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PROGETTO DI COMPLESSO RESIDENZIALE  
ZIS R5.2 NAVILE  
EX MERCATO ORTOFRUTTICOLO  
**BLOCCO G - edificio G1**

Lotti 1467/R 1467/Z 1467/I

**PROGETTO ESECUTIVO 2° STRALCIO**

Tav.	R10.1	<b>STRUTTURE</b> <b>RELAZIONE DI CALCOLO CORPO A</b>	Data	Maggio 2021		
Scala	/		N° Disegno			
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## **RELAZIONE DI CALCOLO DELLE STRUTTURE – CORPO A**

La seguente sezione della relazione di calcolo espone nello specifico i dati relativi al corpo di fabbrica A.

### **2.1.d. Azione sismica**

In merito all'entità dell'azione sismica, in base al fattore di struttura ipotizzato (vedi punto 2.1.f della presente relazione) si ha:

Parametri di calcolo Analisi Dinamica

Spettro in accordo con TU 2008

Tipo di Terreno C

Coefficiente di amplificazione topografica ( $S_T$ ) 1.0000

Vita nominale della costruzione ( $V_N$ ) 50.0 anni

Classe d'uso II° coefficiente  $C_U$  1.0

Classe di duttilità impostata Bassa

Fattore di struttura massimo  $q_o$  per sisma orizzontale 3.00

Fattore di duttilità  $K_R$  per sisma orizzontale 1.10

Fattore riduttivo regolarità in altezza  $K_R$  0.80

Fattore riduttivo per la presenza di setti  $K_W$  1.00

Fattore di struttura  $q$  per sisma orizzontale 2.64

Fattore di struttura  $q$  per sisma verticale 1.50

Smorzamento Viscoso ( $0.05 = 5\%$ ) 0.05

TU 2008 SLV H

Probabilità di superamento ( $P_{VR}$ ) 10.0 e periodo di ritorno ( $T_R$ ) 475 (anni)

$S_s$  1.456

$T_B$  0.160 [sec]

$T_C$  0.479 [sec]

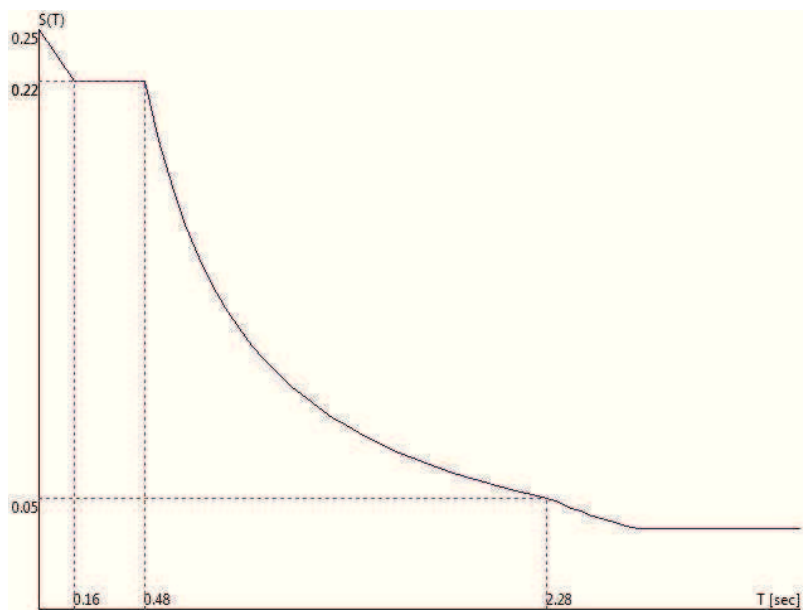


$T_D$  2.277 [sec]

$a_g/g$  0.1693

$F_o$  2.3996

$T_C^*$  0.3100



TU 2008 SLD H

Probabilità di superamento ( $P_{VR}$ ) 63.0 e periodo di ritorno ( $T_R$ ) 50 (anni)

$S_s$  1.500

$T_B$  0.146 [sec]

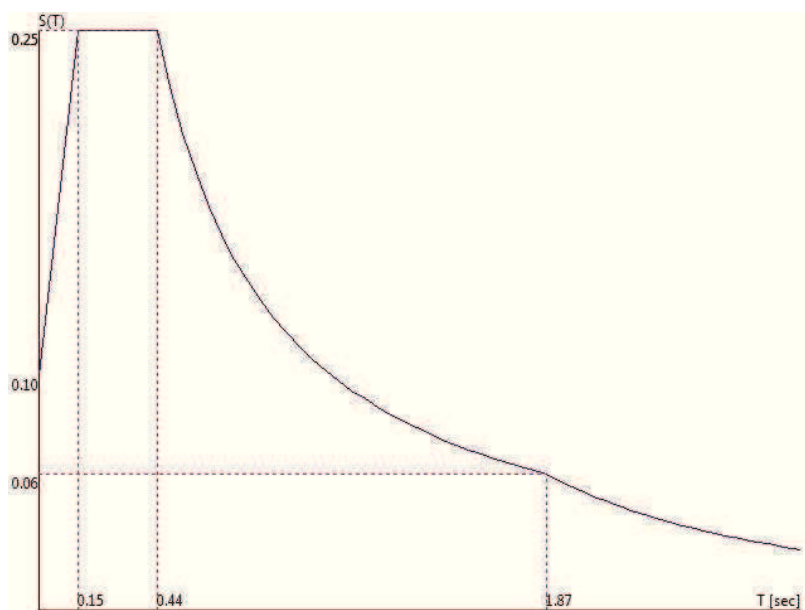
$T_C$  0.437 [sec]

$T_D$  1.873 [sec]

$a_g/g$  0.0683

$F_o$  2.4813

$T_C^*$  0.2702



Fattori di partecipazione per il calcolo delle masse:

Condizione	Commento	Fattore di Partecipazione
1	P.PROPRIO	1.000000
2	PERM. SOLAIO TIPO	1.000000
3	PERM FIORIERE	1.000000
4	PERM COPERTURA	1.000000
5	PERM. SOLAIO INGRESSI	1.000000
6	ACC 200	0.300000
7	NEVE	0.000000
8	TAMPONAMENTO	1.000000
9	PERM. SCALE- PENSILINE	1.000000

Direzioni d'ingresso del Sisma

SLV Direzione 1 Angolo in pianta 0.00 [°]

SLV Direzione 2 Angolo in pianta 0.00 [°]

SLV Direzione 3 Angolo in pianta 180.00 [°]

SLV Direzione 4 Angolo in pianta 180.00 [°]

SLV Direzione 5 Angolo in pianta 90.00 [°]

SLV Direzione 6 Angolo in pianta 90.00 [°]

SLV Direzione 7 Angolo in pianta 270.00 [°]

SLV Direzione 8 Angolo in pianta 270.00 [°]

SLD Direzione 9 Angolo in pianta 0.00 [°]

SLD Direzione 10 Angolo in pianta 0.00 [°]

SLD Direzione 11 Angolo in pianta 180.00 [°]

SLD Direzione 12 Angolo in pianta 180.00 [°]

SLD Direzione 13 Angolo in pianta 90.00 [°]

SLD Direzione 14 Angolo in pianta 90.00 [°]

SLD Direzione 15 Angolo in pianta 270.00 [°]

SLD Direzione 16 Angolo in pianta 270.00 [°]

#### **2.1.e. Descrizione dei materiali e dei prodotti per uso strutturale**

Vedi paragrafo 3 della relazione generale.

#### **2.1.f Illustrazione dei criteri di progettazione e di modellazione**

E' stato individuato uno schema strutturale che è stato verificato, nel suo complesso, mediante un programma di calcolo per personal computer che esegue l'analisi dinamica in campo lineare con il metodo dell'equilibrio, considerando i nodi di connessione tra i vari elementi aventi 6 gradi di libertà.

Il codice di calcolo utilizzato, denominato WinStrand, consente d'inserire la geometria della struttura, ovvero le coordinate dei nodi, di generare i vari elementi strutturali nei diversi materiali e di definire i carichi cui è sottoposta, suddivisi in varie condizioni di carico.

La modellazione generale prevede 6 gradi di libertà per nodo; la modellazione strutturale utilizza:

- elementi finiti tipo Truss,
- elementi Beam di travi e pilastri e travi su suolo elastico alla Winkler
- elementi shell (lastra/piastra) equivalenti per le pareti,

Si ritiene che il tipo di struttura da risolvere ricada a pieno nella casistica risolubile avvalendosi del metodo degli elementi finiti.

Schemi di Carico:

Carichi applicati direttamente agli elementi e carichi superficiali;

Duttilità:

Per la costruzione in oggetto si assume bassa duttilità CD "B".

Fattore di struttura:

Il fattore q consiste in un coefficiente riduttivo dell'entità delle forze sismiche di progetto, per tener conto delle capacità dissipative della struttura.

Viene stabilito in sede di input dei dati di calcolo ed è successivamente validato mediante le opportune verifiche di attendibilità delle ipotesi fatte.

La struttura è regolare in altezza in base alle limitazioni riportate in normativa al punto 7.2.2.f

- variazione di massa tra un orizzontamento all'altro non superano il 25%;
- la rigidezza non si riduce da un orizzontamento a quello sovrastante più del 30%, e non aumenta del 10%,

Controllo delle masse

Solaio	Massa [UTM]	Variazione %	Massa	Jp [UTM m <sup>2</sup> ]	Is [m]	Xg [m]	Yg [m]	Zg [m]	Dx [m]	Dy [m]
1	93709	0.0		15609805	12.907	17.391	8.531	3.895	6.944	2.748
2	93843	0.1		16105635	13.100	18.115	8.406	7.271	5.560	2.696
3	91491	-2.5		15599412	13.058	17.932	8.385	10.498	6.149	2.797
4	72816	-20.4		12715217	13.214	18.869	8.498	13.713	12.471	2.815
5	11088	-84.8		152509	3.709	35.099	10.122	17.010	2.372	1.274

Controllo delle rigidezze

Solaio	U <sub>x</sub>	U <sub>y</sub>	R <sub>z</sub>	ΔK <sub>x</sub> %	ΔK <sub>y</sub> %	ΔK <sub>θz</sub> %
1	9.2806148659e+008	-1.8278883204e+007	1.0167967941e+010			
	-1.8278883204e+007	1.4570322082e+009	-2.6775875895e+009			
	1.0167967941e+010	-2.6775875895e+009	4.2817157205e+011			
2	1.3926314942e+009	1.3246861206e+006	1.1522670623e+010	50.06		
	1.3246861206e+006	2.0730263658e+009	-3.7474360383e+009		42.28	
	1.1522670623e+010	-3.7474360383e+009	5.7186246863e+011			33.56
3	1.2351048055e+009	3.9974142543e+006	1.0771966056e+010	-11.31		
	3.9974142543e+006	1.7537368094e+009	-3.4296448593e+009		-15.40	
	1.0771966056e+010	-3.4296448593e+009	4.9306568262e+011			-13.78
4	5.6140999687e+008	-1.8773279512e+006	1.0051741350e+010	-54.55		
	-1.8773279512e+006	8.0557535738e+008	-1.6039261526e+009		-54.07	
	1.0051741350e+010	-1.6039261526e+009	2.5790985121e+011			-47.69

I limiti imposti non sono rispettati, per cui la struttura non è regolare in altezza.

In base al paragrafo 7.2.2 la struttura non è regolare in pianta, non è rispettato il punto c, dove si specifica che *‘nessuna dimensione di eventuali rientri o sporgenza supera il 25% della dimensione totale della costruzione nella corrispondente direzione’*

$L_Y = 21.40$  m lunghezza direzione y

$L_R = 7.40$  m lunghezza rientro direzione y

$$\Delta L > L_R / L_Y = 35\%$$

La struttura non è regolare in pianta.

Nel caso in esame il fattore di struttura vale (7.3.1):

$$q = q_0 K_R K_W$$

dove:

$$K_R = 0.8$$

ovvero si ipotizza la struttura NON regolare in altezza (7.2.2)

$$q_0 = 3.0 \alpha_u / \alpha_i = 3.3$$

in quanto la classe di duttilità è CD “B” e l’edificio è considerato NON regolare in pianta (7.2.2) e consistente in una struttura mista equivalente a pareti oppure a pareti accoppiate, per cui si ha che  $\alpha_u / \alpha_i = 1.1$ , pari al valor medio tra 1 ed il valore stabilito per la tipologia strutturale indicata, ovvero 1.2 (7.4.3.2)

$K_W$  è un fattore riduttivo che tiene conto del tipo di rottura delle pareti (7.4.3.1), ed ha un valore compreso tra 0.5 e 1, in funzione del rapporto  $\alpha_0$  tra le altezze  $h_w$  e le lunghezze  $l_w$  delle pareti, in questo caso  $K_W = 1$ .

Di conseguenza si ha:

$$q = q_0 K_R K_W = 2.64$$

Nella parte della presente relazione illustrante i principali risultati dei calcoli eseguiti (paragrafo 2.2) verranno riportate le verifiche di validazione del suddetto fattore di struttura ipotizzato.

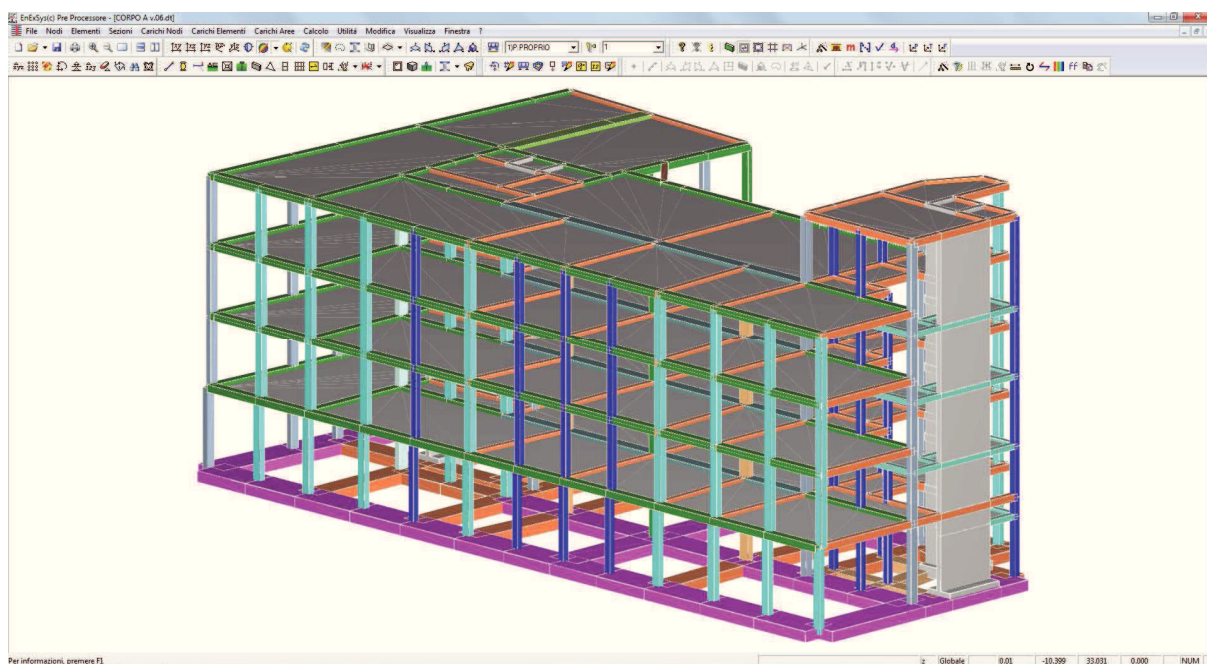


IMMAGINE ASSONOMETRICA DEL MODELLO

### 2.1.g. Principali combinazione delle azioni

Si riportano di seguito le condizioni di carico considerate agenti sulla struttura, le relative combinazioni in relazione agli stati limite indagati con i rispettivi coefficienti di partecipazione.

Numero di condizioni di carico ... : 9

Numero di combinazioni di carico . : 39

Condizione	
1	Peso Proprio
2	Perm solaio tipo
3	Perm fioriere
4	Perm coperto verde
5	Perm solaio ingr.
6	Acc 200
7	Neve
8	tamponam.
9	Perm scale - sporti
10	Sisma 0+SLV
11	Sisma 0-SLV
12	Sisma 180+SLV
13	Sisma 180-SLV

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CORPO A

14	Sisma 90+SLV
15	Sisma 90-SLV
16	Sisma 270+SLV
17	Sisma 270-SLV
18	Sisma 0+SLD
19	Sisma 0-SLD
20	Sisma 180+SLD
21	Sisma 180-SLD
22	Sisma 90+SLD
23	Sisma 90-SLD
24	Sisma 270+SLD
25	Sisma 270-SLD

Combinazioni di carico:

Combinazioni agli Stati Limite Ultimi

Combinazione di carico numero	
1	SLU 200
2	SLU NEVE

Comb.\Cond	P e s o  P r o p r i o	P e r m  s o l l a i o  t i p o	P e r m  f i o r i e r e	P e r m  c o p e r t o  v e r d e	P e r m  s o l l a i o  i n g r .	A c c  2 0 0	N e v e	t a m p o n a m .	P e r m  s c a l e  - s p o r t i
1	1.3	1.3	1.3	1.3	1.3	1.5	0.75	1.3	1.3
2	1.3	1.3	1.3	1.3	1.3	1.05	1.5	1.3	1.3

Combinazioni agli Stati Limite di Salvaguardia della Vita

Combinazione di carico numero	
3	Sisma 0+ / 90+
4	Sisma 0+ / 270+
5	Sisma 0- / 90-

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

6	Sisma 0- / 270-
7	Sisma 180+ / 90+
8	Sisma 180+ / 270+
9	Sisma 180- / 90-
10	Sisma 180- / 270-
11	Sisma 90+ / 0+
12	Sisma 90+ / 180+
13	Sisma 90- / 0-
14	Sisma 90- / 180-
15	Sisma 270+ / 0+
16	Sisma 270+ / 180+
17	Sisma 270- / 0-
18	Sisma 270- / 180-

Comb.\Cond	P e s o  P r o p r i o	P e r m  s o l a i o  t i p o	P e r m  f i o r i e r e	P e r m  c o o p e r t o  v e r d e	P e r m  s o l a i o  i n g r	A c c  2 0 0	t a m p o n a m	P e r m  s c a l e  -  s p o r t i	S i s m a  0 + S L V	S i s m a  0 - S L V	S i s m a  1 8 0 + S L V	S i s m a  1 8 0 - S L V	S i s m a  9 0 + S L V	S i s m a  9 0 - S L V	S i s m a  2 7 0 + S L V	S i s m a  2 7 0 - S L V
3	1	1	1	1	1	0.3	1	1	1				0.3			
4	1	1	1	1	1	0.3	1	1	1						0.3	
5	1	1	1	1	1	0.3	1	1		1				0.3		
6	1	1	1	1	1	0.3	1	1		1						0.3
7	1	1	1	1	1	0.3	1	1			1		0.3			
8	1	1	1	1	1	0.3	1	1			1				0.3	
9	1	1	1	1	1	0.3	1	1				1		0.3		
10	1	1	1	1	1	0.3	1	1				1				0.3
11	1	1	1	1	1	0.3	1	1	0.3				1			
12	1	1	1	1	1	0.3	1	1			0.3		1			
13	1	1	1	1	1	0.3	1	1		0.3				1		
14	1	1	1	1	1	0.3	1	1				0.3		1		



COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

15	1	1	1	1	1	0.3	1	1	0.3						1	
16	1	1	1	1	1	0.3	1	1			0.3				1	
17	1	1	1	1	1	0.3	1	1		0.3						1
18	1	1	1	1	1	0.3	1	1				0.3				1

Combinazioni RARE Stati Limite di Esercizio

Combinazione di carico numero	
19	SLE 200
20	SLE NEVE

Comb.\Cond	P e s o  P r o p r i o	P e r m  s o l a i o  t i p o	P e r m  f i o r i e r e	P e r m  c o p e r t o  v e r d e	P e r m  s o l a i o  i n g r .	A c c  2 0 0	N e v e	t a m p o n a m .	P e r m  s c a l e  -  s p o r t i
19	1	1	1	1	1	1	0.5	1	1
20	1	1	1	1	1	0.7	1	1	1

Combinazioni FREQUENTI Stati Limite di Esercizio

Combinazione di carico numero	
21	SLE FREQ. 200
22	SLE FREQ. NEVE

Comb.\Cond	P e s o  P r o p r i o	P e r m  s o l a i o	P e r m  f i o r i e r	P e r m  c o p e r t o	P e r m  s o l a i o	A c c  2 0 0	N e v e	t a m p o n a m .	P e r m  s c a l e  -
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COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

		t i p o	e	v e r d e	i n g r.				s p o r t i
21	1	1	1	1	1	0.5		1	1
22	1	1	1	1	1	0.3	0.2	1	1

Combinazioni QUASI PERMANENTI Stati Limite di Esercizio

Combinazione di carico numero	
23	Q.P.

	P e s o  P r o p r i o	P e r m  s o l a i o  t i p o	P e r m  f i o r i e r e	P e r m  c o p e r t o  v e r d e	P e r m  s o l a i o  i n g r.	A c c  2 0 0 0	t a m p o n a m .	P e r m  s c a l e - s p o r t i
Comb.\Cond								
23	1	1	1	1	1	0.3	1	1

Combinazioni agli Stati Limite di Danno

Combinazione di carico numero	
24	Sisma 0+ / 90+
25	Sisma 0+ / 270+
26	Sisma 0- / 90-
27	Sisma 0- / 270-
28	Sisma 180+ / 90+
29	Sisma 180+ / 270+
30	Sisma 180- / 90-
31	Sisma 180- / 270-
32	Sisma 90+ / 0+
33	Sisma 90+ / 180+

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

34	Sisma 90- / 0-
35	Sisma 90- / 180-
36	Sisma 270+ / 0+
37	Sisma 270+ / 180+
38	Sisma 270- / 0-
39	Sisma 270- / 180-

Comb.\Cond	P e s o  P r o p r i o	P e r m  s o l a i o  t i p o	P e r m  f i o r i e r e	P e r m  c o p e r t o  v e r d e	P e r m  s o l a i o  i n g r .	A c c  2 0 0	t a m p o n a m .	P e r m  s c a l e  -  s p o r t i	S i s m a  0 + S L D	S i s m a  0 - S L D	S i s m a  1 8 0 + S L D	S i s m a  1 8 0 - S L D	S i s m a  9 0 + S L D	S i s m a  9 0 - S L D	S i s m a  2 7 0 + S L D	S i s m a  2 7 0 - S L D	
24	1	1	1	1	1	0.3	1	1	1				0.3				
25	1	1	1	1	1	0.3	1	1	1							0.3	
26	1	1	1	1	1	0.3	1	1		1				0.3			
27	1	1	1	1	1	0.3	1	1		1							0.3
28	1	1	1	1	1	0.3	1	1			1		0.3				
29	1	1	1	1	1	0.3	1	1			1					0.3	
30	1	1	1	1	1	0.3	1	1				1		0.3			
31	1	1	1	1	1	0.3	1	1				1					0.3
32	1	1	1	1	1	0.3	1	1	0.3				1				
33	1	1	1	1	1	0.3	1	1			0.3		1				
34	1	1	1	1	1	0.3	1	1		0.3				1			
35	1	1	1	1	1	0.3	1	1				0.3		1			
36	1	1	1	1	1	0.3	1	1	0.3							1	
37	1	1	1	1	1	0.3	1	1			0.3					1	
38	1	1	1	1	1	0.3	1	1		0.3							1
39	1	1	1	1	1	0.3	1	1				0.3					1

### **2.1.h. Metodo di analisi**

E' stata effettuata un'analisi dinamica lineare della struttura con condensazione, ovvero con ipotesi di solai infinitamente rigidi.

In sede di presentazione dei principali risultati dei calcoli eseguiti (paragrafo 2.2) verranno riportate:

- validazione del fattore di struttura (regolarità in pianta ed in altezza; valutazione del rapporto  $r/I_s > 0.8$ );
- controllo della massa totale eccitata ( $> 85\%$ );
- controllo delle non linearità geometriche (effetto  $P/\delta$ ), consistente nella valutazione di  $\Theta = P_d/V_h \leq 0.1$  (7.3.2);

### **2.1.i Criteri di verifica**

In base a quanto previsto al punto 2.5.3 la struttura andrà verificata combinando le azioni ricavate dall'analisi dei carichi, secondo le seguenti combinazioni:

- SLU
- SLE per combinazioni caratteristiche rare
- SLE per combinazioni caratteristiche frequenti
- SLE per combinazioni caratteristiche quasi permanenti

Vanno inoltre eseguite le verifiche per combinazioni sismiche, che sono funzione della classe d'uso della struttura determinata precedentemente, come indicato nella tabella C7.1.I.

**Tabella C7.1.I** - Verifiche di sicurezza in funzione della Classe d'uso.

SL	Descrizione della prestazione	Riferimento Norme	Classe d'uso			
			I	II	III	IV
SLO	Contenimento del danno degli elementi non strutturali	§ 7.3.7.2			x	x
	Funzionalità degli impianti	§ 7.3.7.3			x	x
SLD	Resistenza degli elementi strutturali	§ 7.3.7.1			x	x
	Contenimento del danno degli elementi non strutturali	§ 7.3.7.2	x	x		
	Contenimento delle deformazioni del sistema fondazione-terreno	§ 7.11.5.3	x	x	x	x
	Contenimento degli spostamenti permanenti dei muri di sostegno	§ 7.11.6.2.2	x	x	x	x
SLV	Assenza di martellamento tra strutture contigue	§ 7.2.2	x	x	x	x
	Resistenza delle strutture	§ 7.3.6.1	x	x	x	x
	Duttilità delle strutture	§ 7.3.6.2	x	x	x	x
	Assenza di collasso fragile ed espulsione di elementi non strutturali	§ 7.3.6.3	x	x	x	x
	Resistenza dei sostegni e collegamenti degli impianti	§ 7.3.6.3	x	x	x	x
	Stabilità del sito	§ 7.11.3	x	x	x	x
	Stabilità dei fronti di scavo e dei rilevati	§ 7.11.4	x	x	x	x
	Resistenza del sistema fondazione-terreno	§ 7.11.5.3	x	x	x	x
	Stabilità dei muri di sostegno	§ 7.11.6.2.2	x	x	x	x
	Stabilità delle paratie	§ 7.11.6.3.2	x	x	x	x
SLC	Resistenza e stabilità dei sistemi di contrasto e degli ancoraggi	§ 7.11.6.4.2	x	x	x	x
	Resistenza dei dispositivi di vincolo temporaneo tra costruzioni isolate	§ 7.2.1	x	x	x	x
	Capacità di spostamento degli isolatori	§ 7.10.6.2.2	x	x	x	x

Nel caso in esame siamo in classe d'uso II, di conseguenza le verifiche da eseguire sono le seguenti:

- SLD**
1. Contenimento del danno degli elementi non strutturali (7.3.7.2): essendo presenti tamponamenti collegati rigidamente alla struttura, detto  $h$  l'interpiano, lo spostamento di interpiano  $d_r$  deve soddisfare la:  
$$d_r < 0.005 h$$
  2. Contenimento delle deformazione del sistema fondazioni-terreno (7.11.5.3): dovrà essere verificato se gli spostamenti indotti dal sisma sono accettabili e compatibili per il tipo di struttura.
- SLV**
1. Assenza di martellamento tra strutture contigue (7.2.2)
  2. Resistenza delle strutture (7.3.6.1): dovrà essere, per ogni sezione della struttura verificata la:  $E_d < R_d$
  3. Duttilità delle strutture (7.3.6.2): dovrà essere verificata la congruenza del fattore di struttura  $q$  ipotizzato e rispettata la gerarchia delle resistenze.

4. Assenza di collasso fragile ed espulsione di elementi non strutturali (7.3.6.3)
5. Resistenza del sistema fondazione terreno (7.11.5.3): deve essere in ogni punto verificata la:  $E_d < R_d$

#### **2.1.j Rappresentazione delle configurazioni deformate, delle sollecitazioni e giudizio motivato di accettabilità dei risultati**

Ai fini di una maggiore comprensione dello schema tensionale e deformativo della struttura e con funzione di sintesi dei risultati numerici ottenuti, in sede di presentazione dei principali risultati dei calcoli eseguiti (paragrafo 2.2) verranno riportati, l'andamento dei diagrammi delle principali sollecitazioni.

In conformità con il cap. 10 delle NTC 2008, sono state eseguite calcolazioni effettuate senza l'uso di programmi di calcolo automatici con riferimento a schemi elementari con funzione di dimensionamento preliminare, al fine di valutare e validare i risultati ottenuti con l'elaborazione automatizzata.

Si è proceduto ad un predimensionamento degli elementi verticali ricavando i valori N e M alla base degli stessi nel modo seguente:

N: è stato determinato in base alle aree di influenza.

M: è dato dalla forza di piano  $F_i$  applicata a livello degli impalcati, considerati infinitamente rigidi nel loro piano, moltiplicata per la distanza rispetto allo spiccatto delle fondazioni, (analisi lineare statica – 7.3.3.2).

Nel caso generale si ha:

$$F_i = F_h z_i W_i / \sum_j z_j W_j$$

Dove la forza statica complessiva vale:

$$F_h = S_d(T_1) \cdot W \cdot \gamma / g$$

dove:

$S_d(T_1)$ : ordinata dello spettro di risposta

W: peso complessivo della struttura

$\gamma$  pari a 0.85

In prima approssimazione il periodo del modo principale di vibrare  $T_1$  vale (7.3.3.2):

$$T_1 = C_1 H^{3/4} = 0.075 \times 13.78^{3/4} = 0.536 \text{ (sec)}$$

dove H è l'altezza della struttura [in metri] dallo spiccatto della fondazione e  $C_1$  vale 0.075

In base ai dati riportati al punto 2.1.d.2 della presente relazione ed al fattore q pari a 2.64:

$$T_C < T_1 < T_D \quad S_d(T_1) = a_g S \frac{F_0}{q} \left( \frac{T_C}{T} \right)$$

$$S_d(T_1) = 0.169 \cdot 1.456 \frac{2.4}{2.64} \left( \frac{0.479}{0.536} \right) = 0.200 g$$

Coordinate centri di massa e inerzie dei solai:

Solaio	x [m]	y [m]	z [m]	Massa [UTM]	Jp [UTM m <sup>2</sup> ]
1	17.335	8.524	3.898	92802	15295125
2	18.124	8.400	7.273	93386	15945087
3	17.914	8.383	10.501	91138	15437625
4	18.839	8.473	13.717	72910	12631809
5	35.096	10.139	17.010	10949	148824

Il peso W è pari alla somma delle masse di ogni solaio:

$$W = \sum W_i = 92802 + 93386 + 91138 + 72910 + 10949 = 361185 \text{ UTM} \approx 3612 t$$

$$F_h = S_d(T) \frac{W \gamma}{g} = 0.200 g \frac{3612 \cdot 0.85}{g} = 614 t$$

Dato che:  $z_j = 3.90; 7.27; 10.50; 13.71; 17.01 \text{ m}$

La relazione:  $F_i = F_h z_i W_i / \sum_j z_j W_j$

Da i seguenti risultati:

$F_1 =$	70.27 T	alla quota 3.90 m dallo spiccato della fondazione
$F_2 =$	130.16 T	alla quota 7.27 m dallo spiccato della fondazione
$F_3 =$	183.47 T	alla quota 10.50 m dallo spiccato della fondazione
$F_4 =$	191.64 T	alla quota 13.71 m dallo spiccato della fondazione
$F_5 =$	35.70 T	alla quota 17.01 m dallo spiccato della fondazione

Tale valore viene confrontato con i valori dell'analisi statica ottenuti dal modello matematico ed i risultati risultano essere accettabili, come ordine di grandezza.

