SLV 16	1.32	Si
ini.	2	-4300	204854	172601	SLV 13	0.84	No
fin.	2	835	-139834	172601	SLV 13	1.23	Si
ini.	2	2153	-179659	172601	SLV 2	0.96	No
fin.	2	-2443	131892	172601	SLV 2	1.31	Si
ini.	2	2184	-197111	172601	SLV 4	0.88	No
fin.	2	-2898	141326	172601	SLV 4	1.22	Si
ini.	2	-4300	204854	172601	SLV 14	0.84	No
fin.	2	835	-139834	172601	SLV 14	1.23	Si
ini.	2	-2078	90637	172601	SLV 9	1.9	Si
fin.	2	219	-55737	172601	SLV 9	3.1	Si
ini.	2	2184	-197111	172601	SLV 3	0.88	No
fin.	2	-2898	141326	172601	SLV 3	1.22	Si
ini.	2	-2078	90637	172601	SLV 10	1.9	Si
fin.	2	219	-55737	172601	SLV 10	3.1	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt <sub>lim</sub>	Comb.	c.s.	Verifica
ini.	2	-4300	204854	-7134			3176	1151	SLV 13	0.16	No
fin.	2	835	-139834	-4728			1456	318	SLV 13	0.07	No
ini.	2	-4269	187401	-7282			3163	1148	SLV 16	0.16	No
fin.	2	380	-130400	-4254			1456	458	SLV 16	0.11	No
ini.	2	2184	-197111	5509			1456	0	SLV 3	0	No
fin.	2	-2898	141326	6866			2615	995	SLV 3	0.14	No
ini.	2	2153	-179659	5657			1456	0	SLV 1	0	No
fin.	2	-2443	131892	6393			2433	939	SLV 1	0.15	No
ini.	2	-4300	204854	-7134			3176	1151	SLV 14	0.16	No
fin.	2	835	-139834	-4728			1456	318	SLV 14	0.07	No
ini.	2	2153	-179659	5657			1456	0	SLV 2	0	No
fin.	2	-2443	131892	6393			2433	939	SLV 2	0.15	No
ini.	2	328	-81905	1889			1456	471	SLD 3	0.25	No
fin.	2	-1824	60711	3544			2185	857	SLD 3	0.24	No
ini.	2	-4269	187401	-7282			3163	1148	SLV 15	0.16	No
fin.	2	380	-130400	-4254			1456	458	SLV 15	0.11	No
ini.	2	328	-81905	1889			1456	471	SLD 4	0.25	No
fin.	2	-1824	60711	3544			2185	857	SLD 4	0.24	No
ini.	2	2184	-197111	5509			1456	0	SLV 4	0	No
fin.	2	-2898	141326	6866			2615	995	SLV 4	0.14	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.843	SLV 13	No
V_SLV	0	SLV 1	No
PF_SLU	10.422	SLU 72	Si
V_SLU	0.389	SLU 81	No

## Trave di accoppiamento 89

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-795.8	666.1	752	834	82	-705.8	666.1	752	834	82	90	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	9	-1686	95520	SLU 69	56.67	Si
fin.	3	-394	-19300	95520	SLU 69	4.95	Si
ini.	3	-29	-1468	95520	SLU 59	65.07	Si
fin.	3	-400	-18878	95520	SLU 59	5.06	Si
ini.	3	-113	-2471	95520	SLU 78	38.66	Si
fin.	3	-453	-20578	95520	SLU 78	4.64	Si
ini.	3	-119	-2675	95520	SLU 77	35.71	Si
fin.	3	-448	-20404	95520	SLU 77	4.68	Si
ini.	3	16	-1481	95520	SLU 70	64.48	Si
fin.	3	-399	-19474	95520	SLU 70	4.9	Si
ini.	3	-73	-1907	95520	SLU 80	50.09	Si
fin.	3	-464	-20872	95520	SLU 80	4.58	Si
ini.	3	-28	-1044	95520	SLU 38	91.46	Si
fin.	3	-436	-18756	95520	SLU 38	5.09	Si
ini.	3	49	-1122	95520	SLU 71	85.14	Si
fin.	3	-406	-19595	95520	SLU 71	4.87	Si
ini.	3	56	-918	95520	SLU 72	104.07	Si
fin.	3	-411	-19769	95520	SLU 72	4.83	Si
ini.	3	-79	-2111	95520	SLU 79	45.25	Si
fin.	3	-459	-20698	95520	SLU 79	4.61	Si



Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-79	-2111	2901			834	318	SLU 79	0.11	No
fin.	3	-459	-20698	-2953			973	384	SLU 79	0.13	No
ini.	3	-296	-4109	3219			914	357	SLU 84	0.11	No
fin.	3	-414	-18269	-2935			956	376	SLU 84	0.13	No
ini.	3	-464	-5887	3345			975	384	SLU 82	0.11	No
fin.	3	-341	-15193	-2767			930	364	SLU 82	0.13	No
ini.	3	-119	-2675	2990			849	326	SLU 77	0.11	No
fin.	3	-448	-20404	-2971			969	382	SLU 77	0.13	No
ini.	3	-113	-2471	2978			847	325	SLU 78	0.11	No
fin.	3	-453	-20578	-2979			971	382	SLU 78	0.13	No
ini.	3	-281	-4249	3104			908	354	SLU 75	0.11	No
fin.	3	-380	-17502	-2811			944	371	SLU 75	0.13	No
ini.	3	-73	-1907	2889			832	317	SLU 80	0.11	No
fin.	3	-464	-20872	-2961			975	384	SLU 80	0.13	No
ini.	3	-471	-6092	3357			977	385	SLU 81	0.11	No
fin.	3	-336	-15019	-2759			928	364	SLU 81	0.13	No
ini.	3	-303	-4313	3231			916	358	SLU 83	0.11	No
fin.	3	-409	-18095	-2927			955	376	SLU 83	0.13	No
ini.	3	-287	-4453	3116			910	356	SLU 74	0.11	No
fin.	3	-375	-17327	-2803			942	370	SLU 74	0.13	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2508	76274	143281	SLV 15	1.88	Si
fin.	2	-3323	-128020	143281	SLV 15	1.12	Si
ini.	2	-3004	-83844	143281	SLV 2	1.71	Si
fin.	2	2922	107585	143281	SLV 2	1.33	Si
ini.	2	2991	80455	143281	SLV 14	1.78	Si
fin.	2	-2799	-121506	143281	SLV 14	1.18	Si
ini.	2	-3487	-88025	143281	SLV 3	1.63	Si
fin.	2	2398	101071	143281	SLV 3	1.42	Si
ini.	2	933	30476	143281	SLD 15	4.7	Si
fin.	2	-1532	-60529	143281	SLD 15	2.37	Si
ini.	2	-3004	-83844	143281	SLV 1	1.71	Si
fin.	2	2922	107585	143281	SLV 1	1.33	Si
ini.	2	2991	80455	143281	SLV 13	1.78	Si
fin.	2	-2799	-121506	143281	SLV 13	1.18	Si
ini.	2	-3487	-88025	143281	SLV 4	1.63	Si
fin.	2	2398	101071	143281	SLV 4	1.42	Si
ini.	2	2508	76274	143281	SLV 16	1.88	Si
fin.	2	-3323	-128020	143281	SLV 16	1.12	Si
ini.	2	933	30476	143281	SLD 16	4.7	Si
fin.	2	-1532	-60529	143281	SLD 16	2.37	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-3004	-83844	6444			2303	865	SLV 2	0.13	No
fin.	2	2922	107585	3996			1208	0	SLV 2	0	No
ini.	2	2991	80455	-2517			1208	0	SLV 14	0	No
fin.	2	-2799	-121506	-7210			2228	843	SLV 14	0.12	No
ini.	2	1457	27828	269			1208	0	SLV 9	0	No
fin.	2	-185	-33725	-2891			1276	490	SLV 9	0.17	No
ini.	2	2508	76274	-2216			1208	0	SLV 16	0	No
fin.	2	-3323	-128020	-7550			2420	897	SLV 16	0.12	No
ini.	2	-3487	-88025	6745			2479	914	SLV 3	0.14	No
fin.	2	2398	101071	3655			1208	0	SLV 3	0	No
ini.	2	1457	27828	269			1208	0	SLV 10	0	No
fin.	2	-185	-33725	-2891			1276	490	SLV 10	0.17	No
ini.	2	2991	80455	-2517			1208	0	SLV 13	0	No
fin.	2	-2799	-121506	-7210			2228	843	SLV 13	0.12	No
ini.	2	-3487	-88025	6745			2479	914	SLV 4	0.14	No
fin.	2	2398	101071	3655			1208	0	SLV 4	0	No
ini.	2	-341	-21461	2957			1333	518	SLV 6	0.18	No
fin.	2	1531	35003	470			1208	0	SLV 6	0	No
ini.	2	-341	-21461	2957			1333	518	SLV 5	0.18	No
fin.	2	1531	35003	470			1208	0	SLV 5	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.119	SLV 15	Si
V_SLV	0	SLV 1	No
PF_SLU	4.576	SLU 80	Si
V_SLU	0.109	SLU 77	No

Trave di accoppiamento 90

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1986.8	104.6	692	834	142	-2066.8	104.6	692	834	142	80	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti



fb	fhk	fvk0	fhmedio	t0	fv0	$\mu$	$\phi$	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	310	64802	286447	SLU 29	4.42	Si
fin.	3	310	-60722	286447	SLU 29	4.72	Si
ini.	3	328	64818	286447	SLU 78	4.42	Si
fin.	3	328	-57814	286447	SLU 78	4.95	Si
ini.	3	364	71377	286447	SLU 79	4.01	Si
fin.	3	364	-63851	286447	SLU 79	4.49	Si
ini.	3	381	66885	286447	SLU 37	4.28	Si
fin.	3	381	-56392	286447	SLU 37	5.08	Si
ini.	3	294	69294	286447	SLU 71	4.13	Si
fin.	3	294	-68180	286447	SLU 71	4.2	Si
ini.	3	299	65053	286447	SLU 80	4.4	Si
fin.	3	299	-58249	286447	SLU 80	4.92	Si
ini.	3	340	64567	286447	SLU 27	4.44	Si
fin.	3	340	-60287	286447	SLU 27	4.75	Si
ini.	3	394	71142	286447	SLU 77	4.03	Si
fin.	3	394	-63415	286447	SLU 77	4.52	Si
ini.	3	323	69059	286447	SLU 69	4.15	Si
fin.	3	323	-67745	286447	SLU 69	4.23	Si
ini.	3	410	66650	286447	SLU 35	4.3	Si
fin.	3	410	-55957	286447	SLU 35	5.12	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	328	64818	-581			1531	500	SLU 78	0.86	No
fin.	3	328	-57814	-2531			1531	500	SLU 78	0.2	No
ini.	3	327	57191	-387			1531	500	SLU 74	1.29	Si
fin.	3	327	-49936	-2337			1531	500	SLU 74	0.21	No
ini.	3	381	66885	-682			1531	486	SLU 37	0.71	No
fin.	3	381	-56392	-2433			1531	486	SLU 37	0.2	No
ini.	3	328	58318	-300			1531	500	SLU 83	1.67	Si
fin.	3	328	-48516	-2418			1531	500	SLU 83	0.21	No
ini.	3	394	71142	-730			1531	483	SLU 77	0.66	No
fin.	3	394	-63415	-2680			1531	483	SLU 77	0.18	No
ini.	3	294	69294	-962			1531	508	SLU 71	0.53	No
fin.	3	294	-68180	-2521			1531	508	SLU 71	0.2	No
ini.	3	299	65053	-590			1531	507	SLU 80	0.86	No
fin.	3	299	-58249	-2540			1531	507	SLU 80	0.2	No
ini.	3	323	69059	-954			1531	501	SLU 69	0.53	No
fin.	3	323	-67745	-2513			1531	501	SLU 69	0.2	No
ini.	3	364	71377	-739			1531	491	SLU 79	0.66	No
fin.	3	364	-63851	-2689			1531	491	SLU 79	0.18	No
ini.	3	410	66650	-674			1531	479	SLU 35	0.71	No
fin.	3	410	-55957	-2425			1531	479	SLU 35	0.2	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	342	235140	429671	SLD 1	1.83	Si
fin.	2	263	-239981	429671	SLD 1	1.79	Si
ini.	2	-789	-428610	429671	SLV 13	1	Si
fin.	2	-301	434104	429671	SLV 13	0.99	No
ini.	2	630	510429	429671	SLV 2	0.84	No
fin.	2	454	-522901	429671	SLV 2	0.82	No
ini.	2	-389	-450058	429671	SLV 15	0.95	No
fin.	2	-213	463784	429671	SLV 15	0.93	No
ini.	2	342	235140	429671	SLD 2	1.83	Si
fin.	2	263	-239981	429671	SLD 2	1.79	Si
ini.	2	1030	488980	429671	SLV 3	0.88	No
fin.	2	542	-493221	429671	SLV 3	0.87	No
ini.	2	-389	-450058	429671	SLV 16	0.95	No
fin.	2	-213	463784	429671	SLV 16	0.93	No
ini.	2	630	510429	429671	SLV 1	0.84	No
fin.	2	454	-522901	429671	SLV 1	0.82	No
ini.	2	-789	-428610	429671	SLV 14	1	Si
fin.	2	-301	434104	429671	SLV 14	0.99	No
ini.	2	1030	488980	429671	SLV 4	0.88	No
fin.	2	542	-493221	429671	SLV 4	0.87	No

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-389	-450058	11921			2453	945	SLV 15	0.08	No
fin.	2	-213	463784	10580			2382	909	SLV 15	0.09	No
ini.	2	630	510429	-12212			2297	714	SLV 2	0.06	No
fin.	2	454	-522901	-13350			2297	759	SLV 2	0.06	No
ini.	2	-789	-428610	11852			2613	1022	SLV 13	0.09	No
fin.	2	-301	434104	10661			2417	928	SLV 13	0.09	No
ini.	2	1030	488980	-12143			2297	600	SLV 4	0.05	No
fin.	2	542	-493221	-13431			2297	737	SLV 4	0.05	No
ini.	2	1030	488980	-12143			2297	600	SLV 3	0.05	No
fin.	2	542	-493221	-13431			2297	737	SLV 3	0.05	No
ini.	2	501	226589	-5273			2297	747	SLD 4	0.14	No
fin.	2	297	-228160	-6531			2297	797	SLD 4	0.12	No
ini.	2	-389	-450058	11921			2453	945	SLV 16	0.08	No
fin.	2	-213	463784	10580			2382	909	SLV 16	0.09	No
ini.	2	501	226589	-5273			2297	747	SLD 3	0.14	No
fin.	2	297	-228160	-6531			2297	797	SLD 3	0.12	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	630	510429	-12212			2297	714	SLV 1	0.06	No
fin.	2	454	-522901	-13350			2297	759	SLV 1	0.06	No
ini.	2	-789	-428610	11852			2613	1022	SLV 14	0.09	No
fin.	2	-301	434104	10661			2417	928	SLV 14	0.09	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.822	SLV 1	No
V_SLV	0.049	SLV 3	No
PF_SLU	4.013	SLU 79	Si
V_SLU	0.18	SLU 77	No

## Trave di accoppiamento 91

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1116.3	104.6	732	834	102	-1228.3	104.6	732	834	102	112	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>mk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2034	-80053	147798	SLU 80	1.85	Si
fin.	3	-2034	6342	147798	SLU 80	23.3	Si
ini.	3	-1661	-75925	147798	SLU 69	1.95	Si
fin.	3	-1661	16376	147798	SLU 69	9.03	Si
ini.	3	-1719	-75379	147798	SLU 72	1.96	Si
fin.	3	-1719	17888	147798	SLU 72	8.26	Si
ini.	3	-1750	-75858	147798	SLU 35	1.95	Si
fin.	3	-1750	3221	147798	SLU 35	45.89	Si
ini.	3	-1745	-77339	147798	SLU 37	1.91	Si
fin.	3	-1745	4394	147798	SLU 37	33.63	Si
ini.	3	-2040	-78573	147798	SLU 78	1.88	Si
fin.	3	-2040	5169	147798	SLU 78	28.6	Si
ini.	3	-1970	-82081	147798	SLU 79	1.8	Si
fin.	3	-1970	6004	147798	SLU 79	24.62	Si
ini.	3	-1976	-80600	147798	SLU 77	1.83	Si
fin.	3	-1976	4830	147798	SLU 77	30.6	Si
ini.	3	-1655	-77406	147798	SLU 71	1.91	Si
fin.	3	-1655	17550	147798	SLU 71	8.42	Si
ini.	3	-1809	-75312	147798	SLU 38	1.96	Si
fin.	3	-1809	4733	147798	SLU 38	31.23	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1970	-82081	1684			1719	660	SLU 79	0.39	No
fin.	3	-1970	6004	-117			1719	660	SLU 79	5.63	Si
ini.	3	-1661	-75925	1506			1607	625	SLU 69	0.41	No
fin.	3	-1661	16376	122			1607	625	SLU 69	5.11	Si
ini.	3	-1679	-67647	1489			1613	627	SLU 58	0.42	No
fin.	3	-1679	11041	-95			1613	627	SLU 58	6.62	Si
ini.	3	-2034	-80053	1669			1743	668	SLU 80	0.4	No
fin.	3	-2034	6342	-132			1743	668	SLU 80	5.04	Si
ini.	3	-2040	-78573	1645			1745	668	SLU 78	0.41	No
fin.	3	-2040	5169	-156			1745	668	SLU 78	4.28	Si
ini.	3	-1976	-80600	1660			1721	661	SLU 77	0.4	No
fin.	3	-1976	4830	-141			1721	661	SLU 77	4.69	Si
ini.	3	-1750	-75858	1501			1639	635	SLU 35	0.42	No
fin.	3	-1750	3221	-88			1639	635	SLU 35	7.19	Si
ini.	3	-1745	-77339	1525			1637	634	SLU 37	0.42	No
fin.	3	-1745	4394	-65			1637	634	SLU 37	9.81	Si
ini.	3	-1655	-77406	1530			1605	624	SLU 71	0.41	No
fin.	3	-1655	17550	146			1605	624	SLU 71	4.28	Si
ini.	3	-1719	-75379	1515			1628	631	SLU 72	0.42	No
fin.	3	-1719	17888	131			1628	631	SLU 72	4.83	Si

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	179	-333865	221697	SLV 13	0.66	No
fin.	2	138	565146	221697	SLV 13	0.39	No
ini.	2	110	-226854	221697	SLV 16	0.98	No
fin.	2	92	468200	221697	SLV 16	0.47	No
ini.	2	110	-226854	221697	SLV 15	0.98	No
fin.	2	92	468200	221697	SLV 15	0.47	No
ini.	2	-2694	258344	221697	SLV 3	0.86	No
fin.	2	-2652	-575407	221697	SLV 3	0.39	No
ini.	2	-2624	151333	221697	SLV 1	1.46	Si
fin.	2	-2606	-478460	221697	SLV 1	0.46	No
ini.	2	-2624	151333	221697	SLV 2	1.46	Si
fin.	2	-2606	-478460	221697	SLV 2	0.46	No
ini.	2	-1794	213370	221697	SLV 7	1.04	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	-1746	-323248	221697	SLV 7	0.69	No
ini.	2	-2694	258344	221697	SLV 4	0.86	No
fin.	2	-2652	-575407	221697	SLV 4	0.39	No
ini.	2	-1794	213370	221697	SLV 8	1.04	Si
fin.	2	-1746	-323248	221697	SLV 8	0.69	No
ini.	2	179	-333865	221697	SLV 14	0.66	No
fin.	2	138	565146	221697	SLV 14	0.39	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-2694	258344	-6987			2484	961	SLV 4	0.14	No
fin.	2	-2652	-575407	-8085			2469	956	SLV 4	0.12	No
ini.	2	110	-226854	6880			1503	543	SLV 15	0.08	No
fin.	2	92	468200	5742			1503	547	SLV 15	0.1	No
ini.	2	110	-226854	6880			1503	543	SLV 16	0.08	No
fin.	2	92	468200	5742			1503	547	SLV 16	0.1	No
ini.	2	-2624	151333	-5174			2458	952	SLV 2	0.18	No
fin.	2	-2606	-478460	-6308			2452	950	SLV 2	0.15	No
ini.	2	-2624	151333	-5174			2458	952	SLV 1	0.18	No
fin.	2	-2606	-478460	-6308			2452	950	SLV 1	0.15	No
ini.	2	-720	-288891	5955			1765	694	SLV 9	0.12	No
fin.	2	-768	312988	4753			1782	701	SLV 9	0.15	No
ini.	2	-720	-288891	5955			1765	694	SLV 10	0.12	No
fin.	2	-768	312988	4753			1782	701	SLV 10	0.15	No
ini.	2	-2694	258344	-6987			2484	961	SLV 3	0.14	No
fin.	2	-2652	-575407	-8085			2469	956	SLV 3	0.12	No
ini.	2	179	-333865	8693			1503	529	SLV 14	0.06	No
fin.	2	138	565146	7519			1503	537	SLV 14	0.07	No
ini.	2	179	-333865	8693			1503	529	SLV 13	0.06	No
fin.	2	138	565146	7519			1503	537	SLV 13	0.07	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.385	SLV 3	No
V_SLV	0.061	SLV 13	No
PF_SLU	1.801	SLU 79	Si
V_SLU	0.392	SLU 79	No

## Trave di accoppiamento 92

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-938.6	104.6	732	834	102	-1046.6	104.6	732	834	102	108	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1404	53004	147798	SLU 36	2.79	Si
fin.	3	-1404	-60749	147798	SLU 36	2.43	Si
ini.	3	-1343	57778	147798	SLU 35	2.56	Si
fin.	3	-1343	-64544	147798	SLU 35	2.29	Si
ini.	3	-1519	52655	147798	SLU 77	2.81	Si
fin.	3	-1519	-63660	147798	SLU 77	2.32	Si
ini.	3	-1084	49967	147798	SLU 29	2.96	Si
fin.	3	-1084	-60624	147798	SLU 29	2.44	Si
ini.	3	-1580	47882	147798	SLU 78	3.09	Si
fin.	3	-1580	-59865	147798	SLU 78	2.47	Si
ini.	3	-1261	44845	147798	SLU 71	3.3	Si
fin.	3	-1261	-59740	147798	SLU 71	2.47	Si
ini.	3	-1344	58739	147798	SLU 37	2.52	Si
fin.	3	-1344	-66170	147798	SLU 37	2.23	Si
ini.	3	-1582	48843	147798	SLU 80	3.03	Si
fin.	3	-1582	-61490	147798	SLU 80	2.4	Si
ini.	3	-1405	53965	147798	SLU 38	2.74	Si
fin.	3	-1405	-62374	147798	SLU 38	2.37	Si
ini.	3	-1521	53616	147798	SLU 79	2.76	Si
fin.	3	-1521	-65286	147798	SLU 79	2.26	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1626	48182	450			1653	643	SLU 83	1.43	Si
fin.	3	-1626	-55567	-2289			1653	643	SLU 83	0.28	No
ini.	3	-1519	52655	209			1613	630	SLU 77	3.01	Si
fin.	3	-1519	-63660	-2289			1613	630	SLU 77	0.28	No
ini.	3	-1521	53616	185			1613	630	SLU 79	3.4	Si
fin.	3	-1521	-65286	-2313			1613	630	SLU 79	0.27	No
ini.	3	-1582	48843	265			1636	638	SLU 80	2.41	Si
fin.	3	-1582	-61490	-2234			1636	638	SLU 80	0.29	No
ini.	3	-1405	53965	96			1570	615	SLU 38	6.38	Si
fin.	3	-1405	-62374	-2182			1570	615	SLU 38	0.28	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1580	47882	289			1636	638	SLU 78	2.21	Si
fin.	3	-1580	-59865	-2210			1636	638	SLU 78	0.29	No
ini.	3	-1449	53304	282			1586	621	SLU 41	2.2	Si
fin.	3	-1449	-56451	-2238			1586	621	SLU 41	0.28	No
ini.	3	-1404	53004	120			1569	615	SLU 36	5.11	Si
fin.	3	-1404	-60749	-2158			1569	615	SLU 36	0.28	No
ini.	3	-1344	58739	17			1547	607	SLU 37	35.43	Si
fin.	3	-1344	-66170	-2261			1547	607	SLU 37	0.27	No
ini.	3	-1343	57778	41			1546	607	SLU 35	14.77	Si
fin.	3	-1343	-64544	-2237			1546	607	SLU 35	0.27	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1035	252000	221697	SLV 5	0.88	No
fin.	2	-1142	-216287	221697	SLV 5	1.03	Si
ini.	2	-1104	516946	221697	SLV 2	0.43	No
fin.	2	-1480	-215314	221697	SLV 2	1.03	Si
ini.	2	-1094	461291	221697	SLV 4	0.48	No
fin.	2	-1474	-126785	221697	SLV 4	1.75	Si
ini.	2	-865	-481210	221697	SLV 16	0.46	No
fin.	2	-489	165531	221697	SLV 16	1.34	Si
ini.	2	-865	-481210	221697	SLV 15	0.46	No
fin.	2	-489	165531	221697	SLV 15	1.34	Si
ini.	2	-1104	516946	221697	SLV 1	0.43	No
fin.	2	-1480	-215314	221697	SLV 1	1.03	Si
ini.	2	-875	-425555	221697	SLV 13	0.52	No
fin.	2	-495	77002	221697	SLV 13	2.88	Si
ini.	2	-875	-425555	221697	SLV 14	0.52	No
fin.	2	-495	77002	221697	SLV 14	2.88	Si
ini.	2	-1094	461291	221697	SLV 3	0.48	No
fin.	2	-1474	-126785	221697	SLV 3	1.75	Si
ini.	2	-1035	252000	221697	SLV 6	0.88	No
fin.	2	-1142	-216287	221697	SLV 6	1.03	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-1094	461291	-4794			1971	779	SLV 3	0.16	No
fin.	2	-1474	-126785	-6209			2115	836	SLV 3	0.13	No
ini.	2	-1094	461291	-4794			1971	779	SLV 4	0.16	No
fin.	2	-1474	-126785	-6209			2115	836	SLV 4	0.13	No
ini.	2	-875	-425555	5596			1889	745	SLV 14	0.13	No
fin.	2	-495	77002	3913			1745	680	SLV 14	0.17	No
ini.	2	-875	-425555	5596			1889	745	SLV 13	0.13	No
fin.	2	-495	77002	3913			1745	680	SLV 13	0.17	No
ini.	2	-865	-481210	6880			1885	743	SLV 15	0.11	No
fin.	2	-489	165531	5268			1743	679	SLV 15	0.13	No
ini.	2	-865	-481210	6880			1885	743	SLV 16	0.11	No
fin.	2	-489	165531	5268			1743	679	SLV 16	0.13	No
ini.	2	-1104	516946	-6077			1975	781	SLV 1	0.13	No
fin.	2	-1480	-215314	-7564			2117	837	SLV 1	0.11	No
ini.	2	-1035	252000	-3489			1949	770	SLV 6	0.22	No
fin.	2	-1142	-216287	-5128			1989	787	SLV 6	0.15	No
ini.	2	-1035	252000	-3489			1949	770	SLV 5	0.22	No
fin.	2	-1142	-216287	-5128			1989	787	SLV 5	0.15	No
ini.	2	-1104	516946	-6077			1975	781	SLV 2	0.13	No
fin.	2	-1480	-215314	-7564			2117	837	SLV 2	0.11	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.429	SLV 1	No
V_SLV	0.108	SLV 15	No
PF_SLU	2.234	SLU 37	Si
V_SLU	0.268	SLU 37	No

### Trave di accoppiamento 93

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-647.8	104.6	692	834	142	-727.8	104.6	692	834	142	80	28	30000

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb_	fhk	fvk0	fmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1333	-80489	286447	SLU 81	3.56	Si
fin.	3	-1333	81838	286447	SLU 81	3.5	Si
ini.	3	-1211	-81527	286447	SLU 76	3.51	Si
fin.	3	-1211	82564	286447	SLU 76	3.47	Si
ini.	3	-1181	-74287	286447	SLU 78	3.86	Si
fin.	3	-1181	80284	286447	SLU 78	3.57	Si
ini.	3	-1166	-81557	286447	SLU 61	3.51	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	-1166	78170	286447	SLU 61	3.66	Si
ini.	3	-1310	-76147	286447	SLU 83	3.76	Si
fin.	3	-1310	80871	286447	SLU 83	3.54	Si
ini.	3	-1325	-88551	286447	SLU 82	3.23	Si
fin.	3	-1325	88230	286447	SLU 82	3.25	Si
ini.	3	-1163	-79631	286447	SLU 40	3.6	Si
fin.	3	-1163	81212	286447	SLU 40	3.53	Si
ini.	3	-1302	-84208	286447	SLU 84	3.4	Si
fin.	3	-1302	87263	286447	SLU 84	3.28	Si
ini.	3	-1204	-78630	286447	SLU 75	3.64	Si
fin.	3	-1204	81251	286447	SLU 75	3.53	Si
ini.	3	-1234	-85869	286447	SLU 73	3.34	Si
fin.	3	-1234	83531	286447	SLU 73	3.43	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1333	-80489	3102			2064	816	SLU 81	0.26	No
fin.	3	-1333	81838	884			2064	816	SLU 81	0.92	No
ini.	3	-1211	-81527	3034			2016	797	SLU 76	0.26	No
fin.	3	-1211	82564	996			2016	797	SLU 76	0.8	No
ini.	3	-1325	-88551	3283			2061	815	SLU 82	0.25	No
fin.	3	-1325	88230	1064			2061	815	SLU 82	0.77	No
ini.	3	-1302	-84208	3217			2052	811	SLU 84	0.25	No
fin.	3	-1302	87263	998			2052	811	SLU 84	0.81	No
ini.	3	-1310	-76147	3036			2055	813	SLU 83	0.27	No
fin.	3	-1310	80871	817			2055	813	SLU 83	0.99	No
ini.	3	-1181	-74287	2915			2004	792	SLU 78	0.27	No
fin.	3	-1181	80284	877			2004	792	SLU 78	0.9	No
ini.	3	-1140	-75289	2926			1987	786	SLU 42	0.27	No
fin.	3	-1140	80245	908			1987	786	SLU 42	0.87	No
ini.	3	-1204	-78630	2982			2013	796	SLU 75	0.27	No
fin.	3	-1204	81251	943			2013	796	SLU 75	0.84	No
ini.	3	-1163	-79631	2993			1996	790	SLU 40	0.26	No
fin.	3	-1163	81212	975			1996	790	SLU 40	0.81	No
ini.	3	-1234	-85869	3101			2025	801	SLU 73	0.26	No
fin.	3	-1234	83531	1062			2025	801	SLU 73	0.75	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-938	-416061	429671	SLV 15	1.03	Si
fin.	2	-583	566003	429671	SLV 15	0.76	No
ini.	2	-938	-416061	429671	SLV 16	1.03	Si
fin.	2	-583	566003	429671	SLV 16	0.76	No
ini.	2	-716	325876	429671	SLV 1	1.32	Si
fin.	2	-1071	-478526	429671	SLV 1	0.9	No
ini.	2	-694	292883	429671	SLV 3	1.47	Si
fin.	2	-1052	-452439	429671	SLV 3	0.95	No
ini.	2	-960	-383068	429671	SLV 14	1.12	Si
fin.	2	-601	539916	429671	SLV 14	0.8	No
ini.	2	-694	292883	429671	SLV 4	1.47	Si
fin.	2	-1052	-452439	429671	SLV 4	0.95	No
ini.	2	-716	325876	429671	SLV 2	1.32	Si
fin.	2	-1071	-478526	429671	SLV 2	0.9	No
ini.	2	-874	-203194	429671	SLD 16	2.11	Si
fin.	2	-722	266585	429671	SLD 16	1.61	Si
ini.	2	-874	-203194	429671	SLD 15	2.11	Si
fin.	2	-722	266585	429671	SLD 15	1.61	Si
ini.	2	-960	-383068	429671	SLV 13	1.12	Si
fin.	2	-601	539916	429671	SLV 13	0.8	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-716	325876	-9672			2583	1008	SLV 1	0.1	No
fin.	2	-1071	-478526	-10864			2725	1072	SLV 1	0.1	No
ini.	2	-874	-203194	6586			2646	1037	SLD 16	0.16	No
fin.	2	-722	266585	5260			2586	1009	SLD 16	0.19	No
ini.	2	-716	325876	-9672			2583	1008	SLV 2	0.1	No
fin.	2	-1071	-478526	-10864			2725	1072	SLV 2	0.1	No
ini.	2	-938	-416061	13125			2672	1049	SLV 16	0.08	No
fin.	2	-583	566003	11740			2530	983	SLV 16	0.08	No
ini.	2	-960	-383068	12344			2681	1053	SLV 13	0.09	No
fin.	2	-601	539916	11128			2537	986	SLV 13	0.09	No
ini.	2	-960	-383068	12344			2681	1053	SLV 14	0.09	No
fin.	2	-601	539916	11128			2537	986	SLV 14	0.09	No
ini.	2	-938	-416061	13125			2672	1049	SLV 15	0.08	No
fin.	2	-583	566003	11740			2530	983	SLV 15	0.08	No
ini.	2	-694	292883	-8891			2574	1004	SLV 3	0.11	No
fin.	2	-1052	-452439	-10252			2718	1069	SLV 3	0.1	No
ini.	2	-874	-203194	6586			2646	1037	SLD 15	0.16	No
fin.	2	-722	266585	5260			2586	1009	SLD 15	0.19	No
ini.	2	-694	292883	-8891			2574	1004	SLV 4	0.11	No
fin.	2	-1052	-452439	-10252			2718	1069	SLV 4	0.1	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.759	SLV 15	No
V_SLV	0.08	SLV 15	No
PF_SLU	3.235	SLU 82	Si
V_SLU	0.248	SLU 82	No





## Trave di accoppiamento 94

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-416.8	104.6	692	834	142	-496.8	104.6	692	834	142	80	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1245	-76107	286447	SLU 80	3.76	Si
fin.	3	-1245	32161	286447	SLU 80	8.91	Si
ini.	3	-1048	-73727	286447	SLU 58	3.89	Si
fin.	3	-1048	35773	286447	SLU 58	8.01	Si
ini.	3	-1015	-74521	286447	SLU 56	3.84	Si
fin.	3	-1015	35034	286447	SLU 56	8.18	Si
ini.	3	-980	-74468	286447	SLU 35	3.85	Si
fin.	3	-980	37109	286447	SLU 35	7.72	Si
ini.	3	-1211	-76901	286447	SLU 78	3.72	Si
fin.	3	-1211	31422	286447	SLU 78	9.12	Si
ini.	3	-996	-79034	286447	SLU 69	3.62	Si
fin.	3	-996	42711	286447	SLU 69	6.71	Si
ini.	3	-1064	-73947	286447	SLU 70	3.87	Si
fin.	3	-1064	35809	286447	SLU 70	8	Si
ini.	3	-1143	-81988	286447	SLU 77	3.49	Si
fin.	3	-1143	38325	286447	SLU 77	7.47	Si
ini.	3	-1030	-78240	286447	SLU 71	3.66	Si
fin.	3	-1030	43450	286447	SLU 71	6.59	Si
ini.	3	-1177	-81194	286447	SLU 79	3.53	Si
fin.	3	-1177	39064	286447	SLU 79	7.33	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1030	-78240	2333			1943	768	SLU 71	0.33	No
fin.	3	-1030	43450	780			1943	768	SLU 71	0.98	No
ini.	3	-1177	-81194	2511			2002	792	SLU 79	0.32	No
fin.	3	-1177	39064	566			2002	792	SLU 79	1.4	Si
ini.	3	-980	-74468	2295			1923	760	SLU 35	0.33	No
fin.	3	-980	37109	548			1923	760	SLU 35	1.39	Si
ini.	3	-1143	-81988	2511			1989	786	SLU 77	0.31	No
fin.	3	-1143	38325	567			1989	786	SLU 77	1.39	Si
ini.	3	-833	-71514	2118			1865	735	SLU 27	0.35	No
fin.	3	-833	41495	761			1865	735	SLU 27	0.97	No
ini.	3	-1245	-76107	2361			2029	802	SLU 80	0.34	No
fin.	3	-1245	32161	417			2029	802	SLU 80	1.93	Si
ini.	3	-1211	-76901	2362			2016	797	SLU 78	0.34	No
fin.	3	-1211	31422	417			2016	797	SLU 78	1.91	Si
ini.	3	-996	-79034	2334			1930	763	SLU 69	0.33	No
fin.	3	-996	42711	781			1930	763	SLU 69	0.98	No
ini.	3	-1014	-73674	2295			1937	766	SLU 37	0.33	No
fin.	3	-1014	37848	547			1937	766	SLU 37	1.4	Si
ini.	3	-1015	-74521	2214			1937	766	SLU 56	0.35	No
fin.	3	-1015	35034	597			1937	766	SLU 56	1.28	Si

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1198	-577886	429671	SLV 15	0.74	No
fin.	2	-884	415165	429671	SLV 15	1.03	Si
ini.	2	-145	479039	429671	SLV 3	0.9	No
fin.	2	-553	-373772	429671	SLV 3	1.15	Si
ini.	2	-1198	-577886	429671	SLV 16	0.74	No
fin.	2	-884	415165	429671	SLV 16	1.03	Si
ini.	2	-957	-267754	429671	SLD 15	1.6	Si
fin.	2	-822	181408	429671	SLD 15	2.37	Si
ini.	2	-957	-267754	429671	SLD 16	1.6	Si
fin.	2	-822	181408	429671	SLD 16	2.37	Si
ini.	2	-340	504729	429671	SLV 2	0.85	No
fin.	2	-655	-400163	429671	SLV 2	1.07	Si
ini.	2	-1393	-552197	429671	SLV 13	0.78	No
fin.	2	-986	388775	429671	SLV 13	1.11	Si
ini.	2	-340	504729	429671	SLV 1	0.85	No
fin.	2	-655	-400163	429671	SLV 1	1.07	Si
ini.	2	-145	479039	429671	SLV 4	0.9	No
fin.	2	-553	-373772	429671	SLV 4	1.15	Si
ini.	2	-1393	-552197	429671	SLV 14	0.78	No
fin.	2	-986	388775	429671	SLV 14	1.11	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-957	-267754	6333			2680	1052	SLD 16	0.17	No
fin.	2	-822	181408	5057			2626	1028	SLD 16	0.2	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-957	-267754	6333			2680	1052	SLD 15	0.17	No
fin.	2	-822	181408	5057			2626	1028	SLD 15	0.2	No
ini.	2	-1198	-577886	13235			2776	1094	SLV 16	0.08	No
fin.	2	-884	415165	11900			2650	1039	SLV 16	0.09	No
ini.	2	-1198	-577886	13235			2776	1094	SLV 15	0.08	No
fin.	2	-884	415165	11900			2650	1039	SLV 15	0.09	No
ini.	2	-145	479039	-10283			2355	895	SLV 4	0.09	No
fin.	2	-553	-373772	-11598			2518	977	SLV 4	0.08	No
ini.	2	-340	504729	-10843			2433	935	SLV 2	0.09	No
fin.	2	-655	-400163	-11978			2559	997	SLV 2	0.08	No
ini.	2	-145	479039	-10283			2355	895	SLV 3	0.09	No
fin.	2	-553	-373772	-11598			2518	977	SLV 3	0.08	No
ini.	2	-1393	-552197	12674			2854	1127	SLV 13	0.09	No
fin.	2	-986	388775	11520			2691	1057	SLV 13	0.09	No
ini.	2	-340	504729	-10843			2433	935	SLV 1	0.09	No
fin.	2	-655	-400163	-11978			2559	997	SLV 1	0.08	No
ini.	2	-1393	-552197	12674			2854	1127	SLV 14	0.09	No
fin.	2	-986	388775	11520			2691	1057	SLV 14	0.09	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.744	SLV 15	No
V_SLV	0.083	SLV 15	No
PF_SLU	3.494	SLU 77	Si
V_SLU	0.313	SLU 77	No

## Trave di accoppiamento 95

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-867.8	-485.9	808	834	26	-1051.8	-485.9	808	834	26	184	30	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-84	-7428	10289	SLU 80	1.39	Si
fin.	3	-84	-708	10289	SLU 80	14.54	Si
ini.	3	-62	-7653	10289	SLU 35	1.34	Si
fin.	3	-62	1385	10289	SLU 35	7.43	Si
ini.	3	-72	-7212	10289	SLU 36	1.43	Si
fin.	3	-72	899	10289	SLU 36	11.45	Si
ini.	3	-84	-7077	10289	SLU 78	1.45	Si
fin.	3	-84	-1054	10289	SLU 78	9.77	Si
ini.	3	-72	-7562	10289	SLU 38	1.36	Si
fin.	3	-72	1245	10289	SLU 38	8.27	Si
ini.	3	-74	-7868	10289	SLU 79	1.31	Si
fin.	3	-74	-222	10289	SLU 79	46.3	Si
ini.	3	-73	-171	10289	SLU 44	60.12	Si
fin.	3	-73	-7825	10289	SLU 44	1.31	Si
ini.	3	-74	-7518	10289	SLU 77	1.37	Si
fin.	3	-74	-568	10289	SLU 77	18.11	Si
ini.	3	-56	-906	10289	SLU 43	11.36	Si
fin.	3	-56	-7015	10289	SLU 43	1.47	Si
ini.	3	-62	-8003	10289	SLU 37	1.29	Si
fin.	3	-62	1730	10289	SLU 37	5.95	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-62	-8003	148			217	84	SLU 37	0.57	No
fin.	3	-62	1730	-42			217	84	SLU 37	2.01	Si
ini.	3	-77	-1475	95			221	86	SLU 65	0.9	No
fin.	3	-77	-6559	-151			221	86	SLU 65	0.57	No
ini.	3	-74	-6764	153			220	85	SLU 83	0.56	No
fin.	3	-74	-1306	-93			220	85	SLU 83	0.91	No
ini.	3	-74	-7868	165			220	85	SLU 79	0.52	No
fin.	3	-74	-222	-82			220	85	SLU 79	1.05	Si
ini.	3	-84	-7077	156			223	87	SLU 78	0.56	No
fin.	3	-84	-1054	-90			223	87	SLU 78	0.96	No
ini.	3	-74	-7518	161			220	85	SLU 77	0.53	No
fin.	3	-74	-568	-85			220	85	SLU 77	1	Si
ini.	3	-84	-7428	160			223	87	SLU 80	0.54	No
fin.	3	-84	-708	-87			223	87	SLU 80	1	Si
ini.	3	-73	-171	81			220	85	SLU 44	1.05	Si
fin.	3	-73	-7825	-165			220	85	SLU 44	0.52	No
ini.	3	-70	-6565	151			219	85	SLU 58	0.56	No
fin.	3	-70	-1488	-95			219	85	SLU 58	0.89	No
ini.	3	-56	-906	90			215	83	SLU 43	0.92	No
fin.	3	-56	-7015	-156			215	83	SLU 43	0.53	No



## Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-252	37456	15434	SLV 1	0.41	No
fin.	2	-294	-45249	15434	SLV 1	0.34	No
ini.	2	196	-52107	15434	SLV 13	0.3	No
fin.	2	184	47809	15434	SLV 13	0.32	No
ini.	2	-179	29430	15434	SLV 7	0.52	No
fin.	2	-93	-36358	15434	SLV 7	0.42	No
ini.	2	-179	29430	15434	SLV 8	0.52	No
fin.	2	-93	-36358	15434	SLV 8	0.42	No
ini.	2	-252	37456	15434	SLV 2	0.41	No
fin.	2	-294	-45249	15434	SLV 2	0.34	No
ini.	2	158	-41344	15434	SLV 15	0.37	No
fin.	2	199	36881	15434	SLV 15	0.42	No
ini.	2	-291	48220	15434	SLV 3	0.32	No
fin.	2	-279	-56178	15434	SLV 3	0.27	No
ini.	2	158	-41344	15434	SLV 16	0.37	No
fin.	2	199	36881	15434	SLV 16	0.42	No
ini.	2	196	-52107	15434	SLV 14	0.3	No
fin.	2	184	47809	15434	SLV 14	0.32	No
ini.	2	-291	48220	15434	SLV 4	0.32	No
fin.	2	-279	-56178	15434	SLV 4	0.27	No

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	196	-52107	602			300	80	SLV 13	0.13	No
fin.	2	184	47809	399			300	82	SLV 13	0.21	No
ini.	2	-252	37456	-407			368	145	SLV 2	0.36	No
fin.	2	-294	-45249	-604			379	150	SLV 2	0.25	No
ini.	2	196	-52107	602			300	80	SLV 14	0.13	No
fin.	2	184	47809	399			300	82	SLV 14	0.21	No
ini.	2	56	-23285	304			300	105	SLD 13	0.34	No
fin.	2	53	17939	109			300	105	SLD 13	0.97	No
ini.	2	56	-23285	304			300	105	SLD 14	0.34	No
fin.	2	53	17939	109			300	105	SLD 14	0.97	No
ini.	2	158	-41344	572			300	87	SLV 16	0.15	No
fin.	2	199	36881	390			300	79	SLV 16	0.2	No
ini.	2	158	-41344	572			300	87	SLV 15	0.15	No
fin.	2	199	36881	390			300	79	SLV 15	0.2	No
ini.	2	-252	37456	-407			368	145	SLV 1	0.36	No
fin.	2	-294	-45249	-604			379	150	SLV 1	0.25	No
ini.	2	-291	48220	-437			378	149	SLV 4	0.34	No
fin.	2	-279	-56178	-613			375	148	SLV 4	0.24	No
ini.	2	-291	48220	-437			378	149	SLV 3	0.34	No
fin.	2	-279	-56178	-613			375	148	SLV 3	0.24	No

## Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.275	SLV 3	No
V_SLV	0.132	SLV 13	No
PF_SLU	1.286	SLU 37	Si
V_SLU	0.518	SLU 44	No

## Trave di accoppiamento 96

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-854.8	-335.9	692	834	142	-944.8	-335.9	692	834	142	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-225	58908	286447	SLU 81	4.86	Si
fin.	3	-225	-106550	286447	SLU 81	2.69	Si
ini.	3	-189	62928	286447	SLU 52	4.55	Si
fin.	3	-189	-102535	286447	SLU 52	2.79	Si
ini.	3	-134	72672	286447	SLU 73	3.94	Si
fin.	3	-134	-116758	286447	SLU 73	2.45	Si
ini.	3	-94	66503	286447	SLU 65	4.31	Si
fin.	3	-94	-108232	286447	SLU 65	2.65	Si
ini.	3	-86	60405	286447	SLU 75	4.74	Si
fin.	3	-86	-107614	286447	SLU 75	2.66	Si
ini.	3	-181	68753	286447	SLU 82	4.17	Si
fin.	3	-181	-114867	286447	SLU 82	2.49	Si
ini.	3	-119	60091	286447	SLU 84	4.77	Si
fin.	3	-119	-106543	286447	SLU 84	2.69	Si
ini.	3	-235	59009	286447	SLU 61	4.85	Si
fin.	3	-235	-100644	286447	SLU 61	2.85	Si
ini.	3	-72	64011	286447	SLU 76	4.48	Si
fin.	3	-72	-108433	286447	SLU 76	2.64	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-68	65930	286447	SLU 31	4.34	Si
fin.	3	-68	-102013	286447	SLU 31	2.81	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-119	60091	-1008			1579	602	SLU 84	0.6	No
fin.	3	-119	-106543	-2635			1579	602	SLU 84	0.23	No
ini.	3	-181	68753	-1197			1604	614	SLU 82	0.51	No
fin.	3	-181	-114867	-2824			1604	614	SLU 82	0.22	No
ini.	3	-225	58908	-995			1621	623	SLU 81	0.63	No
fin.	3	-225	-106550	-2622			1621	623	SLU 81	0.24	No
ini.	3	-72	64011	-1120			1560	592	SLU 76	0.53	No
fin.	3	-72	-108433	-2652			1560	592	SLU 76	0.22	No
ini.	3	-68	65930	-1183			1559	591	SLU 31	0.5	No
fin.	3	-68	-102013	-2504			1559	591	SLU 31	0.24	No
ini.	3	-24	51743	-882			1541	582	SLU 78	0.66	No
fin.	3	-24	-99290	-2414			1541	582	SLU 78	0.24	No
ini.	3	-115	62011	-1071			1577	601	SLU 40	0.56	No
fin.	3	-115	-100123	-2487			1577	601	SLU 40	0.24	No
ini.	3	-86	60405	-1071			1566	595	SLU 75	0.56	No
fin.	3	-86	-107614	-2603			1566	595	SLU 75	0.23	No
ini.	3	-94	66503	-1256			1569	596	SLU 65	0.47	No
fin.	3	-94	-108232	-2567			1569	596	SLU 65	0.23	No
ini.	3	-134	72672	-1309			1585	605	SLU 73	0.46	No
fin.	3	-134	-116758	-2841			1585	605	SLU 73	0.21	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1699	142970	429671	SLV 8	3.01	Si
fin.	2	-678	-313393	429671	SLV 8	1.37	Si
ini.	2	2225	424832	429671	SLV 2	1.01	Si
fin.	2	1592	-497123	429671	SLV 2	0.86	No
ini.	2	-2531	-348520	429671	SLV 15	1.23	Si
fin.	2	-1897	353317	429671	SLV 15	1.22	Si
ini.	2	981	418673	429671	SLV 3	1.03	Si
fin.	2	1015	-559833	429671	SLV 3	0.77	No
ini.	2	2225	424832	429671	SLV 1	1.01	Si
fin.	2	1592	-497123	429671	SLV 1	0.86	No
ini.	2	-1286	-342361	429671	SLV 13	1.26	Si
fin.	2	-1320	416027	429671	SLV 13	1.03	Si
ini.	2	-2531	-348520	429671	SLV 16	1.23	Si
fin.	2	-1897	353317	429671	SLV 16	1.22	Si
ini.	2	-1699	142970	429671	SLV 7	3.01	Si
fin.	2	-678	-313393	429671	SLV 7	1.37	Si
ini.	2	-1286	-342361	429671	SLV 14	1.26	Si
fin.	2	-1320	416027	429671	SLV 14	1.03	Si
ini.	2	981	418673	429671	SLV 4	1.03	Si
fin.	2	1015	-559833	429671	SLV 4	0.77	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-1286	-342361	9741			2811	1109	SLV 14	0.11	No
fin.	2	-1320	416027	7875			2825	1115	SLV 14	0.14	No
ini.	2	2225	424832	-9278			2297	0	SLV 2	0	No
fin.	2	1592	-497123	-10824			2297	386	SLV 2	0.04	No
ini.	2	981	418673	-11109			2297	615	SLV 3	0.06	No
fin.	2	1015	-559833	-11304			2297	605	SLV 3	0.05	No
ini.	2	981	418673	-11109			2297	615	SLV 4	0.06	No
fin.	2	1015	-559833	-11304			2297	605	SLV 4	0.05	No
ini.	2	2225	424832	-9278			2297	0	SLV 1	0	No
fin.	2	1592	-497123	-10824			2297	386	SLV 1	0.04	No
ini.	2	2448	163500	-485			2297	0	SLV 5	0	No
fin.	2	1247	-104358	-3720			2297	528	SLV 5	0.14	No
ini.	2	-1286	-342361	9741			2811	1109	SLV 13	0.11	No
fin.	2	-1320	416027	7875			2825	1115	SLV 13	0.14	No
ini.	2	1394	-66658	5221			2297	472	SLV 9	0.09	No
fin.	2	373	169587	1890			2297	779	SLV 9	0.41	No
ini.	2	2448	163500	-485			2297	0	SLV 6	0	No
fin.	2	1247	-104358	-3720			2297	528	SLV 6	0.14	No
ini.	2	1394	-66658	5221			2297	472	SLV 10	0.09	No
fin.	2	373	169587	1890			2297	779	SLV 10	0.41	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.767	SLV 3	No
V_SLV	0	SLV 1	No
PF_SLU	2.453	SLU 73	Si
V_SLU	0.213	SLU 73	No

## Trave di accoppiamento 97

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-772.3	-486.1	808	834	26	-772.3	-377.1	808	834	26	109	30	30000



## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-24	-1650	10289	SLU 39	6.24	Si
fin.	3	-24	12423	10289	SLU 39	0.83	No
ini.	3	-17	-861	10289	SLU 42	11.95	Si
fin.	3	-17	11271	10289	SLU 42	0.91	No
ini.	3	-17	-1024	10289	SLU 40	10.05	Si
fin.	3	-17	12296	10289	SLU 40	0.84	No
ini.	3	-22	-1005	10289	SLU 82	10.24	Si
fin.	3	-22	12867	10289	SLU 82	0.8	No
ini.	3	-27	-1468	10289	SLU 83	7.01	Si
fin.	3	-27	11970	10289	SLU 83	0.86	No
ini.	3	-16	-335	10289	SLU 73	30.75	Si
fin.	3	-16	11219	10289	SLU 73	0.92	No
ini.	3	-28	-1631	10289	SLU 81	6.31	Si
fin.	3	-28	12994	10289	SLU 81	0.79	No
ini.	3	-26	-1312	10289	SLU 74	7.84	Si
fin.	3	-26	10999	10289	SLU 74	0.94	No
ini.	3	-21	-842	10289	SLU 84	12.22	Si
fin.	3	-21	11842	10289	SLU 84	0.87	No
ini.	3	-23	-1487	10289	SLU 41	6.92	Si
fin.	3	-23	11398	10289	SLU 41	0.9	No

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt <sub>lim</sub>	Comb.	c.s.	Verifica
ini.	3	-24	-1650	186			207	79	SLU 39	0.42	No
fin.	3	-24	12423	72			207	79	SLU 39	1.09	Si
ini.	3	-26	-1225	181			207	79	SLU 60	0.44	No
fin.	3	-26	10517	34			207	79	SLU 60	2.32	Si
ini.	3	-22	-1005	201			206	78	SLU 82	0.39	No
fin.	3	-22	12867	54			206	78	SLU 82	1.46	Si
ini.	3	-21	-842	190			206	78	SLU 84	0.41	No
fin.	3	-21	11842	43			206	78	SLU 84	1.83	Si
ini.	3	-28	-1631	208			208	79	SLU 81	0.38	No
fin.	3	-28	12994	61			208	79	SLU 81	1.31	Si
ini.	3	-27	-1468	197			208	79	SLU 83	0.4	No
fin.	3	-27	11970	50			208	79	SLU 83	1.6	Si
ini.	3	-20	-686	180			206	78	SLU 75	0.44	No
fin.	3	-20	10872	32			206	78	SLU 75	2.41	Si
ini.	3	-16	-335	180			205	78	SLU 73	0.43	No
fin.	3	-16	11219	32			205	78	SLU 73	2.4	Si
ini.	3	-26	-1312	187			207	79	SLU 74	0.42	No
fin.	3	-26	10999	39			207	79	SLU 74	2.01	Si
ini.	3	-17	-1024	179			205	78	SLU 40	0.44	No
fin.	3	-17	12296	66			205	78	SLU 40	1.19	Si

## Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	34	-12221	15434	SLV 6	1.26	Si
fin.	2	82	67907	15434	SLV 6	0.23	No
ini.	2	-71	10850	15434	SLV 11	1.42	Si
fin.	2	-119	-54937	15434	SLV 11	0.28	No
ini.	2	34	-12221	15434	SLV 5	1.26	Si
fin.	2	82	67907	15434	SLV 5	0.23	No
ini.	2	-64	8909	15434	SLV 7	1.73	Si
fin.	2	-106	-41687	15434	SLV 7	0.37	No
ini.	2	-64	8909	15434	SLV 8	1.73	Si
fin.	2	-106	-41687	15434	SLV 8	0.37	No
ini.	2	27	-10280	15434	SLV 10	1.5	Si
fin.	2	69	54657	15434	SLV 10	0.28	No
ini.	2	7	-7089	15434	SLV 1	2.18	Si
fin.	2	32	45007	15434	SLV 1	0.34	No
ini.	2	7	-7089	15434	SLV 2	2.18	Si
fin.	2	32	45007	15434	SLV 2	0.34	No
ini.	2	27	-10280	15434	SLV 9	1.5	Si
fin.	2	69	54657	15434	SLV 9	0.28	No
ini.	2	-71	10850	15434	SLV 12	1.42	Si
fin.	2	-119	-54937	15434	SLV 12	0.28	No

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt <sub>lim</sub>	Comb.	c.s.	Verifica
ini.	2	-71	10850	-506			319	123	SLV 11	0.24	No
fin.	2	-119	-54937	-2378			332	129	SLV 11	0.05	No
ini.	2	1	-5270	374			300	113	SLD 6	0.3	No
fin.	2	19	31236	943			300	110	SLD 6	0.12	No
ini.	2	34	-12221	751			300	108	SLV 5	0.14	No
fin.	2	82	67907	2396			300	100	SLV 5	0.04	No
ini.	2	-64	8909	-379			317	122	SLV 7	0.32	No
fin.	2	-106	-41687	-2287			329	127	SLV 7	0.06	No
ini.	2	1	-5270	374			300	113	SLD 5	0.3	No
fin.	2	19	31236	943			300	110	SLD 5	0.12	No
ini.	2	34	-12221	751			300	108	SLV 6	0.14	No
fin.	2	82	67907	2396			300	100	SLV 6	0.04	No
ini.	2	-71	10850	-506			319	123	SLV 12	0.24	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	-119	-54937	-2378			332	129	SLV 12	0.05	No
ini.	2	-64	8909	-379			317	122	SLV 8	0.32	No
fin.	2	-106	-41687	-2287			329	127	SLV 8	0.06	No
ini.	2	27	-10280	624			300	109	SLV 10	0.17	No
fin.	2	69	54657	2306			300	103	SLV 10	0.04	No
ini.	2	27	-10280	624			300	109	SLV 9	0.17	No
fin.	2	69	54657	2306			300	103	SLV 9	0.04	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.227	SLV 5	No
V_SLV	0.042	SLV 5	No
PF_SLU	0.792	SLU 81	No
V_SLU	0.382	SLU 81	No

## Trave di accoppiamento 98

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-515.8	600.6	482	682	200	-515.8	650.6	482	682	200	50	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	1044	22383	568235	SLU 40	25.39	Si
fin.	3	407	22570	568235	SLU 40	25.18	Si
ini.	3	1180	25669	568235	SLU 81	22.14	Si
fin.	3	457	25140	568235	SLU 81	22.6	Si
ini.	3	1115	24042	568235	SLU 73	23.63	Si
fin.	3	428	23505	568235	SLU 73	24.18	Si
ini.	3	1128	23595	568235	SLU 83	24.08	Si
fin.	3	427	22379	568235	SLU 83	25.39	Si
ini.	3	1139	23637	568235	SLU 84	24.04	Si
fin.	3	431	22698	568235	SLU 84	25.04	Si
ini.	3	1086	22699	568235	SLU 75	25.03	Si
fin.	3	410	21500	568235	SLU 75	26.43	Si
ini.	3	1066	23102	568235	SLU 61	24.6	Si
fin.	3	410	22940	568235	SLU 61	24.77	Si
ini.	3	1075	22657	568235	SLU 74	25.08	Si
fin.	3	406	21181	568235	SLU 74	26.83	Si
ini.	3	1191	25711	568235	SLU 82	22.1	Si
fin.	3	461	25459	568235	SLU 82	22.32	Si
ini.	3	1055	23060	568235	SLU 60	24.64	Si
fin.	3	406	22621	568235	SLU 60	25.12	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	1004	19866	-101			2157	552	SLU 80	5.48	Si
fin.	3	367	17769	3280			2157	728	SLU 80	0.22	No
ini.	3	1139	23637	138			2157	507	SLU 84	3.66	Si
fin.	3	431	22698	3296			2157	712	SLU 84	0.22	No
ini.	3	1024	20583	-88			2157	545	SLU 77	6.2	Si
fin.	3	376	18420	3303			2157	725	SLU 77	0.22	No
ini.	3	1180	25669	295			2157	492	SLU 81	1.67	Si
fin.	3	457	25140	3152			2157	705	SLU 81	0.22	No
ini.	3	1086	22699	125			2157	525	SLU 75	4.21	Si
fin.	3	410	21500	3164			2157	717	SLU 75	0.23	No
ini.	3	1128	23595	110			2157	510	SLU 83	4.62	Si
fin.	3	427	22379	3293			2157	713	SLU 83	0.22	No
ini.	3	1075	22657	97			2157	528	SLU 74	5.46	Si
fin.	3	406	21181	3161			2157	718	SLU 74	0.23	No
ini.	3	1191	25711	323			2157	488	SLU 82	1.51	Si
fin.	3	461	25459	3155			2157	704	SLU 82	0.22	No
ini.	3	993	19824	-129			2157	555	SLU 79	4.32	Si
fin.	3	363	17451	3277			2157	729	SLU 79	0.22	No
ini.	3	1034	20625	-60			2157	542	SLU 78	9.02	Si
fin.	3	380	18739	3306			2157	724	SLU 78	0.22	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	3606	-21270	852353	SLV 15	40.07	Si
fin.	2	1276	85532	852353	SLV 15	9.97	Si
ini.	2	4575	-68407	852353	SLV 13	12.46	Si
fin.	2	1476	93371	852353	SLV 13	9.13	Si
ini.	2	-1902	112753	852353	SLV 8	7.56	Si
fin.	2	-391	-20823	852353	SLV 8	40.93	Si
ini.	2	3347	-80847	852353	SLV 9	10.54	Si
fin.	2	937	50171	852353	SLV 9	16.99	Si
ini.	2	-3130	100314	852353	SLV 4	8.5	Si
fin.	2	-930	-64023	852353	SLV 4	13.31	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	3347	-80847	852353	SLV 10	10.54	Si
fin.	2	937	50171	852353	SLV 10	16.99	Si
ini.	2	4575	-68407	852353	SLV 14	12.46	Si
fin.	2	1476	93371	852353	SLV 14	9.13	Si
ini.	2	-1902	112753	852353	SLV 7	7.56	Si
fin.	2	-391	-20823	852353	SLV 7	40.93	Si
ini.	2	-3130	100314	852353	SLV 3	8.5	Si
fin.	2	-930	-64023	852353	SLV 3	13.31	Si
ini.	2	3606	-21270	852353	SLV 16	40.07	Si
fin.	2	1276	85532	852353	SLV 16	9.97	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	4575	-68407	9018			3235	0	SLV 14	0	No
fin.	2	1476	93371	7199			3235	837	SLV 14	0.12	No
ini.	2	3347	-80847	4923			3235	0	SLV 10	0	No
fin.	2	937	50171	4293			3235	993	SLV 10	0.23	No
ini.	2	1962	-519	3332			3235	666	SLD 15	0.2	No
fin.	2	702	44881	4051			3235	1054	SLD 15	0.26	No
ini.	2	4575	-68407	9018			3235	0	SLV 13	0	No
fin.	2	1476	93371	7199			3235	837	SLV 13	0.12	No
ini.	2	1962	-519	3332			3235	666	SLD 16	0.2	No
fin.	2	702	44881	4051			3235	1054	SLD 16	0.26	No
ini.	2	3347	-80847	4923			3235	0	SLV 9	0	No
fin.	2	937	50171	4293			3235	993	SLV 9	0.23	No
ini.	2	3606	-21270	7616			3235	0	SLV 15	0	No
fin.	2	1276	85532	6736			3235	898	SLV 15	0.13	No
ini.	2	3606	-21270	7616			3235	0	SLV 16	0	No
fin.	2	1276	85532	6736			3235	898	SLV 16	0.13	No
ini.	2	2360	-19537	3922			3235	482	SLD 13	0.12	No
fin.	2	786	48352	4244			3235	1032	SLD 13	0.24	No
ini.	2	2360	-19537	3922			3235	482	SLD 14	0.12	No
fin.	2	786	48352	4244			3235	1032	SLD 14	0.24	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	7.559	SLV 7	Si
V_SLV	0	SLV 9	No
PF_SLU	22.101	SLU 82	Si
V_SLU	0.216	SLU 84	No

## Trave di accoppiamento 99

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-515.8	600.6	762	834	72	-515.8	650.6	762	834	72	50	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	77	-35201	73643	SLU 70	2.09	Si
fin.	3	181	3622	73643	SLU 70	20.33	Si
ini.	3	92	-35134	73643	SLU 69	2.1	Si
fin.	3	196	3645	73643	SLU 69	20.21	Si
ini.	3	-243	-35160	73643	SLU 84	2.09	Si
fin.	3	-191	4220	73643	SLU 84	17.45	Si
ini.	3	-52	-38324	73643	SLU 78	1.92	Si
fin.	3	39	4003	73643	SLU 78	18.39	Si
ini.	3	-38	-38257	73643	SLU 77	1.92	Si
fin.	3	54	4027	73643	SLU 77	18.29	Si
ini.	3	-229	-35092	73643	SLU 83	2.1	Si
fin.	3	-176	4243	73643	SLU 83	17.36	Si
ini.	3	141	-35466	73643	SLU 71	2.08	Si
fin.	3	255	3565	73643	SLU 71	20.66	Si
ini.	3	11	-38589	73643	SLU 79	1.91	Si
fin.	3	113	3946	73643	SLU 79	18.66	Si
ini.	3	126	-35534	73643	SLU 72	2.07	Si
fin.	3	240	3542	73643	SLU 72	20.79	Si
ini.	3	-3	-38657	73643	SLU 80	1.91	Si
fin.	3	98	3923	73643	SLU 80	18.77	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	140	-31442	2576			776	260	SLU 27	0.1	No
fin.	3	242	2911	-704			776	234	SLU 27	0.33	No
ini.	3	141	-35466	2915			776	260	SLU 71	0.09	No
fin.	3	255	3565	-789			776	230	SLU 71	0.29	No
ini.	3	126	-35534	2892			776	263	SLU 72	0.09	No
fin.	3	240	3542	-768			776	234	SLU 72	0.31	No
ini.	3	92	-35134	2816			776	272	SLU 69	0.1	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	196	3645	-725			776	246	SLU 69	0.34	No
ini.	3	77	-35201	2792			776	275	SLU 70	0.1	No
fin.	3	181	3622	-704			776	250	SLU 70	0.35	No
ini.	3	175	-31842	2652			776	251	SLU 30	0.09	No
fin.	3	285	2808	-746			776	222	SLU 30	0.3	No
ini.	3	135	-30962	2588			776	261	SLU 51	0.1	No
fin.	3	241	3237	-713			776	234	SLU 51	0.33	No
ini.	3	189	-31774	2676			776	248	SLU 29	0.09	No
fin.	3	301	2831	-767			776	217	SLU 29	0.28	No
ini.	3	150	-30894	2611			776	258	SLU 50	0.1	No
fin.	3	256	3260	-734			776	230	SLU 50	0.31	No
ini.	3	11	-38589	2924			776	290	SLU 79	0.1	No
fin.	3	113	3946	-668			776	267	SLU 79	0.4	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2187	90023	110465	SLV 3	1.23	Si
fin.	2	1614	-16506	110465	SLV 3	6.69	Si
ini.	2	-877	-67462	110465	SLD 16	1.64	Si
fin.	2	-826	3324	110465	SLD 16	33.24	Si
ini.	2	1321	91983	110465	SLV 1	1.2	Si
fin.	2	1259	3176	110465	SLV 1	34.78	Si
ini.	2	-2610	-129483	110465	SLV 14	0.85	No
fin.	2	-2004	22484	110465	SLV 14	4.91	Si
ini.	2	-2610	-129483	110465	SLV 13	0.85	No
fin.	2	-2004	22484	110465	SLV 13	4.91	Si
ini.	2	-1745	-131443	110465	SLV 16	0.84	No
fin.	2	-1649	2802	110465	SLV 16	39.43	Si
ini.	2	2187	90023	110465	SLV 4	1.23	Si
fin.	2	1614	-16506	110465	SLV 4	6.69	Si
ini.	2	1321	91983	110465	SLV 2	1.2	Si
fin.	2	1259	3176	110465	SLV 2	34.78	Si
ini.	2	-877	-67462	110465	SLD 15	1.64	Si
fin.	2	-826	3324	110465	SLD 15	33.24	Si
ini.	2	-1745	-131443	110465	SLV 15	0.84	No
fin.	2	-1649	2802	110465	SLV 15	39.43	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1821	10224	74			1165	0	SLV 7	0	No
fin.	2	886	-32712	-2126			1165	152	SLV 7	0.07	No
ini.	2	-1745	-131443	4127			1862	724	SLV 16	0.18	No
fin.	2	-1649	2802	2330			1824	712	SLV 16	0.31	No
ini.	2	2187	90023	-1820			1165	0	SLV 4	0	No
fin.	2	1614	-16506	-3265			1165	0	SLV 4	0	No
ini.	2	1321	91983	-1660			1165	0	SLV 1	0	No
fin.	2	1259	3176	-2562			1165	0	SLV 1	0	No
ini.	2	1321	91983	-1660			1165	0	SLV 2	0	No
fin.	2	1259	3176	-2562			1165	0	SLV 2	0	No
ini.	2	641	-56216	1858			1165	264	SLV 11	0.14	No
fin.	2	-93	-26919	-448			1202	458	SLV 11	1.02	Si
ini.	2	641	-56216	1858			1165	264	SLV 12	0.14	No
fin.	2	-93	-26919	-448			1202	458	SLV 12	1.02	Si
ini.	2	1821	10224	74			1165	0	SLV 8	0	No
fin.	2	886	-32712	-2126			1165	152	SLV 8	0.07	No
ini.	2	2187	90023	-1820			1165	0	SLV 3	0	No
fin.	2	1614	-16506	-3265			1165	0	SLV 3	0	No
ini.	2	-1745	-131443	4127			1862	724	SLV 15	0.18	No
fin.	2	-1649	2802	2330			1824	712	SLV 15	0.31	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.84	SLV 15	No
V_SLV	0	SLV 1	No
PF_SLU	1.905	SLU 80	Si
V_SLU	0.089	SLU 71	No

#### Trave di accoppiamento 100

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-651.3	-335.9	482	572	90	-741.3	-335.9	482	572	90	90	28	30000

##### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	214	28242	115068	SLU 65	4.07	Si
fin.	3	444	-10134	115068	SLU 65	11.35	Si
ini.	3	420	26345	115068	SLU 84	4.37	Si
fin.	3	354	-3310	115068	SLU 84	34.77	Si





Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	367	28021	115068	SLU 76	4.11	Si
fin.	3	416	-6644	115068	SLU 76	17.32	Si
ini.	3	366	28183	115068	SLU 82	4.08	Si
fin.	3	413	-6467	115068	SLU 82	17.79	Si
ini.	3	372	26429	115068	SLU 75	4.35	Si
fin.	3	371	-4522	115068	SLU 75	25.44	Si
ini.	3	313	29859	115068	SLU 73	3.85	Si
fin.	3	474	-9801	115068	SLU 73	11.74	Si
ini.	3	261	26483	115068	SLU 61	4.34	Si
fin.	3	350	-5709	115068	SLU 61	20.16	Si
ini.	3	208	28159	115068	SLU 52	4.09	Si
fin.	3	411	-9043	115068	SLU 52	12.72	Si
ini.	3	110	26542	115068	SLU 44	4.34	Si
fin.	3	381	-9375	115068	SLU 44	12.27	Si
ini.	3	269	26404	115068	SLU 68	4.36	Si
fin.	3	385	-6977	115068	SLU 68	16.49	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	442	21038	-2566			970	251	SLU 77	0.1	No
fin.	3	201	3422	1691			970	319	SLU 77	0.19	No
ini.	3	367	28021	-2815			970	274	SLU 76	0.1	No
fin.	3	416	-6644	1267			970	260	SLU 76	0.2	No
ini.	3	313	29859	-2858			970	289	SLU 73	0.1	No
fin.	3	474	-9801	1090			970	241	SLU 73	0.22	No
ini.	3	426	24591	-2725			970	256	SLU 78	0.09	No
fin.	3	312	-1365	1526			970	289	SLU 78	0.19	No
ini.	3	366	28183	-2813			970	274	SLU 82	0.1	No
fin.	3	413	-6467	1252			970	260	SLU 82	0.21	No
ini.	3	432	23814	-2665			970	255	SLU 80	0.1	No
fin.	3	283	-295	1553			970	298	SLU 80	0.19	No
ini.	3	372	26429	-2769			970	273	SLU 75	0.1	No
fin.	3	371	-4522	1350			970	273	SLU 75	0.2	No
ini.	3	436	22793	-2611			970	253	SLU 83	0.1	No
fin.	3	242	1478	1593			970	308	SLU 83	0.19	No
ini.	3	448	20262	-2507			970	250	SLU 79	0.1	No
fin.	3	171	4493	1718			970	326	SLU 79	0.19	No
ini.	3	420	26345	-2770			970	258	SLU 84	0.09	No
fin.	3	354	-3310	1429			970	278	SLU 84	0.19	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2985	-100421	172601	SLV 15	1.72	Si
fin.	2	-3480	182026	172601	SLV 15	0.95	No
ini.	2	-1129	90785	172601	SLV 5	1.9	Si
fin.	2	2730	-95221	172601	SLV 5	1.81	Si
ini.	2	2985	-100421	172601	SLV 16	1.72	Si
fin.	2	-3480	182026	172601	SLV 16	0.95	No
ini.	2	-2288	109737	172601	SLV 3	1.57	Si
fin.	2	2920	-159235	172601	SLV 3	1.08	Si
ini.	2	-2288	109737	172601	SLV 4	1.57	Si
fin.	2	2920	-159235	172601	SLV 4	1.08	Si
ini.	2	-2605	134939	172601	SLV 2	1.28	Si
fin.	2	3866	-184817	172601	SLV 2	0.93	No
ini.	2	2669	-75220	172601	SLV 14	2.29	Si
fin.	2	-2534	156444	172601	SLV 14	1.1	Si
ini.	2	-2605	134939	172601	SLV 1	1.28	Si
fin.	2	3866	-184817	172601	SLV 1	0.93	No
ini.	2	-1129	90785	172601	SLV 6	1.9	Si
fin.	2	2730	-95221	172601	SLV 6	1.81	Si
ini.	2	2669	-75220	172601	SLV 13	2.29	Si
fin.	2	-2534	156444	172601	SLV 13	1.1	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1509	-56268	2659			1456	0	SLV 11	0	No
fin.	2	-2344	92430	5512			2393	927	SLV 11	0.17	No
ini.	2	1509	-56268	2659			1456	0	SLV 12	0	No
fin.	2	-2344	92430	5512			2393	927	SLV 12	0.17	No
ini.	2	-1129	90785	-6445			1907	754	SLV 5	0.12	No
fin.	2	2730	-95221	-3566			1456	0	SLV 5	0	No
ini.	2	-2288	109737	-6592			2371	919	SLV 4	0.14	No
fin.	2	2920	-159235	-5065			1456	0	SLV 4	0	No
ini.	2	-1129	90785	-6445			1907	754	SLV 6	0.12	No
fin.	2	2730	-95221	-3566			1456	0	SLV 6	0	No
ini.	2	-2288	109737	-6592			2371	919	SLV 3	0.14	No
fin.	2	2920	-159235	-5065			1456	0	SLV 3	0	No
ini.	2	2669	-75220	2805			1456	0	SLV 13	0	No
fin.	2	-2534	156444	7011			2469	951	SLV 13	0.14	No
ini.	2	-1001	67126	-4615			1856	734	SLD 1	0.16	No
fin.	2	1747	-79383	-2228			1456	0	SLD 1	0	No
ini.	2	-2605	134939	-8322			2498	959	SLV 2	0.12	No
fin.	2	3866	-184817	-6566			1456	0	SLV 2	0	No
ini.	2	2669	-75220	2805			1456	0	SLV 14	0	No
fin.	2	-2534	156444	7011			2469	951	SLV 14	0.14	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.934	SLV 1	No



Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	0	SLD 1	No
PF_SLU	3.854	SLU 73	Si
V_SLU	0.093	SLU 84	No