Azioni di piano indotte

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Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]
1	1	83898	24024	223063
	2	4700	-10290	90096
	3	45996	26956	67869
	4	3476	-9493	-167652
	5	23254	-7179	-190608
	6	4417	-3706	-15584
	7	11364	-19880	190798
	8	15619	10430	-27392
	9	10531	1151	124751
	Per via statica	: 91148	0	-894625
	Totali	: 107010	40711	398285
	Variazione	: 15861	40711	1292910

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]
2	1	142636	47450	287698
	2	10290	-26577	246802
	3	40706	29937	63481
	4	7237	-15078	-304002
	5	10288	-9079	-298289
	6	6667	-5723	-34884
	7	10863	-21530	224778
	8	-10800	-4002	-5923
	9	-2094	4610	78333
	Per via statica	: 170368	0	-1663276
	Totali	: 152987	63411	599653
	Variazione	: -17381	63411	2262928

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]
3	1	189244	72555	307645
	2	16489	-47229	434525
	3	4346	10224	53026
	4	9652	-18799	-447217
	5	-10254	-7370	-205496
	6	6778	-6111	-72349
	7	583	-5668	77208



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CORPO A

	8	-9878	-8411	23447
	9	-10894	2183	-13039
	Per via statica	: 239827	0	-2365504
	Totali	: 193240	86970	733172
	Variazione	: -46587	86970	3098676

Azioni di piano indotte

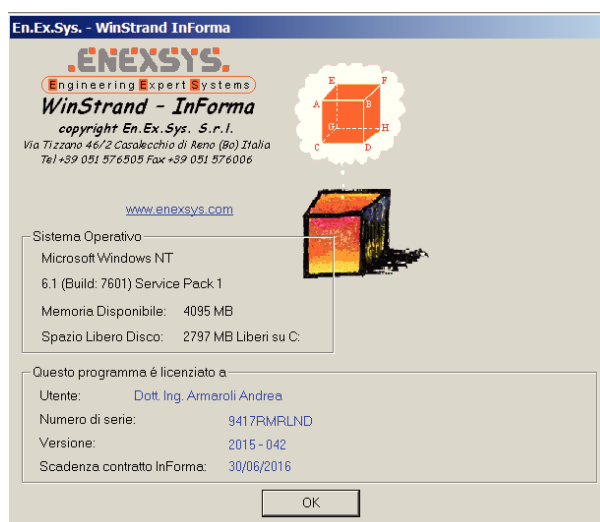
Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]
4	1	171531	75867	225160
	2	17020	-50684	502772
	3	-33736	-19122	37742
	4	9009	-19012	-457833
	5	-10888	288	128083
	6	2624	-5280	-114755
	7	-10811	17108	-143803
	8	13807	6881	-11631
	9	475	-5037	-40213
	Per via statica	: 249319	0	-2463747
	Totali	: 179034	92916	752948
	Variazione	: -70284	92916	3216695

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]
5	1	31339	11807	29881
	2	1980	-1021	8370
	3	-12113	-9793	4332
	4	4565	-14460	9028
	5	4979	11197	20000
	6	-7255	6222	-53961
	7	-943	-1076	6360
	8	-3645	-761	3351
	9	5704	-281	-10549
	Per via statica	: 47093	0	-392792
	Totali	: 35945	-23329	-64417
	Variazione	: -11149	-23329	328375

### 2.1.k. Caratteristiche ed affidabilità del codice di calcolo

Il software utilizzato, denominato WinStrand e prodotto dalla Enexsys S.r.l. con sede a Casalecchio di Reno (BO) in Via Tizzano n. 46/2 (numero di serie 9417RMRNLD), consente d'inserire la geometria della struttura, ovvero le coordinate dei nodi, di generare i vari elementi strutturali (travi, pilastri, elementi bidimensionali) e di definire i carichi cui è sottoposta, suddivisi in varie condizioni di carico.



Sussistono le circostanze che consentono di affermare l'affidabilità del codice di calcolo utilizzato, in particolare lo stesso impiego diretto accompagnato dai dovuti controlli, costituisce una buona garanzia a proposito.

### 2.1.l. Strutture di fondazione

#### 2.1.l.1. Relazione geologica e geotecnica

In allegato alla presente pratica, vengono presentate la relazione geologica illustranti le indagini svolte nel terreno in oggetto redatta dal dott. Geol. Matteo Simoni, dalla quale sono stati dedotti la categoria del terreno (C) e topografica (T1) ai sensi delle NTC 2008.

Rispetto a tale relazione (alla quale si rimanda per una analisi più approfondita) si osserva, la presenza di terreni di buone caratteristiche meccaniche a matrice limo-argillosa, da consistenti a molto consistenti, con la presenza di lenti sabbiose e ghiaiose, fino alla profondità di m 19.00, dove è presente uno strato molto addensato di materiale incoerente (ghiaie).

Le considerazioni geotecniche vengono allegate nell'apposito paragrafo.

### 2.1.1.2 Tipologia di fondazione adottata

Data la tipologia, i carichi e le dimensioni della struttura in progetto, si prevede una fondazione di tipo superficiale con soluzione a travi rovesce a sezione rettangolare ordite nelle due direzioni principali, di spessore cm 50, su letto di magrone posto alla quota di m 3.86 dal piano di campagna.

### 2.1.1.3 Azioni di calcolo

In conformità al 7.2.5, quali insieme delle azioni sollecitanti va considerato, indicando con:

$A_D$  = Azioni di calcolo e  $A_R$  = resistenze

- Minimo tra:
1.  $\gamma_{Rd} A_D$
  2.  $A_R$
  3.  $A_d$  con  $q = 1$

Viene utilizzato il metodo di cui al punto 1. in quanto sicuramente conforme al previsto delle NTC 2008 (o comunque a favore di sicurezza) e di veloce implementazione del software utilizzato.

### 2.1.1.4 Metodo di verifica

Per quanto riguarda il complesso costituito da terreno, fondazione e struttura in elevazione vengono eseguite le seguenti verifiche:

- verifiche *geotecniche* del sistema fondale, ovvero:
  - 1) la valutazione delle pressioni trasmesse confrontate con la resistenza del terreno per le condizione SLV;
  - 2) la valutazione dei cedimenti, nelle condizioni SLD;
- verifiche *strutturali* del sistema fondale, ovvero la determinazione delle sollecitazioni nella fondazione, da confrontare con le capacità resistenti della stessa.

Si è scelto di procedere con un unico modello per i calcoli di verifica di cui sopra, in modo da valutare contemporaneamente le interconnessioni tra le tre parti terreno – fondazione – struttura in elevazione; si è proceduto cioè in conformità all'APPROCCIO 2, che prevede un'unica combinazione da utilizzare sia per la verifica della struttura che per le verifiche geotecniche ( $A1+M1+R3$ ), applicando alla struttura le azioni di calcolo valutate con i coefficienti  $A1$  (tab 6.2.I:  $A1(Q)=1.5$  e  $A1(G)=1.3$ ), con  $M1=1$  e  $R3=2.3$  (fondazione diretta).

Quanto sopra indicato rispetta anche quanto indicato dalle NTC 2008 al punto 7.2.5.

#### **2.1.1.5 Verifiche geotecniche**

Le verifiche da eseguire, in conformità alla tabella C7.1.I comprendono la valutazione della pressioni trasmesse al terreno per le combinazioni sismiche SLV rapportate alle capacità resistenti dello stesso e la valutazione delle deformazioni (cedimenti) nelle combinazioni SLD (vedi relazione geotecnica citata).

Il valore di resistenza del terreno, in funzione della tipologia degli strati del primo sottosuolo, della profondità del piano di posa delle fondazioni e della tipologia delle stesse, valgono circa ( $\gamma_R = 2.3$ ; R3 – tab 6.4.I):

$$R_d \approx 4.41 \text{ kg/cm}^2$$

Per quanto riguarda la costante  $k$  di Winkler, in base alle caratteristiche dei terreni del primo sottosuolo riportati nella citata relazione del dott. Simoni ed in funzione dei valori tabellari ricavabili nella letteratura tecnica si è adottato un valore pari a:

$$k = 8.00 \text{ kg/cm}^3$$

Per quanto riguarda il valore dei cedimenti attesi, si rimanda alla relazione geotecnica.

#### **2.1.1.6 Verifiche strutturali**

La verifica delle travi di fondazione viene eseguita considerando le azioni di calcolo trasmesse dalla struttura in elevazione moltiplicate per il fattore  $\gamma_{Rd}$  previsto (nel caso in esame, per CD "B" si ha  $\gamma_{Rd}=1.1$ ).

Per quanto riguarda le *azioni resistenti* delle sezioni di fondazione, vengono calcolate facendo riferimento al limite elastico della sezione.

## 2.2. PRINCIPALI RISULTATI dei calcoli eseguiti

### 2.2.1. Dati di input del modello matematico

Z:\EX-MERCATO LOTTOG\STRUTTURE\ENEXSYS\corpoA\corpoA-modifica travi\CORPO A -mod travi.dt - 28 May 2015 - WinStrand (Service Pack 035)

Stato del programma:

Nodi:

Nodi attivi ..... : 399 (Non appartenenti a solaio 66)

Nodi cancellati..... : 0

Nodi k ..... : 642

Elementi:

Pilastro : 207

Trave : 421

Trave di fondazione : 89

Setto : 58

Lista materiali introdotti:

Materiale Numero	Tipo	E [kg/cm <sup>2</sup> ]	$\nu$	$\alpha$ 1/[1/°C]	Peso [kg/m <sup>3</sup> ]	Specifico
2	C25/30	3.1e+005	0.12	0.000012	2500	
3	C28/35	3.4e+005	0.12	0.000012	2500	

Lista terreni impiegati:

1 Costante di Sottofondo = 8.00 [kg/cm<sup>3</sup>] Argilla

Pilastro Lista sezioni introdotte:

Sezione	Materiale	Dimensioni [cm]	
3	3	B= 30 H= 30	Rett. 30x30(D.B.)
4	3	B= 30 H= 40	Rett. 30x40(D.B.)
8	3	B= 30 H= 80	Rett. 30x80(D.B.)
10	3	B= 40 H= 25	Rett. 40x25(D.B.)
11	3	B= 40 H= 30	Rett. 40x30(D.B.)

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12	3	B= 40 H= 60	Rett. 40x60(D.B.)
14	3	B= 30 H= 60	Rett. 30x60(D.B.)
15	3	B= 50 H= 30	Rett. 50x30(D.B.)
16	3	B= 30 H= 50	Rett. 30x50(D.B.)
33	3	B= 30 H= 30	Rett. 30x30(D.B.)
34	3	B= 30 H= 40	Rett. 30x40(D.B.)
38	3	B= 30 H= 80	Rett. 30x80(D.B.)
40	3	B= 40 H= 25	Rett. 40x25(D.B.)
41	3	B= 40 H= 30	Rett. 40x30(D.B.)
42	3	B= 40 H= 60	Rett. 40x60(D.B.)
44	3	B= 30 H= 60	Rett. 30x60(D.B.)
45	3	B= 50 H= 30	Rett. 50x30(D.B.)
46	3	B= 30 H= 50	Rett. 30x50(D.B.)

Sezione	Area [cm <sup>2</sup> ]	Jx [cm <sup>4</sup> ]	Jy [cm <sup>4</sup> ]	Jxy [cm <sup>4</sup> ]	Jt [cm <sup>4</sup> ]	Xx	Xy
3	900.00	67500	67500	0	113866	1.2	1.2
4	1200.00	160000	90000	0	186385	1.2	1.2
8	2400.00	1280000	180000	0	578360	1.2	1.2
10	1000.00	52083	133333	0	123101	1.2	1.2
11	1200.00	90000	160000	0	186385	1.2	1.2
12	2400.00	720000	320000	0	722134	1.2	1.2
14	1800.00	540000	135000	0	370716	1.2	1.2
15	1500.00	112500	312500	0	273656	1.2	1.2
16	1500.00	312500	112500	0	273656	1.2	1.2
33	900.00	67500	67500	0	113866	1.2	1.2
34	1200.00	160000	90000	0	186385	1.2	1.2
38	2400.00	1280000	180000	0	578360	1.2	1.2
40	1000.00	52083	133333	0	123101	1.2	1.2
41	1200.00	90000	160000	0	186385	1.2	1.2
42	2400.00	720000	320000	0	722134	1.2	1.2
44	1800.00	540000	135000	0	370716	1.2	1.2
45	1500.00	112500	312500	0	273656	1.2	1.2
46	1500.00	312500	112500	0	273656	1.2	1.2

Trave Lista sezioni introdotte:

Sezione	Materiale	Dimensioni [cm]	
1	3	B= 30 H= 32	Rett. 30x32(D.B.)

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3	3	B= 44 H= 32	Rett. 44x32(D.B.)
4	3	B= 70 H= 32	Rett. 70x32(D.B.)
6	3	B= 65 H= 32	Rett. 65x32(D.B.)
7	3	B= 75 H= 32	Rett. 75x32(D.B.)
8	3	B= 30 H= 24	Rett. 30x24(D.B.)
9	3	B= 60 H= 32	Rett. 60x32(D.B.)
10	3	B= 30 H= 32	Rett. 20X32 ascensore(D.B.)
11	3	B= 25 H= 32	Rett. 25X32 (D.B.)
31	3	B= 30 H= 32	Rett. 30x32(D.B.)
33	3	B= 44 H= 32	Rett. 44x32(D.B.)
36	3	B= 65 H= 32	Rett. 65x32(D.B.)
38	3	B= 30 H= 24	Rett. 30x24(D.B.)
39	3	B= 60 H= 32	Rett. 60x32(D.B.)
40	3	B= 30 H= 32	Rett. 20X32 ascensore(D.B.)

Sezione	Area [cm²]	Jx [cm⁴]	Jy [cm⁴]	Jxy [cm⁴]	Jt [cm⁴]	Xx	Xy
1	960.00	81920	72000	-0	126969	1.2	1.2
3	1408.00	120149	227157	-0	254490	1.2	1.2
4	2240.00	191147	914667	-0	554006	1.2	1.2
6	2080.00	177493	732333	-0	492124	1.2	1.2
7	2400.00	204800	1125000	0	616905	1.2	1.2
8	720.00	34560	54000	0	68274	1.2	1.2
9	1920.00	163840	576000	-0	431689	1.2	1.2
10	960.00	81920	72000	-0	126969	1.2	1.2
11	800.00	68267	41667	0	83750	1.2	1.2
31	960.00	81920	72000	-0	126969	1.2	1.2
33	1408.00	120149	227157	-0	254490	1.2	1.2
36	2080.00	177493	732333	-0	492124	1.2	1.2
38	720.00	34560	54000	0	68274	1.2	1.2
39	1920.00	163840	576000	-0	431689	1.2	1.2
40	960.00	81920	72000	-0	126969	1.2	1.2

Trave di fondazione Lista sezioni introdotte:

Sezione	Materiale	Dimensioni [cm]	
2	2	B= 170 H= 50	Rett. 50-170(D.B.) Terreno numero 1 Argilla
3	2	B= 120 H= 50	Rett. 50-120(D.B.) Terreno numero 1 Argilla
4	2	B= 80 H= 50	Rett. 50-80(D.B.) Terreno numero 1 Argilla

5	2	B= 140 H= 50	Ret. 50-140(D.B.) Terreno numero 1 Argilla
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Sezione	Area [cm²]	Jx [cm⁴]	Jy [cm⁴]	Jxy [cm⁴]	Jt [cm⁴]	Xx	Xy
2	8500.00	1770833	20470834	0	6252689	1.2	1.2
3	6000.00	1250000	7199998	0	3813080	1.2	1.2
4	4000.00	833333	2133333	0	1969616	1.2	1.2
5	7000.00	1458333	11433332	0	4788908	1.2	1.2

Setto Lista sezioni introdotte:

Sez.	Mat.	B suola [cm]	H suola [cm]	Spessore [cm]		
1	2			20	Muro 20(D.B.)	
2	2	100	50	20	Muro fondazione 20(D.B.)	Terreno numero 1 Argilla
3	2			25	Muro 25	
4	2	140	50	25	Muro fondazione 25	Terreno numero 1 Argilla

## 2.2.2. Risultati dell'analisi dinamica

Si riporta di seguito uno stralcio dei risultati dell'analisi dinamica

$I_s$	raggio d'inerzia polare di piano $I_s = \sqrt{J_p / m}$
$X_g, Y_g, Z_g$	coordinate centro di massaModale
$D_x, D_y$	eccentricità centro di massa-centro delle rigidezza
$K_{rz}, K_{tmin}, K_{tmax}$	rigidezze traslanti e torcenti
$r_1, r_2$	raggi giroatori d'inerzia ( $r_1 = (K_{rz}/K_{tmin})^{1/2}$ , $r_2 = (K_{rz}/K_{tmax})^{1/2}$ )
$\Delta K_x, \Delta K_y, \Delta K_{\theta z}$	incrementi percentuali di rigidezza ( $\Delta K = (K_i - K_{i-1}) / K_{i-1}$ )
$K_{xi}, K_{yi}, K_{\theta zi}$	rigidezze traslanti e torsionali del piano i-esimo rispetto agli assi globali
R	ordinata dello spettro
Coeff.di Part.	coefficienti di partecipazione (in letteratura $g_{ij}$ )
$ L_i / L_1 $	rapporto percentuale fra i fattori di partecipazione del modo i-esimo e del primo modo
Mmi/Mmtot	percentuale massa modale efficace dell'i-esimo modo
Sum Mmi/Mmtot	percentuale cumulativa delle masse modali efficaci
$\Phi_i, U_x, \Phi_i, U_y, \Phi_i, \theta_z$	spostamenti modali del nodo master

Masse, Coordinate baricentriche, Eccentricità

Solaio	Massa [UTM]	Variazione Massa %	$J_p$ [UTM m²]	$I_s$ [m]	$X_g$ [m]	$Y_g$ [m]	$Z_g$ [m]	$D_x$ [m]	$D_y$ [m]
1	93709	0.0	15609805	12.907	17.391	8.531	3.895	7.727	2.932
2	93843	0.1	16105635	13.100	18.115	8.406	7.271	4.593	2.654
3	91491	-2.5	15599412	13.058	17.932	8.385	10.498	5.740	2.750
4	72816	-20.4	12715217	13.214	18.869	8.498	13.713	12.875	2.758



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5	11088	-84.8	152509	3.709	35.099	10.122	17.010	2.354	1.281
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Percentuale della massa di piano utilizzata per la valutazione delle azioni dovute ad eccentricità addizionali del centro di massa 100.0%

Sub-Matrici di rigidità 3x3

Solaio	U <sub>x</sub>	U <sub>y</sub>	R <sub>z</sub>	r <sub>1</sub> [m]	r <sub>2</sub> [m]	r <sub>min</sub> [m]	ΔK <sub>x</sub> %	ΔK <sub>y</sub> %	ΔK <sub>ez</sub> %
1	8.1743709350e+008	-5.7046979216e+006	9.8771977861e+009	22.039	17.638	1.367			
	-5.7046979216e+006	1.2760245671e+009	-2.4410371301e+009						
	9.8771977861e+009	-2.4410371301e+009	3.9699731083e+011						
2	1.1966381435e+009	3.4197974057e+006	7.5644901938e+009	19.527	16.634	1.270	46.39		
	3.4197974057e+006	1.6488834723e+009	-3.1600853478e+009					29.22	
	7.5644901938e+009	-3.1600853478e+009	4.5624974442e+011						14.93
3	1.0053571978e+009	7.1177647932e+006	7.2597838697e+009	19.101	17.004	1.302	-15.98		
	7.1177647932e+006	1.2681998270e+009	-2.7234496857e+009					-23.09	
	7.2597838697e+009	-2.7234496857e+009	3.6673143440e+011						-19.62
4	4.3945572164e+008	5.3816006048e+005	7.8274981644e+009	21.414	18.204	1.378	-56.29		
	5.3816006048e+005	6.0806768353e+008	-1.2049366266e+009					-52.05	
	7.8274981644e+009	-1.2049366266e+009	2.0151524685e+011						-45.05
5	5.4884787465e+007	-2.1187818846e+006	2.0711387707e+008	4.534	3.597	0.970	-87.51		
	-2.1187818846e+006	8.6839142524e+007	-7.5273266783e+007					-85.72	
	2.0711387707e+008	-7.5273266783e+007	1.1252271563e+009						-99.44

Sintesi dei risultati per direzione d'ingresso del sisma.

SLV

Direzione d'ingresso	Modo Principale	Periodo [sec]	% Massa Modale Modo Principale	% Massa Modale Totale
0.00 [°] +	1	0.331	71	100
0.00 [°] -	10	0.325	83	100
180.00 [°] +	19	0.325	83	100
180.00 [°] -	28	0.331	71	100
90.00 [°] +	37	0.444	47	99
90.00 [°] -	46	0.505	52	99
270.00 [°] +	55	0.505	52	99
270.00 [°] -	64	0.444	47	99

SLD

Direzione d'ingresso	Modo Principale	Periodo [sec]	% Massa Modale Modo Principale	% Massa Modale Totale
0.00 [°] +	73	0.331	71	100
0.00 [°] -	82	0.325	83	100
180.00 [°] +	91	0.325	83	100
180.00 [°] -	100	0.331	71	100
90.00 [°] +	109	0.444	47	99
90.00 [°] -	118	0.505	52	99
270.00 [°] +	127	0.505	52	99
270.00 [°] -	136	0.444	47	99

Autovalori e Periodi

Direzione d'ingresso 1 angolo 0.00 [°] + SLV

Modo	Autovalore [rad/sec] <sup>2</sup>	Pulsazione [rad/sec]	Periodo [sec]	R
1	360.8670	18.9965	0.331	0.2143
2	652.9275	25.5524	0.246	0.2143
3	172.2634	13.1249	0.479	0.2143
4	3048.6592	55.2147	0.114	0.2236
5	5075.0366	71.2393	0.088	0.2287
6	1884.8240	43.4146	0.145	0.2173
7	11220.5947	105.9273	0.059	0.2345

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8	2408.9746	49.0813	0.128	0.2207
9	6524.9844	80.7774	0.078	0.2308

Direzione d'ingresso 2 angolo 0.00 [°] - SLV

Modo	Autovalore [rad/sec]^2	Pulsazione [rad/sec]	Periodo [sec]	R
10	374.8105	19.3600	0.325	0.2143
11	3029.6074	55.0419	0.114	0.2235
12	611.5635	24.7298	0.254	0.2143
13	4964.3657	70.4583	0.089	0.2285
14	178.4021	13.3567	0.470	0.2143
15	10763.6094	103.7478	0.061	0.2343
16	5807.2515	76.2053	0.082	0.2299
17	2173.9517	46.6257	0.135	0.2193
18	23185.6660	152.2684	0.041	0.2382

Direzione d'ingresso 3 angolo 180.00 [°] + SLV

Modo	Autovalore [rad/sec]^2	Pulsazione [rad/sec]	Periodo [sec]	R
19	374.8105	19.3600	0.325	0.2143
20	3029.6074	55.0419	0.114	0.2235
21	611.5635	24.7298	0.254	0.2143
22	4964.3657	70.4583	0.089	0.2285
23	178.4021	13.3567	0.470	0.2143
24	10763.6094	103.7478	0.061	0.2343
25	5807.2515	76.2053	0.082	0.2299
26	2173.9517	46.6257	0.135	0.2193
27	23185.6660	152.2684	0.041	0.2382

Direzione d'ingresso 4 angolo 180.00 [°] - SLV

Modo	Autovalore [rad/sec]^2	Pulsazione [rad/sec]	Periodo [sec]	R
28	360.8670	18.9965	0.331	0.2143
29	652.9275	25.5524	0.246	0.2143
30	172.2634	13.1249	0.479	0.2143
31	3048.6592	55.2147	0.114	0.2236
32	5075.0366	71.2393	0.088	0.2287
33	1884.8240	43.4146	0.145	0.2173
34	11220.5947	105.9273	0.059	0.2345
35	2408.9746	49.0813	0.128	0.2207
36	6524.9844	80.7774	0.078	0.2308

Direzione d'ingresso 5 angolo 90.00 [°] + SLV

Modo	Autovalore [rad/sec]^2	Pulsazione [rad/sec]	Periodo [sec]	R
37	200.3672	14.1551	0.444	0.2143
38	576.9276	24.0193	0.262	0.2143
39	362.9331	19.0508	0.330	0.2143
40	2769.6853	52.6278	0.119	0.2224
41	3016.6433	54.9240	0.114	0.2234
42	8791.5293	93.7632	0.067	0.2330
43	2167.3530	46.5548	0.135	0.2193
44	4715.3721	68.6686	0.092	0.2281
45	11138.2061	105.5377	0.060	0.2345

Direzione d'ingresso 6 angolo 90.00 [°] - SLV

Modo	Autovalore [rad/sec]^2	Pulsazione [rad/sec]	Periodo [sec]	R
46	154.7203	12.4387	0.505	0.2032

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47	686.2327	26.1960	0.240	0.2143
48	1914.7507	43.7579	0.144	0.2176
49	2234.2031	47.2674	0.133	0.2197
50	371.2336	19.2674	0.326	0.2143
51	7164.1885	84.6415	0.074	0.2315
52	3049.3826	55.2212	0.114	0.2236
53	5261.2529	72.5345	0.087	0.2290
54	17742.9258	133.2026	0.047	0.2370

Direzione d'ingresso 7 angolo 270.00 [°] + SLV

Modo	Autovalore [rad/sec]^2	Pulsazione [rad/sec]	Periodo [sec]	R
55	154.7203	12.4387	0.505	0.2032
56	686.2328	26.1960	0.240	0.2143
57	1914.7506	43.7579	0.144	0.2176
58	2234.2031	47.2674	0.133	0.2197
59	371.2336	19.2674	0.326	0.2143
60	7164.1885	84.6415	0.074	0.2315
61	3049.3826	55.2212	0.114	0.2236
62	5261.2529	72.5345	0.087	0.2290
63	17742.9277	133.2026	0.047	0.2370

Direzione d'ingresso 8 angolo 270.00 [°] - SLV

Modo	Autovalore [rad/sec]^2	Pulsazione [rad/sec]	Periodo [sec]	R
64	200.3672	14.1551	0.444	0.2143
65	576.9276	24.0193	0.262	0.2143
66	362.9331	19.0508	0.330	0.2143
67	2769.6853	52.6278	0.119	0.2224
68	3016.6433	54.9240	0.114	0.2234
69	8791.5293	93.7632	0.067	0.2330
70	2167.3530	46.5548	0.135	0.2193
71	4715.3721	68.6686	0.092	0.2281
72	11138.2061	105.5377	0.060	0.2345

Direzione d'ingresso 9 angolo 0.00 [°] + SLD

Modo	Autovalore [rad/sec]^2	Pulsazione [rad/sec]	Periodo [sec]	R
73	360.8670	18.9965	0.331	0.2143
74	652.9275	25.5524	0.246	0.2143
75	172.2634	13.1249	0.479	0.2143
76	3048.6592	55.2147	0.114	0.2236
77	5075.0366	71.2393	0.088	0.2287
78	1884.8240	43.4146	0.145	0.2173
79	11220.5947	105.9273	0.059	0.2345
80	2408.9746	49.0813	0.128	0.2207
81	6524.9844	80.7774	0.078	0.2308

Direzione d'ingresso 10 angolo 0.00 [°] - SLD

Modo	Autovalore [rad/sec]^2	Pulsazione [rad/sec]	Periodo [sec]	R
82	374.8105	19.3600	0.325	0.2143
83	3029.6074	55.0419	0.114	0.2235
84	611.5635	24.7298	0.254	0.2143
85	4964.3657	70.4583	0.089	0.2285
86	178.4021	13.3567	0.470	0.2143
87	10763.6094	103.7478	0.061	0.2343

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

88	5807.2515	76.2053	0.082	0.2299
89	2173.9517	46.6257	0.135	0.2193
90	23185.6660	152.2684	0.041	0.2382

Direzione d'ingresso 11 angolo 180.00 [°] + SLD

Modo	Autovalore [rad/sec]^2	Pulsazione [rad/sec]	Periodo [sec]	R
91	374.8105	19.3600	0.325	0.2143
92	3029.6074	55.0419	0.114	0.2235
93	611.5635	24.7298	0.254	0.2143
94	4964.3657	70.4583	0.089	0.2285
95	178.4021	13.3567	0.470	0.2143
96	10763.6094	103.7478	0.061	0.2343
97	5807.2515	76.2053	0.082	0.2299
98	2173.9517	46.6257	0.135	0.2193
99	23185.6660	152.2684	0.041	0.2382

Direzione d'ingresso 12 angolo 180.00 [°] - SLD

Modo	Autovalore [rad/sec]^2	Pulsazione [rad/sec]	Periodo [sec]	R
100	360.8670	18.9965	0.331	0.2143
101	652.9275	25.5524	0.246	0.2143
102	172.2634	13.1249	0.479	0.2143
103	3048.6592	55.2147	0.114	0.2236
104	5075.0366	71.2393	0.088	0.2287
105	1884.8240	43.4146	0.145	0.2173
106	11220.5947	105.9273	0.059	0.2345
107	2408.9746	49.0813	0.128	0.2207
108	6524.9844	80.7774	0.078	0.2308

Direzione d'ingresso 13 angolo 90.00 [°] + SLD

Modo	Autovalore [rad/sec]^2	Pulsazione [rad/sec]	Periodo [sec]	R
109	200.3672	14.1551	0.444	0.2143
110	576.9276	24.0193	0.262	0.2143
111	362.9331	19.0508	0.330	0.2143
112	2769.6853	52.6278	0.119	0.2224
113	3016.6433	54.9240	0.114	0.2234
114	8791.5293	93.7632	0.067	0.2330
115	2167.3530	46.5548	0.135	0.2193
116	4715.3721	68.6686	0.092	0.2281
117	11138.2061	105.5377	0.060	0.2345

Direzione d'ingresso 14 angolo 90.00 [°] - SLD

Modo	Autovalore [rad/sec]^2	Pulsazione [rad/sec]	Periodo [sec]	R
118	154.7203	12.4387	0.505	0.2032
119	686.2327	26.1960	0.240	0.2143
120	1914.7507	43.7579	0.144	0.2176
121	2234.2031	47.2674	0.133	0.2197
122	371.2336	19.2674	0.326	0.2143
123	7164.1885	84.6415	0.074	0.2315
124	3049.3826	55.2212	0.114	0.2236
125	5261.2529	72.5345	0.087	0.2290
126	17742.9258	133.2026	0.047	0.2370

Direzione d'ingresso 15 angolo 270.00 [°] + SLD

Modo	Autovalore [rad/sec]^2	Pulsazione [rad/sec]	Periodo [sec]	R
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COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

127	154.7203	12.4387	0.505	0.2032
128	686.2328	26.1960	0.240	0.2143
129	1914.7506	43.7579	0.144	0.2176
130	2234.2031	47.2674	0.133	0.2197
131	371.2336	19.2674	0.326	0.2143
132	7164.1885	84.6415	0.074	0.2315
133	3049.3826	55.2212	0.114	0.2236
134	5261.2529	72.5345	0.087	0.2290
135	17742.9277	133.2026	0.047	0.2370

Direzione d'ingresso 16 angolo 270.00 [°] - SLD

Modo	Autovalore [rad/sec]^2	Pulsazione [rad/sec]	Periodo [sec]	R
136	200.3672	14.1551	0.444	0.2143
137	576.9276	24.0193	0.262	0.2143
138	362.9331	19.0508	0.330	0.2143
139	2769.6853	52.6278	0.119	0.2224
140	3016.6433	54.9240	0.114	0.2234
141	8791.5293	93.7632	0.067	0.2330
142	2167.3530	46.5548	0.135	0.2193
143	4715.3721	68.6686	0.092	0.2281
144	11138.2061	105.5377	0.060	0.2345

Risultati angolo di ingresso del sisma: 0.00 [°] + SLV

Modo	Periodo [sec]	Coeff.di Part.	Li /L1	MassaModale	Mmi/Mmtot	Sum Mmi/Mmtot	R
1	0.331	5.08614e+002	100	3e+005	71	71	0.2143
2	0.246	-1.94768e+002	38	4e+004	10	82	0.2143
3	0.479	-1.48161e+002	29	2e+004	6	88	0.2143
4	0.114	1.37274e+002	27	2e+004	5	93	0.2236
5	0.088	-1.05806e+002	21	1e+004	3	96	0.2287
6	0.145	9.03818e+001	18	8e+003	2	98	0.2173
7	0.059	5.49917e+001	11	3e+003	1	99	0.2345
8	0.128	3.75604e+001	7	1e+003	0	100	0.2207
9	0.078	2.64860e+001	5	7e+002	0	100	0.2308

Variazioni Matrice delle Masse Solai Direzione d'ingresso 0.00

Solaio	Ingombro in Pianta		Larghezza Apparente	Eccentricità	dxG	dyG	Sx	Sy	dJp
	B [m]	H [m]	[m]	[m]	[m]	[m]	[UTM]x[m]	[UTM]y[m]	[UTM m²]
1	38.520	21.431	21.431	1.072	0.000	-1.072	100414	0	107599
2	38.520	21.431	21.431	1.072	0.000	-1.072	100558	0	107753
3	38.520	21.431	21.431	1.072	0.000	-1.072	98037	0	105052
4	38.520	21.431	21.431	1.072	0.000	-1.072	78026	0	83609
5	6.680	9.850	9.850	0.492	0.000	-0.492	5461	0	2689

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\phi_{Lx}$	$\phi_{Ly}$	$\phi_{Lz}$
1	1	70100	20103	225025	6.8993521815e-004	2.0061595571e-004	8.9809049954e-006
	2	10507	-9351	-179480	-3.0579878170e-004	2.4369886838e-004	2.9840273750e-005
	3	4054	-9336	79283	-1.2235937849e-004	3.1984104538e-004	-1.5411827559e-005
	4	40369	21557	126814	1.4118199837e-003	7.6408621818e-004	1.7779463080e-005
	5	31379	-4003	-185171	-1.4737582594e-003	1.7992550126e-004	5.9040298822e-005
	6	10471	-9461	68216	5.5955932063e-004	-5.2395159991e-004	1.8948595209e-005
	7	19431	11833	-10370	1.6556840269e-003	9.9794980585e-004	-1.5792012818e-005
	8	4030	-9978	87747	4.5835322578e-004	-1.3093279763e-003	6.5723247227e-005

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

	9	5123	311	76721	8.3003856945e-004	5.5383265896e-005	7.6085602868e-005
	Per via statica	: 87186	0	-871762			
	Totali	: 97193	33944	386091			
	Variazione	: 10008	33944	1257853			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{Lx}$	$\Phi_{Ly}$	$\Phi_{Lz}$
2	1	122132	44541	337103	1.2042393994e-003	4.4386175984e-004	1.1974737937e-005
	2	19086	-15675	-379772	-5.6169792429e-004	4.0790577594e-004	6.0685494370e-005
	3	9404	-25589	230524	-2.7462509970e-004	8.7538343567e-004	-4.3940839727e-005
	4	37037	28436	171816	1.2816921564e-003	1.0064741854e-003	2.7249348454e-005
	5	15992	-8017	-347326	-8.1994148995e-004	3.5985231511e-004	9.5319546570e-005
	6	12772	-12030	70443	6.8670323414e-004	-6.6527946240e-004	1.8288246331e-005
	7	-11168	-2686	2882	-9.4835529885e-004	-2.2620142773e-004	7.2865437876e-006
	8	3363	-10492	102980	3.5938099794e-004	-1.3747854769e-003	7.5876401330e-005
	9	-947	3326	62613	-2.3889974206e-004	5.9087051818e-004	6.5872059990e-005
	Per via statica	: 162961	0	-1584072			
	Totali	: 135969	58757	-668425			
	Variazione	: -26992	58757	915647			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{Lx}$	$\Phi_{Ly}$	$\Phi_{Lz}$
3	1	168102	72165	474825	1.6993117598e-003	7.3762399468e-004	1.7666570917e-005
	2	24281	-23533	-642706	-7.6028927531e-004	6.2814907519e-004	1.0468841180e-004
	3	15206	-44863	401139	-4.4867576977e-004	1.5741690209e-003	-7.9199308692e-005
	4	4860	15416	146337	1.4424178343e-004	5.5966149155e-004	3.0050135202e-005
	5	-12737	-9748	-285412	5.0777204109e-004	4.4878167060e-004	7.3382072296e-005
	6	8007	-8044	-12288	4.6163958624e-004	-4.5625248697e-004	-6.9424302683e-006
	7	-14075	-9755	21576	-1.2357108050e-003	-8.4264549766e-004	1.8571940101e-005
	8	-885	-2732	42712	-1.5576887867e-004	-3.6725420880e-004	3.4417379976e-005
	9	-6037	2111	5388	-1.1138085281e-003	3.8468691521e-004	1.2673700445e-005
	Per via statica	: 229400	0	-2251845			
	Totali	: 175566	86355	-920971			
	Variazione	: -53834	86355	1330873			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{Lx}$	$\Phi_{Ly}$	$\Phi_{Lz}$
4	1	155368	79075	468826	1.9715604048e-003	1.0155577439e-003	2.2236221457e-005
	2	20553	-28965	-733563	-8.4479750003e-004	9.7142606470e-004	1.4511763547e-004
	3	15648	-47623	459060	-5.7020815010e-004	2.0995774455e-003	-1.1166803538e-004
	4	-30845	-13600	52421	-1.4309424114e-003	-6.2036765438e-004	2.2327698280e-005
	5	-16308	-3689	122871	9.9318768524e-004	2.1337990684e-004	-4.6492305853e-005
	6	-3760	2634	-141426	-2.0786061140e-004	1.8771583604e-004	-5.6076817287e-005
	7	16184	7174	-17815	1.7799794579e-003	7.7868183174e-004	-2.1851872197e-005
	8	-4814	9496	-61581	-7.5444430027e-004	1.6036173131e-003	-5.4567274880e-005
	9	-133	-3347	-27005	7.2442928379e-006	-7.6652497243e-004	-3.5224674204e-005
	Per via statica	: 238479	0	-2342890			
	Totali	: 165604	93404	-980099			
	Variazione	: -72875	93404	1362790			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{Lx}$	$\Phi_{Ly}$	$\Phi_{Lz}$
5	1	28174	19301	28619	2.3317521601e-003	1.6279104783e-003	9.0402532204e-005

**COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A**

	2	5328	-21133	-6676	-1.2468473513e-003	4.6544667220e-003	1.4891512029e-004
	3	1841	-1148	7569	-4.6395416672e-004	3.3231464904e-004	-1.4024183752e-004
	4	-10092	-11610	11931	-3.2043653250e-003	-3.4778581909e-003	3.6808948948e-004
	5	6793	11382	21571	-2.3326043991e-003	-4.3241128281e-003	-5.0336778607e-004
	6	-10075	7222	-51580	-3.9340569304e-003	3.3801255904e-003	-1.5863071684e-003
	7	-3414	-929	3608	-2.5683528935e-003	-6.6194736885e-004	2.7409671121e-004
	8	1360	-1441	10638	1.1124638355e-003	-1.5978967949e-003	8.0377666617e-004
	9	3583	-16	-9193	5.9779975114e-003	-2.3363670759e-005	-1.1979423912e-003
	Per via statica	f: 45046	0	-376008			
	Totali	f: 33476	-31655	-61079			
	Variazione	f: -11570	-31655	314930			

Risultati angolo di ingresso del sisma: 0.00 [°] - SLV

Modo	Periodo [sec]	Coeff.di Part.	Li / L1	MassaModale	Mmi/Mmtot	Sum Mmi/Mmtot	R
10	0.325	5.48022e+002	100	3e+005	83	83	0.2143
11	0.114	1.67684e+002	31	3e+004	8	90	0.2235
12	0.254	-1.21387e+002	22	1e+004	4	95	0.2143
13	0.089	-7.37292e+001	13	5e+003	1	96	0.2285
14	0.470	-6.25084e+001	11	4e+003	1	97	0.2143
15	0.061	6.19549e+001	11	4e+003	1	98	0.2343
16	0.082	5.63985e+001	10	3e+003	1	99	0.2299
17	0.135	5.30653e+001	10	3e+003	1	100	0.2193
18	0.041	-1.49960e+001	3	2e+002	0	100	0.2382

Variazioni Matrice delle Masse Solai Direzione d'ingresso 0.00

Solaio	Ingombro in Pianta		Larghezza Apparente	Eccentricità	dxG	dyG	Sx	Sy	dJp
	B [m]	H [m]	[m]	[m]	[m]	[m]	[UTM]x[m]	[UTM]y[m]	[UTM m²]
1	38.520	21.431	21.431	1.072	-0.000	1.072	-100414	-0	107599
2	38.520	21.431	21.431	1.072	-0.000	1.072	-100558	-0	107753
3	38.520	21.431	21.431	1.072	-0.000	1.072	-98037	-0	105052
4	38.520	21.431	21.431	1.072	-0.000	1.072	-78026	-0	83609
5	6.680	9.850	9.850	0.492	-0.000	0.492	-5461	-0	2689

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\varphi_{Lx}$	$\varphi_{Ly}$	$\varphi_{Lz}$
1	10	80149	12063	34760	7.4952223634e-004	1.1172429496e-004	6.7079184043e-006
	11	56610	12036	28080	1.6597644080e-003	3.4936868969e-004	1.5463247043e-005
	12	3527	-6568	-127998	-1.1404836095e-004	2.7463519206e-004	3.1181293028e-005
	13	14729	-5653	-211268	-8.6970914247e-004	3.6498427876e-004	7.5765020733e-005
	14	656	-4163	30212	-6.9403591329e-005	3.3802890961e-004	-1.5069900525e-005
	15	24273	7545	-50783	1.8070677290e-003	5.6538551137e-004	-1.1144814633e-005
	16	14085	2823	74288	1.2300165616e-003	2.3684847663e-004	4.5019801537e-005
	17	3896	-9592	42734	3.9234134131e-004	-8.9643368247e-004	2.6318485647e-005
	18	3668	-1230	6658	-1.1377190514e-003	3.7460428051e-004	-1.9357133385e-005
	Per via statica	f: 87186	0	-162228			
	Totali	f: 108672	20571	-228402			
	Variazione	f: 21487	20571	-66174			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\varphi_{Lx}$	$\varphi_{Ly}$	$\varphi_{Lz}$
2	10	142024	25404	29775	1.3240340176e-003	2.3494718739e-004	9.8057524255e-006
	11	53639	16921	67800	1.5774108054e-003	4.9044111225e-004	2.1157844693e-005
	12	7097	-11532	-262023	-2.3001336372e-004	4.8150610221e-004	6.1897624132e-005

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

	13	8493	-10240	-296639	-4.3180994390e-004	6.6015458725e-004	1.0801116287e-004
	14	1653	-11322	91055	-1.8105977467e-004	9.1805431654e-004	-4.3856322967e-005
	15	-13344	-1740	23304	-9.9437385125e-004	-1.3019569248e-004	3.9264027264e-006
	16	2780	5263	97132	2.8527350567e-004	4.4090839992e-004	4.8871923079e-005
	17	4588	-11853	41569	4.5525723110e-004	-1.1061813241e-003	2.5278046753e-005
	18	-6783	2122	-12325	2.1000404843e-003	-6.4547419370e-004	3.4719932005e-005
	Per via statica	162961	0	-257865			
	Totali	155400	34071	-373033			
	Variazione	-7560	34071	-115169			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
3	10	196080	39678	60215	1.8762150100e-003	3.7640162851e-004	1.5040320094e-005
	11	10258	10236	100833	3.2587230669e-004	3.0430598176e-004	1.9498731773e-005
	12	9677	-17553	-431421	-3.0113130536e-004	7.5175796236e-004	1.0576238812e-004
	13	-5582	-8220	-183805	4.4801704709e-004	5.4356867730e-004	7.3605398639e-005
	14	2771	-19797	159595	-3.1547006631e-004	1.6464581580e-003	-7.9297090028e-005
	15	-18266	-6329	43410	-1.3905516018e-003	-4.8581116633e-004	1.0730606693e-005
	16	-12286	2230	50072	-1.0358864941e-003	1.9160309630e-004	1.8601626719e-005
	17	2578	-6818	-15721	2.3901443209e-004	-6.5269272264e-004	-7.2751062550e-006
	18	5826	-1511	8667	-1.8466496599e-003	4.7124860965e-004	-2.7277190479e-005
	Per via statica	229400	0	-384938			
	Totali	199770	46754	-487634			
	Variazione	-29631	46754	-102696			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
4	10	181187	43323	91379	2.1805283364e-003	5.1638868982e-004	1.9489845043e-005
	11	-41274	-6574	76859	-1.5343034725e-003	-2.4555518180e-004	6.9805879915e-006
	12	8817	-21138	-482496	-3.1828104433e-004	1.1375024448e-003	1.4577577672e-004
	13	-9434	2089	115698	7.2997264664e-004	-1.7355349456e-004	-5.0239939419e-005
	14	2823	-21026	184116	-4.1501336420e-004	2.1972221024e-003	-1.1199089800e-004
	15	20067	4372	-45805	1.9209072293e-003	4.2167180729e-004	-1.3421949970e-005
	16	-6805	-4340	-38576	-7.6513613669e-004	-4.6864615516e-004	-2.8361685626e-005
	17	-1928	4673	-96342	-3.0457978049e-004	5.6210228761e-004	-6.7781268166e-005
	18	-2409	338	-3190	9.5822156229e-004	-1.3264687902e-004	1.2955435969e-005
	Per via statica	238479	0	-402099			
	Totali	189044	49853	-533478			
	Variazione	-49435	49853	-131379			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
5	10	31980	12666	-5097	2.5331317601e-003	9.9142558082e-004	6.0623484340e-005
	11	-17587	-9283	23221	-4.1865022957e-003	-2.2773499593e-003	2.5966561730e-004
	12	1860	-13465	-8260	-5.6455751763e-004	4.7585086442e-003	1.8867171815e-004
	13	3981	7385	20479	-2.6106277528e-003	-4.0296835260e-003	-8.9018720928e-004
	14	311	-635	2562	-2.8020345051e-004	4.3582487267e-004	-1.3547204984e-004
	15	-3907	-373	4931	-2.4063195137e-003	-2.3601983684e-004	1.3845268300e-004
	16	9399	-531	-20341	6.2658831188e-003	-3.7626301259e-004	-8.1003473759e-004
	17	-3075	5201	-25823	-3.2019723642e-003	4.1084804237e-003	-1.5698596419e-003
	18	224	34	-98	-5.7786381149e-004	-8.7053807960e-005	-2.3893534036e-006
	Per via statica	45046	0	-9417			
	Totali	38637	-20392	-37088			



COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

	Variazione	-6409	-20392	-27671
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Risultati angolo di ingresso del sisma: 180.00 [°] + SLV

Modo	Periodo [sec]	Coeff.di Part.	L <sub>i</sub>  / L <sub>1</sub>	MassaModale	Mmi/Mmtot	Sum Mmi/Mmtot	R
19	0.325	-5.48022e+002	100	3e+005	83	83	0.2143
20	0.114	-1.67683e+002	31	3e+004	8	90	0.2235
21	0.254	1.21387e+002	22	1e+004	4	95	0.2143
22	0.089	7.37293e+001	13	5e+003	1	96	0.2285
23	0.470	6.25086e+001	11	4e+003	1	97	0.2143
24	0.061	-6.19549e+001	11	4e+003	1	98	0.2343
25	0.082	-5.63985e+001	10	3e+003	1	99	0.2299
26	0.135	-5.30653e+001	10	3e+003	1	100	0.2193
27	0.041	1.49960e+001	3	2e+002	0	100	0.2382

Variazioni Matrice delle Masse Solai Direzione d'ingresso 180.00

Solaio	Ingombro in Pianta		Larghezza Apparente	Eccentricità	dxG	dyG	Sx	Sy	dJp
	B [m]	H [m]	[m]	[m]	[m]	[m]	[UTM]x[m]	[UTM]y[m]	[UTM m²]
1	38.520	21.431	21.431	1.072	-0.000	1.072	-100414	-0	107599
2	38.520	21.431	21.431	1.072	-0.000	1.072	-100558	-0	107753
3	38.520	21.431	21.431	1.072	-0.000	1.072	-98037	-0	105052
4	38.520	21.431	21.431	1.072	-0.000	1.072	-78026	-0	83609
5	6.680	9.850	9.850	0.492	-0.000	0.492	-5461	-0	2689

Azioni di piano indotte

Solaio	Modo	F <sub>x</sub> [kg]	F <sub>y</sub> [kg]	M <sub>t</sub> [kgm]	Φ <sub>i,Ux</sub>	Φ <sub>i,Uy</sub>	Φ <sub>i,θz</sub>
1	19	-80149	-12063	-34760	7.4952224000e-004	1.1172428648e-004	6.7079180798e-006
	20	-56610	-12036	-28080	1.6597644253e-003	3.4936864820e-004	1.5463246937e-005
	21	-3527	6568	127998	-1.1404834175e-004	2.7463519598e-004	3.1181293176e-005
	22	-14729	5653	211268	-8.6970911440e-004	3.6498429686e-004	7.5765020582e-005
	23	-656	4163	-30212	-6.9403586588e-005	3.3802890914e-004	-1.5069900486e-005
	24	-24273	-7545	50783	1.8070677423e-003	5.6538544962e-004	-1.1144814455e-005
	25	-14085	-2823	-74288	1.2300165708e-003	2.3684848420e-004	4.5019801874e-005
	26	-3896	9592	-42734	3.9234131096e-004	-8.9643368133e-004	2.6318484815e-005
	27	-3668	1230	-6658	-1.1377190581e-003	3.7460427397e-004	-1.9357132040e-005
	Per via statica	-87186	-0	871762			
	Totali	-108672	-20571	228403			
	Variazione	-21487	-20571	-643360			

Azioni di piano indotte

Solaio	Modo	F <sub>x</sub> [kg]	F <sub>y</sub> [kg]	M <sub>t</sub> [kgm]	Φ <sub>i,Ux</sub>	Φ <sub>i,Uy</sub>	Φ <sub>i,θz</sub>
2	19	-142024	-25404	-29775	1.3240340253e-003	2.3494716817e-004	9.8057519802e-006
	20	-53639	-16921	-67800	1.5774108245e-003	4.9044106153e-004	2.1157844285e-005
	21	-7097	11532	262023	-2.3001333046e-004	4.8150611145e-004	6.1897624269e-005
	22	-8493	10240	296639	-4.3180991099e-004	6.6015460966e-004	1.0801116239e-004
	23	-1653	11322	-91055	-1.8105976599e-004	9.1805431518e-004	-4.3856322876e-005
	24	13344	1740	-23304	-9.9437385743e-004	-1.3019568722e-004	3.9264015059e-006
	25	-2780	-5263	-97132	2.8527352159e-004	4.4090840665e-004	4.8871924342e-005
	26	-4588	11853	-41569	4.5525719897e-004	-1.1061813269e-003	2.5278045606e-005
	27	6783	-2122	12325	2.1000404960e-003	-6.4547417632e-004	3.4719930710e-005
	Per via statica	-162961	-0	1584072			
	Totali	-155400	-34071	373034			
	Variazione	7560	-34071	-1211038			

Azioni di piano indotte

**COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A**

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{Lx}$	$\Phi_{Ly}$	$\Phi_{Lz}$
3	19	-196080	-39678	-60214	1.8762150215e-003	3.7640159570e-004	1.5040319434e-005
	20	-10258	-10236	-100833	3.2587231574e-004	3.0430595847e-004	1.9498731014e-005
	21	-9677	17553	431422	-3.0113125902e-004	7.5175797814e-004	1.0576238825e-004
	22	5582	8220	183805	4.4801706923e-004	5.4356868494e-004	7.3605398194e-005
	23	-2771	19797	-159596	-3.1547005373e-004	1.6464581554e-003	-7.9297089869e-005
	24	18266	6329	-43410	-1.3905516137e-003	-4.8581111837e-004	1.0730605796e-005
	25	12286	-2230	-50072	-1.0358864834e-003	1.9160310463e-004	1.8601628028e-005
	26	-2578	6818	15721	2.3901441871e-004	-6.5269273202e-004	-7.2751073294e-006
	27	-5826	1511	-8667	-1.8466496691e-003	4.7124859740e-004	-2.7277189647e-005
	Per via statica	: -229400	-0	2251845			
	Totali	: -199770	-46754	487635			
	Variazione	: 29631	-46754	-1764210			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{Lx}$	$\Phi_{Ly}$	$\Phi_{Lz}$
4	19	-181187	-43323	-91379	2.1805283499e-003	5.1638864422e-004	1.9489844224e-005
	20	41274	6574	-76859	-1.5343034838e-003	-2.4555514096e-004	6.9805868301e-006
	21	-8817	21138	482497	-3.1828099113e-004	1.1375024668e-003	1.4577577680e-004
	22	9434	-2089	-115698	7.2997263708e-004	-1.7355351728e-004	-5.0239938847e-005
	23	-2823	21026	-184116	-4.1501334941e-004	2.1972220990e-003	-1.1199089777e-004
	24	-20067	-4372	45805	1.9209072438e-003	4.2167177371e-004	-1.3421947810e-005
	25	6805	4340	38576	-7.6513615030e-004	-4.6864614653e-004	-2.8361686816e-005
	26	1928	-4673	96342	-3.0457976047e-004	5.6210227106e-004	-6.7781268563e-005
	27	2409	-338	3190	9.5822156637e-004	-1.3264688099e-004	1.2955435214e-005
	Per via statica	: -238479	-0	2342890			
	Totali	: -189044	-49853	533478			
	Variazione	: 49435	-49853	-1809412			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{Lx}$	$\Phi_{Ly}$	$\Phi_{Lz}$
5	19	-31980	-12666	5097	2.5331317745e-003	9.9142550855e-004	6.0623481668e-005
	20	17587	9283	-23221	-4.1865023567e-003	-2.2773498305e-003	2.5966560743e-004
	21	-1860	13465	8260	-5.6455745698e-004	4.7585086806e-003	1.8867171602e-004
	22	-3981	-7385	-20479	-2.6106279319e-003	-4.0296835273e-003	-8.9018721200e-004
	23	-311	635	-2562	-2.8020343427e-004	4.3582487290e-004	-1.3547204950e-004
	24	3907	373	-4931	-2.4063195274e-003	-2.3601982004e-004	1.3845267696e-004
	25	-9399	531	20341	6.2658830696e-003	-3.7626314773e-004	-8.1003473417e-004
	26	3075	-5201	25823	-3.2019722907e-003	4.1084804471e-003	-1.5698596510e-003
	27	-224	-34	98	-5.7786381194e-004	-8.7053785789e-005	-2.3893497950e-006
	Per via statica	: -45046	-0	376008			
	Totali	: -38637	20392	37088			
	Variazione	: 6409	20392	-338920			

Risultati angolo di ingresso del sisma: 180.00 [°] - SLV

Modo	Periodo [sec]	Coeff.di Part.	L <sub>i</sub>  / L <sub>1</sub>	MassaModale	Mmi/Mmtot	Sum Mmi/Mmtot	R
28	0.331	-5.08614e+002	100	3e+005	71	71	0.2143
29	0.246	1.94768e+002	38	4e+004	10	82	0.2143
30	0.479	1.48161e+002	29	2e+004	6	88	0.2143
31	0.114	-1.37274e+002	27	2e+004	5	93	0.2236
32	0.088	1.05806e+002	21	1e+004	3	96	0.2287
33	0.145	-9.03819e+001	18	8e+003	2	98	0.2173
34	0.059	-5.49917e+001	11	3e+003	1	99	0.2345

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35	0.128	-3.75605e+001	7	1e+003	0	100	0.2207
36	0.078	-2.64860e+001	5	7e+002	0	100	0.2308

Variazioni Matrice delle Masse Solai Direzione d'ingresso 180.00

Solaio	Ingombro in Pianta		Larghezza Apparente	Eccentricità	dxG	dyG	Sx	Sy	dJp
	B [m]	H [m]	[m]	[m]	[m]	[m]	[UTM]x[m]	[UTM]y[m]	[UTM m²]
1	38.520	21.431	21.431	1.072	0.000	-1.072	100414	0	107599
2	38.520	21.431	21.431	1.072	0.000	-1.072	100558	0	107753
3	38.520	21.431	21.431	1.072	0.000	-1.072	98037	0	105052
4	38.520	21.431	21.431	1.072	0.000	-1.072	78026	0	83609
5	6.680	9.850	9.850	0.492	0.000	-0.492	5461	0	2689

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\varphi_{i,Ux}$	$\varphi_{i,Uy}$	$\varphi_{i,\theta z}$
1	28	-70100	-20103	-225025	6.8993521156e-004	2.0061596278e-004	8.9809051714e-006
	29	-10507	9351	179480	-3.0579879757e-004	2.4369886376e-004	2.9840273579e-005
	30	-4054	9336	-79283	-1.2235938328e-004	3.1984104463e-004	-1.5411827612e-005
	31	-40369	-21557	-126813	1.4118199554e-003	7.6408624991e-004	1.7779462963e-005
	32	-31379	4003	185171	-1.4737582857e-003	1.7992548231e-004	5.9040298491e-005
	33	-10471	9461	-68216	5.5955933602e-004	-5.2395159538e-004	1.8948595941e-005
	34	-19431	-11833	10370	1.6556840081e-003	9.9794984910e-004	-1.5792012314e-005
	35	-4030	9978	-87747	4.5835324355e-004	-1.3093279667e-003	6.5723247138e-005
	36	-5123	-311	-76720	8.3003855644e-004	5.5383243492e-005	7.6085603461e-005
	Per via statica	-87186	-0	162228			
	Totali	-97193	-33944	-386091			
	Variazione	-10008	-33944	-548319			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\varphi_{i,Ux}$	$\varphi_{i,Uy}$	$\varphi_{i,\theta z}$
2	28	-122132	-44541	-337103	1.2042393866e-003	4.4386177638e-004	1.1974738107e-005
	29	-19086	15675	379772	-5.6169795127e-004	4.0790576461e-004	6.0685494234e-005
	30	-9404	25589	-230524	-2.7462510828e-004	8.7538343411e-004	-4.3940839810e-005
	31	-37037	-28436	-171816	1.2816921263e-003	1.0064742226e-003	2.7249348517e-005
	32	-15992	8017	347327	-8.1994151247e-004	3.5985228782e-004	9.5319546728e-005
	33	-12772	12030	-70443	6.8670325048e-004	-6.6527945302e-004	1.8288247391e-005
	34	11168	2686	-2882	-9.4835529500e-004	-2.2620143018e-004	7.2865447640e-006
	35	-3363	10492	-102981	3.5938100954e-004	-1.3747854663e-003	7.5876401231e-005
	36	947	-3326	-62613	-2.3889976845e-004	5.9087050740e-004	6.5872059386e-005
	Per via statica	-162961	-0	257865			
	Totali	-135969	-58757	668426			
	Variazione	26992	-58757	410561			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\varphi_{i,Ux}$	$\varphi_{i,Uy}$	$\varphi_{i,\theta z}$
3	28	-168102	-72164	-474825	1.6993117410e-003	7.3762402324e-004	1.7666571125e-005
	29	-24281	23533	642706	-7.6028931235e-004	6.2814905546e-004	1.0468841171e-004
	30	-15206	44863	-401140	-4.4867578209e-004	1.5741690184e-003	-7.9199308821e-005
	31	-4860	-15416	-146337	1.4424176997e-004	5.5966150583e-004	3.0050135566e-005
	32	12737	9748	285412	5.0777202955e-004	4.4878165919e-004	7.3382072685e-005
	33	-8007	8044	12288	4.6163959305e-004	-4.5625247469e-004	-6.9424292142e-006
	34	14075	9755	-21576	-1.2357107901e-003	-8.4264553199e-004	1.8571940390e-005
	35	885	2732	-42713	-1.5576888795e-004	-3.6725420654e-004	3.4417380047e-005
	36	6037	-2111	-5388	-1.1138085398e-003	3.8468691565e-004	1.2673699388e-005

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	Per via statica	-229400	-0	384938
	Totali	-175566	-86355	920972
	Variazione	53834	-86355	536034

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
4	28	-155368	-79075	-468826	1.9715603826e-003	1.0155577833e-003	2.2236221671e-005
	29	-20553	28965	733563	-8.4479754214e-004	9.7142603718e-004	1.4511763550e-004
	30	-15648	47623	-459061	-5.7020816451e-004	2.0995774421e-003	-1.1166803555e-004
	31	30845	13600	-52421	-1.4309423949e-003	-6.2036769014e-004	2.2327699139e-005
	32	16308	3689	-122871	9.9318768588e-004	2.1337993379e-004	-4.6492306609e-005
	33	3760	-2634	141426	-2.0786062180e-004	1.8771584696e-004	-5.6076816795e-005
	34	-16184	-7174	17815	1.7799794451e-003	7.7868185461e-004	-2.1851873814e-005
	35	4814	-9496	61581	-7.5444432946e-004	1.6036172993e-003	-5.4567274258e-005
	36	133	3347	27005	7.2443259832e-006	-7.6652497357e-004	-3.5224673179e-005
	Per via statica	-238479	-0	402099			
	Totali	-165604	-93404	980100			
	Variazione	72875	-93404	578001			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
5	28	-28174	-19301	-28619	2.3317521363e-003	1.6279105304e-003	9.0402533752e-005
	29	-5328	21133	6676	-1.2468474009e-003	4.6544666843e-003	1.4891512154e-004
	30	-1841	1148	-7569	-4.6395418302e-004	3.3231464190e-004	-1.4024183804e-004
	31	10092	11610	-11931	-3.2043652548e-003	-3.4778582712e-003	3.6808949217e-004
	32	-6793	-11382	-21571	-2.3326042844e-003	-4.3241128274e-003	-5.0336778120e-004
	33	10075	-7222	51580	-3.9340569638e-003	3.3801255580e-003	-1.5863071605e-003
	34	3414	929	-3608	-2.5683528910e-003	-6.6194738676e-004	2.7409671797e-004
	35	-1360	1441	-10638	1.1124638370e-003	-1.5978968392e-003	8.0377668079e-004
	36	-3583	16	9193	5.9779975233e-003	-2.3363570567e-005	-1.1979423958e-003
	Per via statica	-45046	-0	9417			
	Totali	-33476	31655	61079			
	Variazione	11570	31655	51662			

Risultati angolo di ingresso del sisma: 90.00 [°] + SLV

Modo	Periodo [sec]	Coeff.di Part.	Li / L1	MassaModale	Mmi/Mmtot	Sum Mmi/Mmtot	R
37	0.444	4.14308e+002	100	2e+005	47	47	0.2143
38	0.262	2.52540e+002	61	6e+004	18	65	0.2143
39	0.330	2.08831e+002	50	4e+004	12	77	0.2143
40	0.119	-1.97914e+002	48	4e+004	11	88	0.2224
41	0.114	1.20572e+002	29	1e+004	4	92	0.2234
42	0.067	1.01669e+002	25	1e+004	3	95	0.2330
43	0.135	-9.35577e+001	23	9e+003	2	97	0.2193
44	0.092	5.87797e+001	14	3e+003	1	98	0.2281
45	0.060	5.62808e+001	14	3e+003	1	99	0.2345

Variazioni Matrice delle Masse Solai Direzione d'ingresso 90.00

Solaio	Ingombro in Pianta		Larghezza Apparente	Eccentricità	dxG	dyG	Sx	Sy	dJp
	B [m]	H [m]	[m]	[m]	[m]	[m]	[UTM]x[m]	[UTM]y[m]	[UTM m²]
1	38.520	21.431	38.520	1.926	1.926	0.000	-0	180483	347609
2	38.520	21.431	38.520	1.926	1.926	0.000	-0	180742	348108
3	38.520	21.431	38.520	1.926	1.926	0.000	-0	176211	339382
4	38.520	21.431	38.520	1.926	1.926	0.000	-0	140243	270107

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CORPO A

5	6.680	9.850	6.680	0.334	0.334	0.000	-0	3703	1237
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Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\varphi_{i,Ux}$	$\varphi_{i,Uy}$	$\varphi_{i,Bz}$
1	37	-9616	26663	-160659	-1.1780478729e-004	3.5668637780e-004	-1.5592590700e-005
	38	-13966	13270	270350	-2.8070717116e-004	2.0982544290e-004	2.9535630310e-005
	39	28729	8335	83224	6.9826399186e-004	1.8371902491e-004	9.8007236250e-006
	40	-19388	55422	-312187	4.7906050100e-004	-1.4891339215e-003	6.2142415775e-005
	41	35498	17007	122607	1.4332938375e-003	6.4476585896e-004	2.1779082302e-005
	42	-19667	40898	-163365	-9.0315169657e-004	2.0066694122e-003	-6.6750766681e-005
	43	-11057	9377	-40707	5.8623271838e-004	-5.3317694262e-004	1.8704712618e-005
	44	-13934	1891	167460	-1.1307035378e-003	-2.4286473719e-007	7.9802650726e-005
	45	18860	14264	5873	1.5544995660e-003	1.1962298532e-003	-1.0687073974e-005
	Per via statica	: -0	87186	-1364331			
	Totali	: 45443	96523	-454398			
	Variazione	: 45443	9338	909932			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\varphi_{i,Ux}$	$\varphi_{i,Uy}$	$\varphi_{i,Bz}$
2	37	-22208	71856	-499693	-2.7167806069e-004	9.6665877192e-004	-4.5483823975e-005
	38	-25630	22151	562911	-5.1438342742e-004	3.2739297095e-004	6.0838724117e-005
	39	50387	17382	136130	1.2229220537e-003	3.9390651548e-004	1.4516906877e-005
	40	-16071	59061	-371002	3.9653796533e-004	-1.5915084667e-003	6.9692804997e-005
	41	32939	22895	179043	1.3280703126e-003	8.6203168820e-004	3.1703226357e-005
	42	11320	-2934	85476	5.1909864028e-004	-1.8143564352e-004	2.4347956415e-005
	43	-12948	12092	-38475	6.8548694159e-004	-6.7688133260e-004	1.9053389376e-005
	44	-9043	5454	248815	-7.3275158626e-004	2.2526825013e-004	1.1251730128e-004
	45	-10939	-1858	30648	-9.0032405000e-004	-1.8455671290e-004	1.6414051761e-005
	Per via statica	: -0	162961	-2039329			
	Totali	: 61881	117837	841877			
	Variazione	: 61881	-45123	2881206			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\varphi_{i,Ux}$	$\varphi_{i,Uy}$	$\varphi_{i,Bz}$
3	37	-35720	125490	-876211	-4.4822127394e-004	1.7331081421e-003	-8.2271631101e-005
	38	-33775	33351	933346	-6.9529293057e-004	4.8445131974e-004	1.0493383097e-004
	39	69489	27649	206934	1.7298873728e-003	6.4508343583e-004	2.2438799283e-005
	40	3954	16441	-152726	-1.0007416035e-004	-4.6880420537e-004	2.7370066893e-005
	41	4847	12951	146573	2.0043613960e-004	4.7877728793e-004	2.9501782414e-005
	42	15552	-29552	136974	7.3148053382e-004	-1.4929827540e-003	5.3486636634e-005
	43	-7351	8210	24216	3.9920812249e-004	-4.4071036550e-004	-2.6762652027e-006
	44	3283	5911	160981	2.7286809924e-004	3.5083456943e-004	7.2923660546e-005
	45	-14022	-11530	8223	-1.1837307323e-003	-1.0023427071e-003	1.5065937702e-005
	Per via statica	: -0	229400	-3133838			
	Totali	: 80389	145763	1309115			
	Variazione	: 80389	-83637	4442953			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\varphi_{i,Ux}$	$\varphi_{i,Uy}$	$\varphi_{i,Bz}$
4	37	-36316	132534	-1032507	-5.7257010781e-004	2.3135017182e-003	-1.1626986161e-004
	38	-29736	40265	1058390	-7.6913454800e-004	7.6167369199e-004	1.4528519192e-004
	39	64264	30246	220805	2.0101315472e-003	8.9000042536e-004	2.9116991803e-005
	40	21499	-51083	236614	-6.8367407210e-004	1.7419012066e-003	-6.1004875935e-005