## Trave di accoppiamento 101

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-651.3	-335.9	752	834	82	-741.3	-335.9	752	834	82	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	169	-9777	95520	SLU 60	9.77	Si
fin.	3	-32	-16592	95520	SLU 60	5.76	Si
ini.	3	269	-5972	95520	SLU 61	15.99	Si
fin.	3	-97	-17714	95520	SLU 61	5.39	Si
ini.	3	364	-4033	95520	SLU 73	23.69	Si
fin.	3	-96	-18535	95520	SLU 73	5.15	Si
ini.	3	186	-11178	95520	SLU 81	8.55	Si
fin.	3	5	-17515	95520	SLU 81	5.45	Si
ini.	3	220	-9883	95520	SLU 84	9.66	Si
fin.	3	23	-17263	95520	SLU 84	5.53	Si
ini.	3	268	-8663	95520	SLU 75	11.03	Si
fin.	3	29	-16921	95520	SLU 75	5.65	Si
ini.	3	389	-2157	95520	SLU 65	44.29	Si
fin.	3	-78	-16551	95520	SLU 65	5.77	Si
ini.	3	347	-2632	95520	SLU 52	36.3	Si
fin.	3	-133	-17612	95520	SLU 52	5.42	Si
ini.	3	297	-6543	95520	SLU 76	14.6	Si
fin.	3	-13	-17161	95520	SLU 76	5.57	Si
ini.	3	287	-7373	95520	SLU 82	12.95	Si
fin.	3	-61	-18637	95520	SLU 82	5.13	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	101	-14977	2283			806	282	SLU 77	0.12	No
fin.	3	178	-14425	-1931			806	266	SLU 77	0.14	No
ini.	3	287	-7373	1857			806	240	SLU 82	0.13	No
fin.	3	-61	-18637	-2156			828	315	SLU 82	0.15	No
ini.	3	220	-9883	2023			806	256	SLU 84	0.13	No
fin.	3	23	-17263	-2095			806	299	SLU 84	0.14	No
ini.	3	164	-11589	2081			806	269	SLU 80	0.13	No
fin.	3	114	-15038	-1948			806	280	SLU 80	0.14	No
ini.	3	186	-11178	2068			806	264	SLU 81	0.13	No
fin.	3	5	-17515	-2096			806	302	SLU 81	0.14	No
ini.	3	268	-8663	1905			806	244	SLU 75	0.13	No
fin.	3	29	-16921	-2050			806	297	SLU 75	0.15	No
ini.	3	120	-13688	2235			806	278	SLU 83	0.12	No
fin.	3	88	-16141	-2036			806	285	SLU 83	0.14	No
ini.	3	168	-12468	2117			806	268	SLU 74	0.13	No
fin.	3	94	-15799	-1991			806	284	SLU 74	0.14	No
ini.	3	201	-11173	2072			806	260	SLU 78	0.13	No
fin.	3	112	-15547	-1990			806	280	SLU 78	0.14	No
ini.	3	63	-15394	2293			806	290	SLU 79	0.13	No
fin.	3	180	-13916	-1889			806	265	SLU 79	0.14	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	3468	79979	143281	SLV 4	1.79	Si
fin.	2	-964	-56515	143281	SLV 4	2.54	Si
ini.	2	-3149	-93509	143281	SLV 13	1.53	Si
fin.	2	986	33201	143281	SLV 13	4.32	Si
ini.	2	-3149	-93509	143281	SLV 14	1.53	Si
fin.	2	986	33201	143281	SLV 14	4.32	Si
ini.	2	4245	103644	143281	SLV 1	1.38	Si
fin.	2	-1081	-92364	143281	SLV 1	1.55	Si
ini.	2	2565	62250	143281	SLV 5	2.3	Si
fin.	2	-494	-90240	143281	SLV 5	1.59	Si
ini.	2	-3926	-117174	143281	SLV 15	1.22	Si
fin.	2	1103	69050	143281	SLV 15	2.08	Si
ini.	2	3468	79979	143281	SLV 3	1.79	Si
fin.	2	-964	-56515	143281	SLV 3	2.54	Si
ini.	2	2565	62250	143281	SLV 6	2.3	Si
fin.	2	-494	-90240	143281	SLV 6	1.59	Si
ini.	2	4245	103644	143281	SLV 2	1.38	Si
fin.	2	-1081	-92364	143281	SLV 2	1.55	Si
ini.	2	-3926	-117174	143281	SLV 16	1.22	Si
fin.	2	1103	69050	143281	SLV 16	2.08	Si



## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt <sub>lim</sub>	Comb.	c.s.	Verifica
ini.	2	3468	79979	-2686			1208	0	SLV 4	0	No
fin.	2	-964	-56515	-4163			1560	617	SLV 4	0.15	No
ini.	2	4245	103644	-3583			1208	0	SLV 2	0	No
fin.	2	-1081	-92364	-5541			1602	634	SLV 2	0.11	No
ini.	2	2565	62250	-1503			1208	0	SLV 5	0	No
fin.	2	-494	-90240	-4740			1388	544	SLV 5	0.11	No
ini.	2	4245	103644	-3583			1208	0	SLV 1	0	No
fin.	2	-1081	-92364	-5541			1602	634	SLV 1	0.11	No
ini.	2	1589	30664	-394			1208	0	SLD 4	0	No
fin.	2	-403	-31199	-2609			1355	529	SLD 4	0.2	No
ini.	2	1897	40083	-756			1208	0	SLD 2	0	No
fin.	2	-455	-45510	-3149			1374	537	SLD 2	0.17	No
ini.	2	3468	79979	-2686			1208	0	SLV 3	0	No
fin.	2	-964	-56515	-4163			1560	617	SLV 3	0.15	No
ini.	2	2565	62250	-1503			1208	0	SLV 6	0	No
fin.	2	-494	-90240	-4740			1388	544	SLV 6	0.11	No
ini.	2	1589	30664	-394			1208	0	SLD 3	0	No
fin.	2	-403	-31199	-2609			1355	529	SLD 3	0.2	No
ini.	2	1897	40083	-756			1208	0	SLD 1	0	No
fin.	2	-455	-45510	-3149			1374	537	SLD 1	0.17	No

### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.223	SLV 15	Si
V_SLV	0	SLD 1	No
PF_SLU	5.125	SLU 82	Si
V_SLU	0.124	SLU 77	No

## Trave di accoppiamento 102

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-550.8	-335.9	482	682	200	-600.8	-335.9	482	682	200	50	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-923	158357	568235	SLU 82	3.59	Si
fin.	3	54	95178	568235	SLU 82	5.97	Si
ini.	3	-947	153650	568235	SLU 73	3.7	Si
fin.	3	21	90928	568235	SLU 73	6.25	Si
ini.	3	-916	158162	568235	SLU 78	3.59	Si
fin.	3	72	98779	568235	SLU 78	5.75	Si
ini.	3	-944	157191	568235	SLU 76	3.61	Si
fin.	3	50	94910	568235	SLU 76	5.99	Si
ini.	3	-919	154621	568235	SLU 75	3.68	Si
fin.	3	43	94796	568235	SLU 75	5.99	Si
ini.	3	-866	153336	568235	SLU 77	3.71	Si
fin.	3	69	98372	568235	SLU 77	5.78	Si
ini.	3	-919	161898	568235	SLU 84	3.51	Si
fin.	3	83	99160	568235	SLU 84	5.73	Si
ini.	3	-873	153531	568235	SLU 81	3.7	Si
fin.	3	51	94771	568235	SLU 81	6	Si
ini.	3	-908	157514	568235	SLU 80	3.61	Si
fin.	3	77	98621	568235	SLU 80	5.76	Si
ini.	3	-870	157072	568235	SLU 83	3.62	Si
fin.	3	80	98753	568235	SLU 83	5.75	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt <sub>lim</sub>	Comb.	c.s.	Verifica
ini.	3	-919	161898	-3900			2524	992	SLU 84	0.25	No
fin.	3	83	99160	-1137			2157	793	SLU 84	0.7	No
ini.	3	-944	157191	-3837			2534	996	SLU 76	0.26	No
fin.	3	50	94910	-1198			2157	801	SLU 76	0.67	No
ini.	3	-947	153650	-3775			2535	996	SLU 73	0.26	No
fin.	3	21	90928	-1202			2157	807	SLU 73	0.67	No
ini.	3	-919	154621	-3739			2524	991	SLU 75	0.27	No
fin.	3	43	94796	-1051			2157	802	SLU 75	0.76	No
ini.	3	-866	153336	-3616			2503	982	SLU 77	0.27	No
fin.	3	69	98372	-837			2157	796	SLU 77	0.95	No
ini.	3	-923	158357	-3838			2526	992	SLU 82	0.26	No
fin.	3	54	95178	-1141			2157	800	SLU 82	0.7	No
ini.	3	-916	158162	-3801			2523	991	SLU 78	0.26	No
fin.	3	72	98779	-1047			2157	796	SLU 78	0.76	No
ini.	3	-870	157072	-3715			2505	983	SLU 83	0.26	No
fin.	3	80	98753	-927			2157	794	SLU 83	0.86	No
ini.	3	-908	157514	-3776			2520	989	SLU 80	0.26	No
fin.	3	77	98621	-1054			2157	795	SLU 80	0.75	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-873	153531	-3653			2506	983	SLU 81	0.27	No
fin.	3	51	94771	-931			2157	800	SLU 81	0.86	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2054	-70019	852353	SLV 16	12.17	Si
fin.	2	1704	216864	852353	SLV 16	3.93	Si
ini.	2	-6	212776	852353	SLV 7	4.01	Si
fin.	2	1333	78278	852353	SLV 7	10.89	Si
ini.	2	-2559	303310	852353	SLV 4	2.81	Si
fin.	2	-747	-58307	852353	SLV 4	14.62	Si
ini.	2	-1481	186036	852353	SLD 3	4.58	Si
fin.	2	-364	9544	852353	SLD 3	89.31	Si
ini.	2	-6	212776	852353	SLV 8	4.01	Si
fin.	2	1333	78278	852353	SLV 8	10.89	Si
ini.	2	-2559	303310	852353	SLV 3	2.81	Si
fin.	2	-747	-58307	852353	SLV 3	14.62	Si
ini.	2	2054	-70019	852353	SLV 15	12.17	Si
fin.	2	1704	216864	852353	SLV 15	3.93	Si
ini.	2	-3364	268911	852353	SLV 2	3.17	Si
fin.	2	-1794	-92828	852353	SLV 2	9.18	Si
ini.	2	-3364	268911	852353	SLV 1	3.17	Si
fin.	2	-1794	-92828	852353	SLV 1	9.18	Si
ini.	2	-1481	186036	852353	SLD 4	4.58	Si
fin.	2	-364	9544	852353	SLD 4	89.31	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-3364	268911	-10447			4580	1806	SLV 1	0.17	No
fin.	2	-1794	-92828	-9056			3953	1559	SLV 1	0.17	No
ini.	2	1250	-104417	6075			3235	906	SLV 14	0.15	No
fin.	2	656	182343	8787			3235	1065	SLV 14	0.12	No
ini.	2	-2559	303310	-10823			4259	1684	SLV 4	0.16	No
fin.	2	-747	-58307	-9862			3534	1370	SLV 4	0.14	No
ini.	2	2054	-70019	5698			3235	628	SLV 15	0.11	No
fin.	2	1704	216864	7981			3235	762	SLV 15	0.1	No
ini.	2	-2559	303310	-10823			4259	1684	SLV 3	0.16	No
fin.	2	-747	-58307	-9862			3534	1370	SLV 3	0.14	No
ini.	2	-6	212776	-5480			3238	1219	SLV 7	0.22	No
fin.	2	1333	78278	-4557			3235	881	SLV 7	0.19	No
ini.	2	-3364	268911	-10447			4580	1806	SLV 2	0.17	No
fin.	2	-1794	-92828	-9056			3953	1559	SLV 2	0.17	No
ini.	2	1250	-104417	6075			3235	906	SLV 13	0.15	No
fin.	2	656	182343	8787			3235	1065	SLV 13	0.12	No
ini.	2	2054	-70019	5698			3235	628	SLV 16	0.11	No
fin.	2	1704	216864	7981			3235	762	SLV 16	0.1	No
ini.	2	-6	212776	-5480			3238	1219	SLV 8	0.22	No
fin.	2	1333	78278	-4557			3235	881	SLV 8	0.19	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.81	SLV 3	Si
V_SLV	0.095	SLV 15	No
PF_SLU	3.51	SLU 84	Si
V_SLU	0.254	SLU 84	No

### Trave di accoppiamento 103

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-550.8	-335.9	762	834	72	-600.8	-335.9	762	834	72	50	28	30000

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	651	17865	73643	SLU 73	4.12	Si
fin.	3	412	-13085	73643	SLU 73	5.63	Si
ini.	3	560	15980	73643	SLU 74	4.61	Si
fin.	3	275	-17175	73643	SLU 74	4.29	Si
ini.	3	479	15311	73643	SLU 79	4.81	Si
fin.	3	176	-18849	73643	SLU 79	3.91	Si
ini.	3	518	15645	73643	SLU 77	4.71	Si
fin.	3	216	-18678	73643	SLU 77	3.94	Si
ini.	3	587	17769	73643	SLU 84	4.14	Si
fin.	3	296	-16783	73643	SLU 84	4.39	Si
ini.	3	613	17111	73643	SLU 75	4.3	Si
fin.	3	345	-15519	73643	SLU 75	4.75	Si
ini.	3	610	17530	73643	SLU 76	4.2	Si
fin.	3	352	-14587	73643	SLU 76	5.05	Si
ini.	3	534	16639	73643	SLU 83	4.43	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	226	-18438	73643	SLU 83	3.99	Si
ini.	3	628	18104	73643	SLU 82	4.07	Si
fin.	3	356	-15280	73643	SLU 82	4.82	Si
ini.	3	533	16441	73643	SLU 80	4.48	Si
fin.	3	246	-17194	73643	SLU 80	4.28	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	621	15549	47			776	80	SLU 65	1.71	Si
fin.	3	433	-10538	-2065			776	174	SLU 65	0.08	No
ini.	3	575	16974	-13			776	111	SLU 81	8.79	Si
fin.	3	286	-16935	-2689			776	221	SLU 81	0.08	No
ini.	3	628	18104	-18			776	74	SLU 82	4.03	Si
fin.	3	356	-15280	-2600			776	200	SLU 82	0.08	No
ini.	3	572	16776	-26			776	113	SLU 78	4.27	Si
fin.	3	286	-17022	-2640			776	222	SLU 78	0.08	No
ini.	3	587	17769	-37			776	104	SLU 84	2.83	Si
fin.	3	296	-16783	-2678			776	218	SLU 84	0.08	No
ini.	3	534	16639	-31			776	133	SLU 83	4.29	Si
fin.	3	226	-18438	-2767			776	238	SLU 83	0.09	No
ini.	3	560	15980	-2			776	119	SLU 74	51.01	Si
fin.	3	275	-17175	-2651			776	224	SLU 74	0.08	No
ini.	3	610	17530	-20			776	89	SLU 76	4.47	Si
fin.	3	352	-14587	-2476			776	202	SLU 76	0.08	No
ini.	3	651	17865	-2			776	51	SLU 73	31.85	Si
fin.	3	412	-13085	-2398			776	182	SLU 73	0.08	No
ini.	3	613	17111	-8			776	86	SLU 75	10.58	Si
fin.	3	345	-15519	-2563			776	204	SLU 75	0.08	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-3113	-68964	110465	SLV 13	1.6	Si
fin.	2	-2466	-9282	110465	SLV 13	11.9	Si
ini.	2	2720	52352	110465	SLV 6	2.11	Si
fin.	2	2029	13265	110465	SLV 6	8.33	Si
ini.	2	-3805	-78691	110465	SLV 15	1.4	Si
fin.	2	-3008	-22571	110465	SLV 15	4.89	Si
ini.	2	3927	90490	110465	SLV 3	1.22	Si
fin.	2	2934	-11738	110465	SLV 3	9.41	Si
ini.	2	-3805	-78691	110465	SLV 16	1.4	Si
fin.	2	-3008	-22571	110465	SLV 16	4.89	Si
ini.	2	4619	100217	110465	SLV 1	1.1	Si
fin.	2	3477	1552	110465	SLV 1	71.17	Si
ini.	2	2720	52352	110465	SLV 5	2.11	Si
fin.	2	2029	13265	110465	SLV 5	8.33	Si
ini.	2	4619	100217	110465	SLV 2	1.1	Si
fin.	2	3477	1552	110465	SLV 2	71.17	Si
ini.	2	-3113	-68964	110465	SLV 14	1.6	Si
fin.	2	-2466	-9282	110465	SLV 14	11.9	Si
ini.	2	3927	90490	110465	SLV 4	1.22	Si
fin.	2	2934	-11738	110465	SLV 4	9.41	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	2720	52352	717			1165	0	SLV 6	0	No
fin.	2	2029	13265	-1181			1165	0	SLV 6	0	No
ini.	2	2196	48775	-752			1165	0	SLD 2	0	No
fin.	2	1614	-5439	-2422			1165	0	SLD 2	0	No
ini.	2	1918	45041	-1090			1165	0	SLD 4	0	No
fin.	2	1393	-10860	-2703			1165	0	SLD 4	0	No
ini.	2	1366	27830	313			1165	0	SLD 6	0	No
fin.	2	984	-767	-1515			1165	68	SLD 6	0.05	No
ini.	2	1366	27830	313			1165	0	SLD 5	0	No
fin.	2	984	-767	-1515			1165	68	SLD 5	0.05	No
ini.	2	3927	90490	-2609			1165	0	SLV 4	0	No
fin.	2	2934	-11738	-4022			1165	0	SLV 4	0	No
ini.	2	3927	90490	-2609			1165	0	SLV 3	0	No
fin.	2	2934	-11738	-4022			1165	0	SLV 3	0	No
ini.	2	2196	48775	-752			1165	0	SLD 1	0	No
fin.	2	1614	-5439	-2422			1165	0	SLD 1	0	No
ini.	2	2720	52352	717			1165	0	SLV 5	0	No
fin.	2	2029	13265	-1181			1165	0	SLV 5	0	No
ini.	2	1918	45041	-1090			1165	0	SLD 3	0	No
fin.	2	1393	-10860	-2703			1165	0	SLD 3	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.102	SLV 1	Si
V_SLV	0	SLD 1	No
PF_SLU	3.907	SLU 79	Si
V_SLU	0.076	SLU 73	No

## Trave di accoppiamento 104

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



## Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-228.3	-335.9	482	572	90	-318.3	-335.9	482	572	90	90	28	30000

## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-995	-33075	115068	SLU 68	3.48	Si
fin.	3	-2650	59336	115068	SLU 68	1.94	Si
ini.	3	-965	-34081	115068	SLU 78	3.38	Si
fin.	3	-2674	62738	115068	SLU 78	1.83	Si
ini.	3	-932	-35672	115068	SLU 84	3.23	Si
fin.	3	-2691	63991	115068	SLU 84	1.8	Si
ini.	3	-996	-32890	115068	SLU 55	3.5	Si
fin.	3	-2647	59038	115068	SLU 55	1.95	Si
ini.	3	-999	-37161	115068	SLU 76	3.1	Si
fin.	3	-2821	64885	115068	SLU 76	1.77	Si
ini.	3	-956	-37653	115068	SLU 73	3.06	Si
fin.	3	-2779	64528	115068	SLU 73	1.78	Si
ini.	3	-889	-36164	115068	SLU 82	3.18	Si
fin.	3	-2650	63635	115068	SLU 82	1.81	Si
ini.	3	-974	-33430	115068	SLU 80	3.44	Si
fin.	3	-2659	61970	115068	SLU 80	1.86	Si
ini.	3	-921	-34573	115068	SLU 75	3.33	Si
fin.	3	-2632	62381	115068	SLU 75	1.84	Si
ini.	3	-830	-30813	115068	SLU 83	3.73	Si
fin.	3	-2387	59085	115068	SLU 83	1.95	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-818	-29714	1012			1298	513	SLU 74	0.51	No
fin.	3	-2328	57474	2822			1902	709	SLU 74	0.25	No
ini.	3	-871	-28570	965			1319	521	SLU 79	0.54	No
fin.	3	-2355	57063	2810			1913	712	SLU 79	0.25	No
ini.	3	-932	-35672	1369			1343	531	SLU 84	0.39	No
fin.	3	-2691	63991	2955			2047	749	SLU 84	0.25	No
ini.	3	-786	-31305	1099			1285	508	SLU 81	0.46	No
fin.	3	-2346	58728	2844			1909	711	SLU 81	0.25	No
ini.	3	-889	-36164	1402			1326	524	SLU 82	0.37	No
fin.	3	-2650	63635	2921			2030	744	SLU 82	0.25	No
ini.	3	-830	-30813	1065			1302	515	SLU 83	0.48	No
fin.	3	-2387	59085	2878			1925	716	SLU 83	0.25	No
ini.	3	-974	-33430	1268			1360	537	SLU 80	0.42	No
fin.	3	-2659	61970	2888			2034	745	SLU 80	0.26	No
ini.	3	-921	-34573	1316			1339	529	SLU 75	0.4	No
fin.	3	-2632	62381	2899			2023	743	SLU 75	0.26	No
ini.	3	-965	-34081	1283			1356	535	SLU 78	0.42	No
fin.	3	-2674	62738	2934			2040	747	SLU 78	0.25	No
ini.	3	-862	-29222	979			1315	520	SLU 77	0.53	No
fin.	3	-2370	57831	2856			1918	714	SLU 77	0.25	No

## Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1704	-72565	172601	SLV 9	2.38	Si
fin.	2	-4593	104291	172601	SLV 9	1.65	Si
ini.	2	-3153	128813	172601	SLV 2	1.34	Si
fin.	2	1839	-73808	172601	SLV 2	2.34	Si
ini.	2	-1704	-72565	172601	SLV 10	2.38	Si
fin.	2	-4593	104291	172601	SLV 10	1.65	Si
ini.	2	1952	-168453	172601	SLV 15	1.02	Si
fin.	2	-5094	152564	172601	SLV 15	1.13	Si
ini.	2	-2124	133302	172601	SLV 3	1.29	Si
fin.	2	2899	-90848	172601	SLV 3	1.9	Si
ini.	2	-3153	128813	172601	SLV 1	1.34	Si
fin.	2	1839	-73808	172601	SLV 1	2.34	Si
ini.	2	-2124	133302	172601	SLV 4	1.29	Si
fin.	2	2899	-90848	172601	SLV 4	1.9	Si
ini.	2	923	-172942	172601	SLV 14	1	No
fin.	2	-6154	169605	172601	SLV 14	1.02	Si
ini.	2	923	-172942	172601	SLV 13	1	No
fin.	2	-6154	169605	172601	SLV 13	1.02	Si
ini.	2	1952	-168453	172601	SLV 16	1.02	Si
fin.	2	-5094	152564	172601	SLV 16	1.13	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-3153	128813	-5513			2717	1025	SLV 2	0.19	No
fin.	2	1839	-73808	-3938			1456	0	SLV 2	0	No
ini.	2	1952	-168453	6883			1456	0	SLV 15	0	No
fin.	2	-5094	152564	7809			3493	1230	SLV 15	0.16	No
ini.	2	-3153	128813	-5513			2717	1025	SLV 1	0.19	No
fin.	2	1839	-73808	-3938			1456	0	SLV 1	0	No
ini.	2	1726	-57601	3417			1456	0	SLV 12	0	No
fin.	2	-1060	47489	2916			1880	743	SLV 12	0.25	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	503	32926	-129			1456	425	SLV 8	3.28	Si
fin.	2	1338	-25535	-762			1456	0	SLV 8	0	No
ini.	2	-2124	133302	-4938			2305	898	SLV 3	0.18	No
fin.	2	2899	-90848	-4453			1456	0	SLV 3	0	No
ini.	2	1726	-57601	3417			1456	0	SLV 11	0	No
fin.	2	-1060	47489	2916			1880	743	SLV 11	0.25	No
ini.	2	1952	-168453	6883			1456	0	SLV 16	0	No
fin.	2	-5094	152564	7809			3493	1230	SLV 16	0.16	No
ini.	2	503	32926	-129			1456	425	SLV 7	3.28	Si
fin.	2	1338	-25535	-762			1456	0	SLV 7	0	No
ini.	2	-2124	133302	-4938			2305	898	SLV 4	0.18	No
fin.	2	2899	-90848	-4453			1456	0	SLV 4	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.998	SLV 13	No
V_SLV	0	SLV 1	No
PF_SLU	1.773	SLU 76	Si
V_SLU	0.249	SLU 83	No

## Trave di accoppiamento 105

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-228.3	-335.9	752	834	82	-318.3	-335.9	752	834	82	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb_	fhk	fvk0	fhmmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1758	-57299	95520	SLU 78	1.67	Si
fin.	3	-356	3905	95520	SLU 78	24.46	Si
ini.	3	-1804	-58623	95520	SLU 82	1.63	Si
fin.	3	-335	5602	95520	SLU 82	17.05	Si
ini.	3	-1613	-53650	95520	SLU 81	1.78	Si
fin.	3	-309	3030	95520	SLU 81	31.53	Si
ini.	3	-1750	-56398	95520	SLU 80	1.69	Si
fin.	3	-381	3545	95520	SLU 80	26.94	Si
ini.	3	-1868	-59563	95520	SLU 76	1.6	Si
fin.	3	-370	6159	95520	SLU 76	15.51	Si
ini.	3	-1696	-53669	95520	SLU 68	1.78	Si
fin.	3	-349	5559	95520	SLU 68	17.18	Si
ini.	3	-1749	-57149	95520	SLU 75	1.67	Si
fin.	3	-328	4804	95520	SLU 75	19.88	Si
ini.	3	-1814	-58774	95520	SLU 84	1.63	Si
fin.	3	-363	4702	95520	SLU 84	20.31	Si
ini.	3	-1858	-59413	95520	SLU 73	1.61	Si
fin.	3	-342	7059	95520	SLU 73	13.53	Si
ini.	3	-1622	-53801	95520	SLU 83	1.78	Si
fin.	3	-337	2130	95520	SLU 83	44.84	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1613	-53650	2997			1393	534	SLU 81	0.18	No
fin.	3	-309	3030	-804			918	359	SLU 81	0.45	No
ini.	3	-1858	-59413	3109			1483	561	SLU 73	0.18	No
fin.	3	-342	7059	-456			930	365	SLU 73	0.8	No
ini.	3	-1749	-57149	3074			1443	549	SLU 75	0.18	No
fin.	3	-328	4804	-633			925	362	SLU 75	0.57	No
ini.	3	-1567	-52326	2940			1377	529	SLU 77	0.18	No
fin.	3	-331	1333	-877			926	363	SLU 77	0.41	No
ini.	3	-1868	-59563	3127			1486	562	SLU 76	0.18	No
fin.	3	-370	6159	-516			941	369	SLU 76	0.72	No
ini.	3	-1622	-53801	3014			1397	535	SLU 83	0.18	No
fin.	3	-337	2130	-863			929	364	SLU 83	0.42	No
ini.	3	-1758	-57299	3092			1446	551	SLU 78	0.18	No
fin.	3	-356	3905	-692			935	367	SLU 78	0.53	No
ini.	3	-1750	-56398	3043			1443	550	SLU 80	0.18	No
fin.	3	-381	3545	-698			945	371	SLU 80	0.53	No
ini.	3	-1814	-58774	3167			1467	557	SLU 84	0.18	No
fin.	3	-363	4702	-679			938	368	SLU 84	0.54	No
ini.	3	-1804	-58623	3149			1463	555	SLU 82	0.18	No
fin.	3	-335	5602	-619			928	363	SLU 82	0.59	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1562	89416	143281	SLV 3	1.6	Si
fin.	2	-2425	-92867	143281	SLV 3	1.54	Si
ini.	2	1043	73558	143281	SLV 2	1.95	Si
fin.	2	-2459	-92370	143281	SLV 2	1.55	Si
ini.	2	1562	89416	143281	SLV 4	1.6	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	-2425	-92867	143281	SLV 4	1.54	Si
ini.	2	-2639	-96503	143281	SLV 10	1.48	Si
fin.	2	386	30717	143281	SLV 10	4.66	Si
ini.	2	-3171	-143753	143281	SLV 16	1	No
fin.	2	2014	95604	143281	SLV 16	1.5	Si
ini.	2	-3690	-159611	143281	SLV 13	0.9	No
fin.	2	1979	96102	143281	SLV 13	1.49	Si
ini.	2	-3171	-143753	143281	SLV 15	1	No
fin.	2	2014	95604	143281	SLV 15	1.5	Si
ini.	2	1043	73558	143281	SLV 1	1.95	Si
fin.	2	-2459	-92370	143281	SLV 1	1.55	Si
ini.	2	-3690	-159611	143281	SLV 14	0.9	No
fin.	2	1979	96102	143281	SLV 14	1.49	Si
ini.	2	-2639	-96503	143281	SLV 9	1.48	Si
fin.	2	386	30717	143281	SLV 9	4.66	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1043	73558	-2361			1208	138	SLV 1	0.06	No
fin.	2	-2459	-92370	-5157			2105	806	SLV 1	0.16	No
ini.	2	-3690	-159611	6765			2553	934	SLV 14	0.14	No
fin.	2	1979	96102	3835			1208	0	SLV 14	0	No
ini.	2	-3690	-159611	6765			2553	934	SLV 13	0.14	No
fin.	2	1979	96102	3835			1208	0	SLV 13	0	No
ini.	2	-3171	-143753	6286			2364	882	SLV 16	0.14	No
fin.	2	2014	95604	4101			1208	0	SLV 16	0	No
ini.	2	1562	89416	-2840			1208	0	SLV 4	0	No
fin.	2	-2425	-92867	-4891			2092	802	SLV 4	0.16	No
ini.	2	-1972	-81642	3810			1927	750	SLD 16	0.2	No
fin.	2	730	41726	1444			1208	274	SLD 16	0.19	No
ini.	2	-1972	-81642	3810			1927	750	SLD 15	0.2	No
fin.	2	730	41726	1444			1208	274	SLD 15	0.19	No
ini.	2	1562	89416	-2840			1208	0	SLV 3	0	No
fin.	2	-2425	-92867	-4891			2092	802	SLV 3	0.16	No
ini.	2	1043	73558	-2361			1208	138	SLV 2	0.06	No
fin.	2	-2459	-92370	-5157			2105	806	SLV 2	0.16	No
ini.	2	-3171	-143753	6286			2364	882	SLV 15	0.14	No
fin.	2	2014	95604	4101			1208	0	SLV 15	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.898	SLV 13	No
V_SLV	0	SLV 3	No
PF_SLU	1.604	SLU 76	Si
V_SLU	0.176	SLU 84	No

## Trave di accoppiamento 106

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-206.3	595.1	482	572	90	-296.3	595.1	482	572	90	90	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fthk	fvk0	fthmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1224	4385	115068	SLU 83	26.24	Si
fin.	3	-1776	18947	115068	SLU 83	6.07	Si
ini.	3	-1194	4219	115068	SLU 74	27.27	Si
fin.	3	-1729	18504	115068	SLU 74	6.22	Si
ini.	3	-1008	50	115068	SLU 81	2296.38	Si
fin.	3	-1622	20453	115068	SLU 81	5.63	Si
ini.	3	-963	-534	115068	SLU 82	215.55	Si
fin.	3	-1590	20582	115068	SLU 82	5.59	Si
ini.	3	-941	-89	115068	SLU 73	1299.99	Si
fin.	3	-1536	19536	115068	SLU 73	5.89	Si
ini.	3	-1178	3801	115068	SLU 84	30.28	Si
fin.	3	-1744	19076	115068	SLU 84	6.03	Si
ini.	3	-1148	3635	115068	SLU 75	31.65	Si
fin.	3	-1697	18633	115068	SLU 75	6.18	Si
ini.	3	-912	-360	115068	SLU 60	319.76	Si
fin.	3	-1469	18722	115068	SLU 60	6.15	Si
ini.	3	-1156	4246	115068	SLU 76	27.1	Si
fin.	3	-1690	18029	115068	SLU 76	6.38	Si
ini.	3	-867	-944	115068	SLU 61	121.92	Si
fin.	3	-1437	18850	115068	SLU 61	6.1	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1224	4385	-659			1460	572	SLU 83	0.87	No
fin.	3	-1776	18947	1225			1681	645	SLU 83	0.53	No





Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1148	3635	-623			1430	562	SLU 75	0.9	No
fin.	3	-1697	18633	1204			1649	635	SLU 75	0.53	No
ini.	3	-1178	3801	-615			1442	566	SLU 84	0.92	No
fin.	3	-1744	19076	1219			1668	641	SLU 84	0.53	No
ini.	3	-1194	4219	-666			1448	568	SLU 74	0.85	No
fin.	3	-1729	18504	1210			1662	639	SLU 74	0.53	No
ini.	3	-1008	50	-522			1374	542	SLU 81	1.04	Si
fin.	3	-1622	20453	1291			1619	625	SLU 81	0.48	No
ini.	3	-845	-498	-439			1308	517	SLU 52	1.18	Si
fin.	3	-1382	17804	1120			1523	594	SLU 52	0.53	No
ini.	3	-912	-360	-490			1335	527	SLU 60	1.08	Si
fin.	3	-1469	18722	1189			1558	605	SLU 60	0.51	No
ini.	3	-867	-944	-446			1317	521	SLU 61	1.17	Si
fin.	3	-1437	18850	1183			1545	601	SLU 61	0.51	No
ini.	3	-941	-89	-472			1347	532	SLU 73	1.13	Si
fin.	3	-1536	19536	1222			1585	614	SLU 73	0.5	No
ini.	3	-963	-534	-479			1356	535	SLU 82	1.12	Si
fin.	3	-1590	20582	1285			1607	621	SLU 82	0.48	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2360	108041	172601	SLV 1	1.6	Si
fin.	2	1400	-128392	172601	SLV 1	1.34	Si
ini.	2	819	-104977	172601	SLV 15	1.64	Si
fin.	2	-3704	154802	172601	SLV 15	1.11	Si
ini.	2	2054	-112478	172601	SLV 14	1.53	Si
fin.	2	-2921	140607	172601	SLV 14	1.23	Si
ini.	2	-3595	115542	172601	SLV 3	1.49	Si
fin.	2	618	-114198	172601	SLV 3	1.51	Si
ini.	2	2054	-112478	172601	SLV 13	1.53	Si
fin.	2	-2921	140607	172601	SLV 13	1.23	Si
ini.	2	-2166	-19045	172601	SLV 11	9.06	Si
fin.	2	-3104	77212	172601	SLV 11	2.24	Si
ini.	2	819	-104977	172601	SLV 16	1.64	Si
fin.	2	-3704	154802	172601	SLV 16	1.11	Si
ini.	2	-2360	108041	172601	SLV 2	1.6	Si
fin.	2	1400	-128392	172601	SLV 2	1.34	Si
ini.	2	-3595	115542	172601	SLV 4	1.49	Si
fin.	2	618	-114198	172601	SLV 4	1.51	Si
ini.	2	-2166	-19045	172601	SLV 12	9.06	Si
fin.	2	-3104	77212	172601	SLV 12	2.24	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-2360	108041	-4811			2400	929	SLV 1	0.19	No
fin.	2	1400	-128392	-4377			1456	0	SLV 1	0	No
ini.	2	2054	-112478	4635			1456	0	SLV 13	0	No
fin.	2	-2921	140607	5682			2624	998	SLV 13	0.18	No
ini.	2	-3595	115542	-5507			2894	1075	SLV 3	0.2	No
fin.	2	618	-114198	-3964			1456	391	SLV 3	0.1	No
ini.	2	819	-104977	3940			1456	324	SLV 15	0.08	No
fin.	2	-3704	154802	6095			2937	1087	SLV 15	0.18	No
ini.	2	-2360	108041	-4811			2400	929	SLV 2	0.19	No
fin.	2	1400	-128392	-4377			1456	0	SLV 2	0	No
ini.	2	1949	-44047	2141			1456	0	SLV 10	0	No
fin.	2	-495	29897	1679			1654	647	SLV 10	0.39	No
ini.	2	819	-104977	3940			1456	324	SLV 16	0.08	No
fin.	2	-3704	154802	6095			2937	1087	SLV 16	0.18	No
ini.	2	1949	-44047	2141			1456	0	SLV 9	0	No
fin.	2	-495	29897	1679			1654	647	SLV 9	0.39	No
ini.	2	-3595	115542	-5507			2894	1075	SLV 4	0.2	No
fin.	2	618	-114198	-3964			1456	391	SLV 4	0.1	No
ini.	2	2054	-112478	4635			1456	0	SLV 14	0	No
fin.	2	-2921	140607	5682			2624	998	SLV 14	0.18	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		1.115	SLV 15
V_SLV		0	SLV 1
PF_SLU		5.591	SLU 82
V_SLU		0.483	SLU 82

#### Trave di accoppiamento 107

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-206.3	595.1	752	834	82	-296.3	595.1	752	834	82	90	28	30000

##### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2



## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-854	-29127	95520	SLU 82	3.28	Si
fin.	3	-460	-3672	95520	SLU 82	26.01	Si
ini.	3	-855	-29137	95520	SLU 81	3.28	Si
fin.	3	-473	-4236	95520	SLU 81	22.55	Si
ini.	3	-775	-26756	95520	SLU 61	3.57	Si
fin.	3	-381	-1764	95520	SLU 61	54.16	Si
ini.	3	-741	-25026	95520	SLU 39	3.82	Si
fin.	3	-416	-3684	95520	SLU 39	25.93	Si
ini.	3	-770	-25841	95520	SLU 84	3.7	Si
fin.	3	-557	-10592	95520	SLU 84	9.02	Si
ini.	3	-794	-27248	95520	SLU 73	3.51	Si
fin.	3	-434	-3969	95520	SLU 73	24.07	Si
ini.	3	-737	-25188	95520	SLU 74	3.79	Si
fin.	3	-530	-10294	95520	SLU 74	9.28	Si
ini.	3	-736	-25178	95520	SLU 75	3.79	Si
fin.	3	-517	-9730	95520	SLU 75	9.82	Si
ini.	3	-772	-25851	95520	SLU 83	3.7	Si
fin.	3	-570	-11156	95520	SLU 83	8.56	Si
ini.	3	-776	-26766	95520	SLU 60	3.57	Si
fin.	3	-394	-2328	95520	SLU 60	41.03	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-854	-29127	2326			1117	441	SLU 82	0.19	No
fin.	3	-460	-3672	-1052			973	384	SLU 82	0.36	No
ini.	3	-772	-25851	2119			1087	430	SLU 83	0.2	No
fin.	3	-570	-11156	-1262			1013	400	SLU 83	0.32	No
ini.	3	-776	-26766	2133			1088	430	SLU 60	0.2	No
fin.	3	-394	-2328	-930			949	373	SLU 60	0.4	No
ini.	3	-770	-25841	2112			1086	429	SLU 84	0.2	No
fin.	3	-557	-10592	-1237			1009	398	SLU 84	0.32	No
ini.	3	-794	-27248	2178			1095	433	SLU 73	0.2	No
fin.	3	-434	-3969	-1007			964	379	SLU 73	0.38	No
ini.	3	-737	-25188	2057			1074	425	SLU 74	0.21	No
fin.	3	-530	-10294	-1205			999	394	SLU 74	0.33	No
ini.	3	-855	-29137	2332			1117	441	SLU 81	0.19	No
fin.	3	-473	-4236	-1077			978	386	SLU 81	0.36	No
ini.	3	-775	-26756	2127			1088	430	SLU 61	0.2	No
fin.	3	-381	-1764	-906			945	371	SLU 61	0.41	No
ini.	3	-736	-25178	2051			1074	425	SLU 75	0.21	No
fin.	3	-517	-9730	-1181			994	392	SLU 75	0.33	No
ini.	3	-741	-25026	2003			1076	425	SLU 39	0.21	No
fin.	3	-416	-3684	-923			957	377	SLU 39	0.41	No

## Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1091	77112	143281	SLV 1	1.86	Si
fin.	2	-2876	-118147	143281	SLV 1	1.21	Si
ini.	2	1091	77112	143281	SLV 2	1.86	Si
fin.	2	-2876	-118147	143281	SLV 2	1.21	Si
ini.	2	794	61815	143281	SLV 3	2.32	Si
fin.	2	-2530	-99303	143281	SLV 3	1.44	Si
ini.	2	-1467	-70176	143281	SLV 11	2.04	Si
fin.	2	979	58673	143281	SLV 11	2.44	Si
ini.	2	-1467	-70176	143281	SLV 12	2.04	Si
fin.	2	979	58673	143281	SLV 12	2.44	Si
ini.	2	-2150	-113792	143281	SLV 16	1.26	Si
fin.	2	2249	109913	143281	SLV 16	1.3	Si
ini.	2	-1853	-98495	143281	SLV 13	1.45	Si
fin.	2	1903	91069	143281	SLV 13	1.57	Si
ini.	2	794	61815	143281	SLV 4	2.32	Si
fin.	2	-2530	-99303	143281	SLV 4	1.44	Si
ini.	2	-1853	-98495	143281	SLV 14	1.45	Si
fin.	2	1903	91069	143281	SLV 14	1.57	Si
ini.	2	-2150	-113792	143281	SLV 15	1.26	Si
fin.	2	2249	109913	143281	SLV 15	1.3	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-2150	-113792	5648			1992	771	SLV 15	0.14	No
fin.	2	2249	109913	2922			1208	0	SLV 15	0	No
ini.	2	794	61815	-2155			1208	253	SLV 4	0.12	No
fin.	2	-2530	-99303	-4820			2131	814	SLV 4	0.17	No
ini.	2	-1467	-70176	3544			1743	686	SLV 11	0.19	No
fin.	2	979	58673	-271			1208	174	SLV 11	0.64	No
ini.	2	1091	77112	-2693			1208	101	SLV 1	0.04	No
fin.	2	-2876	-118147	-4406			2257	851	SLV 1	0.19	No
ini.	2	794	61815	-2155			1208	253	SLV 3	0.12	No
fin.	2	-2530	-99303	-4820			2131	814	SLV 3	0.17	No
ini.	2	-1853	-98495	5110			1884	735	SLV 13	0.14	No
fin.	2	1903	91069	3336			1208	0	SLV 13	0	No
ini.	2	-1853	-98495	5110			1884	735	SLV 14	0.14	No
fin.	2	1903	91069	3336			1208	0	SLV 14	0	No
ini.	2	-2150	-113792	5648			1992	771	SLV 16	0.14	No
fin.	2	2249	109913	2922			1208	0	SLV 16	0	No
ini.	2	1091	77112	-2693			1208	101	SLV 2	0.04	No
fin.	2	-2876	-118147	-4406			2257	851	SLV 2	0.19	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-1467	-70176	3544			1743	686	SLV 12	0.19	No
fin.	2	979	58673	-271			1208	174	SLV 12	0.64	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.213	SLV 1	Si
V_SLV	0	SLV 13	No
PF_SLU	3.278	SLU 81	Si
V_SLU	0.189	SLU 81	No

## Trave di accoppiamento 108

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2467.8	126.6	1044	1186	142	-2467.8	206.6	1044	1186	142	80	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fhk	fvk0	fhmmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	1474	-54345	286447	SLU 51	5.27	Si
fin.	3	1474	16991	286447	SLU 51	16.86	Si
ini.	3	1084	26315	286447	SLU 32	10.89	Si
fin.	3	1084	-52679	286447	SLU 32	5.44	Si
ini.	3	1098	42717	286447	SLU 39	6.71	Si
fin.	3	1098	-58967	286447	SLU 39	4.86	Si
ini.	3	1445	-48438	286447	SLU 49	5.91	Si
fin.	3	1445	12725	286447	SLU 49	22.51	Si
ini.	3	1393	22726	286447	SLU 83	12.6	Si
fin.	3	1393	-52419	286447	SLU 83	5.46	Si
ini.	3	1128	14675	286447	SLU 35	19.52	Si
fin.	3	1128	-52762	286447	SLU 35	5.43	Si
ini.	3	1570	-51730	286447	SLU 47	5.54	Si
fin.	3	1570	25573	286447	SLU 47	11.2	Si
ini.	3	1157	8768	286447	SLU 37	32.67	Si
fin.	3	1157	-48496	286447	SLU 37	5.91	Si
ini.	3	1141	31077	286447	SLU 41	9.22	Si
fin.	3	1141	-59050	286447	SLU 41	4.85	Si
ini.	3	1349	34366	286447	SLU 81	8.34	Si
fin.	3	1349	-52335	286447	SLU 81	5.47	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	1466	-11906	321			1531	0	SLU 54	0	No
fin.	3	1466	-12013	-382			1531	0	SLU 54	0	No
ini.	3	1401	-36798	943			1531	0	SLU 46	0	No
fin.	3	1401	12808	239			1531	0	SLU 46	0	No
ini.	3	1526	-40090	1144			1531	0	SLU 44	0	No
fin.	3	1526	25657	441			1531	0	SLU 44	0	No
ini.	3	1445	-48438	1087			1531	0	SLU 49	0	No
fin.	3	1445	12725	384			1531	0	SLU 49	0	No
ini.	3	1393	22726	-612			1531	0	SLU 83	0	No
fin.	3	1393	-52419	-1323			1531	0	SLU 83	0	No
ini.	3	1570	-51730	1289			1531	0	SLU 47	0	No
fin.	3	1570	25573	585			1531	0	SLU 47	0	No
ini.	3	1474	-54345	1214			1531	0	SLU 51	0	No
fin.	3	1474	16991	511			1531	0	SLU 51	0	No
ini.	3	1351	17538	-544			1531	0	SLU 42	0	No
fin.	3	1351	-46303	-1094			1531	0	SLU 42	0	No
ini.	3	1635	-26838	667			1531	0	SLU 55	0	No
fin.	3	1635	751	-36			1531	0	SLU 55	0	No
ini.	3	1592	-15198	523			1531	0	SLU 52	0	No
fin.	3	1592	835	-180			1531	0	SLU 52	0	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	714	-196574	429671	SLV 9	2.19	Si
fin.	2	839	183823	429671	SLV 9	2.34	Si
ini.	2	1220	201783	429671	SLV 8	2.13	Si
fin.	2	1095	-214612	429671	SLV 8	2	Si
ini.	2	607	157543	429671	SLV 12	2.73	Si
fin.	2	460	-167922	429671	SLV 12	2.56	Si
ini.	2	1327	-152334	429671	SLV 6	2.82	Si
fin.	2	1474	137133	429671	SLV 6	3.13	Si
ini.	2	714	-196574	429671	SLV 10	2.19	Si
fin.	2	839	183823	429671	SLV 10	2.34	Si
ini.	2	1327	-152334	429671	SLV 5	2.82	Si
fin.	2	1474	137133	429671	SLV 5	3.13	Si
ini.	2	1973	129456	429671	SLV 3	3.32	Si
fin.	2	1969	-145972	429671	SLV 3	2.94	Si
ini.	2	607	157543	429671	SLV 11	2.73	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	460	-167922	429671	SLV 11	2.56	Si
ini.	2	1220	201783	429671	SLV 7	2.13	Si
fin.	2	1095	-214612	429671	SLV 7	2	Si
ini.	2	1973	129456	429671	SLV 4	3.32	Si
fin.	2	1969	-145972	429671	SLV 4	2.94	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1220	201783	-4872			2297	537	SLV 7	0.11	No
fin.	2	1095	-214612	-5359			2297	579	SLV 7	0.11	No
ini.	2	714	-196574	4923			2297	692	SLV 9	0.14	No
fin.	2	839	183823	4320			2297	657	SLV 9	0.15	No
ini.	2	1327	-152334	3796			2297	498	SLV 5	0.13	No
fin.	2	1474	137133	3208			2297	439	SLV 5	0.14	No
ini.	2	1327	-152334	3796			2297	498	SLV 6	0.13	No
fin.	2	1474	137133	3208			2297	439	SLV 6	0.14	No
ini.	2	714	-196574	4923			2297	692	SLV 10	0.14	No
fin.	2	839	183823	4320			2297	657	SLV 10	0.15	No
ini.	2	1973	129456	-3153			2297	75	SLV 3	0.02	No
fin.	2	1969	-145972	-3657			2297	84	SLV 3	0.02	No
ini.	2	1973	129456	-3153			2297	75	SLV 4	0.02	No
fin.	2	1969	-145972	-3657			2297	84	SLV 4	0.02	No
ini.	2	1220	201783	-4872			2297	537	SLV 8	0.11	No
fin.	2	1095	-214612	-5359			2297	579	SLV 8	0.11	No
ini.	2	2005	23221	-552			2297	0	SLV 2	0	No
fin.	2	2083	-40448	-1087			2297	0	SLV 2	0	No
ini.	2	2005	23221	-552			2297	0	SLV 1	0	No
fin.	2	2083	-40448	-1087			2297	0	SLV 1	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.002	SLV 7	Si
V_SLV	0	SLV 1	No
PF_SLU	4.851	SLU 41	Si
V_SLU	0	SLU 10	No

## Trave di accoppiamento 109

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2181.3	595.1	834	924	90	-2271.3	595.1	834	924	90	90	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-353	12379	115068	SLU 61	9.3	Si
fin.	3	18	4182	115068	SLU 61	27.51	Si
ini.	3	-344	12253	115068	SLU 60	9.39	Si
fin.	3	16	4274	115068	SLU 60	26.93	Si
ini.	3	-312	12620	115068	SLU 81	9.12	Si
fin.	3	66	4011	115068	SLU 81	28.69	Si
ini.	3	-256	10665	115068	SLU 39	10.79	Si
fin.	3	83	3129	115068	SLU 39	36.78	Si
ini.	3	-297	10424	115068	SLU 19	11.04	Si
fin.	3	35	3300	115068	SLU 19	34.86	Si
ini.	3	-288	10299	115068	SLU 18	11.17	Si
fin.	3	33	3392	115068	SLU 18	33.93	Si
ini.	3	-318	11453	115068	SLU 52	10.05	Si
fin.	3	11	3896	115068	SLU 52	29.53	Si
ini.	3	-265	10790	115068	SLU 40	10.66	Si
fin.	3	85	3038	115068	SLU 40	37.88	Si
ini.	3	-286	11819	115068	SLU 73	9.74	Si
fin.	3	61	3633	115068	SLU 73	31.67	Si
ini.	3	-321	12745	115068	SLU 82	9.03	Si
fin.	3	69	3920	115068	SLU 82	29.36	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	272	2438	-676			970	300	SLU 69	0.44	No
fin.	3	153	742	1111			970	330	SLU 69	0.3	No
ini.	3	286	1005	-578			970	297	SLU 50	0.51	No
fin.	3	100	814	1089			970	343	SLU 50	0.31	No
ini.	3	176	4793	-768			970	325	SLU 77	0.42	No
fin.	3	175	1268	1054			970	325	SLU 77	0.31	No
ini.	3	222	3726	-696			970	313	SLU 79	0.45	No
fin.	3	173	1078	1042			970	326	SLU 79	0.31	No
ini.	3	263	2564	-669			970	303	SLU 70	0.45	No
fin.	3	156	651	1078			970	330	SLU 70	0.31	No
ini.	3	231	2197	-643			970	311	SLU 49	0.48	No
fin.	3	106	914	1068			970	341	SLU 49	0.32	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	240	2072	-650			970	309	SLU 48	0.47	No
fin.	3	103	1005	1102			970	342	SLU 48	0.31	No
ini.	3	167	4919	-761			970	327	SLU 78	0.43	No
fin.	3	178	1177	1021			970	324	SLU 78	0.32	No
ini.	3	310	1496	-596			970	290	SLU 72	0.49	No
fin.	3	153	460	1065			970	330	SLU 72	0.31	No
ini.	3	318	1371	-604			970	288	SLU 71	0.48	No
fin.	3	151	551	1099			970	331	SLU 71	0.3	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1448	81345	172601	SLV 4	2.12	Si
fin.	2	3746	-66191	172601	SLV 4	2.61	Si
ini.	2	-1448	81345	172601	SLV 3	2.12	Si
fin.	2	3746	-66191	172601	SLV 3	2.61	Si
ini.	2	938	-56971	172601	SLV 16	3.03	Si
fin.	2	-2717	64484	172601	SLV 16	2.68	Si
ini.	2	1110	-65922	172601	SLV 13	2.62	Si
fin.	2	-3702	71620	172601	SLV 13	2.41	Si
ini.	2	-815	43377	172601	SLV 8	3.98	Si
fin.	2	2634	-28781	172601	SLV 8	6	Si
ini.	2	-815	43377	172601	SLV 7	3.98	Si
fin.	2	2634	-28781	172601	SLV 7	6	Si
ini.	2	-1276	72394	172601	SLV 1	2.38	Si
fin.	2	2761	-59054	172601	SLV 1	2.92	Si
ini.	2	-1276	72394	172601	SLV 2	2.38	Si
fin.	2	2761	-59054	172601	SLV 2	2.92	Si
ini.	2	938	-56971	172601	SLV 15	3.03	Si
fin.	2	-2717	64484	172601	SLV 15	2.68	Si
ini.	2	1110	-65922	172601	SLV 14	2.62	Si
fin.	2	-3702	71620	172601	SLV 14	2.41	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-815	43377	-2781			1782	703	SLV 7	0.25	No
fin.	2	2634	-28781	-164			1456	0	SLV 7	0	No
ini.	2	-815	43377	-2781			1782	703	SLV 8	0.25	No
fin.	2	2634	-28781	-164			1456	0	SLV 8	0	No
ini.	2	1110	-65922	3241			1456	189	SLV 14	0.06	No
fin.	2	-3702	71620	4275			2937	1087	SLV 14	0.25	No
ini.	2	-1276	72394	-4147			1966	777	SLV 1	0.19	No
fin.	2	2761	-59054	-3054			1456	0	SLV 1	0	No
ini.	2	-1448	81345	-4710			2035	803	SLV 3	0.17	No
fin.	2	3746	-66191	-2904			1456	0	SLV 3	0	No
ini.	2	-715	39196	-2431			1742	686	SLD 4	0.28	No
fin.	2	1611	-26709	-848			1456	0	SLD 4	0	No
ini.	2	-1448	81345	-4710			2035	803	SLV 4	0.17	No
fin.	2	3746	-66191	-2904			1456	0	SLV 4	0	No
ini.	2	1110	-65922	3241			1456	189	SLV 13	0.06	No
fin.	2	-3702	71620	4275			2937	1087	SLV 13	0.25	No
ini.	2	-1276	72394	-4147			1966	777	SLV 2	0.19	No
fin.	2	2761	-59054	-3054			1456	0	SLV 2	0	No
ini.	2	-715	39196	-2431			1742	686	SLD 3	0.28	No
fin.	2	1611	-26709	-848			1456	0	SLD 3	0	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.122	SLV 3	Si
V_SLV	0	SLD 3	No
PF_SLU	9.028	SLU 82	Si
V_SLU	0.297	SLU 69	No

#### Trave di accoppiamento 110

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2181.3	595.1	1104	1186	82	-2271.3	595.1	1104	1186	82	90	28	30000

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	505	3428	95520	SLU 75	27.87	Si
fin.	3	-91	-11148	95520	SLU 75	8.57	Si
ini.	3	540	3712	95520	SLU 76	25.73	Si
fin.	3	-78	-10744	95520	SLU 76	8.89	Si
ini.	3	204	2342	95520	SLU 82	40.79	Si
fin.	3	-315	-12175	95520	SLU 82	7.85	Si
ini.	3	505	3333	95520	SLU 74	28.66	Si
fin.	3	-78	-11001	95520	SLU 74	8.68	Si
ini.	3	180	2210	95520	SLU 40	43.22	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	-292	-10764	95520	SLU 40	8.87	Si
ini.	3	204	2247	95520	SLU 81	42.51	Si
fin.	3	-302	-12028	95520	SLU 81	7.94	Si
ini.	3	511	3570	95520	SLU 83	26.75	Si
fin.	3	-109	-11327	95520	SLU 83	8.43	Si
ini.	3	114	1585	95520	SLU 61	60.28	Si
fin.	3	-300	-10707	95520	SLU 61	8.92	Si
ini.	3	233	2389	95520	SLU 73	39.98	Si
fin.	3	-271	-11445	95520	SLU 73	8.35	Si
ini.	3	511	3665	95520	SLU 84	26.06	Si
fin.	3	-122	-11475	95520	SLU 84	8.32	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	789	3862	551			806	0	SLU 48	0	No
fin.	3	251	-6897	-1127			806	249	SLU 48	0.22	No
ini.	3	879	4620	626			806	0	SLU 69	0	No
fin.	3	236	-8366	-1318			806	252	SLU 69	0.19	No
ini.	3	822	4841	543			806	0	SLU 38	0	No
fin.	3	146	-8533	-1281			806	273	SLU 38	0.21	No
ini.	3	854	4582	436			806	0	SLU 28	0	No
fin.	3	246	-7102	-1110			806	250	SLU 28	0.23	No
ini.	3	889	4709	357			806	0	SLU 29	0	No
fin.	3	280	-6451	-1046			806	242	SLU 29	0.23	No
ini.	3	854	4488	443			806	0	SLU 27	0	No
fin.	3	258	-6954	-1103			806	247	SLU 27	0.22	No
ini.	3	879	4714	619			806	0	SLU 70	0	No
fin.	3	223	-8513	-1325			806	255	SLU 70	0.19	No
ini.	3	914	4936	534			806	0	SLU 72	0	No
fin.	3	244	-8011	-1268			806	250	SLU 72	0.2	No
ini.	3	787	4619	629			806	0	SLU 36	0	No
fin.	3	125	-9036	-1338			806	277	SLU 36	0.21	No
ini.	3	914	4841	541			806	0	SLU 71	0	No
fin.	3	257	-7863	-1261			806	247	SLU 71	0.2	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2089	50433	143281	SLV 1	2.84	Si
fin.	2	-1505	-57057	143281	SLV 1	2.51	Si
ini.	2	-1705	-47369	143281	SLV 15	3.02	Si
fin.	2	1244	42344	143281	SLV 15	3.38	Si
ini.	2	1695	38872	143281	SLV 7	3.69	Si
fin.	2	-1198	-43953	143281	SLV 7	3.26	Si
ini.	2	-2219	-59847	143281	SLV 14	2.39	Si
fin.	2	1605	54282	143281	SLV 14	2.64	Si
ini.	2	2603	62912	143281	SLV 4	2.28	Si
fin.	2	-1866	-68995	143281	SLV 4	2.08	Si
ini.	2	2603	62912	143281	SLV 3	2.28	Si
fin.	2	-1866	-68995	143281	SLV 3	2.08	Si
ini.	2	2089	50433	143281	SLV 2	2.84	Si
fin.	2	-1505	-57057	143281	SLV 2	2.51	Si
ini.	2	1695	38872	143281	SLV 8	3.69	Si
fin.	2	-1198	-43953	143281	SLV 8	3.26	Si
ini.	2	-1705	-47369	143281	SLV 16	3.02	Si
fin.	2	1244	42344	143281	SLV 16	3.38	Si
ini.	2	-2219	-59847	143281	SLV 13	2.39	Si
fin.	2	1605	54282	143281	SLV 13	2.64	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	2603	62912	-2792			1208	0	SLV 3	0	No
fin.	2	-1866	-68995	-4310			1889	737	SLV 3	0.17	No
ini.	2	1695	38872	-1332			1208	0	SLV 8	0	No
fin.	2	-1198	-43953	-3062			1645	650	SLV 8	0.21	No
ini.	2	2603	62912	-2792			1208	0	SLV 4	0	No
fin.	2	-1866	-68995	-4310			1889	737	SLV 4	0.17	No
ini.	2	1221	27730	-748			1208	0	SLD 3	0	No
fin.	2	-872	-33684	-2445			1526	603	SLD 3	0.25	No
ini.	2	1221	27730	-748			1208	0	SLD 4	0	No
fin.	2	-872	-33684	-2445			1526	603	SLD 4	0.25	No
ini.	2	-1705	-47369	3658			1830	717	SLV 16	0.2	No
fin.	2	1244	42344	1519			1208	0	SLV 16	0	No
ini.	2	1695	38872	-1332			1208	0	SLV 7	0	No
fin.	2	-1198	-43953	-3062			1645	650	SLV 7	0.21	No
ini.	2	-2219	-59847	4342			2017	779	SLV 13	0.18	No
fin.	2	1605	54282	2197			1208	0	SLV 13	0	No
ini.	2	2089	50433	-2108			1208	0	SLV 2	0	No
fin.	2	-1505	-57057	-3631			1757	691	SLV 2	0.19	No
ini.	2	-2219	-59847	4342			2017	779	SLV 14	0.18	No
fin.	2	1605	54282	2197			1208	0	SLV 14	0	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.077	SLV 3	Si
V_SLV	0	SLD 3	No
PF_SLU	7.845	SLU 82	Si
V_SLU	0	SLU 8	No



## Trave di accoppiamento 111

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2159.3	-335.9	834	924	90	-2249.3	-335.9	834	924	90	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1478	60199	115068	SLU 80	1.91	Si
fin.	3	456	-21778	115068	SLU 80	5.28	Si
ini.	3	-1329	56227	115068	SLU 77	2.05	Si
fin.	3	465	-19400	115068	SLU 77	5.93	Si
ini.	3	-1457	60069	115068	SLU 82	1.92	Si
fin.	3	489	-21986	115068	SLU 82	5.23	Si
ini.	3	-1422	56002	115068	SLU 68	2.05	Si
fin.	3	380	-20500	115068	SLU 68	5.61	Si
ini.	3	-1539	62055	115068	SLU 76	1.85	Si
fin.	3	468	-23212	115068	SLU 76	4.96	Si
ini.	3	-1347	56604	115068	SLU 83	2.03	Si
fin.	3	469	-19597	115068	SLU 83	5.87	Si
ini.	3	-1504	60693	115068	SLU 73	1.9	Si
fin.	3	466	-22735	115068	SLU 73	5.06	Si
ini.	3	-1493	61431	115068	SLU 84	1.87	Si
fin.	3	491	-22463	115068	SLU 84	5.12	Si
ini.	3	-1474	61055	115068	SLU 78	1.88	Si
fin.	3	487	-22266	115068	SLU 78	5.17	Si
ini.	3	-1439	59693	115068	SLU 75	1.93	Si
fin.	3	485	-21790	115068	SLU 75	5.28	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1306	53626	-2030			1493	584	SLU 31	0.29	No
fin.	3	442	-20942	-947			970	251	SLU 31	0.27	No
ini.	3	-1478	60199	-2345			1562	607	SLU 80	0.26	No
fin.	3	456	-21778	-838			970	247	SLU 80	0.29	No
ini.	3	-1539	62055	-2389			1586	615	SLU 76	0.26	No
fin.	3	468	-23212	-958			970	243	SLU 76	0.25	No
ini.	3	-1457	60069	-2310			1553	604	SLU 82	0.26	No
fin.	3	489	-21986	-921			970	236	SLU 82	0.26	No
ini.	3	-1493	61431	-2372			1568	609	SLU 84	0.26	No
fin.	3	491	-22463	-919			970	235	SLU 84	0.26	No
ini.	3	-1341	54988	-2092			1507	589	SLU 34	0.28	No
fin.	3	444	-21419	-945			970	251	SLU 34	0.27	No
ini.	3	-1474	61055	-2389			1560	606	SLU 78	0.25	No
fin.	3	487	-22266	-842			970	237	SLU 78	0.28	No
ini.	3	-1329	56227	-2231			1502	587	SLU 77	0.26	No
fin.	3	465	-19400	-664			970	244	SLU 77	0.37	No
ini.	3	-1439	59693	-2328			1546	602	SLU 75	0.26	No
fin.	3	485	-21790	-844			970	237	SLU 75	0.28	No
ini.	3	-1504	60693	-2327			1572	610	SLU 73	0.26	No
fin.	3	466	-22735	-961			970	244	SLU 73	0.25	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2517	135874	172601	SLV 3	1.27	Si
fin.	2	2214	-71788	172601	SLV 3	2.4	Si
ini.	2	-1734	100934	172601	SLV 5	1.71	Si
fin.	2	1575	-44398	172601	SLV 5	3.89	Si
ini.	2	-1663	86681	172601	SLD 1	1.99	Si
fin.	2	1265	-40774	172601	SLD 1	4.23	Si
ini.	2	-2517	135874	172601	SLV 4	1.27	Si
fin.	2	2214	-71788	172601	SLV 4	2.4	Si
ini.	2	946	-83282	172601	SLV 16	2.07	Si
fin.	2	-2088	56379	172601	SLV 16	3.06	Si
ini.	2	946	-83282	172601	SLV 15	2.07	Si
fin.	2	-2088	56379	172601	SLV 15	3.06	Si
ini.	2	-1663	86681	172601	SLD 2	1.99	Si
fin.	2	1265	-40774	172601	SLD 2	4.23	Si
ini.	2	-2715	155150	172601	SLV 2	1.11	Si
fin.	2	2614	-79851	172601	SLV 2	2.16	Si
ini.	2	-2715	155150	172601	SLV 1	1.11	Si
fin.	2	2614	-79851	172601	SLV 1	2.16	Si
ini.	2	-1734	100934	172601	SLV 6	1.71	Si
fin.	2	1575	-44398	172601	SLV 6	3.89	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-2517	135874	-5218			2463	949	SLV 4	0.18	No
fin.	2	2214	-71788	-4061			1456	0	SLV 4	0	No
ini.	2	-1734	100934	-3459			2149	845	SLV 6	0.24	No
fin.	2	1575	-44398	-1417			1456	0	SLV 6	0	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-2715	155150	-5710			2542	973	SLV 1	0.17	No
fin.	2	2614	-79851	-4025			1456	0	SLV 1	0	No
ini.	2	946	-83282	2853			1456	273	SLV 16	0.1	No
fin.	2	-2088	56379	3266			2291	893	SLV 16	0.27	No
ini.	2	-1663	86681	-3255			2121	834	SLD 2	0.26	No
fin.	2	1265	-40774	-1937			1456	0	SLD 2	0	No
ini.	2	-1734	100934	-3459			2149	845	SLV 5	0.24	No
fin.	2	1575	-44398	-1417			1456	0	SLV 5	0	No
ini.	2	-2517	135874	-5218			2463	949	SLV 3	0.18	No
fin.	2	2214	-71788	-4061			1456	0	SLV 3	0	No
ini.	2	-2715	155150	-5710			2542	973	SLV 2	0.17	No
fin.	2	2614	-79851	-4025			1456	0	SLV 2	0	No
ini.	2	946	-83282	2853			1456	273	SLV 15	0.1	No
fin.	2	-2088	56379	3266			2291	893	SLV 15	0.27	No
ini.	2	-1663	86681	-3255			2121	834	SLD 1	0.26	No
fin.	2	1265	-40774	-1937			1456	0	SLD 1	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.112	SLV 1	Si
V_SLV	0	SLD 1	No
PF_SLU	1.854	SLU 76	Si
V_SLU	0.254	SLU 76	No

## Trave di accoppiamento 112

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2159.3	-335.9	1104	1186	82	-2249.3	-335.9	1104	1186	82	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-109	33675	95520	SLU 83	2.84	Si
fin.	3	-1659	-36959	95520	SLU 83	2.58	Si
ini.	3	-137	35336	95520	SLU 73	2.7	Si
fin.	3	-1698	-37956	95520	SLU 73	2.52	Si
ini.	3	6	35135	95520	SLU 77	2.72	Si
fin.	3	-1604	-37017	95520	SLU 77	2.58	Si
ini.	3	15	38124	95520	SLU 80	2.51	Si
fin.	3	-1708	-38823	95520	SLU 80	2.46	Si
ini.	3	-56	37869	95520	SLU 76	2.52	Si
fin.	3	-1739	-39198	95520	SLU 76	2.44	Si
ini.	3	-60	36019	95520	SLU 75	2.65	Si
fin.	3	-1671	-38200	95520	SLU 75	2.5	Si
ini.	3	-1	34706	95520	SLU 79	2.75	Si
fin.	3	-1600	-36398	95520	SLU 79	2.62	Si
ini.	3	-93	37093	95520	SLU 84	2.58	Si
fin.	3	-1767	-39384	95520	SLU 84	2.43	Si
ini.	3	21	38553	95520	SLU 78	2.48	Si
fin.	3	-1711	-39443	95520	SLU 78	2.42	Si
ini.	3	-174	34559	95520	SLU 82	2.76	Si
fin.	3	-1726	-38142	95520	SLU 82	2.5	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-93	37093	-643			840	321	SLU 84	0.5	No
fin.	3	-1767	-39384	-2996			1449	551	SLU 84	0.18	No
ini.	3	-60	36019	-608			827	315	SLU 75	0.52	No
fin.	3	-1671	-38200	-2917			1415	541	SLU 75	0.19	No
ini.	3	-75	32601	-478			833	318	SLU 74	0.66	No
fin.	3	-1563	-35775	-2808			1375	529	SLU 74	0.19	No
ini.	3	-174	34559	-535			869	336	SLU 82	0.63	No
fin.	3	-1726	-38142	-2927			1435	547	SLU 82	0.19	No
ini.	3	-1	34706	-598			806	303	SLU 79	0.51	No
fin.	3	-1600	-36398	-2813			1389	533	SLU 79	0.19	No
ini.	3	21	38553	-716			806	299	SLU 78	0.42	No
fin.	3	-1711	-39443	-2986			1429	545	SLU 78	0.18	No
ini.	3	-56	37869	-706			826	314	SLU 76	0.44	No
fin.	3	-1739	-39198	-2924			1439	548	SLU 76	0.19	No
ini.	3	15	38124	-728			806	300	SLU 80	0.41	No
fin.	3	-1708	-38823	-2921			1428	545	SLU 80	0.19	No
ini.	3	-109	33675	-513			845	324	SLU 83	0.63	No
fin.	3	-1659	-36959	-2888			1410	540	SLU 83	0.19	No
ini.	3	6	35135	-586			806	302	SLU 77	0.52	No
fin.	3	-1604	-37017	-2878			1390	533	SLU 77	0.19	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	881	76173	143281	SLV 6	1.88	Si





Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	-2196	-58862	143281	SLV 6	2.43	Si
ini.	2	349	55199	143281	SLD 2	2.6	Si
fin.	2	-1727	-47286	143281	SLD 2	3.03	Si
ini.	2	349	55199	143281	SLD 1	2.6	Si
fin.	2	-1727	-47286	143281	SLD 1	3.03	Si
ini.	2	943	102826	143281	SLV 2	1.39	Si
fin.	2	-2715	-80118	143281	SLV 2	1.79	Si
ini.	2	-1130	-63042	143281	SLV 16	2.27	Si
fin.	2	714	34265	143281	SLV 16	4.18	Si
ini.	2	506	82122	143281	SLV 3	1.74	Si
fin.	2	-2265	-67737	143281	SLV 3	2.12	Si
ini.	2	506	82122	143281	SLV 4	1.74	Si
fin.	2	-2265	-67737	143281	SLV 4	2.12	Si
ini.	2	943	102826	143281	SLV 1	1.39	Si
fin.	2	-2715	-80118	143281	SLV 1	1.79	Si
ini.	2	881	76173	143281	SLV 5	1.88	Si
fin.	2	-2196	-58862	143281	SLV 5	2.43	Si
ini.	2	-1130	-63042	143281	SLV 15	2.27	Si
fin.	2	714	34265	143281	SLV 15	4.18	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt <sub>lim</sub>	Comb.	c.s.	Verifica
ini.	2	881	76173	-2056			1208	219	SLV 6	0.11	No
fin.	2	-2196	-58862	-3661			2009	776	SLV 6	0.21	No
ini.	2	-1130	-63042	2495			1620	641	SLV 16	0.26	No
fin.	2	714	34265	948			1208	280	SLV 16	0.29	No
ini.	2	943	102826	-2968			1208	192	SLV 2	0.06	No
fin.	2	-2715	-80118	-4573			2198	834	SLV 2	0.18	No
ini.	2	943	102826	-2968			1208	192	SLV 1	0.06	No
fin.	2	-2715	-80118	-4573			2198	834	SLV 1	0.18	No
ini.	2	506	82122	-2308			1208	340	SLV 3	0.15	No
fin.	2	-2265	-67737	-3899			2034	784	SLV 3	0.2	No
ini.	2	349	55199	-1400			1208	379	SLD 2	0.27	No
fin.	2	-1727	-47286	-2987			1838	720	SLD 2	0.24	No
ini.	2	881	76173	-2056			1208	219	SLV 5	0.11	No
fin.	2	-2196	-58862	-3661			2009	776	SLV 5	0.21	No
ini.	2	506	82122	-2308			1208	340	SLV 4	0.15	No
fin.	2	-2265	-67737	-3899			2034	784	SLV 4	0.2	No
ini.	2	349	55199	-1400			1208	379	SLD 1	0.27	No
fin.	2	-1727	-47286	-2987			1838	720	SLD 1	0.24	No
ini.	2	-1130	-63042	2495			1620	641	SLV 15	0.26	No
fin.	2	714	34265	948			1208	280	SLV 15	0.29	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.393	SLV 1	Si
V_SLV	0.065	SLV 1	No
PF_SLU	2.422	SLU 78	Si
V_SLU	0.183	SLU 78	No

## Trave di accoppiamento 113

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1886.8	-335.9	834	1034	200	-1936.8	-335.9	834	1034	200	50	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>tk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1384	12198	568235	SLU 81	46.58	Si
fin.	3	-1390	49072	568235	SLU 81	11.58	Si
ini.	3	-1531	6032	568235	SLU 82	94.2	Si
fin.	3	-1530	45486	568235	SLU 82	12.49	Si
ini.	3	-1069	29793	568235	SLU 77	19.07	Si
fin.	3	-1080	44701	568235	SLU 77	12.71	Si
ini.	3	-1127	11969	568235	SLU 39	47.48	Si
fin.	3	-1141	42884	568235	SLU 39	13.25	Si
ini.	3	-1375	15443	568235	SLU 84	36.8	Si
fin.	3	-1383	44162	568235	SLU 84	12.87	Si
ini.	3	-1025	30823	568235	SLU 79	18.44	Si
fin.	3	-1040	43147	568235	SLU 79	13.17	Si
ini.	3	-1225	20381	568235	SLU 74	27.88	Si
fin.	3	-1227	46026	568235	SLU 74	12.35	Si
ini.	3	-1329	7274	568235	SLU 60	78.11	Si
fin.	3	-1332	43784	568235	SLU 60	12.98	Si
ini.	3	-1228	21609	568235	SLU 83	26.3	Si
fin.	3	-1243	47748	568235	SLU 83	11.9	Si
ini.	3	-1173	16686	568235	SLU 62	34.06	Si
fin.	3	-1184	42459	568235	SLU 62	13.38	Si



Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1584	1724	726			2790	1103	SLU 73	1.52	Si
fin.	3	-1568	39819	1369			2784	1101	SLU 73	0.8	No
ini.	3	-1329	7274	691			2688	1062	SLU 60	1.54	Si
fin.	3	-1332	43784	1464			2689	1062	SLU 60	0.73	No
ini.	3	-1127	11969	588			2607	1028	SLU 39	1.75	Si
fin.	3	-1141	42884	1278			2613	1030	SLU 39	0.81	No
ini.	3	-1228	21609	488			2648	1045	SLU 83	2.14	Si
fin.	3	-1243	47748	1345			2654	1047	SLU 83	0.78	No
ini.	3	-1225	20381	448			2647	1044	SLU 74	2.33	Si
fin.	3	-1227	46026	1320			2648	1045	SLU 74	0.79	No
ini.	3	-1173	16686	487			2626	1036	SLU 62	2.13	Si
fin.	3	-1184	42459	1284			2630	1038	SLU 62	0.81	No
ini.	3	-1531	6032	756			2769	1095	SLU 82	1.45	Si
fin.	3	-1530	45486	1490			2769	1095	SLU 82	0.73	No
ini.	3	-1375	15443	552			2707	1070	SLU 84	1.94	Si
fin.	3	-1383	44162	1310			2710	1071	SLU 84	0.82	No
ini.	3	-1477	1108	755			2747	1086	SLU 61	1.44	Si
fin.	3	-1472	40198	1429			2745	1085	SLU 61	0.76	No
ini.	3	-1384	12198	692			2710	1071	SLU 81	1.55	Si
fin.	3	-1390	49072	1525			2713	1072	SLU 81	0.7	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2195	-139983	852353	SLV 15	6.09	Si
fin.	2	-2603	138866	852353	SLV 15	6.14	Si
ini.	2	439	152779	852353	SLV 4	5.58	Si
fin.	2	273	-63545	852353	SLV 4	13.41	Si
ini.	2	266	155838	852353	SLV 2	5.47	Si
fin.	2	700	-78130	852353	SLV 2	10.91	Si
ini.	2	-2369	-136924	852353	SLV 13	6.23	Si
fin.	2	-2176	124282	852353	SLV 13	6.86	Si
ini.	2	-1070	-41085	852353	SLV 11	20.75	Si
fin.	2	-2095	85037	852353	SLV 11	10.02	Si
ini.	2	-2369	-136924	852353	SLV 14	6.23	Si
fin.	2	-2176	124282	852353	SLV 14	6.86	Si
ini.	2	-1070	-41085	852353	SLV 12	20.75	Si
fin.	2	-2095	85037	852353	SLV 12	10.02	Si
ini.	2	439	152779	852353	SLV 3	5.58	Si
fin.	2	273	-63545	852353	SLV 3	13.41	Si
ini.	2	266	155838	852353	SLV 1	5.47	Si
fin.	2	700	-78130	852353	SLV 1	10.91	Si
ini.	2	-2195	-139983	852353	SLV 16	6.09	Si
fin.	2	-2603	138866	852353	SLV 16	6.14	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-1070	-41085	4905			3663	1431	SLV 12	0.29	No
fin.	2	-2095	85037	5331			4073	1610	SLV 12	0.3	No
ini.	2	-1070	-41085	4905			3663	1431	SLV 11	0.29	No
fin.	2	-2095	85037	5331			4073	1610	SLV 11	0.3	No
ini.	2	-2369	-136924	5715			4182	1654	SLV 14	0.29	No
fin.	2	-2176	124282	5391			4105	1623	SLV 14	0.3	No
ini.	2	266	155838	-6529			3235	1158	SLV 1	0.18	No
fin.	2	700	-78130	-5111			3235	1054	SLV 1	0.21	No
ini.	2	439	152779	-4925			3235	1118	SLV 3	0.23	No
fin.	2	273	-63545	-3442			3235	1157	SLV 3	0.34	No
ini.	2	439	152779	-4925			3235	1118	SLV 4	0.23	No
fin.	2	273	-63545	-3442			3235	1157	SLV 4	0.34	No
ini.	2	-2195	-139983	7319			4113	1626	SLV 15	0.22	No
fin.	2	-2603	138866	7059			4276	1691	SLV 15	0.24	No
ini.	2	-2195	-139983	7319			4113	1626	SLV 16	0.22	No
fin.	2	-2603	138866	7059			4276	1691	SLV 16	0.24	No
ini.	2	-2369	-136924	5715			4182	1654	SLV 13	0.29	No
fin.	2	-2176	124282	5391			4105	1623	SLV 13	0.3	No
ini.	2	266	155838	-6529			3235	1158	SLV 2	0.18	No
fin.	2	700	-78130	-5111			3235	1054	SLV 2	0.21	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	5.469	SLV 1	Si
V_SLV	0.177	SLV 1	No
PF_SLU	11.58	SLU 81	Si
V_SLU	0.703	SLU 81	No

Trave di accoppiamento 114

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1886.8	-335.9	1114	1186	72	-1936.8	-335.9	1114	1186	72	50	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti



fb	fhk	fvk0	fhmedio	t0	fv0	$\mu$	$\phi$	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-373	-6598	73643	SLU 58	11.16	Si
fin.	3	-330	-5918	73643	SLU 58	12.44	Si
ini.	3	-468	-7525	73643	SLU 79	9.79	Si
fin.	3	-417	-6864	73643	SLU 79	10.73	Si
ini.	3	-429	-6605	73643	SLU 83	11.15	Si
fin.	3	-382	-4498	73643	SLU 83	16.37	Si
ini.	3	-439	-7319	73643	SLU 35	10.06	Si
fin.	3	-383	-6421	73643	SLU 35	11.47	Si
ini.	3	-353	-6644	73643	SLU 56	11.08	Si
fin.	3	-307	-5564	73643	SLU 56	13.23	Si
ini.	3	-387	-6126	73643	SLU 71	12.02	Si
fin.	3	-356	-7016	73643	SLU 71	10.5	Si
ini.	3	-367	-6172	73643	SLU 69	11.93	Si
fin.	3	-333	-6662	73643	SLU 69	11.05	Si
ini.	3	-448	-7572	73643	SLU 77	9.73	Si
fin.	3	-394	-6510	73643	SLU 77	11.31	Si
ini.	3	-379	-5872	73643	SLU 29	12.54	Si
fin.	3	-345	-6926	73643	SLU 29	10.63	Si
ini.	3	-460	-7272	73643	SLU 37	10.13	Si
fin.	3	-406	-6774	73643	SLU 37	10.87	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-367	-6172	427			923	363	SLU 69	0.85	No
fin.	3	-333	-6662	820			910	357	SLU 69	0.44	No
ini.	3	-397	-5142	488			935	369	SLU 84	0.76	No
fin.	3	-362	-3697	835			921	362	SLU 84	0.43	No
ini.	3	-416	-6108	472			943	372	SLU 78	0.79	No
fin.	3	-374	-5709	850			926	365	SLU 78	0.43	No
ini.	3	-342	-4588	477			913	359	SLU 75	0.75	No
fin.	3	-314	-3409	840			902	354	SLU 75	0.42	No
ini.	3	-448	-7572	512			956	377	SLU 77	0.74	No
fin.	3	-394	-6510	874			934	368	SLU 77	0.42	No
ini.	3	-294	-4652	432			894	350	SLU 66	0.81	No
fin.	3	-273	-4362	809			886	346	SLU 66	0.43	No
ini.	3	-375	-6052	517			926	365	SLU 74	0.71	No
fin.	3	-334	-4210	863			910	357	SLU 74	0.41	No
ini.	3	-324	-3622	493			906	356	SLU 82	0.72	No
fin.	3	-302	-1397	824			897	352	SLU 82	0.43	No
ini.	3	-356	-5086	533			919	361	SLU 81	0.68	No
fin.	3	-322	-2198	848			905	355	SLU 81	0.42	No
ini.	3	-429	-6605	528			948	374	SLU 83	0.71	No
fin.	3	-382	-4498	858			929	366	SLU 83	0.43	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1568	-14876	110465	SLV 16	7.43	Si
fin.	2	2015	45615	110465	SLV 16	2.42	Si
ini.	2	1568	-14876	110465	SLV 15	7.43	Si
fin.	2	2015	45615	110465	SLV 15	2.42	Si
ini.	2	-1942	9737	110465	SLV 2	11.35	Si
fin.	2	-2373	-48829	110465	SLV 2	2.26	Si
ini.	2	2077	457	110465	SLV 13	241.48	Si
fin.	2	2174	42415	110465	SLV 13	2.6	Si
ini.	2	2077	457	110465	SLV 14	241.48	Si
fin.	2	2174	42415	110465	SLV 14	2.6	Si
ini.	2	-1942	9737	110465	SLV 1	11.35	Si
fin.	2	-2373	-48829	110465	SLV 1	2.26	Si
ini.	2	-2451	-5597	110465	SLV 3	19.74	Si
fin.	2	-2532	-45629	110465	SLV 3	2.42	Si
ini.	2	-433	-29518	110465	SLV 12	3.74	Si
fin.	2	238	17413	110465	SLV 12	6.34	Si
ini.	2	-2451	-5597	110465	SLV 4	19.74	Si
fin.	2	-2532	-45629	110465	SLV 4	2.42	Si
ini.	2	-433	-29518	110465	SLV 11	3.74	Si
fin.	2	238	17413	110465	SLV 11	6.34	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1264	21595	-424			1165	0	SLV 10	0	No
fin.	2	768	6747	-1331			1165	214	SLV 10	0.16	No
ini.	2	2077	457	1191			1165	0	SLV 13	0	No
fin.	2	2174	42415	576			1165	0	SLV 13	0	No
ini.	2	58	24378	-1140			1165	425	SLV 6	0.37	No
fin.	2	-596	-20626	-2245			1403	553	SLV 6	0.25	No
ini.	2	1264	21595	-424			1165	0	SLV 9	0	No
fin.	2	768	6747	-1331			1165	214	SLV 9	0.16	No
ini.	2	2077	457	1191			1165	0	SLV 14	0	No
fin.	2	2174	42415	576			1165	0	SLV 14	0	No
ini.	2	-433	-29518	1803			1338	524	SLV 12	0.29	No
fin.	2	238	17413	1067			1165	383	SLV 12	0.36	No
ini.	2	-433	-29518	1803			1338	524	SLV 11	0.29	No
fin.	2	238	17413	1067			1165	383	SLV 11	0.36	No
ini.	2	58	24378	-1140			1165	425	SLV 5	0.37	No
fin.	2	-596	-20626	-2245			1403	553	SLV 5	0.25	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1568	-14876	1859			1165	0	SLV 16	0	No
fin.	2	2015	45615	1295			1165	0	SLV 16	0	No
ini.	2	1568	-14876	1859			1165	0	SLV 15	0	No
fin.	2	2015	45615	1295			1165	0	SLV 15	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.262	SLV 1	Si
V_SLV	0	SLV 9	No
PF_SLU	9.726	SLU 77	Si
V_SLU	0.414	SLU 74	No

## Trave di accoppiamento 115

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1736.3	-335.9	834	924	90	-1826.3	-335.9	834	924	90	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>mk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-316	-16688	115068	SLU 73	6.9	Si
fin.	3	-1147	42578	115068	SLU 73	2.7	Si
ini.	3	-329	-14096	115068	SLU 82	8.16	Si
fin.	3	-1057	40814	115068	SLU 82	2.82	Si
ini.	3	-274	-16013	115068	SLU 44	7.19	Si
fin.	3	-1083	38699	115068	SLU 44	2.97	Si
ini.	3	-291	-17237	115068	SLU 52	6.68	Si
fin.	3	-1145	41551	115068	SLU 52	2.77	Si
ini.	3	-313	-9972	115068	SLU 60	11.54	Si
fin.	3	-880	35308	115068	SLU 60	3.26	Si
ini.	3	-299	-15464	115068	SLU 65	7.44	Si
fin.	3	-1085	39726	115068	SLU 65	2.9	Si
ini.	3	-338	-9423	115068	SLU 81	12.21	Si
fin.	3	-882	36335	115068	SLU 81	3.17	Si
ini.	3	-362	-9170	115068	SLU 76	12.55	Si
fin.	3	-944	35653	115068	SLU 76	3.23	Si
ini.	3	-256	-14645	115068	SLU 31	7.86	Si
fin.	3	-965	35641	115068	SLU 31	3.23	Si
ini.	3	-304	-14646	115068	SLU 61	7.86	Si
fin.	3	-1055	39788	115068	SLU 61	2.89	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-274	-16013	478			1080	421	SLU 44	0.88	No
fin.	3	-1083	38699	1445			1404	553	SLU 44	0.38	No
ini.	3	-338	-9423	84			1106	432	SLU 81	5.12	Si
fin.	3	-882	36335	1379			1323	523	SLU 81	0.38	No
ini.	3	-355	-7731	62			1112	436	SLU 75	6.97	Si
fin.	3	-870	34657	1292			1318	521	SLU 75	0.4	No
ini.	3	-316	-16688	512			1097	428	SLU 73	0.84	No
fin.	3	-1147	42578	1536			1429	562	SLU 73	0.37	No
ini.	3	-299	-15464	455			1090	425	SLU 65	0.93	No
fin.	3	-1085	39726	1455			1405	553	SLU 65	0.38	No
ini.	3	-313	-7674	4			1096	428	SLU 64	111.11	Si
fin.	3	-794	32261	1263			1288	509	SLU 64	0.4	No
ini.	3	-304	-14646	378			1092	426	SLU 61	1.13	Si
fin.	3	-1055	39788	1484			1392	549	SLU 61	0.37	No
ini.	3	-291	-17237	534			1087	424	SLU 52	0.79	No
fin.	3	-1145	41551	1526			1428	561	SLU 52	0.37	No
ini.	3	-313	-9972	107			1096	428	SLU 60	4.01	Si
fin.	3	-880	35308	1369			1323	523	SLU 60	0.38	No
ini.	3	-329	-14096	355			1102	431	SLU 82	1.21	Si
fin.	3	-1057	40814	1494			1393	549	SLU 82	0.37	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2230	-151329	172601	SLV 13	1.14	Si
fin.	2	-2398	131488	172601	SLV 13	1.31	Si
ini.	2	1565	-133650	172601	SLV 15	1.29	Si
fin.	2	-2212	110275	172601	SLV 15	1.57	Si
ini.	2	1565	-133650	172601	SLV 16	1.29	Si
fin.	2	-2212	110275	172601	SLV 16	1.57	Si
ini.	2	-2046	120903	172601	SLV 1	1.43	Si
fin.	2	956	-59464	172601	SLV 1	2.9	Si
ini.	2	-2046	120903	172601	SLV 2	1.43	Si
fin.	2	956	-59464	172601	SLV 2	2.9	Si
ini.	2	-2711	138581	172601	SLV 4	1.25	Si
fin.	2	1142	-80678	172601	SLV 4	2.14	Si
ini.	2	2230	-151329	172601	SLV 14	1.14	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	-2398	131488	172601	SLV 14	1.31	Si
ini.	2	1509	-76673	172601	SLV 9	2.25	Si
fin.	2	-1441	89404	172601	SLV 9	1.93	Si
ini.	2	-2711	138581	172601	SLV 3	1.25	Si
fin.	2	1142	-80678	172601	SLV 3	2.14	Si
ini.	2	1509	-76673	172601	SLV 10	2.25	Si
fin.	2	-1441	89404	172601	SLV 10	1.93	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1509	-76673	3883			1456	0	SLV 10	0	No
fin.	2	-1441	89404	4274			2032	802	SLV 10	0.19	No
ini.	2	2230	-151329	5920			1456	0	SLV 14	0	No
fin.	2	-2398	131488	5565			2415	933	SLV 14	0.17	No
ini.	2	1565	-133650	4542			1456	0	SLV 16	0	No
fin.	2	-2212	110275	4307			2341	909	SLV 16	0.21	No
ini.	2	-2046	120903	-4494			2274	887	SLV 2	0.2	No
fin.	2	956	-59464	-2321			1456	269	SLV 2	0.12	No
ini.	2	-2711	138581	-5872			2540	973	SLV 3	0.17	No
fin.	2	1142	-80678	-3580			1456	168	SLV 3	0.05	No
ini.	2	-2046	120903	-4494			2274	887	SLV 1	0.2	No
fin.	2	956	-59464	-2321			1456	269	SLV 1	0.12	No
ini.	2	1565	-133650	4542			1456	0	SLV 15	0	No
fin.	2	-2212	110275	4307			2341	909	SLV 15	0.21	No
ini.	2	2230	-151329	5920			1456	0	SLV 13	0	No
fin.	2	-2398	131488	5565			2415	933	SLV 13	0.17	No
ini.	2	1509	-76673	3883			1456	0	SLV 9	0	No
fin.	2	-1441	89404	4274			2032	802	SLV 9	0.19	No
ini.	2	-2711	138581	-5872			2540	973	SLV 4	0.17	No
fin.	2	1142	-80678	-3580			1456	168	SLV 4	0.05	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.141	SLV 13	Si
V_SLV	0	SLV 9	No
PF_SLU	2.703	SLU 73	Si
V_SLU	0.366	SLU 73	No

## Trave di accoppiamento 116

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1736.3	-335.9	1104	1186	82	-1826.3	-335.9	1104	1186	82	90	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fhk	fvk0	fmedlo	t0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	148	3334	95520	SLU 58	28.65	Si
fin.	3	-531	-15987	95520	SLU 58	5.97	Si
ini.	3	88	2885	95520	SLU 77	33.11	Si
fin.	3	-631	-17648	95520	SLU 77	5.41	Si
ini.	3	229	5145	95520	SLU 16	18.57	Si
fin.	3	-495	-15943	95520	SLU 16	5.99	Si
ini.	3	204	4747	95520	SLU 69	20.12	Si
fin.	3	-538	-16859	95520	SLU 69	5.67	Si
ini.	3	169	4695	95520	SLU 35	20.34	Si
fin.	3	-595	-17604	95520	SLU 35	5.43	Si
ini.	3	285	6558	95520	SLU 27	14.57	Si
fin.	3	-501	-16815	95520	SLU 27	5.68	Si
ini.	3	219	5841	95520	SLU 37	16.35	Si
fin.	3	-601	-18350	95520	SLU 37	5.21	Si
ini.	3	255	5892	95520	SLU 71	16.21	Si
fin.	3	-545	-17606	95520	SLU 71	5.43	Si
ini.	3	336	7703	95520	SLU 29	12.4	Si
fin.	3	-508	-17562	95520	SLU 29	5.44	Si
ini.	3	139	4030	95520	SLU 79	23.7	Si
fin.	3	-638	-18395	95520	SLU 79	5.19	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	14	204	868			806	300	SLU 80	0.35	No
fin.	3	-595	-14887	-1691			1023	404	SLU 80	0.24	No
ini.	3	-36	-941	948			819	310	SLU 78	0.33	No
fin.	3	-589	-14140	-1680			1020	403	SLU 78	0.24	No
ini.	3	139	4030	746			806	274	SLU 79	0.37	No
fin.	3	-638	-18395	-1890			1038	411	SLU 79	0.22	No
ini.	3	169	4695	585			806	268	SLU 35	0.46	No
fin.	3	-595	-17604	-1730			1022	404	SLU 35	0.23	No
ini.	3	148	3334	692			806	272	SLU 58	0.39	No
fin.	3	-531	-15987	-1674			999	395	SLU 58	0.24	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	255	5892	583			806	248	SLU 71	0.42	No
fin.	3	-545	-17606	-1761			1004	397	SLU 71	0.23	No
ini.	3	219	5841	506			806	256	SLU 37	0.51	No
fin.	3	-601	-18350	-1742			1025	405	SLU 37	0.23	No
ini.	3	88	2885	826			806	285	SLU 77	0.35	No
fin.	3	-631	-17648	-1879			1036	410	SLU 77	0.22	No
ini.	3	204	4747	663			806	260	SLU 69	0.39	No
fin.	3	-538	-16859	-1749			1002	396	SLU 69	0.23	No
ini.	3	97	2189	772			806	283	SLU 56	0.37	No
fin.	3	-524	-15240	-1662			997	394	SLU 56	0.24	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-480	31469	143281	SLV 4	4.55	Si
fin.	2	-3291	-88964	143281	SLV 4	1.61	Si
ini.	2	652	42305	143281	SLV 1	3.39	Si
fin.	2	-2254	-80460	143281	SLV 1	1.78	Si
ini.	2	-1282	-53452	143281	SLV 16	2.68	Si
fin.	2	1653	72836	143281	SLV 16	1.97	Si
ini.	2	652	42305	143281	SLV 2	3.39	Si
fin.	2	-2254	-80460	143281	SLV 2	1.78	Si
ini.	2	-2081	-10896	143281	SLV 7	13.15	Si
fin.	2	-2771	-42255	143281	SLV 7	3.39	Si
ini.	2	-150	-42616	143281	SLV 14	3.36	Si
fin.	2	2690	81339	143281	SLV 14	1.76	Si
ini.	2	-1282	-53452	143281	SLV 15	2.68	Si
fin.	2	1653	72836	143281	SLV 15	1.97	Si
ini.	2	-2081	-10896	143281	SLV 8	13.15	Si
fin.	2	-2771	-42255	143281	SLV 8	3.39	Si
ini.	2	-480	31469	143281	SLV 3	4.55	Si
fin.	2	-3291	-88964	143281	SLV 3	1.61	Si
ini.	2	-150	-42616	143281	SLV 13	3.36	Si
fin.	2	2690	81339	143281	SLV 13	1.76	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-480	31469	-1551			1383	542	SLV 3	0.35	No
fin.	2	-3291	-88964	-4067			2408	894	SLV 3	0.22	No
ini.	2	1692	25226	829			1208	0	SLV 6	0	No
fin.	2	686	-13910	-683			1208	288	SLV 6	0.42	No
ini.	2	-150	-42616	3405			1263	484	SLV 14	0.14	No
fin.	2	2690	81339	2382			1208	0	SLV 14	0	No
ini.	2	1451	-251	2209			1208	0	SLV 9	0	No
fin.	2	2169	34630	1065			1208	0	SLV 9	0	No
ini.	2	1451	-251	2209			1208	0	SLV 10	0	No
fin.	2	2169	34630	1065			1208	0	SLV 10	0	No
ini.	2	-1282	-53452	3049			1676	662	SLV 15	0.22	No
fin.	2	1653	72836	1762			1208	0	SLV 15	0	No
ini.	2	-480	31469	-1551			1383	542	SLV 4	0.35	No
fin.	2	-3291	-88964	-4067			2408	894	SLV 4	0.22	No
ini.	2	-150	-42616	3405			1263	484	SLV 13	0.14	No
fin.	2	2690	81339	2382			1208	0	SLV 13	0	No
ini.	2	1692	25226	829			1208	0	SLV 5	0	No
fin.	2	686	-13910	-683			1208	288	SLV 5	0.42	No
ini.	2	-1282	-53452	3049			1676	662	SLV 16	0.22	No
fin.	2	1653	72836	1762			1208	0	SLV 16	0	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.611	SLV 3	Si
V_SLV	0	SLV 5	No
PF_SLU	5.193	SLU 79	Si
V_SLU	0.217	SLU 79	No

## Trave di accoppiamento 117

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1705.3	-486.2	1160	1186	26	-1705.3	-377.2	1160	1186	26	109	30	30000

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb_	fhk	fvk0	fkhmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	12	-9169	10289	SLU 10	1.12	Si
fin.	3	20	20838	10289	SLU 10	0.49	No
ini.	3	14	-9945	10289	SLU 31	1.03	Si
fin.	3	20	22849	10289	SLU 31	0.45	No
ini.	3	12	-8821	10289	SLU 34	1.17	Si
fin.	3	19	20617	10289	SLU 34	0.5	No
ini.	3	8	-9192	10289	SLU 76	1.12	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	19	20753	10289	SLU 76	0.5	No
ini.	3	8	-9541	10289	SLU 52	1.08	Si
fin.	3	21	20973	10289	SLU 52	0.49	No
ini.	3	7	-8801	10289	SLU 65	1.17	Si
fin.	3	20	19424	10289	SLU 65	0.53	No
ini.	3	10	-8429	10289	SLU 23	1.22	Si
fin.	3	20	19288	10289	SLU 23	0.53	No
ini.	3	5	-8755	10289	SLU 82	1.18	Si
fin.	3	13	18700	10289	SLU 82	0.55	No
ini.	3	10	-10317	10289	SLU 73	1	No
fin.	3	20	22985	10289	SLU 73	0.45	No
ini.	3	6	-8417	10289	SLU 55	1.22	Si
fin.	3	20	18741	10289	SLU 55	0.55	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	8	-9192	169			200	74	SLU 76	0.44	No
fin.	3	19	20753	181			200	73	SLU 76	0.4	No
ini.	3	7	-8801	152			200	74	SLU 65	0.49	No
fin.	3	20	19424	165			200	72	SLU 65	0.44	No
ini.	3	10	-8045	146			200	74	SLU 13	0.51	No
fin.	3	19	18606	170			200	73	SLU 13	0.43	No
ini.	3	14	-9945	184			200	73	SLU 31	0.4	No
fin.	3	20	22849	222			200	72	SLU 31	0.33	No
ini.	3	12	-8821	167			200	74	SLU 34	0.44	No
fin.	3	19	20617	194			200	73	SLU 34	0.37	No
ini.	3	10	-10317	185			200	74	SLU 73	0.4	No
fin.	3	20	22985	209			200	72	SLU 73	0.35	No
ini.	3	8	-8383	158			200	74	SLU 40	0.47	No
fin.	3	13	18565	173			200	73	SLU 40	0.43	No
ini.	3	8	-9541	164			200	74	SLU 52	0.45	No
fin.	3	21	20973	185			200	72	SLU 52	0.39	No
ini.	3	10	-8429	150			200	74	SLU 23	0.49	No
fin.	3	20	19288	179			200	72	SLU 23	0.41	No
ini.	3	12	-9169	162			200	74	SLU 10	0.45	No
fin.	3	20	20838	198			200	72	SLU 10	0.37	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	150	-21845	15434	SLV 13	0.71	No
fin.	2	54	50684	15434	SLV 13	0.3	No
ini.	2	9	-41966	15434	SLV 9	0.37	No
fin.	2	21	92581	15434	SLV 9	0.17	No
ini.	2	-25	36405	15434	SLV 7	0.42	No
fin.	2	-17	-83895	15434	SLV 7	0.18	No
ini.	2	-25	36405	15434	SLV 8	0.42	No
fin.	2	-17	-83895	15434	SLV 8	0.18	No
ini.	2	-92	-37146	15434	SLV 6	0.42	No
fin.	2	-10	79480	15434	SLV 6	0.19	No
ini.	2	76	31586	15434	SLV 12	0.49	No
fin.	2	13	-70794	15434	SLV 12	0.22	No
ini.	2	-92	-37146	15434	SLV 5	0.42	No
fin.	2	-10	79480	15434	SLV 5	0.19	No
ini.	2	9	-41966	15434	SLV 10	0.37	No
fin.	2	21	92581	15434	SLV 10	0.17	No
ini.	2	76	31586	15434	SLV 11	0.49	No
fin.	2	13	-70794	15434	SLV 11	0.22	No
ini.	2	150	-21845	15434	SLV 14	0.71	No
fin.	2	54	50684	15434	SLV 14	0.3	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-25	36405	-717			307	117	SLV 8	0.16	No
fin.	2	-17	-83895	-741			305	115	SLV 8	0.16	No
ini.	2	-166	16285	-761			345	135	SLV 4	0.18	No
fin.	2	-50	-41998	-397			314	120	SLV 4	0.3	No
ini.	2	170	220	507			300	85	SLV 15	0.17	No
fin.	2	51	1671	-8			300	105	SLV 15	13.19	Si
ini.	2	9	-41966	806			300	112	SLV 9	0.14	No
fin.	2	21	92581	747			300	110	SLV 9	0.15	No
ini.	2	-166	16285	-761			345	135	SLV 3	0.18	No
fin.	2	-50	-41998	-397			314	120	SLV 3	0.3	No
ini.	2	-25	36405	-717			307	117	SLV 7	0.16	No
fin.	2	-17	-83895	-741			305	115	SLV 7	0.16	No
ini.	2	150	-21845	850			300	89	SLV 14	0.1	No
fin.	2	54	50684	403			300	105	SLV 14	0.26	No
ini.	2	170	220	507			300	85	SLV 16	0.17	No
fin.	2	51	1671	-8			300	105	SLV 16	13.19	Si
ini.	2	9	-41966	806			300	112	SLV 10	0.14	No
fin.	2	21	92581	747			300	110	SLV 10	0.15	No
ini.	2	150	-21845	850			300	89	SLV 13	0.1	No
fin.	2	54	50684	403			300	105	SLV 13	0.26	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.167	SLV 9	No
V_SLV	0.104	SLV 13	No
PF_SLU	0.448	SLU 73	No
V_SLU	0.326	SLU 31	No



## Trave di accoppiamento 118

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1543.3	-335.9	1044	1186	142	-1633.3	-335.9	1044	1186	142	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1012	-96432	286447	SLU 81	2.97	Si
fin.	3	-1012	89929	286447	SLU 81	3.19	Si
ini.	3	-836	-82109	286447	SLU 65	3.49	Si
fin.	3	-836	78661	286447	SLU 65	3.64	Si
ini.	3	-947	-85285	286447	SLU 52	3.36	Si
fin.	3	-947	78452	286447	SLU 52	3.65	Si
ini.	3	-696	-83625	286447	SLU 75	3.43	Si
fin.	3	-696	78837	286447	SLU 75	3.63	Si
ini.	3	-955	-88576	286447	SLU 60	3.23	Si
fin.	3	-955	79747	286447	SLU 60	3.59	Si
ini.	3	-1004	-93141	286447	SLU 73	3.08	Si
fin.	3	-1004	88634	286447	SLU 73	3.23	Si
ini.	3	-1050	-97294	286447	SLU 82	2.94	Si
fin.	3	-1050	91716	286447	SLU 82	3.12	Si
ini.	3	-993	-89438	286447	SLU 61	3.2	Si
fin.	3	-993	81534	286447	SLU 61	3.51	Si
ini.	3	-658	-82762	286447	SLU 74	3.46	Si
fin.	3	-658	77050	286447	SLU 74	3.72	Si
ini.	3	-900	-82563	286447	SLU 40	3.47	Si
fin.	3	-900	79286	286447	SLU 40	3.61	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-668	-81142	2533			1798	707	SLU 83	0.28	No
fin.	3	-668	77059	939			1798	707	SLU 83	0.75	No
ini.	3	-352	-68335	2220			1672	648	SLU 78	0.29	No
fin.	3	-352	65968	721			1672	648	SLU 78	0.9	No
ini.	3	-1004	-93141	2747			1933	764	SLU 73	0.28	No
fin.	3	-1004	88634	1248			1933	764	SLU 73	0.61	No
ini.	3	-706	-82005	2562			1814	713	SLU 84	0.28	No
fin.	3	-706	78847	969			1814	713	SLU 84	0.74	No
ini.	3	-696	-83625	2533			1810	712	SLU 75	0.28	No
fin.	3	-696	78837	1034			1810	712	SLU 75	0.69	No
ini.	3	-1050	-97294	2875			1951	771	SLU 82	0.27	No
fin.	3	-1050	91716	1281			1951	771	SLU 82	0.6	No
ini.	3	-658	-82762	2503			1794	705	SLU 74	0.28	No
fin.	3	-658	77050	1004			1794	705	SLU 74	0.7	No
ini.	3	-314	-67472	2190			1657	641	SLU 77	0.29	No
fin.	3	-314	64181	692			1657	641	SLU 77	0.93	No
ini.	3	-1012	-96432	2846			1936	765	SLU 81	0.27	No
fin.	3	-1012	89929	1252			1936	765	SLU 81	0.61	No
ini.	3	-660	-77852	2434			1795	705	SLU 76	0.29	No
fin.	3	-660	75764	936			1795	705	SLU 76	0.75	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1022	-337760	429671	SLV 16	1.27	Si
fin.	2	-853	297334	429671	SLV 16	1.45	Si
ini.	2	-1022	-337760	429671	SLV 15	1.27	Si
fin.	2	-853	297334	429671	SLV 15	1.45	Si
ini.	2	-2359	189348	429671	SLV 3	2.27	Si
fin.	2	-2966	-190771	429671	SLV 3	2.25	Si
ini.	2	-784	-180869	429671	SLD 16	2.38	Si
fin.	2	-698	160690	429671	SLD 16	2.67	Si
ini.	2	-2359	189348	429671	SLV 4	2.27	Si
fin.	2	-2966	-190771	429671	SLV 4	2.25	Si
ini.	2	-784	-180869	429671	SLD 15	2.38	Si
fin.	2	-698	160690	429671	SLD 15	2.67	Si
ini.	2	1100	-316309	429671	SLV 13	1.36	Si
fin.	2	1707	308428	429671	SLV 13	1.39	Si
ini.	2	-237	210799	429671	SLV 1	2.04	Si
fin.	2	-406	-179677	429671	SLV 1	2.39	Si
ini.	2	-237	210799	429671	SLV 2	2.04	Si
fin.	2	-406	-179677	429671	SLV 2	2.39	Si
ini.	2	1100	-316309	429671	SLV 14	1.36	Si
fin.	2	1707	308428	429671	SLV 14	1.39	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-237	210799	-3982			2392	914	SLV 1	0.23	No
fin.	2	-406	-179677	-5436			2459	948	SLV 1	0.17	No





Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1100	-316309	7330			2297	578	SLV 14	0.08	No
fin.	2	1707	308428	6276			2297	325	SLV 14	0.05	No
ini.	2	-1022	-337760	7671			2706	1064	SLV 15	0.14	No
fin.	2	-853	297334	7115			2638	1033	SLV 15	0.15	No
ini.	2	3108	-106796	2974			2297	0	SLV 9	0	No
fin.	2	3954	150533	1199			2297	0	SLV 9	0	No
ini.	2	3108	-106796	2974			2297	0	SLV 10	0	No
fin.	2	3954	150533	1199			2297	0	SLV 10	0	No
ini.	2	-1022	-337760	7671			2706	1064	SLV 16	0.14	No
fin.	2	-853	297334	7115			2638	1033	SLV 16	0.15	No
ini.	2	2707	51337	-420			2297	0	SLV 5	0	No
fin.	2	3320	4102	-2315			2297	0	SLV 5	0	No
ini.	2	-237	210799	-3982			2392	914	SLV 2	0.23	No
fin.	2	-406	-179677	-5436			2459	948	SLV 2	0.17	No
ini.	2	1100	-316309	7330			2297	578	SLV 13	0.08	No
fin.	2	1707	308428	6276			2297	325	SLV 13	0.05	No
ini.	2	2707	51337	-420			2297	0	SLV 6	0	No
fin.	2	3320	4102	-2315			2297	0	SLV 6	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.272	SLV 15	Si
V_SLV	0	SLV 5	No
PF_SLU	2.944	SLU 82	Si
V_SLU	0.268	SLU 82	No

## Trave di accoppiamento 119

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1443.8	-485.9	1160	1186	26	-1627.8	-485.9	1160	1186	26	184	30	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.l) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	60	1173	10289	SLU 35	8.77	Si
fin.	3	60	-6803	10289	SLU 35	1.51	Si
ini.	3	-44	-9106	10289	SLU 44	1.13	Si
fin.	3	-44	991	10289	SLU 44	10.39	Si
ini.	3	-8	-7578	10289	SLU 43	1.36	Si
fin.	3	-8	-201	10289	SLU 43	51.28	Si
ini.	3	60	-582	10289	SLU 79	17.67	Si
fin.	3	60	-6816	10289	SLU 79	1.51	Si
ini.	3	-40	-7013	10289	SLU 2	1.47	Si
fin.	3	-40	702	10289	SLU 2	14.66	Si
ini.	3	-17	-7039	10289	SLU 47	1.46	Si
fin.	3	-17	-905	10289	SLU 47	11.37	Si
ini.	3	65	1511	10289	SLU 37	6.81	Si
fin.	3	65	-7105	10289	SLU 37	1.45	Si
ini.	3	-35	-7800	10289	SLU 65	1.32	Si
fin.	3	-35	-281	10289	SLU 65	36.66	Si
ini.	3	-39	-7553	10289	SLU 52	1.36	Si
fin.	3	-39	-562	10289	SLU 52	18.3	Si
ini.	3	-8	-6766	10289	SLU 46	1.52	Si
fin.	3	-8	-1080	10289	SLU 46	9.53	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	34	-1838	102			200	70	SLU 78	0.69	No
fin.	3	34	-5800	-145			200	70	SLU 78	0.49	No
ini.	3	-8	-7578	163			202	77	SLU 43	0.47	No
fin.	3	-8	-201	-83			202	77	SLU 43	0.92	No
ini.	3	65	1511	48			200	65	SLU 37	1.37	Si
fin.	3	65	-7105	-142			200	65	SLU 37	0.46	No
ini.	3	55	-920	93			200	67	SLU 77	0.72	No
fin.	3	55	-6514	-153			200	67	SLU 77	0.44	No
ini.	3	51	-1889	103			200	68	SLU 58	0.65	No
fin.	3	51	-5545	-143			200	68	SLU 58	0.47	No
ini.	3	60	-582	89			200	66	SLU 79	0.74	No
fin.	3	60	-6816	-157			200	66	SLU 79	0.42	No
ini.	3	-44	-9106	178			212	82	SLU 44	0.46	No
fin.	3	-44	991	-68			212	82	SLU 44	1.19	Si
ini.	3	39	-1500	98			200	70	SLU 80	0.71	No
fin.	3	39	-6101	-148			200	70	SLU 80	0.47	No
ini.	3	55	-2136	106			200	67	SLU 71	0.63	No
fin.	3	55	-5263	-140			200	67	SLU 71	0.48	No
ini.	3	60	1173	51			200	66	SLU 35	1.29	Si
fin.	3	60	-6803	-138			200	66	SLU 35	0.48	No



## Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	334	32799	15434	SLV 5	0.47	No
fin.	2	390	-36400	15434	SLV 5	0.42	No
ini.	2	508	41802	15434	SLV 2	0.37	No
fin.	2	497	-44681	15434	SLV 2	0.35	No
ini.	2	334	32799	15434	SLV 6	0.47	No
fin.	2	390	-36400	15434	SLV 6	0.42	No
ini.	2	-334	-42133	15434	SLV 11	0.37	No
fin.	2	-390	33807	15434	SLV 11	0.46	No
ini.	2	-508	-51136	15434	SLV 15	0.3	No
fin.	2	-497	42088	15434	SLV 15	0.37	No
ini.	2	-508	-51136	15434	SLV 16	0.3	No
fin.	2	-497	42088	15434	SLV 16	0.37	No
ini.	2	508	41802	15434	SLV 1	0.37	No
fin.	2	497	-44681	15434	SLV 1	0.35	No
ini.	2	-334	-42133	15434	SLV 12	0.37	No
fin.	2	-390	33807	15434	SLV 12	0.46	No
ini.	2	-389	-35625	15434	SLV 14	0.43	No
fin.	2	-338	27524	15434	SLV 14	0.56	No
ini.	2	-389	-35625	15434	SLV 13	0.43	No
fin.	2	-338	27524	15434	SLV 13	0.56	No

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	334	32799	-373			300	43	SLV 6	0.11	No
fin.	2	390	-36400	-674			300	0	SLV 6	0	No
ini.	2	508	41802	-426			300	0	SLV 2	0	No
fin.	2	497	-44681	-628			300	0	SLV 2	0	No
ini.	2	217	15092	-117			300	75	SLD 2	0.65	No
fin.	2	210	-19754	-308			300	77	SLD 2	0.25	No
ini.	2	508	41802	-426			300	0	SLV 1	0	No
fin.	2	497	-44681	-628			300	0	SLV 1	0	No
ini.	2	334	32799	-373			300	43	SLV 5	0.11	No
fin.	2	390	-36400	-674			300	0	SLV 5	0	No
ini.	2	217	15092	-117			300	75	SLD 1	0.65	No
fin.	2	210	-19754	-308			300	77	SLD 1	0.25	No
ini.	2	389	26291	-212			300	7	SLV 4	0.03	No
fin.	2	338	-30117	-344			300	41	SLV 4	0.12	No
ini.	2	389	26291	-212			300	7	SLV 3	0.03	No
fin.	2	338	-30117	-344			300	41	SLV 3	0.12	No
ini.	2	65	9570	-114			300	103	SLV 10	0.91	No
fin.	2	140	-14739	-428			300	91	SLV 10	0.21	No
ini.	2	65	9570	-114			300	103	SLV 9	0.91	No
fin.	2	140	-14739	-428			300	91	SLV 9	0.21	No

## Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.302	SLV 15	No
V_SLV	0	SLV 1	No
PF_SLU	1.13	SLU 44	Si
V_SLU	0.421	SLU 79	No

## Trave di accoppiamento 120

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1375.3	-22.8	1044	1186	142	-1375.3	67.2	1044	1186	142	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	426	-104268	286447	SLU 27	2.75	Si
fin.	3	426	9574	286447	SLU 27	29.92	Si
ini.	3	424	-97713	286447	SLU 70	2.93	Si
fin.	3	424	12426	286447	SLU 70	23.05	Si
ini.	3	402	-98385	286447	SLU 28	2.91	Si
fin.	3	402	9239	286447	SLU 28	31.01	Si
ini.	3	401	-86379	286447	SLU 37	3.32	Si
fin.	3	401	9193	286447	SLU 37	31.16	Si
ini.	3	420	-98808	286447	SLU 72	2.9	Si
fin.	3	420	12603	286447	SLU 72	22.73	Si
ini.	3	398	-99481	286447	SLU 30	2.88	Si
fin.	3	398	9415	286447	SLU 30	30.43	Si
ini.	3	448	-103596	286447	SLU 69	2.77	Si
fin.	3	448	12762	286447	SLU 69	22.45	Si
ini.	3	421	-105364	286447	SLU 29	2.72	Si
fin.	3	421	9750	286447	SLU 29	29.38	Si
ini.	3	335	-86216	286447	SLU 8	3.32	Si
fin.	3	335	8617	286447	SLU 8	33.24	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	443	-104691	286447	SLU 71	2.74	Si
fin.	3	443	12938	286447	SLU 71	22.14	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	426	-104268	1634			1531	475	SLU 27	0.29	No
fin.	3	426	9574	932			1531	475	SLU 27	0.51	No
ini.	3	421	-105364	1648			1531	476	SLU 29	0.29	No
fin.	3	421	9750	946			1531	476	SLU 29	0.5	No
ini.	3	427	-84611	1549			1531	474	SLU 77	0.31	No
fin.	3	427	12205	650			1531	474	SLU 77	0.73	No
ini.	3	402	-98385	1565			1531	481	SLU 28	0.31	No
fin.	3	402	9239	863			1531	481	SLU 28	0.56	No
ini.	3	420	-98808	1711			1531	476	SLU 72	0.28	No
fin.	3	420	12603	812			1531	476	SLU 72	0.59	No
ini.	3	448	-103596	1766			1531	469	SLU 69	0.27	No
fin.	3	448	12762	867			1531	469	SLU 69	0.54	No
ini.	3	424	-97713	1697			1531	475	SLU 70	0.28	No
fin.	3	424	12426	798			1531	475	SLU 70	0.6	No
ini.	3	423	-85706	1563			1531	476	SLU 79	0.3	No
fin.	3	423	12381	664			1531	476	SLU 79	0.72	No
ini.	3	398	-99481	1579			1531	482	SLU 30	0.31	No
fin.	3	398	9415	877			1531	482	SLU 30	0.55	No
ini.	3	443	-104691	1780			1531	470	SLU 71	0.26	No
fin.	3	443	12938	881			1531	470	SLU 71	0.53	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	214	501584	429671	SLV 12	0.86	No
fin.	2	1096	-58079	429671	SLV 12	7.4	Si
ini.	2	-87	-424855	429671	SLV 10	1.01	Si
fin.	2	127	98340	429671	SLV 10	4.37	Si
ini.	2	467	385478	429671	SLV 7	1.11	Si
fin.	2	253	-74168	429671	SLV 7	5.79	Si
ini.	2	467	385478	429671	SLV 8	1.11	Si
fin.	2	253	-74168	429671	SLV 8	5.79	Si
ini.	2	567	-352164	429671	SLV 1	1.22	Si
fin.	2	-1359	8732	429671	SLV 1	49.2	Si
ini.	2	214	501584	429671	SLV 11	0.86	No
fin.	2	1096	-58079	429671	SLV 11	7.4	Si
ini.	2	166	-540961	429671	SLV 6	0.79	No
fin.	2	-715	82251	429671	SLV 6	5.22	Si
ini.	2	166	-540961	429671	SLV 5	0.79	No
fin.	2	-715	82251	429671	SLV 5	5.22	Si
ini.	2	567	-352164	429671	SLV 2	1.22	Si
fin.	2	-1359	8732	429671	SLV 2	49.2	Si
ini.	2	-87	-424855	429671	SLV 9	1.01	Si
fin.	2	127	98340	429671	SLV 9	4.37	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	467	385478	-4097			2297	756	SLV 7	0.18	No
fin.	2	253	-74168	-5042			2297	807	SLV 7	0.16	No
ini.	2	166	-540961	6713			2297	827	SLV 6	0.12	No
fin.	2	-715	82251	6194			2583	1008	SLV 6	0.16	No
ini.	2	467	385478	-4097			2297	756	SLV 8	0.18	No
fin.	2	253	-74168	-5042			2297	807	SLV 8	0.16	No
ini.	2	-186	312787	-2882			2371	904	SLV 16	0.31	No
fin.	2	1739	15439	-3484			2297	306	SLV 16	0.09	No
ini.	2	166	-540961	6713			2297	827	SLV 5	0.12	No
fin.	2	-715	82251	6194			2583	1008	SLV 5	0.16	No
ini.	2	-87	-424855	5527			2332	883	SLV 9	0.16	No
fin.	2	127	98340	5098			2297	836	SLV 9	0.16	No
ini.	2	214	501584	-5283			2297	816	SLV 12	0.15	No
fin.	2	1096	-58079	-6138			2297	579	SLV 12	0.09	No
ini.	2	214	501584	-5283			2297	816	SLV 11	0.15	No
fin.	2	1096	-58079	-6138			2297	579	SLV 11	0.09	No
ini.	2	-87	-424855	5527			2332	883	SLV 10	0.16	No
fin.	2	127	98340	5098			2297	836	SLV 10	0.16	No
ini.	2	-186	312787	-2882			2371	904	SLV 15	0.31	No
fin.	2	1739	15439	-3484			2297	306	SLV 15	0.09	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.794	SLV 5	No
V_SLV	0.088	SLV 15	No
PF_SLU	2.719	SLU 29	Si
V_SLU	0.264	SLU 71	No

## Trave di accoppiamento 121

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1074.8	333.1	1024	1186	162	-994.8	333.1	1024	1186	162	80	14	30000



## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-102	347100	186410	SLU 75	0.54	No
fin.	3	-102	30441	186410	SLU 75	6.12	Si
ini.	3	-102	346836	186410	SLU 74	0.54	No
fin.	3	-102	30427	186410	SLU 74	6.13	Si
ini.	3	-102	355677	186410	SLU 78	0.52	No
fin.	3	-102	31061	186410	SLU 78	6	Si
ini.	3	-111	355541	186410	SLU 81	0.52	No
fin.	3	-111	32536	186410	SLU 81	5.73	Si
ini.	3	-104	346774	186410	SLU 80	0.54	No
fin.	3	-104	30870	186410	SLU 80	6.04	Si
ini.	3	-111	364382	186410	SLU 84	0.51	No
fin.	3	-111	33170	186410	SLU 84	5.62	Si
ini.	3	-104	346510	186410	SLU 79	0.54	No
fin.	3	-104	30856	186410	SLU 79	6.04	Si
ini.	3	-102	355412	186410	SLU 77	0.52	No
fin.	3	-102	31047	186410	SLU 77	6	Si
ini.	3	-111	355805	186410	SLU 82	0.52	No
fin.	3	-111	32550	186410	SLU 82	5.73	Si
ini.	3	-111	364117	186410	SLU 83	0.51	No
fin.	3	-111	33156	186410	SLU 83	5.62	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-111	355541	-3401			918	352	SLU 81	0.1	No
fin.	3	-111	32536	-4633			918	352	SLU 81	0.08	No
ini.	3	-104	346510	-3360			915	351	SLU 79	0.1	No
fin.	3	-104	30856	-4491			915	351	SLU 79	0.08	No
ini.	3	-111	364117	-3500			918	352	SLU 83	0.1	No
fin.	3	-111	33156	-4733			918	352	SLU 83	0.07	No
ini.	3	-102	346836	-3369			914	350	SLU 74	0.1	No
fin.	3	-102	30427	-4500			914	350	SLU 74	0.08	No
ini.	3	-102	355412	-3469			914	350	SLU 77	0.1	No
fin.	3	-102	31047	-4600			914	350	SLU 77	0.08	No
ini.	3	-104	346774	-3363			915	351	SLU 80	0.1	No
fin.	3	-104	30870	-4494			915	351	SLU 80	0.08	No
ini.	3	-111	355805	-3404			918	352	SLU 82	0.1	No
fin.	3	-111	32550	-4636			918	352	SLU 82	0.08	No
ini.	3	-102	347100	-3372			914	350	SLU 75	0.1	No
fin.	3	-102	30441	-4503			914	350	SLU 75	0.08	No
ini.	3	-111	364382	-3504			918	352	SLU 84	0.1	No
fin.	3	-111	33170	-4736			918	352	SLU 84	0.07	No
ini.	3	-102	355677	-3472			914	350	SLU 78	0.1	No
fin.	3	-102	31061	-4603			914	350	SLU 78	0.08	No

## Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-159	371769	279614	SLD 7	0.75	No
fin.	2	-223	31137	279614	SLD 7	8.98	Si
ini.	2	32	499353	279614	SLV 12	0.56	No
fin.	2	-390	42411	279614	SLV 12	6.59	Si
ini.	2	-159	371769	279614	SLD 8	0.75	No
fin.	2	-223	31137	279614	SLD 8	8.98	Si
ini.	2	-598	456883	279614	SLV 3	0.61	No
fin.	2	-273	37684	279614	SLV 3	7.42	Si
ini.	2	-29	334646	279614	SLD 11	0.84	No
fin.	2	-200	28279	279614	SLD 11	9.89	Si
ini.	2	-598	456883	279614	SLV 4	0.61	No
fin.	2	-273	37684	279614	SLV 4	7.42	Si
ini.	2	-29	334646	279614	SLD 12	0.84	No
fin.	2	-200	28279	279614	SLD 12	9.89	Si
ini.	2	32	499353	279614	SLV 11	0.56	No
fin.	2	-390	42411	279614	SLV 11	6.59	Si
ini.	2	-275	586567	279614	SLV 7	0.48	No
fin.	2	-448	49115	279614	SLV 7	5.69	Si
ini.	2	-275	586567	279614	SLV 8	0.48	No
fin.	2	-448	49115	279614	SLV 8	5.69	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-29	334646	-3575			1322	499	SLD 11	0.14	No
fin.	2	-200	28279	-4271			1390	535	SLD 11	0.13	No
ini.	2	-29	334646	-3575			1322	499	SLD 12	0.14	No
fin.	2	-200	28279	-4271			1390	535	SLD 12	0.13	No
ini.	2	-159	371769	-3844			1374	527	SLD 7	0.14	No
fin.	2	-223	31137	-4596			1399	539	SLD 7	0.12	No
ini.	2	-159	371769	-3844			1374	527	SLD 8	0.14	No
fin.	2	-223	31137	-4596			1399	539	SLD 8	0.12	No
ini.	2	32	499353	-5624			1310	486	SLV 11	0.09	No
fin.	2	-390	42411	-6295			1466	572	SLV 11	0.09	No
ini.	2	-598	456883	-4272			1549	609	SLV 4	0.14	No
fin.	2	-273	37684	-5212			1419	549	SLV 4	0.11	No
ini.	2	-275	586567	-6255			1420	550	SLV 8	0.09	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	-448	49115	-7058			1490	582	SLV 8	0.08	No
ini.	2	32	499353	-5624			1310	486	SLV 12	0.09	No
fin.	2	-390	42411	-6295			1466	572	SLV 12	0.09	No
ini.	2	-275	586567	-6255			1420	550	SLV 7	0.09	No
fin.	2	-448	49115	-7058			1490	582	SLV 7	0.08	No
ini.	2	-598	456883	-4272			1549	609	SLV 3	0.14	No
fin.	2	-273	37684	-5212			1419	549	SLV 3	0.11	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.477	SLV 7	No
V_SLV	0.083	SLV 7	No
PF_SLU	0.512	SLU 84	No
V_SLU	0.074	SLU 84	No

## Trave di accoppiamento 122

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1771.8	666.1	834	924	90	-1681.8	666.1	834	924	90	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	550	-3185	115068	SLU 79	36.12	Si
fin.	3	180	12068	115068	SLU 79	9.53	Si
ini.	3	261	3716	115068	SLU 84	30.97	Si
fin.	3	111	11899	115068	SLU 84	9.67	Si
ini.	3	498	-1855	115068	SLU 78	62.03	Si
fin.	3	161	12217	115068	SLU 78	9.42	Si
ini.	3	598	-5535	115068	SLU 72	20.79	Si
fin.	3	156	11132	115068	SLU 72	10.34	Si
ini.	3	283	2672	115068	SLU 76	43.07	Si
fin.	3	99	11536	115068	SLU 76	9.97	Si
ini.	3	494	-1700	115068	SLU 77	67.69	Si
fin.	3	168	12056	115068	SLU 77	9.54	Si
ini.	3	225	4260	115068	SLU 75	27.01	Si
fin.	3	91	11417	115068	SLU 75	10.08	Si
ini.	3	221	4415	115068	SLU 74	26.06	Si
fin.	3	98	11256	115068	SLU 74	10.22	Si
ini.	3	257	3871	115068	SLU 83	29.73	Si
fin.	3	118	11738	115068	SLU 83	9.8	Si
ini.	3	553	-3340	115068	SLU 80	34.45	Si
fin.	3	173	12229	115068	SLU 80	9.41	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	550	-3185	-641			970	215	SLU 79	0.33	No
fin.	3	180	12068	1782			970	324	SLU 79	0.18	No
ini.	3	594	-5380	-544			970	198	SLU 71	0.36	No
fin.	3	163	10971	1758			970	328	SLU 71	0.19	No
ini.	3	538	-3895	-644			970	219	SLU 69	0.34	No
fin.	3	151	10959	1786			970	331	SLU 69	0.19	No
ini.	3	598	-5535	-534			970	196	SLU 72	0.37	No
fin.	3	156	11132	1764			970	330	SLU 72	0.19	No
ini.	3	553	-3340	-631			970	213	SLU 80	0.34	No
fin.	3	173	12229	1789			970	325	SLU 80	0.18	No
ini.	3	542	-4050	-633			970	217	SLU 70	0.34	No
fin.	3	144	11120	1793			970	332	SLU 70	0.19	No
ini.	3	494	-1700	-741			970	234	SLU 77	0.32	No
fin.	3	168	12056	1811			970	327	SLU 77	0.18	No
ini.	3	413	-1022	-739			970	260	SLU 56	0.35	No
fin.	3	119	10834	1705			970	338	SLU 56	0.2	No
ini.	3	498	-1855	-730			970	233	SLU 78	0.32	No
fin.	3	161	12217	1817			970	328	SLU 78	0.18	No
ini.	3	417	-1177	-729			970	259	SLU 57	0.36	No
fin.	3	112	10995	1711			970	340	SLU 57	0.2	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2021	-55806	172601	SLV 1	3.09	Si
fin.	2	-3017	76626	172601	SLV 1	2.25	Si
ini.	2	259	-1207	172601	SLV 5	142.95	Si
fin.	2	-1469	52690	172601	SLV 5	3.28	Si
ini.	2	2252	-63258	172601	SLV 3	2.73	Si
fin.	2	-2640	60389	172601	SLV 3	2.86	Si
ini.	2	-2240	75349	172601	SLV 13	2.29	Si
fin.	2	2664	-45885	172601	SLV 13	3.76	Si
ini.	2	-2009	67897	172601	SLV 15	2.54	Si
fin.	2	3042	-62122	172601	SLV 15	2.78	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	259	-1207	172601	SLV 6	142.95	Si
fin.	2	-1469	52690	172601	SLV 6	3.28	Si
ini.	2	-2240	75349	172601	SLV 14	2.29	Si
fin.	2	2664	-45885	172601	SLV 14	3.76	Si
ini.	2	2252	-63258	172601	SLV 4	2.73	Si
fin.	2	-2640	60389	172601	SLV 4	2.86	Si
ini.	2	2021	-55806	172601	SLV 2	3.09	Si
fin.	2	-3017	76626	172601	SLV 2	2.25	Si
ini.	2	-2009	67897	172601	SLV 16	2.54	Si
fin.	2	3042	-62122	172601	SLV 16	2.78	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-247	13299	-1951			1555	599	SLV 12	0.31	No
fin.	2	1494	-38185	646			1456	0	SLV 12	0	No
ini.	2	2021	-55806	2390			1456	0	SLV 1	0	No
fin.	2	-3017	76626	5094			2663	1009	SLV 1	0.2	No
ini.	2	-2240	75349	-3919			2352	913	SLV 14	0.23	No
fin.	2	2664	-45885	-3345			1456	0	SLV 14	0	No
ini.	2	-2240	75349	-3919			2352	913	SLV 13	0.23	No
fin.	2	2664	-45885	-3345			1456	0	SLV 13	0	No
ini.	2	-2009	67897	-4030			2259	882	SLV 15	0.22	No
fin.	2	3042	-62122	-2866			1456	0	SLV 15	0	No
ini.	2	2252	-63258	2280			1456	0	SLV 4	0	No
fin.	2	-2640	60389	5573			2512	964	SLV 4	0.17	No
ini.	2	-856	32553	-2191			1798	710	SLD 16	0.32	No
fin.	2	1305	-22332	-588			1456	0	SLD 16	0	No
ini.	2	2252	-63258	2280			1456	0	SLV 3	0	No
fin.	2	-2640	60389	5573			2512	964	SLV 3	0.17	No
ini.	2	2021	-55806	2390			1456	0	SLV 2	0	No
fin.	2	-3017	76626	5094			2663	1009	SLV 2	0.2	No
ini.	2	-247	13299	-1951			1555	599	SLV 11	0.31	No
fin.	2	1494	-38185	646			1456	0	SLV 11	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.253	SLV 1	Si
V_SLV	0	SLD 15	No
PF_SLU	9.409	SLU 80	Si
V_SLU	0.18	SLU 77	No

## Trave di accoppiamento 123

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1771.8	666.1	1104	1186	82	-1681.8	666.1	1104	1186	82	90	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	479	-10308	95520	SLU 72	9.27	Si
fin.	3	1021	8940	95520	SLU 72	10.68	Si
ini.	3	470	-10126	95520	SLU 69	9.43	Si
fin.	3	950	7572	95520	SLU 69	12.61	Si
ini.	3	402	-10057	95520	SLU 36	9.5	Si
fin.	3	856	7310	95520	SLU 36	13.07	Si
ini.	3	464	-10293	95520	SLU 70	9.28	Si
fin.	3	956	7706	95520	SLU 70	12.4	Si
ini.	3	485	-10141	95520	SLU 71	9.42	Si
fin.	3	1015	8807	95520	SLU 71	10.85	Si
ini.	3	434	-10773	95520	SLU 79	8.87	Si
fin.	3	907	7670	95520	SLU 79	12.45	Si
ini.	3	428	-10940	95520	SLU 80	8.73	Si
fin.	3	913	7803	95520	SLU 80	12.24	Si
ini.	3	419	-10758	95520	SLU 77	8.88	Si
fin.	3	842	6435	95520	SLU 77	14.84	Si
ini.	3	414	-10925	95520	SLU 78	8.74	Si
fin.	3	848	6568	95520	SLU 78	14.54	Si
ini.	3	417	-10071	95520	SLU 38	9.48	Si
fin.	3	920	8545	95520	SLU 38	11.18	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	473	-9272	1318			806	187	SLU 29	0.14	No
fin.	3	1023	9549	-636			806	0	SLU 29	0	No
ini.	3	424	-8995	1331			806	203	SLU 49	0.15	No
fin.	3	858	6649	-838			806	0	SLU 49	0	No
ini.	3	387	-9641	1481			806	213	SLU 59	0.14	No
fin.	3	815	6746	-1012			806	0	SLU 59	0	No
ini.	3	470	-10126	1534			806	188	SLU 69	0.12	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	950	7572	-997			806	0	SLU 69	0	No
ini.	3	468	-9439	1326			806	189	SLU 30	0.14	No
fin.	3	1028	9683	-626			806	0	SLU 30	0	No
ini.	3	459	-9258	1347			806	192	SLU 27	0.14	No
fin.	3	958	8315	-750			806	0	SLU 27	0	No
ini.	3	393	-9475	1474			806	211	SLU 58	0.14	No
fin.	3	810	6613	-1022			806	0	SLU 58	0	No
ini.	3	408	-9890	1525			806	207	SLU 35	0.14	No
fin.	3	850	7177	-1038			806	0	SLU 35	0	No
ini.	3	429	-8828	1324			806	201	SLU 48	0.15	No
fin.	3	853	6516	-848			806	0	SLU 48	0	No
ini.	3	453	-9425	1354			806	194	SLU 28	0.14	No
fin.	3	964	8448	-740			806	0	SLU 28	0	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-993	-57072	143281	SLV 3	2.51	Si
fin.	2	2625	43602	143281	SLV 3	3.29	Si
ini.	2	-1473	-63680	143281	SLV 1	2.25	Si
fin.	2	2209	40350	143281	SLV 1	3.55	Si
ini.	2	1635	53820	143281	SLV 16	2.66	Si
fin.	2	-2045	-42929	143281	SLV 16	3.34	Si
ini.	2	-993	-57072	143281	SLV 4	2.51	Si
fin.	2	2625	43602	143281	SLV 4	3.29	Si
ini.	2	1156	47211	143281	SLV 14	3.03	Si
fin.	2	-2461	-46181	143281	SLV 14	3.1	Si
ini.	2	1635	53820	143281	SLV 15	2.66	Si
fin.	2	-2045	-42929	143281	SLV 15	3.34	Si
ini.	2	-1112	-32579	143281	SLV 5	4.4	Si
fin.	2	89	6270	143281	SLV 5	22.85	Si
ini.	2	-1473	-63680	143281	SLV 2	2.25	Si
fin.	2	2209	40350	143281	SLV 2	3.55	Si
ini.	2	-1112	-32579	143281	SLV 6	4.4	Si
fin.	2	89	6270	143281	SLV 6	22.85	Si
ini.	2	1156	47211	143281	SLV 13	3.03	Si
fin.	2	-2461	-46181	143281	SLV 13	3.1	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-993	-57072	3661			1570	621	SLV 4	0.17	No
fin.	2	2625	43602	1960			1208	0	SLV 4	0	No
ini.	2	1635	53820	-2050			1208	0	SLV 16	0	No
fin.	2	-2045	-42929	-3775			1954	758	SLV 16	0.2	No
ini.	2	-380	-27234	2125			1347	525	SLD 4	0.25	No
fin.	2	1167	17868	196			1208	0	SLD 4	0	No
ini.	2	1156	47211	-1706			1208	0	SLV 13	0	No
fin.	2	-2461	-46181	-4194			2105	806	SLV 13	0.19	No
ini.	2	-380	-27234	2125			1347	525	SLD 3	0.25	No
fin.	2	1167	17868	196			1208	0	SLD 3	0	No
ini.	2	1156	47211	-1706			1208	0	SLV 14	0	No
fin.	2	-2461	-46181	-4194			2105	806	SLV 14	0.19	No
ini.	2	1275	22718	-452			1208	0	SLV 12	0	No
fin.	2	75	-8849	-1280			1208	440	SLV 12	0.34	No
ini.	2	1275	22718	-452			1208	0	SLV 11	0	No
fin.	2	75	-8849	-1280			1208	440	SLV 11	0.34	No
ini.	2	486	-10550	1261			1208	345	SLV 8	0.27	No
fin.	2	1476	17111	440			1208	0	SLV 8	0	No
ini.	2	486	-10550	1261			1208	345	SLV 7	0.27	No
fin.	2	1476	17111	440			1208	0	SLV 7	0	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.25	SLV 1	Si
V_SLV	0	SLD 3	No
PF_SLU	8.732	SLU 80	Si
V_SLU	0	SLU 6	No

### Trave di accoppiamento 124

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1283.8	666.1	834	924	90	-1193.8	666.1	834	924	90	90	28	30000

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-197	10724	115068	SLU 76	10.73	Si
fin.	3	-158	9395	115068	SLU 76	12.25	Si
ini.	3	-245	11117	115068	SLU 74	10.35	Si
fin.	3	-213	10016	115068	SLU 74	11.49	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-381	11336	115068	SLU 73	10.15	Si
fin.	3	-369	10973	115068	SLU 73	10.49	Si
ini.	3	-420	10805	115068	SLU 60	10.65	Si
fin.	3	-437	11298	115068	SLU 60	10.18	Si
ini.	3	-228	11216	115068	SLU 84	10.26	Si
fin.	3	-192	9962	115068	SLU 84	11.55	Si
ini.	3	-421	10822	115068	SLU 61	10.63	Si
fin.	3	-437	11287	115068	SLU 61	10.19	Si
ini.	3	-412	11828	115068	SLU 82	9.73	Si
fin.	3	-403	11540	115068	SLU 82	9.97	Si
ini.	3	-411	11812	115068	SLU 81	9.74	Si
fin.	3	-404	11551	115068	SLU 81	9.96	Si
ini.	3	-227	11199	115068	SLU 83	10.27	Si
fin.	3	-192	9973	115068	SLU 83	11.54	Si
ini.	3	-246	11134	115068	SLU 75	10.33	Si
fin.	3	-212	10006	115068	SLU 75	11.5	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-12	10100	-1877			975	368	SLU 80	0.2	No
fin.	3	53	7823	1696			970	353	SLU 80	0.21	No
ini.	3	11	9348	-1811			970	363	SLU 70	0.2	No
fin.	3	78	7120	1633			970	348	SLU 70	0.21	No
ini.	3	-61	10505	-1919			995	378	SLU 77	0.2	No
fin.	3	-1	8438	1748			971	365	SLU 77	0.21	No
ini.	3	61	8910	-1773			970	352	SLU 71	0.2	No
fin.	3	132	6527	1588			970	335	SLU 71	0.21	No
ini.	3	-21	9094	-1717			979	370	SLU 59	0.22	No
fin.	3	20	7570	1583			970	361	SLU 59	0.23	No
ini.	3	60	8926	-1771			970	352	SLU 72	0.2	No
fin.	3	132	6516	1585			970	335	SLU 72	0.21	No
ini.	3	-21	9077	-1719			979	370	SLU 58	0.22	No
fin.	3	20	7581	1587			970	361	SLU 58	0.23	No
ini.	3	-62	10522	-1917			995	378	SLU 78	0.2	No
fin.	3	-1	8427	1745			971	365	SLU 78	0.21	No
ini.	3	-12	10084	-1879			975	368	SLU 79	0.2	No
fin.	3	53	7834	1700			970	353	SLU 79	0.21	No
ini.	3	12	9331	-1813			970	363	SLU 69	0.2	No
fin.	3	78	7131	1637			970	348	SLU 69	0.21	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2974	-70224	172601	SLV 1	2.46	Si
fin.	2	-3685	92240	172601	SLV 1	1.87	Si
ini.	2	-3492	86044	172601	SLV 15	2.01	Si
fin.	2	3178	-76706	172601	SLV 15	2.25	Si
ini.	2	-3492	86044	172601	SLV 16	2.01	Si
fin.	2	3178	-76706	172601	SLV 16	2.25	Si
ini.	2	-3978	88534	172601	SLV 14	1.95	Si
fin.	2	3105	-68842	172601	SLV 14	2.51	Si
ini.	2	-26	-11753	172601	SLV 6	14.69	Si
fin.	2	-1394	45037	172601	SLV 6	3.83	Si
ini.	2	-3978	88534	172601	SLV 13	1.95	Si
fin.	2	3105	-68842	172601	SLV 13	2.51	Si
ini.	2	3460	-72714	172601	SLV 4	2.37	Si
fin.	2	-3612	84376	172601	SLV 4	2.05	Si
ini.	2	3460	-72714	172601	SLV 3	2.37	Si
fin.	2	-3612	84376	172601	SLV 3	2.05	Si
ini.	2	-26	-11753	172601	SLV 5	14.69	Si
fin.	2	-1394	45037	172601	SLV 5	3.83	Si
ini.	2	2974	-70224	172601	SLV 2	2.46	Si
fin.	2	-3685	92240	172601	SLV 2	1.87	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1327	-26515	878			1456	0	SLD 4	0	No
fin.	2	-1688	40518	3399			2131	838	SLD 4	0.25	No
ini.	2	3460	-72714	3712			1456	0	SLV 3	0	No
fin.	2	-3612	84376	6373			2901	1077	SLV 3	0.17	No
ini.	2	-3978	88534	-6181			3047	1117	SLV 14	0.18	No
fin.	2	3105	-68842	-4007			1456	0	SLV 14	0	No
ini.	2	3460	-72714	3712			1456	0	SLV 4	0	No
fin.	2	-3612	84376	6373			2901	1077	SLV 4	0.17	No
ini.	2	1327	-26515	878			1456	0	SLD 3	0	No
fin.	2	-1688	40518	3399			2131	838	SLD 3	0.25	No
ini.	2	2974	-70224	3952			1456	0	SLV 2	0	No
fin.	2	-3685	92240	6060			2930	1085	SLV 2	0.18	No
ini.	2	1594	-20054	-115			1456	0	SLV 7	0	No
fin.	2	-1150	18822	3214			1916	758	SLV 7	0.24	No
ini.	2	-3978	88534	-6181			3047	1117	SLV 13	0.18	No
fin.	2	3105	-68842	-4007			1456	0	SLV 13	0	No
ini.	2	-3492	86044	-6421			2853	1064	SLV 16	0.17	No
fin.	2	3178	-76706	-3695			1456	0	SLV 16	0	No
ini.	2	1594	-20054	-115			1456	0	SLV 8	0	No
fin.	2	-1150	18822	3214			1916	758	SLV 8	0.24	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.871	SLV 1	Si





Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	0	SLD 3	No
PF_SLU	9.728	SLU 82	Si
V_SLU	0.196	SLU 79	No

## Trave di accoppiamento 125

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1283.8	666.1	1104	1186	82	-1193.8	666.1	1104	1186	82	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	183	-4056	95520	SLU 84	23.55	Si
fin.	3	72	-6184	95520	SLU 84	15.45	Si
ini.	3	-58	-5878	95520	SLU 61	16.25	Si
fin.	3	-63	-5913	95520	SLU 61	16.16	Si
ini.	3	170	-4351	95520	SLU 74	21.95	Si
fin.	3	69	-6218	95520	SLU 74	15.36	Si
ini.	3	8	-5805	95520	SLU 81	16.46	Si
fin.	3	-38	-6688	95520	SLU 81	14.28	Si
ini.	3	185	-4078	95520	SLU 83	23.42	Si
fin.	3	76	-6170	95520	SLU 83	15.48	Si
ini.	3	21	-5365	95520	SLU 73	17.81	Si
fin.	3	-31	-6330	95520	SLU 73	15.09	Si
ini.	3	6	-5783	95520	SLU 82	16.52	Si
fin.	3	-42	-6702	95520	SLU 82	14.25	Si
ini.	3	-56	-5900	95520	SLU 60	16.19	Si
fin.	3	-59	-5899	95520	SLU 60	16.19	Si
ini.	3	167	-4329	95520	SLU 75	22.07	Si
fin.	3	65	-6232	95520	SLU 75	15.33	Si
ini.	3	23	-4707	95520	SLU 40	20.29	Si
fin.	3	-34	-5841	95520	SLU 40	16.35	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	396	-872	1350			806	211	SLU 37	0.16	No
fin.	3	212	-4411	-1587			806	258	SLU 37	0.16	No
ini.	3	416	-1005	1414			806	205	SLU 71	0.14	No
fin.	3	238	-4383	-1649			806	252	SLU 71	0.15	No
ini.	3	347	-2624	1620			806	224	SLU 77	0.14	No
fin.	3	183	-5700	-1834			806	264	SLU 77	0.14	No
ini.	3	413	-983	1413			806	206	SLU 72	0.15	No
fin.	3	234	-4397	-1650			806	253	SLU 72	0.15	No
ini.	3	382	-1660	1451			806	215	SLU 70	0.15	No
fin.	3	213	-4826	-1676			806	258	SLU 70	0.15	No
ini.	3	384	-1682	1452			806	214	SLU 69	0.15	No
fin.	3	217	-4812	-1675			806	257	SLU 69	0.15	No
ini.	3	378	-1948	1582			806	216	SLU 79	0.14	No
fin.	3	204	-5271	-1809			806	260	SLU 79	0.14	No
ini.	3	376	-1926	1581			806	216	SLU 80	0.14	No
fin.	3	200	-5285	-1810			806	261	SLU 80	0.14	No
ini.	3	393	-850	1349			806	211	SLU 38	0.16	No
fin.	3	208	-4425	-1588			806	259	SLU 38	0.16	No
ini.	3	344	-2602	1619			806	225	SLU 78	0.14	No
fin.	3	179	-5714	-1835			806	265	SLU 78	0.14	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2797	-69892	143281	SLV 1	2.05	Si
fin.	2	2455	61710	143281	SLV 1	2.32	Si
ini.	2	1087	23180	143281	SLD 14	6.18	Si
fin.	2	-1218	-34125	143281	SLD 14	4.2	Si
ini.	2	-2467	-66681	143281	SLV 3	2.15	Si
fin.	2	2833	65745	143281	SLV 3	2.18	Si
ini.	2	-2797	-69892	143281	SLV 2	2.05	Si
fin.	2	2455	61710	143281	SLV 2	2.32	Si
ini.	2	2512	59241	143281	SLV 13	2.42	Si
fin.	2	-2846	-74242	143281	SLV 13	1.93	Si
ini.	2	2843	62452	143281	SLV 16	2.29	Si
fin.	2	-2469	-70207	143281	SLV 16	2.04	Si
ini.	2	1087	23180	143281	SLD 13	6.18	Si
fin.	2	-1218	-34125	143281	SLD 13	4.2	Si
ini.	2	2512	59241	143281	SLV 14	2.42	Si
fin.	2	-2846	-74242	143281	SLV 14	1.93	Si
ini.	2	-2467	-66681	143281	SLV 4	2.15	Si
fin.	2	2833	65745	143281	SLV 4	2.18	Si
ini.	2	2843	62452	143281	SLV 15	2.29	Si
fin.	2	-2469	-70207	143281	SLV 15	2.04	Si



## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-223	-17737	1821			1290	497	SLV 8	0.27	No
fin.	2	1417	22869	626			1208	0	SLV 8	0	No
ini.	2	1370	21003	-593			1208	0	SLV 12	0	No
fin.	2	-173	-17917	-1756			1271	488	SLV 12	0.28	No
ini.	2	-223	-17737	1821			1290	497	SLV 7	0.27	No
fin.	2	1417	22869	626			1208	0	SLV 7	0	No
ini.	2	2512	59241	-2853			1208	0	SLV 13	0	No
fin.	2	-2846	-74242	-5207			2246	848	SLV 13	0.16	No
ini.	2	-2797	-69892	5194			2228	843	SLV 2	0.16	No
fin.	2	2455	61710	2732			1208	0	SLV 2	0	No
ini.	2	-2467	-66681	4937			2107	807	SLV 4	0.16	No
fin.	2	2833	65745	3042			1208	0	SLV 4	0	No
ini.	2	1226	24525	-730			1208	0	SLD 16	0	No
fin.	2	-1059	-32427	-2712			1594	631	SLD 16	0.23	No
ini.	2	1370	21003	-593			1208	0	SLV 11	0	No
fin.	2	-173	-17917	-1756			1271	488	SLV 11	0.28	No
ini.	2	2512	59241	-2853			1208	0	SLV 14	0	No
fin.	2	-2846	-74242	-5207			2246	848	SLV 14	0.16	No
ini.	2	-2467	-66681	4937			2107	807	SLV 3	0.16	No
fin.	2	2833	65745	3042			1208	0	SLV 3	0	No

### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.93	SLV 13	Si
V_SLV	0	SLD 3	No
PF_SLU	14.253	SLU 82	Si
V_SLU	0.136	SLU 79	No

## Trave di accoppiamento 126

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-795.8	666.1	834	924	90	-705.8	666.1	834	924	90	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-18	13236	115068	SLU 70	8.69	Si
fin.	3	397	647	115068	SLU 70	177.79	Si
ini.	3	-18	13455	115068	SLU 72	8.55	Si
fin.	3	448	-753	115068	SLU 72	152.83	Si
ini.	3	3	14267	115068	SLU 78	8.07	Si
fin.	3	344	3214	115068	SLU 78	35.8	Si
ini.	3	13	14304	115068	SLU 79	8.04	Si
fin.	3	393	1960	115068	SLU 79	58.7	Si
ini.	3	-9	13274	115068	SLU 71	8.67	Si
fin.	3	446	-607	115068	SLU 71	189.59	Si
ini.	3	3	14486	115068	SLU 80	7.94	Si
fin.	3	395	1814	115068	SLU 80	63.43	Si
ini.	3	25	10934	115068	SLU 82	10.52	Si
fin.	3	-99	13304	115068	SLU 82	8.65	Si
ini.	3	4	9311	115068	SLU 60	12.36	Si
fin.	3	-152	13186	115068	SLU 60	8.73	Si
ini.	3	34	10753	115068	SLU 81	10.7	Si
fin.	3	-101	13450	115068	SLU 81	8.55	Si
ini.	3	12	14086	115068	SLU 77	8.17	Si
fin.	3	341	3360	115068	SLU 77	34.24	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-17	12644	-1861			977	369	SLU 56	0.2	No
fin.	3	291	3096	930			970	295	SLU 56	0.32	No
ini.	3	13	14304	-1970			970	362	SLU 79	0.18	No
fin.	3	393	1960	883			970	267	SLU 79	0.3	No
ini.	3	-9	13274	-1954			974	367	SLU 71	0.19	No
fin.	3	446	-607	766			970	250	SLU 71	0.33	No
ini.	3	-18	13455	-1961			978	369	SLU 72	0.19	No
fin.	3	448	-753	755			970	249	SLU 72	0.33	No
ini.	3	3	14267	-1989			970	364	SLU 78	0.18	No
fin.	3	344	3214	966			970	281	SLU 78	0.29	No
ini.	3	-18	13236	-1973			978	369	SLU 70	0.19	No
fin.	3	397	647	850			970	265	SLU 70	0.31	No
ini.	3	3	14486	-1977			970	364	SLU 80	0.18	No
fin.	3	395	1814	872			970	266	SLU 80	0.3	No
ini.	3	-26	12825	-1867			981	371	SLU 57	0.2	No
fin.	3	293	2950	919			970	295	SLU 57	0.32	No
ini.	3	12	14086	-1983			970	363	SLU 77	0.18	No
fin.	3	341	3360	977			970	281	SLU 77	0.29	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-9	13055	-1967			974	367	SLU 69	0.19	No
fin.	3	394	793	860			970	266	SLU 69	0.31	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2996	75299	172601	SLV 13	2.29	Si
fin.	2	2090	-57006	172601	SLV 13	3.03	Si
ini.	2	2815	-48089	172601	SLV 2	3.59	Si
fin.	2	-2268	78523	172601	SLV 2	2.2	Si
ini.	2	-1178	47253	172601	SLV 9	3.65	Si
fin.	2	465	-3602	172601	SLV 9	47.91	Si
ini.	2	-2812	62322	172601	SLV 16	2.77	Si
fin.	2	2176	-62122	172601	SLV 16	2.78	Si
ini.	2	2815	-48089	172601	SLV 1	3.59	Si
fin.	2	-2268	78523	172601	SLV 1	2.2	Si
ini.	2	-2812	62322	172601	SLV 15	2.77	Si
fin.	2	2176	-62122	172601	SLV 15	2.78	Si
ini.	2	2999	-61067	172601	SLV 4	2.83	Si
fin.	2	-2182	73408	172601	SLV 4	2.35	Si
ini.	2	2999	-61067	172601	SLV 3	2.83	Si
fin.	2	-2182	73408	172601	SLV 3	2.35	Si
ini.	2	-2996	75299	172601	SLV 14	2.29	Si
fin.	2	2090	-57006	172601	SLV 14	3.03	Si
ini.	2	-1178	47253	172601	SLV 10	3.65	Si
fin.	2	465	-3602	172601	SLV 10	47.91	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1281	-21965	707			1456	0	SLD 3	0	No
fin.	2	-958	36105	2344			1839	727	SLD 3	0.31	No
ini.	2	2999	-61067	3147			1456	0	SLV 3	0	No
fin.	2	-2182	73408	4261			2329	905	SLV 3	0.21	No
ini.	2	1281	-21965	707			1456	0	SLD 4	0	No
fin.	2	-958	36105	2344			1839	727	SLD 4	0.31	No
ini.	2	-2996	75299	-5375			2654	1007	SLV 13	0.19	No
fin.	2	2090	-57006	-2431			1456	0	SLV 13	0	No
ini.	2	-2812	62322	-5671			2580	985	SLV 15	0.17	No
fin.	2	2176	-62122	-2276			1456	0	SLV 15	0	No
ini.	2	-2812	62322	-5671			2580	985	SLV 16	0.17	No
fin.	2	2176	-62122	-2276			1456	0	SLV 16	0	No
ini.	2	-2996	75299	-5375			2654	1007	SLV 14	0.19	No
fin.	2	2090	-57006	-2431			1456	0	SLV 14	0	No
ini.	2	2999	-61067	3147			1456	0	SLV 4	0	No
fin.	2	-2182	73408	4261			2329	905	SLV 4	0.21	No
ini.	2	2815	-48089	3443			1456	0	SLV 1	0	No
fin.	2	-2268	78523	4106			2363	917	SLV 1	0.22	No
ini.	2	2815	-48089	3443			1456	0	SLV 2	0	No
fin.	2	-2268	78523	4106			2363	917	SLV 2	0.22	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.198	SLV 1	Si
V_SLV	0	SLD 3	No
PF_SLU	7.944	SLU 80	Si
V_SLU	0.183	SLU 77	No