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CORPO A**

	41	-26945	-10233	17901	-1.4001456014e-003	-5.5329714495e-004	1.1191585283e-005
	42	-18257	13610	-163168	-1.0789222614e-003	9.2778358584e-004	-6.4092935376e-005
	43	5003	-2750	113656	-3.4136842560e-004	2.7713910259e-004	-4.6479687684e-005
	44	8463	383	-104123	8.8379391250e-004	1.6080050194e-004	-6.2711146337e-005
	45	16170	6540	-45636	1.7151874532e-003	7.6182953722e-004	-3.5372177506e-005
	Per via statica	: -0	238479	-4959474			
	Totali	: 77281	159497	1528198			
	Variazione	: 77281	-78981	6487672			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{Lx}$	$\Phi_{Ly}$	$\Phi_{Lz}$
5	37	-4383	4342	-17487	-4.5381906872e-004	4.9721266625e-004	-1.4255115958e-004
	38	-6322	25048	24768	-1.0738354877e-003	4.1872004785e-003	2.0255977556e-004
	39	11466	8076	8962	2.3553449078e-003	1.6277420363e-003	9.3564082801e-005
	40	-6145	5633	-55229	1.2831966299e-003	-1.4659271365e-003	8.6709662941e-004
	41	-9321	-10754	12498	-3.1809250280e-003	-3.8029724261e-003	3.9916757521e-004
	42	4109	1603	288	1.5945822777e-003	6.2463580579e-004	-6.9929697401e-006
	43	9598	-8099	48732	-4.3010223660e-003	4.1887052089e-003	-1.6756958173e-003
	44	-1313	-5910	-17884	-9.0076659588e-004	-3.7880843952e-003	-7.9329165346e-004
	45	-3401	-129	5888	-2.3689952340e-003	-1.9023557701e-004	3.0036052793e-004
	Per via statica	: -0	45046	-462839			
	Totali	: 20003	30767	-63417			
	Variazione	: 20003	-14279	399422			

Risultati angolo di ingresso del sisma: 90.00 [°] - SLV

Modo	Periodo [sec]	Coeff.di Part.	Li / L1	MassaModale	Mmi/Mmtot	Sum Mmi/Mmtot	R
46	0.505	4.33606e+002	100	2e+005	52	52	0.2032
47	0.240	2.56038e+002	59	7e+004	18	70	0.2143
48	0.144	-1.72741e+002	40	3e+004	8	78	0.2176
49	0.133	-1.56182e+002	36	2e+004	7	85	0.2197
50	0.326	1.43379e+002	33	2e+004	6	90	0.2143
51	0.074	1.17899e+002	27	1e+004	4	94	0.2315
52	0.114	8.70226e+001	20	8e+003	2	96	0.2236
53	0.087	7.08124e+001	16	5e+003	1	98	0.2290
54	0.047	5.54891e+001	13	3e+003	1	99	0.2370

Variazioni Matrice delle Masse Solai Direzione d'ingresso 90.00

Solaio	Ingombro in Pianta		Larghezza Apparente	Eccentricità	dxG	dyG	Sx	Sy	dJp
	B [m]	H [m]	[m]	[m]	[m]	[m]	[UTM]x[m]	[UTM]y[m]	[UTM m²]
1	38.520	21.431	38.520	1.926	-1.926	-0.000	0	-180483	347609
2	38.520	21.431	38.520	1.926	-1.926	-0.000	0	-180742	348108
3	38.520	21.431	38.520	1.926	-1.926	-0.000	0	-176211	339382
4	38.520	21.431	38.520	1.926	-1.926	-0.000	0	-140243	270107
5	6.680	9.850	6.680	0.334	-0.334	-0.000	0	-3703	1237

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{Lx}$	$\Phi_{Ly}$	$\Phi_{Lz}$
1	46	-6689	27060	-252261	-8.2567344055e-005	3.0543758632e-004	-1.4830381919e-005
	47	-8456	12012	238615	-1.6763563065e-004	2.9812141469e-004	3.1150197072e-005
	48	-16293	32694	-235600	4.7161435954e-004	-8.8855899728e-004	2.9997232781e-005
	49	-5260	37447	-391373	1.6675077821e-004	-1.0700845419e-003	6.0755809525e-005
	50	20814	3582	25482	7.3683913637e-004	1.4006994850e-004	6.8815767450e-006
	51	-6397	52367	-385085	-2.5490850575e-004	1.9558175950e-003	-6.7992630117e-005

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

	52	28811	8518	28542	1.6108835444e-003	5.0533534748e-004	1.5087018372e-005
	53	-20487	4700	108288	-1.3740724860e-003	4.0620684916e-004	4.7244540060e-005
	54	-3543	8897	241514	-2.9303409146e-004	9.8329318320e-004	1.2843867283e-004
	Per via statica	: -0	82684	-479688			
	Totali	: 44080	93045	-786485			
	Variazione	: 44080	10361	-306796			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
2	46	-16238	74504	-732446	-2.0013730846e-004	8.3683668078e-004	-4.2296853439e-005
	47	-16584	21502	488416	-3.2830060885e-004	5.4335699469e-004	6.1112577879e-005
	48	-19401	39674	-248947	5.6076226373e-004	-1.0907589051e-003	2.9057520376e-005
	49	-2901	38035	-466525	9.1844601769e-005	-1.0643136050e-003	7.2538145385e-005
	50	36674	8191	28537	1.2964231129e-003	3.0714468515e-004	9.1274534042e-006
	51	7715	-4031	142053	3.0698270847e-004	-1.0043863778e-004	3.1135765069e-005
	52	26907	11715	44227	1.5022769692e-003	6.9595253947e-004	2.1728451966e-005
	53	-8999	6162	197109	-6.0272052566e-004	5.6973577162e-004	8.1550047022e-005
	54	1263	7991	127374	1.0434848235e-004	7.9236228564e-004	6.8710614686e-005
	Per via statica	: -0	154546	-412197			
	Totali	: 52659	109586	-1114017			
	Variazione	: 52659	-44960	-701820			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
3	46	-26842	130652	-1279820	-3.3934588827e-004	1.5049166795e-003	-7.6237710007e-005
	47	-21654	32908	812332	-4.3967927455e-004	8.6903164248e-004	1.0428581285e-004
	48	-10910	21938	5423	3.2343396758e-004	-6.6637035034e-004	-8.2899460275e-006
	49	5510	6708	-223694	-1.7891048331e-004	-1.4049690224e-004	4.0138664261e-005
	50	50564	13210	37464	1.8334055408e-003	5.0475202907e-004	1.3377680937e-005
	51	4996	-35539	354148	2.0392015896e-004	-1.3188085713e-003	6.8390700611e-005
	52	4514	6810	57868	2.5850534376e-004	4.3592272255e-004	2.3841867264e-005
	53	10967	5585	158450	7.5341271906e-004	5.1493163054e-004	6.8172703272e-005
	54	48	-8666	-170163	4.0672044260e-006	-9.1306857550e-004	-9.2849006421e-005
	Per via statica	: -0	217555	-829735			
	Totali	: 60938	144420	-1584809			
	Variazione	: 60938	-73135	-755074			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
4	46	-27713	139376	-1449615	-4.4022042188e-004	2.0070279434e-003	-1.0744779031e-004
	47	-18857	40716	905351	-4.8108587138e-004	1.3155704301e-003	1.4372822693e-004
	48	7643	-16466	397291	-2.8472201397e-004	4.6317564581e-004	-7.7985312618e-005
	49	10581	-39869	225424	-4.3165713112e-004	1.5596736988e-003	-3.4725952815e-005
	50	46718	14506	36489	2.1284020518e-003	6.9323560675e-004	1.6808779398e-005
	51	-13983	18912	-256676	-7.1709625393e-004	8.4528954719e-004	-6.4682994474e-005
	52	-21336	-4941	52437	-1.5352584451e-003	-3.2147552409e-004	1.7685860948e-005
	53	11189	1695	-67920	9.6573284828e-004	8.4791791687e-005	-3.1958200810e-005
	54	1431	-5935	-117506	1.5235611416e-004	-7.8315404233e-004	-7.8602300082e-005
	Per via statica	: -0	226165	-2476318			
	Totali	: 61516	157332	-1824661			
	Variazione	: 61516	-68833	651657			

Azioni di piano indotte

Solaio	Modo	Fx	Fy	Mt	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
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COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

		[kg]	[kg]	[kgm]			
5	46	-3073	3285	-18585	-3.2062329900e-004	2.9842957794e-004	-1.3263263260e-004
	47	-5078	30689	-365	-8.5073893766e-004	5.1819205321e-003	1.2041302347e-004
	48	12865	-14155	85141	-3.1471483712e-003	2.9850425355e-003	-1.4301738081e-003
	49	-7632	10254	-62530	2.0446797722e-003	-2.3628355216e-003	1.1512965767e-003
	50	8331	3731	1811	2.4924244629e-003	1.1385295865e-003	6.6494645979e-005
	51	6321	-136	-9389	2.1287556839e-003	-1.2303199540e-004	-2.3100063376e-004
	52	-8237	-5494	11280	-3.8923624616e-003	-2.4877309487e-003	3.2448527831e-004
	53	-7560	-6875	-8355	-4.2855169550e-003	-4.0434207440e-003	-4.3892344355e-004
	54	-1055	4872	17086	-7.3768707809e-004	3.7238394456e-003	9.5111947012e-004
	Per via statica	-0	42720	-18275			
	Totali	18586	34531	72745			
	Variazione	18586	-8188	91019			

Risultati angolo di ingresso del sisma: 270.00 [°] + SLV

Modo	Periodo [sec]	Coeff.di Part.	L <sub>i</sub>  / L <sub>1</sub>	Massa Modale	M <sub>mi</sub> /M <sub>mtot</sub>	Sum M <sub>mi</sub> /M <sub>mtot</sub>	R
55	0.505	-4.33606e+002	100	2e+005	52	52	0.2032
56	0.240	-2.56038e+002	59	7e+004	18	70	0.2143
57	0.144	1.72741e+002	40	3e+004	8	78	0.2176
58	0.133	1.56182e+002	36	2e+004	7	85	0.2197
59	0.326	-1.43379e+002	33	2e+004	6	90	0.2143
60	0.074	-1.17899e+002	27	1e+004	4	94	0.2315
61	0.114	-8.70227e+001	20	8e+003	2	96	0.2236
62	0.087	-7.08124e+001	16	5e+003	1	98	0.2290
63	0.047	-5.54891e+001	13	3e+003	1	99	0.2370

Variazioni Matrice delle Masse Solai Direzione d'ingresso 270.00

Solaio	Ingombro in Pianta		Larghezza Apparente	Eccentricità	dxG	dyG	Sx	Sy	dJp
	B [m]	H [m]	[m]	[m]	[m]	[m]	[UTM]x[m]	[UTM]y[m]	[UTM] m²
1	38.520	21.431	38.520	1.926	-1.926	-0.000	0	-180483	347609
2	38.520	21.431	38.520	1.926	-1.926	-0.000	0	-180742	348108
3	38.520	21.431	38.520	1.926	-1.926	-0.000	0	-176211	339382
4	38.520	21.431	38.520	1.926	-1.926	-0.000	0	-140243	270107
5	6.680	9.850	6.680	0.334	-0.334	-0.000	0	-3703	1237

Azioni di piano indotte

Solaio	Modo	F <sub>x</sub> [kg]	F <sub>y</sub> [kg]	M <sub>t</sub> [kgm]	Φ <sub>i,Ux</sub>	Φ <sub>i,Uy</sub>	Φ <sub>i,θz</sub>
1	55	6689	-27060	252261	-8.2567346554e-005	3.0543758417e-004	-1.4830381912e-005
	56	8456	-12012	-238614	-1.6763564164e-004	2.9812141424e-004	3.1150197017e-005
	57	16293	-32694	235600	4.7161436472e-004	-8.8855898658e-004	2.9997232294e-005
	58	5260	-37447	391373	1.6675079486e-004	-1.0700845338e-003	6.0755809881e-005
	59	-20814	-3582	-25482	7.3683913373e-004	1.4006995358e-004	6.8815768652e-006
	60	6397	-52367	385085	-2.5490848087e-004	1.9558175892e-003	-6.7992627252e-005
	61	-28811	-8518	-28542	1.6108835334e-003	5.0533537300e-004	1.5087017968e-005
	62	20487	-4700	-108288	-1.3740725285e-003	4.0620684824e-004	4.7244536887e-005
	63	3543	-8897	-241514	-2.9303413445e-004	9.8329319626e-004	1.2843867243e-004
	Per via statica	0	-82684	1293881			
	Totali	-44080	-93045	786484			
	Variazione	-44080	-10361	-507397			

Azioni di piano indotte

Solaio	Modo	F <sub>x</sub> [kg]	F <sub>y</sub> [kg]	M <sub>t</sub> [kgm]	Φ <sub>i,Ux</sub>	Φ <sub>i,Uy</sub>	Φ <sub>i,θz</sub>
2	55	16238	-74504	732446	-2.0013731269e-004	8.3683667547e-004	-4.2296853352e-005



COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

	56	16584	-21502	-488416	-3.2830062817e-004	5.4335699408e-004	6.1112577793e-005
	57	19401	-39674	248947	5.6076227104e-004	-1.0907588947e-003	2.9057519669e-005
	58	2901	-38035	466525	9.1844614911e-005	-1.0643135946e-003	7.2538145956e-005
	59	-36674	-8191	-28537	1.2964231073e-003	3.0714469741e-004	9.1274534872e-006
	60	-7715	4031	-142053	3.0698271178e-004	-1.0043860462e-004	3.1135767406e-005
	61	-26907	-11716	-44227	1.5022769576e-003	6.9595256924e-004	2.1728451552e-005
	62	8999	-6162	-197109	-6.0272053734e-004	5.6973574347e-004	8.1550044474e-005
	63	-1263	-7991	-127374	1.0434849309e-004	7.9236228133e-004	6.8710615037e-005
	Per via statica	: 0	-154546	1934025			
	Totali	: -52659	-109586	1114017			
	Variazione	: -52659	44960	-820008			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
3	55	26842	-130652	1279820	-3.3934589412e-004	1.5049166703e-003	-7.6237709830e-005
	56	21654	-32908	-812332	-4.3967930153e-004	8.6903164224e-004	1.0428581272e-004
	57	10910	-21938	-5423	3.2343397489e-004	-6.6637035223e-004	-8.2899468278e-006
	58	-5510	-6708	223694	-1.7891048756e-004	-1.4049689530e-004	4.0138664974e-005
	59	-50564	-13210	-37464	1.8334055323e-003	5.0475205048e-004	1.3377680991e-005
	60	-4996	35539	-354148	2.0392012815e-004	-1.3188085394e-003	6.8390701149e-005
	61	-4514	-6810	-57868	2.5850533926e-004	4.3592273461e-004	2.3841867266e-005
	62	-10967	-5585	-158449	7.5341274130e-004	5.1493160844e-004	6.8172702621e-005
	63	-48	8666	170163	4.0672065745e-006	-9.1306857869e-004	-9.2849006944e-005
	Per via statica	: 0	-217555	2972017			
	Totali	: -60938	-144420	1584809			
	Variazione	: -60938	73135	-1387208			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
4	55	27713	-139376	1449615	-4.4022042854e-004	2.0070279311e-003	-1.0744779004e-004
	56	18857	-40716	-905351	-4.8108590300e-004	1.3155704309e-003	1.4372822674e-004
	57	-7643	16466	-397291	-2.8472200777e-004	4.6317561990e-004	-7.7985313260e-005
	58	-10581	39869	-225424	-4.3165715917e-004	1.5596736990e-003	-3.4725952071e-005
	59	-46718	-14506	-36489	2.1284020416e-003	6.9323563636e-004	1.6808779389e-005
	60	13983	-18912	256676	-7.1709627351e-004	8.4528950438e-004	-6.4682995220e-005
	61	21336	4941	-52437	-1.5352584388e-003	-3.2147554950e-004	1.7685861885e-005
	62	-11189	-1695	67920	9.6573285229e-004	8.4791826260e-005	-3.1958200391e-005
	63	-1431	5935	117506	1.5235613695e-004	-7.8315404301e-004	-7.8602299660e-005
	Per via statica	: 0	-226165	4703384			
	Totali	: -61516	-157331	1824661			
	Variazione	: -61516	68833	-2878723			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
5	55	3073	-3285	18585	-3.2062330719e-004	2.9842956880e-004	-1.3263263256e-004
	56	5078	-30689	365	-8.5073898916e-004	5.1819205549e-003	1.2041301488e-004
	57	-12865	14155	-85141	-3.1471483641e-003	2.9850424705e-003	-1.4301738079e-003
	58	7632	-10254	62530	2.0446796984e-003	-2.3628354832e-003	1.1512965664e-003
	59	-8331	-3731	-1811	2.4924244519e-003	1.1385296232e-003	6.6494646330e-005
	60	-6321	136	9389	2.1287559095e-003	-1.2303203080e-004	-2.3100067652e-004
	61	8237	5494	-11280	-3.8923624756e-003	-2.4877309384e-003	3.2448526501e-004
	62	7560	6875	8355	-4.2855170648e-003	-4.0434207081e-003	-4.3892341003e-004
	63	1055	-4872	-17086	-7.3768712227e-004	3.7238394653e-003	9.5111947821e-004

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

	Per via statica	: 0	-42720	438940
	Totali	: -18586	-34531	-72745
	Variazione	: -18586	8189	-511684

Risultati angolo di ingresso del sisma: 270.00 [°] - SLV

Modo	Periodo [sec]	Coeff.di Part.	L <sub>i</sub>  / L <sub>1</sub>	MassaModale	M <sub>mi</sub> /M <sub>mtot</sub>	Sum M <sub>mi</sub> /M <sub>mtot</sub>	R
64	0.444	-4.14308e+002	100	2e+005	47	47	0.2143
65	0.262	-2.52540e+002	61	6e+004	18	65	0.2143
66	0.330	-2.08831e+002	50	4e+004	12	77	0.2143
67	0.119	1.97914e+002	48	4e+004	11	88	0.2224
68	0.114	-1.20572e+002	29	1e+004	4	92	0.2234
69	0.067	-1.01668e+002	25	1e+004	3	95	0.2330
70	0.135	9.35576e+001	23	9e+003	2	97	0.2193
71	0.092	-5.87796e+001	14	3e+003	1	98	0.2281
72	0.060	-5.62808e+001	14	3e+003	1	99	0.2345

Variazioni Matrice delle Masse Solai Direzione d'ingresso 270.00

Solaio	Ingombro in Pianta		Larghezza Apparente	Eccentricità	dxG	dyG	Sx	Sy	dJp
	B [m]	H [m]	[m]	[m]	[m]	[m]	[UTM]x[m]	[UTM]y[m]	[UTM m²]
1	38.520	21.431	38.520	1.926	1.926	0.000	-0	180483	347609
2	38.520	21.431	38.520	1.926	1.926	0.000	-0	180742	348108
3	38.520	21.431	38.520	1.926	1.926	0.000	-0	176211	339382
4	38.520	21.431	38.520	1.926	1.926	0.000	-0	140243	270107
5	6.680	9.850	6.680	0.334	0.334	0.000	-0	3703	1237

Azioni di piano indotte

Solaio	Modo	F <sub>x</sub> [kg]	F <sub>y</sub> [kg]	M <sub>t</sub> [kgm]	Φ <sub>i,Ux</sub>	Φ <sub>i,Uy</sub>	Φ <sub>i,Rz</sub>
1	64	9616	-26663	160659	-1.1780478312e-004	3.5668638110e-004	-1.5592590670e-005
	65	13966	-13270	-270349	-2.8070716031e-004	2.0982544319e-004	2.9535630348e-005
	66	-28729	-8335	-83224	6.9826399642e-004	1.8371901889e-004	9.8007235770e-006
	67	19388	-55422	312187	4.7906043422e-004	-1.4891339630e-003	6.2142414333e-005
	68	-35498	-17007	-122607	1.4332938715e-003	6.4476577573e-004	2.1779085106e-005
	69	19667	-40898	163365	-9.0315170780e-004	2.0066694257e-003	-6.6750765852e-005
	70	11057	-9377	40707	5.8623272199e-004	-5.3317694489e-004	1.8704712710e-005
	71	13934	-1891	-167459	-1.1307034905e-003	-2.4287105285e-007	7.9802652078e-005
	72	-18860	-14264	-5873	1.5544995731e-003	1.1962298397e-003	-1.0687074148e-005
	Per via statica	: 0	-87186	505806			
	Totali	: -45443	-96523	454398			
	Variazione	: -45444	-9338	-51408			

Azioni di piano indotte

Solaio	Modo	F <sub>x</sub> [kg]	F <sub>y</sub> [kg]	M <sub>t</sub> [kgm]	Φ <sub>i,Ux</sub>	Φ <sub>i,Uy</sub>	Φ <sub>i,Rz</sub>
2	64	22208	-71856	499693	-2.7167805362e-004	9.6665877983e-004	-4.5483824018e-005
	65	25630	-22151	-562911	-5.1438340850e-004	3.2739297180e-004	6.0838724140e-005
	66	-50387	-17382	-136130	1.2229220628e-003	3.9390650061e-004	1.4516906974e-005
	67	16071	-59061	371002	3.9653790490e-004	-1.5915085206e-003	6.9692802838e-005
	68	-32939	-22895	-179043	1.3280703427e-003	8.6203159774e-004	3.1703229419e-005
	69	-11320	2934	-85476	5.1909863678e-004	-1.8143564695e-004	2.4347956957e-005
	70	12948	-12092	38475	6.8548694363e-004	-6.7688133495e-004	1.9053389629e-005
	71	9043	-5454	-248815	-7.3275156135e-004	2.2526824736e-004	1.1251730238e-004
	72	10939	1858	-30648	-9.0032404976e-004	-1.8455670906e-004	1.6414051630e-005
	Per via statica	: 0	-162961	434640			
	Totali	: -61881	-117837	-841876			

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

	Variazione	: -61881	45123	-1276517
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Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
3	64	35720	-125490	876211	-4.4822126408e-004	1.7331081557e-003	-8.2271631217e-005
	65	33775	-33351	-933346	-6.9529290438e-004	4.8445132096e-004	1.0493383095e-004
	66	-69489	-27649	-206934	1.7298873865e-003	6.4508340971e-004	2.2438799543e-005
	67	-3954	-16441	152726	-1.0007416499e-004	-4.6880423360e-004	2.7370064812e-005
	68	-4847	-12951	-146573	2.0043613950e-004	4.7877725938e-004	2.9501783414e-005
	69	-15552	29552	-136974	7.3148054171e-004	-1.4929827685e-003	5.3486636288e-005
	70	7351	-8210	-24216	3.9920811946e-004	-4.4071036401e-004	-2.6762646232e-006
	71	-3283	-5911	-160981	2.7286808566e-004	3.5083456643e-004	7.2923660729e-005
	72	14022	11530	-8223	-1.1837307376e-003	-1.0023426959e-003	1.5065937456e-005
	Per via statica	: 0	-229400	874912			
	Totali	: -80389	-145763	-1309115			
	Variazione	: -80389	83637	-2184027			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
4	64	36316	-132534	1032507	-5.7257009652e-004	2.3135017365e-003	-1.1626986180e-004
	65	29736	-40265	-1058389	-7.6913451778e-004	7.6167369300e-004	1.4528519187e-004
	66	-64264	-30246	-220805	2.0101315637e-003	8.9000038963e-004	2.9116992250e-005
	67	-21499	51083	-236614	-6.8367399864e-004	1.7419012418e-003	-6.1004876965e-005
	68	26945	10233	-17901	-1.4001456374e-003	-5.5329705123e-004	1.1191581985e-005
	69	18257	-13610	163168	-1.0789222546e-003	9.2778359961e-004	-6.4092936131e-005
	70	-5003	2750	-113656	-3.4136843650e-004	2.7713911211e-004	-4.6479686787e-005
	71	-8463	-383	104123	8.8379389269e-004	1.6080049758e-004	-6.2711146617e-005
	72	-16170	-6540	45636	1.7151874559e-003	7.6182952344e-004	-3.5372177267e-005
	Per via statica	: 0	-238479	2611149			
	Totali	: -77281	-159497	-1528198			
	Variazione	: -77281	78981	-4139347			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
5	64	4383	-4342	17487	-4.5381905506e-004	4.9721268379e-004	-1.4255115928e-004
	65	6322	-25048	-24768	-1.0738354435e-003	4.1872004626e-003	2.0255978042e-004
	66	-11466	-8076	-8962	2.3553449256e-003	1.6277420009e-003	9.3564083154e-005
	67	6145	-5633	55229	1.2831967922e-003	-1.4659269582e-003	8.6709661847e-004
	68	9321	10754	-12498	-3.1809249517e-003	-3.8029725127e-003	3.9916762886e-004
	69	-4109	-1603	-288	1.5945822154e-003	6.2463580007e-004	-6.9929592779e-006
	70	-9598	8099	-48732	-4.3010224069e-003	4.1887052671e-003	-1.6756958229e-003
	71	1313	5910	17884	-9.0076651463e-004	-3.7880843690e-003	-7.9329166261e-004
	72	3401	129	-5888	-2.3689952364e-003	-1.9023555790e-004	3.0036053029e-004
	Per via statica	: 0	-45046	19270			
	Totali	: -20003	-30767	63417			
	Variazione	: -20003	14279	44147			

Risultati angolo di ingresso del sisma: 0.00 [°] + SLD

Modo	Periodo [sec]	Coeff.di Part.	Li / L1	MassaModale	Mmi/Mmtot	Sum Mmi/Mmtot	R
73	0.331	5.08614e+002	100	3e+005	71	71	0.2541
74	0.246	-1.94768e+002	38	4e+004	10	82	0.2541
75	0.479	-1.48161e+002	29	2e+004	6	88	0.2319
76	0.114	1.37274e+002	27	2e+004	5	93	0.2210
77	0.088	-1.05806e+002	21	1e+004	3	96	0.1943

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

78	0.145	9.03818e+001	18	8e+003	2	98	0.2532
79	0.059	5.49917e+001	11	3e+003	1	99	0.1642
80	0.128	3.75604e+001	7	1e+003	0	100	0.2358
81	0.078	2.64860e+001	5	7e+002	0	100	0.1834

Variazioni Matrice delle Masse Solai Direzione d'ingresso 0.00

Solaio	Ingombro in Pianta		Larghezza Apparente	Eccentricità	dxG	dyG	Sx	Sy	dJp
	B [m]	H [m]	[m]	[m]	[m]	[m]	[UTM]x[m]	[UTM]y[m]	[UTM m²]
1	38.520	21.431	21.431	1.072	0.000	-1.072	100414	0	107599
2	38.520	21.431	21.431	1.072	0.000	-1.072	100558	0	107753
3	38.520	21.431	21.431	1.072	0.000	-1.072	98037	0	105052
4	38.520	21.431	21.431	1.072	0.000	-1.072	78026	0	83609
5	6.680	9.850	9.850	0.492	0.000	-0.492	5461	0	2689

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
1	73	83120	23837	266821	6.8993521815e-004	2.0061595571e-004	8.9809049954e-006
	74	12459	-11088	-212817	-3.0579878170e-004	2.4369886838e-004	2.9840273750e-005
	75	4387	-10103	85794	-1.2235937849e-004	3.1984104538e-004	-1.5411827559e-005
	76	39898	21306	125336	1.4118199837e-003	7.6408621818e-004	1.7779463080e-005
	77	26656	-3400	-157296	-1.4737582594e-003	1.7992550126e-004	5.9040298822e-005
	78	12198	-11022	79469	5.5955932063e-004	-5.2395159991e-004	1.8948595209e-005
	79	13604	8284	-7260	1.6556840269e-003	9.9794980585e-004	-1.5792012818e-005
	80	4305	-10659	93740	4.5835322578e-004	-1.3093279763e-003	6.5723247227e-005
	81	4072	247	60973	8.3003856945e-004	5.5383265896e-005	7.6085602868e-005
	Per via statica	: 103379	0	-1033684			
	Totali	: 104830	36165	421724			
	Variazione	: 1450	36165	1455408			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
2	73	144817	52814	399717	1.2042393994e-003	4.4386175984e-004	1.1974737937e-005
	74	22631	-18586	-450311	-5.6169792429e-004	4.0790577594e-004	6.0685494370e-005
	75	10177	-27691	249455	-2.7462509970e-004	8.7538343567e-004	-4.3940839727e-005
	76	36605	28105	169813	1.2816921564e-003	1.0064741854e-003	2.7249348454e-005
	77	13585	-6810	-295042	-8.1994148995e-004	3.5985231511e-004	9.5319546570e-005
	78	14879	-14015	82063	6.8670323414e-004	-6.6527946240e-004	1.8288246331e-005
	79	-7819	-1880	2017	-9.4835529885e-004	-2.2620142773e-004	7.2865437876e-006
	80	3593	-11208	110015	3.5938099794e-004	-1.3747854769e-003	7.5876401330e-005
	81	-753	2643	49761	-2.3889974206e-004	5.9087051818e-004	6.5872059990e-005
	Per via statica	: 193229	0	-1878299			
	Totali	: 157803	66387	-727799			
	Variazione	: -35426	66387	1150500			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
3	73	199325	85568	563019	1.6993117598e-003	7.3762399468e-004	1.7666570917e-005
	74	28791	-27904	-762082	-7.6028927531e-004	6.2814907519e-004	1.0468841180e-004
	75	16454	-48547	434082	-4.4867576977e-004	1.5741690209e-003	-7.9199308692e-005
	76	4803	15236	144632	1.4424178343e-004	5.5966149155e-004	3.0050135202e-005
	77	-10820	-8280	-242447	5.0777204109e-004	4.4878167060e-004	7.3382072296e-005
	78	9328	-9371	-14315	4.6163958624e-004	-4.5625248697e-004	-6.9424302683e-006
	79	-9854	-6829	15105	-1.2357108050e-003	-8.4264549766e-004	1.8571940101e-005

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

	80	-945	-2919	45630	-1.5576887867e-004	-3.6725420880e-004	3.4417379976e-005
	81	-4798	1678	4282	-1.1138085281e-003	3.8468691521e-004	1.2673700445e-005
	Per via statica	-272009	0	-2670104			
	Totali	-207028	99203	-1045700			
	Variazione	-64981	99203	1624404			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
4	73	184227	93763	555906	1.9715604048e-003	1.0155577439e-003	2.2236221457e-005
	74	24370	-34345	-869815	-8.4479750003e-004	9.7142606470e-004	1.4511763547e-004
	75	16933	-51533	496759	-5.7020815010e-004	2.0995774455e-003	-1.1166803538e-004
	76	-30486	-13441	51810	-1.4309424114e-003	-6.2036765438e-004	2.2327698280e-005
	77	-13853	-3133	104374	9.9318768524e-004	2.1337990684e-004	-4.6492305853e-005
	78	-4380	3068	-164755	-2.0786061140e-004	1.8771583604e-004	-5.6076817287e-005
	79	11330	5023	-12472	1.7799794579e-003	7.7868183174e-004	-2.1851872197e-005
	80	-5142	10144	-65787	-7.5444430027e-004	1.6036173131e-003	-5.4567274880e-005
	81	-106	-2660	-21462	7.2442928379e-006	-7.6652497243e-004	-3.5224674204e-005
	Per via statica	-282774	0	-2778060			
	Totali	-193791	107941	-1134631			
	Variazione	-88983	107941	1643429			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
5	73	33407	22886	33935	2.3317521601e-003	1.6279104783e-003	9.0402532204e-005
	74	6318	-25058	-7916	-1.2468473513e-003	4.6544667220e-003	1.4891512029e-004
	75	1992	-1242	8191	-4.6395416672e-004	3.3231464904e-004	-1.4024183752e-004
	76	-9974	-11474	11792	-3.2043653250e-003	-3.4778581909e-003	3.6808948948e-004
	77	5770	9669	18324	-2.3326043991e-003	-4.3241128281e-003	-5.036778607e-004
	78	-11736	8413	-60088	-3.9340569304e-003	3.3801255904e-003	-1.5863071684e-003
	79	-2390	-650	2526	-2.5683528935e-003	-6.6194736885e-004	2.7409671121e-004
	80	1453	-1539	11365	1.1124638355e-003	-1.5978967949e-003	8.0377666617e-004
	81	2847	-12	-7306	5.9779975114e-003	-2.3363670759e-005	-1.1979423912e-003
	Per via statica	-53413	0	-445849			
	Totali	-38418	-35776	-69168			
	Variazione	-14994	-35776	376681			

Risultati angolo di ingresso del sisma: 0.00 [°] - SLD

Modo	Periodo [sec]	Coeff.di Part.	Li / L1	MassaModale	Mmi/Mmtot	Sum Mmi/Mmtot	R
82	0.325	5.48022e+002	100	3e+005	83	83	0.2541
83	0.114	1.67684e+002	31	3e+004	8	90	0.2213
84	0.254	-1.21387e+002	22	1e+004	4	95	0.2541
85	0.089	-7.37292e+001	13	5e+003	1	96	0.1953
86	0.470	-6.25084e+001	11	4e+003	1	97	0.2360
87	0.061	6.19549e+001	11	4e+003	1	98	0.1655
88	0.082	5.63985e+001	10	3e+003	1	99	0.1883
89	0.135	5.30653e+001	10	3e+003	1	100	0.2428
90	0.041	-1.49960e+001	3	2e+002	0	100	0.1454

Variazioni Matrice delle Masse Solai Direzione d'ingresso 0.00

Solaio	Ingombro in Pianta		Larghezza Apparente	Eccentricità	dxG	dyG	Sx	Sy	dJp
	B [m]	H [m]	[m]	[m]	[m]	[m]	[UTM]x[m]	[UTM]y[m]	[UTM m²]
1	38.520	21.431	21.431	1.072	-0.000	1.072	-100414	-0	107599
2	38.520	21.431	21.431	1.072	-0.000	1.072	-100558	-0	107753

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

3	38.520	21.431	21.431	1.072	-0.000	1.072	-98037	-0	105052
4	38.520	21.431	21.431	1.072	-0.000	1.072	-78026	-0	83609
5	6.680	9.850	9.850	0.492	-0.000	0.492	-5461	-0	2689

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
1	82	95036	14303	41216	7.4952223634e-004	1.1172429496e-004	6.7079184043e-006
	83	56063	11920	27808	1.6597644080e-003	3.4936868969e-004	1.5463247043e-005
	84	4182	-7788	-151772	-1.1404836095e-004	2.7463519206e-004	3.1181293028e-005
	85	12588	-4832	-180561	-8.6970914247e-004	3.6498427876e-004	7.5765020733e-005
	86	722	-4584	33271	-6.9403591329e-005	3.3802890961e-004	-1.5069900525e-005
	87	17146	5329	-35873	1.8070677290e-003	5.6538551137e-004	-1.1144814633e-005
	88	11538	2312	60852	1.2300165616e-003	2.3684847663e-004	4.5019801537e-005
	89	4313	-10617	47304	3.9234134131e-004	-8.9643368247e-004	2.6318485647e-005
	90	2239	-751	4064	-1.1377190514e-003	3.7460428051e-004	-1.9357133385e-005
	Per via statica	103379	0	-192361			
	Totali	117409	21728	-223787			
	Variazione	14030	21728	-31426			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
2	82	168404	30122	35305	1.3240340176e-003	2.3494718739e-004	9.8057524255e-006
	83	53121	16757	67144	1.5774108054e-003	4.9044111225e-004	2.1157844693e-005
	84	8415	-13674	-310691	-2.3001336372e-004	4.8150610221e-004	6.1897624132e-005
	85	7259	-8752	-253524	-4.3180994390e-004	6.6015458725e-004	1.080116287e-004
	86	1821	-12468	100273	-1.8105977467e-004	9.1805431654e-004	-4.3856322967e-005
	87	-9426	-1229	16462	-9.9437385125e-004	-1.3019569248e-004	3.9264027264e-006
	88	2277	4311	79565	2.8527350567e-004	4.4090839992e-004	4.8871923079e-005
	89	5079	-13121	46015	4.5525723110e-004	-1.1061813241e-003	2.5278046753e-005
	90	-4141	1296	-7524	2.1000404843e-003	-6.4547419370e-004	3.4719932005e-005
	Per via statica	193229	0	-305761			
	Totali	179769	38207	-390640			
	Variazione	-13460	38207	-84879			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
3	82	232500	47048	71399	1.8762150100e-003	3.7640162851e-004	1.5040320094e-005
	83	10159	10137	99858	3.2587230669e-004	3.0430598176e-004	1.9498731773e-005
	84	11475	-20813	-511554	-3.0113130536e-004	7.5175796236e-004	1.0576238812e-004
	85	-4771	-7025	-157090	4.4801704709e-004	5.4356867730e-004	7.3605398639e-005
	86	3052	-21801	175752	-3.1547006631e-004	1.6464581580e-003	-7.9297090028e-005
	87	-12903	-4471	30664	-1.3905516018e-003	-4.8581116633e-004	1.0730606693e-005
	88	-10064	1826	41016	-1.0358864941e-003	1.9160309630e-004	1.8601626719e-005
	89	2854	-7548	-17402	2.3901443209e-004	-6.5269272264e-004	-7.2751062550e-006
	90	3557	-922	5290	-1.8466496599e-003	4.7124860965e-004	-2.7277190479e-005
	Per via statica	272009	0	-456437			
	Totali	235654	53839	-556439			
	Variazione	-36355	53839	-100002			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
4	82	214841	51370	108352	2.1805283364e-003	5.1638868982e-004	1.9489845043e-005
	83	-40874	-6510	76115	-1.5343034725e-003	-2.4555518180e-004	6.9805879915e-006

**COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A**

	84	10455	-25065	-572115	-3.1828104433e-004	1.1375024448e-003	1.4577577672e-004
	85	-8063	1785	98882	7.2997264664e-004	-1.7355349456e-004	-5.0239939419e-005
	86	3109	-23155	202754	-4.1501336420e-004	2.1972221024e-003	-1.1199089800e-004
	87	14175	3089	-32356	1.9209072293e-003	4.2167180729e-004	-1.3421949970e-005
	88	-5574	-3555	-31599	-7.6513613669e-004	-4.6864615516e-004	-2.8361685626e-005
	89	-2135	5173	-106645	-3.0457978049e-004	5.6210228761e-004	-6.7781268166e-005
	90	-1471	207	-1948	9.5822156229e-004	-1.3264687902e-004	1.2955435969e-005
	Per via statica	: 282774	0	-476785			
	Totali	: 221334	58113	-618379			
	Variazione	: -61440	58113	-141594			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
5	82	37919	15018	-6044	2.5331317601e-003	9.9142558082e-004	6.0623484340e-005
	83	-17417	-9193	22996	-4.1865022957e-003	-2.2773499593e-003	2.5966561730e-004
	84	2206	-15966	-9794	-5.6455751763e-004	4.7585086442e-003	1.8867171815e-004
	85	3402	6312	17503	-2.6106277528e-003	-4.0296835260e-003	-8.9018720928e-004
	86	343	-699	2821	-2.8020345051e-004	4.3582487267e-004	-1.3547204984e-004
	87	-2760	-263	3483	-2.4063195137e-003	-2.3601983684e-004	1.3845268300e-004
	88	7699	-435	-16662	6.2658831188e-003	-3.7626301259e-004	-8.1003473759e-004
	89	-3404	5758	-28584	-3.2019723642e-003	4.1084804237e-003	-1.5698596419e-003
	90	137	21	-60	-5.7786381149e-004	-8.7053807960e-005	-2.3893534036e-006
	Per via statica	: 53413	0	-11166			
	Totali	: 43239	-22932	-37690			
	Variazione	: -10173	-22932	-26523			

Risultati angolo di ingresso del sisma: 180.00 [°] + SLD

Modo	Periodo [sec]	Coeff.di Part.	Li / L1	MassaModale	Mmi/Mmtot	Sum Mmi/Mmtot	R
91	0.325	-5.48022e+002	100	3e+005	83	83	0.2541
92	0.114	-1.67683e+002	31	3e+004	8	90	0.2213
93	0.254	1.21387e+002	22	1e+004	4	95	0.2541
94	0.089	7.37293e+001	13	5e+003	1	96	0.1953
95	0.470	6.25086e+001	11	4e+003	1	97	0.2360
96	0.061	-6.19549e+001	11	4e+003	1	98	0.1655
97	0.082	-5.63985e+001	10	3e+003	1	99	0.1883
98	0.135	-5.30653e+001	10	3e+003	1	100	0.2428
99	0.041	1.49960e+001	3	2e+002	0	100	0.1454

Variazioni Matrice delle Masse Solai Direzione d'ingresso 180.00

Solaio	Ingombro in Pianta		Larghezza Apparente	Eccentricità	dxG	dyG	Sx	Sy	dJp
	B [m]	H [m]	[m]	[m]	[m]	[m]	[UTM]x[m]	[UTM]y[m]	[UTM m²]
1	38.520	21.431	21.431	1.072	-0.000	1.072	-100414	-0	107599
2	38.520	21.431	21.431	1.072	-0.000	1.072	-100558	-0	107753
3	38.520	21.431	21.431	1.072	-0.000	1.072	-98037	-0	105052
4	38.520	21.431	21.431	1.072	-0.000	1.072	-78026	-0	83609
5	6.680	9.850	9.850	0.492	-0.000	0.492	-5461	-0	2689

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
1	91	-95036	-14303	-41216	7.4952224000e-004	1.1172428648e-004	6.7079180798e-006
	92	-56063	-11920	-27808	1.6597644253e-003	3.4936864820e-004	1.5463246937e-005
	93	-4182	7788	151772	-1.1404834175e-004	2.7463519598e-004	3.1181293176e-005
	94	-12588	4832	180561	-8.6970911440e-004	3.6498429686e-004	7.5765020582e-005

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

	95	-722	4584	-33271	-6.9403586588e-005	3.3802890914e-004	-1.5069900486e-005
	96	-17146	-5329	35873	1.8070677423e-003	5.6538544962e-004	-1.1144814455e-005
	97	-11538	-2312	-60852	1.2300165708e-003	2.3684848420e-004	4.5019801874e-005
	98	-4313	10618	-47304	3.9234131096e-004	-8.9643368133e-004	2.6318484815e-005
	99	-2239	751	-4064	-1.1377190581e-003	3.7460427397e-004	-1.9357132040e-005
	Per via statica	-103379	-0	1033684			
	Totali	-117409	-21728	223787			
	Variazione	-14030	-21728	-809897			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{Lx}$	$\Phi_{Ly}$	$\Phi_{Lz}$
2	91	-168404	-30122	-35305	1.3240340253e-003	2.3494716817e-004	9.8057519802e-006
	92	-53121	-16757	-67144	1.5774108245e-003	4.9044106153e-004	2.1157844285e-005
	93	-8415	13674	310692	-2.3001333046e-004	4.8150611145e-004	6.1897624269e-005
	94	-7259	8752	253524	-4.3180991099e-004	6.6015460966e-004	1.0801116239e-004
	95	-1821	12468	-100273	-1.8105976599e-004	9.1805431518e-004	-4.3856322876e-005
	96	9426	1229	-16462	-9.9437385743e-004	-1.3019568722e-004	3.9264015059e-006
	97	-2277	-4311	-79565	2.8527352159e-004	4.4090840665e-004	4.8871924342e-005
	98	-5079	13121	-46015	4.5525719897e-004	-1.1061813269e-003	2.5278045606e-005
	99	4141	-1296	7524	2.1000404960e-003	-6.4547417632e-004	3.4719930710e-005
	Per via statica	-193229	-0	1878299			
	Totali	-179768	-38207	390640			
	Variazione	13461	-38207	-1487659			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{Lx}$	$\Phi_{Ly}$	$\Phi_{Lz}$
3	91	-232500	-47048	-71399	1.8762150215e-003	3.7640159570e-004	1.5040319434e-005
	92	-10159	-10137	-99858	3.2587231574e-004	3.0430595847e-004	1.9498731014e-005
	93	-11475	20813	511555	-3.0113125902e-004	7.5175797814e-004	1.0576238825e-004
	94	4771	7025	157090	4.4801706923e-004	5.4356868494e-004	7.3605398194e-005
	95	-3052	21801	-175752	-3.1547005373e-004	1.6464581554e-003	-7.9297089869e-005
	96	12903	4471	-30664	-1.3905516137e-003	-4.8581111837e-004	1.0730605796e-005
	97	10064	-1826	-41016	-1.0358864834e-003	1.9160310463e-004	1.8601628028e-005
	98	-2854	7548	17402	2.3901441871e-004	-6.5269273202e-004	-7.2751073294e-006
	99	-3557	922	-5290	-1.8466496691e-003	4.7124859740e-004	-2.7277189647e-005
	Per via statica	-272009	-0	2670104			
	Totali	-235654	-53839	556440			
	Variazione	36355	-53839	-2113664			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{Lx}$	$\Phi_{Ly}$	$\Phi_{Lz}$
4	91	-214841	-51370	-108352	2.1805283499e-003	5.1638864422e-004	1.9489844224e-005
	92	40874	6510	-76115	-1.5343034838e-003	-2.4555514096e-004	6.9805868301e-006
	93	-10455	25065	572116	-3.1828099113e-004	1.1375024668e-003	1.4577577680e-004
	94	8063	-1785	-98882	7.2997263708e-004	-1.7355351728e-004	-5.0239938847e-005
	95	-3109	23155	-202755	-4.1501334941e-004	2.1972220990e-003	-1.1199089777e-004
	96	-14175	-3089	32356	1.9209072438e-003	4.2167177371e-004	-1.3421947810e-005
	97	5574	3555	31599	-7.6513615030e-004	-4.6864614653e-004	-2.8361686816e-005
	98	2135	-5173	106645	-3.0457976047e-004	5.6210227106e-004	-6.7781268563e-005
	99	1471	-207	1948	9.5822156637e-004	-1.3264688099e-004	1.2955435214e-005
	Per via statica	-282774	-0	2778060			
	Totali	-221334	-58113	618380			
	Variazione	61440	-58113	-2159681			



COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Azioni di piano indotte

Solaio	Modo	F <sub>x</sub> [kg]	F <sub>y</sub> [kg]	Mt [kgm]	Φ <sub>i,Ux</sub>	Φ <sub>i,Uy</sub>	Φ <sub>i,θz</sub>
5	91	-37919	-15018	6044	2.5331317745e-003	9.9142550855e-004	6.0623481668e-005
	92	17417	9193	-22996	-4.1865023567e-003	-2.2773498305e-003	2.5966560743e-004
	93	-2206	15966	9794	-5.6455745698e-004	4.7585086806e-003	1.8867171602e-004
	94	-3402	-6312	-17503	-2.6106279319e-003	-4.0296835273e-003	-8.9018721200e-004
	95	-343	699	-2821	-2.8020343427e-004	4.3582487290e-004	-1.3547204950e-004
	96	2760	263	-3483	-2.4063195274e-003	-2.3601982004e-004	1.3845267696e-004
	97	-7699	435	16662	6.2658830696e-003	-3.7626314773e-004	-8.1003473417e-004
	98	3404	-5758	28584	-3.2019722907e-003	4.1084804471e-003	-1.5698596510e-003
	99	-137	-21	60	-5.7786381194e-004	-8.7053785789e-005	-2.3893497950e-006
	Per via statica	-53413	-0	445849			
	Totali	-43239	22932	37690			
	Variazione	10173	22932	-408159			

Risultati angolo di ingresso del sisma: 180.00 [°] - SLD

Modo	Periodo [sec]	Coeff.di Part.	L <sub>i</sub>  / L <sub>1</sub>	MassaModale	M <sub>mi</sub> /M <sub>mtot</sub>	Sum M <sub>mi</sub> /M <sub>mtot</sub>	R
100	0.331	-5.08614e+002	100	3e+005	71	71	0.2541
101	0.246	1.94768e+002	38	4e+004	10	82	0.2541
102	0.479	1.48161e+002	29	2e+004	6	88	0.2319
103	0.114	-1.37274e+002	27	2e+004	5	93	0.2210
104	0.088	1.05806e+002	21	1e+004	3	96	0.1943
105	0.145	-9.03819e+001	18	8e+003	2	98	0.2532
106	0.059	-5.49917e+001	11	3e+003	1	99	0.1642
107	0.128	-3.75605e+001	7	1e+003	0	100	0.2358
108	0.078	-2.64860e+001	5	7e+002	0	100	0.1834

Variazioni Matrice delle Masse Solai Direzione d'ingresso 180.00

Solaio	Ingombro in Pianta		Larghezza Apparente	Eccentricità	dxG	dyG	S <sub>x</sub>	S <sub>y</sub>	dJp
	B [m]	H [m]	[m]	[m]	[m]	[m]	[UTM]x[m]	[UTM]y[m]	[UTM m²]
1	38.520	21.431	21.431	1.072	0.000	-1.072	100414	0	107599
2	38.520	21.431	21.431	1.072	0.000	-1.072	100558	0	107753
3	38.520	21.431	21.431	1.072	0.000	-1.072	98037	0	105052
4	38.520	21.431	21.431	1.072	0.000	-1.072	78026	0	83609
5	6.680	9.850	9.850	0.492	0.000	-0.492	5461	0	2689

Azioni di piano indotte

Solaio	Modo	F <sub>x</sub> [kg]	F <sub>y</sub> [kg]	Mt [kgm]	Φ <sub>i,Ux</sub>	Φ <sub>i,Uy</sub>	Φ <sub>i,θz</sub>
1	100	-83120	-23837	-266821	6.8993521156e-004	2.0061596278e-004	8.9809051714e-006
	101	-12459	11088	212817	-3.0579879757e-004	2.4369886376e-004	2.9840273579e-005
	102	-4387	10103	-85794	-1.2235938328e-004	3.1984104463e-004	-1.5411827612e-005
	103	-39898	-21306	-125336	1.4118199554e-003	7.6408624991e-004	1.7779462963e-005
	104	-26656	3400	157296	-1.4737582857e-003	1.7992548231e-004	5.9040298491e-005
	105	-12198	11022	-79469	5.5955933602e-004	-5.2395159538e-004	1.8948595941e-005
	106	-13604	-8284	7260	1.6556840081e-003	9.9794984910e-004	-1.5792012314e-005
	107	-4305	10659	-93741	4.5835324355e-004	-1.3093279667e-003	6.5723247138e-005
	108	-4072	-247	-60973	8.3003855644e-004	5.5383243492e-005	7.6085603461e-005
	Per via statica	-103379	-0	192361			
	Totali	-104830	-36165	-421724			
	Variazione	-1450	-36165	-614085			

Azioni di piano indotte

Solaio	Modo	F <sub>x</sub> [kg]	F <sub>y</sub> [kg]	Mt [kgm]	Φ <sub>i,Ux</sub>	Φ <sub>i,Uy</sub>	Φ <sub>i,θz</sub>
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COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

2	100	-144817	-52814	-399717	1.2042393866e-003	4.4386177638e-004	1.1974738107e-005
	101	-22631	18586	450312	-5.6169795127e-004	4.0790576461e-004	6.0685494234e-005
	102	-10177	27691	-249455	-2.7462510828e-004	8.7538343411e-004	-4.3940839810e-005
	103	-36605	-28105	-169813	1.2816921263e-003	1.0064742226e-003	2.7249348517e-005
	104	-13585	6810	295042	-8.1994151247e-004	3.5985228782e-004	9.5319546728e-005
	105	-14879	14015	-82063	6.8670325048e-004	-6.6527945302e-004	1.8288247391e-005
	106	7819	1880	-2017	-9.4835529500e-004	-2.2620143018e-004	7.2865447640e-006
	107	-3593	11208	-110015	3.5938100954e-004	-1.3747854663e-003	7.5876401231e-005
	108	753	-2643	-49761	-2.3889976845e-004	5.9087050740e-004	6.5872059386e-005
	Per via statica	-193229	-0	305761			
	Totali	-157803	-66387	727799			
	Variazione	35426	-66387	422038			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
3	100	-199325	-85568	-563019	1.6993117410e-003	7.3762402324e-004	1.7666571125e-005
	101	-28791	27904	762083	-7.6028931235e-004	6.2814905546e-004	1.0468841171e-004
	102	-16454	48547	-434083	-4.4867578209e-004	1.5741690184e-003	-7.9199308821e-005
	103	-4803	-15236	-144632	1.4424176997e-004	5.5966150583e-004	3.0050135566e-005
	104	10820	8280	242448	5.0777202955e-004	4.4878165919e-004	7.3382072685e-005
	105	-9328	9371	14315	4.6163959305e-004	-4.5625247469e-004	-6.9424292142e-006
	106	9854	6829	-15105	-1.2357107901e-003	-8.4264553199e-004	1.8571940390e-005
	107	945	2919	-45630	-1.5576888795e-004	-3.6725420654e-004	3.4417380047e-005
	108	4798	-1678	-4282	-1.1138085398e-003	3.8468691565e-004	1.2673699388e-005
	Per via statica	-272009	-0	456437			
	Totali	-207028	-99203	1045700			
	Variazione	64981	-99203	589263			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
4	100	-184227	-93763	-555906	1.9715603826e-003	1.0155577833e-003	2.2236221671e-005
	101	-24370	34345	869816	-8.4479754214e-004	9.7142603718e-004	1.4511763550e-004
	102	-16933	51534	-496760	-5.7020816451e-004	2.0995774421e-003	-1.1166803555e-004
	103	30486	13441	-51810	-1.4309423949e-003	-6.2036769014e-004	2.2327699139e-005
	104	13853	3133	-104374	9.9318768588e-004	2.1337993379e-004	-4.6492306609e-005
	105	4380	-3068	164755	-2.0786062180e-004	1.8771584696e-004	-5.6076816795e-005
	106	-11330	-5023	12472	1.7799794451e-003	7.7868185461e-004	-2.1851873814e-005
	107	5142	-10144	65787	-7.5444432946e-004	1.6036172993e-003	-5.4567274258e-005
	108	106	2660	21462	7.2443259832e-006	-7.6652497357e-004	-3.5224673179e-005
	Per via statica	-282774	-0	476785			
	Totali	-193791	-107941	1134632			
	Variazione	88983	-107941	657847			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
5	100	-33407	-22886	-33935	2.3317521363e-003	1.6279105304e-003	9.0402533752e-005
	101	-6318	25058	7916	-1.2468474009e-003	4.6544666843e-003	1.4891512154e-004
	102	-1992	1242	-8191	-4.6395418302e-004	3.3231464190e-004	-1.4024183804e-004
	103	9974	11474	-11792	-3.2043652548e-003	-3.4778582712e-003	3.6808949217e-004
	104	-5770	-9669	-18324	-2.3326042844e-003	-4.3241128274e-003	-5.0336778120e-004
	105	11736	-8413	60088	-3.9340569638e-003	3.3801255580e-003	-1.5863071605e-003
	106	2390	650	-2526	-2.5683528910e-003	-6.6194738676e-004	2.7409671797e-004
	107	-1453	1539	-11365	1.1124638370e-003	-1.5978968392e-003	8.0377668079e-004

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

	108	-2847	12	7306	5.9779975233e-003	-2.3363570567e-005	-1.1979423958e-003
	Per via statica	-53413	-0	11166			
	Totali	-38418	35776	69168			
	Variazione	14994	35776	58001			

Risultati angolo di ingresso del sisma: 90.00 [°] + SLD

Modo	Periodo [sec]	Coeff.di Part.	L <sub>i</sub>  / L <sub>1</sub>	MassaModale	M <sub>mi</sub> /M <sub>mtot</sub>	Sum M <sub>mi</sub> /M <sub>mtot</sub>	R
109	0.444	4.14308e+002	100	2e+005	47	47	0.2501
110	0.262	2.52540e+002	61	6e+004	18	65	0.2541
111	0.330	2.08831e+002	50	4e+004	12	77	0.2541
112	0.119	-1.97914e+002	48	4e+004	11	88	0.2268
113	0.114	1.20572e+002	29	1e+004	4	92	0.2216
114	0.067	1.01669e+002	25	1e+004	3	95	0.1722
115	0.135	-9.35577e+001	23	9e+003	2	97	0.2430
116	0.092	5.87797e+001	14	3e+003	1	98	0.1977
117	0.060	5.62808e+001	14	3e+003	1	99	0.1644

Variazioni Matrice delle Masse Solai Direzione d'ingresso 90.00

Solaio	Ingombro in Pianta		Larghezza Apparente	Eccentricità	dxG	dyG	Sx	Sy	dJp
	B [m]	H [m]	[m]	[m]	[m]	[m]	[UTM]x[m]	[UTM]y[m]	[UTM m²]
1	38.520	21.431	38.520	1.926	1.926	0.000	-0	180483	347609
2	38.520	21.431	38.520	1.926	1.926	0.000	-0	180742	348108
3	38.520	21.431	38.520	1.926	1.926	0.000	-0	176211	339382
4	38.520	21.431	38.520	1.926	1.926	0.000	-0	140243	270107
5	6.680	9.850	6.680	0.334	0.334	0.000	-0	3703	1237

Azioni di piano indotte

Solaio	Modo	F <sub>x</sub> [kg]	F <sub>y</sub> [kg]	M <sub>t</sub> [kgm]	Φ <sub>i,Ux</sub>	Φ <sub>i,Uy</sub>	Φ <sub>i,θz</sub>
1	109	-11222	31118	-187499	-1.1780478729e-004	3.5668637780e-004	-1.5592590700e-005
	110	-16561	15735	320564	-2.8070717116e-004	2.0982544290e-004	2.9535630310e-005
	111	34065	9884	98682	6.9826399186e-004	1.8371902491e-004	9.8007236250e-006
	112	-19767	56505	-318291	4.7906050100e-004	-1.4891339215e-003	6.2142415775e-005
	113	35203	16866	121588	1.4332938375e-003	6.4476585896e-004	2.1779082302e-005
	114	-14537	30231	-120754	-9.0315169657e-004	2.0066694122e-003	-6.6750766681e-005
	115	-12253	10391	-45109	5.8623271838e-004	-5.3317694262e-004	1.8704712618e-005
	116	-12081	1640	145192	-1.1307035378e-003	-2.4286473719e-007	7.9802650726e-005
	117	13225	10002	4118	1.5544995660e-003	1.1962298532e-003	-1.0687073974e-005
	Per via statica	-0	101751	-1592256			
	Totali	-46985	93686	-485949			
	Variazione	-46985	-8064	1106307			

Azioni di piano indotte

Solaio	Modo	F <sub>x</sub> [kg]	F <sub>y</sub> [kg]	M <sub>t</sub> [kgm]	Φ <sub>i,Ux</sub>	Φ <sub>i,Uy</sub>	Φ <sub>i,θz</sub>
2	109	-25918	83861	-583172	-2.7167806069e-004	9.6665877192e-004	-4.5483823975e-005
	110	-30390	26265	667466	-5.1438342742e-004	3.2739297095e-004	6.0838724117e-005
	111	59746	20610	161415	1.2229220537e-003	3.9390651548e-004	1.4516906877e-005
	112	-16385	60216	-378256	3.9653796533e-004	-1.5915084667e-003	6.9692804997e-005
	113	32665	22704	177555	1.3280703126e-003	8.6203168820e-004	3.1703226357e-005
	114	8368	-2169	63181	5.1909864028e-004	-1.8143564352e-004	2.4347956415e-005
	115	-14348	13399	-42635	6.8548694159e-004	-6.7688133260e-004	1.9053389376e-005
	116	-7840	4729	215729	-7.3275158626e-004	2.2526825013e-004	1.1251730128e-004
	117	-7670	-1303	21491	-9.0032405000e-004	-1.8455671290e-004	1.6414051761e-005
	Per via statica	-0	190185	-2380020			

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

	Totali	: 70798	128625	956977
	Variazione	: 70798	-61560	3336997

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
3	109	-41688	146454	-1022591	-4.4822127394e-004	1.7331081421e-003	-8.2271631101e-005
	110	-40049	39545	1106707	-6.9529293057e-004	4.8445131974e-004	1.0493383097e-004
	111	82395	32784	245370	1.7298873728e-003	6.4508343583e-004	2.2438799283e-005
	112	4031	16762	-155712	-1.0007416035e-004	-4.6880420537e-004	2.7370066893e-005
	113	4806	12843	145355	2.0043613960e-004	4.7877728793e-004	2.9501782414e-005
	114	11495	-21844	101246	7.3148053382e-004	-1.4929827540e-003	5.3486636634e-005
	115	-8146	9098	26834	3.9920812249e-004	-4.4071036550e-004	-2.6762652027e-006
	116	2846	5125	139575	2.7286809924e-004	3.5083456943e-004	7.2923660546e-005
	117	-9832	-8085	5766	-1.1837307323e-003	-1.0023427071e-003	1.5065937702e-005
	Per via statica	: -0	267724	-3657377			
	Totali	: 93658	166394	1528203			
	Variazione	: 93658	-101330	5185581			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
4	109	-42383	154675	-1204998	-5.7257010781e-004	2.3135017182e-003	-1.1626986161e-004
	110	-35259	47744	1254976	-7.6913454800e-004	7.6167369199e-004	1.4528519192e-004
	111	76200	35864	261817	2.0101315472e-003	8.9000042536e-004	2.9116991803e-005
	112	21920	-52081	241240	-6.8367407210e-004	1.7419012066e-003	-6.1004875935e-005
	113	-26721	-10148	17752	-1.4001456014e-003	-5.5329714495e-004	1.1191585283e-005
	114	-13495	10060	-120608	-1.0789222614e-003	9.2778358584e-004	-6.4092935376e-005
	115	5544	-3047	125946	-3.4136842560e-004	2.7713910259e-004	-4.6479687684e-005
	116	7338	332	-90277	8.8379391250e-004	1.6080050194e-004	-6.2711146337e-005
	117	11339	4586	-32000	1.7151874532e-003	7.6182953722e-004	-3.5372177506e-005
	Per via statica	: -0	278319	-5788005			
	Totali	: 89007	182730	1781289			
	Variazione	: 89007	-95590	7569294			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
5	109	-5115	5068	-20408	-4.5381906872e-004	4.9721266625e-004	-1.4255115958e-004
	110	-7496	29701	29369	-1.0738354877e-003	4.1872004785e-003	2.0255977556e-004
	111	13596	9576	10627	2.3553449078e-003	1.6277420363e-003	9.3564082801e-005
	112	-6265	5743	-56309	1.2831966299e-003	-1.4659271365e-003	8.6709662941e-004
	113	-9244	-10664	12394	-3.1809250280e-003	-3.8029724261e-003	3.9916757521e-004
	114	3037	1185	213	1.5945822777e-003	6.2463580579e-004	-6.9929697401e-006
	115	10636	-8974	54001	-4.3010223660e-003	4.1887052089e-003	-1.6756958173e-003
	116	-1139	-5124	-15506	-9.0076659588e-004	-3.7880843952e-003	-7.9329165346e-004
	117	-2385	-91	4128	-2.3689952340e-003	-1.9023557701e-004	3.0036052793e-004
	Per via statica	: -0	52571	-540161			
	Totali	: 21609	35549	68716			
	Variazione	: 21609	-17022	608877			