### Trave di accoppiamento 127

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-795.8	666.1	1104	1186	82	-705.8	666.1	1104	1186	82	90	28	30000

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	832	8659	95520	SLU 71	11.03	Si
fin.	3	329	-15700	95520	SLU 71	6.08	Si
ini.	3	711	7357	95520	SLU 79	12.98	Si
fin.	3	280	-16208	95520	SLU 79	5.89	Si
ini.	3	837	8783	95520	SLU 72	10.88	Si
fin.	3	321	-15891	95520	SLU 72	6.01	Si
ini.	3	716	7481	95520	SLU 80	12.77	Si
fin.	3	272	-16399	95520	SLU 80	5.82	Si
ini.	3	656	6221	95520	SLU 78	15.35	Si
fin.	3	271	-15934	95520	SLU 78	5.99	Si
ini.	3	728	8181	95520	SLU 38	11.68	Si
fin.	3	253	-15699	95520	SLU 38	6.08	Si
ini.	3	724	8056	95520	SLU 37	11.86	Si
fin.	3	260	-15508	95520	SLU 37	6.16	Si
ini.	3	772	7398	95520	SLU 69	12.91	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	328	-15235	95520	SLU 69	6.27	Si
ini.	3	651	6096	95520	SLU 77	15.67	Si
fin.	3	279	-15743	95520	SLU 77	6.07	Si
ini.	3	777	7523	95520	SLU 70	12.7	Si
fin.	3	320	-15426	95520	SLU 70	6.19	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	785	8098	892			806	0	SLU 27	0	No
fin.	3	308	-14535	-1534			806	234	SLU 27	0.15	No
ini.	3	771	7881	856			806	0	SLU 50	0	No
fin.	3	309	-13730	-1476			806	234	SLU 50	0.16	No
ini.	3	784	8580	597			806	0	SLU 8	0	No
fin.	3	289	-13030	-1294			806	239	SLU 8	0.18	No
ini.	3	837	8783	1026			806	0	SLU 72	0	No
fin.	3	321	-15891	-1714			806	231	SLU 72	0.13	No
ini.	3	776	8006	845			806	0	SLU 51	0	No
fin.	3	301	-13921	-1484			806	236	SLU 51	0.16	No
ini.	3	845	9358	778			806	0	SLU 29	0	No
fin.	3	310	-15000	-1524			806	234	SLU 29	0.15	No
ini.	3	849	9483	767			806	0	SLU 30	0	No
fin.	3	302	-15191	-1532			806	236	SLU 30	0.15	No
ini.	3	777	7523	1140			806	0	SLU 70	0	No
fin.	3	320	-15426	-1724			806	231	SLU 70	0.13	No
ini.	3	789	8222	881			806	0	SLU 28	0	No
fin.	3	300	-14726	-1542			806	236	SLU 28	0.15	No
ini.	3	788	8705	586			806	0	SLU 9	0	No
fin.	3	281	-13221	-1302			806	241	SLU 9	0.19	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2575	46384	143281	SLV 16	3.09	Si
fin.	2	-1133	-62102	143281	SLV 16	2.31	Si
ini.	2	-2554	-49569	143281	SLV 1	2.89	Si
fin.	2	1295	51519	143281	SLV 1	2.78	Si
ini.	2	-2554	-49569	143281	SLV 2	2.89	Si
fin.	2	1295	51519	143281	SLV 2	2.78	Si
ini.	2	2314	43703	143281	SLV 14	3.28	Si
fin.	2	-1458	-67186	143281	SLV 14	2.13	Si
ini.	2	-2293	-46888	143281	SLV 3	3.06	Si
fin.	2	1620	56603	143281	SLV 3	2.53	Si
ini.	2	2575	46384	143281	SLV 15	3.09	Si
fin.	2	-1133	-62102	143281	SLV 15	2.31	Si
ini.	2	-2293	-46888	143281	SLV 4	3.06	Si
fin.	2	1620	56603	143281	SLV 4	2.53	Si
ini.	2	2314	43703	143281	SLV 13	3.28	Si
fin.	2	-1458	-67186	143281	SLV 13	2.13	Si
ini.	2	996	17768	143281	SLD 14	8.06	Si
fin.	2	-576	-31718	143281	SLD 14	4.52	Si
ini.	2	996	17768	143281	SLD 13	8.06	Si
fin.	2	-576	-31718	143281	SLD 13	4.52	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1176	16867	-148			1208	0	SLV 11	0	No
fin.	2	209	-14625	-1495			1208	411	SLV 11	0.28	No
ini.	2	2314	43703	-1605			1208	0	SLV 14	0	No
fin.	2	-1458	-67186	-4125			1740	685	SLV 14	0.17	No
ini.	2	-2554	-49569	4305			2139	817	SLV 2	0.19	No
fin.	2	1295	51519	1919			1208	0	SLV 2	0	No
ini.	2	-2293	-46888	4023			2044	787	SLV 3	0.2	No
fin.	2	1620	56603	2157			1208	0	SLV 3	0	No
ini.	2	2575	46384	-1887			1208	0	SLV 16	0	No
fin.	2	-1133	-62102	-3888			1622	641	SLV 16	0.16	No
ini.	2	-2293	-46888	4023			2044	787	SLV 4	0.2	No
fin.	2	1620	56603	2157			1208	0	SLV 4	0	No
ini.	2	-2554	-49569	4305			2139	817	SLV 1	0.19	No
fin.	2	1295	51519	1919			1208	0	SLV 1	0	No
ini.	2	1176	16867	-148			1208	0	SLV 12	0	No
fin.	2	209	-14625	-1495			1208	411	SLV 12	0.28	No
ini.	2	2575	46384	-1887			1208	0	SLV 15	0	No
fin.	2	-1133	-62102	-3888			1622	641	SLV 15	0.16	No
ini.	2	2314	43703	-1605			1208	0	SLV 13	0	No
fin.	2	-1458	-67186	-4125			1740	685	SLV 13	0.17	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.133	SLV 13	Si
V_SLV	0	SLV 1	No
PF_SLU	5.825	SLU 80	Si
V_SLU	0	SLU 8	No

## Trave di accoppiamento 128

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



## Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1986.8	104.6	1044	1186	142	-2066.8	104.6	1044	1186	142	80	28	30000

## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-827	56788	286447	SLU 37	5.04	Si
fin.	3	-827	-18875	286447	SLU 37	15.18	Si
ini.	3	-759	55387	286447	SLU 78	5.17	Si
fin.	3	-759	-17119	286447	SLU 78	16.73	Si
ini.	3	-376	56416	286447	SLU 69	5.08	Si
fin.	3	-376	-28146	286447	SLU 69	10.18	Si
ini.	3	-322	57718	286447	SLU 71	4.96	Si
fin.	3	-322	-31915	286447	SLU 71	8.98	Si
ini.	3	-705	56689	286447	SLU 80	5.05	Si
fin.	3	-705	-20888	286447	SLU 80	13.71	Si
ini.	3	-733	60384	286447	SLU 79	4.74	Si
fin.	3	-733	-22314	286447	SLU 79	12.84	Si
ini.	3	-881	55486	286447	SLU 35	5.16	Si
fin.	3	-881	-15106	286447	SLU 35	18.96	Si
ini.	3	-787	59082	286447	SLU 77	4.85	Si
fin.	3	-787	-18546	286447	SLU 77	15.45	Si
ini.	3	-294	54024	286447	SLU 72	5.3	Si
fin.	3	-294	-30489	286447	SLU 72	9.4	Si
ini.	3	-416	54123	286447	SLU 29	5.29	Si
fin.	3	-416	-28475	286447	SLU 29	10.06	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-20	47571	-401			1539	580	SLU 48	1.45	Si
fin.	3	-20	-30452	-1613			1539	580	SLU 48	0.36	No
ini.	3	62	45179	-400			1531	563	SLU 51	1.41	Si
fin.	3	62	-32794	-1612			1531	563	SLU 51	0.35	No
ini.	3	34	48873	-464			1531	569	SLU 50	1.23	Si
fin.	3	34	-34220	-1676			1531	569	SLU 50	0.34	No
ini.	3	-348	52722	-254			1670	647	SLU 70	2.55	Si
fin.	3	-348	-26720	-1793			1670	647	SLU 70	0.36	No
ini.	3	-733	60384	-99			1824	718	SLU 79	7.24	Si
fin.	3	-733	-22314	-2030			1824	718	SLU 79	0.35	No
ini.	3	-294	54024	-317			1649	637	SLU 72	2.01	Si
fin.	3	-294	-30489	-1857			1649	637	SLU 72	0.34	No
ini.	3	-705	56689	-35			1813	713	SLU 80	20.24	Si
fin.	3	-705	-20888	-1966			1813	713	SLU 80	0.36	No
ini.	3	-376	56416	-318			1682	653	SLU 69	2.05	Si
fin.	3	-376	-28146	-1857			1682	653	SLU 69	0.35	No
ini.	3	-322	57718	-381			1660	642	SLU 71	1.68	Si
fin.	3	-322	-31915	-1921			1660	642	SLU 71	0.33	No
ini.	3	-377	51539	-182			1682	653	SLU 58	3.59	Si
fin.	3	-377	-24620	-1785			1682	653	SLU 58	0.37	No

## Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-175	166862	429671	SLD 1	2.58	Si
fin.	2	-372	-143394	429671	SLD 1	3	Si
ini.	2	-970	287511	429671	SLV 13	1.49	Si
fin.	2	-423	298211	429671	SLV 13	1.44	Si
ini.	2	-970	287511	429671	SLV 14	1.49	Si
fin.	2	-423	298211	429671	SLV 14	1.44	Si
ini.	2	347	338274	429671	SLV 4	1.27	Si
fin.	2	-201	-309072	429671	SLV 4	1.39	Si
ini.	2	-620	-306264	429671	SLV 15	1.4	Si
fin.	2	-166	317641	429671	SLV 15	1.35	Si
ini.	2	-3	357027	429671	SLV 2	1.2	Si
fin.	2	-458	-328502	429671	SLV 2	1.31	Si
ini.	2	-3	357027	429671	SLV 1	1.2	Si
fin.	2	-458	-328502	429671	SLV 1	1.31	Si
ini.	2	-175	166862	429671	SLD 2	2.58	Si
fin.	2	-372	-143394	429671	SLD 2	3	Si
ini.	2	-620	-306264	429671	SLV 16	1.4	Si
fin.	2	-166	317641	429671	SLV 16	1.35	Si
ini.	2	347	338274	429671	SLV 3	1.27	Si
fin.	2	-201	-309072	429671	SLV 3	1.39	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-175	166862	-3417			2367	902	SLD 1	0.26	No
fin.	2	-372	-143394	-4628			2446	942	SLD 1	0.2	No
ini.	2	-970	287511	8142			2685	1054	SLV 14	0.13	No
fin.	2	-423	298211	6941			2466	952	SLV 14	0.14	No
ini.	2	347	338274	-7736			2297	785	SLV 3	0.1	No
fin.	2	-201	-309072	-8983			2377	907	SLV 3	0.1	No
ini.	2	-970	287511	8142			2685	1054	SLV 13	0.13	No
fin.	2	-423	298211	6941			2466	952	SLV 13	0.14	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-620	-306264	8686			2545	990	SLV 16	0.11	No
fin.	2	-166	317641	7431			2363	900	SLV 16	0.12	No
ini.	2	-3	357027	-8280			2298	865	SLV 2	0.1	No
fin.	2	-458	-328502	-9473			2480	959	SLV 2	0.1	No
ini.	2	347	338274	-7736			2297	785	SLV 4	0.1	No
fin.	2	-201	-309072	-8983			2377	907	SLV 4	0.1	No
ini.	2	-3	357027	-8280			2298	865	SLV 1	0.1	No
fin.	2	-458	-328502	-9473			2480	959	SLV 1	0.1	No
ini.	2	-620	-306264	8686			2545	990	SLV 15	0.11	No
fin.	2	-166	317641	7431			2363	900	SLV 15	0.12	No
ini.	2	-175	166862	-3417			2367	902	SLD 2	0.26	No
fin.	2	-372	-143394	-4628			2446	942	SLD 2	0.2	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.203	SLV 1	Si
V_SLV	0.101	SLV 3	No
PF_SLU	4.744	SLU 79	Si
V_SLU	0.334	SLU 71	No

## Trave di accoppiamento 129

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1116.3	104.6	1084	1186	102	-1228.3	104.6	1084	1186	102	112	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb_	fhk	fvk0	fhmmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1659	-81600	147798	SLU 77	1.81	Si
fin.	3	-1659	3538	147798	SLU 77	41.78	Si
ini.	3	-1597	-77587	147798	SLU 35	1.9	Si
fin.	3	-1597	2370	147798	SLU 35	62.37	Si
ini.	3	-1653	-81455	147798	SLU 80	1.81	Si
fin.	3	-1653	4398	147798	SLU 80	33.61	Si
ini.	3	-1566	-78737	147798	SLU 37	1.88	Si
fin.	3	-1566	3423	147798	SLU 37	43.18	Si
ini.	3	-1591	-77443	147798	SLU 38	1.91	Si
fin.	3	-1591	3230	147798	SLU 38	45.76	Si
ini.	3	-1336	-77979	147798	SLU 69	1.9	Si
fin.	3	-1336	16615	147798	SLU 69	8.9	Si
ini.	3	-1304	-79129	147798	SLU 71	1.87	Si
fin.	3	-1304	17668	147798	SLU 71	8.37	Si
ini.	3	-1628	-82750	147798	SLU 79	1.79	Si
fin.	3	-1628	4591	147798	SLU 79	32.19	Si
ini.	3	-1684	-80305	147798	SLU 78	1.84	Si
fin.	3	-1684	3345	147798	SLU 78	44.19	Si
ini.	3	-1329	-77835	147798	SLU 72	1.9	Si
fin.	3	-1329	17475	147798	SLU 72	8.46	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1336	-77979	1527			1488	584	SLU 69	0.38	No
fin.	3	-1336	16615	143			1488	584	SLU 69	4.1	Si
ini.	3	-1628	-82750	1677			1595	621	SLU 79	0.37	No
fin.	3	-1628	4591	-124			1595	621	SLU 79	5.01	Si
ini.	3	-1361	-76685	1514			1497	588	SLU 70	0.39	No
fin.	3	-1361	16422	129			1497	588	SLU 70	4.54	Si
ini.	3	-1325	-66511	1467			1484	583	SLU 59	0.4	No
fin.	3	-1325	9644	-117			1484	583	SLU 59	4.97	Si
ini.	3	-1684	-80305	1644			1615	627	SLU 78	0.38	No
fin.	3	-1684	3345	-157			1615	627	SLU 78	4	Si
ini.	3	-1300	-67806	1480			1475	580	SLU 58	0.39	No
fin.	3	-1300	9837	-104			1475	580	SLU 58	5.58	Si
ini.	3	-1659	-81600	1658			1606	624	SLU 77	0.38	No
fin.	3	-1659	3538	-144			1606	624	SLU 77	4.35	Si
ini.	3	-1653	-81455	1664			1604	624	SLU 80	0.37	No
fin.	3	-1653	4398	-137			1604	624	SLU 80	4.55	Si
ini.	3	-1304	-79129	1547			1477	580	SLU 71	0.38	No
fin.	3	-1304	17668	162			1477	580	SLU 71	3.57	Si
ini.	3	-1329	-77835	1533			1486	584	SLU 72	0.38	No
fin.	3	-1329	17475	149			1486	584	SLU 72	3.92	Si

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2		2349	-272835	SLV 14	0.81	No
fin.	2		2913	465317	SLV 14	0.48	No
ini.	2		-2101	160683	SLV 7	1.38	Si
fin.	2		-2304	-263376	SLV 7	0.84	No
ini.	2		-3880	201320	SLV 4	1.1	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	-4444	-479991	221697	SLV 4	0.46	No
ini.	2	2084	-190208	221697	SLV 15	1.17	Si
fin.	2	2627	389992	221697	SLV 15	0.57	No
ini.	2	-3880	201320	221697	SLV 3	1.1	Si
fin.	2	-4444	-479991	221697	SLV 3	0.46	No
ini.	2	2084	-190208	221697	SLV 16	1.17	Si
fin.	2	2627	389992	221697	SLV 16	0.57	No
ini.	2	-3615	118694	221697	SLV 2	1.87	Si
fin.	2	-4158	-404666	221697	SLV 2	0.55	No
ini.	2	-2101	160683	221697	SLV 8	1.38	Si
fin.	2	-2304	-263376	221697	SLV 8	0.84	No
ini.	2	2349	-272835	221697	SLV 13	0.81	No
fin.	2	2913	465317	221697	SLV 13	0.48	No
ini.	2	-3615	118694	221697	SLV 1	1.87	Si
fin.	2	-4158	-404666	221697	SLV 1	0.55	No

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	2084	-190208	5815			1503	0	SLV 16	0	No
fin.	2	2627	389992	4674			1503	0	SLV 16	0	No
ini.	2	2084	-190208	5815			1503	0	SLV 15	0	No
fin.	2	2627	389992	4674			1503	0	SLV 15	0	No
ini.	2	570	-232197	4872			1503	438	SLV 9	0.09	No
fin.	2	773	248703	3672			1503	383	SLV 9	0.1	No
ini.	2	2349	-272835	7222			1503	0	SLV 14	0	No
fin.	2	2913	465317	6047			1503	0	SLV 14	0	No
ini.	2	454	-101792	2951			1503	467	SLD 16	0.16	No
fin.	2	684	162427	1814			1503	408	SLD 16	0.22	No
ini.	2	564	-136965	3550			1503	440	SLD 13	0.12	No
fin.	2	805	194423	2398			1503	373	SLD 13	0.16	No
ini.	2	2349	-272835	7222			1503	0	SLV 13	0	No
fin.	2	2913	465317	6047			1503	0	SLV 13	0	No
ini.	2	454	-101792	2951			1503	467	SLD 15	0.16	No
fin.	2	684	162427	1814			1503	408	SLD 15	0.22	No
ini.	2	564	-136965	3550			1503	440	SLD 14	0.12	No
fin.	2	805	194423	2398			1503	373	SLD 14	0.16	No
ini.	2	570	-232197	4872			1503	438	SLV 10	0.09	No
fin.	2	773	248703	3672			1503	383	SLV 10	0.1	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.462	SLV 3	No
V_SLV	0	SLV 13	No
PF_SLU	1.786	SLU 79	Si
V_SLU	0.37	SLU 79	No

## Trave di accoppiamento 130

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-938.6	104.6	1084	1186	102	-1046.6	104.6	1084	1186	102	108	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fthk	fvk0	fthmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1571	97765	147798	SLU 78	1.51	Si
fin.	3	-1571	-93531	147798	SLU 78	1.58	Si
ini.	3	-1510	97615	147798	SLU 38	1.51	Si
fin.	3	-1510	-91250	147798	SLU 38	1.62	Si
ini.	3	-1513	101191	147798	SLU 35	1.46	Si
fin.	3	-1513	-93219	147798	SLU 35	1.59	Si
ini.	3	-1528	100956	147798	SLU 79	1.46	Si
fin.	3	-1528	-96745	147798	SLU 79	1.53	Si
ini.	3	-1552	101149	147798	SLU 77	1.46	Si
fin.	3	-1552	-96123	147798	SLU 77	1.54	Si
ini.	3	-1543	90844	147798	SLU 83	1.63	Si
fin.	3	-1543	-84603	147798	SLU 83	1.75	Si
ini.	3	-1505	90886	147798	SLU 41	1.63	Si
fin.	3	-1505	-81699	147798	SLU 41	1.81	Si
ini.	3	-1533	97807	147798	SLU 36	1.51	Si
fin.	3	-1533	-90627	147798	SLU 36	1.63	Si
ini.	3	-1490	100999	147798	SLU 37	1.46	Si
fin.	3	-1490	-93841	147798	SLU 37	1.57	Si
ini.	3	-1548	97573	147798	SLU 80	1.51	Si
fin.	3	-1548	-94154	147798	SLU 80	1.57	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1533	97807	-571			1618	632	SLU 36	1.11	Si
fin.	3	-1533	-90627	-2850			1618	632	SLU 36	0.22	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1513	101191	-626			1610	629	SLU 35	1	Si
fin.	3	-1513	-93219	-2905			1610	629	SLU 35	0.22	No
ini.	3	-1548	97573	-489			1624	634	SLU 80	1.3	Si
fin.	3	-1548	-94154	-2987			1624	634	SLU 80	0.21	No
ini.	3	-1490	100999	-630			1602	626	SLU 37	0.99	No
fin.	3	-1490	-93841	-2909			1602	626	SLU 37	0.22	No
ini.	3	-1552	101149	-540			1625	634	SLU 77	1.17	Si
fin.	3	-1552	-96123	-3039			1625	634	SLU 77	0.21	No
ini.	3	-1510	97615	-575			1609	629	SLU 38	1.09	Si
fin.	3	-1510	-91250	-2854			1609	629	SLU 38	0.22	No
ini.	3	-1528	100956	-544			1616	631	SLU 79	1.16	Si
fin.	3	-1528	-96745	-3043			1616	631	SLU 79	0.21	No
ini.	3	-1543	90844	-214			1622	633	SLU 83	2.96	Si
fin.	3	-1543	-84603	-2953			1622	633	SLU 83	0.21	No
ini.	3	-1571	97765	-485			1632	636	SLU 78	1.31	Si
fin.	3	-1571	-93531	-2983			1632	636	SLU 78	0.21	No
ini.	3	-1563	87460	-158			1629	635	SLU 84	4.01	Si
fin.	3	-1563	-82012	-2898			1629	635	SLU 84	0.22	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2588	393523	221697	SLV 3	0.56	No
fin.	2	-3136	-130760	221697	SLV 3	1.7	Si
ini.	2	-852	242283	221697	SLV 5	0.92	No
fin.	2	-911	-197849	221697	SLV 5	1.12	Si
ini.	2	-2588	393523	221697	SLV 4	0.56	No
fin.	2	-3136	-130760	221697	SLV 4	1.7	Si
ini.	2	1153	-307840	221697	SLV 13	0.72	No
fin.	2	1701	45471	221697	SLV 13	4.88	Si
ini.	2	-2353	445396	221697	SLV 1	0.5	No
fin.	2	-2844	-201642	221697	SLV 1	1.1	Si
ini.	2	-2353	445396	221697	SLV 2	0.5	No
fin.	2	-2844	-201642	221697	SLV 2	1.1	Si
ini.	2	1153	-307840	221697	SLV 14	0.72	No
fin.	2	1701	45471	221697	SLV 14	4.88	Si
ini.	2	918	-359714	221697	SLV 16	0.62	No
fin.	2	1408	116353	221697	SLV 16	1.91	Si
ini.	2	-852	242283	221697	SLV 6	0.92	No
fin.	2	-911	-197849	221697	SLV 6	1.12	Si
ini.	2	918	-359714	221697	SLV 15	0.62	No
fin.	2	1408	116353	221697	SLV 15	1.91	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-852	242283	-3318			1880	741	SLV 5	0.22	No
fin.	2	-911	-197849	-4883			1903	751	SLV 5	0.15	No
ini.	2	-852	242283	-3318			1880	741	SLV 6	0.22	No
fin.	2	-911	-197849	-4883			1903	751	SLV 6	0.15	No
ini.	2	-2353	445396	-5335			2447	954	SLV 2	0.18	No
fin.	2	-2844	-201642	-6833			2632	1014	SLV 2	0.15	No
ini.	2	-2588	393523	-4200			2536	983	SLV 3	0.23	No
fin.	2	-3136	-130760	-5678			2743	1048	SLV 3	0.18	No
ini.	2	-2588	393523	-4200			2536	983	SLV 4	0.23	No
fin.	2	-3136	-130760	-5678			2743	1048	SLV 4	0.18	No
ini.	2	918	-359714	5346			1558	350	SLV 15	0.07	No
fin.	2	1408	116353	3745			1558	69	SLV 15	0.02	No
ini.	2	-2353	445396	-5335			2447	954	SLV 1	0.18	No
fin.	2	-2844	-201642	-6833			2632	1014	SLV 1	0.15	No
ini.	2	1153	-307840	4211			1558	257	SLV 13	0.06	No
fin.	2	1701	45471	2590			1558	0	SLV 13	0	No
ini.	2	1153	-307840	4211			1558	257	SLV 14	0.06	No
fin.	2	1701	45471	2590			1558	0	SLV 14	0	No
ini.	2	918	-359714	5346			1558	350	SLV 16	0.07	No
fin.	2	1408	116353	3745			1558	69	SLV 16	0.02	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.498	SLV 1	No
V_SLV	0	SLV 13	No
PF_SLU	1.461	SLU 35	Si
V_SLU	0.207	SLU 79	No

#### Trave di accoppiamento 131

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-647.8	104.6	1044	1186	142	-727.8	104.6	1044	1186	142	80	28	30000

##### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2





#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-969	-44645	286447	SLU 83	6.42	Si
fin.	3	-969	75903	286447	SLU 83	3.77	Si
ini.	3	-928	-47094	286447	SLU 84	6.08	Si
fin.	3	-928	77174	286447	SLU 84	3.71	Si
ini.	3	-951	-56512	286447	SLU 82	5.07	Si
fin.	3	-951	78496	286447	SLU 82	3.65	Si
ini.	3	-828	-44225	286447	SLU 75	6.48	Si
fin.	3	-828	72997	286447	SLU 75	3.92	Si
ini.	3	-992	-54063	286447	SLU 81	5.3	Si
fin.	3	-992	77225	286447	SLU 81	3.71	Si
ini.	3	-869	-41776	286447	SLU 74	6.86	Si
fin.	3	-869	71726	286447	SLU 74	3.99	Si
ini.	3	-789	-52125	286447	SLU 73	5.5	Si
fin.	3	-789	71454	286447	SLU 73	4.01	Si
ini.	3	-805	-34807	286447	SLU 78	8.23	Si
fin.	3	-805	71676	286447	SLU 78	4	Si
ini.	3	-724	-56144	286447	SLU 61	5.1	Si
fin.	3	-724	70925	286447	SLU 61	4.04	Si
ini.	3	-938	-48849	286447	SLU 40	5.86	Si
fin.	3	-938	70488	286447	SLU 40	4.06	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-992	-54063	2714			1928	762	SLU 81	0.28	No
fin.	3	-992	77225	496			1928	762	SLU 81	1.54	Si
ini.	3	-765	-53695	2439			1837	724	SLU 60	0.3	No
fin.	3	-765	69654	569			1837	724	SLU 60	1.27	Si
ini.	3	-724	-56144	2485			1821	717	SLU 61	0.29	No
fin.	3	-724	70925	615			1821	717	SLU 61	1.16	Si
ini.	3	-789	-52125	2528			1847	728	SLU 73	0.29	No
fin.	3	-789	71454	489			1847	728	SLU 73	1.49	Si
ini.	3	-767	-42706	2394			1838	724	SLU 76	0.3	No
fin.	3	-767	70133	355			1838	724	SLU 76	2.04	Si
ini.	3	-701	-46726	2351			1812	713	SLU 63	0.3	No
fin.	3	-701	69603	481			1812	713	SLU 63	1.48	Si
ini.	3	-969	-44645	2580			1919	758	SLU 83	0.29	No
fin.	3	-969	75903	361			1919	758	SLU 83	2.1	Si
ini.	3	-951	-56512	2761			1912	755	SLU 82	0.27	No
fin.	3	-951	78496	542			1912	755	SLU 82	1.39	Si
ini.	3	-928	-47094	2627			1903	751	SLU 84	0.29	No
fin.	3	-928	77174	408			1903	751	SLU 84	1.84	Si
ini.	3	-828	-44225	2448			1862	734	SLU 75	0.3	No
fin.	3	-828	72997	410			1862	734	SLU 75	1.79	Si

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-705	-170349	429671	SLV 12	2.52	Si
fin.	2	-769	211885	429671	SLV 12	2.03	Si
ini.	2	-1217	-320414	429671	SLV 15	1.34	Si
fin.	2	-746	410881	429671	SLV 15	1.05	Si
ini.	2	-1205	-285360	429671	SLV 13	1.51	Si
fin.	2	-598	372189	429671	SLV 13	1.15	Si
ini.	2	-1205	-285360	429671	SLV 14	1.51	Si
fin.	2	-598	372189	429671	SLV 14	1.15	Si
ini.	2	300	260248	429671	SLV 1	1.65	Si
fin.	2	-171	-325341	429671	SLV 1	1.32	Si
ini.	2	-705	-170349	429671	SLV 11	2.52	Si
fin.	2	-769	211885	429671	SLV 11	2.03	Si
ini.	2	288	225194	429671	SLV 3	1.91	Si
fin.	2	-319	-286649	429671	SLV 3	1.5	Si
ini.	2	-1217	-320414	429671	SLV 16	1.34	Si
fin.	2	-746	410881	429671	SLV 16	1.05	Si
ini.	2	288	225194	429671	SLV 4	1.91	Si
fin.	2	-319	-286649	429671	SLV 4	1.5	Si
ini.	2	300	260248	429671	SLV 2	1.65	Si
fin.	2	-171	-325341	429671	SLV 2	1.32	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	288	225194	-6100			2297	799	SLV 4	0.13	No
fin.	2	-319	-286649	-7399			2424	931	SLV 4	0.13	No
ini.	2	-1217	-320414	10043			2784	1098	SLV 15	0.11	No
fin.	2	-746	410881	8729			2595	1014	SLV 15	0.12	No
ini.	2	300	260248	-6990			2297	796	SLV 1	0.11	No
fin.	2	-171	-325341	-8252			2365	901	SLV 1	0.11	No
ini.	2	-1217	-320414	10043			2784	1098	SLV 16	0.11	No
fin.	2	-746	410881	8729			2595	1014	SLV 16	0.12	No
ini.	2	288	225194	-6100			2297	799	SLV 3	0.13	No
fin.	2	-319	-286649	-7399			2424	931	SLV 3	0.13	No
ini.	2	-705	-170349	5430			2579	1006	SLV 11	0.19	No
fin.	2	-769	211885	4080			2604	1018	SLV 11	0.25	No
ini.	2	-705	-170349	5430			2579	1006	SLV 12	0.19	No
fin.	2	-769	211885	4080			2604	1018	SLV 12	0.25	No
ini.	2	-1205	-285360	9153			2779	1095	SLV 14	0.12	No
fin.	2	-598	372189	7876			2536	986	SLV 14	0.13	No
ini.	2	300	260248	-6990			2297	796	SLV 2	0.11	No
fin.	2	-171	-325341	-8252			2365	901	SLV 2	0.11	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-1205	-285360	9153			2779	1095	SLV 13	0.12	No
fin.	2	-598	372189	7876			2536	986	SLV 13	0.13	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.046	SLV 15	Si
V_SLV	0.109	SLV 1	No
PF_SLU	3.649	SLU 82	Si
V_SLU	0.274	SLU 82	No

## Trave di accoppiamento 132

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-416.8	104.6	1044	1186	142	-496.8	104.6	1044	1186	142	80	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-521	-56919	286447	SLU 58	5.03	Si
fin.	3	-521	36138	286447	SLU 58	7.93	Si
ini.	3	-447	-58048	286447	SLU 70	4.93	Si
fin.	3	-447	36080	286447	SLU 70	7.94	Si
ini.	3	-441	-59514	286447	SLU 69	4.81	Si
fin.	3	-441	39880	286447	SLU 69	7.18	Si
ini.	3	-265	-59420	286447	SLU 51	4.82	Si
fin.	3	-265	34420	286447	SLU 51	8.32	Si
ini.	3	-259	-60886	286447	SLU 50	4.7	Si
fin.	3	-259	38219	286447	SLU 50	7.49	Si
ini.	3	-444	-61123	286447	SLU 72	4.69	Si
fin.	3	-444	37366	286447	SLU 72	7.67	Si
ini.	3	-699	-58622	286447	SLU 79	4.89	Si
fin.	3	-699	39084	286447	SLU 79	7.33	Si
ini.	3	-705	-57156	286447	SLU 80	5.01	Si
fin.	3	-705	35284	286447	SLU 80	8.12	Si
ini.	3	-262	-57812	286447	SLU 48	4.95	Si
fin.	3	-262	36933	286447	SLU 48	7.76	Si
ini.	3	-438	-62589	286447	SLU 71	4.58	Si
fin.	3	-438	41165	286447	SLU 71	6.96	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-259	-60886	1886			1635	630	SLU 50	0.33	No
fin.	3	-259	38219	667			1635	630	SLU 50	0.95	No
ini.	3	-705	-57156	2158			1813	713	SLU 80	0.33	No
fin.	3	-705	35284	224			1813	713	SLU 80	3.19	Si
ini.	3	-444	-61123	2039			1709	666	SLU 72	0.33	No
fin.	3	-444	37366	495			1709	666	SLU 72	1.35	Si
ini.	3	-709	-54081	2104			1815	714	SLU 78	0.34	No
fin.	3	-709	33999	169			1815	714	SLU 78	4.22	Si
ini.	3	-441	-59514	2050			1708	665	SLU 69	0.32	No
fin.	3	-441	39880	506			1708	665	SLU 69	1.31	Si
ini.	3	-703	-55547	2170			1812	713	SLU 77	0.33	No
fin.	3	-703	37798	235			1812	713	SLU 77	3.03	Si
ini.	3	-447	-58048	1984			1710	666	SLU 70	0.34	No
fin.	3	-447	36080	440			1710	666	SLU 70	1.51	Si
ini.	3	-438	-62589	2104			1706	665	SLU 71	0.32	No
fin.	3	-438	41165	561			1706	665	SLU 71	1.19	Si
ini.	3	-521	-56919	2006			1739	680	SLU 58	0.34	No
fin.	3	-521	36138	395			1739	680	SLU 58	1.72	Si
ini.	3	-699	-58622	2224			1811	712	SLU 79	0.32	No
fin.	3	-699	39084	289			1811	712	SLU 79	2.46	Si

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-896	-182879	429671	SLD 16	2.35	Si
fin.	2	-700	121474	429671	SLD 16	3.54	Si
ini.	2	824	330406	429671	SLV 4	1.3	Si
fin.	2	266	-220403	429671	SLV 4	1.95	Si
ini.	2	-1642	-375486	429671	SLV 13	1.14	Si
fin.	2	-1085	248020	429671	SLV 13	1.73	Si
ini.	2	-1642	-375486	429671	SLV 14	1.14	Si
fin.	2	-1085	248020	429671	SLV 14	1.73	Si
ini.	2	-1542	-397995	429671	SLV 16	1.08	Si
fin.	2	-1084	266203	429671	SLV 16	1.61	Si
ini.	2	824	330406	429671	SLV 3	1.3	Si
fin.	2	266	-220403	429671	SLV 3	1.95	Si
ini.	2	724	352915	429671	SLV 2	1.22	Si
fin.	2	266	-238586	429671	SLV 2	1.8	Si
ini.	2	-896	-182879	429671	SLD 15	2.35	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	-700	121474	429671	SLD 15	3.54	Si
ini.	2	724	352915	429671	SLV 1	1.22	Si
fin.	2	266	-238586	429671	SLV 1	1.8	Si
ini.	2	-1542	-397995	429671	SLV 15	1.08	Si
fin.	2	-1084	266203	429671	SLV 15	1.61	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	724	352915	-6992			2297	689	SLV 2	0.1	No
fin.	2	266	-238586	-8220			2297	804	SLV 2	0.1	No
ini.	2	-1542	-397995	9185			2914	1152	SLV 16	0.13	No
fin.	2	-1084	266203	7956			2731	1075	SLV 16	0.14	No
ini.	2	-1542	-397995	9185			2914	1152	SLV 15	0.13	No
fin.	2	-1084	266203	7956			2731	1075	SLV 15	0.14	No
ini.	2	-896	-182879	4549			2655	1041	SLD 16	0.23	No
fin.	2	-700	121474	3321			2577	1005	SLD 16	0.3	No
ini.	2	824	330406	-6564			2297	661	SLV 3	0.1	No
fin.	2	266	-220403	-7795			2297	804	SLV 3	0.1	No
ini.	2	824	330406	-6564			2297	661	SLV 4	0.1	No
fin.	2	266	-220403	-7795			2297	804	SLV 4	0.1	No
ini.	2	-1642	-375486	8756			2954	1168	SLV 13	0.13	No
fin.	2	-1085	248020	7531			2731	1075	SLV 13	0.14	No
ini.	2	-1642	-375486	8756			2954	1168	SLV 14	0.13	No
fin.	2	-1085	248020	7531			2731	1075	SLV 14	0.14	No
ini.	2	-896	-182879	4549			2655	1041	SLD 15	0.23	No
fin.	2	-700	121474	3321			2577	1005	SLD 15	0.3	No
ini.	2	724	352915	-6992			2297	689	SLV 1	0.1	No
fin.	2	266	-238586	-8220			2297	804	SLV 1	0.1	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.08	SLV 15	Si
V_SLV	0.098	SLV 1	No
PF_SLU	4.577	SLU 71	Si
V_SLU	0.316	SLU 71	No

## Trave di accoppiamento 133

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-867.8	-485.9	1160	1186	26	-1051.8	-485.9	1160	1186	26	184	30	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	333	-3475	10289	SLU 79	2.96	Si
fin.	3	59	1388	10289	SLU 79	7.41	Si
ini.	3	-58	3029	10289	SLU 2	3.4	Si
fin.	3	202	-1650	10289	SLU 2	6.24	Si
ini.	3	288	-3250	10289	SLU 16	3.17	Si
fin.	3	27	1359	10289	SLU 16	7.57	Si
ini.	3	294	-3277	10289	SLU 38	3.14	Si
fin.	3	-23	1849	10289	SLU 38	5.56	Si
ini.	3	315	-3140	10289	SLU 77	3.28	Si
fin.	3	70	1213	10289	SLU 77	8.48	Si
ini.	3	326	-3907	10289	SLU 35	2.63	Si
fin.	3	-9	1849	10289	SLU 35	5.57	Si
ini.	3	278	-3118	10289	SLU 41	3.3	Si
fin.	3	7	1467	10289	SLU 41	7.02	Si
ini.	3	345	-4242	10289	SLU 37	2.43	Si
fin.	3	-19	2024	10289	SLU 37	5.08	Si
ini.	3	-70	3795	10289	SLU 44	2.71	Si
fin.	3	280	-2286	10289	SLU 44	4.5	Si
ini.	3	276	-2942	10289	SLU 36	3.5	Si
fin.	3	-13	1674	10289	SLU 36	6.15	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	345	-4242	-145			200	0	SLU 37	0	No
fin.	3	-19	2024	81			205	78	SLU 37	0.97	No
ini.	3	266	-2352	-206			200	0	SLU 83	0	No
fin.	3	86	831	90			200	62	SLU 83	0.69	No
ini.	3	270	-2915	-145			200	0	SLU 14	0	No
fin.	3	38	1183	72			200	70	SLU 14	0.97	No
ini.	3	278	-3118	-159			200	0	SLU 41	0	No
fin.	3	7	1467	76			200	74	SLU 41	0.98	No
ini.	3	277	-2483	-188			200	0	SLU 58	0	No
fin.	3	106	723	86			200	58	SLU 58	0.67	No
ini.	3	288	-3250	-141			200	0	SLU 16	0	No
fin.	3	27	1359	73			200	71	SLU 16	0.98	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-70	3795	-281			219	85	SLU 44	0.3	No
fin.	3	280	-2286	82			200	0	SLU 44	0	No
ini.	3	326	-3907	-148			200	0	SLU 35	0	No
fin.	3	-9	1849	80			203	77	SLU 35	0.96	No
ini.	3	14	2188	-208			200	73	SLU 43	0.35	No
fin.	3	287	-1994	68			200	0	SLU 43	0	No
ini.	3	276	-2937	-140			200	0	SLU 29	0	No
fin.	3	50	1161	76			200	68	SLU 29	0.89	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2095	-29398	15434	SLV 13	0.52	No
fin.	2	-760	17717	15434	SLV 13	0.87	No
ini.	2	-1415	19428	15434	SLV 7	0.79	No
fin.	2	720	-15459	15434	SLV 7	1	No
ini.	2	-1415	19428	15434	SLV 8	0.79	No
fin.	2	720	-15459	15434	SLV 8	1	No
ini.	2	-1972	30927	15434	SLV 3	0.5	No
fin.	2	1111	-19560	15434	SLV 3	0.79	No
ini.	2	1524	-23059	15434	SLV 15	0.67	No
fin.	2	-586	11819	15434	SLV 15	1.31	Si
ini.	2	-1401	24589	15434	SLV 2	0.63	No
fin.	2	937	-13663	15434	SLV 2	1.13	Si
ini.	2	-1972	30927	15434	SLV 4	0.5	No
fin.	2	1111	-19560	15434	SLV 4	0.79	No
ini.	2	2095	-29398	15434	SLV 14	0.52	No
fin.	2	-760	17717	15434	SLV 14	0.87	No
ini.	2	-1401	24589	15434	SLV 1	0.63	No
fin.	2	937	-13663	15434	SLV 1	1.13	Si
ini.	2	1524	-23059	15434	SLV 16	0.67	No
fin.	2	-586	11819	15434	SLV 16	1.31	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-1415	19428	-217			678	243	SLV 8	1.12	Si
fin.	2	720	-15459	-9			300	0	SLV 8	0	No
ini.	2	-1972	30927	-245			826	278	SLV 4	1.13	Si
fin.	2	1111	-19560	113			300	0	SLV 4	0	No
ini.	2	1538	-17898	-109			300	0	SLV 9	0	No
fin.	2	-370	13615	125			399	158	SLV 9	1.26	Si
ini.	2	1538	-17898	-109			300	0	SLV 10	0	No
fin.	2	-370	13615	125			399	158	SLV 10	1.26	Si
ini.	2	-1415	19428	-217			678	243	SLV 7	1.12	Si
fin.	2	720	-15459	-9			300	0	SLV 7	0	No
ini.	2	490	-1702	-152			300	0	SLV 6	0	No
fin.	2	140	4201	174			300	91	SLV 6	0.52	No
ini.	2	2095	-29398	-81			300	0	SLV 13	0	No
fin.	2	-760	17717	3			503	194	SLV 13	63.73	Si
ini.	2	490	-1702	-152			300	0	SLV 5	0	No
fin.	2	140	4201	174			300	91	SLV 5	0.52	No
ini.	2	-567	10961	-190			452	177	SLD 1	0.93	No
fin.	2	499	-6369	104			300	0	SLD 1	0	No
ini.	2	2095	-29398	-81			300	0	SLV 14	0	No
fin.	2	-760	17717	3			503	194	SLV 14	63.73	Si

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.499	SLV 3	No
V_SLV	0	SLD 1	No
PF_SLU	2.426	SLU 37	Si
V_SLU	0	SLU 14	No

#### Trave di accoppiamento 134

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-854.8	-335.9	1044	1186	142	-944.8	-335.9	1044	1186	142	90	28	30000

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-373	80051	286447	SLU 40	3.58	Si
fin.	3	-373	-69295	286447	SLU 40	4.13	Si
ini.	3	-235	81406	286447	SLU 84	3.52	Si
fin.	3	-235	-72729	286447	SLU 84	3.94	Si
ini.	3	-438	90445	286447	SLU 82	3.17	Si
fin.	3	-438	-80671	286447	SLU 82	3.55	Si
ini.	3	-221	78138	286447	SLU 83	3.67	Si
fin.	3	-221	-72444	286447	SLU 83	3.95	Si
ini.	3	-415	88346	286447	SLU 73	3.24	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	-415	-77125	286447	SLU 73	3.71	Si
ini.	3	-212	79306	286447	SLU 76	3.61	Si
fin.	3	-212	-69182	286447	SLU 76	4.14	Si
ini.	3	-201	81321	286447	SLU 75	3.52	Si
fin.	3	-201	-74007	286447	SLU 75	3.87	Si
ini.	3	-187	78053	286447	SLU 74	3.67	Si
fin.	3	-187	-73722	286447	SLU 74	3.89	Si
ini.	3	-424	87177	286447	SLU 81	3.29	Si
fin.	3	-424	-80387	286447	SLU 81	3.56	Si
ini.	3	-339	78362	286447	SLU 65	3.66	Si
fin.	3	-339	-68407	286447	SLU 65	4.19	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-415	88346	-1043			1697	660	SLU 73	0.63	No
fin.	3	-415	-77125	-2575			1697	660	SLU 73	0.26	No
ini.	3	-235	81406	-869			1625	625	SLU 84	0.72	No
fin.	3	-235	-72729	-2496			1625	625	SLU 84	0.25	No
ini.	3	-187	78053	-890			1606	616	SLU 74	0.69	No
fin.	3	-187	-73722	-2422			1606	616	SLU 74	0.25	No
ini.	3	-438	90445	-1058			1706	665	SLU 82	0.63	No
fin.	3	-438	-80671	-2685			1706	665	SLU 82	0.25	No
ini.	3	-424	87177	-1018			1701	662	SLU 81	0.65	No
fin.	3	-424	-80387	-2645			1701	662	SLU 81	0.25	No
ini.	3	1	72282	-741			1531	576	SLU 78	0.78	No
fin.	3	1	-66064	-2273			1531	576	SLU 78	0.25	No
ini.	3	-201	81321	-930			1612	618	SLU 75	0.67	No
fin.	3	-201	-74007	-2462			1612	618	SLU 75	0.25	No
ini.	3	16	69013	-702			1531	573	SLU 77	0.82	No
fin.	3	16	-65780	-2234			1531	573	SLU 77	0.26	No
ini.	3	-212	79306	-854			1616	621	SLU 76	0.73	No
fin.	3	-212	-69182	-2386			1616	621	SLU 76	0.26	No
ini.	3	-221	78138	-830			1620	622	SLU 83	0.75	No
fin.	3	-221	-72444	-2457			1620	622	SLU 83	0.25	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	64	329817	429671	SLV 3	1.3	Si
fin.	2	-45	-351288	429671	SLV 3	1.22	Si
ini.	2	64	329817	429671	SLV 4	1.3	Si
fin.	2	-45	-351288	429671	SLV 4	1.22	Si
ini.	2	1490	318096	429671	SLV 2	1.35	Si
fin.	2	784	-297134	429671	SLV 2	1.45	Si
ini.	2	-2012	-205932	429671	SLV 16	2.09	Si
fin.	2	-1306	191463	429671	SLV 16	2.24	Si
ini.	2	-2012	-205932	429671	SLV 15	2.09	Si
fin.	2	-1306	191463	429671	SLV 15	2.24	Si
ini.	2	-2327	155978	429671	SLV 8	2.75	Si
fin.	2	-1454	-224505	429671	SLV 8	1.91	Si
ini.	2	-2327	155978	429671	SLV 7	2.75	Si
fin.	2	-1454	-224505	429671	SLV 7	1.91	Si
ini.	2	1490	318096	429671	SLV 1	1.35	Si
fin.	2	784	-297134	429671	SLV 1	1.45	Si
ini.	2	-586	-217652	429671	SLV 14	1.97	Si
fin.	2	-477	245617	429671	SLV 14	1.75	Si
ini.	2	-586	-217652	429671	SLV 13	1.97	Si
fin.	2	-477	245617	429671	SLV 13	1.75	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1490	318096	-7125			2297	433	SLV 2	0.06	No
fin.	2	784	-297134	-8091			2297	673	SLV 2	0.08	No
ini.	2	64	329817	-6640			2297	850	SLV 4	0.13	No
fin.	2	-45	-351288	-7781			2315	874	SLV 4	0.11	No
ini.	2	1490	318096	-7125			2297	433	SLV 1	0.06	No
fin.	2	784	-297134	-8091			2297	673	SLV 1	0.08	No
ini.	2	-586	-217652	5297			2531	983	SLV 13	0.19	No
fin.	2	-477	245617	4377			2488	962	SLV 13	0.22	No
ini.	2	-586	-217652	5297			2531	983	SLV 14	0.19	No
fin.	2	-477	245617	4377			2488	962	SLV 14	0.22	No
ini.	2	64	329817	-6640			2297	850	SLV 3	0.13	No
fin.	2	-45	-351288	-7781			2315	874	SLV 3	0.11	No
ini.	2	478	168064	-3411			2297	753	SLD 1	0.22	No
fin.	2	182	-157674	-4425			2297	824	SLD 1	0.19	No
ini.	2	2428	116910	-3343			2297	0	SLV 6	0	No
fin.	2	1311	-43991	-4089			2297	505	SLV 6	0.12	No
ini.	2	2428	116910	-3343			2297	0	SLV 5	0	No
fin.	2	1311	-43991	-4089			2297	505	SLV 5	0.12	No
ini.	2	478	168064	-3411			2297	753	SLD 2	0.22	No
fin.	2	182	-157674	-4425			2297	824	SLD 2	0.19	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.223	SLV 3	Si
V_SLV	0	SLV 5	No
PF_SLU	3.167	SLU 82	Si
V_SLU	0.248	SLU 82	No



## Trave di accoppiamento 135

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-772.3	-486.1	1160	1186	26	-772.3	-377.1	1160	1186	26	109	30	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	4	-443	10289	SLU 76	23.22	Si
fin.	3	4	19569	10289	SLU 76	0.53	No
ini.	3	4	-442	10289	SLU 23	23.29	Si
fin.	3	4	17114	10289	SLU 23	0.6	No
ini.	3	4	-231	10289	SLU 55	44.46	Si
fin.	3	4	17712	10289	SLU 55	0.58	No
ini.	3	4	-741	10289	SLU 31	13.89	Si
fin.	3	4	19949	10289	SLU 31	0.52	No
ini.	3	2	-412	10289	SLU 82	24.98	Si
fin.	3	2	17315	10289	SLU 82	0.59	No
ini.	3	4	-529	10289	SLU 10	19.44	Si
fin.	3	4	18092	10289	SLU 10	0.57	No
ini.	3	4	-543	10289	SLU 73	18.95	Si
fin.	3	4	20551	10289	SLU 73	0.5	No
ini.	3	4	-641	10289	SLU 34	16.05	Si
fin.	3	4	18966	10289	SLU 34	0.54	No
ini.	3	4	-244	10289	SLU 65	42.2	Si
fin.	3	4	17716	10289	SLU 65	0.58	No
ini.	3	4	-331	10289	SLU 52	31.06	Si
fin.	3	4	18695	10289	SLU 52	0.55	No

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	4	-741	246			200	75	SLU 31	0.3	No
fin.	3	4	19949	133			200	75	SLU 31	0.56	No
ini.	3	4	-231	238			200	75	SLU 55	0.31	No
fin.	3	4	17712	91			200	75	SLU 55	0.82	No
ini.	3	4	-543	267			200	75	SLU 73	0.28	No
fin.	3	4	20551	120			200	75	SLU 73	0.62	No
ini.	3	4	-244	238			200	75	SLU 65	0.31	No
fin.	3	4	17716	91			200	75	SLU 65	0.82	No
ini.	3	2	-412	236			200	75	SLU 82	0.32	No
fin.	3	2	17315	89			200	75	SLU 82	0.84	No
ini.	3	4	-641	237			200	75	SLU 34	0.32	No
fin.	3	4	18966	123			200	75	SLU 34	0.61	No
ini.	3	4	-331	248			200	75	SLU 52	0.3	No
fin.	3	4	18695	101			200	75	SLU 52	0.74	No
ini.	3	4	-144	228			200	75	SLU 68	0.33	No
fin.	3	4	16734	81			200	75	SLU 68	0.92	No
ini.	3	4	-443	257			200	75	SLU 76	0.29	No
fin.	3	4	19569	110			200	75	SLU 76	0.68	No
ini.	3	4	-529	227			200	75	SLU 10	0.33	No
fin.	3	4	18092	114			200	75	SLU 10	0.65	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	979	22593	15434	SLV 5	0.68	No
fin.	2	-97	65430	15434	SLV 5	0.24	No
ini.	2	953	20418	15434	SLV 9	0.76	No
fin.	2	-100	74737	15434	SLV 9	0.21	No
ini.	2	246	3017	15434	SLV 13	5.12	Si
fin.	2	-34	40367	15434	SLV 13	0.38	No
ini.	2	953	20418	15434	SLV 10	0.76	No
fin.	2	-100	74737	15434	SLV 10	0.21	No
ini.	2	-952	-19874	15434	SLV 8	0.78	No
fin.	2	101	-63796	15434	SLV 8	0.24	No
ini.	2	-952	-19874	15434	SLV 7	0.78	No
fin.	2	101	-63796	15434	SLV 7	0.24	No
ini.	2	-978	-22049	15434	SLV 11	0.7	No
fin.	2	97	-54488	15434	SLV 11	0.28	No
ini.	2	979	22593	15434	SLV 6	0.68	No
fin.	2	-97	65430	15434	SLV 6	0.24	No
ini.	2	246	3017	15434	SLV 14	5.12	Si
fin.	2	-34	40367	15434	SLV 14	0.38	No
ini.	2	-978	-22049	15434	SLV 12	0.7	No
fin.	2	97	-54488	15434	SLV 12	0.28	No

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	246	3017	563			300	69	SLV 14	0.12	No
fin.	2	-34	40367	-96			310	118	SLV 14	1.22	Si
ini.	2	388	9128	503			300	8	SLD 5	0.02	No
fin.	2	-34	29100	-78			310	118	SLD 5	1.51	Si



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	953	20418	1195			300	0	SLV 9	0	No
fin.	2	-100	74737	-229			327	127	SLV 9	0.55	No
ini.	2	377	8241	538			300	20	SLD 9	0.04	No
fin.	2	-35	32900	-85			310	118	SLD 9	1.39	Si
ini.	2	388	9128	503			300	8	SLD 6	0.02	No
fin.	2	-34	29100	-78			310	118	SLD 6	1.51	Si
ini.	2	979	22593	1108			300	0	SLV 5	0	No
fin.	2	-97	65430	-215			326	126	SLV 5	0.59	No
ini.	2	246	3017	563			300	69	SLV 13	0.12	No
fin.	2	-34	40367	-96			310	118	SLV 13	1.22	Si
ini.	2	953	20418	1195			300	0	SLV 10	0	No
fin.	2	-100	74737	-229			327	127	SLV 10	0.55	No
ini.	2	979	22593	1108			300	0	SLV 6	0	No
fin.	2	-97	65430	-215			326	126	SLV 6	0.59	No
ini.	2	377	8241	538			300	20	SLD 10	0.04	No
fin.	2	-35	32900	-85			310	118	SLD 10	1.39	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.207	SLV 9	No
V_SLV	0	SLV 5	No
PF_SLU	0.501	SLU 73	No
V_SLU	0.28	SLU 73	No

## Trave di accoppiamento 136

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-515.8	600.6	834	1034	200	-515.8	650.6	834	1034	200	50	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-42	88788	568235	SLU 69	6.4	Si
fin.	3	-147	-12344	568235	SLU 69	46.03	Si
ini.	3	-8	87875	568235	SLU 37	6.47	Si
fin.	3	-107	-8573	568235	SLU 37	66.29	Si
ini.	3	90	90818	568235	SLU 77	6.26	Si
fin.	3	-1	1597	568235	SLU 77	355.79	Si
ini.	3	-28	87976	568235	SLU 70	6.46	Si
fin.	3	-131	-10873	568235	SLU 70	52.26	Si
ini.	3	6	87063	568235	SLU 38	6.53	Si
fin.	3	-92	-7102	568235	SLU 38	80.01	Si
ini.	3	105	90006	568235	SLU 78	6.31	Si
fin.	3	14	3068	568235	SLU 78	185.21	Si
ini.	3	43	93930	568235	SLU 79	6.05	Si
fin.	3	-59	-3825	568235	SLU 79	148.55	Si
ini.	3	-90	91900	568235	SLU 71	6.18	Si
fin.	3	-204	-17766	568235	SLU 71	31.98	Si
ini.	3	-75	91088	568235	SLU 72	6.24	Si
fin.	3	-189	-16295	568235	SLU 72	34.87	Si
ini.	3	58	93118	568235	SLU 80	6.1	Si
fin.	3	-43	-2354	568235	SLU 80	241.35	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-28	87976	-3171			2168	818	SLU 70	0.26	No
fin.	3	-131	-10873	-662			2209	840	SLU 70	1.27	Si
ini.	3	-75	91088	-3409			2187	828	SLU 72	0.24	No
fin.	3	-189	-16295	-737			2232	852	SLU 72	1.16	Si
ini.	3	43	93930	-3212			2157	802	SLU 79	0.25	No
fin.	3	-59	-3825	-607			2180	824	SLU 79	1.36	Si
ini.	3	-8	87875	-3163			2160	813	SLU 37	0.26	No
fin.	3	-107	-8573	-599			2200	835	SLU 37	1.39	Si
ini.	3	-90	91900	-3477			2193	831	SLU 71	0.24	No
fin.	3	-204	-17766	-760			2238	855	SLU 71	1.12	Si
ini.	3	-127	85033	-3360			2207	839	SLU 30	0.25	No
fin.	3	-237	-21043	-728			2252	862	SLU 30	1.18	Si
ini.	3	-42	88788	-3239			2174	821	SLU 69	0.25	No
fin.	3	-147	-12344	-685			2215	843	SLU 69	1.23	Si
ini.	3	58	93118	-3145			2157	799	SLU 80	0.25	No
fin.	3	-43	-2354	-584			2174	821	SLU 80	1.41	Si
ini.	3	-141	85845	-3427			2213	842	SLU 29	0.25	No
fin.	3	-253	-22513	-752			2258	865	SLU 29	1.15	Si
ini.	3	-94	82732	-3189			2194	832	SLU 27	0.26	No
fin.	3	-195	-17091	-677			2235	853	SLU 27	1.26	Si

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1412	41170	852353	SLV 10	20.7	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	1426	137883	852353	SLV 10	6.18	Si
ini.	2	-1807	-89212	852353	SLV 2	9.55	Si
fin.	2	-1368	-128757	852353	SLV 2	6.62	Si
ini.	2	-1807	-89212	852353	SLV 1	9.55	Si
fin.	2	-1368	-128757	852353	SLV 1	6.62	Si
ini.	2	2271	162986	852353	SLV 15	5.23	Si
fin.	2	1799	171288	852353	SLV 15	4.98	Si
ini.	2	-2120	-70746	852353	SLV 4	12.05	Si
fin.	2	-1773	-168175	852353	SLV 4	5.07	Si
ini.	2	2271	162986	852353	SLV 16	5.23	Si
fin.	2	1799	171288	852353	SLV 16	4.98	Si
ini.	2	1412	41170	852353	SLV 9	20.7	Si
fin.	2	1426	137883	852353	SLV 9	6.18	Si
ini.	2	2584	144520	852353	SLV 14	5.9	Si
fin.	2	2204	210707	852353	SLV 14	4.05	Si
ini.	2	-2120	-70746	852353	SLV 3	12.05	Si
fin.	2	-1773	-168175	852353	SLV 3	5.07	Si
ini.	2	2584	144520	852353	SLV 13	5.9	Si
fin.	2	2204	210707	852353	SLV 13	4.05	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt <sub>lim</sub>	Comb.	c.s.	Verifica
ini.	2	2584	144520	951			3235	338	SLV 14	0.36	No
fin.	2	2204	210707	2121			3235	562	SLV 14	0.26	No
ini.	2	2271	162986	-499			3235	529	SLV 15	1.06	Si
fin.	2	1799	171288	1566			3235	728	SLV 15	0.46	No
ini.	2	2271	162986	-499			3235	529	SLV 16	1.06	Si
fin.	2	1799	171288	1566			3235	728	SLV 16	0.46	No
ini.	2	-948	32604	-3306			3614	1408	SLV 7	0.43	No
fin.	2	-995	-95351	-1527			3633	1417	SLV 7	0.93	No
ini.	2	369	102724	-2791			3235	1134	SLV 12	0.41	No
fin.	2	76	6488	-398			3235	1201	SLV 12	3.02	Si
ini.	2	369	102724	-2791			3235	1134	SLV 11	0.41	No
fin.	2	76	6488	-398			3235	1201	SLV 11	3.02	Si
ini.	2	1412	41170	2040			3235	857	SLV 9	0.42	No
fin.	2	1426	137883	1450			3235	853	SLV 9	0.59	No
ini.	2	-948	32604	-3306			3614	1408	SLV 8	0.43	No
fin.	2	-995	-95351	-1527			3633	1417	SLV 8	0.93	No
ini.	2	1412	41170	2040			3235	857	SLV 10	0.42	No
fin.	2	1426	137883	1450			3235	853	SLV 10	0.59	No
ini.	2	2584	144520	951			3235	338	SLV 13	0.36	No
fin.	2	2204	210707	2121			3235	562	SLV 13	0.26	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.045	SLV 13	Si
V_SLV	0.265	SLV 13	No
PF_SLU	6.05	SLU 79	Si
V_SLU	0.239	SLU 71	No

## Trave di accoppiamento 137

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-515.8	600.6	1114	1186	72	-515.8	650.6	1114	1186	72	50	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-792	-30697	73643	SLU 38	2.4	Si
fin.	3	-172	6977	73643	SLU 38	10.56	Si
ini.	3	-819	-32060	73643	SLU 71	2.3	Si
fin.	3	-179	7262	73643	SLU 71	10.14	Si
ini.	3	-808	-31038	73643	SLU 77	2.37	Si
fin.	3	-172	6922	73643	SLU 77	10.64	Si
ini.	3	-777	-30596	73643	SLU 29	2.41	Si
fin.	3	-171	6994	73643	SLU 29	10.53	Si
ini.	3	-816	-31817	73643	SLU 72	2.31	Si
fin.	3	-178	7240	73643	SLU 72	10.17	Si
ini.	3	-790	-30695	73643	SLU 69	2.4	Si
fin.	3	-171	6918	73643	SLU 69	10.64	Si
ini.	3	-805	-30795	73643	SLU 78	2.39	Si
fin.	3	-171	6900	73643	SLU 78	10.67	Si
ini.	3	-838	-32403	73643	SLU 79	2.27	Si
fin.	3	-180	7266	73643	SLU 79	10.14	Si
ini.	3	-834	-32161	73643	SLU 80	2.29	Si
fin.	3	-179	7244	73643	SLU 80	10.17	Si
ini.	3	-796	-30940	73643	SLU 37	2.38	Si
fin.	3	-172	6998	73643	SLU 37	10.52	Si





Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-790	-30695	4078			1092	431	SLU 69	0.11	No
fin.	3	-171	6918	-74			845	327	SLU 69	4.42	Si
ini.	3	-838	-32403	4292			1111	438	SLU 79	0.1	No
fin.	3	-180	7266	-67			848	329	SLU 79	4.94	Si
ini.	3	-808	-31038	4116			1100	434	SLU 77	0.11	No
fin.	3	-172	6922	-62			845	327	SLU 77	5.25	Si
ini.	3	-834	-32161	4264			1110	437	SLU 80	0.1	No
fin.	3	-179	7244	-64			848	329	SLU 80	5.12	Si
ini.	3	-792	-30697	4064			1093	431	SLU 38	0.11	No
fin.	3	-172	6977	-51			845	327	SLU 38	6.44	Si
ini.	3	-777	-30596	4056			1087	429	SLU 29	0.11	No
fin.	3	-171	6994	-65			845	327	SLU 29	5.04	Si
ini.	3	-819	-32060	4255			1104	435	SLU 71	0.1	No
fin.	3	-179	7262	-78			848	329	SLU 71	4.2	Si
ini.	3	-796	-30940	4093			1095	432	SLU 37	0.11	No
fin.	3	-172	6998	-53			845	328	SLU 37	6.16	Si
ini.	3	-816	-31817	4226			1103	435	SLU 72	0.1	No
fin.	3	-178	7240	-76			848	329	SLU 72	4.33	Si
ini.	3	-805	-30795	4087			1098	433	SLU 78	0.11	No
fin.	3	-171	6900	-60			845	327	SLU 78	5.46	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-82	-16724	110465	SLV 12	6.61	Si
fin.	2	-181	8315	110465	SLV 12	13.28	Si
ini.	2	-57	-16147	110465	SLV 8	6.84	Si
fin.	2	-169	8059	110465	SLV 8	13.71	Si
ini.	2	-82	-16724	110465	SLV 11	6.61	Si
fin.	2	-181	8315	110465	SLV 11	13.28	Si
ini.	2	-57	-16147	110465	SLV 7	6.84	Si
fin.	2	-169	8059	110465	SLV 7	13.71	Si
ini.	2	-270	-13446	110465	SLV 16	8.22	Si
fin.	2	-113	4425	110465	SLV 16	24.97	Si
ini.	2	-209	-13188	110465	SLD 12	8.38	Si
fin.	2	-107	4652	110465	SLD 12	23.74	Si
ini.	2	-199	-12970	110465	SLD 8	8.52	Si
fin.	2	-102	4548	110465	SLD 8	24.29	Si
ini.	2	-209	-13188	110465	SLD 11	8.38	Si
fin.	2	-107	4652	110465	SLD 11	23.74	Si
ini.	2	-199	-12970	110465	SLD 7	8.52	Si
fin.	2	-102	4548	110465	SLD 7	24.29	Si
ini.	2	-270	-13446	110465	SLV 15	8.22	Si
fin.	2	-113	4425	110465	SLV 15	24.97	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-209	-13188	1608			1248	482	SLD 11	0.3	No
fin.	2	-107	4652	-73			1207	461	SLD 11	6.32	Si
ini.	2	-82	-16724	1881			1197	456	SLV 11	0.24	No
fin.	2	-181	8315	-118			1237	476	SLV 11	4.02	Si
ini.	2	-199	-12970	1574			1244	480	SLD 7	0.3	No
fin.	2	-102	4548	-71			1205	460	SLD 7	6.44	Si
ini.	2	-82	-16724	1881			1197	456	SLV 12	0.24	No
fin.	2	-181	8315	-118			1237	476	SLV 12	4.02	Si
ini.	2	-199	-12970	1574			1244	480	SLD 8	0.3	No
fin.	2	-102	4548	-71			1205	460	SLD 8	6.44	Si
ini.	2	-270	-13446	1703			1273	493	SLV 16	0.29	No
fin.	2	-113	4425	-68			1210	462	SLV 16	6.8	Si
ini.	2	-57	-16147	1794			1187	450	SLV 7	0.25	No
fin.	2	-169	8059	-115			1232	474	SLV 7	4.12	Si
ini.	2	-209	-13188	1608			1248	482	SLD 12	0.3	No
fin.	2	-107	4652	-73			1207	461	SLD 12	6.32	Si
ini.	2	-57	-16147	1794			1187	450	SLV 8	0.25	No
fin.	2	-169	8059	-115			1232	474	SLV 8	4.12	Si
ini.	2	-270	-13446	1703			1273	493	SLV 15	0.29	No
fin.	2	-113	4425	-68			1210	462	SLV 15	6.8	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	6.605	SLV 11	Si
V_SLV	0.242	SLV 11	No
PF_SLU	2.273	SLU 79	Si
V_SLU	0.102	SLU 79	No

Trave di accoppiamento 138

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-651.3	-335.9	834	924	90	-741.3	-335.9	834	924	90	90	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti



fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-664	29616	115068	SLU 44	3.89	Si
fin.	3	-178	-11343	115068	SLU 44	10.14	Si
ini.	3	-554	29824	115068	SLU 61	3.86	Si
fin.	3	-187	-9759	115068	SLU 61	11.79	Si
ini.	3	-659	31498	115068	SLU 52	3.65	Si
fin.	3	-179	-12365	115068	SLU 52	9.31	Si
ini.	3	-437	28593	115068	SLU 75	4.02	Si
fin.	3	-198	-6651	115068	SLU 75	17.3	Si
ini.	3	-545	28289	115068	SLU 55	4.07	Si
fin.	3	-215	-7657	115068	SLU 55	15.03	Si
ini.	3	-525	29921	115068	SLU 76	3.85	Si
fin.	3	-214	-8330	115068	SLU 76	13.81	Si
ini.	3	-533	31457	115068	SLU 82	3.66	Si
fin.	3	-186	-10432	115068	SLU 82	11.03	Si
ini.	3	-420	28248	115068	SLU 84	4.07	Si
fin.	3	-222	-5724	115068	SLU 84	20.1	Si
ini.	3	-638	33130	115068	SLU 73	3.47	Si
fin.	3	-178	-13038	115068	SLU 73	8.83	Si
ini.	3	-644	31249	115068	SLU 65	3.68	Si
fin.	3	-177	-12016	115068	SLU 65	9.58	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt <sub>lim</sub>	Comb.	c.s.	Verifica
ini.	3	-533	31457	-1507			1184	467	SLU 82	0.31	No
fin.	3	-186	-10432	-52			1045	404	SLU 82	7.78	Si
ini.	3	-638	33130	-1550			1226	484	SLU 73	0.31	No
fin.	3	-178	-13038	-208			1042	402	SLU 73	1.94	Si
ini.	3	-266	24528	-1305			1077	419	SLU 83	0.32	No
fin.	3	-234	-1158	408			1064	413	SLU 83	1.01	Si
ini.	3	-169	21665	-1243			1038	400	SLU 77	0.32	No
fin.	3	-246	2624	597			1069	415	SLU 77	0.7	No
ini.	3	-437	28593	-1446			1145	450	SLU 75	0.31	No
fin.	3	-198	-6651	136			1050	406	SLU 75	2.98	Si
ini.	3	-323	25384	-1337			1100	430	SLU 78	0.32	No
fin.	3	-234	-1943	351			1064	413	SLU 78	1.18	Si
ini.	3	-420	28248	-1399			1138	447	SLU 84	0.32	No
fin.	3	-222	-5724	162			1059	411	SLU 84	2.53	Si
ini.	3	-379	27737	-1413			1122	440	SLU 81	0.31	No
fin.	3	-198	-5866	194			1050	406	SLU 81	2.09	Si
ini.	3	-554	29824	-1461			1192	470	SLU 61	0.32	No
fin.	3	-187	-9759	-58			1045	404	SLU 61	6.99	Si
ini.	3	-283	24874	-1351			1084	422	SLU 74	0.31	No
fin.	3	-210	-2084	382			1054	408	SLU 74	1.07	Si

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1435	82024	172601	SLV 5	2.1	Si
fin.	2	1547	-68620	172601	SLV 5	2.52	Si
ini.	2	1703	-84660	172601	SLV 15	2.04	Si
fin.	2	-2879	146678	172601	SLV 15	1.18	Si
ini.	2	1352	-63994	172601	SLV 13	2.7	Si
fin.	2	-2297	133475	172601	SLV 13	1.29	Si
ini.	2	-2304	123555	172601	SLV 1	1.4	Si
fin.	2	2574	-153744	172601	SLV 1	1.12	Si
ini.	2	-1953	102889	172601	SLV 4	1.68	Si
fin.	2	1993	-140542	172601	SLV 4	1.23	Si
ini.	2	1352	-63994	172601	SLV 14	2.7	Si
fin.	2	-2297	133475	172601	SLV 14	1.29	Si
ini.	2	-1435	82024	172601	SLV 6	2.1	Si
fin.	2	1547	-68620	172601	SLV 6	2.52	Si
ini.	2	1703	-84660	172601	SLV 16	2.04	Si
fin.	2	-2879	146678	172601	SLV 16	1.18	Si
ini.	2	-1953	102889	172601	SLV 3	1.68	Si
fin.	2	1993	-140542	172601	SLV 3	1.23	Si
ini.	2	-2304	123555	172601	SLV 2	1.4	Si
fin.	2	2574	-153744	172601	SLV 2	1.12	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt <sub>lim</sub>	Comb.	c.s.	Verifica
ini.	2	-1953	102889	-4739			2237	875	SLV 3	0.18	No
fin.	2	1993	-140542	-4564			1456	0	SLV 3	0	No
ini.	2	1703	-84660	3822			1456	0	SLV 15	0	No
fin.	2	-2879	146678	6250			2607	993	SLV 15	0.16	No
ini.	2	1703	-84660	3822			1456	0	SLV 16	0	No
fin.	2	-2879	146678	6250			2607	993	SLV 16	0.16	No
ini.	2	-2304	123555	-5901			2377	921	SLV 1	0.16	No
fin.	2	2574	-153744	-5923			1456	0	SLV 1	0	No
ini.	2	-1953	102889	-4739			2237	875	SLV 4	0.18	No
fin.	2	1993	-140542	-4564			1456	0	SLV 4	0	No
ini.	2	-2304	123555	-5901			2377	921	SLV 2	0.16	No
fin.	2	2574	-153744	-5923			1456	0	SLV 2	0	No
ini.	2	1352	-63994	2660			1456	0	SLV 13	0	No
fin.	2	-2297	133475	4892			2375	920	SLV 13	0.19	No
ini.	2	1352	-63994	2660			1456	0	SLV 14	0	No
fin.	2	-2297	133475	4892			2375	920	SLV 14	0.19	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-1435	82024	-4260			2030	801	SLV 6	0.19	No
fin.	2	1547	-68620	-3722			1456	0	SLV 6	0	No
ini.	2	-1435	82024	-4260			2030	801	SLV 5	0.19	No
fin.	2	1547	-68620	-3722			1456	0	SLV 5	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.123	SLV 1	Si
V_SLV	0	SLV 1	No
PF_SLU	3.473	SLU 73	Si
V_SLU	0.31	SLU 82	No

## Trave di accoppiamento 139

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-651.3	-335.9	1104	1186	82	-741.3	-335.9	1104	1186	82	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>mk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-158	-211	95520	SLU 52	453.06	Si
fin.	3	-323	-11533	95520	SLU 52	8.28	Si
ini.	3	-355	-12187	95520	SLU 71	7.84	Si
fin.	3	291	1890	95520	SLU 71	50.55	Si
ini.	3	-402	-12670	95520	SLU 37	7.54	Si
fin.	3	262	2082	95520	SLU 37	45.87	Si
ini.	3	-422	-13229	95520	SLU 79	7.22	Si
fin.	3	242	868	95520	SLU 79	110.02	Si
ini.	3	-353	-11774	95520	SLU 58	8.11	Si
fin.	3	237	591	95520	SLU 58	161.6	Si
ini.	3	-338	-11842	95520	SLU 69	8.07	Si
fin.	3	283	1445	95520	SLU 69	66.11	Si
ini.	3	-334	-11628	95520	SLU 29	8.21	Si
fin.	3	312	3104	95520	SLU 29	30.78	Si
ini.	3	-406	-12884	95520	SLU 77	7.41	Si
fin.	3	234	423	95520	SLU 77	225.6	Si
ini.	3	-337	-11430	95520	SLU 56	8.36	Si
fin.	3	229	146	95520	SLU 56	652.93	Si
ini.	3	-385	-12326	95520	SLU 35	7.75	Si
fin.	3	255	1637	95520	SLU 35	58.33	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-338	-11842	1746			929	364	SLU 69	0.21	No
fin.	3	283	1445	-826			806	241	SLU 69	0.29	No
ini.	3	-385	-12326	1735			946	372	SLU 35	0.21	No
fin.	3	255	1637	-752			806	248	SLU 35	0.33	No
ini.	3	-337	-11430	1708			928	364	SLU 56	0.21	No
fin.	3	229	146	-870			806	254	SLU 56	0.29	No
ini.	3	-359	-9937	1738			937	368	SLU 78	0.21	No
fin.	3	120	-2917	-1062			806	278	SLU 78	0.26	No
ini.	3	-355	-12187	1732			935	367	SLU 71	0.21	No
fin.	3	291	1890	-779			806	239	SLU 71	0.31	No
ini.	3	-392	-10349	1767			949	373	SLU 83	0.21	No
fin.	3	36	-2848	-1103			806	296	SLU 83	0.27	No
ini.	3	-347	-9558	1704			932	365	SLU 74	0.21	No
fin.	3	49	-2855	-1096			806	293	SLU 74	0.27	No
ini.	3	-406	-12884	1925			953	375	SLU 77	0.19	No
fin.	3	234	423	-955			806	253	SLU 77	0.26	No
ini.	3	-376	-10281	1724			943	370	SLU 80	0.21	No
fin.	3	128	-2472	-1015			806	277	SLU 80	0.27	No
ini.	3	-422	-13229	1911			960	378	SLU 79	0.2	No
fin.	3	242	868	-907			806	251	SLU 79	0.28	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1703	-37131	143281	SLV 11	3.86	Si
fin.	2	641	70209	143281	SLV 11	2.04	Si
ini.	2	-1703	-37131	143281	SLV 12	3.86	Si
fin.	2	641	70209	143281	SLV 12	2.04	Si
ini.	2	2716	69658	143281	SLV 1	2.06	Si
fin.	2	-902	-70219	143281	SLV 1	2.04	Si
ini.	2	-2662	-71058	143281	SLV 13	2.02	Si
fin.	2	442	26551	143281	SLV 13	5.4	Si
ini.	2	2716	69658	143281	SLV 2	2.06	Si
fin.	2	-902	-70219	143281	SLV 2	2.04	Si
ini.	2	-3088	-78130	143281	SLV 16	1.83	Si
fin.	2	751	62333	143281	SLV 16	2.3	Si
ini.	2	1331	28658	143281	SLV 5	5	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	-793	-78095	143281	SLV 5	1.83	Si
ini.	2	1331	28658	143281	SLV 6	5	Si
fin.	2	-793	-78095	143281	SLV 6	1.83	Si
ini.	2	-3088	-78130	143281	SLV 15	1.83	Si
fin.	2	751	62333	143281	SLV 15	2.3	Si
ini.	2	-2662	-71058	143281	SLV 14	2.02	Si
fin.	2	442	26551	143281	SLV 14	5.4	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-3088	-78130	4270			2334	874	SLV 15	0.2	No
fin.	2	751	62333	1929			1208	268	SLV 15	0.14	No
ini.	2	2290	62586	-1585			1208	0	SLV 4	0	No
fin.	2	-593	-34437	-3189			1425	560	SLV 4	0.18	No
ini.	2	1331	28658	-1040			1208	0	SLV 5	0	No
fin.	2	-793	-78095	-2281			1497	591	SLV 5	0.26	No
ini.	2	2716	69658	-2279			1208	0	SLV 2	0	No
fin.	2	-902	-70219	-3597			1537	608	SLV 2	0.17	No
ini.	2	2290	62586	-1585			1208	0	SLV 3	0	No
fin.	2	-593	-34437	-3189			1425	560	SLV 3	0.18	No
ini.	2	-2662	-71058	3576			2179	828	SLV 14	0.23	No
fin.	2	442	26551	1522			1208	357	SLV 14	0.23	No
ini.	2	-3088	-78130	4270			2334	874	SLV 16	0.2	No
fin.	2	751	62333	1929			1208	268	SLV 16	0.14	No
ini.	2	2716	69658	-2279			1208	0	SLV 1	0	No
fin.	2	-902	-70219	-3597			1537	608	SLV 1	0.17	No
ini.	2	-2662	-71058	3576			2179	828	SLV 13	0.23	No
fin.	2	442	26551	1522			1208	357	SLV 13	0.23	No
ini.	2	1331	28658	-1040			1208	0	SLV 6	0	No
fin.	2	-793	-78095	-2281			1497	591	SLV 6	0.26	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.834	SLV 15	Si
V_SLV	0	SLV 1	No
PF_SLU	7.221	SLU 79	Si
V_SLU	0.195	SLU 77	No