Risultati angolo di ingresso del sisma: 90.00 [°] - SLD

Modo	Periodo [sec]	Coeff.di Part.	Li / L1	MassaModale	Mmi/Mmtot	Sum Mmi/Mmtot	R
118	0.505	4.33606e+002	100	2e+005	52	52	0.2198
119	0.240	2.56038e+002	59	7e+004	18	70	0.2541
120	0.144	-1.72741e+002	40	3e+004	8	78	0.2520
121	0.133	-1.56182e+002	36	2e+004	7	85	0.2409

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

122	0.326	1.43379e+002	33	2e+004	6	90	0.2541
123	0.074	1.17899e+002	27	1e+004	4	94	0.1797
124	0.114	8.70226e+001	20	8e+003	2	96	0.2209
125	0.087	7.08124e+001	16	5e+003	1	98	0.1927
126	0.047	5.54891e+001	13	3e+003	1	99	0.1516

Variazioni Matrice delle Masse Solai Direzione d'ingresso 90.00

Solaio	Ingombro in Pianta		Larghezza Apparente	Eccentricità	dxG	dyG	Sx	Sy	dJp
	B [m]	H [m]	[m]	[m]	[m]	[m]	[UTM]x[m]	[UTM]y[m]	[UTM m²]
1	38.520	21.431	38.520	1.926	-1.926	-0.000	0	-180483	347609
2	38.520	21.431	38.520	1.926	-1.926	-0.000	0	-180742	348108
3	38.520	21.431	38.520	1.926	-1.926	-0.000	0	-176211	339382
4	38.520	21.431	38.520	1.926	-1.926	-0.000	0	-140243	270107
5	6.680	9.850	6.680	0.334	-0.334	-0.000	0	-3703	1237

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
1	118	-7234	29262	-272790	-8.2567344055e-005	3.0543758632e-004	-1.4830381919e-005
	119	-10027	14243	282935	-1.6763563065e-004	2.9812141469e-004	3.1150197072e-005
	120	-18872	37869	-272895	4.7161435954e-004	-8.8855899728e-004	2.9997232781e-005
	121	-5767	41057	-429107	1.6675077821e-004	-1.0700845419e-003	6.0755809525e-005
	122	24680	4248	30215	7.3683913637e-004	1.4006994850e-004	6.8815767450e-006
	123	-4966	40653	-298943	-2.5490850575e-004	1.9558175950e-003	-6.7992630117e-005
	124	28473	8418	28207	1.6108835444e-003	5.0533534748e-004	1.5087018372e-005
	125	-17232	3953	91083	-1.3740724860e-003	4.0620684916e-004	4.7244540060e-005
	126	-2265	5689	154442	-2.9303409146e-004	9.8329318320e-004	1.2843867283e-004
	Per via statica	-0	89412	-518726			
	Totali	-45466	93329	-802965			
	Variazione	-45466	3917	-284239			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
2	118	-17559	80567	-792054	-2.0013730846e-004	8.3683668078e-004	-4.2296853439e-005
	119	-19665	25496	579135	-3.2830060885e-004	5.4335699469e-004	6.1112577879e-005
	120	-22472	45954	-288354	5.6076226373e-004	-1.0907589051e-003	2.9057520376e-005
	121	-3181	41702	-511505	9.1844601769e-005	-1.0643136050e-003	7.2538145385e-005
	122	43486	9713	33837	1.2964231129e-003	3.0714468515e-004	9.1274534042e-006
	123	5989	-3129	110277	3.0698270847e-004	-1.0043863778e-004	3.1135765069e-005
	124	26591	11578	43708	1.5022769692e-003	6.9595253947e-004	2.1728451966e-005
	125	-7570	5183	165793	-6.0272052566e-004	5.6973577162e-004	8.1550047022e-005
	126	808	5110	81453	1.0434848235e-004	7.9236228564e-004	6.8710614686e-005
	Per via statica	-0	167123	-445742			
	Totali	-59105	120770	-1220119			
	Variazione	-59105	-46353	-774376			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
3	118	-29026	141284	-1383974	-3.3934588827e-004	1.5049166795e-003	-7.6237710007e-005
	119	-25676	39020	963215	-4.3967927455e-004	8.6903164248e-004	1.0428581285e-004
	120	-12636	25411	6282	3.2343396758e-004	-6.6637035034e-004	-8.2899460275e-006
	121	6041	7355	-245261	-1.7891048331e-004	-1.4049690224e-004	4.0138664261e-005
	122	59956	15664	44423	1.8334055408e-003	5.0475202907e-004	1.3377680937e-005
	123	3879	-27589	274926	2.0392015896e-004	-1.3188085713e-003	6.8390700611e-005

**COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A**

	124	4461	6730	57189	2.5850534376e-004	4.3592272255e-004	2.3841867264e-005
	125	9225	4697	133276	7.5341271906e-004	5.1493163054e-004	6.8172703272e-005
	126	31	-5542	-108815	4.0672044260e-006	-9.1306857550e-004	-9.2849006421e-005
	Per via statica	-0	235260	-897260			
	Totali	-70115	155338	-1724456			
	Variazione	-70115	-79922	-827197			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,\theta z}$
4	118	-29969	150719	-1567587	-4.4022042188e-004	2.0070279434e-003	-1.0744779031e-004
	119	-22360	48278	1073512	-4.8108587138e-004	1.3155704301e-003	1.4372822693e-004
	120	8853	-19073	460180	-2.8472201397e-004	4.6317564581e-004	-7.7985312618e-005
	121	11601	-43713	247158	-4.3165713112e-004	1.5596736988e-003	-3.4725952815e-005
	122	55396	17200	43266	2.1284020518e-003	6.9323560675e-004	1.6808779398e-005
	123	-10855	14682	-199258	-7.1709625393e-004	8.4528954719e-004	-6.4682994474e-005
	124	-21086	-4883	51822	-1.5352584451e-003	-3.2147552409e-004	1.7685860948e-005
	125	9411	1426	-57129	9.6573284828e-004	8.4791791687e-005	-3.1958200810e-005
	126	915	-3795	-75143	1.5235611416e-004	-7.8315404233e-004	-7.8602300082e-005
	Per via statica	-0	244570	-2677844			
	Totali	-69334	171405	-2018953			
	Variazione	-69334	-73165	658892			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,\theta z}$
5	118	-3324	3553	-20098	-3.2062329900e-004	2.9842957794e-004	-1.3263263260e-004
	119	-6021	36389	-432	-8.5073893766e-004	5.1819205321e-003	1.2041302347e-004
	120	14901	-16395	98618	-3.1471483712e-003	2.9850425355e-003	-1.4301738081e-003
	121	-8367	11243	-68559	2.0446797722e-003	-2.3628355216e-003	1.1512965767e-003
	122	9878	4424	2147	2.4924244629e-003	1.1385295865e-003	6.6494645979e-005
	123	4907	-106	-7289	2.1287556839e-003	-1.2303199540e-004	-2.3100063376e-004
	124	-8140	-5429	11148	-3.8923624616e-003	-2.4877309487e-003	3.2448527831e-004
	125	-6359	-5782	-7027	-4.2855169550e-003	-4.0434207440e-003	-4.3892344355e-004
	126	-675	3116	10926	-7.3768707809e-004	3.7238394456e-003	9.5111947012e-004
	Per via statica	-0	46196	-19762			
	Totali	-19709	39961	81167			
	Variazione	-19709	-6235	100930			

Risultati angolo di ingresso del sisma: 270.00 [°] + SLD

Modo	Periodo [sec]	Coeff.di Part.	$ L_i / L_1 $	MassaModale	Mmi/Mmtot	Sum Mmi/Mmtot	R
127	0.505	-4.33606e+002	100	2e+005	52	52	0.2198
128	0.240	-2.56038e+002	59	7e+004	18	70	0.2541
129	0.144	1.72741e+002	40	3e+004	8	78	0.2520
130	0.133	1.56182e+002	36	2e+004	7	85	0.2409
131	0.326	-1.43379e+002	33	2e+004	6	90	0.2541
132	0.074	-1.17899e+002	27	1e+004	4	94	0.1797
133	0.114	-8.70227e+001	20	8e+003	2	96	0.2209
134	0.087	-7.08124e+001	16	5e+003	1	98	0.1927
135	0.047	-5.54891e+001	13	3e+003	1	99	0.1516

Variazioni Matrice delle Masse Solai Direzione d'ingresso 270.00

Solaio	Ingombro in Pianta	Larghezza Apparente	Eccentricità	dxG	dyG	Sx	Sy	dJp
	B [m]	H [m]	[m]	[m]	[m]	[UTM]x[m]	[UTM]y[m]	[UTM m²]
1	38.520	21.431	38.520	1.926	-1.926	-0.000	-180483	347609

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

2	38.520	21.431	38.520	1.926	-1.926	-0.000	0	-180742	348108
3	38.520	21.431	38.520	1.926	-1.926	-0.000	0	-176211	339382
4	38.520	21.431	38.520	1.926	-1.926	-0.000	0	-140243	270107
5	6.680	9.850	6.680	0.334	-0.334	-0.000	0	-3703	1237

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
1	127	7234	-29262	272790	-8.2567346554e-005	3.0543758417e-004	-1.4830381912e-005
	128	10027	-14243	-282935	-1.6763564164e-004	2.9812141424e-004	3.1150197017e-005
	129	18872	-37869	272895	4.7161436472e-004	-8.8855898658e-004	2.9997232294e-005
	130	5767	-41057	429107	1.6675079486e-004	-1.0700845338e-003	6.0755809881e-005
	131	-24680	-4248	-30215	7.3683913373e-004	1.4006995358e-004	6.8815768652e-006
	132	4966	-40653	298943	-2.5490848087e-004	1.9558175892e-003	-6.7992627252e-005
	133	-28473	-8418	-28207	1.6108835334e-003	5.0533537300e-004	1.5087017968e-005
	134	17232	-3953	-91083	-1.3740725285e-003	4.0620684824e-004	4.7244536887e-005
	135	2265	-5689	-154442	-2.9303413445e-004	9.8329319626e-004	1.2843867243e-004
	Per via statica	0	-89412	1399179			
	Totali	-45466	-93329	802965			
	Variazione	-45466	-3917	-596214			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
2	127	17559	-80567	792054	-2.0013731269e-004	8.3683667547e-004	-4.2296853352e-005
	128	19665	-25496	-579135	-3.2830062817e-004	5.4335699408e-004	6.1112577793e-005
	129	22472	-45954	288354	5.6076227104e-004	-1.0907588947e-003	2.9057519669e-005
	130	3181	-41702	511505	9.1844614911e-005	-1.0643135946e-003	7.2538145956e-005
	131	-43486	-9713	-33837	1.2964231073e-003	3.0714469741e-004	9.1274534872e-006
	132	-5989	3129	-110277	3.0698271178e-004	-1.0043860462e-004	3.1135767406e-005
	133	-26591	-11578	-43708	1.5022769576e-003	6.9595256924e-004	2.1728451552e-005
	134	7570	-5183	-165793	-6.0272053734e-004	5.6973574347e-004	8.1550044474e-005
	135	-808	-5110	-81453	1.0434849309e-004	7.9236228133e-004	6.8710615037e-005
	Per via statica	0	-167123	2091418			
	Totali	-59105	-120770	1220118			
	Variazione	-59105	46353	-871300			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
3	127	29026	-141284	1383974	-3.3934589412e-004	1.5049166703e-003	-7.6237709830e-005
	128	25676	-39020	-963215	-4.3967930153e-004	8.6903164224e-004	1.0428581272e-004
	129	12636	-25411	-6282	3.2343397489e-004	-6.6637035223e-004	-8.2899468278e-006
	130	-6041	-7355	245261	-1.7891048756e-004	-1.4049689530e-004	4.0138664974e-005
	131	-59956	-15664	-44423	1.8334055323e-003	5.0475205048e-004	1.3377680991e-005
	132	-3879	27589	-274926	2.0392012815e-004	-1.3188085394e-003	6.8390701149e-005
	133	-4461	-6730	-57189	2.5850533926e-004	4.3592273461e-004	2.3841867266e-005
	134	-9225	-4697	-133276	7.5341274130e-004	5.1493160844e-004	6.8172702621e-005
	135	-31	5542	108815	4.0672065745e-006	-9.1306857869e-004	-9.2849006944e-005
	Per via statica	0	-235260	3213883			
	Totali	-70115	-155338	1724456			
	Variazione	-70115	79922	-1489427			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
4	127	29969	-150719	1567586	-4.4022042854e-004	2.0070279311e-003	-1.0744779004e-004

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	128	22360	-48278	-1073512	-4.8108590300e-004	1.3155704309e-003	1.4372822674e-004
	129	-8853	19073	-460180	-2.8472200777e-004	4.6317561990e-004	-7.7985313260e-005
	130	-11601	43713	-247158	-4.3165715917e-004	1.5596736990e-003	-3.4725952071e-005
	131	-55396	-17200	-43266	2.1284020416e-003	6.9323563636e-004	1.6808779389e-005
	132	10855	-14682	199258	-7.1709627351e-004	8.4528950438e-004	-6.4682995220e-005
	133	21086	4883	-51822	-1.5352584388e-003	-3.2147554950e-004	1.7685861885e-005
	134	-9411	-1426	57129	9.6573285229e-004	8.4791826260e-005	-3.1958200391e-005
	135	-915	3795	75142	1.5235613695e-004	-7.8315404301e-004	-7.8602299660e-005
	Per via statica	: 0	-244570	5086151			
	Totali	: -69334	-171405	2018952			
	Variazione	: -69334	73165	-3067198			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,8z}$
5	127	3324	-3553	20098	-3.2062330719e-004	2.9842956880e-004	-1.3263263256e-004
	128	6021	-36389	432	-8.5073898916e-004	5.1819205549e-003	1.2041301488e-004
	129	-14901	16395	-98618	-3.1471483641e-003	2.9850424705e-003	-1.4301738079e-003
	130	8367	-11243	68559	2.0446796984e-003	-2.3628354832e-003	1.1512965664e-003
	131	-9878	-4424	-2147	2.4924244519e-003	1.1385296232e-003	6.6494646330e-005
	132	-4907	106	7289	2.1287559095e-003	-1.2303203080e-004	-2.3100067652e-004
	133	8140	5429	-11148	-3.8923624756e-003	-2.4877309384e-003	3.2448526501e-004
	134	6359	5782	7027	-4.2855170648e-003	-4.0434207081e-003	-4.3892341003e-004
	135	675	-3116	-10926	-7.3768712227e-004	3.7238394653e-003	9.5111947821e-004
	Per via statica	: 0	-46196	474661			
	Totali	: -19709	-39961	-81167			
	Variazione	: -19709	6235	-555829			

Risultati angolo di ingresso del sisma: 270.00 [°] - SLD

Modo	Periodo [sec]	Coeff.di Part.	Li / L1	MassaModale	Mmi/Mmtot	Sum Mmi/Mmtot	R
136	0.444	-4.14308e+002	100	2e+005	47	47	0.2501
137	0.262	-2.52540e+002	61	6e+004	18	65	0.2541
138	0.330	-2.08831e+002	50	4e+004	12	77	0.2541
139	0.119	1.97914e+002	48	4e+004	11	88	0.2268
140	0.114	-1.20572e+002	29	1e+004	4	92	0.2216
141	0.067	-1.01668e+002	25	1e+004	3	95	0.1722
142	0.135	9.35576e+001	23	9e+003	2	97	0.2430
143	0.092	-5.87796e+001	14	3e+003	1	98	0.1977
144	0.060	-5.62808e+001	14	3e+003	1	99	0.1644

Variazioni Matrice delle Masse Solai Direzione d'ingresso 270.00

Solaio	Ingombro in Pianta		Larghezza Apparente	Eccentricità	dxG	dyG	Sx	Sy	dJp
	B [m]	H [m]	[m]	[m]	[m]	[m]	[UTM]x[m]	[UTM]y[m]	[UTM m²]
1	38.520	21.431	38.520	1.926	1.926	0.000	-0	180483	347609
2	38.520	21.431	38.520	1.926	1.926	0.000	-0	180742	348108
3	38.520	21.431	38.520	1.926	1.926	0.000	-0	176211	339382
4	38.520	21.431	38.520	1.926	1.926	0.000	-0	140243	270107
5	6.680	9.850	6.680	0.334	0.334	0.000	-0	3703	1237

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,8z}$
1	136	11222	-31118	187499	-1.1780478312e-004	3.5668638110e-004	-1.5592590670e-005
	137	16561	-15735	-320564	-2.8070716031e-004	2.0982544319e-004	2.9535630348e-005
	138	-34065	-9884	-98682	6.9826399642e-004	1.8371901889e-004	9.8007235770e-006



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	139	19767	-56505	318291	4.7906043422e-004	-1.4891339630e-003	6.2142414333e-005
	140	-35203	-16866	-121588	1.4332938715e-003	6.4476577573e-004	2.1779085106e-005
	141	14537	-30231	120754	9.0315170780e-004	2.0066694257e-003	-6.6750765852e-005
	142	12253	-10391	45109	5.8623272199e-004	-5.3317694489e-004	1.8704712710e-005
	143	12081	-1640	-145192	-1.1307034905e-003	-2.4287105285e-007	7.9802652078e-005
	144	-13225	-10002	-4118	1.5544995731e-003	1.1962298397e-003	-1.0687074148e-005
	Per via statica	: 0	-101751	590306			
	Totali	: -46985	-93686	485949			
	Variazione	: -46985	8064	-104358			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{Lx}$	$\Phi_{Ly}$	$\Phi_{Lz}$
2	136	25918	-83861	583172	-2.7167805362e-004	9.6665877983e-004	-4.5483824018e-005
	137	30390	-26265	-667466	-5.1438340850e-004	3.2739297180e-004	6.0838724140e-005
	138	-59746	-20610	-161415	1.2229220628e-003	3.9390650061e-004	1.4516906974e-005
	139	16385	-60216	378255	3.9653790490e-004	-1.5915085206e-003	6.9692802838e-005
	140	-32665	-22704	-177555	1.3280703427e-003	8.6203159774e-004	3.1703229419e-005
	141	-8368	2169	-63180	5.1909863678e-004	-1.8143564695e-004	2.4347956957e-005
	142	14348	-13399	42635	6.8548694363e-004	-6.7688133495e-004	1.9053389629e-005
	143	7840	-4729	-215729	-7.3275156135e-004	2.2526824736e-004	1.1251730238e-004
	144	7670	1303	-21491	-9.0032404976e-004	-1.8455670906e-004	1.6414051630e-005
	Per via statica	: 0	-190185	507251			
	Totali	: -70798	-128625	-956977			
	Variazione	: -70798	61560	-1464229			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{Lx}$	$\Phi_{Ly}$	$\Phi_{Lz}$
3	136	41688	-146454	1022591	-4.4822126408e-004	1.7331081557e-003	-8.2271631217e-005
	137	40049	-39545	-1106706	-6.9529290438e-004	4.8445132096e-004	1.0493383095e-004
	138	-82395	-32784	-245371	1.7298873865e-003	6.4508340971e-004	2.2438799543e-005
	139	-4031	-16762	155712	-1.0007416499e-004	-4.6880423360e-004	2.7370064812e-005
	140	-4806	-12843	-145356	2.0043613950e-004	4.7877725938e-004	2.9501783414e-005
	141	-11495	21844	-101246	7.3148054171e-004	-1.4929827685e-003	5.3486636288e-005
	142	8146	-9098	-26834	3.9920811946e-004	-4.4071036401e-004	-2.6762646232e-006
	143	-2846	-5125	-139575	2.7286808566e-004	3.5083456643e-004	7.2923660729e-005
	144	9832	8085	-5766	-1.1837307376e-003	-1.0023426959e-003	1.5065937456e-005
	Per via statica	: 0	-267724	1021075			
	Totali	: -93658	-166394	-1528203			
	Variazione	: -93658	101330	-2549278			

Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{Lx}$	$\Phi_{Ly}$	$\Phi_{Lz}$
4	136	42383	-154675	1204998	-5.7257009652e-004	2.3135017365e-003	-1.1626986180e-004
	137	35259	-47744	-1254976	-7.6913451778e-004	7.6167369300e-004	1.4528519187e-004
	138	-76200	-35864	-261817	2.0101315637e-003	8.9000038963e-004	2.9116992250e-005
	139	-21920	52081	-241240	-6.8367399864e-004	1.7419012418e-003	-6.1004876965e-005
	140	26721	10148	-17752	-1.4001456374e-003	-5.5329705123e-004	1.1191581985e-005
	141	13495	-10060	120608	-1.0789222546e-003	9.2778359961e-004	-6.4092936131e-005
	142	-5544	3047	-125945	-3.4136843650e-004	2.7713911211e-004	-4.6479686787e-005
	143	-7338	-332	90277	8.8379389269e-004	1.6080049758e-004	-6.2711146617e-005
	144	-11339	-4586	32000	1.7151874559e-003	7.6182952344e-004	-3.5372177267e-005
	Per via statica	: 0	-278319	3047368			
	Totali	: -89007	-182730	-1781289			

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	Variazione	: -89007	95590	-4828657
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Azioni di piano indotte

Solaio	Modo	Fx [kg]	Fy [kg]	Mt [kgm]	$\Phi_{i,Ux}$	$\Phi_{i,Uy}$	$\Phi_{i,Bz}$
5	136	5115	-5068	20408	-4.5381905506e-004	4.9721268379e-004	-1.4255115928e-004
	137	7496	-29701	-29369	-1.0738354435e-003	4.1872004626e-003	2.0255978042e-004
	138	-13596	-9576	-10627	2.3553449256e-003	1.6277420009e-003	9.3564083154e-005
	139	6265	-5743	56309	1.2831967922e-003	-1.4659269582e-003	8.6709661847e-004
	140	9244	10664	-12394	-3.1809249517e-003	-3.8029725127e-003	3.9916762886e-004
	141	-3037	-1185	-213	1.5945822154e-003	6.2463580007e-004	-6.9929592779e-006
	142	-10636	8974	-54001	-4.3010224069e-003	4.1887052671e-003	-1.6756958229e-003
	143	1139	5124	15506	-9.0076651463e-004	-3.7880843690e-003	-7.9329166261e-004
	144	2385	91	-4128	-2.3689952364e-003	-1.9023555790e-004	3.0036053029e-004
	Per via statica	: 0	-52571	22489			
	Totali	: -21609	-35549	-68716			
	Variazione	: -21609	17022	-91205			

### 2.2.3. Verifica di congruità del modello matematico

Si elencano di seguito i controlli eseguiti sulla attendibilità del modello matematico, al fine di valutarne l'attendibilità come descritto ai punti 2.1.h e 2.1.i

#### 2.2.3.a. Fattore di struttura

Come indicato in precedenza la struttura viene considerata non regolare sia in pianta che in altezza.

Per quanto riguarda la tipologia di struttura ai fini della determinazione del fattore  $\alpha_u/\alpha_1$  (7.4.3.2) si valuta la ripartizione dell'assorbimento delle forze taglianti, nelle condizioni SLV, allo spiccato delle fondazioni.

Azioni taglianti del solaio: 2

N.B. Gli squilibri sono calcolati includendo tutti gli elementi che hanno un numero di nodi appartenente al solaio compreso fra 1 ed inferiore al numero di nodi dell'elemento.

Comb	Ass. pilastri				Ass. setti				Totali				% N		% V	
	Fx [kg]	Fy [kg]	Fz [kg]	Mz [kgm]	Fx [kg]	Fy [kg]	Fz [kg]	Mz [kgm]	Fx [kg]	Fy [kg]	Fz [kg]	Mz [kgm]	Pilastri	Setti	Pilastri	Setti
3	71555	31109	-3087262	996	520140	206575	-421938	6310	591695	237683	-3509199	7306	88.0 %	12.0 %	12.2 %	87.8 %
4	65150	-23765	-3091388	3518	503723	-52261	-394194	5509	568874	-76026	-3485582	9027	88.7 %	11.3 %	12.0 %	88.0 %
5	74059	33995	-3096530	-105	567045	182672	-429160	6351	641104	216666	-3525690	6246	87.8 %	12.2 %	12.0 %	88.0 %
6	67655	-20879	-3100657	2417	550628	-76165	-401415	5550	618283	-97043	-3502072	7967	88.5 %	11.5 %	11.3 %	88.7 %
7	-68825	35330	-3105524	-2611	-549457	61713	-421380	-5620	-618283	97043	-3526903	-8231	88.1 %	11.9 %	12.3 %	87.7 %

8	-75230	-19543	-3109650	-89	-565874	-197123	-393635	-6421	-641104	-216666	-3503285	-6510	88.8 %	11.2 %	11.5 %	88.5 %
9	-66321	38216	-3114793	-3712	-502553	37810	-428601	-5579	-568874	76026	-3543394	-9291	87.9 %	12.1 %	13.2 %	86.8 %
10	-72726	-16657	-3118919	-1190	-518970	-221026	-400857	-6380	-591695	-237683	-3519776	-7570	88.6 %	11.4 %	11.7 %	88.3 %
11	38234	94940	-3091023	-3266	210639	449451	-456711	3430	248873	544392	-3547733	164	87.1 %	12.9 %	17.1 %	82.9 %
12	-3880	96207	-3096502	-4348	-110240	405993	-456543	-149	-114121	502200	-3553045	-4497	87.2 %	12.8 %	18.6 %	81.4 %
13	24058	101156	-3095926	-4253	166134	442343	-458732	2750	190192	543498	-3554658	-1504	87.1 %	12.9 %	18.0 %	82.0 %
14	-18056	102422	-3101404	-5336	-154745	398884	-458565	-829	-172801	501306	-3559969	-6165	87.1 %	12.9 %	19.6 %	80.4 %
15	16886	-87971	-3104776	5142	155916	-413336	-364230	759	172801	-501306	-3469006	5901	89.5 %	10.5 %	16.9 %	83.1 %
16	-25228	-86704	-3110255	4059	-164964	-456794	-364063	-2820	-190192	-543498	-3474318	1240	89.5 %	10.5 %	15.7 %	84.3 %
17	2710	-81755	-3109679	4154	111411	-420444	-366251	79	114121	-502199	-3475930	4234	89.5 %	10.5 %	15.8 %	84.2 %
18	-39404	-80489	-3115158	3072	-209468	-463903	-366084	-3499	-248873	-544391	-3481242	-428	89.5 %	10.5 %	15.0 %	85.0 %

Data la ripartizione delle azioni orizzontali V tra setti e pilastri si considera valida la valutazione di struttura mista (telaio-pareti) equivalente a pareti, infatti la percentuale di taglio alla base, assorbito dai setti, è superiore al 50%, mentre la resistenza alle azioni verticali è affidata prevalentemente ai telai (7.4.3.1).

#### 2.2.3.b. Massa modale eccitata

Al fine di procedere al calcolo in analisi lineare dinamica, devono essere considerati un numero di modi di vibrare la cui massa partecipante totale sia superiore al 85%.

La condizione è verificata.

#### 2.2.3.c. Linearità geometrica

Gli effetti di non linearità geometrica possono essere trascurati nel caso in cui si abbia:

$$P d_r / V h < 0.1$$

Dove:

P: carico verticale della parte di struttura sovrastante l'orizzontamento in esame

d<sub>r</sub>: spostamento relativo medio di interpiano (tra piano in esame e sottostante)

V: forza di piano totale

H: distanza tra piano in esame e sottostante

Vengono presi in esame le combinazioni sismiche SLV ed i risultati dell'analisi sono riportati di seguito:

Valutazione Effetti NON-Linearari  $P d_r / V h < 0.1$

$$V_x \Theta_x = P d_{r,x} / h$$

$$V_y \Theta_y = P d_{r,y} / h$$

$V \Theta = P d_r / h$  dove:  $d_r = \sqrt{d_{r,x}^2 + d_{r,y}^2}$

Fattore di struttura 2.64

Fattore di importanza  $\gamma_i$  1.00

Modalità di calcolo: spostamenti d'interpiano medi

Massimi

Interpiano Solai	Comb.	Altezza [m]	P [kg]	Direzione $U = \sqrt{d_{r,x}^2 + d_{r,y}^2}$			
				V [kg]	P [kg]	$d_r/h$ [cm]	$\Theta$
5 4	15	3.230	95367	9603	194	0.658	0.0202

#### 2.2.3.d. Spostamenti di interpiano

Gli spostamenti di interpiano  $d_r$  della struttura in presenza delle azioni sismiche SLD debbono risultare, nel caso di collegati rigidamente alla struttura che interferiscono con la deformabilità della stessa (7.3.7.2):

$d_r < 0.005 h$

Combinazioni agli Stati Limite di Danno: massimi spostamenti differenziali orizzontali.

Controllo degli spostamenti di interpiano  $dU$  inferiore a 0.005 H

Comb.	Ux		Uy		Uz		Uxyz	
	Nodi	Ux [cm]	Nodi	Uy [cm]	Nodi	Uz [cm]	Nodi	Uxyz  [cm]
24	623-523	0.447	430-530	0.930	345-445	0.166	623-523	1.032
25	111-211	0.353	430-530	0.730	345-445	0.171	623-523	0.741
26	623-523	0.348	309-409	0.575	647-547	-0.083	366-466	0.585
27	313-413	0.403	209-309	-0.585	647-547	-0.079	308-408	0.642
28	313-413	-0.403	209-309	0.585	647-547	0.079	308-408	0.642
29	623-523	-0.348	309-409	-0.575	647-547	0.083	366-466	0.585
30	111-211	-0.353	430-530	-0.730	345-445	-0.171	623-523	0.741
31	623-523	-0.447	430-530	-0.930	345-445	-0.166	623-523	1.032
32	313-413	-0.817	454-554	0.657	525-225	0.117	459-559	1.018
33	313-413	-0.909	209-309	0.841	525-225	0.126	309-409	1.071
34	459-559	0.660	309-409	0.822	525-225	0.145	309-409	0.844
35	459-559	0.624	209-309	0.864	525-225	0.154	209-309	0.929
36	459-559	-0.624	209-309	-0.864	525-225	-0.154	209-309	0.929
37	459-559	-0.660	309-409	-0.822	525-225	-0.145	309-409	0.844

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38	313-413	0.909	209-309	-0.841	525-225	-0.126	309-409	1.071
39	313-413	0.817	454-554	-0.657	525-225	-0.117	459-559	1.018

Spostamenti Max in direzione Ux [cm]

Nodi	Comb.	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
623 523	24	0.447	0.124	0.348	0.026	-0.026	-0.348	-0.124	-0.447	0.696	0.554	0.520	0.378	-0.378	-0.520	-0.554	-0.696
111 211	25	0.227	0.353	0.114	0.241	-0.241	-0.114	-0.353	-0.227	0.045	-0.096	-0.326	-0.467	0.467	0.326	0.096	-0.045
623 523	26	0.447	0.124	0.348	0.026	-0.026	-0.348	-0.124	-0.447	0.696	0.554	0.520	0.378	-0.378	-0.520	-0.554	-0.696
313 413	27	-0.096	0.233	0.074	0.403	-0.403	-0.074	-0.233	0.096	-0.817	-0.909	-0.189	-0.281	0.281	0.189	0.909	0.817
313 413	28	-0.096	0.233	0.074	0.403	-0.403	-0.074	-0.233	0.096	-0.817	-0.909	-0.189	-0.281	0.281	0.189	0.909	0.817
623 523	29	0.447	0.124	0.348	0.026	-0.026	-0.348	-0.124	-0.447	0.696	0.554	0.520	0.378	-0.378	-0.520	-0.554	-0.696
111 211	30	0.227	0.353	0.114	0.241	-0.241	-0.114	-0.353	-0.227	0.045	-0.096	-0.326	-0.467	0.467	0.326	0.096	-0.045
623 523	31	0.447	0.124	0.348	0.026	-0.026	-0.348	-0.124	-0.447	0.696	0.554	0.520	0.378	-0.378	-0.520	-0.554	-0.696
313 413	32	-0.096	0.233	0.074	0.403	-0.403	-0.074	-0.233	0.096	-0.817	-0.909	-0.189	-0.281	0.281	0.189	0.909	0.817
313 413	33	-0.096	0.233	0.074	0.403	-0.403	-0.074	-0.233	0.096	-0.817	-0.909	-0.189	-0.281	0.281	0.189	0.909	0.817
459 559	34	0.281	-0.145	0.265	-0.162	0.162	-0.265	0.145	-0.281	0.796	0.760	0.660	0.624	-0.624	-0.660	-0.760	-0.796
459 559	35	0.281	-0.145	0.265	-0.162	0.162	-0.265	0.145	-0.281	0.796	0.760	0.660	0.624	-0.624	-0.660	-0.760	-0.796
459 559	36	0.281	-0.145	0.265	-0.162	0.162	-0.265	0.145	-0.281	0.796	0.760	0.660	0.624	-0.624	-0.660	-0.760	-0.796
459 559	37	0.281	-0.145	0.265	-0.162	0.162	-0.265	0.145	-0.281	0.796	0.760	0.660	0.624	-0.624	-0.660	-0.760	-0.796
313 413	38	-0.096	0.233	0.074	0.403	-0.403	-0.074	-0.233	0.096	-0.817	-0.909	-0.189	-0.281	0.281	0.189	0.909	0.817
313 413	39	-0.096	0.233	0.074	0.403	-0.403	-0.074	-0.233	0.096	-0.817	-0.909	-0.189	-0.281	0.281	0.189	0.909	0.817

Spostamenti Max in direzione Uy [cm]

Nodi	Comb.	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
430 530	24	0.930	0.730	0.082	-0.118	0.118	-0.082	-0.730	-0.930	0.589	0.346	0.319	0.076	-0.076	-0.319	-0.346	-0.589
430 530	25	0.930	0.730	0.082	-0.118	0.118	-0.082	-0.730	-0.930	0.589	0.346	0.319	0.076	-0.076	-0.319	-0.346	-0.589
309 409	26	-0.087	-0.504	0.575	0.158	-0.158	-0.575	0.504	0.087	0.589	0.568	0.822	0.801	-0.801	-0.822	-0.568	-0.589
209 309	27	-0.084	-0.535	-0.134	-0.585	0.585	0.134	0.535	0.084	0.640	0.841	0.663	0.864	-0.864	-0.663	-0.841	-0.640
209 309	28	-0.084	-0.535	-0.134	-0.585	0.585	0.134	0.535	0.084	0.640	0.841	0.663	0.864	-0.864	-0.663	-0.841	-0.640
309 409	29	-0.087	-0.504	0.575	0.158	-0.158	-0.575	0.504	0.087	0.589	0.568	0.822	0.801	-0.801	-0.822	-0.568	-0.589
430 530	30	0.930	0.730	0.082	-0.118	0.118	-0.082	-0.730	-0.930	0.589	0.346	0.319	0.076	-0.076	-0.319	-0.346	-0.589
430	31	0.930	0.730	0.082	-0.118	0.118	-0.082	-0.730	-0.930	0.589	0.346	0.319	0.076	-0.076	-0.319	-0.346	-0.589

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530																	
454 554	32	0.818	0.548	0.025	-0.245	0.245	-0.025	-0.548	-0.818	0.657	0.486	0.415	0.243	-0.243	-0.415	-0.486	-0.657
209 309	33	-0.084	-0.535	-0.134	-0.585	0.585	0.134	0.535	0.084	0.640	0.841	0.663	0.864	-0.864	-0.663	-0.841	-0.640
309 409	34	-0.087	-0.504	0.575	0.158	-0.158	-0.575	0.504	0.087	0.589	0.568	0.822	0.801	-0.801	-0.822	-0.568	-0.589
209 309	35	-0.084	-0.535	-0.134	-0.585	0.585	0.134	0.535	0.084	0.640	0.841	0.663	0.864	-0.864	-0.663	-0.841	-0.640
209 309	36	-0.084	-0.535	-0.134	-0.585	0.585	0.134	0.535	0.084	0.640	0.841	0.663	0.864	-0.864	-0.663	-0.841	-0.640
309 409	37	-0.087	-0.504	0.575	0.158	-0.158	-0.575	0.504	0.087	0.589	0.568	0.822	0.801	-0.801	-0.822	-0.568	-0.589
209 309	38	-0.084	-0.535	-0.134	-0.585	0.585	0.134	0.535	0.084	0.640	0.841	0.663	0.864	-0.864	-0.663	-0.841	-0.640
454 554	39	0.818	0.548	0.025	-0.245	0.245	-0.025	-0.548	-0.818	0.657	0.486	0.415	0.243	-0.243	-0.415	-0.486	-0.657

Spostamenti Max in direzione Uz [cm]

Nodi	Comb.	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
345 445	24	0.166	0.171	0.016	0.020	-0.020	-0.016	-0.171	-0.166	0.044	-0.012	-0.001	-0.058	0.058	0.001	0.012	-0.044
345 445	25	0.166	0.171	0.016	0.020	-0.020	-0.016	-0.171	-0.166	0.044	-0.012	-0.001	-0.058	0.058	0.001	0.012	-0.044
647 547	26	-0.024	-0.020	-0.083	-0.079	0.079	0.083	0.020	0.024	-0.013	0.018	-0.031	0.000	-0.000	0.031	-0.018	0.013
647 547	27	-0.024	-0.020	-0.083	-0.079	0.079	0.083	0.020	0.024	-0.013	0.018	-0.031	0.000	-0.000	0.031	-0.018	0.013
647 547	28	-0.024	-0.020	-0.083	-0.079	0.079	0.083	0.020	0.024	-0.013	0.018	-0.031	0.000	-0.000	0.031	-0.018	0.013
647 547	29	-0.024	-0.020	-0.083	-0.079	0.079	0.083	0.020	0.024	-0.013	0.018	-0.031	0.000	-0.000	0.031	-0.018	0.013
345 445	30	0.166	0.171	0.016	0.020	-0.020	-0.016	-0.171	-0.166	0.044	-0.012	-0.001	-0.058	0.058	0.001	0.012	-0.044
345 445	31	0.166	0.171	0.016	0.020	-0.020	-0.016	-0.171	-0.166	0.044	-0.012	-0.001	-0.058	0.058	0.001	0.012	-0.044
525 225	32	-0.009	-0.090	0.060	-0.021	0.021	-0.060	0.090	0.009	0.117	0.126	0.145	0.154	-0.154	-0.145	-0.126	-0.117
525 225	33	-0.009	-0.090	0.060	-0.021	0.021	-0.060	0.090	0.009	0.117	0.126	0.145	0.154	-0.154	-0.145	-0.126	-0.117
525 225	34	-0.009	-0.090	0.060	-0.021	0.021	-0.060	0.090	0.009	0.117	0.126	0.145	0.154	-0.154	-0.145	-0.126	-0.117
525 225	35	-0.009	-0.090	0.060	-0.021	0.021	-0.060	0.090	0.009	0.117	0.126	0.145	0.154	-0.154	-0.145	-0.126	-0.117
525 225	36	-0.009	-0.090	0.060	-0.021	0.021	-0.060	0.090	0.009	0.117	0.126	0.145	0.154	-0.154	-0.145	-0.126	-0.117
525 225	37	-0.009	-0.090	0.060	-0.021	0.021	-0.060	0.090	0.009	0.117	0.126	0.145	0.154	-0.154	-0.145	-0.126	-0.117
525 225	38	-0.009	-0.090	0.060	-0.021	0.021	-0.060	0.090	0.009	0.117	0.126	0.145	0.154	-0.154	-0.145	-0.126	-0.117
525 225	39	-0.009	-0.090	0.060	-0.021	0.021	-0.060	0.090	0.009	0.117	0.126	0.145	0.154	-0.154	-0.145	-0.126	-0.117

Spostamenti Max in direzione [Uxyz] [cm]

Nodi	Comb.	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
623 523	24	1.032	0.741	0.358	0.121	0.121	0.358	0.741	1.032	0.912	0.653	0.610	0.385	0.385	0.610	0.653	0.912

623 523	25	1.032	0.741	0.358	0.121	0.121	0.358	0.741	1.032	0.912	0.653	0.610	0.385	0.385	0.610	0.653	0.912
366 466	26	0.160	0.489	0.585	0.272	0.272	0.585	0.489	0.160	0.747	0.743	0.822	0.792	0.792	0.822	0.743	0.747
308 408	27	0.098	0.233	0.497	0.642	0.642	0.497	0.233	0.098	0.817	0.921	0.227	0.282	0.282	0.227	0.921	0.817
308 408	28	0.098	0.233	0.497	0.642	0.642	0.497	0.233	0.098	0.817	0.921	0.227	0.282	0.282	0.227	0.921	0.817
366 466	29	0.160	0.489	0.585	0.272	0.272	0.585	0.489	0.160	0.747	0.743	0.822	0.792	0.792	0.822	0.743	0.747
623 523	30	1.032	0.741	0.358	0.121	0.121	0.358	0.741	1.032	0.912	0.653	0.610	0.385	0.385	0.610	0.653	0.912
623 523	31	1.032	0.741	0.358	0.121	0.121	0.358	0.741	1.032	0.912	0.653	0.610	0.385	0.385	0.610	0.653	0.912
459 559	32	0.901	0.627	0.268	0.258	0.258	0.268	0.627	0.901	1.018	0.877	0.763	0.651	0.651	0.763	0.877	1.018
309 409	33	0.130	0.555	0.580	0.433	0.433	0.580	0.555	0.130	1.007	1.071	0.844	0.849	0.849	0.844	1.071	1.007
309 409	34	0.130	0.555	0.580	0.433	0.433	0.580	0.555	0.130	1.007	1.071	0.844	0.849	0.849	0.844	1.071	1.007
209 309	35	0.245	0.627	0.205	0.636	0.636	0.205	0.627	0.245	0.641	0.850	0.692	0.929	0.929	0.692	0.850	0.641
209 309	36	0.245	0.627	0.205	0.636	0.636	0.205	0.627	0.245	0.641	0.850	0.692	0.929	0.929	0.692	0.850	0.641
309 409	37	0.130	0.555	0.580	0.433	0.433	0.580	0.555	0.130	1.007	1.071	0.844	0.849	0.849	0.844	1.071	1.007
309 409	38	0.130	0.555	0.580	0.433	0.433	0.580	0.555	0.130	1.007	1.071	0.844	0.849	0.849	0.844	1.071	1.007
459 559	39	0.901	0.627	0.268	0.258	0.258	0.268	0.627	0.901	1.018	0.877	0.763	0.651	0.651	0.763	0.877	1.018

Spostamenti Massimi:

Combinazione di Carico **38**

Fra i nodi **309 409**

In direzione **|Uxyz|**

Spostamento **1.071**

Non si sono rilevati spostamenti di interpiano superiori a 0.005000 H

### 2.2.3.e. Controllo della deformabilità torsionale

Nella determinazione del fattore di struttura  $q$  si è ipotizzata la trascurabilità delle deformazioni torsionali.

Si considera non deformabile torsionalmente una struttura in cui il per ogni impalcato risulti (7.4.3.1):

$$r/l_s > 0.8$$

Dove:  $r^2$  è il rapporto tra la rigidezza flessionale e torsionale del piano in esame

$I_s^2$  è un parametro legato alle dimensioni in pianta del piano in esame:  $I_s = (B^2 + H^2)/12$  con B, H pari alle massime dimensioni in pianta dell'impalcato in esame.

Dal risultato dell'analisi dinamica, si può verificare che la condizione è verificata:

Sub-Matrici di rigidezza 3x3

Solaio	$U_x$	$U_y$	$R_z$	$r_1$ [m]	$r_2$ [m]	$r_{min}$ /l <sub>s</sub>
--------	-------	-------	-------	--------------	--------------	------------------------------

1	8.1743709350e+008	-5.7046979216e+006	9.8771977861e+009	22.039	17.638	1.367
	-5.7046979216e+006	1.2760245671e+009	-2.4410371301e+009			
	9.8771977861e+009	-2.4410371301e+009	3.9699731083e+011			
2	1.1966381435e+009	3.4197974057e+006	7.5644901938e+009	19.527	16.634	1.270
	3.4197974057e+006	1.6488834723e+009	-3.1600853478e+009			
	7.5644901938e+009	-3.1600853478e+009	4.5624974442e+011			
3	1.0053571978e+009	7.1177647932e+006	7.2597838697e+009	19.101	17.004	1.302
	7.1177647932e+006	1.2681998270e+009	-2.7234496857e+009			
	7.2597838697e+009	-2.7234496857e+009	3.6673143440e+011			
4	4.3945572164e+008	5.3816006048e+005	7.8274981644e+009	21.414	18.204	1.378
	5.3816006048e+005	6.0806768353e+008	-1.2049366266e+009			
	7.8274981644e+009	-1.2049366266e+009	2.0151524685e+011			
5	5.4884787465e+007	-2.1187818846e+006	2.0711387707e+008	4.534	3.597	0.970
	-2.1187818846e+006	8.6839142524e+007	-7.5273266783e+007			
	2.0711387707e+008	-7.5273266783e+007	1.1252271563e+009			

#### 2.2.4. Verifica degli elementi strutturali

Si riportano di seguito le verifiche agli stati limite ultimi e stati limite di esercizio degli elementi strutturali.

##### 2.2.4.a Verifica delle travate

Le travi vengono progettate-verificate a flessione retta e taglio nel piano longitudinale della trave sulla base dell'involuppo delle sollecitazioni.

Viene comunque sempre predisposta l'armatura minima longitudinale e gli sforzi di taglio vengono integralmente assorbiti dalle staffe.

Le tensioni di ancoraggio nelle barre sono valutate ipotizzando una distribuzione lineare delle tensioni tangenziali di ancoraggio.

Le operazioni di verifica sono riportate in tre diverse sezioni:

- sezione in corrispondenza dei fili esterni dei pilastri;
- sezione in campata nella quale viene riscontrato il massimo momento.

Il momento flettente in campata viene determinato considerando un abbattimento  $\Delta M=10\%$

L'armatura a taglio si intende simmetrica rispetto alla mezzeria della trave e viene progettata considerando, rispetto alla mezzeria, la zona della trave più sollecitata.



Sezioni Impiegate: Trave

Sez. Num.	Info	Dimensioni	Criterio	Calcestruzzo	$f_{ck}$ [kg/cm <sup>2</sup> ]	$f_{cd}$ [kg/cm <sup>2</sup> ]	$\sigma_{RARE}$ [kg/cm <sup>2</sup> ]	$\sigma_{FREQ}$ [kg/cm <sup>2</sup> ]	$\sigma_{OP}$ [kg/cm <sup>2</sup> ]	Acciaio	$f_{yk}$ [kg/cm <sup>2</sup> ]	$f_{yd}$ [kg/cm <sup>2</sup> ]	$\sigma_{YRARE}$ [kg/cm <sup>2</sup> ]	$\sigma_{YFREQ}$ [kg/cm <sup>2</sup> ]	$\sigma_{YOP}$ [kg/cm <sup>2</sup> ]	Cop. Es [cm]	Cop. In [cm]
1	Rett. 30x32	B 30 [cm] H 32 [cm]	Vertrav	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	3.000	3.000
3	Rett. 44x32	B 44 [cm] H 32 [cm]	Vertrav	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	3.000	3.000
6	Rett. 65x32	B 65 [cm] H 32 [cm]	Vertrav	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	3.000	3.000
7	Rett. 75x32	B 75 [cm] H 32 [cm]	Vertrav	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	3.000	3.000
8	Rett. 30x24	B 30 [cm] H 24 [cm]	Vertrav	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	3.000	3.000
10	Rett. 20X32 ascensore	B 30 [cm] H 32 [cm]	Vertrav	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	3.000	3.000
31	Rett. 30x32	B 30 [cm] H 32 [cm]	Vertrav	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	3.000	4.000
33	Rett. 44x32	B 44 [cm] H 32 [cm]	Vertrav	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	3.000	4.000
36	Rett. 65x32	B 65 [cm] H 32 [cm]	Vertrav	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	3.000	4.000
38	Rett. 30x24	B 30 [cm] H 24 [cm]	Vertrav	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	3.000	4.000
40	Rett. 20X32 ascensore	B 30 [cm] H 32 [cm]	Vertrav	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	3.000	4.000
11	Rett. 25X32	B 25 [cm] H 32 [cm]	Vertrav	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	3.000	4.000
9	Rett. 60x32	B 60 [cm] H 32 [cm]	Vertrav	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	3.000	3.000
39	Rett. 60x32	B 60 [cm] H 32 [cm]	Vertrav	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	3.000	4.000
4	Rett. 70x32	B 70 [cm] H 32 [cm]	Vertrav	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	3.000	3.000

EC2. 4.3.2.4.4. Verifica a taglio con il metodo dell'inclinazione variabile del traliccio.  $\cotg \theta = 1.60$

Nei conci terminali  $\cotg \theta = 1.00$

Verifica a fessurazione diretta (calcolo ampiezza delle fessure)

Elemento	Comb. mm Rare	Comb. mm Frequenti	Comb. mm Quasi Permanenti
Trave	No	0.400	0.300

Fattore di sovraresistenza Travi  $\gamma_{R,d}=1.00$

Fattore di sovraresistenza delle azioni sulle Fondazioni  $\gamma_{R,d}=1.10$

Verifiche travate primo impalcato:

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

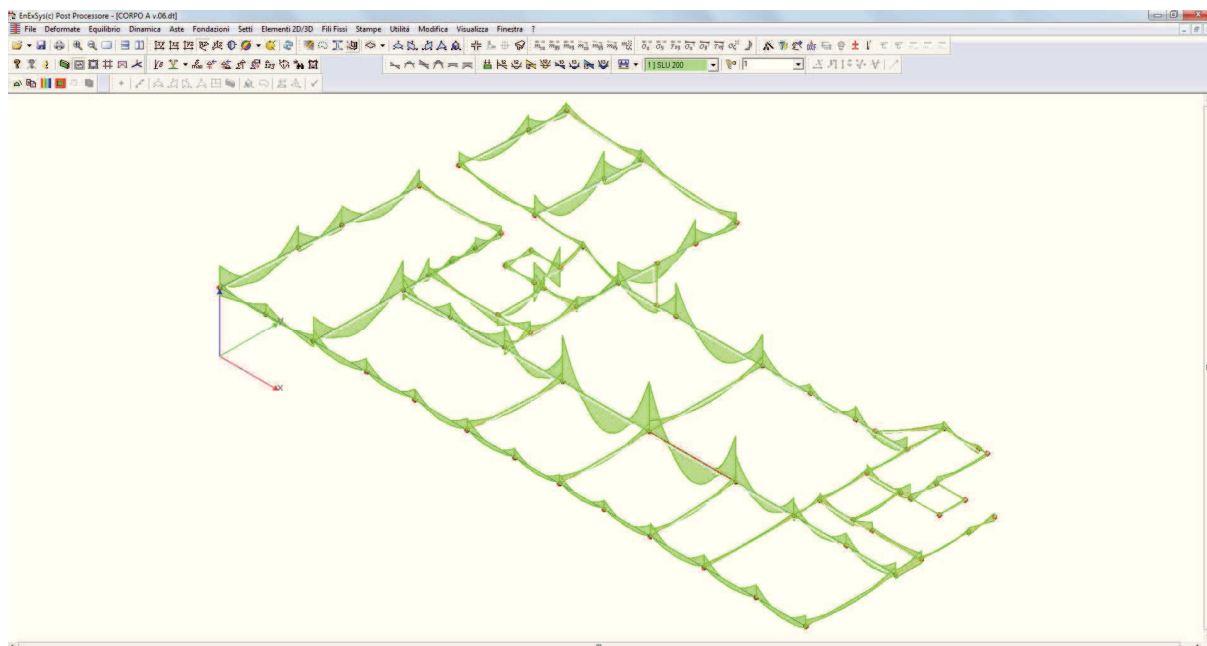


DIAGRAMMA INVILUPPO MOMENTI  $M_x$

Verifiche Travate:

Travata: 101 Travata 109 101 102 110 103 111 104 112 113 105 106 107 108

Nodo	x [m]	A <sub>te</sub> [cm <sup>2</sup> ]	A <sub>fi</sub> [cm <sup>2</sup> ]	Q <sub>T</sub> [kg/m]	M <sub>ref</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm <sup>2</sup> ]	σ <sub>bi</sub> [kg/cm <sup>2</sup> ]	σ <sub>te</sub> [kg/cm <sup>2</sup> ]	σ <sub>fi</sub> [kg/cm <sup>2</sup> ]	w mm
Trave Sez. 33 Rett. 44x32 [cm] 44x32																
109	0.150	4.62	4.52			1949	4924	0.17	-3608	-4494	0.15					
					SLE Rare	0			-985			22.9	0.0	126.5	546.3	
					SLE Freq.	0			-870			20.2	0.0	111.7	482.5	0.0608
					SLE Q.P.	0			-829			19.3	0.0	106.5	459.9	0.0579
Camp.	1.480	4.62	4.62	1707	157	14	4900	0.16	-1325	-4616	0.15					
					SLE Rare	0			-674			15.3	0.0	86.5	613.1	
					SLE Freq.	0			-679			15.4	0.0	87.2	617.8	0.0661
					SLE Q.P.	0			-680			15.4	0.0	87.3	618.3	0.0661
101	2.810	7.63	2.42			4520	7503	0.20	-653	-2743	0.15					
					SLE Rare	2179			0			0.0	41.2	1188.1	133.2	
					SLE Freq.	2052			0			0.0	38.8	1118.9	125.5	0.0114
					SLE Q.P.	2008			0			0.0	37.9	1094.6	122.7	0.0111
Trave Sez. 33 Rett. 44x32 [cm] 44x32																
101	0.200	7.63	2.42			4795	7503	0.20	-556	-2743	0.15					
					SLE Rare	2404			0			0.0	45.4	1310.9	147.0	
					SLE Freq.	2243			0			0.0	42.4	1222.8	137.1	0.0124
					SLE Q.P.	2187			0			0.0	41.3	1192.4	133.7	0.0121
Camp.	1.645	4.62	4.62	1707	167	361	4900	0.16	-793	-4616	0.15					
					SLE Rare	0			-367			8.3	0.0	47.1	334.1	
					SLE Freq.	0			-388			8.8	0.0	49.8	352.7	0.0377
					SLE Q.P.	0			-388			8.8	0.0	49.8	353.0	0.0378

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CORPO A

102	3.090	4.62	4.62			2393	4900	0.16	-2806	-4616	0.15								
						SLE Rare	0			-350			8.0	0.0	45.0	318.8			
						SLE Freq.	0			-254			5.8	0.0	32.6	230.9	0.0247		
						SLE Q.P.	0			-223			5.1	0.0	28.6	202.6	0.0217		
Trave Sez. 33 Rett. 44x32 [cm] 44x32																			
102	0.200	4.62	4.62			4436	4900	0.16	-1422	-4616	0.15								
						SLE Rare	2090			0			0.0	46.0	1832.7	185.3			
						SLE Freq.	1959			0			0.0	43.1	1717.7	173.7	0.0243		
						SLE Q.P.	1906			0			0.0	41.9	1671.2	169.0	0.0236		
Camp.	1.670	4.62	4.62	5926	726	0	4900	0.16	-4075	-4616	0.15								
						SLE Rare	0			-3070			69.8	0.0	394.3	2793.8			
						SLE Freq.	0			-2862			65.0	0.0	367.4	2603.7	0.2920		
						SLE Q.P.	0			-2778			63.1	0.0	356.8	2528.2	0.2785		
110	3.140	7.63	2.42			5539	7503	0.20	-596	-2743	0.15								
						SLE Rare	3232			0			0.0	61.0	1761.9	197.6			
						SLE Freq.	3025			0			0.0	57.2	1649.5	184.9	0.0167		
						SLE Q.P.	2943			0			0.0	55.6	1604.3	179.9	0.0163		
Trave Sez. 33 Rett. 44x32 [cm] 44x32																			
110	0.200	7.63	2.42			4581	7503	0.20	-932	-2743	0.15								
						SLE Rare	2423			0			0.0	45.8	1321.0	148.1			
						SLE Freq.	2266			0			0.0	42.8	1235.7	138.5	0.0125		
						SLE Q.P.	2203			0			0.0	41.6	1200.9	134.7	0.0122		
Camp.	1.625	4.62	4.62	5926	596	0	4900	0.16	-2769	-4616	0.15								
						SLE Rare	0			-2087			47.4	0.0	268.0	1898.9			
						SLE Freq.	0			-1947			44.2	0.0	250.0	1771.7	0.1895		
						SLE Q.P.	0			-1891			43.0	0.0	242.9	1720.9	0.1840		
103	3.050	7.63	2.42			4604	7503	0.20	-2	-2743	0.15								
						SLE Rare	3088			0			0.0	58.3	1683.4	188.7			
						SLE Freq.	2885			0			0.0	54.5	1573.0	176.4	0.0160		
						SLE Q.P.	2805			0			0.0	53.0	1529.3	171.5	0.0155		
Trave Sez. 33 Rett. 44x32 [cm] 44x32																			
103	0.150	7.63	3.92			4688	7505	0.20	0	-4037	0.16								
						SLE Rare	3245			0			0.0	59.9	1772.2	306.1			
						SLE Freq.	3043			0			0.0	56.2	1662.2	287.1	0.0259		
						SLE Q.P.	2963			0			0.0	54.7	1618.2	279.5	0.0252		
Camp.	1.680	4.62	4.62	5926	701	0	4900	0.16	-3584	-4616	0.15								
						SLE Rare	0			-2703			61.4	0.0	347.0	2459.2			
						SLE Freq.	0			-2526			57.4	0.0	324.3	2298.0	0.2458		
						SLE Q.P.	0			-2455			55.8	0.0	315.2	2233.4	0.2388		
111	3.210	7.63	2.42			4883	7503	0.20	-654	-2743	0.15								
						SLE Rare	2858			0			0.0	54.0	1558.4	174.7			
						SLE Freq.	2654			0			0.0	50.1	1447.1	162.3	0.0147		
						SLE Q.P.	2573			0			0.0	48.6	1402.8	157.3	0.0142		

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Trave Sez. 33 Rett. 44x32 [cm] 44x32																
111	0.200	7.63	2.42			4821	7503	0.20	-827	-2743	0.15					
SLE Rare						2659			0			0.0	50.2	1449.5	162.5	
SLE Freq.						2465			0			0.0	46.6	1343.8	150.7	0.0136
SLE Q.P.						2388			0			0.0	45.1	1302.1	146.0	0.0132
Camp.	1.590	4.62	4.62	5677	556	0	4900	0.16	-2893	-4616	0.15					
SLE Rare						0			-2182			49.6	0.0	280.1	1985.0	
SLE Freq.						0			-2038			46.3	0.0	261.7	1854.3	0.1983
SLE Q.P.						0			-1981			45.0	0.0	254.3	1802.1	0.1927
104	2.980	4.62	2.73			3970	4872	0.15	-451	-2954	0.13					
SLE Rare						2320			0			0.0	52.1	2028.7	129.7	
SLE Freq.						2185			0			0.0	49.1	1910.7	122.2	0.0207
SLE Q.P.						2130			0			0.0	47.8	1862.4	119.1	0.0202
Trave Sez. 33 Rett. 44x32 [cm] 44x32																
104	0.150	4.62	2.73			3644	4872	0.15	-268	-2954	0.13					
SLE Rare						2254			0			0.0	50.6	1971.1	126.0	
SLE Freq.						2123			0			0.0	47.7	1856.6	118.7	0.0201
SLE Q.P.						2069			0			0.0	46.5	1809.7	115.7	0.0196
Camp.	1.465	4.62	4.62	5926	509	0	4900	0.16	-2516	-4616	0.15					
SLE Rare						0			-1897			43.1	0.0	243.6	1726.0	
SLE Freq.						0			-1772			40.2	0.0	227.5	1611.9	0.1724
SLE Q.P.						0			-1721			39.1	0.0	221.0	1566.3	0.1675
112	2.780	4.62	2.73			3752	4872	0.15	-333	-2954	0.13					
SLE Rare						2331			0			0.0	52.4	2038.5	130.4	
SLE Freq.						2160			0			0.0	48.5	1888.8	120.8	0.0205
SLE Q.P.						2093			0			0.0	47.0	1830.0	117.0	0.0198
Trave Sez. 33 Rett. 44x32 [cm] 44x32																
112	0.150	4.62	2.73			3814	4872	0.15	-307	-2954	0.13					
SLE Rare						2379			0			0.0	53.4	2080.3	133.0	
SLE Freq.						2204			0			0.0	49.5	1927.3	123.2	0.0209
SLE Q.P.						2135			0			0.0	48.0	1867.2	119.4	0.0202
Camp.	1.465	4.62	4.62	5718	491	0	4900	0.16	-2511	-4616	0.15					
SLE Rare						0			-1893			43.0	0.0	243.1	1722.4	
SLE Freq.						0			-1768			40.2	0.0	227.1	1608.9	0.1721
SLE Q.P.						0			-1718			39.0	0.0	220.7	1563.6	0.1672
113	2.780	4.62	2.73			3609	4872	0.15	-317	-2954	0.13					
SLE Rare						2202			0			0.0	49.5	1925.7	123.1	
SLE Freq.						2074			0			0.0	46.6	1814.0	116.0	0.0197
SLE Q.P.						2022			0			0.0	45.4	1768.4	113.1	0.0192
Trave Sez. 33 Rett. 44x32 [cm] 44x32																
113	0.150	4.62	2.73			3966	4872	0.15	-433	-2954	0.13					
SLE Rare						2313			0			0.0	52.0	2022.9	129.4	
SLE Freq.						2178			0			0.0	48.9	1905.0	121.8	0.0207
SLE Q.P.						2123			0			0.0	47.7	1856.9	118.7	0.0201

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Camp.	1.500	4.62	4.62	5926	551	0	4900	0.16	-2701	-4616	0.15				
				SLE Rare		0			-2036			46.3	0.0	261.5	1852.8
				SLE Freq.		0			-1902			43.2	0.0	244.2	1730.3
				SLE Q.P.		0			-1848			42.0	0.0	237.3	1681.3
105	2.850	7.63	2.42			4608	7503	0.20	-931	-2743	0.15				
				SLE Rare		2459			0			0.0	46.4	1340.5	150.3
				SLE Freq.		2279			0			0.0	43.1	1242.7	139.3
				SLE Q.P.		2209			0			0.0	41.7	1204.1	135.0
Trave Sez. 33 Rett. 44x32 [cm] 44x32															
105	0.200	7.63	2.42			5504	7503	0.20	-564	-2743	0.15				
				SLE Rare		3243			0			0.0	61.3	1768.1	198.2
				SLE Freq.		3014			0			0.0	56.9	1643.1	184.2
				SLE Q.P.		2924			0			0.0	55.2	1594.0	178.7
Camp.	1.740	4.62	4.62	5926	738	0	4900	0.16	-3781	-4616	0.15				
				SLE Rare		0			-2851			64.8	0.0	366.1	2594.2
				SLE Freq.		0			-2664			60.5	0.0	342.0	2423.8
				SLE Q.P.		0			-2589			58.8	0.0	332.4	2355.4
106	3.280	7.63	2.42			5183	7503	0.20	-767	-2743	0.15				
				SLE Rare		2893			0			0.0	54.7	1577.4	176.9
				SLE Freq.		2716			0			0.0	51.3	1480.6	166.0
				SLE Q.P.		2644			0			0.0	49.9	1441.3	161.6
Trave Sez. 33 Rett. 44x32 [cm] 44x32															
106	0.200	7.63	2.42			5234	7503	0.20	-762	-2743	0.15				
				SLE Rare		2925			0			0.0	55.2	1594.6	178.8
				SLE Freq.		2727			0			0.0	51.5	1486.6	166.7
				SLE Q.P.		2650			0			0.0	50.1	1445.0	162.0
Camp.	1.735	4.62	4.62	5926	693	0	4900	0.16	-3465	-4616	0.15				
				SLE Rare		0			-2611			59.3	0.0	335.3	2376.0
				SLE Freq.		0			-2436			55.3	0.0	312.7	2216.1
				SLE Q.P.		0			-2366			53.7	0.0	303.8	2152.6
107	3.270	7.63	2.42			5302	7503	0.20	-717	-2743	0.15				
				SLE Rare		2972			0			0.0	56.1	1620.3	181.7
				SLE Freq.		2788			0			0.0	52.7	1520.2	170.4
				SLE Q.P.		2711			0			0.0	51.2	1478.1	165.7
Trave Sez. 33 Rett. 44x32 [cm] 44x32															
107	0.200	7.63	2.42			5003	7503	0.20	-681	-2743	0.15				
				SLE Rare		2760			0			0.0	52.1	1504.6	168.7
				SLE Freq.		2615			0			0.0	49.4	1425.8	159.9
				SLE Q.P.		2560			0			0.0	48.4	1396.0	156.5
Camp.	1.605	4.62	4.62	5926	630	0	4900	0.16	-3503	-4616	0.15				
				SLE Rare		0			-2641			60.0	0.0	339.1	2402.8
				SLE Freq.		0			-2468			56.1	0.0	316.9	2245.3
				SLE Q.P.		0			-2398			54.5	0.0	307.9	2181.7
108	3.010	4.62	4.62			4416	4900	0.16	-1918	-4616	0.15				

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CORPO A

	SLE Rare	1806			0			0.0	39.7	1584.1	160.2	
	SLE Freq.	1647			0			0.0	36.2	1444.3	146.0	0.0204
	SLE Q.P.	1582			0			0.0	34.8	1387.0	140.2	0.0196