## Trave di accoppiamento 140

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-550.8	-335.9	834	1034	200	-600.8	-335.9	834	1034	200	50	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-895	65299	568235	SLU 80	8.7	Si
fin.	3	-608	46870	568235	SLU 80	12.12	Si
ini.	3	-948	68650	568235	SLU 81	8.28	Si
fin.	3	-659	44014	568235	SLU 81	12.91	Si
ini.	3	-793	70581	568235	SLU 77	8.05	Si
fin.	3	-491	54077	568235	SLU 77	10.51	Si
ini.	3	-914	66308	568235	SLU 78	8.57	Si
fin.	3	-628	47055	568235	SLU 78	12.08	Si
ini.	3	-1069	64376	568235	SLU 82	8.83	Si
fin.	3	-797	36992	568235	SLU 82	15.36	Si
ini.	3	-694	63654	568235	SLU 41	8.93	Si
fin.	3	-419	44838	568235	SLU 41	12.67	Si
ini.	3	-867	67787	568235	SLU 74	8.38	Si
fin.	3	-583	48024	568235	SLU 74	11.83	Si
ini.	3	-774	69573	568235	SLU 79	8.17	Si
fin.	3	-471	53892	568235	SLU 79	10.54	Si
ini.	3	-874	71445	568235	SLU 83	7.95	Si
fin.	3	-567	50067	568235	SLU 83	11.35	Si
ini.	3	-995	67171	568235	SLU 84	8.46	Si
fin.	3	-704	43045	568235	SLU 84	13.2	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-774	69573	-1124			2466	965	SLU 79	0.86	No
fin.	3	-471	53892	158			2345	908	SLU 79	5.73	Si
ini.	3	-995	67171	-1233			2555	1005	SLU 84	0.82	No
fin.	3	-704	43045	-69			2438	952	SLU 84	13.72	Si
ini.	3	-874	71445	-1239			2506	983	SLU 83	0.79	No
fin.	3	-567	50067	19			2383	927	SLU 83	48.24	Si
ini.	3	-793	70581	-1149			2474	969	SLU 77	0.84	No
fin.	3	-491	54077	168			2353	912	SLU 77	5.44	Si
ini.	3	-1069	64376	-1244			2584	1018	SLU 82	0.82	No
fin.	3	-797	36992	-140			2475	969	SLU 82	6.91	Si



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-867	67787	-1160			2504	982	SLU 74	0.85	No
fin.	3	-583	48024	97			2390	930	SLU 74	9.6	Si
ini.	3	-769	60860	-1117			2464	964	SLU 39	0.86	No
fin.	3	-511	38785	-120			2361	916	SLU 39	7.62	Si
ini.	3	-948	68650	-1250			2536	997	SLU 81	0.8	No
fin.	3	-659	44014	-52			2420	944	SLU 81	18.29	Si
ini.	3	-914	66308	-1143			2522	991	SLU 78	0.87	No
fin.	3	-628	47055	79			2408	938	SLU 78	11.87	Si
ini.	3	-694	63654	-1106			2434	951	SLU 41	0.86	No
fin.	3	-419	44838	-49			2324	898	SLU 41	18.18	Si

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	886	-112981	852353	SLV 14	7.54	Si
fin.	2	226	103352	852353	SLV 14	8.25	Si
ini.	2	1091	-79844	852353	SLV 15	10.68	Si
fin.	2	867	124988	852353	SLV 15	6.82	Si
ini.	2	-2230	196922	852353	SLV 4	4.33	Si
fin.	2	-1224	-46953	852353	SLV 4	18.15	Si
ini.	2	-2230	196922	852353	SLV 3	4.33	Si
fin.	2	-1224	-46953	852353	SLV 3	18.15	Si
ini.	2	1091	-79844	852353	SLV 16	10.68	Si
fin.	2	867	124988	852353	SLV 16	6.82	Si
ini.	2	-2434	163785	852353	SLV 2	5.2	Si
fin.	2	-1866	-68588	852353	SLV 2	12.43	Si
ini.	2	-830	138714	852353	SLV 7	6.14	Si
fin.	2	256	38469	852353	SLV 7	22.16	Si
ini.	2	-2434	163785	852353	SLV 1	5.2	Si
fin.	2	-1866	-68588	852353	SLV 1	12.43	Si
ini.	2	886	-112981	852353	SLV 13	7.54	Si
fin.	2	226	103352	852353	SLV 13	8.25	Si
ini.	2	-830	138714	852353	SLV 8	6.14	Si
fin.	2	256	38469	852353	SLV 8	22.16	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1091	-79844	4048			3235	951	SLV 15	0.23	No
fin.	2	867	124988	5704			3235	1011	SLV 15	0.18	No
ini.	2	1091	-79844	4048			3235	951	SLV 16	0.23	No
fin.	2	867	124988	5704			3235	1011	SLV 16	0.18	No
ini.	2	886	-112981	5741			3235	1006	SLV 14	0.18	No
fin.	2	226	103352	7064			3235	1167	SLV 14	0.17	No
ini.	2	-2230	196922	-7202			4127	1632	SLV 4	0.23	No
fin.	2	-1224	-46953	-6860			3725	1460	SLV 4	0.21	No
ini.	2	-830	138714	-5240			3567	1386	SLV 8	0.26	No
fin.	2	256	38469	-4049			3235	1160	SLV 8	0.29	No
ini.	2	-2230	196922	-7202			4127	1632	SLV 3	0.23	No
fin.	2	-1224	-46953	-6860			3725	1460	SLV 3	0.21	No
ini.	2	-830	138714	-5240			3567	1386	SLV 7	0.26	No
fin.	2	256	38469	-4049			3235	1160	SLV 7	0.29	No
ini.	2	-2434	163785	-5510			4209	1665	SLV 1	0.3	No
fin.	2	-1866	-68588	-5499			3981	1572	SLV 1	0.29	No
ini.	2	-2434	163785	-5510			4209	1665	SLV 2	0.3	No
fin.	2	-1866	-68588	-5499			3981	1572	SLV 2	0.29	No
ini.	2	886	-112981	5741			3235	1006	SLV 13	0.18	No
fin.	2	226	103352	7064			3235	1167	SLV 13	0.17	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	4.328	SLV 3	Si
V_SLV	0.165	SLV 13	No
PF_SLU	7.954	SLU 83	Si
V_SLU	0.794	SLU 83	No

## Trave di accoppiamento 141

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-550.8	-335.9	1114	1186	72	-600.8	-335.9	1114	1186	72	50	28	30000

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-141	3280	73643	SLU 56	22.45	Si
fin.	3	-287	-9565	73643	SLU 56	7.7	Si
ini.	3	-195	3773	73643	SLU 77	19.52	Si
fin.	3	-362	-10929	73643	SLU 77	6.74	Si
ini.	3	-163	2921	73643	SLU 58	25.22	Si
fin.	3	-306	-9633	73643	SLU 58	7.64	Si
ini.	3	-218	2887	73643	SLU 37	25.51	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	-374	-10306	73643	SLU 37	7.15	Si
ini.	3	-196	3246	73643	SLU 35	22.69	Si
fin.	3	-355	-10238	73643	SLU 35	7.19	Si
ini.	3	-145	2586	73643	SLU 69	28.48	Si
fin.	3	-283	-9410	73643	SLU 69	7.83	Si
ini.	3	-217	3414	73643	SLU 79	21.57	Si
fin.	3	-381	-10997	73643	SLU 79	6.7	Si
ini.	3	-187	3818	73643	SLU 80	19.29	Si
fin.	3	-339	-9298	73643	SLU 80	7.92	Si
ini.	3	-208	4480	73643	SLU 83	16.44	Si
fin.	3	-360	-9867	73643	SLU 83	7.46	Si
ini.	3	-167	2226	73643	SLU 71	33.08	Si
fin.	3	-301	-9478	73643	SLU 71	7.77	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-178	4884	146			848	329	SLU 84	2.25	Si
fin.	3	-318	-8167	-1332			904	355	SLU 84	0.27	No
ini.	3	-141	3280	125			833	321	SLU 56	2.56	Si
fin.	3	-287	-9565	-1282			891	349	SLU 56	0.27	No
ini.	3	-165	4177	134			842	326	SLU 78	2.44	Si
fin.	3	-320	-9229	-1362			905	355	SLU 78	0.26	No
ini.	3	-135	4734	164			831	320	SLU 75	1.95	Si
fin.	3	-265	-7448	-1291			883	345	SLU 75	0.27	No
ini.	3	-187	3818	128			851	330	SLU 80	2.59	Si
fin.	3	-339	-9298	-1323			912	358	SLU 80	0.27	No
ini.	3	-208	4480	133			860	334	SLU 83	2.51	Si
fin.	3	-360	-9867	-1415			920	362	SLU 83	0.26	No
ini.	3	-165	4330	151			842	326	SLU 74	2.15	Si
fin.	3	-307	-9147	-1375			899	353	SLU 74	0.26	No
ini.	3	-217	3414	114			863	336	SLU 79	2.93	Si
fin.	3	-381	-10997	-1406			929	366	SLU 79	0.26	No
ini.	3	-195	3773	121			854	332	SLU 77	2.75	Si
fin.	3	-362	-10929	-1446			921	362	SLU 77	0.25	No
ini.	3	-179	5037	164			848	329	SLU 81	2	Si
fin.	3	-305	-8086	-1344			898	352	SLU 81	0.26	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1048	26280	110465	SLD 2	4.2	Si
fin.	2	806	1704	110465	SLD 2	64.84	Si
ini.	2	-2745	-52163	110465	SLV 16	2.12	Si
fin.	2	-2406	-19695	110465	SLV 16	5.61	Si
ini.	2	-2374	-51324	110465	SLV 14	2.15	Si
fin.	2	-2037	-10524	110465	SLV 14	10.5	Si
ini.	2	1048	26280	110465	SLD 1	4.2	Si
fin.	2	806	1704	110465	SLD 1	64.84	Si
ini.	2	2203	56924	110465	SLV 3	1.94	Si
fin.	2	1730	1155	110465	SLV 3	95.68	Si
ini.	2	2203	56924	110465	SLV 4	1.94	Si
fin.	2	1730	1155	110465	SLV 4	95.68	Si
ini.	2	2574	57763	110465	SLV 1	1.91	Si
fin.	2	2100	10325	110465	SLV 1	10.7	Si
ini.	2	-2745	-52163	110465	SLV 15	2.12	Si
fin.	2	-2406	-19695	110465	SLV 15	5.61	Si
ini.	2	-2374	-51324	110465	SLV 13	2.15	Si
fin.	2	-2037	-10524	110465	SLV 13	10.5	Si
ini.	2	2574	57763	110465	SLV 2	1.91	Si
fin.	2	2100	10325	110465	SLV 2	10.7	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1275	20561	877			1165	0	SLV 5	0	No
fin.	2	1083	13728	-69			1165	0	SLV 5	0	No
ini.	2	1275	20561	877			1165	0	SLV 6	0	No
fin.	2	1083	13728	-69			1165	0	SLV 6	0	No
ini.	2	2574	57763	-710			1165	0	SLV 2	0	No
fin.	2	2100	10325	-1358			1165	0	SLV 2	0	No
ini.	2	1048	26280	-224			1165	0	SLD 1	0	No
fin.	2	806	1704	-1068			1165	196	SLD 1	0.18	No
ini.	2	892	25935	-491			1165	149	SLD 4	0.3	No
fin.	2	652	-2127	-1323			1165	261	SLD 4	0.2	No
ini.	2	1048	26280	-224			1165	0	SLD 2	0	No
fin.	2	806	1704	-1068			1165	196	SLD 2	0.18	No
ini.	2	2203	56924	-1360			1165	0	SLV 4	0	No
fin.	2	1730	1155	-1971			1165	0	SLV 4	0	No
ini.	2	892	25935	-491			1165	149	SLD 3	0.3	No
fin.	2	652	-2127	-1323			1165	261	SLD 3	0.2	No
ini.	2	2574	57763	-710			1165	0	SLV 1	0	No
fin.	2	2100	10325	-1358			1165	0	SLV 1	0	No
ini.	2	2203	56924	-1360			1165	0	SLV 3	0	No
fin.	2	1730	1155	-1971			1165	0	SLV 3	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.912	SLV 1	Si
V_SLV	0	SLD 1	No
PF_SLU	6.697	SLU 79	Si
V_SLU	0.251	SLU 77	No



## Trave di accoppiamento 142

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-228.3	-335.9	834	924	90	-318.3	-335.9	834	924	90	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	31	-32973	115068	SLU 82	3.49	Si
fin.	3	-1439	44798	115068	SLU 82	2.57	Si
ini.	3	29	-27611	115068	SLU 74	4.17	Si
fin.	3	-1225	40745	115068	SLU 74	2.82	Si
ini.	3	25	-31248	115068	SLU 78	3.68	Si
fin.	3	-1378	43637	115068	SLU 78	2.64	Si
ini.	3	7	-33531	115068	SLU 76	3.43	Si
fin.	3	-1490	44855	115068	SLU 76	2.57	Si
ini.	3	22	-32456	115068	SLU 84	3.55	Si
fin.	3	-1429	44660	115068	SLU 84	2.58	Si
ini.	3	-4	-30246	115068	SLU 80	3.8	Si
fin.	3	-1372	42698	115068	SLU 80	2.69	Si
ini.	3	16	-34048	115068	SLU 73	3.38	Si
fin.	3	-1500	44993	115068	SLU 73	2.56	Si
ini.	3	33	-31765	115068	SLU 75	3.62	Si
fin.	3	-1388	43774	115068	SLU 75	2.63	Si
ini.	3	27	-28819	115068	SLU 81	3.99	Si
fin.	3	-1276	41769	115068	SLU 81	2.75	Si
ini.	3	19	-28303	115068	SLU 83	4.07	Si
fin.	3	-1266	41631	115068	SLU 83	2.76	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	16	-34048	1084			970	362	SLU 73	0.33	No
fin.	3	-1500	44993	2424			1570	610	SLU 73	0.25	No
ini.	3	21	-27095	718			970	361	SLU 77	0.5	No
fin.	3	-1215	40608	2310			1457	571	SLU 77	0.25	No
ini.	3	22	-32456	987			970	360	SLU 84	0.37	No
fin.	3	-1429	44660	2434			1542	600	SLU 84	0.25	No
ini.	3	7	-33531	1033			970	364	SLU 76	0.35	No
fin.	3	-1490	44855	2451			1567	608	SLU 76	0.25	No
ini.	3	31	-32973	1037			970	358	SLU 82	0.35	No
fin.	3	-1439	44798	2408			1546	602	SLU 82	0.25	No
ini.	3	-4	-30246	869			972	366	SLU 80	0.42	No
fin.	3	-1372	42698	2386			1519	593	SLU 80	0.25	No
ini.	3	19	-28303	816			970	361	SLU 83	0.44	No
fin.	3	-1266	41631	2297			1477	578	SLU 83	0.25	No
ini.	3	25	-31248	889			970	360	SLU 78	0.4	No
fin.	3	-1378	43637	2448			1522	593	SLU 78	0.24	No
ini.	3	29	-27611	769			970	359	SLU 74	0.47	No
fin.	3	-1225	40745	2284			1461	573	SLU 74	0.25	No
ini.	3	33	-31765	940			970	358	SLU 75	0.38	No
fin.	3	-1388	43774	2422			1525	595	SLU 75	0.25	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	719	-70088	172601	SLV 9	2.46	Si
fin.	2	-2435	67717	172601	SLV 9	2.55	Si
ini.	2	1667	-126022	172601	SLV 13	1.37	Si
fin.	2	-3629	107534	172601	SLV 13	1.61	Si
ini.	2	1511	-113021	172601	SLV 15	1.53	Si
fin.	2	-3141	96887	172601	SLV 15	1.78	Si
ini.	2	-1718	90129	172601	SLV 3	1.92	Si
fin.	2	1896	-52365	172601	SLV 3	3.3	Si
ini.	2	-1562	77127	172601	SLV 1	2.24	Si
fin.	2	1408	-41718	172601	SLV 1	4.14	Si
ini.	2	-1718	90129	172601	SLV 4	1.92	Si
fin.	2	1896	-52365	172601	SLV 4	3.3	Si
ini.	2	1667	-126022	172601	SLV 14	1.37	Si
fin.	2	-3629	107534	172601	SLV 14	1.61	Si
ini.	2	1511	-113021	172601	SLV 16	1.53	Si
fin.	2	-3141	96887	172601	SLV 16	1.78	Si
ini.	2	-1562	77127	172601	SLV 2	2.24	Si
fin.	2	1408	-41718	172601	SLV 2	4.14	Si
ini.	2	719	-70088	172601	SLV 10	2.46	Si
fin.	2	-2435	67717	172601	SLV 10	2.55	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-1718	90129	-3366			2143	842	SLV 4	0.25	No
fin.	2	1896	-52365	-2685			1456	0	SLV 4	0	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1667	-126022	4377			1456	0	SLV 14	0	No
fin.	2	-3629	107534	5789			2907	1079	SLV 14	0.19	No
ini.	2	1511	-113021	4455			1456	0	SLV 15	0	No
fin.	2	-3141	96887	5264			2712	1024	SLV 15	0.19	No
ini.	2	1667	-126022	4377			1456	0	SLV 13	0	No
fin.	2	-3629	107534	5789			2907	1079	SLV 13	0.19	No
ini.	2	-1562	77127	-3444			2080	820	SLV 2	0.24	No
fin.	2	1408	-41718	-2160			1456	0	SLV 2	0	No
ini.	2	696	-63931	2160			1456	366	SLD 13	0.17	No
fin.	2	-2040	61619	3358			2272	887	SLD 13	0.26	No
ini.	2	-1718	90129	-3366			2143	842	SLV 3	0.25	No
fin.	2	1896	-52365	-2685			1456	0	SLV 3	0	No
ini.	2	1511	-113021	4455			1456	0	SLV 16	0	No
fin.	2	-3141	96887	5264			2712	1024	SLV 16	0.19	No
ini.	2	696	-63931	2160			1456	366	SLD 14	0.17	No
fin.	2	-2040	61619	3358			2272	887	SLD 14	0.26	No
ini.	2	-1562	77127	-3444			2080	820	SLV 1	0.24	No
fin.	2	1408	-41718	-2160			1456	0	SLV 1	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.37	SLV 13	Si
V_SLV	0	SLV 1	No
PF_SLU	2.557	SLU 73	Si
V_SLU	0.242	SLU 78	No

## Trave di accoppiamento 143

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-228.3	-335.9	1104	1186	82	-318.3	-335.9	1104	1186	82	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1097	-36337	95520	SLU 81	2.63	Si
fin.	3	-42	9265	95520	SLU 81	10.31	Si
ini.	3	-991	-35364	95520	SLU 74	2.7	Si
fin.	3	59	8600	95520	SLU 74	11.11	Si
ini.	3	-1120	-39428	95520	SLU 76	2.42	Si
fin.	3	115	12257	95520	SLU 76	7.79	Si
ini.	3	-1163	-39435	95520	SLU 73	2.42	Si
fin.	3	52	12851	95520	SLU 73	7.43	Si
ini.	3	-1054	-36330	95520	SLU 83	2.63	Si
fin.	3	21	8671	95520	SLU 83	11.02	Si
ini.	3	-1179	-39351	95520	SLU 82	2.43	Si
fin.	3	5	11738	95520	SLU 82	8.14	Si
ini.	3	-1074	-38378	95520	SLU 75	2.49	Si
fin.	3	106	11072	95520	SLU 75	8.63	Si
ini.	3	-1022	-37412	95520	SLU 80	2.55	Si
fin.	3	148	10014	95520	SLU 80	9.54	Si
ini.	3	-1136	-39344	95520	SLU 84	2.43	Si
fin.	3	68	11143	95520	SLU 84	8.57	Si
ini.	3	-1031	-38371	95520	SLU 78	2.49	Si
fin.	3	169	10478	95520	SLU 78	9.12	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1136	-39344	2340			1220	478	SLU 84	0.2	No
fin.	3	68	11143	-273			806	289	SLU 84	1.06	Si
ini.	3	-1179	-39351	2320			1235	483	SLU 82	0.21	No
fin.	3	5	11738	-247			806	302	SLU 82	1.22	Si
ini.	3	-1022	-37412	2251			1178	463	SLU 80	0.21	No
fin.	3	148	10014	-280			806	272	SLU 80	0.97	No
ini.	3	-1120	-39428	2306			1214	476	SLU 76	0.21	No
fin.	3	115	12257	-165			806	279	SLU 76	1.69	Si
ini.	3	-1031	-38371	2309			1181	464	SLU 78	0.2	No
fin.	3	169	10478	-287			806	268	SLU 78	0.93	No
ini.	3	-948	-35357	2197			1151	454	SLU 77	0.21	No
fin.	3	122	8005	-421			806	278	SLU 77	0.66	No
ini.	3	-1163	-39435	2286			1230	481	SLU 73	0.21	No
fin.	3	52	12851	-139			806	293	SLU 73	2.1	Si
ini.	3	-1074	-38378	2289			1197	470	SLU 75	0.21	No
fin.	3	106	11072	-262			806	281	SLU 75	1.08	Si
ini.	3	-991	-35364	2176			1167	459	SLU 74	0.21	No
fin.	3	59	8600	-396			806	291	SLU 74	0.74	No
ini.	3	-1054	-36330	2227			1190	467	SLU 83	0.21	No
fin.	3	21	8671	-407			806	299	SLU 83	0.73	No





## Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1805	-90066	143281	SLV 13	1.59	Si
fin.	2	1486	64492	143281	SLV 13	2.22	Si
ini.	2	-1574	-80150	143281	SLV 15	1.79	Si
fin.	2	1250	55404	143281	SLV 15	2.59	Si
ini.	2	456	43712	143281	SLV 3	3.28	Si
fin.	2	-1495	-53049	143281	SLV 3	2.7	Si
ini.	2	-1574	-80150	143281	SLV 16	1.79	Si
fin.	2	1250	55404	143281	SLV 16	2.59	Si
ini.	2	-1805	-90066	143281	SLV 14	1.59	Si
fin.	2	1486	64492	143281	SLV 14	2.22	Si
ini.	2	-1365	-58283	143281	SLV 10	2.46	Si
fin.	2	802	37136	143281	SLV 10	3.86	Si
ini.	2	-1365	-58283	143281	SLV 9	2.46	Si
fin.	2	802	37136	143281	SLV 9	3.86	Si
ini.	2	-1153	-51649	143281	SLD 14	2.77	Si
fin.	2	634	30768	143281	SLD 14	4.66	Si
ini.	2	456	43712	143281	SLV 4	3.28	Si
fin.	2	-1495	-53049	143281	SLV 4	2.7	Si
ini.	2	-1153	-51649	143281	SLD 13	2.77	Si
fin.	2	634	30768	143281	SLD 13	4.66	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-1153	-51649	2523			1629	644	SLD 13	0.26	No
fin.	2	634	30768	908			1208	304	SLD 13	0.33	No
ini.	2	-1365	-58283	2856			1706	673	SLV 9	0.24	No
fin.	2	802	37136	1379			1208	250	SLV 9	0.18	No
ini.	2	-1805	-90066	4000			1866	729	SLV 13	0.18	No
fin.	2	1486	64492	2479			1208	0	SLV 13	0	No
ini.	2	456	43712	-1143			1208	353	SLV 3	0.31	No
fin.	2	-1495	-53049	-2989			1753	690	SLV 3	0.23	No
ini.	2	-1574	-80150	3568			1782	700	SLV 15	0.2	No
fin.	2	1250	55404	1942			1208	0	SLV 15	0	No
ini.	2	-1365	-58283	2856			1706	673	SLV 10	0.24	No
fin.	2	802	37136	1379			1208	250	SLV 10	0.18	No
ini.	2	-1805	-90066	4000			1866	729	SLV 14	0.18	No
fin.	2	1486	64492	2479			1208	0	SLV 14	0	No
ini.	2	456	43712	-1143			1208	353	SLV 4	0.31	No
fin.	2	-1495	-53049	-2989			1753	690	SLV 4	0.23	No
ini.	2	-1153	-51649	2523			1629	644	SLD 14	0.26	No
fin.	2	634	30768	908			1208	304	SLD 14	0.33	No
ini.	2	-1574	-80150	3568			1782	700	SLV 16	0.2	No
fin.	2	1250	55404	1942			1208	0	SLV 16	0	No

## Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.591	SLV 13	Si
V_SLV	0	SLV 13	No
PF_SLU	2.422	SLU 73	Si
V_SLU	0.201	SLU 78	No

## Trave di accoppiamento 144

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-206.3	595.1	834	924	90	-296.3	595.1	834	924	90	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-42	-1122	115068	SLU 82	102.55	Si
fin.	3	-436	11423	115068	SLU 82	10.07	Si
ini.	3	-64	-785	115068	SLU 52	146.6	Si
fin.	3	-425	10771	115068	SLU 52	10.68	Si
ini.	3	-46	-804	115068	SLU 81	143.14	Si
fin.	3	-428	11144	115068	SLU 81	10.33	Si
ini.	3	-20	-1306	115068	SLU 40	88.1	Si
fin.	3	-357	9549	115068	SLU 40	12.05	Si
ini.	3	-36	-978	115068	SLU 73	117.64	Si
fin.	3	-397	10574	115068	SLU 73	10.88	Si
ini.	3	-70	-929	115068	SLU 61	123.89	Si
fin.	3	-464	11620	115068	SLU 61	9.9	Si
ini.	3	-52	-795	115068	SLU 18	144.82	Si
fin.	3	-377	9467	115068	SLU 18	12.15	Si
ini.	3	-48	-1113	115068	SLU 19	103.41	Si
fin.	3	-385	9746	115068	SLU 19	11.81	Si
ini.	3	-24	-988	115068	SLU 39	116.49	Si
fin.	3	-350	9270	115068	SLU 39	12.41	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-74	-611	115068	SLU 60	188.45	Si
fin.	3	-456	11341	115068	SLU 60	10.15	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	72	2607	-652			970	349	SLU 48	0.54	No
fin.	3	141	-1107	315			970	333	SLU 48	1.06	Si
ini.	3	76	2289	-622			970	348	SLU 49	0.56	No
fin.	3	133	-829	314			970	335	SLU 49	1.07	Si
ini.	3	109	2407	-646			970	341	SLU 72	0.53	No
fin.	3	212	-2342	260			970	316	SLU 72	1.21	Si
ini.	3	104	2095	-635			970	342	SLU 70	0.54	No
fin.	3	161	-1026	325			970	328	SLU 70	1.01	Si
ini.	3	100	2414	-666			970	343	SLU 69	0.52	No
fin.	3	168	-1304	325			970	327	SLU 69	1	Si
ini.	3	77	2919	-662			970	348	SLU 50	0.53	No
fin.	3	192	-2424	250			970	321	SLU 50	1.28	Si
ini.	3	97	1895	-599			970	343	SLU 79	0.57	No
fin.	3	117	-208	347			970	339	SLU 79	0.98	No
ini.	3	127	2541	-593			970	336	SLU 29	0.57	No
fin.	3	298	-4495	127			970	293	SLU 29	2.31	Si
ini.	3	81	2600	-632			970	347	SLU 51	0.55	No
fin.	3	184	-2145	249			970	323	SLU 51	1.29	Si
ini.	3	105	2725	-676			970	342	SLU 71	0.51	No
fin.	3	220	-2621	261			970	314	SLU 71	1.2	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2655	-90626	172601	SLV 13	1.9	Si
fin.	2	-716	107355	172601	SLV 13	1.61	Si
ini.	2	-3369	107286	172601	SLV 1	1.61	Si
fin.	2	212	-112407	172601	SLV 1	1.54	Si
ini.	2	3297	-107087	172601	SLV 16	1.61	Si
fin.	2	-716	125714	172601	SLV 16	1.37	Si
ini.	2	-2727	90825	172601	SLV 3	1.9	Si
fin.	2	212	-94048	172601	SLV 3	1.84	Si
ini.	2	3297	-107087	172601	SLV 15	1.61	Si
fin.	2	-716	125714	172601	SLV 15	1.37	Si
ini.	2	-3369	107286	172601	SLV 2	1.61	Si
fin.	2	212	-112407	172601	SLV 2	1.54	Si
ini.	2	1938	-57021	172601	SLV 11	3.03	Si
fin.	2	-390	70216	172601	SLV 11	2.46	Si
ini.	2	1938	-57021	172601	SLV 12	3.03	Si
fin.	2	-390	70216	172601	SLV 12	2.46	Si
ini.	2	-2727	90825	172601	SLV 4	1.9	Si
fin.	2	212	-94048	172601	SLV 4	1.84	Si
ini.	2	2655	-90626	172601	SLV 14	1.9	Si
fin.	2	-716	107355	172601	SLV 14	1.61	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1938	-57021	870			1456	0	SLV 12	0	No
fin.	2	-390	70216	2339			1612	627	SLV 12	0.27	No
ini.	2	1114	-38706	1474			1456	186	SLD 13	0.13	No
fin.	2	-451	49714	2124			1636	638	SLD 13	0.3	No
ini.	2	2655	-90626	3816			1456	0	SLV 13	0	No
fin.	2	-716	107355	4317			1742	686	SLV 13	0.16	No
ini.	2	1938	-57021	870			1456	0	SLV 11	0	No
fin.	2	-390	70216	2339			1612	627	SLV 11	0.27	No
ini.	2	3297	-107087	3771			1456	0	SLV 16	0	No
fin.	2	-716	125714	4704			1742	686	SLV 16	0.15	No
ini.	2	3297	-107087	3771			1456	0	SLV 15	0	No
fin.	2	-716	125714	4704			1742	686	SLV 15	0.15	No
ini.	2	1388	-45671	1454			1456	0	SLD 16	0	No
fin.	2	-449	57513	2288			1635	638	SLD 16	0.28	No
ini.	2	2655	-90626	3816			1456	0	SLV 14	0	No
fin.	2	-716	107355	4317			1742	686	SLV 14	0.16	No
ini.	2	1388	-45671	1454			1456	0	SLD 15	0	No
fin.	2	-449	57513	2288			1635	638	SLD 15	0.28	No
ini.	2	1114	-38706	1474			1456	186	SLD 14	0.13	No
fin.	2	-451	49714	2124			1636	638	SLD 14	0.3	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.373	SLV 15	Si
V_SLV	0	SLD 15	No
PF_SLU	9.903	SLU 61	Si
V_SLU	0.505	SLU 71	No

## Trave di accoppiamento 145

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-206.3	595.1	1104	1186	82	-296.3	595.1	1104	1186	82	90	28	30000



## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-378	-13726	95520	SLU 61	6.96	Si
fin.	3	200	2840	95520	SLU 61	33.63	Si
ini.	3	-157	-12811	95520	SLU 75	7.46	Si
fin.	3	419	2833	95520	SLU 75	33.71	Si
ini.	3	-336	-12903	95520	SLU 52	7.4	Si
fin.	3	222	2804	95520	SLU 52	34.07	Si
ini.	3	-345	-14079	95520	SLU 73	6.78	Si
fin.	3	267	3094	95520	SLU 73	30.87	Si
ini.	3	-388	-14902	95520	SLU 82	6.41	Si
fin.	3	245	3130	95520	SLU 82	30.52	Si
ini.	3	-366	-13537	95520	SLU 60	7.06	Si
fin.	3	195	2681	95520	SLU 60	35.63	Si
ini.	3	-174	-12827	95520	SLU 83	7.45	Si
fin.	3	403	2834	95520	SLU 83	33.71	Si
ini.	3	-375	-14712	95520	SLU 81	6.49	Si
fin.	3	239	2971	95520	SLU 81	32.15	Si
ini.	3	-187	-13016	95520	SLU 84	7.34	Si
fin.	3	408	2993	95520	SLU 84	31.91	Si
ini.	3	-345	-12818	95520	SLU 40	7.45	Si
fin.	3	197	2698	95520	SLU 40	35.41	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt <sub>lim</sub>	Comb.	c.s.	Verifica
ini.	3	78	-9992	1424			806	287	SLU 79	0.2	No
fin.	3	586	2554	-943			806	147	SLU 79	0.16	No
ini.	3	197	-7777	1187			806	261	SLU 71	0.22	No
fin.	3	629	2222	-762			806	128	SLU 71	0.17	No
ini.	3	184	-7967	1195			806	264	SLU 72	0.22	No
fin.	3	635	2382	-748			806	125	SLU 72	0.17	No
ini.	3	-145	-12622	1594			858	331	SLU 74	0.21	No
fin.	3	414	2674	-1101			806	206	SLU 74	0.19	No
ini.	3	175	-8522	1253			806	266	SLU 69	0.21	No
fin.	3	621	2205	-829			806	132	SLU 69	0.16	No
ini.	3	44	-10925	1498			806	294	SLU 78	0.2	No
fin.	3	583	2696	-996			806	148	SLU 78	0.15	No
ini.	3	162	-8711	1261			806	269	SLU 70	0.21	No
fin.	3	626	2364	-815			806	129	SLU 70	0.16	No
ini.	3	65	-10181	1433			806	290	SLU 80	0.2	No
fin.	3	591	2714	-929			806	145	SLU 80	0.16	No
ini.	3	-157	-12811	1603			863	333	SLU 75	0.21	No
fin.	3	419	2833	-1087			806	204	SLU 75	0.19	No
ini.	3	56	-10736	1490			806	292	SLU 77	0.2	No
fin.	3	577	2537	-1010			806	150	SLU 77	0.15	No

## Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1595	58611	143281	SLV 2	2.44	Si
fin.	2	-2208	-61232	143281	SLV 2	2.34	Si
ini.	2	1312	47504	143281	SLV 4	3.02	Si
fin.	2	-1745	-50287	143281	SLV 4	2.85	Si
ini.	2	-1692	-66020	143281	SLV 13	2.17	Si
fin.	2	2165	54190	143281	SLV 13	2.64	Si
ini.	2	-1154	-46464	143281	SLV 12	3.08	Si
fin.	2	1638	37508	143281	SLV 12	3.82	Si
ini.	2	-1974	-77127	143281	SLV 15	1.86	Si
fin.	2	2628	65136	143281	SLV 15	2.2	Si
ini.	2	1312	47504	143281	SLV 3	3.02	Si
fin.	2	-1745	-50287	143281	SLV 3	2.85	Si
ini.	2	-1692	-66020	143281	SLV 14	2.17	Si
fin.	2	2165	54190	143281	SLV 14	2.64	Si
ini.	2	-1974	-77127	143281	SLV 16	1.86	Si
fin.	2	2628	65136	143281	SLV 16	2.2	Si
ini.	2	1595	58611	143281	SLV 1	2.44	Si
fin.	2	-2208	-61232	143281	SLV 1	2.34	Si
ini.	2	-1154	-46464	143281	SLV 11	3.08	Si
fin.	2	1638	37508	143281	SLV 11	3.82	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt <sub>lim</sub>	Comb.	c.s.	Verifica
ini.	2	-953	-38259	2550			1556	615	SLD 16	0.24	No
fin.	2	1243	28944	888			1208	0	SLD 16	0	No
ini.	2	-1974	-77127	4490			1928	750	SLV 15	0.17	No
fin.	2	2628	65136	3085			1208	0	SLV 15	0	No
ini.	2	1312	47504	-1658			1208	0	SLV 3	0	No
fin.	2	-1745	-50287	-3953			1844	722	SLV 3	0.18	No
ini.	2	1595	58611	-2282			1208	0	SLV 2	0	No
fin.	2	-2208	-61232	-4587			2013	778	SLV 2	0.17	No
ini.	2	-1154	-46464	3065			1629	644	SLV 12	0.21	No
fin.	2	1638	37508	1361			1208	0	SLV 12	0	No
ini.	2	-1692	-66020	3866			1825	715	SLV 13	0.19	No
fin.	2	2165	54190	-2451			1208	0	SLV 13	0	No
ini.	2	1312	47504	-1658			1208	0	SLV 4	0	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	-1745	-50287	-3953			1844	722	SLV 4	0.18	No
ini.	2	-1154	-46464	3065			1629	644	SLV 11	0.21	No
fin.	2	1638	37508	1361			1208	0	SLV 11	0	No
ini.	2	1595	58611	-2282			1208	0	SLV 1	0	No
fin.	2	-2208	-61232	-4587			2013	778	SLV 1	0.17	No
ini.	2	-1692	-66020	3866			1825	715	SLV 14	0.19	No
fin.	2	2165	54190	2451			1208	0	SLV 14	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.858	SLV 15	Si
V_SLV	0	SLD 15	No
PF_SLU	6.41	SLU 82	Si
V_SLU	0.149	SLU 78	No

## Trave di accoppiamento 146

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2467.8	126.6	1396	1502	106	-2467.8	206.6	1396	1502	106	80	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	4026	14426	159617	SLU 70	11.06	Si
fin.	3	4039	25334	159617	SLU 70	6.3	Si
ini.	3	3439	10821	159617	SLU 50	14.75	Si
fin.	3	3451	23814	159617	SLU 50	6.7	Si
ini.	3	3781	14232	159617	SLU 59	11.22	Si
fin.	3	3793	24333	159617	SLU 59	6.56	Si
ini.	3	3548	9350	159617	SLU 49	17.07	Si
fin.	3	3559	26983	159617	SLU 49	5.92	Si
ini.	3	4103	13633	159617	SLU 72	11.71	Si
fin.	3	4116	27038	159617	SLU 72	5.9	Si
ini.	3	3363	23735	159617	SLU 83	6.72	Si
fin.	3	3372	11054	159617	SLU 83	14.44	Si
ini.	3	2968	6777	159617	SLU 47	23.55	Si
fin.	3	2975	27041	159617	SLU 47	5.9	Si
ini.	3	3446	11853	159617	SLU 68	13.47	Si
fin.	3	3456	25393	159617	SLU 68	6.29	Si
ini.	3	3624	8556	159617	SLU 51	18.65	Si
fin.	3	3636	28686	159617	SLU 51	5.56	Si
ini.	3	3316	7523	159617	SLU 9	21.22	Si
fin.	3	3328	25014	159617	SLU 9	6.38	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	3596	16497	252			1143	0	SLU 58	0	No
fin.	3	3608	19461	-210			1143	0	SLU 58	0	No
ini.	3	3781	14232	340			1143	0	SLU 59	0	No
fin.	3	3793	24333	-120			1143	0	SLU 59	0	No
ini.	3	2290	16124	168			1143	0	SLU 61	0	No
fin.	3	2292	12681	-310			1143	0	SLU 61	0	No
ini.	3	1572	9247	178			1143	0	SLU 1	0	No
fin.	3	1575	10357	-191			1143	0	SLU 1	0	No
ini.	3	2741	17020	161			1143	0	SLU 53	0	No
fin.	3	2747	12865	-311			1143	0	SLU 53	0	No
ini.	3	3520	17290	221			1143	0	SLU 56	0	No
fin.	3	3531	17758	-243			1143	0	SLU 56	0	No
ini.	3	2105	18389	80			1143	0	SLU 60	0	No
fin.	3	2107	7809	-400			1143	0	SLU 60	0	No
ini.	3	3705	15026	309			1143	0	SLU 57	0	No
fin.	3	3716	22629	-153			1143	0	SLU 57	0	No
ini.	3	2925	14756	249			1143	0	SLU 54	0	No
fin.	3	2932	17737	-221			1143	0	SLU 54	0	No
ini.	3	3125	12452	340			1143	0	SLU 55	0	No
fin.	3	3132	22688	-128			1143	0	SLU 55	0	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1144	-47294	239426	SLV 10	5.06	Si
fin.	2	1122	66495	239426	SLV 10	3.6	Si
ini.	2	1827	-34420	239426	SLV 6	6.96	Si
fin.	2	1819	62675	239426	SLV 6	3.82	Si
ini.	2	1827	-34420	239426	SLV 5	6.96	Si
fin.	2	1819	62675	239426	SLV 5	3.82	Si
ini.	2	1681	59057	239426	SLV 11	4.05	Si
fin.	2	1695	-45392	239426	SLV 11	5.27	Si
ini.	2	1144	-47294	239426	SLV 9	5.06	Si
fin.	2	1122	66495	239426	SLV 9	3.6	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2974	49729	239426	SLV 3	4.81	Si
fin.	2	3004	-14508	239426	SLV 3	16.5	Si
ini.	2	2364	71932	239426	SLV 7	3.33	Si
fin.	2	2392	-49212	239426	SLV 7	4.87	Si
ini.	2	2974	49729	239426	SLV 4	4.81	Si
fin.	2	3004	-14508	239426	SLV 4	16.5	Si
ini.	2	2364	71932	239426	SLV 8	3.33	Si
fin.	2	2392	-49212	239426	SLV 8	4.87	Si
ini.	2	1681	59057	239426	SLV 12	4.05	Si
fin.	2	1695	-45392	239426	SLV 12	5.27	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	2364	71932	-1362			1715	0	SLV 8	0	No
fin.	2	2392	-49212	-1742			1715	0	SLV 8	0	No
ini.	2	1681	59057	-1143			1715	0	SLV 11	0	No
fin.	2	1695	-45392	-1506			1715	0	SLV 11	0	No
ini.	2	2202	14727	139			1715	0	SLD 1	0	No
fin.	2	2213	12937	-243			1715	0	SLD 1	0	No
ini.	2	1827	-34420	1382			1715	0	SLV 5	0	No
fin.	2	1819	62675	1005			1715	0	SLV 5	0	No
ini.	2	2974	49729	-657			1715	0	SLV 3	0	No
fin.	2	3004	-14508	-1055			1715	0	SLV 3	0	No
ini.	2	2812	17824	166			1715	0	SLV 1	0	No
fin.	2	2832	19058	-231			1715	0	SLV 1	0	No
ini.	2	1827	-34420	1382			1715	0	SLV 6	0	No
fin.	2	1819	62675	1005			1715	0	SLV 6	0	No
ini.	2	2812	17824	166			1715	0	SLV 2	0	No
fin.	2	2832	19058	-231			1715	0	SLV 2	0	No
ini.	2	2364	71932	-1362			1715	0	SLV 7	0	No
fin.	2	2392	-49212	-1742			1715	0	SLV 7	0	No
ini.	2	2974	49729	-657			1715	0	SLV 4	0	No
fin.	2	3004	-14508	-1055			1715	0	SLV 4	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.329	SLV 7	Si
V_SLV	0	SLD 1	No
PF_SLU	5.564	SLU 51	Si
V_SLU	0	SLU 1	No

## Trave di accoppiamento 147

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2181.3	595.1	1186	1276	90	-2271.3	595.1	1186	1276	90	90	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	742	11278	115068	SLU 37	10.2	Si
fin.	3	1406	-31344	115068	SLU 37	3.67	Si
ini.	3	721	11787	115068	SLU 38	9.76	Si
fin.	3	1397	-31414	115068	SLU 38	3.66	Si
ini.	3	694	13445	115068	SLU 80	8.56	Si
fin.	3	1417	-31876	115068	SLU 80	3.61	Si
ini.	3	677	13054	115068	SLU 77	8.81	Si
fin.	3	1374	-30196	115068	SLU 77	3.81	Si
ini.	3	804	9029	115068	SLU 29	12.74	Si
fin.	3	1413	-30454	115068	SLU 29	3.78	Si
ini.	3	783	9538	115068	SLU 30	12.06	Si
fin.	3	1405	-30523	115068	SLU 30	3.77	Si
ini.	3	777	10688	115068	SLU 71	10.77	Si
fin.	3	1434	-30916	115068	SLU 71	3.72	Si
ini.	3	715	12936	115068	SLU 79	8.9	Si
fin.	3	1426	-31807	115068	SLU 79	3.62	Si
ini.	3	756	11197	115068	SLU 72	10.28	Si
fin.	3	1425	-30985	115068	SLU 72	3.71	Si
ini.	3	656	13563	115068	SLU 78	8.48	Si
fin.	3	1365	-30265	115068	SLU 78	3.8	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	683	11904	-560			970	158	SLU 36	0.28	No
fin.	3	1345	-29803	-1018			970	0	SLU 36	0	No
ini.	3	721	11787	-500			970	137	SLU 38	0.27	No
fin.	3	1397	-31414	-1102			970	0	SLU 38	0	No
ini.	3	624	9386	-691			970	185	SLU 49	0.27	No
fin.	3	1175	-24543	-649			970	0	SLU 49	0	No
ini.	3	341	14215	-608			970	281	SLU 83	0.46	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	961	-22908	-881			970	0	SLU 83	0	No
ini.	3	645	8877	-677			970	176	SLU 48	0.26	No
fin.	3	1183	-24474	-635			970	0	SLU 48	0	No
ini.	3	742	11278	-486			970	125	SLU 37	0.26	No
fin.	3	1406	-31344	-1088			970	0	SLU 37	0	No
ini.	3	684	8760	-618			970	158	SLU 50	0.26	No
fin.	3	1235	-26084	-718			970	0	SLU 50	0	No
ini.	3	369	12556	-473			970	274	SLU 41	0.58	No
fin.	3	941	-22446	-891			970	0	SLU 41	0	No
ini.	3	347	13065	-487			970	280	SLU 42	0.57	No
fin.	3	933	-22515	-905			970	0	SLU 42	0	No
ini.	3	704	11395	-545			970	147	SLU 35	0.27	No
fin.	3	1354	-29734	-1004			970	0	SLU 35	0	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1297	36911	172601	SLV 7	4.68	Si
fin.	2	1156	-35601	172601	SLV 7	4.85	Si
ini.	2	-812	25574	172601	SLD 4	6.75	Si
fin.	2	913	-25383	172601	SLD 4	6.8	Si
ini.	2	-1454	37384	172601	SLV 1	4.62	Si
fin.	2	1400	-37691	172601	SLV 1	4.58	Si
ini.	2	1988	-30240	172601	SLV 13	5.71	Si
fin.	2	-975	30319	172601	SLV 13	5.69	Si
ini.	2	1988	-30240	172601	SLV 14	5.71	Si
fin.	2	-975	30319	172601	SLV 14	5.69	Si
ini.	2	-1937	48089	172601	SLV 4	3.59	Si
fin.	2	1671	-47713	172601	SLV 4	3.62	Si
ini.	2	-1454	37384	172601	SLV 2	4.62	Si
fin.	2	1400	-37691	172601	SLV 2	4.58	Si
ini.	2	-1297	36911	172601	SLV 8	4.68	Si
fin.	2	1156	-35601	172601	SLV 8	4.85	Si
ini.	2	-1937	48089	172601	SLV 3	3.59	Si
fin.	2	1671	-47713	172601	SLV 3	3.62	Si
ini.	2	-812	25574	172601	SLD 3	6.75	Si
fin.	2	913	-25383	172601	SLD 3	6.8	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-1454	37384	-2128			2037	804	SLV 1	0.38	No
fin.	2	1400	-37691	-2320			1456	0	SLV 1	0	No
ini.	2	1988	-30240	1856			1456	0	SLV 14	0	No
fin.	2	-975	30319	2252			1846	730	SLV 14	0.32	No
ini.	2	1347	-19061	1241			1456	0	SLV 9	0	No
fin.	2	-460	18207	1319			1640	640	SLV 9	0.49	No
ini.	2	-1937	48089	-2797			2231	873	SLV 3	0.31	No
fin.	2	1671	-47713	-2892			1456	0	SLV 3	0	No
ini.	2	1504	-19534	1188			1456	0	SLV 16	0	No
fin.	2	-704	20297	1681			1737	684	SLV 16	0.41	No
ini.	2	-1937	48089	-2797			2231	873	SLV 4	0.31	No
fin.	2	1671	-47713	-2892			1456	0	SLV 4	0	No
ini.	2	1347	-19061	1241			1456	0	SLV 10	0	No
fin.	2	-460	18207	1319			1640	640	SLV 10	0.49	No
ini.	2	-1454	37384	-2128			2037	804	SLV 2	0.38	No
fin.	2	1400	-37691	-2320			1456	0	SLV 2	0	No
ini.	2	1988	-30240	1856			1456	0	SLV 13	0	No
fin.	2	-975	30319	2252			1846	730	SLV 13	0.32	No
ini.	2	1504	-19534	1188			1456	0	SLV 15	0	No
fin.	2	-704	20297	1681			1737	684	SLV 15	0.41	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.589	SLV 3	Si
V_SLV	0	SLV 1	No
PF_SLU	3.61	SLU 80	Si
V_SLU	0	SLU 6	No

### Trave di accoppiamento 148

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2181.3	595.1	1456	1502	46	-2271.3	595.1	1456	1502	46	90	28	30000

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb_	fhk	fvk0	fkhmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-189	26952	30060	SLU 72	1.12	Si
fin.	3	-201	-27826	30060	SLU 72	1.08	Si
ini.	3	-156	27104	30060	SLU 37	1.11	Si
fin.	3	-168	-27511	30060	SLU 37	1.09	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-124	26863	30060	SLU 71	1.12	Si
fin.	3	-137	-27486	30060	SLU 71	1.09	Si
ini.	3	-322	26278	30060	SLU 78	1.14	Si
fin.	3	-333	-28675	30060	SLU 78	1.05	Si
ini.	3	-189	27888	30060	SLU 79	1.08	Si
fin.	3	-201	-28869	30060	SLU 79	1.04	Si
ini.	3	-257	26189	30060	SLU 77	1.15	Si
fin.	3	-269	-28336	30060	SLU 77	1.06	Si
ini.	3	-257	25253	30060	SLU 70	1.19	Si
fin.	3	-269	-27292	30060	SLU 70	1.1	Si
ini.	3	-221	27192	30060	SLU 38	1.11	Si
fin.	3	-232	-27850	30060	SLU 38	1.08	Si
ini.	3	-289	25494	30060	SLU 36	1.18	Si
fin.	3	-300	-27317	30060	SLU 36	1.1	Si
ini.	3	-254	27976	30060	SLU 80	1.07	Si
fin.	3	-266	-29209	30060	SLU 80	1.03	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-189	26952	-139			381	149		1.07	Si
fin.	3	-201	-27826	-931			384	151	SLU 72	0.16	No
ini.	3	-254	27976	-166			398	157	SLU 80	0.95	No
fin.	3	-266	-29209	-957			402	158	SLU 80	0.17	No
ini.	3	-322	26278	-32			417	165	SLU 78	5.22	Si
fin.	3	-333	-28675	-996			420	166	SLU 78	0.17	No
ini.	3	-257	26189	-28			399	157	SLU 77	5.62	Si
fin.	3	-269	-28336	-991			402	159	SLU 77	0.16	No
ini.	3	-192	25165	-2			382	150	SLU 69	89.1	Si
fin.	3	-204	-26953	-965			385	151	SLU 69	0.16	No
ini.	3	-189	27888	-162			381	149	SLU 79	0.92	No
fin.	3	-201	-28869	-953			384	151	SLU 79	0.16	No
ini.	3	-124	26863	-136			364	141	SLU 71	1.04	Si
fin.	3	-137	-27486	-926			367	143	SLU 71	0.15	No
ini.	3	-159	24381	-43			373	146	SLU 27	3.41	Si
fin.	3	-171	-25594	-889			376	147	SLU 27	0.17	No
ini.	3	-257	25253	-5			399	157	SLU 70	30.31	Si
fin.	3	-269	-27292	-969			402	159	SLU 70	0.16	No
ini.	3	-90	26079	-177			355	137	SLU 29	0.77	No
fin.	3	-103	-26128	-851			358	139	SLU 29	0.16	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	829	20906	45089	SLV 8	2.16	Si
fin.	2	755	-19115	45089	SLV 8	2.36	Si
ini.	2	-221	15791	45089	SLD 1	2.86	Si
fin.	2	-311	-19100	45089	SLD 1	2.36	Si
ini.	2	829	20906	45089	SLV 7	2.16	Si
fin.	2	755	-19115	45089	SLV 7	2.36	Si
ini.	2	283	29704	45089	SLV 4	1.52	Si
fin.	2	73	-32028	45089	SLV 4	1.41	Si
ini.	2	17	17492	45089	SLD 3	2.58	Si
fin.	2	-76	-19747	45089	SLD 3	2.28	Si
ini.	2	283	29704	45089	SLV 3	1.52	Si
fin.	2	73	-32028	45089	SLV 3	1.41	Si
ini.	2	-292	25797	45089	SLV 2	1.75	Si
fin.	2	-497	-30727	45089	SLV 2	1.47	Si
ini.	2	-292	25797	45089	SLV 1	1.75	Si
fin.	2	-497	-30727	45089	SLV 1	1.47	Si
ini.	2	-221	15791	45089	SLD 2	2.86	Si
fin.	2	-311	-19100	45089	SLD 2	2.36	Si
ini.	2	17	17492	45089	SLD 4	2.58	Si
fin.	2	-76	-19747	45089	SLD 4	2.28	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	283	29704	-487			496	140	SLV 4	0.29	No
fin.	2	73	-32028	-705			496	176	SLV 4	0.25	No
ini.	2	238	13897	-110			496	148	SLD 8	1.35	Si
fin.	2	205	-14439	-498			496	154	SLD 8	0.31	No
ini.	2	722	9457	-65			496	0	SLV 12	0	No
fin.	2	771	-6746	-453			496	0	SLV 12	0	No
ini.	2	829	20906	-346			496	0	SLV 8	0	No
fin.	2	755	-19115	-605			496	0	SLV 8	0	No
ini.	2	829	20906	-346			496	0	SLV 7	0	No
fin.	2	755	-19115	-605			496	0	SLV 7	0	No
ini.	2	283	29704	-487			496	140	SLV 3	0.29	No
fin.	2	73	-32028	-705			496	176	SLV 3	0.25	No
ini.	2	238	13897	-110			496	148	SLD 7	1.35	Si
fin.	2	205	-14439	-498			496	154	SLD 7	0.31	No
ini.	2	191	9113	10			496	157	SLD 12	15.46	Si
fin.	2	209	-9242	-434			496	153	SLD 12	0.35	No
ini.	2	722	9457	-65			496	0	SLV 11	0	No
fin.	2	771	-6746	-453			496	0	SLV 11	0	No
ini.	2	191	9113	10			496	157	SLD 11	15.46	Si
fin.	2	209	-9242	-434			496	153	SLD 11	0.35	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.408	SLV 3	Si



Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	0	SLV 7	No
PF_SLU	1.029	SLU 80	Si
V_SLU	0.154	SLU 71	No

## Trave di accoppiamento 149

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2159.3	-335.9	1186	1276	90	-2249.3	-335.9	1186	1276	90	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1164	47994	115068	SLU 83	2.4	Si
fin.	3	387	-22170	115068	SLU 83	5.19	Si
ini.	3	-1202	50201	115068	SLU 75	2.29	Si
fin.	3	409	-22654	115068	SLU 75	5.08	Si
ini.	3	-1413	50012	115068	SLU 82	2.3	Si
fin.	3	139	-17604	115068	SLU 82	6.54	Si
ini.	3	-1209	51921	115068	SLU 76	2.22	Si
fin.	3	474	-25380	115068	SLU 76	4.53	Si
ini.	3	-952	48182	115068	SLU 77	2.39	Si
fin.	3	657	-27219	115068	SLU 77	4.23	Si
ini.	3	-909	47360	115068	SLU 79	2.43	Si
fin.	3	690	-28359	115068	SLU 79	4.06	Si
ini.	3	-985	51174	115068	SLU 80	2.25	Si
fin.	3	737	-30739	115068	SLU 80	3.74	Si
ini.	3	-1240	51808	115068	SLU 84	2.22	Si
fin.	3	434	-24550	115068	SLU 84	4.69	Si
ini.	3	-1382	50124	115068	SLU 73	2.3	Si
fin.	3	179	-18434	115068	SLU 73	6.24	Si
ini.	3	-1028	51997	115068	SLU 78	2.21	Si
fin.	3	704	-29600	115068	SLU 78	3.89	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-807	45956	-1567			1293	511	SLU 38	0.33	No
fin.	3	762	-30158	-1599			970	111	SLU 38	0.07	No
ini.	3	-617	40284	-1438			1217	481	SLU 30	0.33	No
fin.	3	782	-28392	-1368			970	96	SLU 30	0.07	No
ini.	3	-794	45502	-1600			1288	509	SLU 72	0.32	No
fin.	3	757	-28973	-1430			970	115	SLU 72	0.08	No
ini.	3	-851	46779	-1596			1311	518	SLU 36	0.32	No
fin.	3	729	-29019	-1553			970	133	SLU 36	0.09	No
ini.	3	-909	47360	-1607			1334	527	SLU 79	0.33	No
fin.	3	690	-28359	-1518			970	154	SLU 79	0.1	No
ini.	3	-731	42141	-1445			1263	499	SLU 37	0.35	No
fin.	3	715	-27778	-1456			970	141	SLU 37	0.1	No
ini.	3	-1028	51997	-1758			1382	545	SLU 78	0.31	No
fin.	3	704	-29600	-1615			970	147	SLU 78	0.09	No
ini.	3	-985	51174	-1728			1364	538	SLU 80	0.31	No
fin.	3	737	-30739	-1661			970	128	SLU 80	0.08	No
ini.	3	-660	41107	-1468			1235	488	SLU 28	0.33	No
fin.	3	749	-27253	-1322			970	120	SLU 28	0.09	No
ini.	3	-838	46325	-1629			1306	516	SLU 70	0.32	No
fin.	3	724	-27834	-1384			970	135	SLU 70	0.1	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1040	53546	172601	SLV 10	3.22	Si
fin.	2	542	-28792	172601	SLV 10	5.99	Si
ini.	2	-1009	50505	172601	SLD 2	3.42	Si
fin.	2	775	-26377	172601	SLD 2	6.54	Si
ini.	2	-1040	53546	172601	SLV 9	3.22	Si
fin.	2	542	-28792	172601	SLV 9	5.99	Si
ini.	2	-1242	79305	172601	SLV 1	2.18	Si
fin.	2	1731	-49571	172601	SLV 1	3.48	Si
ini.	2	-1068	57727	172601	SLV 3	2.99	Si
fin.	2	1192	-32141	172601	SLV 3	5.37	Si
ini.	2	-1227	77054	172601	SLV 6	2.24	Si
fin.	2	1380	-47768	172601	SLV 6	3.61	Si
ini.	2	-1242	79305	172601	SLV 2	2.18	Si
fin.	2	1731	-49571	172601	SLV 2	3.48	Si
ini.	2	-1009	50505	172601	SLD 1	3.42	Si
fin.	2	775	-26377	172601	SLD 1	6.54	Si
ini.	2	-1068	57727	172601	SLV 4	2.99	Si
fin.	2	1192	-32141	172601	SLV 4	5.37	Si
ini.	2	-1227	77054	172601	SLV 5	2.24	Si
fin.	2	1380	-47768	172601	SLV 5	3.61	Si





## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-1242	79305	-2912			1953	772	SLV 1	0.27	No
fin.	2	1731	-49571	-2669			1456	0	SLV 1	0	No
ini.	2	-993	49276	-1638			1853	732	SLD 6	0.45	No
fin.	2	626	-25496	-1407			1456	388	SLD 6	0.28	No
ini.	2	-1068	57727	-2149			1883	745	SLV 4	0.35	No
fin.	2	1192	-32141	-1962			1456	127	SLV 4	0.06	No
ini.	2	-1242	79305	-2912			1953	772	SLV 2	0.27	No
fin.	2	1731	-49571	-2669			1456	0	SLV 2	0	No
ini.	2	-1227	77054	-2660			1947	770	SLV 5	0.29	No
fin.	2	1380	-47768	-2366			1456	0	SLV 5	0	No
ini.	2	-1227	77054	-2660			1947	770	SLV 6	0.29	No
fin.	2	1380	-47768	-2366			1456	0	SLV 6	0	No
ini.	2	-1009	50505	-1754			1859	735	SLD 2	0.42	No
fin.	2	775	-26377	-1541			1456	340	SLD 2	0.22	No
ini.	2	-1068	57727	-2149			1883	745	SLV 3	0.35	No
fin.	2	1192	-32141	-1962			1456	127	SLV 3	0.06	No
ini.	2	-993	49276	-1638			1853	732	SLD 5	0.45	No
fin.	2	626	-25496	-1407			1456	388	SLD 5	0.28	No
ini.	2	-1009	50505	-1754			1859	735	SLD 1	0.42	No
fin.	2	775	-26377	-1541			1456	340	SLD 1	0.22	No

### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.176	SLV 1	Si
V_SLV	0	SLV 1	No
PF_SLU	2.213	SLU 78	Si
V_SLU	0.07	SLU 38	No

## Trave di accoppiamento 150

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-2159.3	-335.9	1456	1502	46	-2249.3	-335.9	1456	1502	46	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fhk	fvk0	fhmmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-225	15728	30060	SLU 75	1.91	Si
fin.	3	-221	-20556	30060	SLU 75	1.46	Si
ini.	3	-36	18040	30060	SLU 76	1.67	Si
fin.	3	-31	-21137	30060	SLU 76	1.42	Si
ini.	3	399	19378	30060	SLU 79	1.55	Si
fin.	3	406	-20720	30060	SLU 79	1.45	Si
ini.	3	583	20291	30060	SLU 38	1.48	Si
fin.	3	590	-20242	30060	SLU 38	1.48	Si
ini.	3	446	21058	30060	SLU 80	1.43	Si
fin.	3	452	-22108	30060	SLU 80	1.36	Si
ini.	3	429	18509	30060	SLU 70	1.62	Si
fin.	3	435	-20302	30060	SLU 70	1.48	Si
ini.	3	241	18187	30060	SLU 77	1.65	Si
fin.	3	247	-21064	30060	SLU 77	1.43	Si
ini.	3	425	19099	30060	SLU 36	1.57	Si
fin.	3	431	-20586	30060	SLU 36	1.46	Si
ini.	3	288	19866	30060	SLU 78	1.51	Si
fin.	3	294	-22452	30060	SLU 78	1.34	Si
ini.	3	-127	17502	30060	SLU 84	1.72	Si
fin.	3	-123	-21133	30060	SLU 84	1.42	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	566	17742	-53			331	0	SLU 28	0	No
fin.	3	573	-18436	-629			331	0	SLU 28	0	No
ini.	3	531	17295	-119			331	0	SLU 17	0	No
fin.	3	537	-17118	-544			331	0	SLU 17	0	No
ini.	3	540	18021	-27			331	0	SLU 71	0	No
fin.	3	547	-18570	-636			331	0	SLU 71	0	No
ini.	3	724	18934	-124			331	0	SLU 30	0	No
fin.	3	731	-18092	-586			331	0	SLU 30	0	No
ini.	3	678	17254	-62			331	0	SLU 29	0	No
fin.	3	684	-16705	-562			331	0	SLU 29	0	No
ini.	3	520	16062	8			331	0	SLU 27	0	No
fin.	3	526	-17049	-605			331	0	SLU 27	0	No
ini.	3	429	18509	-18			331	5	SLU 70	0.29	No
fin.	3	435	-20302	-703			331	0	SLU 70	0	No
ini.	3	425	19099	-92			331	12	SLU 36	0.14	No
fin.	3	431	-20586	-668			331	0	SLU 36	0	No
ini.	3	535	16704	-44			331	0	SLU 51	0	No
fin.	3	541	-16833	-579			331	0	SLU 51	0	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	485	15615	-57			331	0	SLU 16	0	No
fin.	3	490	-15730	-521			331	0	SLU 16	0	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-43	24610	45089	SLV 10	1.83	Si
fin.	2	565	-12014	45089	SLV 10	3.75	Si
ini.	2	951	25679	45089	SLV 1	1.76	Si
fin.	2	627	-26507	45089	SLV 1	1.7	Si
ini.	2	162	15088	45089	SLD 2	2.99	Si
fin.	2	23	-17792	45089	SLD 2	2.53	Si
ini.	2	514	13062	45089	SLV 3	3.45	Si
fin.	2	-90	-23600	45089	SLV 3	1.91	Si
ini.	2	651	31897	45089	SLV 6	1.41	Si
fin.	2	980	-20268	45089	SLV 6	2.22	Si
ini.	2	651	31897	45089	SLV 5	1.41	Si
fin.	2	980	-20268	45089	SLV 5	2.22	Si
ini.	2	-43	24610	45089	SLV 9	1.83	Si
fin.	2	565	-12014	45089	SLV 9	3.75	Si
ini.	2	951	25679	45089	SLV 2	1.76	Si
fin.	2	627	-26507	45089	SLV 2	1.7	Si
ini.	2	162	15088	45089	SLD 1	2.99	Si
fin.	2	23	-17792	45089	SLD 1	2.53	Si
ini.	2	514	13062	45089	SLV 4	3.45	Si
fin.	2	-90	-23600	45089	SLV 4	1.91	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	651	31897	-467			496	0	SLV 5	0	No
fin.	2	980	-20268	-890			496	0	SLV 5	0	No
ini.	2	35	17586	-173			496	182	SLD 6	1.05	Si
fin.	2	165	-15255	-590			496	161	SLD 6	0.27	No
ini.	2	951	25679	-416			496	0	SLV 1	0	No
fin.	2	627	-26507	-822			496	30	SLV 1	0.04	No
ini.	2	162	15088	-153			496	162	SLD 1	1.05	Si
fin.	2	23	-17792	-563			496	183	SLD 1	0.33	No
ini.	2	-43	24610	-265			507	193	SLV 9	0.73	No
fin.	2	565	-12014	-696			496	65	SLV 9	0.09	No
ini.	2	951	25679	-416			496	0	SLV 2	0	No
fin.	2	627	-26507	-822			496	30	SLV 2	0.04	No
ini.	2	-43	24610	-265			507	193	SLV 10	0.73	No
fin.	2	565	-12014	-696			496	65	SLV 10	0.09	No
ini.	2	35	17586	-173			496	182	SLD 5	1.05	Si
fin.	2	165	-15255	-590			496	161	SLD 5	0.27	No
ini.	2	651	31897	-467			496	0	SLV 6	0	No
fin.	2	980	-20268	-890			496	0	SLV 6	0	No
ini.	2	162	15088	-153			496	162	SLD 2	1.05	Si
fin.	2	23	-17792	-563			496	183	SLD 2	0.33	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.414	SLV 5	Si
V_SLV	0	SLV 1	No
PF_SLU	1.339	SLU 78	Si
V_SLU	0	SLU 6	No

#### Trave di accoppiamento 151

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1886.8	-335.9	1186	1386	200	-1936.8	-335.9	1186	1386	200	50	28	30000

##### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1477	8563	568235	SLU 82	66.36	Si
fin.	3	-1499	32818	568235	SLU 82	17.31	Si
ini.	3	-1345	11869	568235	SLU 81	47.88	Si
fin.	3	-1379	32846	568235	SLU 81	17.3	Si
ini.	3	-1453	2854	568235	SLU 52	199.09	Si
fin.	3	-1450	28521	568235	SLU 52	19.92	Si
ini.	3	-1239	7701	568235	SLU 40	73.79	Si
fin.	3	-1264	27936	568235	SLU 40	20.34	Si
ini.	3	-1429	5585	568235	SLU 61	101.75	Si
fin.	3	-1443	30664	568235	SLU 61	18.53	Si
ini.	3	-1096	12986	568235	SLU 75	43.76	Si
fin.	3	-1125	29168	568235	SLU 75	19.48	Si
ini.	3	-1500	5832	568235	SLU 73	97.44	Si
fin.	3	-1505	30675	568235	SLU 73	18.52	Si
ini.	3	-1108	11007	568235	SLU 39	51.62	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	-1144	27965	568235	SLU 39	20.32	Si
ini.	3	-1298	8891	568235	SLU 60	63.91	Si
fin.	3	-1324	30693	568235	SLU 60	18.51	Si
ini.	3	-965	16292	568235	SLU 74	34.88	Si
fin.	3	-1006	29196	568235	SLU 74	19.46	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1345	11869	710			2695	1065	SLU 81	1.5	Si
fin.	3	-1379	32846	545			2708	1070	SLU 81	1.96	Si
ini.	3	-1429	5585	759			2728	1078	SLU 61	1.42	Si
fin.	3	-1443	30664	564			2734	1081	SLU 61	1.92	Si
ini.	3	-1500	5832	753			2757	1090	SLU 73	1.45	Si
fin.	3	-1505	30675	505			2759	1091	SLU 73	2.16	Si
ini.	3	-1453	2854	743			2738	1082	SLU 52	1.46	Si
fin.	3	-1450	28521	528			2737	1082	SLU 52	2.05	Si
ini.	3	-1262	4971	637			2662	1051	SLU 31	1.65	Si
fin.	3	-1270	25794	393			2665	1052	SLU 31	2.68	Si
ini.	3	-1239	7701	653			2652	1047	SLU 40	1.6	Si
fin.	3	-1264	27936	429			2662	1051	SLU 40	2.45	Si
ini.	3	-1215	1993	627			2643	1043	SLU 10	1.66	Si
fin.	3	-1215	23640	416			2643	1043	SLU 10	2.51	Si
ini.	3	-1298	8891	700			2676	1057	SLU 60	1.51	Si
fin.	3	-1324	30693	568			2686	1061	SLU 60	1.87	Si
ini.	3	-1477	8563	769			2747	1086	SLU 82	1.41	Si
fin.	3	-1499	32818	541			2756	1090	SLU 82	2.02	Si
ini.	3	-1192	4723	643			2633	1039	SLU 19	1.62	Si
fin.	3	-1208	25782	452			2640	1042	SLU 19	2.31	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-209	-81146	852353	SLV 7	10.5	Si
fin.	2	-877	9773	852353	SLV 7	87.21	Si
ini.	2	-1595	96099	852353	SLV 9	8.87	Si
fin.	2	-944	31755	852353	SLV 9	26.84	Si
ini.	2	528	75591	852353	SLV 1	11.28	Si
fin.	2	214	-23803	852353	SLV 1	35.81	Si
ini.	2	-1111	-104006	852353	SLV 12	8.2	Si
fin.	2	-1501	36121	852353	SLV 12	23.6	Si
ini.	2	-209	-81146	852353	SLV 8	10.5	Si
fin.	2	-877	9773	852353	SLV 8	87.21	Si
ini.	2	-1595	96099	852353	SLV 10	8.87	Si
fin.	2	-944	31755	852353	SLV 10	26.84	Si
ini.	2	-1111	-104006	852353	SLV 11	8.2	Si
fin.	2	-1501	36121	852353	SLV 11	23.6	Si
ini.	2	-694	118958	852353	SLV 6	7.17	Si
fin.	2	-319	5407	852353	SLV 6	157.63	Si
ini.	2	528	75591	852353	SLV 2	11.28	Si
fin.	2	214	-23803	852353	SLV 2	35.81	Si
ini.	2	-694	118958	852353	SLV 5	7.17	Si
fin.	2	-319	5407	852353	SLV 5	157.63	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-694	118958	-3410			3512	1360	SLV 5	0.4	No
fin.	2	-319	5407	-3196			3363	1285	SLV 5	0.4	No
ini.	2	-1111	-104006	4287			3679	1439	SLV 12	0.34	No
fin.	2	-1501	36121	3920			3836	1509	SLV 12	0.38	No
ini.	2	528	75591	-2516			3235	1097	SLV 2	0.44	No
fin.	2	214	-23803	-2120			3235	1170	SLV 2	0.55	No
ini.	2	-2332	-60639	3394			4168	1648	SLV 16	0.49	No
fin.	2	-2035	65331	2844			4049	1600	SLV 16	0.56	No
ini.	2	-1111	-104006	4287			3679	1439	SLV 11	0.34	No
fin.	2	-1501	36121	3920			3836	1509	SLV 11	0.38	No
ini.	2	-694	118958	-3410			3512	1360	SLV 6	0.4	No
fin.	2	-319	5407	-3196			3363	1285	SLV 6	0.4	No
ini.	2	528	75591	-2516			3235	1097	SLV 1	0.44	No
fin.	2	214	-23803	-2120			3235	1170	SLV 1	0.55	No
ini.	2	-209	-81146	3100			3319	1262	SLV 7	0.41	No
fin.	2	-877	9773	2987			3586	1395	SLV 7	0.47	No
ini.	2	-2332	-60639	3394			4168	1648	SLV 15	0.49	No
fin.	2	-2035	65331	2844			4049	1600	SLV 15	0.56	No
ini.	2	-209	-81146	3100			3319	1262	SLV 8	0.41	No
fin.	2	-877	9773	2987			3586	1395	SLV 8	0.47	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	7.165	SLV 5	Si
V_SLV	0.336	SLV 11	No
PF_SLU	17.3	SLU 81	Si
V_SLU	1.412	SLU 82	Si

## Trave di accoppiamento 152

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



## Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1886.8	-335.9	1466	1502	36	-1936.8	-335.9	1466	1502	36	50	28	30000

## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-457	-1813	18411	SLU 36	10.16	Si
fin.	3	-456	862	18411	SLU 36	21.36	Si
ini.	3	-583	-1967	18411	SLU 78	9.36	Si
fin.	3	-582	576	18411	SLU 78	31.97	Si
ini.	3	-463	-1937	18411	SLU 56	9.51	Si
fin.	3	-463	390	18411	SLU 56	47.25	Si
ini.	3	-957	-1217	18411	SLU 81	15.13	Si
fin.	3	-957	-1927	18411	SLU 81	9.55	Si
ini.	3	-338	-1783	18411	SLU 14	10.33	Si
fin.	3	-337	675	18411	SLU 14	27.26	Si
ini.	3	-561	-2053	18411	SLU 77	8.97	Si
fin.	3	-561	269	18411	SLU 77	68.55	Si
ini.	3	-436	-1899	18411	SLU 35	9.69	Si
fin.	3	-435	554	18411	SLU 35	33.21	Si
ini.	3	-418	-1843	18411	SLU 69	9.99	Si
fin.	3	-418	569	18411	SLU 69	32.35	Si
ini.	3	-484	-1850	18411	SLU 57	9.95	Si
fin.	3	-484	697	18411	SLU 57	26.41	Si
ini.	3	-859	-1100	18411	SLU 60	16.74	Si
fin.	3	-859	-1806	18411	SLU 60	10.19	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-314	-1603	288			370	146	SLU 28	0.51	No
fin.	3	-314	1162	-181			370	146	SLU 28	0.81	No
ini.	3	-355	-1566	291			382	151	SLU 71	0.52	No
fin.	3	-354	790	-201			382	151	SLU 71	0.75	No
ini.	3	-251	-1325	273			352	139	SLU 30	0.51	No
fin.	3	-250	1383	-168			352	139	SLU 30	0.83	No
ini.	3	-230	-1412	274			346	136	SLU 29	0.5	No
fin.	3	-229	1076	-177			345	136	SLU 29	0.77	No
ini.	3	-195	-1573	262			336	132	SLU 6	0.5	No
fin.	3	-195	976	-165			336	132	SLU 6	0.8	No
ini.	3	-418	-1843	306			400	158	SLU 69	0.52	No
fin.	3	-418	569	-214			400	158	SLU 69	0.73	No
ini.	3	-216	-1486	262			342	135	SLU 7	0.51	No
fin.	3	-216	1283	-156			342	135	SLU 7	0.87	No
ini.	3	-153	-1208	247			323	127	SLU 9	0.51	No
fin.	3	-152	1504	-142			323	127	SLU 9	0.89	No
ini.	3	-293	-1689	288			364	144	SLU 27	0.5	No
fin.	3	-293	855	-190			364	144	SLU 27	0.76	No
ini.	3	-131	-1295	247			317	124	SLU 8	0.5	No
fin.	3	-131	1197	-152			317	124	SLU 8	0.82	No

## Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	623	-12684	27616	SLV 11	2.18	Si
fin.	2	882	15934	27616	SLV 11	1.73	Si
ini.	2	623	-12684	27616	SLV 12	2.18	Si
fin.	2	882	15934	27616	SLV 12	1.73	Si
ini.	2	-2048	11086	27616	SLV 10	2.49	Si
fin.	2	-2281	-14171	27616	SLV 10	1.95	Si
ini.	2	-619	3025	27616	SLV 2	9.13	Si
fin.	2	-734	-12704	27616	SLV 2	2.17	Si
ini.	2	-1820	11205	27616	SLV 6	2.46	Si
fin.	2	-2078	-18357	27616	SLV 6	1.5	Si
ini.	2	852	-12565	27616	SLV 8	2.2	Si
fin.	2	1085	11748	27616	SLV 8	2.35	Si
ini.	2	-2048	11086	27616	SLV 9	2.49	Si
fin.	2	-2281	-14171	27616	SLV 9	1.95	Si
ini.	2	-619	3025	27616	SLV 1	9.13	Si
fin.	2	-734	-12704	27616	SLV 1	2.17	Si
ini.	2	852	-12565	27616	SLV 7	2.2	Si
fin.	2	1085	11748	27616	SLV 7	2.35	Si
ini.	2	-1820	11205	27616	SLV 5	2.46	Si
fin.	2	-2078	-18357	27616	SLV 5	1.5	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	852	-12565	556			419	0	SLV 7	0	No
fin.	2	1085	11748	329			419	0	SLV 7	0	No
ini.	2	-6	-5553	285			421	159	SLD 7	0.56	No
fin.	2	87	4076	64			419	143	SLD 7	2.24	Si
ini.	2	-1820	11205	-404			943	339	SLV 6	0.84	No
fin.	2	-2078	-18357	-630			1018	357	SLV 6	0.57	No
ini.	2	623	-12684	596			419	0	SLV 11	0	No
fin.	2	882	15934	394			419	0	SLV 11	0	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	852	-12565	556			419	0	SLV 8	0	No
fin.	2	1085	11748	329			419	0	SLV 8	0	No
ini.	2	-1820	11205	-404			943	339	SLV 5	0.84	No
fin.	2	-2078	-18357	-630			1018	357	SLV 5	0.57	No
ini.	2	-6	-5553	285			421	159	SLD 8	0.56	No
fin.	2	87	4076	64			419	143	SLD 8	2.24	Si
ini.	2	-103	-5604	302			449	173	SLD 11	0.57	No
fin.	2	0	5843	91			419	158	SLD 11	1.73	Si
ini.	2	623	-12684	596			419	0	SLV 12	0	No
fin.	2	882	15934	394			419	0	SLV 12	0	No
ini.	2	-103	-5604	302			449	173	SLD 12	0.57	No
fin.	2	0	5843	91			419	158	SLD 12	1.73	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.504	SLV 5	Si
V_SLV	0	SLV 7	No
PF_SLU	8.967	SLU 77	Si
V_SLU	0.499	SLU 29	No

## Trave di accoppiamento 153

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1736.3	-335.9	1186	1276	90	-1826.3	-335.9	1186	1276	90	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb_	fhk	fvk0	fhmmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-844	28622	115068	SLU 37	4.02	Si
fin.	3	-23	-10899	115068	SLU 37	10.56	Si
ini.	3	-988	29003	115068	SLU 79	3.97	Si
fin.	3	-212	-6973	115068	SLU 79	16.5	Si
ini.	3	-946	26500	115068	SLU 80	4.34	Si
fin.	3	-337	-3996	115068	SLU 80	28.79	Si
ini.	3	-869	26652	115068	SLU 72	4.32	Si
fin.	3	-236	-5449	115068	SLU 72	21.12	Si
ini.	3	-911	29156	115068	SLU 71	3.95	Si
fin.	3	-111	-8426	115068	SLU 71	13.66	Si
ini.	3	-944	28116	115068	SLU 69	4.09	Si
fin.	3	-202	-5963	115068	SLU 69	19.3	Si
ini.	3	-767	28774	115068	SLU 29	4	Si
fin.	3	77	-12352	115068	SLU 29	9.32	Si
ini.	3	-877	27583	115068	SLU 35	4.17	Si
fin.	3	-114	-8436	115068	SLU 35	13.64	Si
ini.	3	-800	27735	115068	SLU 27	4.15	Si
fin.	3	-14	-9889	115068	SLU 27	11.64	Si
ini.	3	-1022	27964	115068	SLU 77	4.11	Si
fin.	3	-302	-4510	115068	SLU 77	25.52	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-725	26271	-840			1260	498	SLU 30	0.59	No
fin.	3	-48	-9376	-757			990	376	SLU 30	0.5	No
ini.	3	-802	26119	-753			1291	511	SLU 38	0.68	No
fin.	3	-149	-7923	-785			1030	396	SLU 38	0.5	No
ini.	3	-724	25339	-861			1260	498	SLU 16	0.58	No
fin.	3	0	-9422	-752			971	365	SLU 16	0.49	No
ini.	3	-988	29003	-918			1366	539	SLU 79	0.59	No
fin.	3	-212	-6973	-806			1055	409	SLU 79	0.51	No
ini.	3	-767	28774	-1021			1277	505	SLU 29	0.49	No
fin.	3	77	-12352	-860			970	348	SLU 29	0.4	No
ini.	3	-911	29156	-1005			1335	527	SLU 71	0.52	No
fin.	3	-111	-8426	-777			1015	389	SLU 71	0.5	No
ini.	3	-646	25491	-949			1229	486	SLU 8	0.51	No
fin.	3	100	-10875	-723			970	343	SLU 8	0.47	No
ini.	3	-844	28622	-933			1308	517	SLU 37	0.55	No
fin.	3	-23	-10899	-888			980	370	SLU 37	0.42	No
ini.	3	-800	27735	-986			1290	510	SLU 27	0.52	No
fin.	3	-14	-9889	-756			976	368	SLU 27	0.49	No
ini.	3	-877	27583	-898			1321	522	SLU 35	0.58	No
fin.	3	-114	-8436	-785			1016	389	SLU 35	0.5	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1147	68342	172601	SLV 2	2.53	Si
fin.	2	787	-42639	172601	SLV 2	4.05	Si
ini.	2	-203	-56506	172601	SLV 15	3.05	Si
fin.	2	-2165	65425	172601	SLV 15	2.64	Si
ini.	2	-1928	64031	172601	SLV 3	2.7	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	911	-58331	172601	SLV 3	2.96	Si
ini.	2	-1928	64031	172601	SLV 4	2.7	Si
fin.	2	911	-58331	172601	SLV 4	2.96	Si
ini.	2	-203	-56506	172601	SLV 16	3.05	Si
fin.	2	-2165	65425	172601	SLV 16	2.64	Si
ini.	2	886	-4978	172601	SLV 10	34.67	Si
fin.	2	-1359	56111	172601	SLV 10	3.08	Si
ini.	2	886	-4978	172601	SLV 9	34.67	Si
fin.	2	-1359	56111	172601	SLV 9	3.08	Si
ini.	2	578	-52195	172601	SLV 13	3.31	Si
fin.	2	-2290	81117	172601	SLV 13	2.13	Si
ini.	2	578	-52195	172601	SLV 14	3.31	Si
fin.	2	-2290	81117	172601	SLV 14	2.13	Si
ini.	2	-1147	68342	172601	SLV 1	2.53	Si
fin.	2	787	-42639	172601	SLV 1	4.05	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	369	31183	2243			1456	461	SLV 5	0.21	No
fin.	2	-436	18984	281			1630	636	SLV 5	2.26	Si
ini.	2	-1147	68342	-1942			1915	757	SLV 2	0.39	No
fin.	2	787	-42639	-1878			1456	336	SLV 2	0.18	No
ini.	2	-1147	68342	-1942			1915	757	SLV 1	0.39	No
fin.	2	787	-42639	-1878			1456	336	SLV 1	0.18	No
ini.	2	886	-4978	3956			1456	298	SLV 10	0.08	No
fin.	2	-1359	56111	1607			1999	790	SLV 10	0.49	No
ini.	2	886	-4978	3956			1456	298	SLV 9	0.08	No
fin.	2	-1359	56111	1607			1999	790	SLV 9	0.49	No
ini.	2	578	-52195	3765			1456	403	SLV 13	0.11	No
fin.	2	-2290	81117	2545			2372	920	SLV 13	0.36	No
ini.	2	-1928	64031	-3818			2227	871	SLV 3	0.23	No
fin.	2	911	-58331	-2401			1456	288	SLV 3	0.12	No
ini.	2	369	31183	2243			1456	461	SLV 6	0.21	No
fin.	2	-436	18984	281			1630	636	SLV 6	2.26	Si
ini.	2	578	-52195	3765			1456	403	SLV 14	0.11	No
fin.	2	-2290	81117	2545			2372	920	SLV 14	0.36	No
ini.	2	-1928	64031	-3818			2227	871	SLV 4	0.23	No
fin.	2	911	-58331	-2401			1456	288	SLV 4	0.12	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.128	SLV 13	Si
V_SLV	0.075	SLV 9	No
PF_SLU	3.947	SLU 71	Si
V_SLU	0.405	SLU 29	No

## Trave di accoppiamento 154

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1736.3	-335.9	1456	1502	46	-1826.3	-335.9	1456	1502	46	90	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fthk	fvk0	fthmedio	τ0	fν0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-873	10180	30060	SLU 77	2.95	Si
fin.	3	-870	-26114	30060	SLU 77	1.15	Si
ini.	3	-720	9996	30060	SLU 70	3.01	Si
fin.	3	-715	-25720	30060	SLU 70	1.17	Si
ini.	3	-725	10473	30060	SLU 36	2.87	Si
fin.	3	-720	-25310	30060	SLU 36	1.19	Si
ini.	3	-650	11642	30060	SLU 38	2.58	Si
fin.	3	-645	-25423	30060	SLU 38	1.18	Si
ini.	3	-638	11051	30060	SLU 71	2.72	Si
fin.	3	-635	-25693	30060	SLU 71	1.17	Si
ini.	3	-713	9883	30060	SLU 69	3.04	Si
fin.	3	-710	-25580	30060	SLU 69	1.18	Si
ini.	3	-645	11164	30060	SLU 72	2.69	Si
fin.	3	-640	-25833	30060	SLU 72	1.16	Si
ini.	3	-805	11461	30060	SLU 80	2.62	Si
fin.	3	-800	-26367	30060	SLU 80	1.14	Si
ini.	3	-798	11349	30060	SLU 79	2.65	Si
fin.	3	-794	-26227	30060	SLU 79	1.15	Si
ini.	3	-880	10293	30060	SLU 78	2.92	Si
fin.	3	-875	-26254	30060	SLU 78	1.14	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-490	11344	68			461	182	SLU 30	2.68	Si
fin.	3	-485	-24889	-806			460	182	SLU 30	0.23	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-638	11051	108			501	196	SLU 71	1.81	Si
fin.	3	-635	-25693	-857			500	196	SLU 71	0.23	No
ini.	3	-565	10176	156			481	189	SLU 28	1.21	Si
fin.	3	-560	-24776	-862			480	189	SLU 28	0.22	No
ini.	3	-483	11232	64			459	181	SLU 29	2.85	Si
fin.	3	-480	-24749	-800			459	181	SLU 29	0.23	No
ini.	3	-421	8647	157			443	175	SLU 7	1.12	Si
fin.	3	-417	-21365	-761			442	175	SLU 7	0.23	No
ini.	3	-713	9883	196			521	203	SLU 69	1.03	Si
fin.	3	-710	-25580	-913			520	203	SLU 69	0.22	No
ini.	3	-720	9996	201			523	204	SLU 70	1.02	Si
fin.	3	-715	-25720	-919			521	203	SLU 70	0.22	No
ini.	3	-414	8534	153			441	174	SLU 6	1.14	Si
fin.	3	-411	-21225	-755			440	174	SLU 6	0.23	No
ini.	3	-558	10063	152			479	189	SLU 27	1.24	Si
fin.	3	-555	-24636	-856			479	188	SLU 27	0.22	No
ini.	3	-645	11164	113			503	197	SLU 72	1.75	Si
fin.	3	-640	-25833	-863			501	196	SLU 72	0.23	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1574	-17673	45089	SLV 14	2.55	Si
fin.	2	-2043	10290	45089	SLV 14	4.38	Si
ini.	2	-434	9825	45089	SLD 3	4.59	Si
fin.	2	-238	-15998	45089	SLD 3	2.82	Si
ini.	2	-1574	-17673	45089	SLV 13	2.55	Si
fin.	2	-2043	10290	45089	SLV 13	4.38	Si
ini.	2	-1012	8548	45089	SLD 1	5.27	Si
fin.	2	-853	-16146	45089	SLD 1	2.79	Si
ini.	2	-1380	17772	45089	SLV 2	2.54	Si
fin.	2	-998	-26780	45089	SLV 2	1.68	Si
ini.	2	-1380	17772	45089	SLV 1	2.54	Si
fin.	2	-998	-26780	45089	SLV 1	1.68	Si
ini.	2	36	21011	45089	SLV 4	2.15	Si
fin.	2	508	-26632	45089	SLV 4	1.69	Si
ini.	2	-1012	8548	45089	SLD 2	5.27	Si
fin.	2	-853	-16146	45089	SLD 2	2.79	Si
ini.	2	-434	9825	45089	SLD 4	4.59	Si
fin.	2	-238	-15998	45089	SLD 4	2.82	Si
ini.	2	36	21011	45089	SLV 3	2.15	Si
fin.	2	508	-26632	45089	SLV 3	1.69	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1562	1751	265			496	0	SLV 12	0	No
fin.	2	1586	-2364	-273			496	0	SLV 12	0	No
ini.	2	209	6053	79			496	153	SLD 8	1.93	Si
fin.	2	324	-10295	-401			496	132	SLD 8	0.33	No
ini.	2	1620	12385	-5			496	0	SLV 7	0	No
fin.	2	1899	-13485	-496			496	0	SLV 7	0	No
ini.	2	1620	12385	-5			496	0	SLV 8	0	No
fin.	2	1899	-13485	-496			496	0	SLV 8	0	No
ini.	2	209	6053	79			496	153	SLD 7	1.93	Si
fin.	2	324	-10295	-401			496	132	SLD 7	0.33	No
ini.	2	-158	-14434	590			538	208	SLV 15	0.35	No
fin.	2	-537	10438	22			639	253	SLV 15	11.65	Si
ini.	2	-158	-14434	590			538	208	SLV 16	0.35	No
fin.	2	-537	10438	22			639	253	SLV 16	11.65	Si
ini.	2	1562	1751	265			496	0	SLV 11	0	No
fin.	2	1586	-2364	-273			496	0	SLV 11	0	No
ini.	2	36	21011	-310			496	181	SLV 4	0.59	No
fin.	2	508	-26632	-723			496	86	SLV 4	0.12	No
ini.	2	36	21011	-310			496	181	SLV 3	0.59	No
fin.	2	508	-26632	-723			496	86	SLV 3	0.12	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.684	SLV 1	Si
V_SLV	0	SLV 7	No
PF_SLU	1.14	SLU 80	Si
V_SLU	0.219	SLU 28	No

#### Trave di accoppiamento 155

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1375.3	-22.8	1396	1502	106	-1375.3	67.2	1396	1502	106	90	28	30000

##### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2



#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	259	-9478	159617	SLU 77	16.84	Si
fin.	3	259	-17596	159617	SLU 77	9.07	Si
ini.	3	272	-10752	159617	SLU 79	14.85	Si
fin.	3	272	-18349	159617	SLU 79	8.7	Si
ini.	3	273	-10325	159617	SLU 80	15.46	Si
fin.	3	273	-18649	159617	SLU 80	8.56	Si
ini.	3	262	-13736	159617	SLU 70	11.62	Si
fin.	3	262	-17546	159617	SLU 70	9.1	Si
ini.	3	267	-16287	159617	SLU 30	9.8	Si
fin.	3	267	-17839	159617	SLU 30	8.95	Si
ini.	3	260	-9051	159617	SLU 78	17.64	Si
fin.	3	260	-17896	159617	SLU 78	8.92	Si
ini.	3	275	-15010	159617	SLU 72	10.63	Si
fin.	3	275	-18299	159617	SLU 72	8.72	Si
ini.	3	265	-11602	159617	SLU 38	13.76	Si
fin.	3	265	-18189	159617	SLU 38	8.78	Si
ini.	3	264	-12029	159617	SLU 37	13.27	Si
fin.	3	264	-17888	159617	SLU 37	8.92	Si
ini.	3	274	-15437	159617	SLU 71	10.34	Si
fin.	3	274	-17999	159617	SLU 71	8.87	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	113	4164	181			1143	405	SLU 73	2.24	Si
fin.	3	113	-8263	-454			1143	405	SLU 73	0.89	No
ini.	3	193	-2938	201			1143	386	SLU 76	1.92	Si
fin.	3	193	-13556	-434			1143	386	SLU 76	0.89	No
ini.	3	260	-9051	221			1143	369	SLU 78	1.67	Si
fin.	3	260	-17896	-414			1143	369	SLU 78	0.89	No
ini.	3	154	1515	176			1143	395	SLU 62	2.24	Si
fin.	3	154	-10678	-441			1143	395	SLU 62	0.9	No
ini.	3	110	5459	170			1143	406	SLU 81	2.38	Si
fin.	3	110	-7912	-464			1143	406	SLU 81	0.87	No
ini.	3	156	1943	168			1143	395	SLU 63	2.35	Si
fin.	3	156	-10979	-449			1143	395	SLU 63	0.88	No
ini.	3	192	-1215	182			1143	386	SLU 84	2.12	Si
fin.	3	192	-13506	-452			1143	386	SLU 84	0.85	No
ini.	3	190	-1642	190			1143	387	SLU 83	2.03	Si
fin.	3	190	-13206	-444			1143	387	SLU 83	0.87	No
ini.	3	111	5887	162			1143	405	SLU 82	2.5	Si
fin.	3	111	-8213	-472			1143	405	SLU 82	0.86	No
ini.	3	75	9045	148			1143	414	SLU 61	2.79	Si
fin.	3	75	-5685	-470			1143	414	SLU 61	0.88	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1643	61167	239426	SLV 7	3.91	Si
fin.	2	1668	-20068	239426	SLV 7	11.93	Si
ini.	2	1858	76787	239426	SLV 11	3.12	Si
fin.	2	1764	-342	239426	SLV 11	700.64	Si
ini.	2	-1487	-58999	239426	SLV 10	4.06	Si
fin.	2	-1511	9576	239426	SLV 10	25	Si
ini.	2	-1487	-58999	239426	SLV 9	4.06	Si
fin.	2	-1511	9576	239426	SLV 9	25	Si
ini.	2	937	47484	239426	SLV 15	5.04	Si
fin.	2	730	26144	239426	SLV 15	9.16	Si
ini.	2	-1701	-74619	239426	SLV 6	3.21	Si
fin.	2	-1608	-10151	239426	SLV 6	23.59	Si
ini.	2	1643	61167	239426	SLV 8	3.91	Si
fin.	2	1668	-20068	239426	SLV 8	11.93	Si
ini.	2	937	47484	239426	SLV 16	5.04	Si
fin.	2	730	26144	239426	SLV 16	9.16	Si
ini.	2	1858	76787	239426	SLV 12	3.12	Si
fin.	2	1764	-342	239426	SLV 12	700.64	Si
ini.	2	-1701	-74619	239426	SLV 5	3.21	Si
fin.	2	-1608	-10151	239426	SLV 5	23.59	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	827	33075	-199			1715	429	SLD 12	2.15	Si
fin.	2	778	-3370	-678			1715	445	SLD 12	0.66	No
ini.	2	736	26477	-141			1715	458	SLD 8	3.25	Si
fin.	2	739	-11673	-696			1715	457	SLD 8	0.66	No
ini.	2	736	26477	-141			1715	458	SLD 7	3.25	Si
fin.	2	739	-11673	-696			1715	457	SLD 7	0.66	No
ini.	2	1858	76787	-705			1715	0	SLV 12	0	No
fin.	2	1764	-342	-1182			1715	0	SLV 12	0	No
ini.	2	827	33075	-199			1715	429	SLD 11	2.15	Si
fin.	2	778	-3370	-678			1715	445	SLD 11	0.66	No
ini.	2	1858	76787	-705			1715	0	SLV 11	0	No
fin.	2	1764	-342	-1182			1715	0	SLV 11	0	No
ini.	2	1643	61167	-568			1715	0	SLV 8	0	No
fin.	2	1668	-20068	-1225			1715	0	SLV 8	0	No
ini.	2	222	-4580	159			1715	595	SLV 4	3.74	Si
fin.	2	409	-39612	-651			1715	549	SLV 4	0.84	No
ini.	2	1643	61167	-568			1715	0	SLV 7	0	No
fin.	2	1668	-20068	-1225			1715	0	SLV 7	0	No





Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	222	-4580	159			1715	595	SLV 3	3.74	Si
fin.	2	409	-39612	-651			1715	549	SLV 3	0.84	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.118	SLV 11	Si
V_SLV	0	SLV 7	No
PF_SLU	8.559	SLU 80	Si
V_SLU	0.854	SLU 84	No

## Trave di accoppiamento 156

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1074.8	333.1	1376	1502	126	-994.8	333.1	1376	1502	126	80	14	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	α0	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-172	127746	112766	SLU 75	0.88	No
fin.	3	-172	12781	112766	SLU 75	8.82	Si
ini.	3	-172	124046	112766	SLU 81	0.91	No
fin.	3	-172	10605	112766	SLU 81	10.63	Si
ini.	3	-178	127808	112766	SLU 83	0.88	No
fin.	3	-178	10777	112766	SLU 83	10.46	Si
ini.	3	-171	122850	112766	SLU 80	0.92	No
fin.	3	-171	10683	112766	SLU 80	10.56	Si
ini.	3	-172	124123	112766	SLU 82	0.91	No
fin.	3	-172	10609	112766	SLU 82	10.63	Si
ini.	3	-171	122773	112766	SLU 79	0.92	No
fin.	3	-171	10679	112766	SLU 79	10.56	Si
ini.	3	-178	131430	112766	SLU 77	0.86	No
fin.	3	-178	12950	112766	SLU 77	8.71	Si
ini.	3	-178	131507	112766	SLU 78	0.86	No
fin.	3	-178	12953	112766	SLU 78	8.71	Si
ini.	3	-172	127669	112766	SLU 74	0.88	No
fin.	3	-172	12778	112766	SLU 74	8.83	Si
ini.	3	-178	127885	112766	SLU 84	0.88	No
fin.	3	-178	10781	112766	SLU 84	10.46	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-172	124046	-1119			748	291	SLU 81	0.26	No
fin.	3	-172	10605	-1681			748	291	SLU 81	0.17	No
ini.	3	-178	127885	-1165			751	292	SLU 84	0.25	No
fin.	3	-178	10781	-1726			751	292	SLU 84	0.17	No
ini.	3	-172	127746	-1068			748	291	SLU 75	0.27	No
fin.	3	-172	12781	-1790			748	291	SLU 75	0.16	No
ini.	3	-178	131507	-1113			751	292	SLU 78	0.26	No
fin.	3	-178	12953	-1835			751	292	SLU 78	0.16	No
ini.	3	-171	122850	-1103			748	290	SLU 80	0.26	No
fin.	3	-171	10683	-1665			748	290	SLU 80	0.17	No
ini.	3	-178	131430	-1112			751	292	SLU 77	0.26	No
fin.	3	-178	12950	-1834			751	292	SLU 77	0.16	No
ini.	3	-172	124123	-1120			748	291	SLU 82	0.26	No
fin.	3	-172	10609	-1682			748	291	SLU 82	0.17	No
ini.	3	-172	127669	-1067			748	291	SLU 74	0.27	No
fin.	3	-172	12778	-1789			748	291	SLU 74	0.16	No
ini.	3	-171	122773	-1102			748	290	SLU 79	0.26	No
fin.	3	-171	10679	-1664			748	290	SLU 79	0.17	No
ini.	3	-178	127808	-1164			751	292	SLU 83	0.25	No
fin.	3	-178	10777	-1726			751	292	SLU 83	0.17	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	151	195215	169149	SLV 11	0.87	No
fin.	2	-197	7415	169149	SLV 11	22.81	Si
ini.	2	1041	120682	169149	SLV 16	1.4	Si
fin.	2	283	5889	169149	SLV 16	28.72	Si
ini.	2	4	125968	169149	SLD 11	1.34	Si
fin.	2	-140	7610	169149	SLD 11	22.23	Si
ini.	2	1041	120682	169149	SLV 15	1.4	Si
fin.	2	283	5889	169149	SLV 15	28.72	Si
ini.	2	-295	123203	169149	SLD 7	1.37	Si
fin.	2	-255	8097	169149	SLD 7	20.89	Si
ini.	2	-552	188717	169149	SLV 7	0.9	No
fin.	2	-469	8436	169149	SLV 7	20.05	Si
ini.	2	-295	123203	169149	SLD 8	1.37	Si
fin.	2	-255	8097	169149	SLD 8	20.89	Si
ini.	2	151	195215	169149	SLV 12	0.87	No



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	-197	7415	169149	SLV 12	22.81	Si
ini.	2	-552	188717	169149	SLV 8	0.9	No
fin.	2	-469	8436	169149	SLV 8	20.05	Si
ini.	2	4	125968	169149	SLD 12	1.34	Si
fin.	2	-140	7610	169149	SLD 12	22.23	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	4	125968	-1127			1019	383	SLD 11	0.34	No
fin.	2	-140	7610	-1614			1075	413	SLD 11	0.26	No
ini.	2	1041	120682	-430			1019	0	SLV 16	0	No
fin.	2	283	5889	-1255			1019	316	SLV 16	0.25	No
ini.	2	4	125968	-1127			1019	383	SLD 12	0.34	No
fin.	2	-140	7610	-1614			1075	413	SLD 12	0.26	No
ini.	2	1041	120682	-430			1019	0	SLV 15	0	No
fin.	2	283	5889	-1255			1019	316	SLV 15	0.25	No
ini.	2	151	195215	-1819			1019	349	SLV 11	0.19	No
fin.	2	-197	7415	-2390			1098	424	SLV 11	0.18	No
ini.	2	-552	188717	-2178			1240	489	SLV 7	0.22	No
fin.	2	-469	8436	-2515			1207	475	SLV 7	0.19	No
ini.	2	151	195215	-1819			1019	349	SLV 12	0.19	No
fin.	2	-197	7415	-2390			1098	424	SLV 12	0.18	No
ini.	2	1101	50298	401			1019	0	SLV 13	0	No
fin.	2	422	5604	-407			1019	277	SLV 13	0.68	No
ini.	2	-552	188717	-2178			1240	489	SLV 8	0.22	No
fin.	2	-469	8436	-2515			1207	475	SLV 8	0.19	No
ini.	2	1101	50298	401			1019	0	SLV 14	0	No
fin.	2	422	5604	-407			1019	277	SLV 14	0.68	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.866	SLV 11	No
V_SLV	0	SLV 13	No
PF_SLU	0.857	SLU 78	No
V_SLU	0.159	SLU 78	No

## Trave di accoppiamento 157

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1771.8	666.1	1186	1276	90	-1681.8	666.1	1186	1276	90	90	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	1433	-10733	115068	SLU 71	10.72	Si
fin.	3	902	-286	115068	SLU 71	401.79	Si
ini.	3	1401	-10604	115068	SLU 36	10.85	Si
fin.	3	947	-1240	115068	SLU 36	92.81	Si
ini.	3	1416	-11603	115068	SLU 29	9.92	Si
fin.	3	866	-485	115068	SLU 29	237.05	Si
ini.	3	1375	-10934	115068	SLU 28	10.52	Si
fin.	3	864	-780	115068	SLU 28	147.49	Si
ini.	3	1448	-11461	115068	SLU 38	10.04	Si
fin.	3	944	-800	115068	SLU 38	143.8	Si
ini.	3	1369	-10746	115068	SLU 27	10.71	Si
fin.	3	870	-925	115068	SLU 27	124.39	Si
ini.	3	1438	-10920	115068	SLU 72	10.54	Si
fin.	3	897	-142	115068	SLU 72	813.16	Si
ini.	3	1465	-10590	115068	SLU 80	10.87	Si
fin.	3	980	-601	115068	SLU 80	191.41	Si
ini.	3	1442	-11273	115068	SLU 37	10.21	Si
fin.	3	949	-945	115068	SLU 37	121.76	Si
ini.	3	1421	-11791	115068	SLU 30	9.76	Si
fin.	3	861	-341	115068	SLU 30	337.91	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	1395	-10416	503			970	0	SLU 35	0	No
fin.	3	953	-1385	272			970	0	SLU 35	0	No
ini.	3	1216	-8796	348			970	0	SLU 50	0	No
fin.	3	742	140	512			970	125	SLU 50	0.24	No
ini.	3	1023	-5084	320			970	0	SLU 83	0	No
fin.	3	820	-825	138			970	56	SLU 83	0.41	No
ini.	3	1442	-11273	608			970	0	SLU 37	0	No
fin.	3	949	-945	234			970	0	SLU 37	0	No
ini.	3	1012	-6142	398			970	0	SLU 42	0	No
fin.	3	778	-880	66			970	99	SLU 42	1.51	Si
ini.	3	1006	-5955	388			970	0	SLU 41	0	No
fin.	3	784	-1024	58			970	94	SLU 41	1.63	Si



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	1175	-8126	253			970	0	SLU 49	0	No
fin.	3	740	-155	558			970	126	SLU 49	0.23	No
ini.	3	1448	-11461	618			970	0	SLU 38	0	No
fin.	3	944	-800	242			970	0	SLU 38	0	No
ini.	3	1401	-10604	514			970	0	SLU 36	0	No
fin.	3	947	-1240	280			970	0	SLU 36	0	No
ini.	3	1169	-7939	243			970	0	SLU 48	0	No
fin.	3	746	-300	550			970	122	SLU 48	0.22	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1398	52535	172601	SLV 16	3.29	Si
fin.	2	896	-18997	172601	SLV 16	9.09	Si
ini.	2	2625	-69834	172601	SLV 3	2.47	Si
fin.	2	-8	18958	172601	SLV 3	9.1	Si
ini.	2	-1876	70292	172601	SLV 14	2.46	Si
fin.	2	755	-19111	172601	SLV 14	9.03	Si
ini.	2	-1876	70292	172601	SLV 13	2.46	Si
fin.	2	755	-19111	172601	SLV 13	9.03	Si
ini.	2	2625	-69834	172601	SLV 4	2.47	Si
fin.	2	-8	18958	172601	SLV 4	9.1	Si
ini.	2	-1027	48178	172601	SLV 10	3.58	Si
fin.	2	274	-5961	172601	SLV 10	28.95	Si
ini.	2	2146	-52077	172601	SLV 2	3.31	Si
fin.	2	-149	18843	172601	SLV 2	9.16	Si
ini.	2	-1027	48178	172601	SLV 9	3.58	Si
fin.	2	274	-5961	172601	SLV 9	28.95	Si
ini.	2	2146	-52077	172601	SLV 1	3.31	Si
fin.	2	-149	18843	172601	SLV 1	9.16	Si
ini.	2	-1398	52535	172601	SLV 15	3.29	Si
fin.	2	896	-18997	172601	SLV 15	9.09	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	2146	-52077	1677			1456	0	SLV 1	0	No
fin.	2	-149	18843	1902			1515	579	SLV 1	0.3	No
ini.	2	1335	-29675	884			1456	0	SLD 4	0	No
fin.	2	210	8069	1113			1456	500	SLD 4	0.45	No
ini.	2	2625	-69834	2096			1456	0	SLV 4	0	No
fin.	2	-8	18958	2405			1459	550	SLV 4	0.23	No
ini.	2	2625	-69834	2096			1456	0	SLV 3	0	No
fin.	2	-8	18958	2405			1459	550	SLV 3	0.23	No
ini.	2	2146	-52077	1677			1456	0	SLV 2	0	No
fin.	2	-149	18843	1902			1515	579	SLV 2	0.3	No
ini.	2	1776	-47721	1252			1456	0	SLV 7	0	No
fin.	2	473	5808	1590			1456	433	SLV 7	0.27	No
ini.	2	-1876	70292	-2134			2206	864	SLV 13	0.41	No
fin.	2	755	-19111	-2104			1456	347	SLV 13	0.16	No
ini.	2	-1876	70292	-2134			2206	864	SLV 14	0.41	No
fin.	2	755	-19111	-2104			1456	347	SLV 14	0.16	No
ini.	2	1776	-47721	1252			1456	0	SLV 8	0	No
fin.	2	473	5808	1590			1456	433	SLV 8	0.27	No
ini.	2	1335	-29675	884			1456	0	SLD 3	0	No
fin.	2	210	8069	1113			1456	500	SLD 3	0.45	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.456	SLV 13	Si
V_SLV	0	SLD 3	No
PF_SLU	9.759	SLU 30	Si
V_SLU	0	SLU 6	No

## Trave di accoppiamento 158

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1771.8	666.1	1456	1502	46	-1681.8	666.1	1456	1502	46	90	28	30000

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1360	7566	30060	SLU 80	3.97	Si
fin.	3	-1357	-10116	30060	SLU 80	2.97	Si
ini.	3	-1372	7376	30060	SLU 71	4.08	Si
fin.	3	-1369	-10141	30060	SLU 71	2.96	Si
ini.	3	-1290	6623	30060	SLU 35	4.54	Si
fin.	3	-1287	-9873	30060	SLU 35	3.04	Si
ini.	3	-1355	7611	30060	SLU 79	3.95	Si
fin.	3	-1351	-10165	30060	SLU 79	2.96	Si
ini.	3	-1337	6244	30060	SLU 70	4.81	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	-1333	-10373	30060	SLU 70	2.9	Si
ini.	3	-1319	6479	30060	SLU 78	4.64	Si
fin.	3	-1316	-10397	30060	SLU 78	2.89	Si
ini.	3	-1331	6289	30060	SLU 69	4.78	Si
fin.	3	-1328	-10422	30060	SLU 69	2.88	Si
ini.	3	-1378	7330	30060	SLU 72	4.1	Si
fin.	3	-1374	-10092	30060	SLU 72	2.98	Si
ini.	3	-1308	6387	30060	SLU 27	4.71	Si
fin.	3	-1305	-9849	30060	SLU 27	3.05	Si
ini.	3	-1314	6525	30060	SLU 77	4.61	Si
fin.	3	-1311	-10446	30060	SLU 77	2.88	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1331	6289	199			686	252	SLU 69	1.27	Si
fin.	3	-1328	-10422	-625			685	252	SLU 69	0.4	No
ini.	3	-886	3627	238			567	218	SLU 66	0.91	No
fin.	3	-884	-7865	-524			566	218	SLU 66	0.42	No
ini.	3	-1319	6479	197			682	251	SLU 78	1.28	Si
fin.	3	-1316	-10397	-626			682	251	SLU 78	0.4	No
ini.	3	-1314	6525	196			681	251	SLU 77	1.28	Si
fin.	3	-1311	-10446	-627			680	251	SLU 77	0.4	No
ini.	3	-869	3862	236			562	216	SLU 74	0.92	No
fin.	3	-866	-7889	-527			562	216	SLU 74	0.41	No
ini.	3	-892	3581	239			568	218	SLU 67	0.91	No
fin.	3	-889	-7816	-523			568	218	SLU 67	0.42	No
ini.	3	-874	3817	237			564	217	SLU 75	0.92	No
fin.	3	-872	-7840	-526			563	217	SLU 75	0.41	No
ini.	3	-1337	6244	200			687	252	SLU 70	1.26	Si
fin.	3	-1333	-10373	-624			686	252	SLU 70	0.4	No
ini.	3	-1142	5324	202			635	238	SLU 57	1.18	Si
fin.	3	-1139	-9208	-569			634	238	SLU 57	0.42	No
ini.	3	-1137	5370	201			634	238	SLU 56	1.18	Si
fin.	3	-1134	-9257	-570			633	237	SLU 56	0.42	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2618	19833	45089	SLV 10	2.27	Si
fin.	2	-2690	-30227	45089	SLV 10	1.49	Si
ini.	2	-2065	23455	45089	SLV 13	1.92	Si
fin.	2	-2271	-33515	45089	SLV 13	1.35	Si
ini.	2	-2618	19833	45089	SLV 9	2.27	Si
fin.	2	-2690	-30227	45089	SLV 9	1.49	Si
ini.	2	1410	-20673	45089	SLV 3	2.18	Si
fin.	2	1619	26289	45089	SLV 3	1.72	Si
ini.	2	-2065	23455	45089	SLV 14	1.92	Si
fin.	2	-2271	-33515	45089	SLV 14	1.35	Si
ini.	2	1964	-17051	45089	SLV 7	2.64	Si
fin.	2	2039	23001	45089	SLV 7	1.96	Si
ini.	2	-898	15659	45089	SLV 15	2.88	Si
fin.	2	-1097	-21882	45089	SLV 15	2.06	Si
ini.	2	1964	-17051	45089	SLV 8	2.64	Si
fin.	2	2039	23001	45089	SLV 8	1.96	Si
ini.	2	1410	-20673	45089	SLV 4	2.18	Si
fin.	2	1619	26289	45089	SLV 4	1.72	Si
ini.	2	-898	15659	45089	SLV 16	2.88	Si
fin.	2	-1097	-21882	45089	SLV 16	2.06	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1271	-6152	387			496	0	SLV 12	0	No
fin.	2	1224	8549	11			496	0	SLV 12	0	No
ini.	2	1964	-17051	654			496	0	SLV 8	0	No
fin.	2	2039	23001	317			496	0	SLV 8	0	No
ini.	2	414	-8019	390			496	112	SLD 3	0.29	No
fin.	2	504	9142	1			496	87	SLD 3	156.9	Si
ini.	2	1410	-20673	709			496	0	SLV 4	0	No
fin.	2	1619	26289	367			496	0	SLV 4	0	No
ini.	2	414	-8019	390			496	112	SLD 4	0.29	No
fin.	2	504	9142	1			496	87	SLD 4	156.9	Si
ini.	2	646	-6449	365			496	0	SLD 7	0	No
fin.	2	679	7689	-23			496	0	SLD 7	0	No
ini.	2	646	-6449	365			496	0	SLD 8	0	No
fin.	2	679	7689	-23			496	0	SLD 8	0	No
ini.	2	1964	-17051	654			496	0	SLV 7	0	No
fin.	2	2039	23001	317			496	0	SLV 7	0	No
ini.	2	1410	-20673	709			496	0	SLV 3	0	No
fin.	2	1619	26289	367			496	0	SLV 3	0	No
ini.	2	1271	-6152	387			496	0	SLV 11	0	No
fin.	2	1224	8549	11			496	0	SLV 11	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.345	SLV 13	Si
V_SLV	0	SLD 7	No
PF_SLU	2.878	SLU 77	Si
V_SLU	0.399	SLU 77	No



## Trave di accoppiamento 159

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1283.8	666.1	1186	1276	90	-1193.8	666.1	1186	1276	90	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	262	8520	115068	SLU 69	13.51	Si
fin.	3	429	1192	115068	SLU 69	96.54	Si
ini.	3	116	8329	115068	SLU 9	13.81	Si
fin.	3	262	2213	115068	SLU 9	52	Si
ini.	3	231	9278	115068	SLU 72	12.4	Si
fin.	3	410	1689	115068	SLU 72	68.13	Si
ini.	3	238	9173	115068	SLU 71	12.54	Si
fin.	3	416	1631	115068	SLU 71	70.54	Si
ini.	3	215	8559	115068	SLU 29	13.44	Si
fin.	3	402	1167	115068	SLU 29	98.58	Si
ini.	3	207	8663	115068	SLU 30	13.28	Si
fin.	3	396	1225	115068	SLU 30	93.93	Si
ini.	3	140	8943	115068	SLU 51	12.87	Si
fin.	3	276	2677	115068	SLU 51	42.99	Si
ini.	3	163	8290	115068	SLU 49	13.88	Si
fin.	3	289	2237	115068	SLU 49	51.43	Si
ini.	3	254	8624	115068	SLU 70	13.34	Si
fin.	3	423	1250	115068	SLU 70	92.08	Si
ini.	3	147	8839	115068	SLU 50	13.02	Si
fin.	3	282	2619	115068	SLU 50	43.94	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	382	7324	-645			970	270	SLU 77	0.42	No
fin.	3	545	36	429			970	216	SLU 77	0.5	No
ini.	3	231	9278	-680			970	311	SLU 72	0.46	No
fin.	3	410	1689	436			970	261	SLU 72	0.6	No
ini.	3	350	8082	-625			970	279	SLU 80	0.45	No
fin.	3	527	533	386			970	223	SLU 80	0.58	No
ini.	3	238	9173	-679			970	309	SLU 71	0.46	No
fin.	3	416	1631	438			970	259	SLU 71	0.59	No
ini.	3	350	6814	-573			970	279	SLU 36	0.49	No
fin.	3	525	-370	322			970	224	SLU 36	0.7	No
ini.	3	262	8520	-701			970	303	SLU 69	0.43	No
fin.	3	429	1192	479			970	256	SLU 69	0.53	No
ini.	3	374	7428	-647			970	272	SLU 78	0.42	No
fin.	3	539	94	427			970	219	SLU 78	0.51	No
ini.	3	358	6709	-571			970	277	SLU 35	0.48	No
fin.	3	531	-428	323			970	222	SLU 35	0.69	No
ini.	3	358	7977	-623			970	277	SLU 79	0.44	No
fin.	3	532	475	388			970	221	SLU 79	0.57	No
ini.	3	254	8624	-703			970	305	SLU 70	0.43	No
fin.	3	423	1250	477			970	257	SLU 70	0.54	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1281	22967	172601	SLV 9	7.52	Si
fin.	2	215	-9140	172601	SLV 9	18.88	Si
ini.	2	-2361	45573	172601	SLV 13	3.79	Si
fin.	2	2177	-46579	172601	SLV 13	3.71	Si
ini.	2	2846	-41208	172601	SLV 3	4.19	Si
fin.	2	-1633	46189	172601	SLV 3	3.74	Si
ini.	2	2357	-36086	172601	SLV 2	4.78	Si
fin.	2	-2047	49466	172601	SLV 2	3.49	Si
ini.	2	2357	-36086	172601	SLV 1	4.78	Si
fin.	2	-2047	49466	172601	SLV 1	3.49	Si
ini.	2	2846	-41208	172601	SLV 4	4.19	Si
fin.	2	-1633	46189	172601	SLV 4	3.74	Si
ini.	2	-2361	45573	172601	SLV 14	3.79	Si
fin.	2	2177	-46579	172601	SLV 14	3.71	Si
ini.	2	-1281	22967	172601	SLV 10	7.52	Si
fin.	2	215	-9140	172601	SLV 10	18.88	Si
ini.	2	-1872	40452	172601	SLV 16	4.27	Si
fin.	2	2591	-49856	172601	SLV 16	3.46	Si
ini.	2	-1872	40452	172601	SLV 15	4.27	Si
fin.	2	2591	-49856	172601	SLV 15	3.46	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	351	5896	-817			1456	465	SLV 11	0.57	No
fin.	2	1595	-20063	-707			1456	0	SLV 11	0	No
ini.	2	351	5896	-817			1456	465	SLV 12	0.57	No
fin.	2	1595	-20063	-707			1456	0	SLV 12	0	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	2846	-41208	2908			1456	0	SLV 3	0	No
fin.	2	-1633	46189	3423			2109	830	SLV 3	0.24	No
ini.	2	-661	18526	-1554			1720	676	SLD 16	0.44	No
fin.	2	1261	-21398	-1059			1456	0	SLD 16	0	No
ini.	2	-2361	45573	-3487			2400	929	SLV 13	0.27	No
fin.	2	2177	-46579	-2839			1456	0	SLV 13	0	No
ini.	2	1766	-18601	1030			1456	0	SLV 8	0	No
fin.	2	328	8751	1181			1456	471	SLV 8	0.4	No
ini.	2	2357	-36086	2670			1456	0	SLV 2	0	No
fin.	2	-2047	49466	3456			2274	887	SLV 2	0.26	No
ini.	2	-2361	45573	-3487			2400	929	SLV 14	0.27	No
fin.	2	2177	-46579	-2839			1456	0	SLV 14	0	No
ini.	2	2846	-41208	2908			1456	0	SLV 4	0	No
fin.	2	-1633	46189	3423			2109	830	SLV 4	0.24	No
ini.	2	1766	-18601	1030			1456	0	SLV 7	0	No
fin.	2	328	8751	1181			1456	471	SLV 7	0.4	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.462	SLV 15	Si
V_SLV	0	SLD 3	No
PF_SLU	12.403	SLU 72	Si
V_SLU	0.418	SLU 77	No

## Trave di accoppiamento 160

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1283.8	666.1	1456	1502	46	-1193.8	666.1	1456	1502	46	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-341	-1418	30060	SLU 27	21.19	Si
fin.	3	-339	-4668	30060	SLU 27	6.44	Si
ini.	3	-397	-1543	30060	SLU 72	19.48	Si
fin.	3	-395	-4914	30060	SLU 72	6.12	Si
ini.	3	-337	-1597	30060	SLU 70	18.83	Si
fin.	3	-335	-4776	30060	SLU 70	6.29	Si
ini.	3	-328	-1584	30060	SLU 69	18.97	Si
fin.	3	-326	-4738	30060	SLU 69	6.34	Si
ini.	3	-402	-1365	30060	SLU 29	22.02	Si
fin.	3	-399	-4806	30060	SLU 29	6.26	Si
ini.	3	-277	-1191	30060	SLU 79	25.25	Si
fin.	3	-275	-4484	30060	SLU 79	6.7	Si
ini.	3	-389	-1531	30060	SLU 71	19.63	Si
fin.	3	-387	-4875	30060	SLU 71	6.17	Si
ini.	3	-350	-1430	30060	SLU 28	21.01	Si
fin.	3	-348	-4707	30060	SLU 28	6.39	Si
ini.	3	-286	-1203	30060	SLU 80	24.99	Si
fin.	3	-284	-4523	30060	SLU 80	6.65	Si
ini.	3	-410	-1377	30060	SLU 30	21.83	Si
fin.	3	-408	-4844	30060	SLU 30	6.21	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-225	-1256	318			391	154	SLU 78	0.48	No
fin.	3	-223	-4386	-403			390	153	SLU 78	0.38	No
ini.	3	234	105	224			331	84	SLU 81	0.37	No
fin.	3	236	-870	-252			331	84	SLU 81	0.33	No
ini.	3	3	-470	260			331	124	SLU 83	0.48	No
fin.	3	4	-2594	-317			331	124	SLU 83	0.39	No
ini.	3	225	-53	205			331	86	SLU 60	0.42	No
fin.	3	226	-344	-216			331	86	SLU 60	0.4	No
ini.	3	-6	-482	259			332	125	SLU 84	0.48	No
fin.	3	-4	-2632	-317			332	125	SLU 84	0.39	No
ini.	3	15	-669	283			331	122	SLU 74	0.43	No
fin.	3	17	-2624	-338			331	122	SLU 74	0.36	No
ini.	3	226	93	224			331	86	SLU 82	0.38	No
fin.	3	227	-909	-253			331	85	SLU 82	0.34	No
ini.	3	6	-681	282			331	124	SLU 75	0.44	No
fin.	3	8	-2662	-338			331	123	SLU 75	0.36	No
ini.	3	172	-61	223			331	96	SLU 73	0.43	No
fin.	3	173	-1102	-253			331	96	SLU 73	0.38	No
ini.	3	-217	-1244	318			388	153	SLU 77	0.48	No
fin.	3	-215	-4347	-402			388	152	SLU 77	0.38	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	338	-25497	45089	SLV 3	1.77	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	366	26682	45089	SLV 3	1.69	Si
ini.	2	-163	25035	45089	SLV 13	1.8	Si
fin.	2	-190	-28424	45089	SLV 13	1.59	Si
ini.	2	342	26111	45089	SLV 15	1.73	Si
fin.	2	319	-25908	45089	SLV 15	1.74	Si
ini.	2	-754	5717	45089	SLV 10	7.89	Si
fin.	2	-767	-12954	45089	SLV 10	3.48	Si
ini.	2	338	-25497	45089	SLV 4	1.77	Si
fin.	2	366	26682	45089	SLV 4	1.69	Si
ini.	2	342	26111	45089	SLV 16	1.73	Si
fin.	2	319	-25908	45089	SLV 16	1.74	Si
ini.	2	-754	5717	45089	SLV 9	7.89	Si
fin.	2	-767	-12954	45089	SLV 9	3.48	Si
ini.	2	-163	25035	45089	SLV 14	1.8	Si
fin.	2	-190	-28424	45089	SLV 14	1.59	Si
ini.	2	-167	-26573	45089	SLV 1	1.7	Si
fin.	2	-142	24165	45089	SLV 1	1.87	Si
ini.	2	-167	-26573	45089	SLV 2	1.7	Si
fin.	2	-142	24165	45089	SLV 2	1.87	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt <sub>lim</sub>	Comb.	c.s.	Verifica
ini.	2	-163	25035	-397			540	209	SLV 14	0.53	No
fin.	2	-190	-28424	-807			547	212	SLV 14	0.26	No
ini.	2	930	9304	-75			496	0	SLV 12	0	No
fin.	2	929	-4565	-263			496	0	SLV 12	0	No
ini.	2	929	-6179	276			496	0	SLV 7	0	No
fin.	2	943	11211	91			496	0	SLV 7	0	No
ini.	2	930	9304	-75			496	0	SLV 11	0	No
fin.	2	929	-4565	-263			496	0	SLV 11	0	No
ini.	2	-163	25035	-397			540	209	SLV 13	0.53	No
fin.	2	-190	-28424	-807			547	212	SLV 13	0.26	No
ini.	2	929	-6179	276			496	0	SLV 8	0	No
fin.	2	943	11211	91			496	0	SLV 8	0	No
ini.	2	342	26111	-437			496	128	SLV 15	0.29	No
fin.	2	319	-25908	-746			496	133	SLV 15	0.18	No
ini.	2	342	26111	-437			496	128	SLV 16	0.29	No
fin.	2	319	-25908	-746			496	133	SLV 16	0.18	No
ini.	2	338	-25497	732			496	129	SLV 4	0.18	No
fin.	2	366	26682	433			496	123	SLV 4	0.28	No
ini.	2	338	-25497	732			496	129	SLV 3	0.18	No
fin.	2	366	26682	433			496	123	SLV 3	0.28	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.586	SLV 13	Si
V_SLV	0	SLV 7	No
PF_SLU	6.118	SLU 72	Si
V_SLU	0.331	SLU 81	No

## Trave di accoppiamento 161

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-795.8	666.1	1186	1276	90	-705.8	666.1	1186	1276	90	90	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>tk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	725	3849	115068	SLU 38	29.9	Si
fin.	3	1201	-12706	115068	SLU 38	9.06	Si
ini.	3	761	4024	115068	SLU 80	28.6	Si
fin.	3	1205	-11620	115068	SLU 80	9.9	Si
ini.	3	666	3587	115068	SLU 27	32.08	Si
fin.	3	1142	-11867	115068	SLU 27	9.7	Si
ini.	3	677	4431	115068	SLU 72	25.97	Si
fin.	3	1193	-12138	115068	SLU 72	9.48	Si
ini.	3	683	4331	115068	SLU 71	26.57	Si
fin.	3	1186	-11951	115068	SLU 71	9.63	Si
ini.	3	731	3749	115068	SLU 37	30.69	Si
fin.	3	1194	-12519	115068	SLU 37	9.19	Si
ini.	3	641	4256	115068	SLU 30	27.04	Si
fin.	3	1188	-13224	115068	SLU 30	8.7	Si
ini.	3	647	4156	115068	SLU 29	27.69	Si
fin.	3	1182	-13037	115068	SLU 29	8.83	Si
ini.	3	744	3279	115068	SLU 36	35.09	Si
fin.	3	1161	-11535	115068	SLU 36	9.98	Si
ini.	3	660	3687	115068	SLU 28	31.21	Si
fin.	3	1149	-12054	115068	SLU 28	9.55	Si



Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	641	4256	-652			970	178	SLU 30	0.27	No
fin.	3	1188	-13224	-397			970	0	SLU 30	0	No
ini.	3	640	3364	-629			970	178	SLU 57	0.28	No
fin.	3	984	-8369	-122			970	0	SLU 57	0	No
ini.	3	660	3687	-672			970	169	SLU 28	0.25	No
fin.	3	1149	-12054	-292			970	0	SLU 28	0	No
ini.	3	556	3772	-780			970	212	SLU 49	0.27	No
fin.	3	972	-8887	-82			970	0	SLU 49	0	No
ini.	3	562	3672	-772			970	210	SLU 48	0.27	No
fin.	3	965	-8700	-72			970	0	SLU 48	0	No
ini.	3	543	4241	-753			970	217	SLU 50	0.29	No
fin.	3	1005	-9871	-177			970	0	SLU 50	0	No
ini.	3	750	3180	-513			970	119	SLU 35	0.23	No
fin.	3	1155	-11348	-322			970	0	SLU 35	0	No
ini.	3	744	3279	-520			970	123	SLU 36	0.24	No
fin.	3	1161	-11535	-332			970	0	SLU 36	0	No
ini.	3	647	4156	-645			970	175	SLU 29	0.27	No
fin.	3	1182	-13037	-387			970	0	SLU 29	0	No
ini.	3	666	3587	-664			970	166	SLU 27	0.25	No
fin.	3	1142	-11867	-282			970	0	SLU 27	0	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1144	-15293	172601	SLV 3	11.29	Si
fin.	2	-1581	36212	172601	SLV 3	4.77	Si
ini.	2	759	-16954	172601	SLV 2	10.18	Si
fin.	2	-2002	43158	172601	SLV 2	4	Si
ini.	2	1144	-15293	172601	SLV 4	11.29	Si
fin.	2	-1581	36212	172601	SLV 4	4.77	Si
ini.	2	-65	18143	172601	SLV 16	9.51	Si
fin.	2	2555	-41565	172601	SLV 16	4.15	Si
ini.	2	-112	-7189	172601	SLV 5	24.01	Si
fin.	2	-1045	24040	172601	SLV 5	7.18	Si
ini.	2	-112	-7189	172601	SLV 6	24.01	Si
fin.	2	-1045	24040	172601	SLV 6	7.18	Si
ini.	2	-65	18143	172601	SLV 15	9.51	Si
fin.	2	2555	-41565	172601	SLV 15	4.15	Si
ini.	2	-450	16482	172601	SLV 13	10.47	Si
fin.	2	2135	-34619	172601	SLV 13	4.99	Si
ini.	2	759	-16954	172601	SLV 1	10.18	Si
fin.	2	-2002	43158	172601	SLV 1	4	Si
ini.	2	-450	16482	172601	SLV 14	10.47	Si
fin.	2	2135	-34619	172601	SLV 14	4.99	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1144	-15293	1629			1456	167	SLV 3	0.1	No
fin.	2	-1581	36212	1926			2088	823	SLV 3	0.43	No
ini.	2	-65	18143	-2299			1482	562	SLV 16	0.24	No
fin.	2	2555	-41565	-1860			1456	0	SLV 16	0	No
ini.	2	-450	16482	-1999			1636	638	SLV 14	0.32	No
fin.	2	2135	-34619	-1597			1456	0	SLV 14	0	No
ini.	2	806	8378	-1274			1456	329	SLV 12	0.26	No
fin.	2	1598	-22447	-841			1456	0	SLV 12	0	No
ini.	2	-65	18143	-2299			1482	562	SLV 15	0.24	No
fin.	2	2555	-41565	-1860			1456	0	SLV 15	0	No
ini.	2	806	8378	-1274			1456	329	SLV 11	0.26	No
fin.	2	1598	-22447	-841			1456	0	SLV 11	0	No
ini.	2	169	8087	-1087			1456	510	SLD 16	0.47	No
fin.	2	1249	-17306	-700			1456	52	SLD 16	0.07	No
ini.	2	1144	-15293	1629			1456	167	SLV 4	0.1	No
fin.	2	-1581	36212	1926			2088	823	SLV 4	0.43	No
ini.	2	169	8087	-1087			1456	510	SLD 15	0.47	No
fin.	2	1249	-17306	-700			1456	52	SLD 15	0.07	No
ini.	2	-450	16482	-1999			1636	638	SLV 13	0.32	No
fin.	2	2135	-34619	-1597			1456	0	SLV 13	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.999	SLV 1	Si
V_SLV	0	SLV 11	No
PF_SLU	8.701	SLU 30	Si
V_SLU	0	SLU 6	No

Trave di accoppiamento 162

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-795.8	666.1	1456	1502	46	-705.8	666.1	1456	1502	46	90	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti





fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-607	-5627	30060	SLU 79	5.34	Si
fin.	3	-612	2925	30060	SLU 79	10.28	Si
ini.	3	-564	-5482	30060	SLU 56	5.48	Si
fin.	3	-568	1695	30060	SLU 56	17.73	Si
ini.	3	-570	-5392	30060	SLU 35	5.58	Si
fin.	3	-574	2185	30060	SLU 35	13.76	Si
ini.	3	-566	-5410	30060	SLU 57	5.56	Si
fin.	3	-569	1634	30060	SLU 57	18.4	Si
ini.	3	-620	-5743	30060	SLU 70	5.23	Si
fin.	3	-624	1776	30060	SLU 70	16.93	Si
ini.	3	-619	-5815	30060	SLU 69	5.17	Si
fin.	3	-623	1837	30060	SLU 69	16.36	Si
ini.	3	-614	-5974	30060	SLU 78	5.03	Si
fin.	3	-618	2177	30060	SLU 78	13.81	Si
ini.	3	-613	-6047	30060	SLU 77	4.97	Si
fin.	3	-617	2239	30060	SLU 77	13.43	Si
ini.	3	-613	-5395	30060	SLU 71	5.57	Si
fin.	3	-617	2524	30060	SLU 71	11.91	Si
ini.	3	-608	-5555	30060	SLU 80	5.41	Si
fin.	3	-613	2864	30060	SLU 80	10.5	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt <sub>lim</sub>	Comb.	c.s.	Verifica
ini.	3	-452	-5301	456			451	178	SLU 75	0.39	No
fin.	3	-455	1613	-319			452	179	SLU 75	0.56	No
ini.	3	-620	-5743	502			496	195	SLU 70	0.39	No
fin.	3	-624	1776	-333			497	195	SLU 70	0.59	No
ini.	3	-451	-5373	458			451	178	SLU 74	0.39	No
fin.	3	-454	1674	-318			452	179	SLU 74	0.56	No
ini.	3	-613	-6047	510			494	194	SLU 77	0.38	No
fin.	3	-617	2239	-325			495	194	SLU 77	0.6	No
ini.	3	-619	-5815	503			496	194	SLU 69	0.39	No
fin.	3	-623	1837	-332			497	195	SLU 69	0.59	No
ini.	3	-566	-5410	468			481	189	SLU 57	0.41	No
fin.	3	-569	1634	-315			482	190	SLU 57	0.6	No
ini.	3	-458	-5069	450			453	179	SLU 67	0.4	No
fin.	3	-461	1212	-326			454	179	SLU 67	0.55	No
ini.	3	-564	-5482	469			481	189	SLU 56	0.4	No
fin.	3	-568	1695	-313			482	190	SLU 56	0.61	No
ini.	3	-457	-5141	451			453	179	SLU 66	0.4	No
fin.	3	-460	1273	-325			453	179	SLU 66	0.55	No
ini.	3	-614	-5974	508			494	194	SLU 78	0.38	No
fin.	3	-618	2177	-326			496	194	SLU 78	0.6	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1636	14158	45089	SLV 11	3.18	Si
fin.	2	1593	-7789	45089	SLV 11	5.79	Si
ini.	2	1636	14158	45089	SLV 12	3.18	Si
fin.	2	1593	-7789	45089	SLV 12	5.79	Si
ini.	2	-2010	-22451	45089	SLV 2	2.01	Si
fin.	2	-1849	11276	45089	SLV 2	4	Si
ini.	2	1589	16339	45089	SLV 16	2.76	Si
fin.	2	1425	-9139	45089	SLV 16	4.93	Si
ini.	2	-2057	-20269	45089	SLV 5	2.22	Si
fin.	2	-2017	9927	45089	SLV 5	4.54	Si
ini.	2	1589	16339	45089	SLV 15	2.76	Si
fin.	2	1425	-9139	45089	SLV 15	4.93	Si
ini.	2	-1148	-14938	45089	SLV 3	3.02	Si
fin.	2	-982	7455	45089	SLV 3	6.05	Si
ini.	2	-1148	-14938	45089	SLV 4	3.02	Si
fin.	2	-982	7455	45089	SLV 4	6.05	Si
ini.	2	-2010	-22451	45089	SLV 1	2.01	Si
fin.	2	-1849	11276	45089	SLV 1	4	Si
ini.	2	-2057	-20269	45089	SLV 6	2.22	Si
fin.	2	-2017	9927	45089	SLV 6	4.54	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt <sub>lim</sub>	Comb.	c.s.	Verifica
ini.	2	727	8826	-122			496	0	SLV 13	0	No
fin.	2	558	-5317	-643			496	68	SLV 13	0.11	No
ini.	2	814	4774	111			496	0	SLV 8	0	No
fin.	2	871	-2811	-8			496	0	SLV 8	0	No
ini.	2	1589	16339	-292			496	0	SLV 16	0	No
fin.	2	1425	-9139	-623			496	0	SLV 16	0	No
ini.	2	1636	14158	-167			496	0	SLV 12	0	No
fin.	2	1593	-7789	-281			496	0	SLV 12	0	No
ini.	2	727	8826	-122			496	0	SLV 14	0	No
fin.	2	558	-5317	-643			496	68	SLV 14	0.11	No
ini.	2	1636	14158	-167			496	0	SLV 11	0	No
fin.	2	1593	-7789	-281			496	0	SLV 11	0	No
ini.	2	557	5232	22			496	69	SLD 15	3.12	Si
fin.	2	486	-3300	-369			496	93	SLD 15	0.25	No
ini.	2	557	5232	22			496	69	SLD 16	3.12	Si
fin.	2	486	-3300	-369			496	93	SLD 16	0.25	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1589	16339	-292			496	0	SLV 15	0	No
fin.	2	1425	-9139	-623			496	0	SLV 15	0	No
ini.	2	814	4774	111			496	0	SLV 7	0	No
fin.	2	871	-2811	-8			496	0	SLV 7	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.008	SLV 1	Si
V_SLV	0	SLV 7	No
PF_SLU	4.971	SLU 77	Si
V_SLU	0.38	SLU 77	No

## Trave di accoppiamento 163

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1986.8	104.6	1396	1502	106	-2066.8	104.6	1396	1502	106	80	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>mk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-557	42893	159617	SLU 51	3.72	Si
fin.	3	-1316	-24438	159617	SLU 51	6.53	Si
ini.	3	-1676	42668	159617	SLU 79	3.74	Si
fin.	3	-2825	-30706	159617	SLU 79	5.2	Si
ini.	3	-1200	42493	159617	SLU 70	3.76	Si
fin.	3	-2129	-27079	159617	SLU 70	5.89	Si
ini.	3	-1080	45942	159617	SLU 72	3.47	Si
fin.	3	-2058	-29013	159617	SLU 72	5.5	Si
ini.	3	-626	42084	159617	SLU 50	3.79	Si
fin.	3	-1397	-24899	159617	SLU 50	6.41	Si
ini.	3	-1123	42464	159617	SLU 30	3.76	Si
fin.	3	-2069	-28028	159617	SLU 30	5.69	Si
ini.	3	-1607	43477	159617	SLU 80	3.67	Si
fin.	3	-2744	-30245	159617	SLU 80	5.28	Si
ini.	3	-1191	41655	159617	SLU 29	3.83	Si
fin.	3	-2150	-28489	159617	SLU 29	5.6	Si
ini.	3	-1269	41684	159617	SLU 69	3.83	Si
fin.	3	-2210	-27540	159617	SLU 69	5.8	Si
ini.	3	-1149	45133	159617	SLU 71	3.54	Si
fin.	3	-2139	-29474	159617	SLU 71	5.42	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1269	41684	2250			1651	650	SLU 69	0.29	No
fin.	3	-2210	-27540	-2822			2027	773	SLU 69	0.27	No
ini.	3	-626	42084	1917			1393	550	SLU 50	0.29	No
fin.	3	-1397	-24899	-2423			1702	668	SLU 50	0.28	No
ini.	3	-1149	45133	2131			1602	632	SLU 71	0.3	No
fin.	3	-2139	-29474	-2801			1999	765	SLU 71	0.27	No
ini.	3	-1727	40028	2279			1834	713	SLU 78	0.31	No
fin.	3	-2815	-28311	-2944			2269	843	SLU 78	0.29	No
ini.	3	-1607	43477	2160			1786	697	SLU 80	0.32	No
fin.	3	-2744	-30245	-2923			2240	836	SLU 80	0.29	No
ini.	3	-1080	45942	2189			1575	622	SLU 72	0.28	No
fin.	3	-2058	-29013	-2807			1966	755	SLU 72	0.27	No
ini.	3	-1200	42493	2308			1623	640	SLU 70	0.28	No
fin.	3	-2129	-27079	-2828			1995	764	SLU 70	0.27	No
ini.	3	-557	42893	1975			1366	538	SLU 51	0.27	No
fin.	3	-1316	-24438	-2429			1669	657	SLU 51	0.27	No
ini.	3	-746	38635	2035			1441	570	SLU 48	0.28	No
fin.	3	-1468	-22965	-2444			1730	678	SLU 48	0.28	No
ini.	3	-678	39444	2093			1414	558	SLU 49	0.27	No
fin.	3	-1387	-22504	-2450			1698	667	SLU 49	0.27	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1134	-68720	239426	SLV 15	3.48	Si
fin.	2	-444	74164	239426	SLV 15	3.23	Si
ini.	2	-378	99211	239426	SLV 1	2.41	Si
fin.	2	-1992	-94506	239426	SLV 1	2.53	Si
ini.	2	-1511	-65939	239426	SLV 14	3.63	Si
fin.	2	-590	59251	239426	SLV 14	4.04	Si
ini.	2	-1134	-68720	239426	SLV 16	3.48	Si
fin.	2	-444	74164	239426	SLV 16	3.23	Si
ini.	2	-1511	-65939	239426	SLV 13	3.63	Si
fin.	2	-590	59251	239426	SLV 13	4.04	Si
ini.	2	-1214	44653	239426	SLV 6	5.36	Si
fin.	2	-1672	-58090	239426	SLV 6	4.12	Si
ini.	2	-1	96429	239426	SLV 3	2.48	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	-1845	-79593	239426	SLV 3	3.01	Si
ini.	2	-378	99211	239426	SLV 2	2.41	Si
fin.	2	-1992	-94506	239426	SLV 2	2.53	Si
ini.	2	-1214	44653	239426	SLV 5	5.36	Si
fin.	2	-1672	-58090	239426	SLV 5	4.12	Si
ini.	2	-1	96429	239426	SLV 4	2.48	Si
fin.	2	-1845	-79593	239426	SLV 4	3.01	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-435	49978	170			1889	734	SLD 4	4.32	Si
fin.	2	-1489	-39935	-2577			2310	913	SLD 4	0.35	No
ini.	2	-378	99211	-998			1866	723	SLV 1	0.72	No
fin.	2	-1992	-94506	-4276			2511	987	SLV 1	0.23	No
ini.	2	-1	96429	-773			1715	645	SLV 3	0.84	No
fin.	2	-1845	-79593	-4350			2452	966	SLV 3	0.22	No
ini.	2	-1134	-68720	2746			2168	857	SLV 15	0.31	No
fin.	2	-444	74164	1766			1892	735	SLV 15	0.42	No
ini.	2	-1134	-68720	2746			2168	857	SLV 16	0.31	No
fin.	2	-444	74164	1766			1892	735	SLV 16	0.42	No
ini.	2	-378	99211	-998			1866	723	SLV 2	0.72	No
fin.	2	-1992	-94506	-4276			2511	987	SLV 2	0.23	No
ini.	2	-435	49978	170			1889	734	SLD 3	4.32	Si
fin.	2	-1489	-39935	-2577			2310	913	SLD 3	0.35	No
ini.	2	-584	51025	79			1948	762	SLD 1	9.69	Si
fin.	2	-1547	-45831	-2548			2333	922	SLD 1	0.36	No
ini.	2	-1	96429	-773			1715	645	SLV 4	0.84	No
fin.	2	-1845	-79593	-4350			2452	966	SLV 4	0.22	No
ini.	2	-584	51025	79			1948	762	SLD 2	9.69	Si
fin.	2	-1547	-45831	-2548			2333	922	SLD 2	0.36	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.413	SLV 1	Si
V_SLV	0.222	SLV 3	No
PF_SLU	3.474	SLU 72	Si
V_SLU	0.267	SLU 49	No

## Trave di accoppiamento 164

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1116.3	104.6	1436	1502	66	-1228.3	104.6	1436	1502	66	112	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fhk	fvk0	fmedlo	t0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-2056	-22661	61881	SLU 77	2.73	Si
fin.	3	-1898	-24736	61881	SLU 77	2.5	Si
ini.	3	-1841	-23973	61881	SLU 70	2.58	Si
fin.	3	-1529	-21007	61881	SLU 70	2.95	Si
ini.	3	-1819	-23314	61881	SLU 71	2.65	Si
fin.	3	-1494	-19761	61881	SLU 71	3.13	Si
ini.	3	-1724	-18137	61881	SLU 74	3.41	Si
fin.	3	-1716	-23475	61881	SLU 74	2.64	Si
ini.	3	-2005	-21861	61881	SLU 79	2.83	Si
fin.	3	-1836	-23329	61881	SLU 79	2.65	Si
ini.	3	-1870	-24114	61881	SLU 69	2.57	Si
fin.	3	-1556	-21168	61881	SLU 69	2.92	Si
ini.	3	-1724	-16573	61881	SLU 84	3.73	Si
fin.	3	-1774	-23437	61881	SLU 84	2.64	Si
ini.	3	-1695	-17996	61881	SLU 75	3.44	Si
fin.	3	-1689	-23315	61881	SLU 75	2.65	Si
ini.	3	-2027	-22520	61881	SLU 78	2.75	Si
fin.	3	-1871	-24575	61881	SLU 78	2.52	Si
ini.	3	-1753	-16714	61881	SLU 83	3.7	Si
fin.	3	-1801	-23598	61881	SLU 83	2.62	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1841	-23973	2707			965	357	SLU 70	0.13	No
fin.	3	-1529	-21007	-1895			882	333	SLU 70	0.18	No
ini.	3	-2027	-22520	2615			1015	370	SLU 78	0.14	No
fin.	3	-1871	-24575	-2038			973	359	SLU 78	0.18	No
ini.	3	-1819	-23314	2590			960	355	SLU 71	0.14	No
fin.	3	-1494	-19761	-1772			873	330	SLU 71	0.19	No
ini.	3	-1530	-22293	2513			882	333	SLU 48	0.13	No
fin.	3	-1186	-17024	-1670			791	305	SLU 48	0.18	No
ini.	3	-1450	-21351	2369			861	327	SLU 51	0.14	No
fin.	3	-1097	-15456	-1531			767	298	SLU 51	0.19	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1501	-22151	2500			875	331	SLU 49	0.13	No
fin.	3	-1159	-16863	-1662			783	303	SLU 49	0.18	No
ini.	3	-1479	-21493	2382			869	329	SLU 50	0.14	No
fin.	3	-1124	-15617	-1539			774	300	SLU 50	0.19	No
ini.	3	-1870	-24114	2720			973	359	SLU 69	0.13	No
fin.	3	-1556	-21168	-1904			889	335	SLU 69	0.18	No
ini.	3	-2056	-22661	2628			1023	372	SLU 77	0.14	No
fin.	3	-1898	-24736	-2047			981	361	SLU 77	0.18	No
ini.	3	-1790	-23173	2577			952	353	SLU 72	0.14	No
fin.	3	-1466	-19600	-1764			865	328	SLU 72	0.19	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-561	21669	92821	SLV 8	4.28	Si
fin.	2	-3628	-65016	92821	SLV 8	1.43	Si
ini.	2	-295	-56181	92821	SLV 14	1.65	Si
fin.	2	5101	94123	92821	SLV 14	0.99	No
ini.	2	-1439	35864	92821	SLV 4	2.59	Si
fin.	2	-6872	-120864	92821	SLV 4	0.77	No
ini.	2	-295	-56181	92821	SLV 13	1.65	Si
fin.	2	5101	94123	92821	SLV 13	0.99	No
ini.	2	20	-44299	92821	SLV 16	2.1	Si
fin.	2	4477	81334	92821	SLV 16	1.14	Si
ini.	2	-1439	35864	92821	SLV 3	2.59	Si
fin.	2	-6872	-120864	92821	SLV 3	0.77	No
ini.	2	-1754	23982	92821	SLV 1	3.87	Si
fin.	2	-6248	-108074	92821	SLV 1	0.86	No
ini.	2	20	-44299	92821	SLV 15	2.1	Si
fin.	2	4477	81334	92821	SLV 15	1.14	Si
ini.	2	-561	21669	92821	SLV 7	4.28	Si
fin.	2	-3628	-65016	92821	SLV 7	1.43	Si
ini.	2	-1754	23982	92821	SLV 2	3.87	Si
fin.	2	-6248	-108074	92821	SLV 2	0.86	No

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-622	-29802	2662			878	346	SLD 14	0.13	No
fin.	2	1670	32516	698			712	0	SLD 14	0	No
ini.	2	-1173	-41986	3573			1024	403	SLV 9	0.11	No
fin.	2	1857	38275	1108			712	0	SLV 9	0	No
ini.	2	20	-44299	3606			712	265	SLV 16	0.07	No
fin.	2	4477	81334	2532			712	0	SLV 16	0	No
ini.	2	-488	-24746	2295			842	331	SLD 15	0.14	No
fin.	2	1407	27098	431			712	0	SLD 15	0	No
ini.	2	-622	-29802	2662			878	346	SLD 13	0.13	No
fin.	2	1670	32516	698			712	0	SLD 13	0	No
ini.	2	-295	-56181	4470			790	308	SLV 14	0.07	No
fin.	2	5101	94123	3162			712	0	SLV 14	0	No
ini.	2	20	-44299	3606			712	265	SLV 15	0.07	No
fin.	2	4477	81334	2532			712	0	SLV 15	0	No
ini.	2	-488	-24746	2295			842	331	SLD 16	0.14	No
fin.	2	1407	27098	431			712	0	SLD 16	0	No
ini.	2	-295	-56181	4470			790	308	SLV 13	0.07	No
fin.	2	5101	94123	3162			712	0	SLV 13	0	No
ini.	2	-1173	-41986	3573			1024	403	SLV 10	0.11	No
fin.	2	1857	38275	1108			712	0	SLV 10	0	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.768	SLV 3	No
V_SLV	0	SLD 13	No
PF_SLU	2.502	SLU 77	Si
V_SLU	0.132	SLU 70	No

### Trave di accoppiamento 165

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-938.6	104.6	1436	1502	66	-1046.6	104.6	1436	1502	66	108	28	30000

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-848	4332	61881	SLU 78	14.28	Si
fin.	3	-1702	-42882	61881	SLU 78	1.44	Si
ini.	3	-843	5010	61881	SLU 77	12.35	Si
fin.	3	-1723	-43515	61881	SLU 77	1.42	Si
ini.	3	-831	4786	61881	SLU 80	12.93	Si
fin.	3	-1667	-41655	61881	SLU 80	1.49	Si
ini.	3	-826	5464	61881	SLU 79	11.33	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	-1688	-42288	61881	SLU 79	1.46	Si
ini.	3	-691	3234	61881	SLU 71	19.13	Si
fin.	3	-1478	-40281	61881	SLU 71	1.54	Si
ini.	3	-708	2781	61881	SLU 69	22.25	Si
fin.	3	-1513	-41508	61881	SLU 69	1.49	Si
ini.	3	-713	2103	61881	SLU 70	29.43	Si
fin.	3	-1492	-40875	61881	SLU 70	1.51	Si
ini.	3	-696	2556	61881	SLU 72	24.21	Si
fin.	3	-1457	-39648	61881	SLU 72	1.56	Si
ini.	3	-837	6386	61881	SLU 35	9.69	Si
fin.	3	-1685	-40561	61881	SLU 35	1.53	Si
ini.	3	-842	5708	61881	SLU 36	10.84	Si
fin.	3	-1664	-39929	61881	SLU 36	1.55	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-708	2781	406			663	262	SLU 69	0.64	No
fin.	3	-1513	-41508	-1829			878	332	SLU 69	0.18	No
ini.	3	-691	3234	366			659	260	SLU 71	0.71	No
fin.	3	-1478	-40281	-1767			869	329	SLU 71	0.19	No
ini.	3	-505	2834	372			609	241	SLU 66	0.65	No
fin.	3	-1213	-35788	-1613			798	308	SLU 66	0.19	No
ini.	3	-511	2156	392			611	241	SLU 67	0.62	No
fin.	3	-1192	-35156	-1590			792	306	SLU 67	0.19	No
ini.	3	-831	4786	302			696	274	SLU 80	0.91	No
fin.	3	-1667	-41655	-1794			919	344	SLU 80	0.19	No
ini.	3	-843	5010	322			699	275	SLU 77	0.85	No
fin.	3	-1723	-43515	-1880			934	348	SLU 77	0.19	No
ini.	3	-696	2556	386			660	261	SLU 72	0.68	No
fin.	3	-1457	-39648	-1743			863	328	SLU 72	0.19	No
ini.	3	-713	2103	426			665	262	SLU 70	0.62	No
fin.	3	-1492	-40875	-1806			872	330	SLU 70	0.18	No
ini.	3	-826	5464	282			695	273	SLU 79	0.97	No
fin.	3	-1688	-42288	-1818			925	345	SLU 79	0.19	No
ini.	3	-848	4332	341			701	275	SLU 78	0.81	No
fin.	3	-1702	-42882	-1857			928	346	SLU 78	0.19	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1788	80117	92821	SLV 4	1.16	Si
fin.	2	-440	-60603	92821	SLV 4	1.53	Si
ini.	2	2227	93437	92821	SLV 1	0.99	No
fin.	2	-585	-76568	92821	SLV 1	1.21	Si
ini.	2	2227	93437	92821	SLV 2	0.99	No
fin.	2	-585	-76568	92821	SLV 2	1.21	Si
ini.	2	-2250	-75612	92821	SLV 13	1.23	Si
fin.	2	-885	18374	92821	SLV 13	5.05	Si
ini.	2	1171	49811	92821	SLV 5	1.86	Si
fin.	2	-860	-61964	92821	SLV 5	1.5	Si
ini.	2	-2689	-88932	92821	SLV 15	1.04	Si
fin.	2	-740	34340	92821	SLV 15	2.7	Si
ini.	2	1171	49811	92821	SLV 6	1.86	Si
fin.	2	-860	-61964	92821	SLV 6	1.5	Si
ini.	2	-2250	-75612	92821	SLV 14	1.23	Si
fin.	2	-885	18374	92821	SLV 14	5.05	Si
ini.	2	1788	80117	92821	SLV 3	1.16	Si
fin.	2	-440	-60603	92821	SLV 3	1.53	Si
ini.	2	-2689	-88932	92821	SLV 16	1.04	Si
fin.	2	-740	34340	92821	SLV 16	2.7	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	2227	93437	-2536			712	0	SLV 2	0	No
fin.	2	-585	-76568	-2756			868	342	SLV 2	0.12	No
ini.	2	810	41072	-947			712	94	SLD 2	0.1	No
fin.	2	-634	-44725	-1740			881	348	SLD 2	0.2	No
ini.	2	-2689	-88932	3002			1429	530	SLV 15	0.18	No
fin.	2	-740	34340	785			909	359	SLV 15	0.46	No
ini.	2	2227	93437	-2536			712	0	SLV 1	0	No
fin.	2	-585	-76568	-2756			868	342	SLV 1	0.12	No
ini.	2	810	41072	-947			712	94	SLD 1	0.1	No
fin.	2	-634	-44725	-1740			881	348	SLD 1	0.2	No
ini.	2	1788	80117	-2120			712	0	SLV 4	0	No
fin.	2	-440	-60603	-2275			829	325	SLV 4	0.14	No
ini.	2	1171	49811	-1230			712	0	SLV 6	0	No
fin.	2	-860	-61964	-2247			941	372	SLV 6	0.17	No
ini.	2	1171	49811	-1230			712	0	SLV 5	0	No
fin.	2	-860	-61964	-2247			941	372	SLV 5	0.17	No
ini.	2	-2689	-88932	3002			1429	530	SLV 16	0.18	No
fin.	2	-740	34340	785			909	359	SLV 16	0.46	No
ini.	2	1788	80117	-2120			712	0	SLV 3	0	No
fin.	2	-440	-60603	-2275			829	325	SLV 3	0.14	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.993	SLV 1	No
V_SLV	0	SLV 1	No
PF_SLU	1.422	SLU 77	Si
V_SLU	0.181	SLU 69	No



## Trave di accoppiamento 166

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-647.8	104.6	1396	1502	106	-727.8	104.6	1396	1502	106	80	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1120	-18582	159617	SLU 61	8.59	Si
fin.	3	-616	14624	159617	SLU 61	10.91	Si
ini.	3	-1135	-16453	159617	SLU 18	9.7	Si
fin.	3	-654	12421	159617	SLU 18	12.85	Si
ini.	3	-1703	-16533	159617	SLU 74	9.65	Si
fin.	3	-1324	7827	159617	SLU 74	20.39	Si
ini.	3	-910	-16045	159617	SLU 52	9.95	Si
fin.	3	-507	12715	159617	SLU 52	12.55	Si
ini.	3	-1548	-19384	159617	SLU 81	8.23	Si
fin.	3	-985	13501	159617	SLU 81	11.82	Si
ini.	3	-1491	-18751	159617	SLU 82	8.51	Si
fin.	3	-961	13291	159617	SLU 82	12.01	Si
ini.	3	-1506	-16621	159617	SLU 39	9.6	Si
fin.	3	-999	11087	159617	SLU 39	14.4	Si
ini.	3	-1177	-19216	159617	SLU 60	8.31	Si
fin.	3	-640	14834	159617	SLU 60	10.76	Si
ini.	3	-1281	-16213	159617	SLU 73	9.85	Si
fin.	3	-852	11381	159617	SLU 73	14.02	Si
ini.	3	-1332	-16365	159617	SLU 53	9.75	Si
fin.	3	-979	9160	159617	SLU 53	17.43	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1120	-18582	1884			1591	628	SLU 61	0.33	No
fin.	3	-616	14624	-328			1389	548	SLU 61	1.67	Si
ini.	3	-910	-16045	1770			1507	596	SLU 52	0.34	No
fin.	3	-507	12715	-464			1346	529	SLU 52	1.14	Si
ini.	3	-1703	-16533	2141			1824	710	SLU 74	0.33	No
fin.	3	-1324	7827	-890			1673	658	SLU 74	0.74	No
ini.	3	-1646	-15899	2118			1801	702	SLU 75	0.33	No
fin.	3	-1300	7617	-928			1663	654	SLU 75	0.71	No
ini.	3	-1177	-19216	1907			1614	637	SLU 60	0.33	No
fin.	3	-640	14834	-290			1399	552	SLU 60	1.9	Si
ini.	3	-1548	-19384	2034			1762	689	SLU 81	0.34	No
fin.	3	-985	13501	-381			1537	608	SLU 81	1.59	Si
ini.	3	-1275	-15731	1991			1653	651	SLU 54	0.33	No
fin.	3	-955	8950	-837			1525	603	SLU 54	0.72	No
ini.	3	-930	-11429	1785			1515	599	SLU 45	0.34	No
fin.	3	-762	5030	-1057			1448	572	SLU 45	0.54	No
ini.	3	-1332	-16365	2014			1676	659	SLU 53	0.33	No
fin.	3	-979	9160	-799			1535	607	SLU 53	0.76	No
ini.	3	-874	-10796	1762			1493	590	SLU 46	0.33	No
fin.	3	-738	4821	-1095			1438	568	SLU 46	0.52	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1904	-56829	239426	SLV 11	4.21	Si
fin.	2	-922	58684	239426	SLV 11	4.08	Si
ini.	2	-1588	-74557	239426	SLV 13	3.21	Si
fin.	2	-372	61775	239426	SLV 13	3.88	Si
ini.	2	-1904	-56829	239426	SLV 12	4.21	Si
fin.	2	-922	58684	239426	SLV 12	4.08	Si
ini.	2	24	52836	239426	SLV 4	4.53	Si
fin.	2	-639	-47135	239426	SLV 4	5.08	Si
ini.	2	-2073	-89342	239426	SLV 16	2.68	Si
fin.	2	-623	81056	239426	SLV 16	2.95	Si
ini.	2	-1588	-74557	239426	SLV 14	3.21	Si
fin.	2	-372	61775	239426	SLV 14	3.88	Si
ini.	2	24	52836	239426	SLV 3	4.53	Si
fin.	2	-639	-47135	239426	SLV 3	5.08	Si
ini.	2	508	67621	239426	SLV 1	3.54	Si
fin.	2	-388	-66416	239426	SLV 1	3.6	Si
ini.	2	508	67621	239426	SLV 2	3.54	Si
fin.	2	-388	-66416	239426	SLV 2	3.6	Si
ini.	2	-2073	-89342	239426	SLV 15	2.68	Si
fin.	2	-623	81056	239426	SLV 15	2.95	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	508	67621	-1410			1715	523	SLV 2	0.37	No
fin.	2	-388	-66416	-3077			1870	725	SLV 2	0.24	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	339	35108	-493			1715	567	SLV 6	1.15	Si
fin.	2	-89	-44044	-2225			1750	664	SLV 6	0.3	No
ini.	2	-1588	-74557	3442			2350	928	SLV 13	0.27	No
fin.	2	-372	61775	1476			1863	722	SLV 13	0.49	No
ini.	2	508	67621	-1410			1715	523	SLV 1	0.37	No
fin.	2	-388	-66416	-3077			1870	725	SLV 1	0.24	No
ini.	2	-2073	-89342	4112			2544	999	SLV 15	0.24	No
fin.	2	-623	81056	2111			1964	769	SLV 15	0.36	No
ini.	2	-1904	-56829	3195			2476	975	SLV 11	0.31	No
fin.	2	-922	58684	1260			2083	822	SLV 11	0.65	No
ini.	2	339	35108	-493			1715	567	SLV 5	1.15	Si
fin.	2	-89	-44044	-2225			1750	664	SLV 5	0.3	No
ini.	2	-2073	-89342	4112			2544	999	SLV 16	0.24	No
fin.	2	-623	81056	2111			1964	769	SLV 16	0.36	No
ini.	2	-1588	-74557	3442			2350	928	SLV 14	0.27	No
fin.	2	-372	61775	1476			1863	722	SLV 14	0.49	No
ini.	2	-1904	-56829	3195			2476	975	SLV 12	0.31	No
fin.	2	-922	58684	1260			2083	822	SLV 12	0.65	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.68	SLV 15	Si
V_SLV	0.235	SLV 1	No
PF_SLU	8.234	SLU 81	Si
V_SLU	0.327	SLU 54	No

## Trave di accoppiamento 167

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-416.8	104.6	1396	1502	106	-496.8	104.6	1396	1502	106	80	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1579	-35260	159617	SLU 29	4.53	Si
fin.	3	-683	42491	159617	SLU 29	3.76	Si
ini.	3	-2355	-38986	159617	SLU 80	4.09	Si
fin.	3	-1264	46351	159617	SLU 80	3.44	Si
ini.	3	-2547	-36549	159617	SLU 78	4.37	Si
fin.	3	-1477	42437	159617	SLU 78	3.76	Si
ini.	3	-2303	-35308	159617	SLU 38	4.52	Si
fin.	3	-1250	44061	159617	SLU 38	3.62	Si
ini.	3	-1501	-38891	159617	SLU 72	4.1	Si
fin.	3	-586	44625	159617	SLU 72	3.58	Si
ini.	3	-1631	-38938	159617	SLU 71	4.1	Si
fin.	3	-698	44781	159617	SLU 71	3.56	Si
ini.	3	-2677	-36596	159617	SLU 77	4.36	Si
fin.	3	-1588	42593	159617	SLU 77	3.75	Si
ini.	3	-2434	-35355	159617	SLU 37	4.51	Si
fin.	3	-1361	44218	159617	SLU 37	3.61	Si
ini.	3	-2486	-39033	159617	SLU 79	4.09	Si
fin.	3	-1376	46507	159617	SLU 79	3.43	Si
ini.	3	-1448	-35213	159617	SLU 30	4.53	Si
fin.	3	-572	42335	159617	SLU 30	3.77	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1148	-33836	2609			1602	632	SLU 48	0.24	No
fin.	3	-448	34766	-811			1322	519	SLU 48	0.64	No
ini.	3	-1823	-36502	3002			1872	725	SLU 69	0.24	No
fin.	3	-910	40867	-873			1507	596	SLU 69	0.68	No
ini.	3	-773	-32548	2332			1452	574	SLU 9	0.25	No
fin.	3	-110	36234	-609			1187	453	SLU 9	0.74	No
ini.	3	-825	-36226	2584			1473	583	SLU 51	0.23	No
fin.	3	-125	38524	-697			1193	456	SLU 51	0.65	No
ini.	3	-1631	-38938	2987			1796	700	SLU 71	0.23	No
fin.	3	-698	44781	-727			1422	562	SLU 71	0.77	No
ini.	3	-1017	-33789	2600			1550	613	SLU 49	0.24	No
fin.	3	-337	34610	-843			1278	498	SLU 49	0.59	No
ini.	3	-1448	-35213	2725			1722	675	SLU 30	0.25	No
fin.	3	-572	42335	-671			1372	540	SLU 30	0.81	No
ini.	3	-1692	-36455	2993			1820	708	SLU 70	0.24	No
fin.	3	-799	40711	-905			1463	578	SLU 70	0.64	No
ini.	3	-956	-36273	2594			1525	603	SLU 50	0.23	No
fin.	3	-236	38680	-665			1237	479	SLU 50	0.72	No
ini.	3	-1501	-38891	2977			1743	682	SLU 72	0.23	No
fin.	3	-586	44625	-759			1378	543	SLU 72	0.71	No



## Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1067	-56774	239426	SLD 16	4.22	Si
fin.	2	-400	43148	239426	SLD 16	5.55	Si
ini.	2	-657	-111398	239426	SLV 15	2.15	Si
fin.	2	265	78714	239426	SLV 15	3.04	Si
ini.	2	-1067	-56774	239426	SLD 15	4.22	Si
fin.	2	-400	43148	239426	SLD 15	5.55	Si
ini.	2	-53	-104141	239426	SLV 13	2.3	Si
fin.	2	597	66415	239426	SLV 13	3.61	Si
ini.	2	-2712	71952	239426	SLV 3	3.33	Si
fin.	2	-2400	-32734	239426	SLV 3	7.31	Si
ini.	2	-2108	79208	239426	SLV 2	3.02	Si
fin.	2	-2068	-45033	239426	SLV 2	5.32	Si
ini.	2	-657	-111398	239426	SLV 16	2.15	Si
fin.	2	265	78714	239426	SLV 16	3.04	Si
ini.	2	-2108	79208	239426	SLV 1	3.02	Si
fin.	2	-2068	-45033	239426	SLV 1	5.32	Si
ini.	2	-53	-104141	239426	SLV 14	2.3	Si
fin.	2	597	66415	239426	SLV 14	3.61	Si
ini.	2	-2712	71952	239426	SLV 4	3.33	Si
fin.	2	-2400	-32734	239426	SLV 4	7.31	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-53	-104141	3091			1736	657	SLV 14	0.21	No
fin.	2	597	66415	1461			1715	499	SLV 14	0.34	No
ini.	2	-2082	-55692	2852			2547	1000	SLV 11	0.35	No
fin.	2	-1055	54056	460			2137	844	SLV 11	1.83	Si
ini.	2	-1067	-56774	2363			2142	846	SLD 15	0.36	No
fin.	2	-400	43148	477			1875	727	SLD 15	1.52	Si
ini.	2	-53	-104141	3091			1736	657	SLV 13	0.21	No
fin.	2	597	66415	1461			1715	499	SLV 13	0.34	No
ini.	2	-657	-111398	3590			1977	775	SLV 15	0.22	No
fin.	2	265	78714	1615			1715	585	SLV 15	0.36	No
ini.	2	-819	-53719	2157			2042	804	SLD 14	0.37	No
fin.	2	-263	38099	413			1820	700	SLD 14	1.7	Si
ini.	2	-2082	-55692	2852			2547	1000	SLV 12	0.35	No
fin.	2	-1055	54056	460			2137	844	SLV 12	1.83	Si
ini.	2	-657	-111398	3590			1977	775	SLV 16	0.22	No
fin.	2	265	78714	1615			1715	585	SLV 16	0.36	No
ini.	2	-1067	-56774	2363			2142	846	SLD 16	0.36	No
fin.	2	-400	43148	477			1875	727	SLD 16	1.52	Si
ini.	2	-819	-53719	2157			2042	804	SLD 13	0.37	No
fin.	2	-263	38099	413			1820	700	SLD 13	1.7	Si

## Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.149	SLV 15	Si
V_SLV	0.212	SLV 13	No
PF_SLU	3.432	SLU 79	Si
V_SLU	0.225	SLU 51	No

## Trave di accoppiamento 168

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-515.8	600.6	1186	1386	200	-515.8	650.6	1186	1386	200	50	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	776	80411	568235	SLU 29	7.07	Si
fin.	3	170	15993	568235	SLU 29	35.53	Si
ini.	3	836	81353	568235	SLU 79	6.98	Si
fin.	3	178	16838	568235	SLU 79	33.75	Si
ini.	3	818	82080	568235	SLU 71	6.92	Si
fin.	3	177	16740	568235	SLU 71	33.94	Si
ini.	3	789	77448	568235	SLU 69	7.34	Si
fin.	3	169	16009	568235	SLU 69	35.49	Si
ini.	3	814	80930	568235	SLU 72	7.02	Si
fin.	3	176	16645	568235	SLU 72	34.14	Si
ini.	3	833	80203	568235	SLU 80	7.08	Si
fin.	3	177	16742	568235	SLU 80	33.94	Si
ini.	3	772	79261	568235	SLU 30	7.17	Si
fin.	3	169	15897	568235	SLU 30	35.74	Si
ini.	3	794	79684	568235	SLU 37	7.13	Si
fin.	3	171	16090	568235	SLU 37	35.32	Si
ini.	3	791	78534	568235	SLU 38	7.24	Si
fin.	3	170	15995	568235	SLU 38	35.53	Si





Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	807	76720	568235	SLU 77	7.41	Si
fin.	3	170	16107	568235	SLU 77	35.28	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	794	79684	-2600			2157	615	SLU 37	0.24	No
fin.	3	171	16090	860			2157	774	SLU 37	0.9	No
ini.	3	807	76720	-2441			2157	612	SLU 77	0.25	No
fin.	3	170	16107	857			2157	774	SLU 77	0.9	No
ini.	3	814	80930	-2599			2157	609	SLU 72	0.23	No
fin.	3	176	16645	823			2157	772	SLU 72	0.94	No
ini.	3	789	77448	-2474			2157	617	SLU 69	0.25	No
fin.	3	169	16009	798			2157	774	SLU 69	0.97	No
ini.	3	833	80203	-2566			2157	604	SLU 80	0.24	No
fin.	3	177	16742	882			2157	772	SLU 80	0.88	No
ini.	3	772	79261	-2595			2157	621	SLU 30	0.24	No
fin.	3	169	15897	808			2157	774	SLU 30	0.96	No
ini.	3	776	80411	-2633			2157	620	SLU 29	0.24	No
fin.	3	170	15993	801			2157	774	SLU 29	0.97	No
ini.	3	818	82080	-2636			2157	608	SLU 71	0.23	No
fin.	3	177	16740	817			2157	772	SLU 71	0.95	No
ini.	3	836	81353	-2603			2157	603	SLU 79	0.23	No
fin.	3	178	16838	875			2157	772	SLU 79	0.88	No
ini.	3	791	78534	-2562			2157	616	SLU 38	0.24	No
fin.	3	170	15995	866			2157	774	SLU 38	0.89	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	703	38810	852353	SLD 8	21.96	Si
fin.	2	-3	10682	852353	SLD 8	79.79	Si
ini.	2	1332	59949	852353	SLV 11	14.22	Si
fin.	2	-85	19223	852353	SLV 11	44.34	Si
ini.	2	1301	65847	852353	SLV 7	12.94	Si
fin.	2	-93	18532	852353	SLV 7	45.99	Si
ini.	2	715	36220	852353	SLD 12	23.53	Si
fin.	2	0	10973	852353	SLD 12	77.68	Si
ini.	2	549	43220	852353	SLV 4	19.72	Si
fin.	2	1	8361	852353	SLV 4	101.95	Si
ini.	2	715	36220	852353	SLD 11	23.53	Si
fin.	2	0	10973	852353	SLD 11	77.68	Si
ini.	2	1301	65847	852353	SLV 8	12.94	Si
fin.	2	-93	18532	852353	SLV 8	45.99	Si
ini.	2	549	43220	852353	SLV 3	19.72	Si
fin.	2	1	8361	852353	SLV 3	101.95	Si
ini.	2	1332	59949	852353	SLV 12	14.22	Si
fin.	2	-85	19223	852353	SLV 12	44.34	Si
ini.	2	703	38810	852353	SLD 7	21.96	Si
fin.	2	-3	10682	852353	SLD 7	79.79	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1332	59949	-973			3235	881	SLV 12	0.91	No
fin.	2	-85	19223	489			3269	1236	SLV 12	2.53	Si
ini.	2	703	38810	-662			3235	1054	SLD 8	1.59	Si
fin.	2	-3	10682	267			3236	1218	SLD 8	4.57	Si
ini.	2	654	23559	-824			3235	1066	SLV 16	1.29	Si
fin.	2	26	10664	678			3235	1212	SLV 16	1.79	Si
ini.	2	715	36220	-705			3235	1050	SLD 11	1.49	Si
fin.	2	0	10973	362			3235	1217	SLD 11	3.36	Si
ini.	2	654	23559	-824			3235	1066	SLV 15	1.29	Si
fin.	2	26	10664	678			3235	1212	SLV 15	1.79	Si
ini.	2	1332	59949	-973			3235	881	SLV 11	0.91	No
fin.	2	-85	19223	489			3269	1236	SLV 11	2.53	Si
ini.	2	1301	65847	-868			3235	891	SLV 8	1.03	Si
fin.	2	-93	18532	263			3272	1237	SLV 8	4.7	Si
ini.	2	703	38810	-662			3235	1054	SLD 7	1.59	Si
fin.	2	-3	10682	267			3236	1218	SLD 7	4.57	Si
ini.	2	715	36220	-705			3235	1050	SLD 12	1.49	Si
fin.	2	0	10973	362			3235	1217	SLD 12	3.36	Si
ini.	2	1301	65847	-868			3235	891	SLV 7	1.03	Si
fin.	2	-93	18532	263			3272	1237	SLV 7	4.7	Si

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	12.944	SLV 7	Si
V_SLV	0.906	SLV 11	No
PF_SLU	6.923	SLU 71	Si
V_SLU	0.231	SLU 71	No

## Trave di accoppiamento 169

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-515.8	600.6	1466	1502	36	-515.8	650.6	1466	1502	36	50	28	30000



## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	1694	-145608	18411	SLU 70	0.13	No
fin.	3	1694	101919	18411	SLU 70	0.18	No
ini.	3	1750	-148723	18411	SLU 78	0.12	No
fin.	3	1750	99977	18411	SLU 78	0.18	No
ini.	3	1738	-146632	18411	SLU 77	0.13	No
fin.	3	1738	100597	18411	SLU 77	0.18	No
ini.	3	1767	-149745	18411	SLU 71	0.12	No
fin.	3	1767	109278	18411	SLU 71	0.17	No
ini.	3	1834	-154951	18411	SLU 80	0.12	No
fin.	3	1834	106716	18411	SLU 80	0.17	No
ini.	3	1824	-150175	18411	SLU 38	0.12	No
fin.	3	1824	106078	18411	SLU 38	0.17	No
ini.	3	1813	-148084	18411	SLU 37	0.12	No
fin.	3	1813	106698	18411	SLU 37	0.17	No
ini.	3	1769	-147060	18411	SLU 30	0.13	No
fin.	3	1769	108020	18411	SLU 30	0.17	No
ini.	3	1822	-152860	18411	SLU 79	0.12	No
fin.	3	1822	107336	18411	SLU 79	0.17	No
ini.	3	1778	-151836	18411	SLU 72	0.12	No
fin.	3	1778	108658	18411	SLU 72	0.17	No

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt <sub>lim</sub>	Comb.	c.s.	Verifica
ini.	3	369	-39555	1205			280	0	SLU 1	0	No
fin.	3	369	18558	1114			280	0	SLU 1	0	No
ini.	3	1455	-128042	4328			280	0	SLU 57	0	No
fin.	3	1455	85601	4210			280	0	SLU 57	0	No
ini.	3	908	-85676	2724			280	0	SLU 54	0	No
fin.	3	908	47748	2606			280	0	SLU 54	0	No
ini.	3	458	-48781	1359			280	0	SLU 60	0	No
fin.	3	458	16422	1241			280	0	SLU 60	0	No
ini.	3	1540	-134270	4588			280	0	SLU 59	0	No
fin.	3	1540	92340	4469			280	0	SLU 59	0	No
ini.	3	469	-50872	1389			280	0	SLU 61	0	No
fin.	3	469	15802	1271			280	0	SLU 61	0	No
ini.	3	897	-83585	2694			280	0	SLU 53	0	No
fin.	3	897	48368	2576			280	0	SLU 53	0	No
ini.	3	1444	-125951	4299			280	0	SLU 56	0	No
fin.	3	1444	86220	4180			280	0	SLU 56	0	No
ini.	3	1000	-93297	3003			280	0	SLU 55	0	No
fin.	3	1000	54074	2884			280	0	SLU 55	0	No
ini.	3	1528	-132178	4558			280	0	SLU 58	0	No
fin.	3	1528	92959	4440			280	0	SLU 58	0	No

## Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-978	-21041	27616	SLV 4	1.31	Si
fin.	2	923	60387	27616	SLV 4	0.46	No
ini.	2	3263	-67168	27616	SLV 15	0.41	No
fin.	2	1138	-25720	27616	SLV 15	1.07	Si
ini.	2	1915	-71667	27616	SLV 14	0.39	No
fin.	2	14	-16166	27616	SLV 14	1.71	Si
ini.	2	3263	-67168	27616	SLV 16	0.41	No
fin.	2	1138	-25720	27616	SLV 16	1.07	Si
ini.	2	-2326	-25540	27616	SLV 2	1.08	Si
fin.	2	-201	69941	27616	SLV 2	0.39	No
ini.	2	1915	-71667	27616	SLV 13	0.39	No
fin.	2	14	-16166	27616	SLV 13	1.71	Si
ini.	2	-2326	-25540	27616	SLV 1	1.08	Si
fin.	2	-201	69941	27616	SLV 1	0.39	No
ini.	2	-1142	-60771	27616	SLV 10	0.45	No
fin.	2	-1372	25118	27616	SLV 10	1.1	Si
ini.	2	-978	-21041	27616	SLV 3	1.31	Si
fin.	2	923	60387	27616	SLV 3	0.46	No
ini.	2	-1142	-60771	27616	SLV 9	0.45	No
fin.	2	-1372	25118	27616	SLV 9	1.1	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt <sub>lim</sub>	Comb.	c.s.	Verifica
ini.	2	1647	-55230	1521			419	0	SLD 16	0	No
fin.	2	750	1556	1568			419	0	SLD 16	0	No
ini.	2	-978	-21041	1337			701	271	SLV 4	0.2	No
fin.	2	923	60387	1145			419	0	SLV 4	0	No
ini.	2	2080	-31937	1654			419	0	SLV 8	0	No
fin.	2	2310	19102	1896			419	0	SLV 8	0	No
ini.	2	3352	-45775	1752			419	0	SLV 11	0	No
fin.	2	2374	-6730	2126			419	0	SLV 11	0	No
ini.	2	1915	-71667	1488			419	0	SLV 13	0	No
fin.	2	14	-16166	1496			419	156	SLV 13	0.1	No
ini.	2	3263	-67168	1663			419	0	SLV 15	0	No
fin.	2	1138	-25720	1910			419	0	SLV 15	0	No
ini.	2	1915	-71667	1488			419	0	SLV 14	0	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	2	14	-16166	1496			419	156	SLV 14	0.1	No
ini.	2	3352	-45775	1752			419	0	SLV 12	0	No
fin.	2	2374	-6730	2126			419	0	SLV 12	0	No
ini.	2	-978	-21041	1337			701	271	SLV 3	0.2	No
fin.	2	923	60387	1145			419	0	SLV 3	0	No
ini.	2	2080	-31937	1654			419	0	SLV 7	0	No
fin.	2	2310	19102	1896			419	0	SLV 7	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.385	SLV 13	No
V_SLV	0	SLD 3	No
PF_SLU	0.119	SLU 80	No
V_SLU	0	SLU 1	No

## Trave di accoppiamento 170

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-206.3	595.1	1186	1276	90	-296.3	595.1	1186	1276	90	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	1018	-19991	115068	SLU 78	5.76	Si
fin.	3	479	10275	115068	SLU 78	11.2	Si
ini.	3	1020	-18642	115068	SLU 71	6.17	Si
fin.	3	588	6271	115068	SLU 71	18.35	Si
ini.	3	1032	-20154	115068	SLU 79	5.71	Si
fin.	3	524	9048	115068	SLU 79	12.72	Si
ini.	3	1020	-19699	115068	SLU 77	5.84	Si
fin.	3	499	9685	115068	SLU 77	11.88	Si
ini.	3	982	-18930	115068	SLU 38	6.08	Si
fin.	3	547	7201	115068	SLU 38	15.98	Si
ini.	3	1007	-18478	115068	SLU 70	6.23	Si
fin.	3	543	7498	115068	SLU 70	15.35	Si
ini.	3	984	-18638	115068	SLU 37	6.17	Si
fin.	3	567	6611	115068	SLU 37	17.41	Si
ini.	3	970	-18474	115068	SLU 36	6.23	Si
fin.	3	522	7838	115068	SLU 36	14.68	Si
ini.	3	1029	-20446	115068	SLU 80	5.63	Si
fin.	3	504	9638	115068	SLU 80	11.94	Si
ini.	3	1018	-18934	115068	SLU 72	6.08	Si
fin.	3	568	6861	115068	SLU 72	16.77	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	962	-16670	472			970	0	SLU 27	0	No
fin.	3	606	4471	320			970	193	SLU 27	0.6	No
ini.	3	1007	-18478	529			970	0	SLU 70	0	No
fin.	3	543	7498	518			970	217	SLU 70	0.42	No
ini.	3	889	-16278	428			970	0	SLU 51	0	No
fin.	3	492	5811	462			970	235	SLU 51	0.51	No
ini.	3	891	-15986	406			970	0	SLU 50	0	No
fin.	3	512	5221	445			970	228	SLU 50	0.51	No
ini.	3	888	-17335	545			970	0	SLU 57	0	No
fin.	3	403	9225	559			970	263	SLU 57	0.47	No
ini.	3	1009	-18186	507			970	0	SLU 69	0	No
fin.	3	563	6908	501			970	210	SLU 69	0.42	No
ini.	3	900	-17790	588			970	0	SLU 59	0	No
fin.	3	428	8588	469			970	256	SLU 59	0.55	No
ini.	3	973	-17126	514			970	0	SLU 29	0	No
fin.	3	631	3834	231			970	182	SLU 29	0.79	No
ini.	3	891	-17043	523			970	0	SLU 56	0	No
fin.	3	423	8635	541			970	257	SLU 56	0.48	No
ini.	3	902	-17498	566			970	0	SLU 58	0	No
fin.	3	448	7998	451			970	249	SLU 58	0.55	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	889	-27679	172601	SLD 16	6.24	Si
fin.	2	-928	26989	172601	SLD 16	6.4	Si
ini.	2	-924	33735	172601	SLV 2	5.12	Si
fin.	2	1992	-28473	172601	SLV 2	6.06	Si
ini.	2	1616	-52295	172601	SLV 15	3.3	Si
fin.	2	-2100	49307	172601	SLV 15	3.5	Si
ini.	2	1110	-37111	172601	SLV 11	4.65	Si
fin.	2	-1316	36533	172601	SLV 11	4.72	Si
ini.	2	1616	-52295	172601	SLV 16	3.3	Si
fin.	2	-2100	49307	172601	SLV 16	3.5	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1364	-42453	172601	SLV 14	4.07	Si
fin.	2	-1672	39781	172601	SLV 14	4.34	Si
ini.	2	889	-27679	172601	SLD 15	6.24	Si
fin.	2	-928	26989	172601	SLD 15	6.4	Si
ini.	2	-924	33735	172601	SLV 1	5.12	Si
fin.	2	1992	-28473	172601	SLV 1	6.06	Si
ini.	2	1110	-37111	172601	SLV 12	4.65	Si
fin.	2	-1316	36533	172601	SLV 12	4.72	Si
ini.	2	1364	-42453	172601	SLV 13	4.07	Si
fin.	2	-1672	39781	172601	SLV 13	4.34	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1364	-42453	2428			1456	0	SLV 14	0	No
fin.	2	-1672	39781	2214			2124	836	SLV 14	0.38	No
ini.	2	1616	-52295	2973			1456	0	SLV 15	0	No
fin.	2	-2100	49307	2833			2296	895	SLV 15	0.32	No
ini.	2	1364	-42453	2428			1456	0	SLV 13	0	No
fin.	2	-1672	39781	2214			2124	836	SLV 13	0.38	No
ini.	2	1110	-37111	1976			1456	189	SLV 12	0.1	No
fin.	2	-1316	36533	2179			1982	783	SLV 12	0.36	No
ini.	2	1616	-52295	2973			1456	0	SLV 16	0	No
fin.	2	-2100	49307	2833			2296	895	SLV 16	0.32	No
ini.	2	1110	-37111	1976			1456	189	SLV 11	0.1	No
fin.	2	-1316	36533	2179			1982	783	SLV 11	0.36	No
ini.	2	-672	23893	-1693			1724	678	SLV 3	0.4	No
fin.	2	1564	-18946	-1102			1456	0	SLV 3	0	No
ini.	2	-924	33735	-2238			1825	721	SLV 1	0.32	No
fin.	2	1992	-28473	-1721			1456	0	SLV 1	0	No
ini.	2	-924	33735	-2238			1825	721	SLV 2	0.32	No
fin.	2	1992	-28473	-1721			1456	0	SLV 2	0	No
ini.	2	-672	23893	-1693			1724	678	SLV 4	0.4	No
fin.	2	1564	-18946	-1102			1456	0	SLV 4	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.301	SLV 15	Si
V_SLV	0	SLV 1	No
PF_SLU	5.628	SLU 80	Si
V_SLU	0	SLU 8	No

## Trave di accoppiamento 171

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-206.3	595.1	1456	1502	46	-296.3	595.1	1456	1502	46	90	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-324	-27383	30060	SLU 70	1.1	Si
fin.	3	-298	19884	30060	SLU 70	1.51	Si
ini.	3	-393	-29198	30060	SLU 78	1.03	Si
fin.	3	-368	21225	30060	SLU 78	1.42	Si
ini.	3	-262	-27445	30060	SLU 72	1.1	Si
fin.	3	-235	21026	30060	SLU 72	1.43	Si
ini.	3	-337	-28709	30060	SLU 77	1.05	Si
fin.	3	-311	21021	30060	SLU 77	1.43	Si
ini.	3	-378	-27229	30060	SLU 36	1.1	Si
fin.	3	-354	19711	30060	SLU 36	1.52	Si
ini.	3	-268	-26893	30060	SLU 69	1.12	Si
fin.	3	-242	19681	30060	SLU 69	1.53	Si
ini.	3	-275	-28770	30060	SLU 79	1.04	Si
fin.	3	-248	22162	30060	SLU 79	1.36	Si
ini.	3	-316	-27291	30060	SLU 38	1.1	Si
fin.	3	-290	20853	30060	SLU 38	1.44	Si
ini.	3	-206	-26955	30060	SLU 71	1.12	Si
fin.	3	-178	20822	30060	SLU 71	1.44	Si
ini.	3	-331	-29260	30060	SLU 80	1.03	Si
fin.	3	-305	22366	30060	SLU 80	1.34	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-331	-29260	1017			419	166	SLU 80	0.16	No
fin.	3	-305	22366	140			412	163	SLU 80	1.16	Si
ini.	3	-271	-24851	972			403	159	SLU 56	0.16	No
fin.	3	-249	18201	-19			397	156	SLU 56	8.34	Si
ini.	3	-268	-26893	1040			402	159	SLU 69	0.15	No
fin.	3	-242	19681	-19			395	156	SLU 69	8.35	Si
ini.	3	-262	-27445	981			401	158	SLU 72	0.16	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
fin.	3	-235	21026	106			393	155	SLU 72	1.47	Si
ini.	3	-202	-23036	937			385	151	SLU 48	0.16	No
fin.	3	-179	16861	-53			378	148	SLU 48	2.78	Si
ini.	3	-324	-27383	1048			417	165	SLU 70	0.16	No
fin.	3	-298	19884	-12			410	162	SLU 70	13.31	Si
ini.	3	-393	-29198	1083			435	172	SLU 78	0.16	No
fin.	3	-368	21225	22			429	170	SLU 78	7.56	Si
ini.	3	-337	-28709	1076			421	166	SLU 77	0.15	No
fin.	3	-311	21021	16			414	163	SLU 77	10.23	Si
ini.	3	-275	-28770	1009			404	159	SLU 79	0.16	No
fin.	3	-248	22162	134			397	156	SLU 79	1.17	Si
ini.	3	-206	-26955	974			386	151	SLU 71	0.16	No
fin.	3	-178	20822	99			378	148	SLU 71	1.49	Si

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-379	-30219	45089	SLV 14	1.49	Si
fin.	2	-1216	6732	45089	SLV 14	6.7	Si
ini.	2	126	-32851	45089	SLV 15	1.37	Si
fin.	2	-694	8367	45089	SLV 15	5.39	Si
ini.	2	687	-22663	45089	SLV 11	1.99	Si
fin.	2	472	11609	45089	SLV 11	3.88	Si
ini.	2	-248	-19991	45089	SLD 13	2.26	Si
fin.	2	-601	8197	45089	SLD 13	5.5	Si
ini.	2	-41	-21215	45089	SLD 15	2.13	Si
fin.	2	-386	8951	45089	SLD 15	5.04	Si
ini.	2	687	-22663	45089	SLV 12	1.99	Si
fin.	2	472	11609	45089	SLV 12	3.88	Si
ini.	2	126	-32851	45089	SLV 16	1.37	Si
fin.	2	-694	8367	45089	SLV 16	5.39	Si
ini.	2	-41	-21215	45089	SLD 16	2.13	Si
fin.	2	-386	8951	45089	SLD 16	5.04	Si
ini.	2	-379	-30219	45089	SLV 13	1.49	Si
fin.	2	-1216	6732	45089	SLV 13	6.7	Si
ini.	2	-248	-19991	45089	SLD 14	2.26	Si
fin.	2	-601	8197	45089	SLD 14	5.5	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	48	5032	171			496	180	SLV 3	1.05	Si
fin.	2	899	12179	-419			496	0	SLV 3	0	No
ini.	2	-457	7664	106			618	244	SLV 1	2.31	Si
fin.	2	378	10543	-573			496	120	SLV 1	0.21	No
ini.	2	664	-11299	521			496	0	SLV 8	0	No
fin.	2	950	12752	100			496	0	SLV 8	0	No
ini.	2	-457	7664	106			618	244	SLV 2	2.31	Si
fin.	2	378	10543	-573			496	120	SLV 2	0.21	No
ini.	2	687	-22663	756			496	0	SLV 12	0	No
fin.	2	472	11609	391			496	97	SLV 12	0.25	No
ini.	2	664	-11299	521			496	0	SLV 7	0	No
fin.	2	950	12752	100			496	0	SLV 7	0	No
ini.	2	48	5032	171			496	180	SLV 4	1.05	Si
fin.	2	899	12179	-419			496	0	SLV 4	0	No
ini.	2	687	-22663	756			496	0	SLV 11	0	No
fin.	2	472	11609	391			496	97	SLV 11	0.25	No
ini.	2	126	-32851	954			496	167	SLV 15	0.18	No
fin.	2	-694	8367	550			681	269	SLV 15	0.49	No
ini.	2	126	-32851	954			496	167	SLV 16	0.18	No
fin.	2	-694	8367	550			681	269	SLV 16	0.49	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.373	SLV 15	Si
V_SLV	0	SLV 3	No
PF_SLU	1.027	SLU 80	Si
V_SLU	0.152	SLU 69	No

### Trave di accoppiamento 172

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1705.3	-486.2	1398	1435.9	37.9	-1705.3	-377.2	1398	1486.3	88.3	109	30	30000

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-125	424	21841	SLU 71	51.54	Si
fin.	3	3	-27163	118547	SLU 71	4.36	Si
ini.	3	166	279	21841	SLU 73	78.4	Si
fin.	3	-252	27394	118547	SLU 73	4.33	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-111	416	21841	SLU 69	52.53	Si
fin.	3	-5	-25001	118547	SLU 69	4.74	Si
ini.	3	-125	365	21841	SLU 8	59.77	Si
fin.	3	26	-25988	118547	SLU 8	4.56	Si
ini.	3	166	430	21841	SLU 52	50.78	Si
fin.	3	-238	28894	118547	SLU 52	4.1	Si
ini.	3	-125	214	21841	SLU 29	102.11	Si
fin.	3	12	-27488	118547	SLU 29	4.31	Si
ini.	3	-125	575	21841	SLU 50	37.96	Si
fin.	3	17	-25663	118547	SLU 50	4.62	Si
ini.	3	166	220	21841	SLU 10	99.16	Si
fin.	3	-229	28570	118547	SLU 10	4.15	Si
ini.	3	-111	206	21841	SLU 27	106.08	Si
fin.	3	4	-25326	118547	SLU 27	4.68	Si
ini.	3	166	69	21841	SLU 31	317.81	Si
fin.	3	-243	27070	118547	SLU 31	4.38	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	126	320	413			292	90	SLU 82	0.22	No
fin.	3	-203	19529	-57			891	345	SLU 82	6.03	Si
ini.	3	137	376	447			292	88	SLU 65	0.2	No
fin.	3	-221	22791	-32			897	347	SLU 65	10.97	Si
ini.	3	166	69	457			292	82	SLU 31	0.18	No
fin.	3	-243	27070	55			904	351	SLU 31	6.4	Si
ini.	3	136	318	400			292	88	SLU 2	0.22	No
fin.	3	-199	23966	31			890	344	SLU 2	10.98	Si
ini.	3	166	279	496			292	82	SLU 73	0.17	No
fin.	3	-252	27394	8			907	352	SLU 73	43.63	Si
ini.	3	136	166	408			292	88	SLU 23	0.22	No
fin.	3	-212	22466	15			894	346	SLU 23	22.91	Si
ini.	3	166	220	449			292	82	SLU 10	0.18	No
fin.	3	-229	28570	71			900	349	SLU 10	4.91	Si
ini.	3	103	198	425			292	94	SLU 76	0.22	No
fin.	3	-216	14716	-108			896	347	SLU 76	3.2	Si
ini.	3	166	430	488			292	82	SLU 52	0.17	No
fin.	3	-238	28894	24			903	350	SLU 52	14.42	Si
ini.	3	136	528	439			292	88	SLU 44	0.2	No
fin.	3	-208	24290	-15			893	345	SLU 44	22.35	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1016	-25060	32761	SLV 6	1.31	Si
fin.	2	-1623	133119	177820	SLV 6	1.34	Si
ini.	2	-773	25667	32761	SLV 8	1.28	Si
fin.	2	1725	-130965	177820	SLV 8	1.36	Si
ini.	2	794	-24757	32761	SLV 10	1.32	Si
fin.	2	-1840	131476	177820	SLV 10	1.35	Si
ini.	2	794	-24757	32761	SLV 9	1.32	Si
fin.	2	-1840	131476	177820	SLV 9	1.35	Si
ini.	2	-392	10521	32761	SLD 11	3.11	Si
fin.	2	558	-52032	177820	SLD 11	3.42	Si
ini.	2	-995	25970	32761	SLV 11	1.26	Si
fin.	2	1507	-132609	177820	SLV 11	1.34	Si
ini.	2	-392	10521	32761	SLD 12	3.11	Si
fin.	2	558	-52032	177820	SLD 12	3.42	Si
ini.	2	1016	-25060	32761	SLV 5	1.31	Si
fin.	2	-1623	133119	177820	SLV 5	1.34	Si
ini.	2	-773	25667	32761	SLV 7	1.28	Si
fin.	2	1725	-130965	177820	SLV 7	1.36	Si
ini.	2	-995	25970	32761	SLV 12	1.26	Si
fin.	2	1507	-132609	177820	SLV 12	1.34	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	649	-7658	63			438	0	SLV 1	0	No
fin.	2	-197	42607	198			1302	500	SLV 1	2.52	Si
ini.	2	649	-7658	63			438	0	SLV 2	0	No
fin.	2	-197	42607	198			1302	500	SLV 2	2.52	Si
ini.	2	-995	25970	1818			703	273	SLV 11	0.15	No
fin.	2	1507	-132609	-1527			1238	0	SLV 11	0	No
ini.	2	-995	25970	1818			703	273	SLV 12	0.15	No
fin.	2	1507	-132609	-1527			1238	0	SLV 12	0	No
ini.	2	794	-24757	-1773			438	0	SLV 10	0	No
fin.	2	-1840	131476	1219			1834	720	SLV 10	0.59	No
ini.	2	-773	25667	2085			644	253	SLV 8	0.12	No
fin.	2	1725	-130965	-1554			1238	0	SLV 8	0	No
ini.	2	1016	-25060	-1506			438	0	SLV 5	0	No
fin.	2	-1623	133119	1191			1764	695	SLV 5	0.58	No
ini.	2	-773	25667	2085			644	253	SLV 7	0.12	No
fin.	2	1725	-130965	-1554			1238	0	SLV 7	0	No
ini.	2	794	-24757	-1773			438	0	SLV 9	0	No
fin.	2	-1840	131476	1219			1834	720	SLV 9	0.59	No
ini.	2	1016	-25060	-1506			438	0	SLV 6	0	No
fin.	2	-1623	133119	1191			1764	695	SLV 6	0.58	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.261	SLV 11	Si



Stato limite	Coeff.s.	Comb.	Verifica
V_SLV	0	SLV 1	No
PF_SLU	4.103	SLU 52	Si
V_SLU	0.166	SLU 73	No

## Trave di accoppiamento 173

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1543.3	-335.9	1396	1505.2	109.2	-1633.3	-335.9	1396	1505.3	109.3	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1005	-21620	169384	SLU 64	7.83	Si
fin.	3	-1004	27672	169593	SLU 64	6.13	Si
ini.	3	-1246	-19631	169384	SLU 75	8.63	Si
fin.	3	-1243	27201	169593	SLU 75	6.23	Si
ini.	3	-1001	-24418	169384	SLU 61	6.94	Si
fin.	3	-1000	28641	169593	SLU 61	5.92	Si
ini.	3	-1203	-26863	169384	SLU 82	6.31	Si
fin.	3	-1201	31710	169593	SLU 82	5.35	Si
ini.	3	-1266	-19386	169384	SLU 83	8.74	Si
fin.	3	-1263	27816	169593	SLU 83	6.1	Si
ini.	3	-1210	-26286	169384	SLU 81	6.44	Si
fin.	3	-1209	32485	169593	SLU 81	5.22	Si
ini.	3	-1008	-23841	169384	SLU 60	7.1	Si
fin.	3	-1008	29415	169593	SLU 60	5.77	Si
ini.	3	-1078	-22506	169384	SLU 39	7.53	Si
fin.	3	-1077	27616	169593	SLU 39	6.14	Si
ini.	3	-1253	-19054	169384	SLU 74	8.89	Si
fin.	3	-1250	27976	169593	SLU 74	6.06	Si
ini.	3	-1137	-25849	169384	SLU 73	6.55	Si
fin.	3	-1135	29749	169593	SLU 73	5.7	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1246	-19631	1269			1676	661	SLU 75	0.52	No
fin.	3	-1243	27201	-250			1675	660	SLU 75	2.64	Si
ini.	3	-1302	-12732	1285			1698	669	SLU 78	0.52	No
fin.	3	-1297	22532	-495			1697	668	SLU 78	1.35	Si
ini.	3	-1159	-9466	1211			1641	648	SLU 70	0.54	No
fin.	3	-1153	19164	-568			1640	647	SLU 70	1.14	Si
ini.	3	-1309	-12154	1287			1701	670	SLU 77	0.52	No
fin.	3	-1304	23307	-492			1700	669	SLU 77	1.36	Si
ini.	3	-1210	-26286	1226			1661	655	SLU 81	0.53	No
fin.	3	-1209	32485	43			1662	655	SLU 81	15.18	Si
ini.	3	-1203	-26863	1224			1659	654	SLU 82	0.53	No
fin.	3	-1201	31710	41			1659	654	SLU 82	15.99	Si
ini.	3	-1259	-19964	1240			1681	662	SLU 84	0.53	No
fin.	3	-1255	27041	-204			1680	662	SLU 84	3.25	Si
ini.	3	-1165	-8888	1213			1644	649	SLU 69	0.54	No
fin.	3	-1161	19939	-566			1643	648	SLU 69	1.15	Si
ini.	3	-1253	-19054	1271			1679	662	SLU 74	0.52	No
fin.	3	-1250	27976	-248			1678	662	SLU 74	2.67	Si
ini.	3	-1266	-19386	1242			1684	663	SLU 83	0.53	No
fin.	3	-1263	27816	-202			1683	663	SLU 83	3.29	Si

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-3460	-42784	254076	SLV 9	5.94	Si
fin.	2	-3084	102924	254389	SLV 9	2.47	Si
ini.	2	57	42813	254076	SLV 3	5.93	Si
fin.	2	-189	-77861	254389	SLV 3	3.27	Si
ini.	2	15	-71720	254076	SLV 16	3.54	Si
fin.	2	63	87041	254389	SLV 16	2.92	Si
ini.	2	57	42813	254076	SLV 4	5.93	Si
fin.	2	-189	-77861	254389	SLV 4	3.27	Si
ini.	2	-1111	-42193	254076	SLD 13	6.02	Si
fin.	2	-1003	63515	254389	SLD 13	4.01	Si
ini.	2	-1596	-76866	254076	SLV 14	3.31	Si
fin.	2	-1349	121010	254389	SLV 14	2.1	Si
ini.	2	-3460	-42784	254076	SLV 10	5.94	Si
fin.	2	-3084	102924	254389	SLV 10	2.47	Si
ini.	2	-1111	-42193	254076	SLD 14	6.02	Si
fin.	2	-1003	63515	254389	SLD 14	4.01	Si
ini.	2	15	-71720	254076	SLV 15	3.54	Si
fin.	2	63	87041	254389	SLV 15	2.92	Si
ini.	2	-1596	-76866	254076	SLV 13	3.31	Si
fin.	2	-1349	121010	254389	SLV 13	2.1	Si



## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	1909	-25629	140			1766	0	SLV 12	0	No
fin.	2	1622	-10304	-488			1767	0	SLV 12	0	No
ini.	2	1909	-25629	140			1766	0	SLV 11	0	No
fin.	2	1622	-10304	-488			1767	0	SLV 11	0	No
ini.	2	15	-71720	2042			1766	661	SLV 15	0.32	No
fin.	2	63	87041	1237			1767	651	SLV 15	0.53	No
ini.	2	1921	8731	-785			1766	0	SLV 7	0	No
fin.	2	1546	-59775	-1413			1767	0	SLV 7	0	No
ini.	2	-1596	-76866	2747			2405	950	SLV 14	0.35	No
fin.	2	-1349	121010	1792			2307	912	SLV 14	0.51	No
ini.	2	-1596	-76866	2747			2405	950	SLV 13	0.35	No
fin.	2	-1349	121010	1792			2307	912	SLV 13	0.51	No
ini.	2	15	-71720	2042			1766	661	SLV 16	0.32	No
fin.	2	63	87041	1237			1767	651	SLV 16	0.53	No
ini.	2	1921	8731	-785			1766	0	SLV 8	0	No
fin.	2	1546	-59775	-1413			1767	0	SLV 8	0	No
ini.	2	57	42813	-1041			1766	652	SLV 4	0.63	No
fin.	2	-189	-77861	-1844			1843	705	SLV 4	0.38	No
ini.	2	57	42813	-1041			1766	652	SLV 3	0.63	No
fin.	2	-189	-77861	-1844			1843	705	SLV 3	0.38	No

### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.102	SLV 13	Si
V_SLV	0	SLV 7	No
PF_SLU	5.221	SLU 81	Si
V_SLU	0.52	SLU 77	No

## Trave di accoppiamento 174

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1443.8	-485.9	1398	1435.8	37.8	-1627.8	-485.9	1398	1436	38	184	30	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fhk	fvk0	fhmmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-28	-10192	21786	SLU 45	2.14	Si
fin.	3	-33	-1542	21944	SLU 45	14.23	Si
ini.	3	72	-10865	21786	SLU 2	2.01	Si
fin.	3	70	1950	21944	SLU 2	11.25	Si
ini.	3	-99	-27	21786	SLU 37	820.77	Si
fin.	3	-113	-10740	21944	SLU 37	2.04	Si
ini.	3	3	-12173	21786	SLU 43	1.79	Si
fin.	3	3	1156	21944	SLU 43	18.98	Si
ini.	3	64	-12422	21786	SLU 65	1.75	Si
fin.	3	60	653	21944	SLU 65	33.62	Si
ini.	3	67	-11674	21786	SLU 52	1.87	Si
fin.	3	65	273	21944	SLU 52	80.48	Si
ini.	3	76	-14123	21786	SLU 44	1.54	Si
fin.	3	74	2777	21944	SLU 44	7.9	Si
ini.	3	16	-11362	21786	SLU 46	1.92	Si
fin.	3	10	-569	21944	SLU 46	38.54	Si
ini.	3	37	-11754	21786	SLU 47	1.85	Si
fin.	3	30	-444	21944	SLU 47	49.46	Si
ini.	3	-9	-10472	21786	SLU 64	2.08	Si
fin.	3	-12	-968	21944	SLU 64	22.67	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	67	-11674	270			291	99	SLU 52	0.37	No
fin.	3	65	273	-157			292	100	SLU 52	0.64	No
ini.	3	56	-9973	257			291	101	SLU 73	0.39	No
fin.	3	51	-1851	-188			292	102	SLU 73	0.54	No
ini.	3	-51	-4454	225			305	117	SLU 80	0.52	No
fin.	3	-66	-8940	-304			310	119	SLU 80	0.39	No
ini.	3	64	-12422	284			291	100	SLU 65	0.35	No
fin.	3	60	653	-161			292	101	SLU 65	0.63	No
ini.	3	76	-14123	297			291	98	SLU 44	0.33	No
fin.	3	74	2777	-130			292	99	SLU 44	0.76	No
ini.	3	37	-11754	284			291	104	SLU 47	0.37	No
fin.	3	30	-444	-184			292	106	SLU 47	0.58	No
ini.	3	-95	-3285	214			317	123	SLU 79	0.57	No
fin.	3	-109	-9913	-315			321	125	SLU 79	0.4	No
ini.	3	16	-11362	279			291	107	SLU 46	0.38	No
fin.	3	10	-569	-183			292	109	SLU 46	0.59	No
ini.	3	3	-12173	279			291	109	SLU 43	0.39	No
fin.	3	3	1156	-150			292	110	SLU 43	0.73	No





Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	26	-10052	271			291	106	SLU 68	0.39	No
fin.	3	16	-2568	-215			292	108	SLU 68	0.5	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-426	52465	32678	SLV 5	0.62	No
fin.	2	-365	-59003	32916	SLV 5	0.56	No
ini.	2	-321	60525	32678	SLV 1	0.54	No
fin.	2	-371	-65849	32916	SLV 1	0.5	No
ini.	2	413	-67924	32678	SLV 12	0.48	No
fin.	2	349	57017	32916	SLV 12	0.58	No
ini.	2	308	-75984	32678	SLV 16	0.43	No
fin.	2	354	63862	32916	SLV 16	0.52	No
ini.	2	-426	52465	32678	SLV 6	0.62	No
fin.	2	-365	-59003	32916	SLV 6	0.56	No
ini.	2	94	-49797	32678	SLV 13	0.66	No
fin.	2	191	38442	32916	SLV 13	0.86	No
ini.	2	-321	60525	32678	SLV 2	0.54	No
fin.	2	-371	-65849	32916	SLV 2	0.5	No
ini.	2	308	-75984	32678	SLV 15	0.43	No
fin.	2	354	63862	32916	SLV 15	0.52	No
ini.	2	413	-67924	32678	SLV 11	0.48	No
fin.	2	349	57017	32916	SLV 11	0.58	No
ini.	2	94	-49797	32678	SLV 14	0.66	No
fin.	2	191	38442	32916	SLV 14	0.86	No

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	308	-75984	917			437	111	SLV 16	0.12	No
fin.	2	354	63862	555			439	101	SLV 16	0.18	No
ini.	2	308	-75984	917			437	111	SLV 15	0.12	No
fin.	2	354	63862	555			439	101	SLV 15	0.18	No
ini.	2	-321	60525	-517			523	206	SLV 1	0.4	No
fin.	2	-371	-65849	-834			538	212	SLV 1	0.25	No
ini.	2	-321	60525	-517			523	206	SLV 2	0.4	No
fin.	2	-371	-65849	-834			538	212	SLV 2	0.25	No
ini.	2	413	-67924	858			437	86	SLV 11	0.1	No
fin.	2	349	57017	454			439	103	SLV 11	0.23	No
ini.	2	94	-49797	625			437	150	SLV 14	0.24	No
fin.	2	191	38442	301			439	135	SLV 14	0.45	No
ini.	2	288	-34828	515			437	115	SLV 7	0.22	No
fin.	2	180	25730	113			439	136	SLV 7	1.21	Si
ini.	2	288	-34828	515			437	115	SLV 8	0.22	No
fin.	2	180	25730	113			439	136	SLV 8	1.21	Si
ini.	2	94	-49797	625			437	150	SLV 13	0.24	No
fin.	2	191	38442	301			439	135	SLV 13	0.45	No
ini.	2	413	-67924	858			437	86	SLV 12	0.1	No
fin.	2	349	57017	454			439	103	SLV 12	0.23	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF SLV	0.43	SLV 15	No
V SLV	0.1	SLV 11	No
PF SLU	1.543	SLU 44	Si
V SLU	0.33	SLU 44	No

### Trave di accoppiamento 175

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-867.8	-485.9	1398	1435.4	37.4	-1051.8	-485.9	1398	1435.5	37.5	184	30	30000

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	197	-7346	21293	SLU 77	2.9	Si
fin.	3	42	-481	21449	SLU 77	44.58	Si
ini.	3	248	-7750	21293	SLU 36	2.75	Si
fin.	3	-1	284	21449	SLU 36	75.57	Si
ini.	3	197	-8338	21293	SLU 37	2.55	Si
fin.	3	-101	973	21449	SLU 37	22.04	Si
ini.	3	200	-7756	21293	SLU 79	2.75	Si
fin.	3	18	-266	21449	SLU 79	80.7	Si
ini.	3	251	-6971	21293	SLU 42	3.05	Si
fin.	3	40	30	21449	SLU 42	726.47	Si
ini.	3	253	-7578	21293	SLU 80	2.81	Si
fin.	3	94	-740	21449	SLU 80	29	Si
ini.	3	251	-7168	21293	SLU 78	2.97	Si
fin.	3	118	-955	21449	SLU 78	22.46	Si
ini.	3	251	-8161	21293	SLU 38	2.61	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	-25	499	21449	SLU 38	42.97	Si
ini.	3	194	-7928	21293	SLU 35	2.69	Si
fin.	3	-77	758	21449	SLU 35	28.31	Si
ini.	3	197	-7149	21293	SLU 41	2.98	Si
fin.	3	-36	503	21449	SLU 41	42.61	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	253	-7578	158			288	62	SLU 80	0.39	No
fin.	3	94	-740	-57			289	94	SLU 80	1.65	Si
ini.	3	143	329	104			288	85	SLU 2	0.82	No
fin.	3	441	-4013	12			289	0	SLU 2	0	No
ini.	3	265	-5273	153			288	59	SLU 76	0.38	No
fin.	3	259	-2094	-31			289	61	SLU 76	1.94	Si
ini.	3	202	-1415	139			288	73	SLU 52	0.53	No
fin.	3	446	-3925	1			289	0	SLU 52	0	No
ini.	3	56	615	124			288	100	SLU 43	0.81	No
fin.	3	434	-4462	1			289	0	SLU 43	0	No
ini.	3	131	-984	134			288	87	SLU 46	0.65	No
fin.	3	420	-4113	-7			289	0	SLU 46	0	No
ini.	3	146	912	131			288	85	SLU 44	0.65	No
fin.	3	561	-5252	16			289	0	SLU 44	0	No
ini.	3	184	-759	138			288	77	SLU 65	0.56	No
fin.	3	488	-4459	3			289	0	SLU 65	0	No
ini.	3	170	-1275	138			288	80	SLU 47	0.58	No
fin.	3	446	-4213	-4			289	0	SLU 47	0	No
ini.	3	251	-7168	157			288	62	SLU 78	0.4	No
fin.	3	118	-955	-53			289	90	SLU 78	1.68	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1168	-44034	31939	SLV 14	0.73	No
fin.	2	-503	37371	32174	SLV 14	0.86	No
ini.	2	815	-34375	31939	SLV 16	0.93	No
fin.	2	-352	26742	32174	SLV 16	1.2	Si
ini.	2	-1008	41816	31939	SLV 4	0.76	No
fin.	2	1024	-42606	32174	SLV 4	0.76	No
ini.	2	-1008	41816	31939	SLV 3	0.76	No
fin.	2	1024	-42606	32174	SLV 3	0.76	No
ini.	2	815	-34375	31939	SLV 15	0.93	No
fin.	2	-352	26742	32174	SLV 15	1.2	Si
ini.	2	1168	-44034	31939	SLV 13	0.73	No
fin.	2	-503	37371	32174	SLV 13	0.86	No
ini.	2	-781	26418	31939	SLV 7	1.21	Si
fin.	2	719	-30735	32174	SLV 7	1.05	Si
ini.	2	-781	26418	31939	SLV 8	1.21	Si
fin.	2	719	-30735	32174	SLV 8	1.05	Si
ini.	2	-655	32156	31939	SLV 2	0.99	No
fin.	2	873	-31977	32174	SLV 2	1.01	Si
ini.	2	-655	32156	31939	SLV 1	0.99	No
fin.	2	873	-31977	32174	SLV 1	1.01	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-781	26418	147			640	252	SLV 7	1.71	Si
fin.	2	719	-30735	266			434	0	SLV 7	0	No
ini.	2	-379	17178	75			533	211	SLD 4	2.8	Si
fin.	2	586	-19612	134			434	0	SLD 4	0	No
ini.	2	815	-34375	203			432	0	SLV 16	0	No
fin.	2	-352	26742	-235			528	208	SLV 16	0.89	No
ini.	2	942	-28637	56			432	0	SLV 9	0	No
fin.	2	-197	25500	-286			486	190	SLV 9	0.66	No
ini.	2	1168	-44034	161			432	0	SLV 13	0	No
fin.	2	-503	37371	-350			568	225	SLV 13	0.64	No
ini.	2	-1008	41816	42			701	272	SLV 4	6.46	Si
fin.	2	1024	-42606	330			434	0	SLV 4	0	No
ini.	2	942	-28637	56			432	0	SLV 10	0	No
fin.	2	-197	25500	-286			486	190	SLV 10	0.66	No
ini.	2	-379	17178	75			533	211	SLD 3	2.8	Si
fin.	2	586	-19612	134			434	0	SLD 3	0	No
ini.	2	-781	26418	147			640	252	SLV 8	1.71	Si
fin.	2	719	-30735	266			434	0	SLV 8	0	No
ini.	2	1168	-44034	161			432	0	SLV 14	0	No
fin.	2	-503	37371	-350			568	225	SLV 14	0.64	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.725	SLV 13	No
V_SLV	0	SLD 3	No
PF_SLU	2.554	SLU 37	Si
V_SLU	0	SLU 2	No

## Trave di accoppiamento 176

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)



## Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-854.8	-335.9	1396	1504.7	108.7	-944.8	-335.9	1396	1504.8	108.8	90	28	30000

## Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-1208	26858	167891	SLU 39	6.25	Si
fin.	3	-1212	-20329	168099	SLU 39	8.27	Si
ini.	3	-1379	27045	167891	SLU 75	6.21	Si
fin.	3	-1385	-18093	168099	SLU 75	9.29	Si
ini.	3	-1357	27380	167891	SLU 83	6.13	Si
fin.	3	-1363	-18242	168099	SLU 83	9.22	Si
ini.	3	-1124	27202	167891	SLU 60	6.17	Si
fin.	3	-1127	-19508	168099	SLU 60	8.62	Si
ini.	3	-1372	26541	167891	SLU 84	6.33	Si
fin.	3	-1378	-19176	168099	SLU 84	8.77	Si
ini.	3	-1364	27884	167891	SLU 74	6.02	Si
fin.	3	-1369	-17159	168099	SLU 74	9.8	Si
ini.	3	-1351	31034	167891	SLU 81	5.41	Si
fin.	3	-1355	-22850	168099	SLU 81	7.36	Si
ini.	3	-1302	28220	167891	SLU 73	5.95	Si
fin.	3	-1307	-22977	168099	SLU 73	7.32	Si
ini.	3	-1139	26363	167891	SLU 61	6.37	Si
fin.	3	-1143	-20442	168099	SLU 61	8.22	Si
ini.	3	-1366	30196	167891	SLU 82	5.56	Si
fin.	3	-1371	-23784	168099	SLU 82	7.07	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-1191	24578	368			1649	650	SLU 66	1.77	Si
fin.	3	-1196	-13824	-1190			1652	652	SLU 66	0.55	No
ini.	3	-1197	20923	616			1651	651	SLU 69	1.06	Si
fin.	3	-1204	-9216	-1249			1655	653	SLU 69	0.52	No
ini.	3	-1379	27045	293			1724	678	SLU 75	2.31	Si
fin.	3	-1385	-18093	-1266			1727	679	SLU 75	0.54	No
ini.	3	-1206	23740	367			1655	653	SLU 67	1.78	Si
fin.	3	-1212	-14758	-1192			1658	654	SLU 67	0.55	No
ini.	3	-1212	20085	615			1657	654	SLU 70	1.06	Si
fin.	3	-1220	-10149	-1251			1661	655	SLU 70	0.52	No
ini.	3	-1364	27884	294			1718	675	SLU 74	2.29	Si
fin.	3	-1369	-17159	-1264			1721	676	SLU 74	0.54	No
ini.	3	-1385	23391	541			1726	678	SLU 78	1.25	Si
fin.	3	-1393	-13484	-1324			1730	680	SLU 78	0.51	No
ini.	3	-1289	22308	503			1688	665	SLU 79	1.32	Si
fin.	3	-1296	-12204	-1235			1691	666	SLU 79	0.54	No
ini.	3	-1304	21469	502			1694	667	SLU 80	1.33	Si
fin.	3	-1312	-13138	-1237			1698	668	SLU 80	0.54	No
ini.	3	-1370	24229	542			1720	676	SLU 77	1.25	Si
fin.	3	-1377	-12551	-1323			1724	678	SLU 77	0.51	No

## Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1590	-59238	251836	SLV 16	4.25	Si
fin.	2	-898	43143	252148	SLV 16	5.84	Si
ini.	2	-676	-66355	251836	SLV 14	3.8	Si
fin.	2	-225	43338	252148	SLV 14	5.82	Si
ini.	2	-1022	107039	251836	SLV 4	2.35	Si
fin.	2	-1478	-71600	252148	SLV 4	3.52	Si
ini.	2	-108	99922	251836	SLV 1	2.52	Si
fin.	2	-805	-71404	252148	SLV 1	3.53	Si
ini.	2	-676	-66355	251836	SLV 13	3.8	Si
fin.	2	-225	43338	252148	SLV 13	5.82	Si
ini.	2	-1590	-59238	251836	SLV 15	4.25	Si
fin.	2	-898	43143	252148	SLV 15	5.84	Si
ini.	2	-1022	107039	251836	SLV 3	2.35	Si
fin.	2	-1478	-71600	252148	SLV 3	3.52	Si
ini.	2	-912	57175	251836	SLD 3	4.4	Si
fin.	2	-1111	-38652	252148	SLD 3	6.52	Si
ini.	2	-108	99922	251836	SLV 2	2.52	Si
fin.	2	-805	-71404	252148	SLV 2	3.53	Si
ini.	2	-912	57175	251836	SLD 4	4.4	Si
fin.	2	-1111	-38652	252148	SLD 4	6.52	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-108	99922	-1921			1802	685	SLV 1	0.36	No
fin.	2	-805	-71404	-2686			2081	819	SLV 1	0.3	No
ini.	2	-546	54328	-789			1977	771	SLD 1	0.98	No
fin.	2	-838	-38621	-1593			2094	824	SLD 1	0.52	No
ini.	2	-1022	107039	-1326			2167	856	SLV 3	0.65	No
fin.	2	-1478	-71600	-2218			2351	929	SLV 3	0.42	No
ini.	2	760	33422	-1450			1758	468	SLV 5	0.32	No
fin.	2	183	-31016	-2068			1760	621	SLV 5	0.3	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-1590	-59238	2000			2394	946	SLV 16	0.47	No
fin.	2	-898	43143	1110			2119	835	SLV 16	0.75	No
ini.	2	-546	54328	-789			1977	771	SLD 2	0.98	No
fin.	2	-838	-38621	-1593			2094	824	SLD 2	0.52	No
ini.	2	-1022	107039	-1326			2167	856	SLV 4	0.65	No
fin.	2	-1478	-71600	-2218			2351	929	SLV 4	0.42	No
ini.	2	-1590	-59238	2000			2394	946	SLV 15	0.47	No
fin.	2	-898	43143	1110			2119	835	SLV 15	0.75	No
ini.	2	-108	99922	-1921			1802	685	SLV 2	0.36	No
fin.	2	-805	-71404	-2686			2081	819	SLV 2	0.3	No
ini.	2	760	33422	-1450			1758	468	SLV 6	0.32	No
fin.	2	183	-31016	-2068			1760	621	SLV 6	0.3	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.353	SLV 3	Si
V_SLV	0.3	SLV 5	No
PF_SLU	5.41	SLU 81	Si
V_SLU	0.512	SLU 77	No

## Trave di accoppiamento 177

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-772.3	-486.1	1398	1435.2	37.2	-772.3	-377.1	1398	1485.6	87.6	109	30	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb_	fhk	fvk0	fmedio	t0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	192	1481	21080	SLU 76	14.23	Si
fin.	3	-312	27919	116767	SLU 76	4.18	Si
ini.	3	239	1575	21080	SLU 73	13.39	Si
fin.	3	-317	35225	116767	SLU 73	3.31	Si
ini.	3	230	1612	21080	SLU 52	13.08	Si
fin.	3	-291	34694	116767	SLU 52	3.37	Si
ini.	3	198	1340	21080	SLU 82	15.73	Si
fin.	3	-275	27700	116767	SLU 82	4.22	Si
ini.	3	226	1353	21080	SLU 31	15.58	Si
fin.	3	-294	33821	116767	SLU 31	3.45	Si
ini.	3	187	1338	21080	SLU 2	15.76	Si
fin.	3	-239	28853	116767	SLU 2	4.05	Si
ini.	3	208	1522	21080	SLU 65	13.85	Si
fin.	3	-287	30789	116767	SLU 65	3.79	Si
ini.	3	195	1300	21080	SLU 23	16.21	Si
fin.	3	-265	29385	116767	SLU 23	3.97	Si
ini.	3	199	1559	21080	SLU 44	13.52	Si
fin.	3	-262	30258	116767	SLU 44	3.86	Si
ini.	3	218	1390	21080	SLU 10	15.16	Si
fin.	3	-268	33289	116767	SLU 10	3.51	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	208	1522	514			287	72	SLU 65	0.14	No
fin.	3	-287	30789	11			906	353	SLU 65	32.36	Si
ini.	3	230	1612	551			287	67	SLU 52	0.12	No
fin.	3	-291	34694	37			907	353	SLU 52	9.48	Si
ini.	3	239	1575	566			287	65	SLU 73	0.11	No
fin.	3	-317	35225	45			915	357	SLU 73	7.95	Si
ini.	3	199	1559	499			287	73	SLU 44	0.15	No
fin.	3	-262	30258	3			897	349	SLU 44	107.22	Si
ini.	3	198	1340	475			287	74	SLU 82	0.16	No
fin.	3	-275	27700	-11			902	351	SLU 82	31.25	Si
ini.	3	218	1390	506			287	70	SLU 10	0.14	No
fin.	3	-268	33289	79			899	350	SLU 10	4.41	Si
ini.	3	226	1353	520			287	68	SLU 31	0.13	No
fin.	3	-294	33821	87			908	354	SLU 31	4.06	Si
ini.	3	192	1481	509			287	75	SLU 76	0.15	No
fin.	3	-312	27919	-2			913	356	SLU 76	187.11	Si
ini.	3	184	1518	495			287	77	SLU 55	0.16	No
fin.	3	-287	27388	-10			905	353	SLU 55	36.91	Si
ini.	3	195	1300	468			287	74	SLU 23	0.16	No
fin.	3	-265	29385	53			898	349	SLU 23	6.59	Si

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1237	-22317	31621	SLV 6	1.42	Si
fin.	2	-1385	125828	175150	SLV 6	1.39	Si
ini.	2	-1111	23717	31621	SLV 11	1.33	Si
fin.	2	1144	-112413	175150	SLV 11	1.56	Si
ini.	2	1102	-19004	31621	SLV 10	1.66	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	-1524	148807	175150	SLV 10	1.18	Si
ini.	2	1102	-19004	31621	SLV 9	1.66	Si
fin.	2	-1524	148807	175150	SLV 9	1.18	Si
ini.	2	170	-187	31621	SLV 14	1.69	Si
fin.	2	-754	84189	175150	SLV 14	2.08	Si
ini.	2	1237	-22317	31621	SLV 5	1.42	Si
fin.	2	-1385	125828	175150	SLV 5	1.39	Si
ini.	2	170	-187	31621	SLV 13	1.69	Si
fin.	2	-754	84189	175150	SLV 13	2.08	Si
ini.	2	-976	20404	31621	SLV 7	1.55	Si
fin.	2	1284	-135392	175150	SLV 7	1.29	Si
ini.	2	-976	20404	31621	SLV 8	1.55	Si
fin.	2	1284	-135392	175150	SLV 8	1.29	Si
ini.	2	-1111	23717	31621	SLV 12	1.33	Si
fin.	2	1144	-112413	175150	SLV 12	1.56	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	528	-8357	346			430	38	SLD 6	0.11	No
fin.	2	-617	53172	325			1418	556	SLD 6	1.71	Si
ini.	2	-976	20404	-656			690	268	SLV 8	0.41	No
fin.	2	1284	-135392	-1316			1220	69	SLV 8	0.05	No
ini.	2	620	-11229	-336			430	0	SLV 1	0	No
fin.	2	-287	7592	152			1312	507	SLV 1	3.34	Si
ini.	2	1237	-22317	604			430	0	SLV 5	0	No
fin.	2	-1385	125828	1029			1665	658	SLV 5	0.64	No
ini.	2	-976	20404	-656			690	268	SLV 7	0.41	No
fin.	2	1284	-135392	-1316			1220	69	SLV 7	0.05	No
ini.	2	1237	-22317	604			430	0	SLV 6	0	No
fin.	2	-1385	125828	1029			1665	658	SLV 6	0.64	No
ini.	2	1102	-19004	1032			430	0	SLV 10	0	No
fin.	2	-1524	148807	1077			1710	675	SLV 10	0.63	No
ini.	2	528	-8357	346			430	38	SLD 5	0.11	No
fin.	2	-617	53172	325			1418	556	SLD 5	1.71	Si
ini.	2	620	-11229	-336			430	0	SLV 2	0	No
fin.	2	-287	7592	152			1312	507	SLV 2	3.34	Si
ini.	2	1102	-19004	1032			430	0	SLV 9	0	No
fin.	2	-1524	148807	1077			1710	675	SLV 9	0.63	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.177	SLV 9	Si
V_SLV	0	SLV 1	No
PF_SLU	3.315	SLU 73	Si
V_SLU	0.114	SLU 73	No

## Trave di accoppiamento 178

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-651.3	-335.9	1186	1276	90	-741.3	-335.9	1186	1276	90	90	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fthk	fvk0	fthmedio	τ0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-174	392	115068	SLU 69	293.25	Si
fin.	3	-796	25564	115068	SLU 69	4.5	Si
ini.	3	-55	-2190	115068	SLU 27	52.54	Si
fin.	3	-676	23931	115068	SLU 27	4.81	Si
ini.	3	-95	-1429	115068	SLU 35	80.5	Si
fin.	3	-735	24749	115068	SLU 35	4.65	Si
ini.	3	-327	3449	115068	SLU 78	33.36	Si
fin.	3	-807	23811	115068	SLU 78	4.83	Si
ini.	3	-159	-338	115068	SLU 79	340.01	Si
fin.	3	-823	26339	115068	SLU 79	4.37	Si
ini.	3	-215	1153	115068	SLU 77	99.81	Si
fin.	3	-855	26382	115068	SLU 77	4.36	Si
ini.	3	-271	1958	115068	SLU 80	58.77	Si
fin.	3	-775	23768	115068	SLU 80	4.84	Si
ini.	3	-39	-2921	115068	SLU 37	39.4	Si
fin.	3	-703	24706	115068	SLU 37	4.66	Si
ini.	3	-118	-1099	115068	SLU 71	104.71	Si
fin.	3	-764	25521	115068	SLU 71	4.51	Si
ini.	3	2	-3681	115068	SLU 29	31.26	Si
fin.	3	-644	23888	115068	SLU 29	4.82	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-159	-338	348			1034	398	SLU 79	1.14	Si
fin.	3	-823	26339	793			1300	514	SLU 79	0.65	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-39	-2921	434			986	374	SLU 37	0.86	No
fin.	3	-703	24706	762			1252	495	SLU 37	0.65	No
ini.	3	-85	-1041	180			1005	383	SLU 50	2.13	Si
fin.	3	-657	22804	793			1233	488	SLU 50	0.61	No
ini.	3	2	-3681	361			970	365	SLU 29	1.01	Si
fin.	3	-644	23888	809			1228	486	SLU 29	0.6	No
ini.	3	-22	-2132	204			979	370	SLU 6	1.81	Si
fin.	3	-570	21214	761			1198	473	SLU 6	0.62	No
ini.	3	-142	450	118			1027	395	SLU 48	3.35	Si
fin.	3	-689	22847	792			1246	493	SLU 48	0.62	No
ini.	3	-55	-2190	299			992	377	SLU 27	1.26	Si
fin.	3	-676	23931	808			1241	491	SLU 27	0.61	No
ini.	3	-174	392	213			1040	401	SLU 69	1.88	Si
fin.	3	-796	25564	839			1289	510	SLU 69	0.61	No
ini.	3	-118	-1099	275			1018	390	SLU 71	1.42	Si
fin.	3	-764	25521	840			1276	505	SLU 71	0.6	No
ini.	3	34	-3624	266			970	358	SLU 8	1.34	Si
fin.	3	-538	21171	762			1186	468	SLU 8	0.61	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1864	66563	172601	SLV 3	2.59	Si
fin.	2	74	-53902	172601	SLV 3	3.2	Si
ini.	2	951	-49077	172601	SLV 13	3.52	Si
fin.	2	-1209	73018	172601	SLV 13	2.36	Si
ini.	2	951	-49077	172601	SLV 14	3.52	Si
fin.	2	-1209	73018	172601	SLV 14	2.36	Si
ini.	2	-1864	66563	172601	SLV 4	2.59	Si
fin.	2	74	-53902	172601	SLV 4	3.2	Si
ini.	2	1348	-61008	172601	SLV 15	2.83	Si
fin.	2	-1998	81206	172601	SLV 15	2.13	Si
ini.	2	1348	-61008	172601	SLV 16	2.83	Si
fin.	2	-1998	81206	172601	SLV 16	2.13	Si
ini.	2	-1601	47763	172601	SLV 6	3.61	Si
fin.	2	1058	-24354	172601	SLV 6	7.09	Si
ini.	2	-2261	78494	172601	SLV 2	2.2	Si
fin.	2	863	-62090	172601	SLV 2	2.78	Si
ini.	2	-2261	78494	172601	SLV 1	2.2	Si
fin.	2	863	-62090	172601	SLV 1	2.78	Si
ini.	2	-1601	47763	172601	SLV 5	3.61	Si
fin.	2	1058	-24354	172601	SLV 5	7.09	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-1864	66563	-2408			2201	863	SLV 4	0.36	No
fin.	2	74	-53902	-2587			1456	531	SLV 4	0.21	No
ini.	2	-1864	66563	-2408			2201	863	SLV 3	0.36	No
fin.	2	74	-53902	-2587			1456	531	SLV 3	0.21	No
ini.	2	1348	-61008	2710			1456	0	SLV 15	0	No
fin.	2	-1998	81206	3574			2255	881	SLV 15	0.25	No
ini.	2	-1601	47763	-1840			2096	825	SLV 6	0.45	No
fin.	2	1058	-24354	-1894			1456	219	SLV 6	0.12	No
ini.	2	951	-49077	2145			1456	271	SLV 13	0.13	No
fin.	2	-1209	73018	2899			1939	767	SLV 13	0.26	No
ini.	2	-1601	47763	-1840			2096	825	SLV 5	0.45	No
fin.	2	1058	-24354	-1894			1456	219	SLV 5	0.12	No
ini.	2	-2261	78494	-2972			2360	916	SLV 1	0.31	No
fin.	2	863	-62090	-3262			1456	308	SLV 1	0.09	No
ini.	2	951	-49077	2145			1456	271	SLV 14	0.13	No
fin.	2	-1209	73018	2899			1939	767	SLV 14	0.26	No
ini.	2	-2261	78494	-2972			2360	916	SLV 2	0.31	No
fin.	2	863	-62090	-3262			1456	308	SLV 2	0.09	No
ini.	2	1348	-61008	2710			1456	0	SLV 16	0	No
fin.	2	-1998	81206	3574			2255	881	SLV 16	0.25	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV		2.125	SLV 15
V_SLV		0	SLV 15
PF_SLU		4.362	SLU 77
V_SLU		0.6	SLU 29

#### Trave di accoppiamento 179

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

##### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-651.3	-335.9	1456	1504.6	48.6	-741.3	-335.9	1456	1504.6	48.6	90	28	30000

##### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2



## Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-889	-22099	33499	SLU 36	1.52	Si
fin.	3	-894	8412	33592	SLU 36	3.99	Si
ini.	3	-1006	-23028	33499	SLU 77	1.45	Si
fin.	3	-1010	8287	33592	SLU 77	4.05	Si
ini.	3	-944	-23148	33499	SLU 80	1.45	Si
fin.	3	-949	9478	33592	SLU 80	3.54	Si
ini.	3	-738	-21994	33499	SLU 71	1.52	Si
fin.	3	-742	8497	33592	SLU 71	3.95	Si
ini.	3	-855	-22454	33499	SLU 70	1.49	Si
fin.	3	-860	8042	33592	SLU 70	4.18	Si
ini.	3	-828	-22164	33499	SLU 69	1.51	Si
fin.	3	-831	7674	33592	SLU 69	4.38	Si
ini.	3	-1033	-23318	33499	SLU 78	1.44	Si
fin.	3	-1039	8655	33592	SLU 78	3.88	Si
ini.	3	-799	-21928	33499	SLU 38	1.53	Si
fin.	3	-805	9235	33592	SLU 38	3.64	Si
ini.	3	-916	-22858	33499	SLU 79	1.47	Si
fin.	3	-921	9110	33592	SLU 79	3.69	Si
ini.	3	-766	-22284	33499	SLU 72	1.5	Si
fin.	3	-771	8865	33592	SLU 72	3.79	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-683	-20945	958			531	208	SLU 27	0.22	No
fin.	3	-687	7431	-330			533	209	SLU 27	0.63	No
ini.	3	-665	-19599	928			526	206	SLU 49	0.22	No
fin.	3	-670	7022	-349			528	207	SLU 49	0.59	No
ini.	3	-711	-21235	969			539	211	SLU 28	0.22	No
fin.	3	-716	7799	-329			540	211	SLU 28	0.64	No
ini.	3	-638	-19310	916			519	204	SLU 48	0.22	No
fin.	3	-641	6654	-350			520	204	SLU 48	0.58	No
ini.	3	-828	-22164	1029			570	221	SLU 69	0.21	No
fin.	3	-831	7674	-374			571	221	SLU 69	0.59	No
ini.	3	-738	-21994	963			546	213	SLU 71	0.22	No
fin.	3	-742	8497	-300			548	214	SLU 71	0.71	No
ini.	3	-766	-22284	975			553	215	SLU 72	0.22	No
fin.	3	-771	8865	-299			555	216	SLU 72	0.72	No
ini.	3	-855	-22454	1040			577	223	SLU 70	0.21	No
fin.	3	-860	8042	-373			579	224	SLU 70	0.6	No
ini.	3	-621	-21065	904			515	202	SLU 30	0.22	No
fin.	3	-627	8622	-255			517	203	SLU 30	0.8	No
ini.	3	-594	-20775	893			507	200	SLU 29	0.22	No
fin.	3	-598	8255	-256			509	200	SLU 29	0.78	No

## Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1862	15580	50249	SLV 6	3.23	Si
fin.	2	-1381	-36301	50388	SLV 6	1.39	Si
ini.	2	-1681	19907	50249	SLV 1	2.52	Si
fin.	2	-1567	-32120	50388	SLV 1	1.57	Si
ini.	2	-1681	19907	50249	SLV 2	2.52	Si
fin.	2	-1567	-32120	50388	SLV 2	1.57	Si
ini.	2	-1862	15580	50249	SLV 5	3.23	Si
fin.	2	-1381	-36301	50388	SLV 5	1.39	Si
ini.	2	74	-36684	50249	SLV 15	1.37	Si
fin.	2	-43	37003	50388	SLV 15	1.36	Si
ini.	2	-450	-26477	50249	SLV 13	1.9	Si
fin.	2	-272	18295	50388	SLV 13	2.75	Si
ini.	2	-450	-26477	50249	SLV 14	1.9	Si
fin.	2	-272	18295	50388	SLV 14	2.75	Si
ini.	2	255	-32357	50249	SLV 11	1.55	Si
fin.	2	-229	41184	50388	SLV 11	1.22	Si
ini.	2	74	-36684	50249	SLV 16	1.37	Si
fin.	2	-43	37003	50388	SLV 16	1.36	Si
ini.	2	255	-32357	50249	SLV 12	1.55	Si
fin.	2	-229	41184	50388	SLV 12	1.22	Si

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	255	-32357	741			524	156	SLV 11	0.21	No
fin.	2	-229	41184	93			585	228	SLV 11	2.45	Si
ini.	2	74	-36684	916			524	186	SLV 16	0.2	No
fin.	2	-43	37003	394			536	203	SLV 16	0.52	No
ini.	2	74	-36684	916			524	186	SLV 15	0.2	No
fin.	2	-43	37003	394			536	203	SLV 15	0.52	No
ini.	2	-114	-18442	469			554	213	SLV 7	0.45	No
fin.	2	-617	26060	-230			689	272	SLV 7	1.19	Si
ini.	2	-440	-20356	622			641	253	SLD 15	0.41	No
fin.	2	-481	16814	68			653	258	SLD 15	3.81	Si
ini.	2	-450	-26477	794			644	254	SLV 13	0.32	No
fin.	2	-272	18295	330			597	233	SLV 13	0.71	No
ini.	2	-440	-20356	622			641	253	SLD 16	0.41	No
fin.	2	-481	16814	68			653	258	SLD 16	3.81	Si
ini.	2	-114	-18442	469			554	213	SLV 8	0.45	No
fin.	2	-617	26060	-230			689	272	SLV 8	1.19	Si
ini.	2	255	-32357	741			524	156	SLV 12	0.21	No
fin.	2	-229	41184	93			585	228	SLV 12	2.45	Si



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-450	-26477	794			644	254	SLV 14	0.32	No
fin.	2	-272	18295	330			597	233	SLV 14	0.71	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.223	SLV 11	Si
V_SLV	0.203	SLV 15	No
PF_SLU	1.437	SLU 78	Si
V_SLU	0.215	SLU 70	No

## Trave di accoppiamento 180

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-550.8	-335.9	1186	1386	200	-600.8	-335.9	1186	1386	200	50	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-542	48340	568235	SLU 36	11.75	Si
fin.	3	-395	36500	568235	SLU 36	15.57	Si
ini.	3	-419	48602	568235	SLU 35	11.69	Si
fin.	3	-261	39448	568235	SLU 35	14.4	Si
ini.	3	-614	50697	568235	SLU 80	11.21	Si
fin.	3	-462	37796	568235	SLU 80	15.03	Si
ini.	3	-935	49535	568235	SLU 75	11.47	Si
fin.	3	-805	33802	568235	SLU 75	16.81	Si
ini.	3	-884	49693	568235	SLU 84	11.43	Si
fin.	3	-744	33648	568235	SLU 84	16.89	Si
ini.	3	-579	53692	568235	SLU 77	10.58	Si
fin.	3	-413	42613	568235	SLU 77	13.33	Si
ini.	3	-491	50959	568235	SLU 79	11.15	Si
fin.	3	-327	40744	568235	SLU 79	13.95	Si
ini.	3	-703	53430	568235	SLU 78	10.64	Si
fin.	3	-547	39665	568235	SLU 78	14.33	Si
ini.	3	-761	49955	568235	SLU 83	11.37	Si
fin.	3	-610	36597	568235	SLU 83	15.53	Si
ini.	3	-812	49796	568235	SLU 74	11.41	Si
fin.	3	-670	36750	568235	SLU 74	15.46	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-419	48602	-440			2324	898	SLU 35	2.04	Si
fin.	3	-261	39448	-258			2261	866	SLU 35	3.35	Si
ini.	3	-812	49796	-450			2481	972	SLU 74	2.16	Si
fin.	3	-670	36750	-272			2425	946	SLU 74	3.48	Si
ini.	3	-542	48340	-450			2373	922	SLU 36	2.05	Si
fin.	3	-395	36500	-338			2315	893	SLU 36	2.64	Si
ini.	3	-579	53692	-474			2388	929	SLU 77	1.96	Si
fin.	3	-413	42613	-255			2322	897	SLU 77	3.52	Si
ini.	3	-884	49693	-467			2510	985	SLU 84	2.11	Si
fin.	3	-744	33648	-423			2454	960	SLU 84	2.27	Si
ini.	3	-491	50959	-437			2353	912	SLU 79	2.09	Si
fin.	3	-327	40744	-264			2287	880	SLU 79	3.33	Si
ini.	3	-614	50697	-447			2402	936	SLU 80	2.09	Si
fin.	3	-462	37796	-344			2341	906	SLU 80	2.63	Si
ini.	3	-761	49955	-457			2461	963	SLU 83	2.11	Si
fin.	3	-610	36597	-343			2401	935	SLU 83	2.73	Si
ini.	3	-935	49535	-460			2531	994	SLU 75	2.16	Si
fin.	3	-805	33802	-352			2479	971	SLU 75	2.76	Si
ini.	3	-703	53430	-484			2438	952	SLU 78	1.97	Si
fin.	3	-547	39665	-335			2376	923	SLU 78	2.75	Si

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-745	58092	852353	SLV 11	14.67	Si
fin.	2	-61	8110	852353	SLV 11	105.1	Si
ini.	2	-745	58092	852353	SLV 12	14.67	Si
fin.	2	-61	8110	852353	SLV 12	105.1	Si
ini.	2	-1249	56829	852353	SLD 3	15	Si
fin.	2	-1249	7845	852353	SLD 3	108.65	Si
ini.	2	-1747	67802	852353	SLV 1	12.57	Si
fin.	2	-2150	2597	852353	SLV 1	328.21	Si
ini.	2	-2006	95111	852353	SLV 4	8.96	Si
fin.	2	-2096	-8022	852353	SLV 4	106.25	Si
ini.	2	-1467	89883	852353	SLV 8	9.48	Si
fin.	2	-971	-5054	852353	SLV 8	168.65	Si
ini.	2	-1467	89883	852353	SLV 7	9.48	Si
fin.	2	-971	-5054	852353	SLV 7	168.65	Si
ini.	2	-1249	56829	852353	SLD 4	15	Si





Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	-1249	7845	852353	SLD 4	108.65	Si
ini.	2	-2006	95111	852353	SLV 3	8.96	Si
fin.	2	-2096	-8022	852353	SLV 3	106.25	Si
ini.	2	-1747	67802	852353	SLV 2	12.57	Si
fin.	2	-2150	2597	852353	SLV 2	328.21	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-745	58092	-1880			3533	1370	SLV 12	0.73	No
fin.	2	-61	8110	-1981			3260	1231	SLV 12	0.62	No
ini.	2	118	-32940	2448			3235	1192	SLV 9	0.49	No
fin.	2	-242	43507	3000			3332	1269	SLV 9	0.42	No
ini.	2	-1467	89883	-2920			3822	1503	SLV 7	0.51	No
fin.	2	-971	-5054	-3283			3624	1413	SLV 7	0.43	No
ini.	2	-745	58092	-1880			3533	1370	SLV 11	0.73	No
fin.	2	-61	8110	-1981			3260	1231	SLV 11	0.62	No
ini.	2	-2006	95111	-2619			4038	1595	SLV 3	0.61	No
fin.	2	-2096	-8022	-3058			4073	1610	SLV 3	0.53	No
ini.	2	-2006	95111	-2619			4038	1595	SLV 4	0.61	No
fin.	2	-2096	-8022	-3058			4073	1610	SLV 4	0.53	No
ini.	2	657	-38169	2147			3235	1065	SLV 14	0.5	No
fin.	2	883	46475	2775			3235	1007	SLV 14	0.36	No
ini.	2	118	-32940	2448			3235	1192	SLV 10	0.49	No
fin.	2	-242	43507	3000			3332	1269	SLV 10	0.42	No
ini.	2	657	-38169	2147			3235	1065	SLV 13	0.5	No
fin.	2	883	46475	2775			3235	1007	SLV 13	0.36	No
ini.	2	-1467	89883	-2920			3822	1503	SLV 8	0.51	No
fin.	2	-971	-5054	-3283			3624	1413	SLV 8	0.43	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	8.962	SLV 3	Si
V_SLV	0.363	SLV 13	No
PF_SLU	10.583	SLU 77	Si
V_SLU	1.96	SLU 77	Si

## Trave di accoppiamento 181

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-550.8	-335.9	1466	1504.5	38.5	-600.8	-335.9	1466	1504.5	38.5	50	28	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-491	2601	21041	SLU 37	8.09	Si
fin.	3	-495	-9954	21081	SLU 37	2.12	Si
ini.	3	-588	2377	21041	SLU 36	8.85	Si
fin.	3	-592	-10107	21081	SLU 36	2.09	Si
ini.	3	-477	3184	21041	SLU 72	6.61	Si
fin.	3	-480	-10326	21081	SLU 72	2.04	Si
ini.	3	-545	2636	21041	SLU 70	7.98	Si
fin.	3	-549	-10172	21081	SLU 70	2.07	Si
ini.	3	-630	2708	21041	SLU 80	7.77	Si
fin.	3	-634	-10694	21081	SLU 80	1.97	Si
ini.	3	-519	2925	21041	SLU 38	7.19	Si
fin.	3	-523	-10261	21081	SLU 38	2.05	Si
ini.	3	-602	2383	21041	SLU 79	8.83	Si
fin.	3	-606	-10387	21081	SLU 79	2.03	Si
ini.	3	-448	2859	21041	SLU 71	7.36	Si
fin.	3	-452	-10019	21081	SLU 71	2.1	Si
ini.	3	-699	2160	21041	SLU 78	9.74	Si
fin.	3	-702	-10540	21081	SLU 78	2	Si
ini.	3	-670	1835	21041	SLU 77	11.46	Si
fin.	3	-674	-10233	21081	SLU 77	2.06	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-196	3188	87			380	149	SLU 8	1.71	Si
fin.	3	-198	-8383	-361			381	150	SLU 8	0.42	No
ini.	3	-477	3184	117			466	183	SLU 72	1.57	Si
fin.	3	-480	-10326	-430			468	184	SLU 72	0.43	No
ini.	3	-338	3077	112			423	167	SLU 29	1.49	Si
fin.	3	-341	-9586	-397			425	168	SLU 29	0.42	No
ini.	3	-434	2854	144			453	179	SLU 28	1.24	Si
fin.	3	-438	-9739	-403			455	179	SLU 28	0.44	No
ini.	3	-224	3513	69			388	153	SLU 9	2.22	Si
fin.	3	-226	-8690	-371			390	154	SLU 9	0.41	No
ini.	3	-307	2971	110			414	164	SLU 50	1.48	Si
fin.	3	-309	-8817	-383			415	164	SLU 50	0.43	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-448	2859	135			457	180	SLU 71	1.33	Si
fin.	3	-452	-10019	-420			459	181	SLU 71	0.43	No
ini.	3	-293	2965	120			410	162	SLU 7	1.35	Si
fin.	3	-295	-8536	-367			411	163	SLU 7	0.44	No
ini.	3	-335	3295	92			423	167	SLU 51	1.81	Si
fin.	3	-337	-9124	-394			424	168	SLU 51	0.43	No
ini.	3	-366	3402	94			432	171	SLU 30	1.82	Si
fin.	3	-369	-9893	-408			434	171	SLU 30	0.42	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-944	-25338	31561	SLV 6	1.25	Si
fin.	2	-1101	24078	31622	SLV 6	1.31	Si
ini.	2	-287	23297	31561	SLV 11	1.35	Si
fin.	2	-133	-30616	31622	SLV 11	1.03	Si
ini.	2	-985	-35094	31561	SLV 9	0.9	No
fin.	2	-601	22250	31622	SLV 9	1.42	Si
ini.	2	-246	33052	31561	SLV 8	0.95	No
fin.	2	-633	-28788	31622	SLV 8	1.1	Si
ini.	2	-287	23297	31561	SLV 12	1.35	Si
fin.	2	-133	-30616	31622	SLV 12	1.03	Si
ini.	2	-985	-35094	31561	SLV 10	0.9	No
fin.	2	-601	22250	31622	SLV 10	1.42	Si
ini.	2	-944	-25338	31561	SLV 5	1.25	Si
fin.	2	-1101	24078	31622	SLV 5	1.31	Si
ini.	2	-789	-26038	31561	SLV 14	1.21	Si
fin.	2	146	1614	31622	SLV 14	19.59	Si
ini.	2	-789	-26038	31561	SLV 13	1.21	Si
fin.	2	146	1614	31622	SLV 13	19.59	Si
ini.	2	-246	33052	31561	SLV 7	0.95	No
fin.	2	-633	-28788	31622	SLV 7	1.1	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-246	33052	-451			555	218	SLV 8	0.48	No
fin.	2	-633	-28788	-628			675	266	SLV 8	0.42	No
ini.	2	-944	-25338	591			770	299	SLV 5	0.51	No
fin.	2	-1101	24078	360			819	315	SLV 5	0.87	No
ini.	2	-287	23297	-366			568	223	SLV 12	0.61	No
fin.	2	-133	-30616	-614			521	202	SLV 12	0.33	No
ini.	2	-944	-25338	591			770	299	SLV 6	0.51	No
fin.	2	-1101	24078	360			819	315	SLV 6	0.87	No
ini.	2	-985	-35094	677			782	303	SLV 9	0.45	No
fin.	2	-601	22250	374			665	263	SLV 9	0.7	No
ini.	2	-287	23297	-366			568	223	SLV 11	0.61	No
fin.	2	-133	-30616	-614			521	202	SLV 11	0.33	No
ini.	2	-246	33052	-451			555	218	SLV 7	0.48	No
fin.	2	-633	-28788	-628			675	266	SLV 7	0.42	No
ini.	2	-985	-35094	677			782	303	SLV 10	0.45	No
fin.	2	-601	22250	374			665	263	SLV 10	0.7	No
ini.	2	-580	-8521	99			658	260	SLV 15	2.64	Si
fin.	2	286	-14245	-252			480	124	SLV 15	0.49	No
ini.	2	-580	-8521	99			658	260	SLV 16	2.64	Si
fin.	2	286	-14245	-252			480	124	SLV 16	0.49	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.899	SLV 9	No
V_SLV	0.329	SLV 11	No
PF_SLU	1.971	SLU 80	Si
V_SLU	0.414	SLU 9	No

#### Trave di accoppiamento 182

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-228.3	-335.9	1186	1276	90	-318.3	-335.9	1186	1276	90	90	28	30000

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	154	-25049	115068	SLU 78	4.59	Si
fin.	3	-1046	33169	115068	SLU 78	3.47	Si
ini.	3	-131	-22579	115068	SLU 73	5.1	Si
fin.	3	-1346	35563	115068	SLU 73	3.24	Si
ini.	3	26	-24917	115068	SLU 76	4.62	Si
fin.	3	-1209	34620	115068	SLU 76	3.32	Si
ini.	3	-203	-18237	115068	SLU 81	6.31	Si
fin.	3	-1258	32866	115068	SLU 81	3.5	Si
ini.	3	-13	-23855	115068	SLU 84	4.82	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	-1218	34550	115068	SLU 84	3.33	Si
ini.	3	-171	-21517	115068	SLU 82	5.35	Si
fin.	3	-1355	35494	115068	SLU 82	3.24	Si
ini.	3	-46	-20575	115068	SLU 83	5.59	Si
fin.	3	-1121	31923	115068	SLU 83	3.6	Si
ini.	3	-89	-19955	115068	SLU 65	5.77	Si
fin.	3	-1177	31639	115068	SLU 65	3.64	Si
ini.	3	162	-25069	115068	SLU 80	4.59	Si
fin.	3	-1008	31925	115068	SLU 80	3.6	Si
ini.	3	-3	-22711	115068	SLU 75	5.07	Si
fin.	3	-1183	34113	115068	SLU 75	3.37	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-131	-22579	1281			1023	393	SLU 73	0.31	No
fin.	3	-1346	35563	1325			1509	589	SLU 73	0.44	No
ini.	3	205	-23601	1098			970	318	SLU 38	0.29	No
fin.	3	-846	27753	1187			1309	517	SLU 38	0.44	No
ini.	3	-3	-22711	1197			972	366	SLU 75	0.31	No
fin.	3	-1183	34113	1366			1444	567	SLU 75	0.41	No
ini.	3	29	-22387	1168			970	359	SLU 42	0.31	No
fin.	3	-1056	30379	1166			1393	549	SLU 42	0.47	No
ini.	3	162	-25069	1205			970	328	SLU 80	0.27	No
fin.	3	-1008	31925	1355			1374	542	SLU 80	0.4	No
ini.	3	154	-25049	1205			970	330	SLU 78	0.27	No
fin.	3	-1046	33169	1420			1389	547	SLU 78	0.39	No
ini.	3	197	-23581	1098			970	320	SLU 36	0.29	No
fin.	3	-885	28998	1252			1324	523	SLU 36	0.42	No
ini.	3	-13	-23855	1275			976	368	SLU 84	0.29	No
fin.	3	-1218	34550	1334			1457	572	SLU 84	0.43	No
ini.	3	69	-23450	1181			970	350	SLU 34	0.3	No
fin.	3	-1048	30448	1211			1390	548	SLU 34	0.45	No
ini.	3	26	-24917	1289			970	359	SLU 76	0.28	No
fin.	3	-1209	34620	1379			1454	570	SLU 76	0.41	No

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-1436	39026	172601	SLV 4	4.42	Si
fin.	2	-165	-4125	172601	SLV 4	41.85	Si
ini.	2	1183	-61148	172601	SLV 13	2.82	Si
fin.	2	-1429	46422	172601	SLV 13	3.72	Si
ini.	2	-1436	39026	172601	SLV 3	4.42	Si
fin.	2	-165	-4125	172601	SLV 3	41.85	Si
ini.	2	766	-44694	172601	SLV 15	3.86	Si
fin.	2	-1449	38666	172601	SLV 15	4.46	Si
ini.	2	898	-51042	172601	SLV 10	3.38	Si
fin.	2	-957	40493	172601	SLV 10	4.26	Si
ini.	2	1183	-61148	172601	SLV 14	2.82	Si
fin.	2	-1429	46422	172601	SLV 14	3.72	Si
ini.	2	766	-44694	172601	SLV 16	3.86	Si
fin.	2	-1449	38666	172601	SLV 16	4.46	Si
ini.	2	435	-32392	172601	SLD 13	5.33	Si
fin.	2	-1062	31830	172601	SLD 13	5.42	Si
ini.	2	898	-51042	172601	SLV 9	3.38	Si
fin.	2	-957	40493	172601	SLV 9	4.26	Si
ini.	2	435	-32392	172601	SLD 14	5.33	Si
fin.	2	-1062	31830	172601	SLD 14	5.42	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	255	-25482	1325			1456	489	SLD 15	0.37	No
fin.	2	-1076	28643	1355			1886	746	SLD 15	0.55	No
ini.	2	1183	-61148	2524			1456	136	SLV 13	0.05	No
fin.	2	-1429	46422	2525			2027	800	SLV 13	0.32	No
ini.	2	766	-44694	2187			1456	343	SLV 16	0.16	No
fin.	2	-1449	38666	2094			2035	803	SLV 16	0.38	No
ini.	2	435	-32392	1465			1456	443	SLD 13	0.3	No
fin.	2	-1062	31830	1532			1881	744	SLD 13	0.49	No
ini.	2	898	-51042	1744			1456	294	SLV 9	0.17	No
fin.	2	-957	40493	1971			1839	727	SLV 9	0.37	No
ini.	2	766	-44694	2187			1456	343	SLV 15	0.16	No
fin.	2	-1449	38666	2094			2035	803	SLV 15	0.38	No
ini.	2	435	-32392	1465			1456	443	SLD 14	0.3	No
fin.	2	-1062	31830	1532			1881	744	SLD 14	0.49	No
ini.	2	255	-25482	1325			1456	489	SLD 16	0.37	No
fin.	2	-1076	28643	1355			1886	746	SLD 16	0.55	No
ini.	2	1183	-61148	2524			1456	136	SLV 14	0.05	No
fin.	2	-1429	46422	2525			2027	800	SLV 14	0.32	No
ini.	2	898	-51042	1744			1456	294	SLV 10	0.17	No
fin.	2	-957	40493	1971			1839	727	SLV 10	0.37	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	2.823	SLV 13	Si
V_SLV	0.054	SLV 13	No
PF_SLU	3.236	SLU 73	Si
V_SLU	0.272	SLU 80	No



## Trave di accoppiamento 183

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-228.3	-335.9	1456	1504.2	48.2	-318.3	-335.9	1456	1504.3	48.3	90	28	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	t <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-817	-15664	33064	SLU 83	2.11	Si
fin.	3	-820	7215	33157	SLU 83	4.6	Si
ini.	3	-669	-17307	33064	SLU 76	1.91	Si
fin.	3	-673	9664	33157	SLU 76	3.43	Si
ini.	3	-947	-17466	33064	SLU 82	1.89	Si
fin.	3	-949	8636	33157	SLU 82	3.84	Si
ini.	3	-726	-15732	33064	SLU 31	2.1	Si
fin.	3	-727	8694	33157	SLU 31	3.81	Si
ini.	3	-523	-16019	33064	SLU 80	2.06	Si
fin.	3	-529	8832	33157	SLU 80	3.75	Si
ini.	3	-849	-17568	33064	SLU 73	1.88	Si
fin.	3	-851	9320	33157	SLU 73	3.56	Si
ini.	3	-767	-17204	33064	SLU 84	1.92	Si
fin.	3	-771	8980	33157	SLU 84	3.69	Si
ini.	3	-631	-16836	33064	SLU 78	1.96	Si
fin.	3	-637	8406	33157	SLU 78	3.94	Si
ini.	3	-996	-15925	33064	SLU 81	2.08	Si
fin.	3	-998	6871	33157	SLU 81	4.83	Si
ini.	3	-811	-17098	33064	SLU 75	1.93	Si
fin.	3	-814	8062	33157	SLU 75	4.11	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-356	-12843	607			442	175	SLU 28	0.29	No
fin.	3	-361	6629	-199			444	175	SLU 28	0.88	No
ini.	3	-523	-16019	669			486	192	SLU 80	0.29	No
fin.	3	-529	8832	-143			488	193	SLU 80	1.35	Si
ini.	3	-365	-12400	612			444	176	SLU 49	0.29	No
fin.	3	-370	6083	-224			446	176	SLU 49	0.79	No
ini.	3	-528	-13140	661			488	192	SLU 69	0.29	No
fin.	3	-534	5490	-289			490	193	SLU 69	0.67	No
ini.	3	-371	-13862	632			446	176	SLU 72	0.28	No
fin.	3	-377	7681	-180			448	177	SLU 72	0.98	No
ini.	3	-517	-14557	649			485	191	SLU 57	0.29	No
fin.	3	-522	7234	-187			486	192	SLU 57	1.03	Si
ini.	3	-247	-12026	554			413	162	SLU 30	0.29	No
fin.	3	-253	7055	-154			415	163	SLU 30	1.06	Si
ini.	3	-479	-14680	685			475	188	SLU 70	0.27	No
fin.	3	-485	7256	-225			477	188	SLU 70	0.84	No
ini.	3	-631	-16836	722			515	202	SLU 78	0.28	No
fin.	3	-637	8406	-188			517	203	SLU 78	1.08	Si
ini.	3	-257	-11583	559			415	164	SLU 51	0.29	No
fin.	3	-262	6509	-179			417	164	SLU 51	0.92	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	517	-27252	49597	SLV 14	1.82	Si
fin.	2	771	26669	49735	SLV 14	1.86	Si
ini.	2	1266	-17788	49597	SLV 9	2.79	Si
fin.	2	1378	20340	49735	SLV 9	2.45	Si
ini.	2	-1752	7260	49597	SLV 3	6.83	Si
fin.	2	-2009	-18485	49735	SLV 3	2.69	Si
ini.	2	1266	-17788	49597	SLV 10	2.79	Si
fin.	2	1378	20340	49735	SLV 10	2.45	Si
ini.	2	-501	-25527	49597	SLV 15	1.94	Si
fin.	2	-270	20422	49735	SLV 15	2.44	Si
ini.	2	517	-27252	49597	SLV 13	1.82	Si
fin.	2	771	26669	49735	SLV 13	1.86	Si
ini.	2	-501	-25527	49597	SLV 16	1.94	Si
fin.	2	-270	20422	49735	SLV 16	2.44	Si
ini.	2	-133	-17358	49597	SLD 14	2.86	Si
fin.	2	-25	13719	49735	SLD 14	3.63	Si
ini.	2	-1752	7260	49597	SLV 4	6.83	Si
fin.	2	-2009	-18485	49735	SLV 4	2.69	Si
ini.	2	-133	-17358	49597	SLD 13	2.86	Si
fin.	2	-25	13719	49735	SLD 13	3.63	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	891	-7952	288			520	0	SLV 5	0	No
fin.	2	856	8668	77			521	0	SLV 5	0	No
ini.	2	185	-13356	423			520	167	SLD 10	0.39	No
fin.	2	231	11051	102			521	159	SLD 10	1.56	Si



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	517	-27252	713			520	95	SLV 14	0.13	No
fin.	2	771	26669	463			521	0	SLV 14	0	No
ini.	2	-501	-25527	706			654	258	SLV 16	0.37	No
fin.	2	-270	20422	289			593	232	SLV 16	0.8	No
ini.	2	185	-13356	423			520	167	SLD 9	0.39	No
fin.	2	231	11051	102			521	159	SLD 9	1.56	Si
ini.	2	517	-27252	713			520	95	SLV 13	0.13	No
fin.	2	771	26669	463			521	0	SLV 13	0	No
ini.	2	891	-7952	288			520	0	SLV 6	0	No
fin.	2	856	8668	77			521	0	SLV 6	0	No
ini.	2	1266	-17788	488			520	0	SLV 9	0	No
fin.	2	1378	20340	349			521	0	SLV 9	0	No
ini.	2	1266	-17788	488			520	0	SLV 10	0	No
fin.	2	1378	20340	349			521	0	SLV 10	0	No
ini.	2	-501	-25527	706			654	258	SLV 15	0.37	No
fin.	2	-270	20422	289			593	232	SLV 15	0.8	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.82	SLV 13	Si
V_SLV	0	SLV 5	No
PF_SLU	1.882	SLU 73	Si
V_SLU	0.274	SLU 70	No

## Trave di accoppiamento 184

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1314.3	-485.9	288	312	24	-1174.3	-485.9	288	312	24	140	30	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-634	-21861	8767	SLU 76	0.4	No
fin.	3	-162	-13843	8767	SLU 76	0.63	No
ini.	3	-569	-21470	8767	SLU 81	0.41	No
fin.	3	-157	-14191	8767	SLU 81	0.62	No
ini.	3	-640	-22462	8767	SLU 80	0.39	No
fin.	3	-135	-14023	8767	SLU 80	0.63	No
ini.	3	-609	-21594	8767	SLU 75	0.41	No
fin.	3	-156	-13822	8767	SLU 75	0.63	No
ini.	3	-628	-22524	8767	SLU 84	0.39	No
fin.	3	-155	-14441	8767	SLU 84	0.61	No
ini.	3	-597	-22252	8767	SLU 83	0.39	No
fin.	3	-141	-14399	8767	SLU 83	0.61	No
ini.	3	-609	-22191	8767	SLU 79	0.4	No
fin.	3	-121	-13981	8767	SLU 79	0.63	No
ini.	3	-601	-21742	8767	SLU 82	0.4	No
fin.	3	-172	-14233	8767	SLU 82	0.62	No
ini.	3	-605	-22104	8767	SLU 77	0.4	No
fin.	3	-125	-13989	8767	SLU 77	0.63	No
ini.	3	-637	-22376	8767	SLU 78	0.39	No
fin.	3	-140	-14030	8767	SLU 78	0.62	No

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-605	-22104	912			346	131	SLU 77	0.14	No
fin.	3	-125	-13989	-616			218	86	SLU 77	0.14	No
ini.	3	-609	-22191	915			347	131	SLU 79	0.14	No
fin.	3	-121	-13981	-616			217	85	SLU 79	0.14	No
ini.	3	-585	-21132	873			341	129	SLU 58	0.15	No
fin.	3	-119	-13287	-587			217	85	SLU 58	0.14	No
ini.	3	-597	-22252	919			344	130	SLU 83	0.14	No
fin.	3	-141	-14399	-632			222	88	SLU 83	0.14	No
ini.	3	-578	-21322	882			339	128	SLU 74	0.15	No
fin.	3	-141	-13781	-606			223	88	SLU 74	0.14	No
ini.	3	-601	-21742	899			345	130	SLU 82	0.14	No
fin.	3	-172	-14233	-623			231	91	SLU 82	0.15	No
ini.	3	-637	-22376	921			355	133	SLU 78	0.14	No
fin.	3	-140	-14030	-617			222	87	SLU 78	0.14	No
ini.	3	-569	-21470	889			337	128	SLU 81	0.14	No
fin.	3	-157	-14191	-622			227	89	SLU 81	0.14	No
ini.	3	-640	-22462	924			356	133	SLU 80	0.14	No
fin.	3	-135	-14023	-617			221	87	SLU 80	0.14	No
ini.	3	-628	-22524	928			352	132	SLU 84	0.14	No
fin.	3	-155	-14441	-633			226	89	SLU 84	0.14	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-2834	-54133	13151	SLV 6	0.24	No



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	-7	-10395	13151	SLV 6	1.27	Si
ini.	2	-4284	-70807	13151	SLV 4	0.19	No
fin.	2	4199	58002	13151	SLV 4	0.23	No
ini.	2	3475	41446	13151	SLV 14	0.32	No
fin.	2	-4427	-77156	13151	SLV 14	0.17	No
ini.	2	-4981	-83255	13151	SLV 2	0.16	No
fin.	2	3546	46392	13151	SLV 2	0.28	No
ini.	2	-4981	-83255	13151	SLV 1	0.16	No
fin.	2	3546	46392	13151	SLV 1	0.28	No
ini.	2	3475	41446	13151	SLV 13	0.32	No
fin.	2	-4427	-77156	13151	SLV 13	0.17	No
ini.	2	4172	53894	13151	SLV 15	0.24	No
fin.	2	-3774	-65546	13151	SLV 15	0.2	No
ini.	2	4172	53894	13151	SLV 16	0.24	No
fin.	2	-3774	-65546	13151	SLV 16	0.2	No
ini.	2	-4284	-70807	13151	SLV 3	0.19	No
fin.	2	4199	58002	13151	SLV 3	0.23	No
ini.	2	-2834	-54133	13151	SLV 5	0.24	No
fin.	2	-7	-10395	13151	SLV 5	1.27	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt <sub>lim</sub>	Comb.	c.s.	Verifica
ini.	2	-512	-12639	597			414	162	SLV 7	0.27	No
fin.	2	2170	28306	873			277	0	SLV 7	0	No
ini.	2	-512	-12639	597			414	162	SLV 8	0.27	No
fin.	2	2170	28306	873			277	0	SLV 8	0	No
ini.	2	2025	24771	-731			277	0	SLV 12	0	No
fin.	2	-221	-8759	-459			336	133	SLV 12	0.29	No
ini.	2	3475	41446	-1400			277	0	SLV 14	0	No
fin.	2	-4427	-77156	-2833			1458	380	SLV 14	0.13	No
ini.	2	-4981	-83255	3028			1605	402	SLV 2	0.13	No
fin.	2	3546	46392	1609			277	0	SLV 2	0	No
ini.	2	2025	24771	-731			277	0	SLV 11	0	No
fin.	2	-221	-8759	-459			336	133	SLV 11	0.29	No
ini.	2	-4284	-70807	2622			1420	375	SLV 3	0.14	No
fin.	2	4199	58002	1987			277	0	SLV 3	0	No
ini.	2	3475	41446	-1400			277	0	SLV 13	0	No
fin.	2	-4427	-77156	-2833			1458	380	SLV 13	0.13	No
ini.	2	-4284	-70807	2622			1420	375	SLV 4	0.14	No
fin.	2	4199	58002	1987			277	0	SLV 4	0	No
ini.	2	-2358	-43940	1642			906	287	SLD 1	0.17	No
fin.	2	1447	14307	444			277	0	SLD 1	0	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.158	SLV 1	No
V_SLV	0	SLD 1	No
PF_SLU	0.389	SLU 84	No
V_SLU	0.138	SLU 79	No

## Trave di accoppiamento 185

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1293.3	-485.9	312	407	95	-1193.3	-485.9	312	407	95	100	30	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

f <sub>b</sub>	f <sub>tk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-646	5563	137366	SLU 77	24.69	Si
fin.	3	-1127	30154	137366	SLU 77	4.56	Si
ini.	3	-675	6625	137366	SLU 83	20.73	Si
fin.	3	-1131	29327	137366	SLU 83	4.68	Si
ini.	3	-640	5360	137366	SLU 79	25.63	Si
fin.	3	-1128	30482	137366	SLU 79	4.51	Si
ini.	3	-670	4291	137366	SLU 76	32.01	Si
fin.	3	-1142	28574	137366	SLU 76	4.81	Si
ini.	3	-653	4457	137366	SLU 78	30.82	Si
fin.	3	-1150	30264	137366	SLU 78	4.54	Si
ini.	3	-621	4893	137366	SLU 58	28.07	Si
fin.	3	-1087	28824	137366	SLU 58	4.77	Si
ini.	3	-628	3786	137366	SLU 59	36.28	Si
fin.	3	-1111	28934	137366	SLU 59	4.75	Si
ini.	3	-647	4254	137366	SLU 80	32.29	Si
fin.	3	-1152	30591	137366	SLU 80	4.49	Si
ini.	3	-682	5519	137366	SLU 84	24.89	Si
fin.	3	-1155	29436	137366	SLU 84	4.67	Si
ini.	3	-634	3990	137366	SLU 57	34.43	Si
fin.	3	-1109	28606	137366	SLU 57	4.8	Si



## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-589	2643	292			1266	499	SLU 51	1.71	Si
fin.	3	-1045	26750	466			1440	569	SLU 51	1.22	Si
ini.	3	-470	2010	245			1221	480	SLU 30	1.96	Si
fin.	3	-873	23662	437			1374	544	SLU 30	1.24	Si
ini.	3	-608	3110	296			1274	502	SLU 72	1.7	Si
fin.	3	-1086	28407	500			1455	574	SLU 72	1.15	Si
ini.	3	-607	4420	275			1273	502	SLU 69	1.83	Si
fin.	3	-1060	27970	466			1446	571	SLU 69	1.23	Si
ini.	3	-595	2846	284			1269	500	SLU 49	1.76	Si
fin.	3	-1043	26422	455			1439	568	SLU 49	1.25	Si
ini.	3	-647	4254	367			1289	509	SLU 80	1.39	Si
fin.	3	-1152	30591	466			1480	584	SLU 80	1.25	Si
ini.	3	-630	3148	278			1282	506	SLU 68	1.82	Si
fin.	3	-1076	26390	449			1451	573	SLU 68	1.28	Si
ini.	3	-614	3314	289			1276	503	SLU 70	1.74	Si
fin.	3	-1084	28080	489			1455	574	SLU 70	1.17	Si
ini.	3	-476	2214	238			1224	481	SLU 28	2.02	Si
fin.	3	-871	23334	427			1374	543	SLU 28	1.27	Si
ini.	3	-601	4217	282			1271	501	SLU 71	1.78	Si
fin.	3	-1062	28298	476			1446	571	SLU 71	1.2	Si

## Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	3044	-245847	206049	SLV 2	0.84	No
fin.	2	-5412	285762	206049	SLV 2	0.72	No
ini.	2	-5304	276541	206049	SLV 13	0.75	No
fin.	2	2551	-225739	206049	SLV 13	0.91	No
ini.	2	4310	-267221	206049	SLV 3	0.77	No
fin.	2	-4126	263359	206049	SLV 3	0.78	No
ini.	2	-1356	-38075	206049	SLV 6	5.41	Si
fin.	2	-4126	132874	206049	SLV 6	1.55	Si
ini.	2	3044	-245847	206049	SLV 1	0.84	No
fin.	2	-5412	285762	206049	SLV 1	0.72	No
ini.	2	-5304	276541	206049	SLV 14	0.75	No
fin.	2	2551	-225739	206049	SLV 14	0.91	No
ini.	2	-4038	255168	206049	SLV 15	0.81	No
fin.	2	3838	-248142	206049	SLV 15	0.83	No
ini.	2	-1356	-38075	206049	SLV 5	5.41	Si
fin.	2	-4126	132874	206049	SLV 5	1.55	Si
ini.	2	-4038	255168	206049	SLV 16	0.81	No
fin.	2	3838	-248142	206049	SLV 16	0.83	No
ini.	2	4310	-267221	206049	SLV 4	0.77	No
fin.	2	-4126	263359	206049	SLV 4	0.78	No

## Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-5304	276541	-8155			3580	1279	SLV 14	0.16	No
fin.	2	2551	-225739	-7941			1564	0	SLV 14	0	No
ini.	2	2866	-109321	3012			1564	0	SLV 7	0	No
fin.	2	162	58197	2312			1564	554	SLV 7	0.24	No
ini.	2	-4038	255168	-7950			3098	1152	SLV 16	0.14	No
fin.	2	3838	-248142	-8200			1564	0	SLV 16	0	No
ini.	2	1554	-111346	3758			1564	0	SLD 4	0	No
fin.	2	-2212	123159	3742			2404	940	SLD 4	0.25	No
ini.	2	362	47396	-1938			1564	508	SLV 12	0.26	No
fin.	2	2551	-95254	-2680			1564	0	SLV 12	0	No
ini.	2	4310	-267221	8547			1564	0	SLV 4	0	No
fin.	2	-4126	263359	8437			3132	1162	SLV 4	0.14	No
ini.	2	2866	-109321	3012			1564	0	SLV 8	0	No
fin.	2	162	58197	2312			1564	554	SLV 8	0.24	No
ini.	2	1554	-111346	3758			1564	0	SLD 3	0	No
fin.	2	-2212	123159	3742			2404	940	SLD 3	0.25	No
ini.	2	-5304	276541	-8155			3580	1279	SLV 13	0.16	No
fin.	2	2551	-225739	-7941			1564	0	SLV 13	0	No
ini.	2	362	47396	-1938			1564	508	SLV 11	0.26	No
fin.	2	2551	-95254	-2680			1564	0	SLV 11	0	No

## Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.721	SLV 1	No
V_SLV	0	SLD 3	No
PF_SLU	4.49	SLU 80	Si
V_SLU	1.15	SLU 72	Si

## Trave di accoppiamento 186

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1293.3	-485.9	607	656	49	-1193.3	-485.9	607	656	49	100	30	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti



fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	54	-15554	36545	SLU 80	2.35	Si
fin.	3	150	-12004	36545	SLU 80	3.04	Si
ini.	3	75	-14478	36545	SLU 57	2.52	Si
fin.	3	161	-11254	36545	SLU 57	3.25	Si
ini.	3	65	-15131	36545	SLU 77	2.42	Si
fin.	3	133	-12414	36545	SLU 77	2.94	Si
ini.	3	78	-14604	36545	SLU 76	2.5	Si
fin.	3	158	-11566	36545	SLU 76	3.16	Si
ini.	3	69	-14668	36545	SLU 59	2.49	Si
fin.	3	162	-11228	36545	SLU 59	3.25	Si
ini.	3	59	-15321	36545	SLU 79	2.39	Si
fin.	3	135	-12388	36545	SLU 79	2.95	Si
ini.	3	60	-15364	36545	SLU 78	2.38	Si
fin.	3	148	-12030	36545	SLU 78	3.04	Si
ini.	3	77	-14835	36545	SLU 83	2.46	Si
fin.	3	120	-12885	36545	SLU 83	2.84	Si
ini.	3	74	-14434	36545	SLU 58	2.53	Si
fin.	3	147	-11611	36545	SLU 58	3.15	Si
ini.	3	72	-15069	36545	SLU 84	2.43	Si
fin.	3	136	-12502	36545	SLU 84	2.92	Si

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt <sub>lim</sub>	Comb.	c.s.	Verifica
ini.	3	65	-15131	1097			377	132	SLU 77	0.12	No
fin.	3	133	-12414	-979			377	121	SLU 77	0.12	No
ini.	3	77	-14835	1089			377	130	SLU 83	0.12	No
fin.	3	120	-12885	-1002			377	123	SLU 83	0.12	No
ini.	3	60	-15364	1108			377	133	SLU 78	0.12	No
fin.	3	148	-12030	-966			377	119	SLU 78	0.12	No
ini.	3	78	-14604	1068			377	130	SLU 76	0.12	No
fin.	3	158	-11566	-938			377	117	SLU 76	0.12	No
ini.	3	54	-15554	1117			377	134	SLU 80	0.12	No
fin.	3	150	-12004	-967			377	118	SLU 80	0.12	No
ini.	3	100	-13963	1044			377	127	SLU 82	0.12	No
fin.	3	134	-12320	-970			377	121	SLU 82	0.12	No
ini.	3	87	-14259	1052			377	129	SLU 75	0.12	No
fin.	3	146	-11848	-947			377	119	SLU 75	0.13	No
ini.	3	72	-15069	1100			377	131	SLU 84	0.12	No
fin.	3	136	-12502	-989			377	121	SLU 84	0.12	No
ini.	3	59	-15321	1105			377	133	SLU 79	0.12	No
fin.	3	135	-12388	-980			377	121	SLU 79	0.12	No
ini.	3	105	-13730	1033			377	126	SLU 81	0.12	No
fin.	3	118	-12704	-983			377	124	SLU 81	0.13	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	3454	96495	54817	SLV 16	0.57	No
fin.	2	-3025	-99180	54817	SLV 16	0.55	No
ini.	2	319	-8017	54817	SLV 9	6.84	Si
fin.	2	-1692	-67790	54817	SLV 9	0.81	No
ini.	2	319	-8017	54817	SLV 10	6.84	Si
fin.	2	-1692	-67790	54817	SLV 10	0.81	No
ini.	2	3454	96495	54817	SLV 15	0.57	No
fin.	2	-3025	-99180	54817	SLV 15	0.55	No
ini.	2	-3250	-114875	54817	SLV 2	0.48	No
fin.	2	3259	82555	54817	SLV 2	0.66	No
ini.	2	-2816	-98068	54817	SLV 3	0.56	No
fin.	2	3736	100289	54817	SLV 3	0.55	No
ini.	2	3020	79688	54817	SLV 13	0.69	No
fin.	2	-3502	-116914	54817	SLV 13	0.47	No
ini.	2	-3250	-114875	54817	SLV 1	0.48	No
fin.	2	3259	82555	54817	SLV 1	0.66	No
ini.	2	-2816	-98068	54817	SLV 4	0.56	No
fin.	2	3736	100289	54817	SLV 4	0.55	No
ini.	2	3020	79688	54817	SLV 14	0.69	No
fin.	2	-3502	-116914	54817	SLV 14	0.47	No

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt <sub>lim</sub>	Comb.	c.s.	Verifica
ini.	2	-2816	-98068	4382			1317	468	SLV 3	0.11	No
fin.	2	3736	100289	3489			566	0	SLV 3	0	No
ini.	2	1766	48007	-1126			566	0	SLV 12	0	No
fin.	2	-102	-8676	-1082			593	227	SLV 12	0.21	No
ini.	2	-3250	-114875	4784			1433	496	SLV 2	0.1	No
fin.	2	3259	82555	3033			566	0	SLV 2	0	No
ini.	2	1766	48007	-1126			566	0	SLV 11	0	No
fin.	2	-102	-8676	-1082			593	227	SLV 11	0.21	No
ini.	2	-115	-10362	1200			597	229	SLV 7	0.19	No
fin.	2	1926	51165	1273			566	0	SLV 7	0	No
ini.	2	-115	-10362	1200			597	229	SLV 8	0.19	No
fin.	2	1926	51165	1273			566	0	SLV 8	0	No
ini.	2	3020	79688	-2970			566	0	SLV 14	0	No
fin.	2	-3502	-116914	-4819			1500	512	SLV 14	0.11	No
ini.	2	-2816	-98068	4382			1317	468	SLV 4	0.11	No
fin.	2	3736	100289	3489			566	0	SLV 4	0	No





Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-1328	-54292	2447			920	357	SLD 1	0.15	No
fin.	2	1458	30473	913			566	0	SLD 1	0	No
ini.	2	3020	79688	-2970			566	0	SLV 13	0	No
fin.	2	-3502	-116914	-4819			1500	512	SLV 13	0.11	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.469	SLV 13	No
V_SLV	0	SLD 1	No
PF_SLU	2.35	SLU 80	Si
V_SLU	0.119	SLU 84	No

## Trave di accoppiamento 187

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1293.3	-485.9	656	751	95	-1193.3	-485.9	656	751	95	100	30	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb <sub>m</sub>	f <sub>mk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-293	-2779	137366	SLU 80	49.43	Si
fin.	3	-388	-41	137366	SLU 80	3349.15	Si
ini.	3	-238	-2749	137366	SLU 38	49.98	Si
fin.	3	-330	310	137366	SLU 38	442.81	Si
ini.	3	-259	-2553	137366	SLU 70	53.8	Si
fin.	3	-353	329	137366	SLU 70	417.03	Si
ini.	3	-223	-2599	137366	SLU 17	52.85	Si
fin.	3	-312	405	137366	SLU 17	338.86	Si
ini.	3	-200	-2774	137366	SLU 30	49.51	Si
fin.	3	-298	848	137366	SLU 30	162.04	Si
ini.	3	-278	-2629	137366	SLU 59	52.25	Si
fin.	3	-371	54	137366	SLU 59	2536.81	Si
ini.	3	-240	-2655	137366	SLU 51	51.74	Si
fin.	3	-339	592	137366	SLU 51	232.16	Si
ini.	3	-185	-2625	137366	SLU 9	52.34	Si
fin.	3	-280	943	137366	SLU 9	145.68	Si
ini.	3	-255	-2805	137366	SLU 72	48.98	Si
fin.	3	-356	497	137366	SLU 72	276.65	Si
ini.	3	-297	-2528	137366	SLU 78	54.34	Si
fin.	3	-386	-208	137366	SLU 78	659.94	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-259	-2553	-299			1141	443	SLU 70	1.48	Si
fin.	3	-353	329	417			1177	460	SLU 70	1.1	Si
ini.	3	-288	-2235	-337			1152	448	SLU 77	1.33	Si
fin.	3	-356	-1049	398			1178	460	SLU 77	1.16	Si
ini.	3	-250	-2260	-319			1138	441	SLU 69	1.38	Si
fin.	3	-324	-511	398			1166	454	SLU 69	1.14	Si
ini.	3	-255	-2805	-296			1140	442	SLU 72	1.49	Si
fin.	3	-356	497	429			1178	460	SLU 72	1.07	Si
ini.	3	-240	-2655	-261			1134	439	SLU 51	1.68	Si
fin.	3	-339	592	392			1171	457	SLU 51	1.16	Si
ini.	3	-293	-2779	-314			1154	449	SLU 80	1.43	Si
fin.	3	-388	-41	429			1190	466	SLU 80	1.09	Si
ini.	3	-297	-2528	-316			1156	450	SLU 78	1.42	Si
fin.	3	-386	-208	417			1189	465	SLU 78	1.11	Si
ini.	3	-283	-2486	-334			1150	447	SLU 79	1.34	Si
fin.	3	-358	-882	410			1179	461	SLU 79	1.12	Si
ini.	3	-200	-2774	-244			1119	432	SLU 30	1.77	Si
fin.	3	-298	848	384			1156	450	SLU 30	1.17	Si
ini.	3	-245	-2512	-317			1136	440	SLU 71	1.39	Si
fin.	3	-326	-344	410			1167	455	SLU 71	1.11	Si

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2717	-185435	206049	SLV 1	1.11	Si
fin.	2	-3352	194388	206049	SLV 1	1.06	Si
ini.	2	42	35176	206049	SLV 12	5.86	Si
fin.	2	1224	-86484	206049	SLV 12	2.38	Si
ini.	2	-3145	184820	206049	SLV 16	1.11	Si
fin.	2	2895	-197309	206049	SLV 16	1.04	Si
ini.	2	42	35176	206049	SLV 11	5.86	Si
fin.	2	1224	-86484	206049	SLV 11	2.38	Si
ini.	2	-3894	198043	206049	SLV 14	1.04	Si
fin.	2	2555	-179988	206049	SLV 14	1.14	Si
ini.	2	-3145	184820	206049	SLV 15	1.11	Si
fin.	2	2895	-197309	206049	SLV 15	1.04	Si
ini.	2	2717	-185435	206049	SLV 2	1.11	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	2	-3352	194388	206049	SLV 2	1.06	Si
ini.	2	3465	-198658	206049	SLV 4	1.04	Si
fin.	2	-3012	177068	206049	SLV 4	1.16	Si
ini.	2	-3894	198043	206049	SLV 13	1.04	Si
fin.	2	2555	-179988	206049	SLV 13	1.14	Si
ini.	2	3465	-198658	206049	SLV 3	1.04	Si
fin.	2	-3012	177068	206049	SLV 3	1.16	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-3894	198043	-7197			3044	1137	SLV 14	0.16	No
fin.	2	2555	-179988	-6157			1564	0	SLV 14	0	No
ini.	2	-3145	184820	-6708			2759	1054	SLV 15	0.16	No
fin.	2	2895	-197309	-6438			1564	0	SLV 15	0	No
ini.	2	3465	-198658	6742			1564	0	SLV 4	0	No
fin.	2	-3012	177068	6565			2709	1039	SLV 4	0.16	No
ini.	2	2025	-79867	2604			1564	0	SLV 7	0	No
fin.	2	-548	25829	1685			1772	693	SLV 7	0.41	No
ini.	2	2717	-185435	6253			1564	0	SLV 1	0	No
fin.	2	-3352	194388	6846			2838	1078	SLV 1	0.16	No
ini.	2	2717	-185435	6253			1564	0	SLV 2	0	No
fin.	2	-3352	194388	6846			2838	1078	SLV 2	0.16	No
ini.	2	2025	-79867	2604			1564	0	SLV 8	0	No
fin.	2	-548	25829	1685			1772	693	SLV 8	0.41	No
ini.	2	-3894	198043	-7197			3044	1137	SLV 13	0.16	No
fin.	2	2555	-179988	-6157			1564	0	SLV 13	0	No
ini.	2	-3145	184820	-6708			2759	1054	SLV 16	0.16	No
fin.	2	2895	-197309	-6438			1564	0	SLV 16	0	No
ini.	2	3465	-198658	6742			1564	0	SLV 3	0	No
fin.	2	-3012	177068	6565			2709	1039	SLV 3	0.16	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.037	SLV 3	Si
V_SLV	0	SLV 1	No
PF_SLU	48.978	SLU 72	Si
V_SLU	1.072	SLU 72	Si

## Trave di accoppiamento 188

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1293.3	-485.9	951	1008	57	-1193.3	-485.9	951	1008	57	100	30	30000

Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	fhk	fvk0	fmedlo	t0	fv0	μ	φ	fvk,lim	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	268	-8000	49452	SLU 79	6.18	Si
fin.	3	210	-8319	49452	SLU 79	5.94	Si
ini.	3	226	-7399	49452	SLU 76	6.68	Si
fin.	3	175	-7798	49452	SLU 76	6.34	Si
ini.	3	254	-7564	49452	SLU 58	6.54	Si
fin.	3	202	-7832	49452	SLU 58	6.31	Si
ini.	3	245	-8179	49452	SLU 80	6.05	Si
fin.	3	196	-8257	49452	SLU 80	5.99	Si
ini.	3	247	-7978	49452	SLU 78	6.2	Si
fin.	3	194	-8203	49452	SLU 78	6.03	Si
ini.	3	269	-7353	49452	SLU 83	6.73	Si
fin.	3	201	-8267	49452	SLU 83	5.98	Si
ini.	3	265	-6900	49452	SLU 74	7.17	Si
fin.	3	198	-7850	49452	SLU 74	6.3	Si
ini.	3	269	-7799	49452	SLU 77	6.34	Si
fin.	3	209	-8266	49452	SLU 77	5.98	Si
ini.	3	264	-6453	49452	SLU 81	7.66	Si
fin.	3	190	-7851	49452	SLU 81	6.3	Si
ini.	3	246	-7532	49452	SLU 84	6.57	Si
fin.	3	187	-8204	49452	SLU 84	6.03	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	269	-7353	725			439	120	SLU 83	0.17	No
fin.	3	201	-8267	-782			439	133	SLU 83	0.17	No
ini.	3	232	-7743	728			439	127	SLU 59	0.17	No
fin.	3	187	-7769	-749			439	135	SLU 59	0.18	No
ini.	3	265	-6900	691			439	121	SLU 74	0.17	No
fin.	3	198	-7850	-750			439	134	SLU 74	0.18	No
ini.	3	268	-8000	752			439	120	SLU 79	0.16	No
fin.	3	210	-8319	-786			439	131	SLU 79	0.17	No
ini.	3	256	-7363	710			439	123	SLU 56	0.17	No
fin.	3	201	-7779	-746			439	133	SLU 56	0.18	No



Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	247	-7978	749			439	124	SLU 78	0.17	No
fin.	3	194	-8203	-780			439	134	SLU 78	0.17	No
ini.	3	269	-7799	742			439	120	SLU 77	0.16	No
fin.	3	209	-8266	-782			439	132	SLU 77	0.17	No
ini.	3	246	-7532	732			439	124	SLU 84	0.17	No
fin.	3	187	-8204	-780			439	135	SLU 84	0.17	No
ini.	3	245	-8179	760			439	125	SLU 80	0.16	No
fin.	3	196	-8257	-785			439	134	SLU 80	0.17	No
ini.	3	254	-7564	720			439	123	SLU 58	0.17	No
fin.	3	202	-7832	-751			439	133	SLU 58	0.18	No

#### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	2111	64898	74178	SLV 15	1.14	Si
fin.	2	-1644	-67825	74178	SLV 15	1.09	Si
ini.	2	1553	28727	74178	SLV 10	2.58	Si
fin.	2	-1008	-50541	74178	SLV 10	1.47	Si
ini.	2	2544	71685	74178	SLV 14	1.03	Si
fin.	2	-1982	-82426	74178	SLV 14	0.9	No
ini.	2	-1732	-73675	74178	SLV 1	1.01	Si
fin.	2	1925	57341	74178	SLV 1	1.29	Si
ini.	2	2111	64898	74178	SLV 16	1.14	Si
fin.	2	-1644	-67825	74178	SLV 16	1.09	Si
ini.	2	1553	28727	74178	SLV 9	2.58	Si
fin.	2	-1008	-50541	74178	SLV 9	1.47	Si
ini.	2	-1732	-73675	74178	SLV 2	1.01	Si
fin.	2	1925	57341	74178	SLV 2	1.29	Si
ini.	2	-2165	-80463	74178	SLV 4	0.92	No
fin.	2	2263	71942	74178	SLV 4	1.03	Si
ini.	2	-2165	-80463	74178	SLV 3	0.92	No
fin.	2	2263	71942	74178	SLV 3	1.03	Si
ini.	2	2544	71685	74178	SLV 13	1.03	Si
fin.	2	-1982	-82426	74178	SLV 13	0.9	No

#### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	2544	71685	-2282			659	0	SLV 13	0	No
fin.	2	-1982	-82426	-3583			1187	451	SLV 13	0.13	No
ini.	2	-1174	-37505	940			971	382	SLV 7	0.41	No
fin.	2	1289	40057	1356			659	0	SLV 7	0	No
ini.	2	1553	28727	-3			659	0	SLV 10	0	No
fin.	2	-1008	-50541	-2389			927	366	SLV 10	0.15	No
ini.	2	-2165	-80463	3220			1236	466	SLV 3	0.14	No
fin.	2	2263	71942	2549			659	0	SLV 3	0	No
ini.	2	1553	28727	-3			659	0	SLV 9	0	No
fin.	2	-1008	-50541	-2389			927	366	SLV 9	0.15	No
ini.	2	-2165	-80463	3220			1236	466	SLV 4	0.14	No
fin.	2	2263	71942	2549			659	0	SLV 4	0	No
ini.	2	-1174	-37505	940			971	382	SLV 8	0.41	No
fin.	2	1289	40057	1356			659	0	SLV 8	0	No
ini.	2	-1732	-73675	3453			1120	431	SLV 2	0.12	No
fin.	2	1925	57341	1922			659	0	SLV 2	0	No
ini.	2	2544	71685	-2282			659	0	SLV 14	0	No
fin.	2	-1982	-82426	-3583			1187	451	SLV 14	0.13	No
ini.	2	-631	-33969	1743			827	327	SLD 1	0.19	No
fin.	2	903	21485	525			659	0	SLD 1	0	No

#### Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	0.9	SLV 13	No
V_SLV	0	SLD 1	No
PF_SLU	5.944	SLU 79	Si
V_SLU	0.16	SLU 79	No

## Trave di accoppiamento 189

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

#### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1293.3	-485.9	1008	1103	95	-1193.3	-485.9	1008	1103	95	100	30	30000

#### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb_	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

#### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-406	4981	137366	SLU 52	27.58	Si
fin.	3	-354	2962	137366	SLU 52	46.38	Si
ini.	3	-45	-2701	137366	SLU 37	50.86	Si
fin.	3	0	-4088	137366	SLU 37	33.6	Si
ini.	3	-60	-2190	137366	SLU 35	62.73	Si
fin.	3	-11	-3797	137366	SLU 35	36.17	Si
ini.	3	-375	4594	137366	SLU 61	29.9	Si



Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
fin.	3	-314	2163	137366	SLU 61	63.51	Si
ini.	3	-395	4617	137366	SLU 44	29.75	Si
fin.	3	-351	3077	137366	SLU 44	44.64	Si
ini.	3	-34	-3065	137366	SLU 29	44.82	Si
fin.	3	3	-3973	137366	SLU 29	34.58	Si
ini.	3	-366	3953	137366	SLU 65	34.75	Si
fin.	3	-316	2131	137366	SLU 65	64.47	Si
ini.	3	-346	3930	137366	SLU 82	34.95	Si
fin.	3	-280	1216	137366	SLU 82	112.94	Si
ini.	3	-377	4317	137366	SLU 73	31.82	Si
fin.	3	-320	2015	137366	SLU 73	68.17	Si
ini.	3	-328	4054	137366	SLU 10	33.89	Si
fin.	3	-287	2434	137366	SLU 10	56.43	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-112	-2138	-188			1085	415	SLU 71	2.21	Si
fin.	3	-63	-3445	-41			1067	405	SLU 71	9.82	Si
ini.	3	-180	-812	-179			1111	428	SLU 70	2.39	Si
fin.	3	-136	-2030	-42			1094	420	SLU 70	9.96	Si
ini.	3	-87	-2250	-168			1076	410	SLU 30	2.45	Si
fin.	3	-58	-2849	6			1065	404	SLU 30	69.05	Si
ini.	3	-127	-1627	-183			1091	418	SLU 69	2.28	Si
fin.	3	-75	-3154	-52			1071	408	SLU 69	7.84	Si
ini.	3	-34	-3065	-171			1056	399	SLU 29	2.33	Si
fin.	3	3	-3973	-4			1043	392	SLU 29	97.56	Si
ini.	3	-48	-2554	-167			1061	402	SLU 27	2.41	Si
fin.	3	-8	-3682	-15			1046	394	SLU 27	26.72	Si
ini.	3	-292	3116	-88			1154	449	SLU 81	5.11	Si
fin.	3	-218	92	-188			1126	435	SLU 81	2.32	Si
ini.	3	-322	3779	-66			1165	454	SLU 60	6.87	Si
fin.	3	-252	1039	-200			1139	441	SLU 60	2.21	Si
ini.	3	-375	4594	-63			1185	463	SLU 61	7.41	Si
fin.	3	-314	2163	-190			1162	453	SLU 61	2.38	Si
ini.	3	-166	-1323	-184			1106	425	SLU 72	2.31	Si
fin.	3	-124	-2321	-31			1090	417	SLU 72	13.3	Si

Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	1902	-108512	206049	SLV 3	1.9	Si
fin.	2	-2134	101426	206049	SLV 3	2.03	Si
ini.	2	-1338	58576	206049	SLV 9	3.52	Si
fin.	2	660	-53798	206049	SLV 9	3.83	Si
ini.	2	-2030	97773	206049	SLV 15	2.11	Si
fin.	2	1627	-84950	206049	SLV 15	2.43	Si
ini.	2	-2030	97773	206049	SLV 16	2.11	Si
fin.	2	1627	-84950	206049	SLV 16	2.43	Si
ini.	2	-2346	113005	206049	SLV 14	1.82	Si
fin.	2	1788	-100679	206049	SLV 14	2.05	Si
ini.	2	1586	-93280	206049	SLV 2	2.21	Si
fin.	2	-1973	85697	206049	SLV 2	2.4	Si
ini.	2	-2346	113005	206049	SLV 13	1.82	Si
fin.	2	1788	-100679	206049	SLV 13	2.05	Si
ini.	2	1586	-93280	206049	SLV 1	2.21	Si
fin.	2	-1973	85697	206049	SLV 1	2.4	Si
ini.	2	1902	-108512	206049	SLV 4	1.9	Si
fin.	2	-2134	101426	206049	SLV 4	2.03	Si
ini.	2	-1338	58576	206049	SLV 10	3.52	Si
fin.	2	660	-53798	206049	SLV 10	3.83	Si

Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	894	-54083	2064			1564	359	SLV 8	0.17	No
fin.	2	-1006	54544	1028			1946	769	SLV 8	0.75	No
ini.	2	-2030	97773	-3474			2336	917	SLV 15	0.26	No
fin.	2	1627	-84950	-3818			1564	0	SLV 15	0	No
ini.	2	1902	-108512	3935			1564	0	SLV 3	0	No
fin.	2	-2134	101426	3603			2375	930	SLV 3	0.26	No
ini.	2	-2346	113005	-4094			2455	957	SLV 13	0.23	No
fin.	2	1788	-100679	-3838			1564	0	SLV 13	0	No
ini.	2	-2346	113005	-4094			2455	957	SLV 14	0.23	No
fin.	2	1788	-100679	-3838			1564	0	SLV 14	0	No
ini.	2	1586	-93280	3315			1564	0	SLV 1	0	No
fin.	2	-1973	85697	3584			2314	909	SLV 1	0.25	No
ini.	2	1902	-108512	3935			1564	0	SLV 4	0	No
fin.	2	-2134	101426	3603			2375	930	SLV 4	0.26	No
ini.	2	-2030	97773	-3474			2336	917	SLV 16	0.26	No
fin.	2	1627	-84950	-3818			1564	0	SLV 16	0	No
ini.	2	1586	-93280	3315			1564	0	SLV 2	0	No
fin.	2	-1973	85697	3584			2314	909	SLV 2	0.25	No
ini.	2	894	-54083	2064			1564	359	SLV 7	0.17	No
fin.	2	-1006	54544	1028			1946	769	SLV 7	0.75	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	1.823	SLV 13	Si
V_SLV	0	SLV 1	No
PF_SLU	27.579	SLU 52	Si
V_SLU	2.211	SLU 60	Si



## Trave di accoppiamento 190

Verifiche condotte secondo D.M. 17-01-18 (N.T.C.)

### Dati geometrici

X ini.	Y ini.	Z ini.inf.	Z ini.sup.	H ini.	X fin.	Y fin.	Z fin.inf.	Z fin.sup.	H fin.	Luce	Spessore	R. Trazione
-1293.3	-485.9	1303	1435.7	132.7	-1193.3	-485.9	1303	1435.6	132.6	100	30	30000

### Caratteristiche del materiale

(Circolare 7 21-01-19 C8.5.I) Muratura in mattoni pieni e malta di calce LC2\_Corti

fb	f <sub>hk</sub>	f <sub>vk0</sub>	f <sub>hmedio</sub>	τ <sub>0</sub>	f <sub>v0</sub>	μ	φ	f <sub>vk,lim</sub>	E	G	FC
12			17.25	0.9	2	0.577	0.767	0.65	32000	12800	1.2

### Verifiche a pressoflessione delle travi in muratura in combinazioni non sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	3	-114	19446	268106	SLU 71	13.79	Si
fin.	3	-114	11353	267804	SLU 71	23.59	Si
ini.	3	-207	22418	268106	SLU 37	11.96	Si
fin.	3	-206	15353	267804	SLU 37	17.44	Si
ini.	3	-98	17983	268106	SLU 69	14.91	Si
fin.	3	-98	9849	267804	SLU 69	27.19	Si
ini.	3	-154	19461	268106	SLU 77	13.78	Si
fin.	3	-153	11358	267804	SLU 77	23.58	Si
ini.	3	-163	18376	268106	SLU 16	14.59	Si
fin.	3	-163	12085	267804	SLU 16	22.16	Si
ini.	3	-145	19187	268106	SLU 38	13.97	Si
fin.	3	-145	12346	267804	SLU 38	21.69	Si
ini.	3	-151	20940	268106	SLU 29	12.8	Si
fin.	3	-151	13844	267804	SLU 29	19.34	Si
ini.	3	-170	20924	268106	SLU 79	12.81	Si
fin.	3	-170	12861	267804	SLU 79	20.82	Si
ini.	3	-191	20955	268106	SLU 35	12.79	Si
fin.	3	-190	13849	267804	SLU 35	19.34	Si
ini.	3	-135	19477	268106	SLU 27	13.76	Si
fin.	3	-135	12340	267804	SLU 27	21.7	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni non sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	3	-154	19461	810			1595	610	SLU 77	0.75	No
fin.	3	-153	11358	-970			1594	609	SLU 77	0.63	No
ini.	3	-52	16214	835			1554	588	SLU 72	0.7	No
fin.	3	-52	8347	-996			1553	588	SLU 72	0.59	No
ini.	3	-36	14751	816			1548	585	SLU 70	0.72	No
fin.	3	-36	6843	-974			1547	584	SLU 70	0.6	No
ini.	3	-114	19446	828			1579	601	SLU 71	0.73	No
fin.	3	-114	11353	-993			1578	601	SLU 71	0.61	No
ini.	3	-108	17692	835			1577	600	SLU 80	0.72	No
fin.	3	-108	9855	-996			1576	600	SLU 80	0.6	No
ini.	3	-170	20924	829			1601	613	SLU 79	0.74	No
fin.	3	-170	12861	-993			1600	612	SLU 79	0.62	No
ini.	3	-92	16229	817			1570	597	SLU 78	0.73	No
fin.	3	-91	8351	-973			1569	596	SLU 78	0.61	No
ini.	3	-98	17983	810			1573	598	SLU 69	0.74	No
fin.	3	-98	9849	-971			1572	598	SLU 69	0.62	No
ini.	3	8	10709	773			1533	575	SLU 49	0.74	No
fin.	3	8	3575	-902			1533	575	SLU 49	0.64	No
ini.	3	-9	12172	791			1537	579	SLU 51	0.73	No
fin.	3	-8	5079	-925			1536	579	SLU 51	0.63	No

### Verifiche a pressoflessione delle travi in muratura in combinazioni sismiche

Sezione	yM	N	M	Mu	Comb.	c.s.	Verifica
ini.	2	-177	102652	402159	SLV 10	3.92	Si
fin.	2	12	-92402	401706	SLV 10	4.35	Si
ini.	2	208	-108313	402159	SLV 3	3.71	Si
fin.	2	136	98434	401706	SLV 3	4.08	Si
ini.	2	-118	110745	402159	SLV 14	3.63	Si
fin.	2	-46	-104844	401706	SLV 14	3.83	Si
ini.	2	208	-108313	402159	SLV 4	3.71	Si
fin.	2	136	98434	401706	SLV 4	4.08	Si
ini.	2	-4	65530	402159	SLV 16	6.14	Si
fin.	2	-42	-66137	401706	SLV 16	6.07	Si
ini.	2	-177	102652	402159	SLV 9	3.92	Si
fin.	2	12	-92402	401706	SLV 9	4.35	Si
ini.	2	267	-100220	402159	SLV 8	4.01	Si
fin.	2	78	85993	401706	SLV 8	4.67	Si
ini.	2	-4	65530	402159	SLV 15	6.14	Si
fin.	2	-42	-66137	401706	SLV 15	6.07	Si
ini.	2	-118	110745	402159	SLV 13	3.63	Si
fin.	2	-46	-104844	401706	SLV 13	3.83	Si
ini.	2	267	-100220	402159	SLV 7	4.01	Si
fin.	2	78	85993	401706	SLV 7	4.67	Si

### Verifiche a taglio delle travi in muratura secondo §C8.7.1.3.1 in combinazioni sismiche

Sezione	yM	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	-4	65530	-687			2302	866	SLV 15	1.26	Si
fin.	2	-42	-66137	-1741			2316	874	SLV 15	0.5	No



Sezione	$\gamma_M$	N	M	V	Vt	Vp	Vt fess. diag.	Vt,lim	Comb.	c.s.	Verifica
ini.	2	208	-108313	2381			2300	819	SLV 4	0.34	No
fin.	2	136	98434	1364			2299	835	SLV 4	0.61	No
ini.	2	-177	102652	-1212			2371	903	SLV 9	0.75	No
fin.	2	12	-92402	-2081			2299	863	SLV 9	0.41	No
ini.	2	-118	110745	-1425			2347	891	SLV 14	0.63	No
fin.	2	-46	-104844	-2399			2317	875	SLV 14	0.36	No
ini.	2	-118	110745	-1425			2347	891	SLV 13	0.63	No
fin.	2	-46	-104844	-2399			2317	875	SLV 13	0.36	No
ini.	2	208	-108313	2381			2300	819	SLV 3	0.34	No
fin.	2	136	98434	1364			2299	835	SLV 3	0.61	No
ini.	2	267	-100220	2167			2300	805	SLV 8	0.37	No
fin.	2	78	85993	1045			2299	848	SLV 8	0.81	No
ini.	2	-4	65530	-687			2302	866	SLV 16	1.26	Si
fin.	2	-42	-66137	-1741			2316	874	SLV 16	0.5	No
ini.	2	267	-100220	2167			2300	805	SLV 7	0.37	No
fin.	2	78	85993	1045			2299	848	SLV 7	0.81	No
ini.	2	-177	102652	-1212			2371	903	SLV 10	0.75	No
fin.	2	12	-92402	-2081			2299	863	SLV 10	0.41	No

Tabella dei coefficienti di sicurezza minimi

Stato limite	Coeff.s.	Comb.	Verifica
PF_SLV	3.631	SLV 13	Si
V_SLV	0.344	SLV 3	No
PF_SLU	11.959	SLU 37	Si
V_SLU	0.59	SLU 72	No