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 109 101 Sez. 33 Rett. 44x32 [cm] 44x32							
0.149	0.467	0.318	4673	5710	41792	18835	ø 8 2br. 5.0'
0.467	2.474	2.007	5812	5530	37566	10045	ø 8 2br. 15.0'
2.474	2.791	0.318	6235	5530	41792	18835	ø 8 2br. 5.0'
Trave 101 102 Sez. 33 Rett. 44x32 [cm] 44x32							
0.210	0.547	0.336	5998	5530	41792	18835	ø 8 2br. 5.0'
0.547	2.912	2.365	5599	5530	37566	10045	ø 8 2br. 15.0'
2.912	3.248	0.336	4450	5771	41792	18835	ø 8 2br. 5.0'
Trave 102 110 Sez. 33 Rett. 44x32 [cm] 44x32							
0.191	0.496	0.305	8846	5840	41792	18835	ø 8 2br. 5.0'
0.496	2.691	2.195	9009	5530	37566	10045	ø 8 2br. 15.0'
2.691	2.996	0.305	10369	5530	41792	18835	ø 8 2br. 5.0'
Trave 110 103 Sez. 33 Rett. 44x32 [cm] 44x32							
0.202	0.539	0.337	9219	5530	41792	18835	ø 8 2br. 5.0'
0.539	2.742	2.202	8078	5530	37566	10045	ø 8 2br. 15.0'
2.742	3.079	0.337	9420	5530	41792	18835	ø 8 2br. 5.0'
Trave 103 111 Sez. 33 Rett. 44x32 [cm] 44x32							
0.149	0.441	0.293	9710	5530	41792	18835	ø 8 2br. 5.0'
0.441	2.889	2.448	8721	5530	37566	10045	ø 8 2br. 15.0'
2.889	3.182	0.293	9928	5530	41792	18835	ø 8 2br. 5.0'
Trave 111 104 Sez. 33 Rett. 44x32 [cm] 44x32							
0.200	0.583	0.383	9205	5530	41792	18835	ø 8 2br. 5.0'
0.583	2.597	2.014	7763	5530	37566	10045	ø 8 2br. 15.0'
2.597	2.980	0.383	8457	5530	41792	18835	ø 8 2br. 5.0'
Trave 104 112 Sez. 33 Rett. 44x32 [cm] 44x32							
0.150	0.514	0.364	8308	5530	41792	18835	ø 8 2br. 5.0'
0.514	2.416	1.903	6833	5539	37566	10045	ø 8 2br. 15.0'
2.416	2.780	0.364	8308	5530	41792	18835	ø 8 2br. 5.0'
Trave 112 113 Sez. 33 Rett. 44x32 [cm] 44x32							
0.150	0.517	0.367	8218	5530	41792	18835	ø 8 2br. 5.0'
0.517	2.413	1.896	6833	5544	37566	10045	ø 8 2br. 15.0'
2.413	2.780	0.367	8295	5530	41792	18835	ø 8 2br. 5.0'

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Trave 113 105 Sez. 33 Rett. 44x32 [cm] 44x32							
0.150	0.454	0.304	8396	5530	41792	18835	ø 8 2br. 5.0'
0.454	2.546	2.091	8012	5530	37566	10045	ø 8 2br. 15.0'
2.546	2.850	0.304	9246	5530	41792	18835	ø 8 2br. 5.0'
Trave 105 106 Sez. 33 Rett. 44x32 [cm] 44x32							
0.197	0.513	0.315	9662	5530	41792	18835	ø 8 2br. 5.0'
0.513	2.918	2.405	8345	5530	37566	10045	ø 8 2br. 15.0'
2.918	3.234	0.315	9662	5530	41792	18835	ø 8 2br. 5.0'
Trave 106 107 Sez. 33 Rett. 44x32 [cm] 44x32							
0.203	0.528	0.325	9473	5530	41792	18835	ø 8 2br. 5.0'
0.528	2.993	2.466	8194	5530	37566	10045	ø 8 2br. 15.0'
2.993	3.318	0.325	9473	5530	41792	18835	ø 8 2br. 5.0'
Trave 107 108 Sez. 33 Rett. 44x32 [cm] 44x32							
0.197	0.512	0.315	10099	5530	41792	18835	ø 8 2br. 5.0'
0.512	2.649	2.137	8781	5530	37566	10045	ø 8 2br. 15.0'
2.649	2.964	0.315	8506	5840	41792	18835	ø 8 2br. 5.0'

Travata: 103 Travata 142 143

Nodo	x [m]	A <sub>ie</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>r</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 38 Rett. 30x24 [cm] 30x24																
142	0.150	4.62	4.62			766	3199	0.27	-237	-2988	0.25					
					SLE Rare	286			0			0.0	14.1	369.9	47.0	
					SLE Freq.	283			0			0.0	13.9	365.8	46.4	0.0049
					SLE Q.P.	281			0			0.0	13.8	363.9	46.2	0.0049
Camp.	2.660	4.62	4.62	234	68	0	3199	0.27	-355	-2988	0.25					
					SLE Rare	0			-273			14.0	0.0	68.5	372.4	
					SLE Freq.	0			-271			14.0	0.0	68.2	370.7	0.0293
					SLE Q.P.	0			-271			13.9	0.0	68.1	370.2	0.0292
143	5.170	4.62	4.62			893	3199	0.27	-134	-2988	0.25					
					SLE Rare	395			0			0.0	19.4	511.4	64.9	
					SLE Freq.	400			0			0.0	19.6	517.3	65.7	0.0069
					SLE Q.P.	400			0			0.0	19.6	517.2	65.7	0.0069

Da [m]	A [m]	Dx [m]	VEd [kg]	VRd,c [kg]	VRcd [kg]	VRd [kg]	Staffe
Trave 142 143 Sez. 38 Rett. 30x24 [cm] 30x24							
0.150	0.399	0.250	1689	3818	19925	14634	ø 8 2br. 5.0'
0.399	4.911	4.512	1644	3818	17910	8429	ø 8 2br. 12.5'
4.911	5.161	0.250	1680	3818	19925	14634	ø 8 2br. 5.0'

Travata: 103 Travata 143 144

N.B. Nella travata che segue sono incluse le verifiche delle travate:

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103 Travata 132 133

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 38 Rett. 30x24 [cm] 30x24																
143	0.150	4.62	4.62			1066	3199	0.27	-2062	-2988	0.25					
					SLE Rare	0			-608			31.3	0.0	152.8	830.4	
					SLE Freq.	0			-539			27.7	0.0	135.4	735.8	0.0581
					SLE Q.P.	0			-518			26.6	0.0	130.2	707.9	0.0559
Camp.	0.990	4.62	4.62	234	9	694	3199	0.27	-419	-2988	0.25					
					SLE Rare	42			-9			0.5	2.1	54.9	12.4	
					SLE Freq.	34			-9			0.5	1.7	44.0	12.8	0.0010
					SLE Q.P.	31			-9			0.5	1.5	40.1	12.8	0.0010
144	1.830	4.62	4.62			2553	3199	0.27	-1165	-2988	0.25					
					SLE Rare	827			0			0.0	40.6	1069.1	135.7	
					SLE Freq.	729			0			0.0	35.8	942.7	119.7	0.0126
					SLE Q.P.	694			0			0.0	34.1	897.0	113.9	0.0120

Da [m]	A [m]	Dx [m]	VEd [kg]	VRd,c [kg]	VRcd [kg]	VRd [kg]	Staffe
Trave 143 144 Sez. 38 Rett. 30x24 [cm] 30x24							
0.146	0.390	0.244	3833	3818	19925	14634	ø 8 2br. 5.0'
0.390	1.540	1.150	3796	3818	17910	8429	ø 8 2br. 12.5'
1.540	1.784	0.244	3842	3818	19925	14634	ø 8 2br. 5.0'

Travata: 103 Travata 144 145

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 40 Rett. 30x32 [cm] 20X32 ascensore																
144	0.125	4.62	4.62			220	4644	0.19	-243	-4433	0.17					
					SLE Rare	0			-21			0.6	0.0	4.0	19.9	
					SLE Freq.	0			-15			0.4	0.0	2.9	14.1	0.0012
					SLE Q.P.	0			-13			0.4	0.0	2.4	12.0	0.0011
Camp.	0.986	4.62	4.62	312	11	210	4644	0.19	-237	-4433	0.17					
					SLE Rare	0			-41			1.1	0.0	7.6	37.7	
					SLE Freq.	0			-42			1.2	0.0	7.9	38.8	0.0034
					SLE Q.P.	0			-42			1.2	0.0	7.9	38.8	0.0034
145	1.848	4.62	4.62			622	4644	0.19	-381	-4433	0.17					
					SLE Rare	134			0			0.0	3.6	119.5	19.3	
					SLE Freq.	124			0			0.0	3.3	110.7	17.9	0.0018
					SLE Q.P.	120			0			0.0	3.2	107.6	17.4	0.0018

Da [m]	A [m]	Dx [m]	VEd [kg]	VRd,c [kg]	VRcd [kg]	VRd [kg]	Staffe
Trave 144 145 Sez. 40 Rett. 30x32 [cm] 20X32 ascensore							
0.125	0.445	0.320	5466	4524	28495	18835	ø 8 2br. 5.0'
0.445	1.528	1.083	5408	4524	25613	7534	ø 8 2br. 20.0'



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1.528	1.848	0.320	5484	4524	28495	18835	ø 8 2br. 5.0'
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Travata: 106 Travata 115 116 117

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 33 Rett. 44x32 [cm] 44x32																
115	0.150	7.63	4.62			5188	7505	0.20	-2663	-4644	0.16					
						SLE Rare	1556		0			0.0	28.5	850.7	169.5	
						SLE Freq.	1499		0			0.0	27.4	819.6	163.3	0.0137
						SLE Q.P.	1477		0			0.0	27.0	807.4	160.9	0.0135
Camp.	1.525	4.62	4.62	5926	570	0	4900	0.16	-3175	-4616	0.15					
						SLE Rare	0		-2394			54.4	0.0	307.4	2178.0	
						SLE Freq.	0		-2235			50.8	0.0	287.0	2033.9	0.2175
						SLE Q.P.	0		-2172			49.3	0.0	278.9	1976.1	0.2113
116	2.900	7.63	4.62			6190	7505	0.20	-1888	-4644	0.16					
						SLE Rare	2763		0			0.0	50.5	1510.6	301.0	
						SLE Freq.	2536		0			0.0	46.4	1386.4	276.2	0.0232
						SLE Q.P.	2445		0			0.0	44.7	1336.7	266.3	0.0224
Trave Sez. 33 Rett. 44x32 [cm] 44x32																
116	0.200	7.63	4.62			5049	7505	0.20	-760	-4644	0.16					
						SLE Rare	2955		0			0.0	54.0	1615.5	321.9	
						SLE Freq.	2722		0			0.0	49.8	1487.7	296.4	0.0249
						SLE Q.P.	2629		0			0.0	48.1	1436.9	286.3	0.0240
Camp.	1.760	4.62	4.62	5926	755	502	4900	0.16	-4366	-4616	0.15					
						SLE Rare	0		-2674			60.7	0.0	343.3	2432.8	
						SLE Freq.	0		-2500			56.8	0.0	321.0	2274.5	0.2432
						SLE Q.P.	0		-2430			55.2	0.0	312.0	2210.9	0.2364
117	3.320	7.63	2.61			7290	7503	0.20	-1233	-2901	0.15					
						SLE Rare	3890		0			0.0	73.3	2121.5	254.2	
						SLE Freq.	3667		0			0.0	69.1	1999.7	239.6	0.0224
						SLE Q.P.	3578		0			0.0	67.4	1951.0	233.8	0.0219

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 115 116 Sez. 33 Rett. 44x32 [cm] 44x32							
0.150	0.453	0.303	10095	5840	41792	18835	ø 8 2br. 5.0'
0.453	2.597	2.143	8865	5840	37566	10045	ø 8 2br. 15.0'
2.597	2.900	0.303	9892	5840	41792	18835	ø 8 2br. 5.0'
Trave 116 117 Sez. 33 Rett. 44x32 [cm] 44x32							
0.197	0.513	0.316	9751	5840	41792	18835	ø 8 2br. 5.0'
0.513	2.958	2.445	8993	5530	37566	10045	ø 8 2br. 15.0'
2.958	3.274	0.316	10309	5530	41792	18835	ø 8 2br. 5.0'

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Travata: 106 Travata 117 118 119 120 121

Nodo	x [m]	A <sub>fe</sub> [cm <sup>2</sup> ]	A <sub>fi</sub> [cm <sup>2</sup> ]	q <sub>r</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm <sup>2</sup> ]	σ <sub>bi</sub> [kg/cm <sup>2</sup> ]	σ <sub>fe</sub> [kg/cm <sup>2</sup> ]	σ <sub>fi</sub> [kg/cm <sup>2</sup> ]	w mm
Trave Sez. 39 Rett. 60x32 [cm] 60x32																
117	0.200	27.14	18.10			8788	23912	0.32	0	-16026	0.22					
					SLE Rare	6409			0			0.0	57.1	1052.9	432.4	
					SLE Freq.	5894			0			0.0	52.5	968.3	397.6	0.0260
					SLE Q.P.	5693			0			0.0	50.7	935.3	384.1	0.0251
Camp.	1.880	27.14	18.10	10931	1587	0	23912	0.32	-7859	-16026	0.22					
					SLE Rare	0			-5903			56.2	0.0	397.0	1475.9	
					SLE Freq.	0			-5439			51.8	0.0	365.8	1360.0	0.1462
					SLE Q.P.	0			-5254			50.0	0.0	353.3	1313.6	0.1394
118	3.560	27.14	18.10			10872	23912	0.32	0	-16026	0.22					
					SLE Rare	8157			0			0.0	72.7	1340.0	550.3	
					SLE Freq.	7492			0			0.0	66.8	1230.8	505.4	0.0331
					SLE Q.P.	7221			0			0.0	64.4	1186.3	487.1	0.0319
Trave Sez. 39 Rett. 60x32 [cm] 60x32																
118	0.250	27.14	18.10			20631	23912	0.32	0	-16026	0.22					
					SLE Rare	15458			0			0.0	137.8	2539.6	1042.9	
					SLE Freq.	14121			0			0.0	125.8	2319.8	952.6	0.0777
					SLE Q.P.	13585			0			0.0	121.1	2231.8	916.5	0.0738
Camp.	2.920	10.18	22.62	10176	3295	0	10090	0.21	-16803	-19741	0.30					
					SLE Rare	0			-12586			132.2	0.0	1167.2	2528.4	
					SLE Freq.	0			-11481			120.6	0.0	1064.8	2306.6	0.2686
					SLE Q.P.	0			-11040			115.9	0.0	1023.8	2217.9	0.2568
119	5.590	31.67	27.14			23902	27638	0.31	0	-23453	0.25					
					SLE Rare	17900			0			0.0	140.3	2542.8	1071.4	
					SLE Freq.	16322			0			0.0	127.9	2318.5	976.9	0.0871
					SLE Q.P.	15690			0			0.0	122.9	2228.8	939.1	0.0828
Trave Sez. 39 Rett. 60x32 [cm] 60x32																
119	0.150	31.67	27.14			23980	27638	0.31	0	-23453	0.25					
					SLE Rare	17958			0			0.0	140.7	2551.1	1074.8	
					SLE Freq.	16373			0			0.0	128.3	2325.9	980.0	0.0874
					SLE Q.P.	15739			0			0.0	123.3	2235.9	942.0	0.0832
Camp.	2.820	10.18	22.62	10176	3295	0	10090	0.21	-16805	-19741	0.30					
					SLE Rare	0			-12587			132.2	0.0	1167.3	2528.8	
					SLE Freq.	0			-11484			120.6	0.0	1065.0	2307.2	0.2687
					SLE Q.P.	0			-11043			116.0	0.0	1024.1	2218.5	0.2569
120	5.490	27.14	18.10			20491	23912	0.32	0	-16026	0.22					
					SLE Rare	15353			0			0.0	136.8	2522.3	1035.7	
					SLE Freq.	14023			0			0.0	125.0	2303.8	946.0	0.0770
					SLE Q.P.	13490			0			0.0	120.2	2216.3	910.1	0.0731
Trave Sez. 39 Rett. 60x32 [cm] 60x32																
120	0.250	27.14	18.10			11180	23912	0.32	0	-16026	0.22					

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				SLE Rare	8384			0			0.0	74.7	1377.4	565.6	
				SLE Freq.	7688			0			0.0	68.5	1263.0	518.6	0.0339
				SLE Q.P.	7405			0			0.0	66.0	1216.5	499.6	0.0327
Camp.	1.935	27.14	18.10	10016	1462	0	23912	0.32	-7159	-16026	0.22				
				SLE Rare	0			-5360			51.0	0.0	360.5	1340.1	
				SLE Freq.	0			-4884			46.5	0.0	328.5	1221.2	0.1260
				SLE Q.P.	0			-4694			44.7	0.0	315.7	1173.6	0.1191
121	3.620	27.14	18.10			7584	23912	0.32	0	-16026	0.22				
				SLE Rare	5675			0			0.0	50.6	932.3	382.8	
				SLE Freq.	5154			0			0.0	45.9	846.8	347.7	0.0228
				SLE Q.P.	4950			0			0.0	44.1	813.2	333.9	0.0219

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rcd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 117 118 Sez. 39 Rett. 60x32 [cm] 60x32							
0.200	0.491	0.291	24532	11323	56989	37670	ø 8 4br. 5.0'
0.491	1.501	1.010	22304	11323	51226	24109	ø 8 4br. 12.5'
1.501	2.209	0.708	14611	11323	51226	15068	ø 8 4br. 20.0'
2.209	3.219	1.010	22337	11323	51226	24109	ø 8 4br. 12.5'
3.219	3.511	0.291	24445	11323	56989	37670	ø 8 4br. 5.0'
Trave 118 119 Sez. 39 Rett. 60x32 [cm] 60x32							
0.302	0.622	0.320	26615	11323	56989	37670	ø 8 4br. 5.0'
0.622	2.555	1.933	24429	12197	51226	30136	ø 8 4br. 10.0'
2.555	3.385	0.831	11485	12197	51226	15068	ø 8 4br. 20.0'
3.385	5.319	1.933	24538	12197	51226	30136	ø 8 4br. 10.0'
5.319	5.639	0.320	27796	12854	56989	37670	ø 8 4br. 5.0'
Trave 119 120 Sez. 39 Rett. 60x32 [cm] 60x32							
0.151	0.471	0.320	27854	12854	56989	37670	ø 8 4br. 5.0'
0.471	2.404	1.933	24596	12197	51226	30136	ø 8 4br. 10.0'
2.404	3.235	0.831	11485	12197	51226	15068	ø 8 4br. 20.0'
3.235	5.168	1.933	24429	12197	51226	30136	ø 8 4br. 10.0'
5.168	5.488	0.320	26571	11323	56989	37670	ø 8 4br. 5.0'
Trave 120 121 Sez. 39 Rett. 60x32 [cm] 60x32							
0.296	0.621	0.325	23239	11323	56989	37670	ø 8 4br. 5.0'
0.621	1.682	1.061	20981	11323	51226	24109	ø 8 4br. 12.5'
1.682	2.187	0.505	13796	11323	51226	15068	ø 8 4br. 20.0'
2.187	3.248	1.061	21300	11323	51226	24109	ø 8 4br. 12.5'
3.248	3.573	0.325	23598	11323	56989	37670	ø 8 4br. 5.0'

Travata: 106 Travata 121 122 123

Nodo	x [m]	A <sub>ie</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>r</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>ie</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 33 Rett. 44x32 [cm] 44x32																

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CORPO A

121	0.150	7.63	3.90			5734	7505	0.20	0	-4024	0.16						
					SLE Rare	4308			0			0.0	79.6	2353.0	405.1		
					SLE Freq.	3974			0			0.0	73.4	2170.7	373.7	0.0338	
					SLE Q.P.	3840			0			0.0	71.0	2097.6	361.1	0.0326	
Camp.	1.745	4.62	4.62	7150	846	0	4900	0.16	-4139	-4616	0.15						
					SLE Rare	0			-3118			70.8	0.0	400.4	2837.2		
					SLE Freq.	0			-2903			66.0	0.0	372.8	2641.8	0.2988	
					SLE Q.P.	0			-2817			64.0	0.0	361.8	2563.6	0.2849	
122	3.340	7.63	2.73			5569	7504	0.20	-1	-3006	0.15						
					SLE Rare	3862			0			0.0	72.6	2106.6	263.1		
					SLE Freq.	3606			0			0.0	67.8	1967.0	245.7	0.0233	
					SLE Q.P.	3504			0			0.0	65.9	1911.3	238.7	0.0226	

Trave Sez. 33 Rett. 44x32 [cm] 44x32																	
122	0.150	7.63	2.73			5163	7504	0.20	-190	-3006	0.15						
					SLE Rare	3275			0			0.0	61.6	1786.0	223.1		
					SLE Freq.	3095			0			0.0	58.2	1687.9	210.8	0.0200	
					SLE Q.P.	3020			0			0.0	56.8	1647.3	205.8	0.0195	
Camp.	1.595	4.62	7.63	7150	751	0	4951	0.18	-4290	-7193	0.18						
					SLE Rare	0			-3230			61.4	0.0	449.9	1828.8		
					SLE Freq.	0			-3000			57.0	0.0	417.9	1698.6	0.1761	
					SLE Q.P.	0			-2908			55.2	0.0	405.1	1646.5	0.1679	
123	3.040	7.63	2.42			5116	7503	0.20	-1325	-2735	0.15						
					SLE Rare	2717			0			0.0	51.3	1481.3	165.5		
					SLE Freq.	2477			0			0.0	46.8	1350.5	150.9	0.0136	
					SLE Q.P.	2384			0			0.0	45.0	1299.8	145.2	0.0131	

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 121 122 Sez. 33 Rett. 44x32 [cm] 44x32							
0.152	0.472	0.320	11438	5530	41792	18835	ø 8 2br. 5.0'
0.472	3.069	2.597	9733	5530	37566	10045	ø 8 2br. 15.0'
3.069	3.389	0.320	11239	5530	41792	18835	ø 8 2br. 5.0'
Trave 122 123 Sez. 33 Rett. 44x32 [cm] 44x32							
0.148	0.463	0.315	10738	5530	41792	18835	ø 8 2br. 5.0'
0.463	2.678	2.215	9179	5539	37566	10045	ø 8 2br. 15.0'
2.678	2.993	0.315	10755	5530	41792	18835	ø 8 2br. 5.0'

Travata: 107 Travata 542 543

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>if</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>i</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 31 Rett. 30x32 [cm] 30x32																
542	0.150	4.62	4.62			2864	4644	0.19	0	-4433	0.17					
						2020			0			0.0	54.4	1805.9	292.0	
						2013			0			0.0	54.3	1800.1	291.1	0.0295

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CORPO A

				SLE Q.P.	2010			0			0.0	54.2	1797.2	290.6	0.0295
Camp.	2.660	4.62	4.62	1561	452	0	4644	0.19	-2349	-4433	0.17				
				SLE Rare	0			-1808			50.0	0.0	338.9	1672.3	
				SLE Freq.	0			-1809			50.1	0.0	339.2	1673.7	0.1499
				SLE Q.P.	0			-1809			50.1	0.0	339.2	1673.8	0.1499
543	5.170	4.62	4.62			3360	4644	0.19	0	-4433	0.17				
				SLE Rare	2534			0			0.0	68.3	2265.8	366.4	
				SLE Freq.	2535			0			0.0	68.3	2266.2	366.5	0.0372
				SLE Q.P.	2534			0			0.0	68.3	2265.5	366.4	0.0372

Da [m]	A [m]	Dx [m]	VEd [kg]	VRd,c [kg]	VRcd [kg]	VRd [kg]	Staffe
Trave 542 543 Sez. 31 Rett. 30x32 [cm] 30x32							
0.150	0.469	0.319	4858	4524	28495	18835	ø 8 2br. 5.0'
0.469	4.842	4.372	4473	4524	25613	7534	ø 8 2br. 20.0'
4.842	5.161	0.319	4798	4524	28495	18835	ø 8 2br. 5.0'

Travata: 107 Travata 525 127

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>te</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 31 Rett. 30x32 [cm] 30x32																
525	0.125	7.63	7.63			4579	7200	0.23	0	-6964	0.21					
				SLE Rare		3298			0			0.0	70.9	1847.2	456.3	
				SLE Freq.		2569			0			0.0	55.3	1438.7	355.4	0.0304
				SLE Q.P.		2278			0			0.0	49.0	1275.9	315.2	0.0269
Camp.	3.310	7.63	7.63	312	139	0	7200	0.23	-3717	-6964	0.21					
				SLE Rare		0			-2661			58.3	0.0	443.7	1536.7	
				SLE Freq.		0			-2016			44.2	0.0	336.1	1164.1	0.1024
				SLE Q.P.		0			-1757			38.5	0.0	293.0	1014.6	0.0823
127	6.495	7.63	7.63			5941	7200	0.23	0	-6964	0.21					
				SLE Rare		4227			0			0.0	90.9	2367.4	584.8	
				SLE Freq.		3113			0			0.0	67.0	1743.8	430.7	0.0368
				SLE Q.P.		2666			0			0.0	57.4	1493.3	368.9	0.0315

Da [m]	A [m]	Dx [m]	VEd [kg]	VRd,c [kg]	VRcd [kg]	VRd [kg]	Staffe
Trave 525 127 Sez. 31 Rett. 30x32 [cm] 30x32							
0.125	0.443	0.319	2994	5350	28495	18835	ø 8 2br. 5.0'
0.443	6.152	5.709	6252	5350	25613	7534	ø 8 2br. 20.0'
6.152	6.471	0.319	6352	5350	28495	18835	ø 8 2br. 5.0'

Travata: 108 Travata 544 545

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>te</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 40 Rett. 30x32 [cm] 20X32 ascensore																

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CORPO A

544	0.100	4.62	4.62			1028	4644	0.19	-893	-4433	0.17						
					SLE Rare	64			0			0.0	1.7	57.5	9.3		
					SLE Freq.	67			0			0.0	1.8	60.1	9.7	0.0010	
					SLE Q.P.	67			0			0.0	1.8	60.3	9.7	0.0010	
Camp.	0.974	4.62	4.62	312	11	254	4644	0.19	-259	-4433	0.17						
					SLE Rare	0			-18			0.5	0.0	3.4	16.9		
					SLE Freq.	0			-20			0.5	0.0	3.7	18.4	0.0016	
					SLE Q.P.	0			-20			0.6	0.0	3.7	18.5	0.0016	
545	1.848	4.62	4.62			1094	4644	0.19	-903	-4433	0.17						
					SLE Rare	105			0			0.0	2.8	93.7	15.2		
					SLE Freq.	98			0			0.0	2.6	87.5	14.1	0.0014	
					SLE Q.P.	95			0			0.0	2.6	85.3	13.8	0.0014	

Da [m]	A [m]	Dx [m]	VEd [kg]	VRd,c [kg]	VRcd [kg]	VRd [kg]	Staffe
Trave 544 545 Sez. 40 Rett. 30x32 [cm] 20X32 ascensore							
0.100	0.420	0.320	5397	4524	28495	18835	ø 8 2br. 5.0'
0.420	1.528	1.108	5332	4524	25613	7534	ø 8 2br. 20.0'
1.528	1.848	0.320	5409	4524	28495	18835	ø 8 2br. 5.0'

Travata: 108 Travata 128 129 630

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>i</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 31 Rett. 30x32 [cm] 30x32																
128	0.150	4.62	4.62			3057	4644	0.19	-1231	-4433	0.17					
					SLE Rare	1545			0			0.0	41.6	1381.2	223.3	
					SLE Freq.	1253			0			0.0	33.8	1120.6	181.2	0.0184
					SLE Q.P.	1136			0			0.0	30.6	1015.5	164.2	0.0167
Camp.	1.745	4.62	4.62	2954	350	0	4644	0.19	-3474	-4433	0.17					
					SLE Rare	0			-2544			70.4	0.0	477.0	2353.9	
					SLE Freq.	0			-2130			58.9	0.0	399.3	1970.1	0.1936
					SLE Q.P.	0			-1964			54.3	0.0	368.2	1816.7	0.1709
129	3.340	4.62	4.62			3883	4644	0.19	-627	-4433	0.17					
					SLE Rare	2324			0			0.0	62.6	2077.8	336.0	
					SLE Freq.	1995			0			0.0	53.8	1784.1	288.5	0.0293
					SLE Q.P.	1864			0			0.0	50.2	1666.8	269.5	0.0273
Trave Sez. 31 Rett. 30x32 [cm] 30x32																
129	0.150	4.62	4.62			1559	4644	0.19	-260	-4433	0.17					
					SLE Rare	938			0			0.0	25.3	838.8	135.6	
					SLE Freq.	836			0			0.0	22.5	747.2	120.8	0.0123
					SLE Q.P.	792			0			0.0	21.4	708.5	114.6	0.0116
Camp.	1.620	4.62	4.62	1536	161	693	4644	0.19	-1073	-4433	0.17					
					SLE Rare	0			-311			8.6	0.0	58.2	287.3	
					SLE Freq.	0			-317			8.8	0.0	59.4	293.1	0.0259
					SLE Q.P.	0			-317			8.8	0.0	59.5	293.4	0.0260

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CORPO A

630	3.090	4.62	4.62			2098	4644	0.19	-219	-4433	0.17						
				SLE Rare		1248			0			0.0	33.6	1116.0	180.5		
				SLE Freq.		1123			0			0.0	30.3	1004.1	162.4	0.0165	
				SLE Q.P.		1076			0			0.0	29.0	962.2	155.6	0.0158	

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rcd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 128 129 Sez. 31 Rett. 30x32 [cm] 30x32							
0.152	0.477	0.325	6417	4524	28495	18835	ø 8 2br. 5.0'
0.477	3.064	2.587	5817	4524	25613	7534	ø 8 2br. 20.0'
3.064	3.389	0.325	6301	4524	28495	18835	ø 8 2br. 5.0'
Trave 129 630 Sez. 31 Rett. 30x32 [cm] 30x32							
0.149	0.466	0.318	4608	4524	28495	18835	ø 8 2br. 5.0'
0.466	2.749	2.282	4300	4524	25613	7534	ø 8 2br. 20.0'
2.749	3.066	0.318	4634	4524	28495	18835	ø 8 2br. 5.0'

Travata: 109 Travata 946 947

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 31 Rett. 30x32 [cm] 30x32																
946	0.050	4.62	4.62			423	4644	0.19	-291	-4433	0.17					
				SLE Rare		66			0			0.0	1.8	58.7	9.5	
				SLE Freq.		66			0			0.0	1.8	59.0	9.5	0.0010
				SLE Q.P.		66			0			0.0	1.8	58.9	9.5	0.0010
Camp.	0.923	4.62	4.62	312	11	86	4644	0.19	-107	-4433	0.17					
				SLE Rare		0			-22			0.6	0.0	4.0	19.9	
				SLE Freq.		0			-23			0.6	0.0	4.2	20.8	0.0018
				SLE Q.P.		0			-23			0.6	0.0	4.2	20.9	0.0018
947	1.796	4.62	4.62			423	4644	0.19	-242	-4433	0.17					
				SLE Rare		95			0			0.0	2.5	84.6	13.7	
				SLE Freq.		92			0			0.0	2.5	82.0	13.3	0.0013
				SLE Q.P.		91			0			0.0	2.4	81.0	13.1	0.0013

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rcd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 946 947 Sez. 31 Rett. 30x32 [cm] 30x32							
0.050	0.370	0.320	5416	4524	28495	18835	ø 8 2br. 5.0'
0.370	1.476	1.106	5339	4524	25613	7534	ø 8 2br. 20.0'
1.476	1.796	0.320	5404	4524	28495	18835	ø 8 2br. 5.0'

Travata: 109 Travata 533 534

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 40 Rett. 30x32 [cm] 20X32 ascensore																

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CORPO A

533	0.100	4.62	4.62			1065	4644	0.19	-826	-4433	0.17						
				SLE Rare		140			0			0.0	3.8	125.3	20.3		
				SLE Freq.		125			0			0.0	3.4	111.7	18.1	0.0018	
				SLE Q.P.		119			0			0.0	3.2	106.5	17.2	0.0017	
Camp.	0.974	4.62	4.62	312	11	272	4644	0.19	-248	-4433	0.17						
				SLE Rare		26			-9			0.2	0.7	22.9	7.9		
				SLE Freq.		14			-9			0.2	0.4	12.7	7.9	0.0007	
				SLE Q.P.		10			-9			0.2	0.3	8.7	7.9	0.0007	
534	1.848	4.62	4.62			1082	4644	0.19	-915	-4433	0.17						
				SLE Rare		94			0			0.0	2.5	84.4	13.7		
				SLE Freq.		87			0			0.0	2.3	77.6	12.5	0.0013	
				SLE Q.P.		84			0			0.0	2.3	74.8	12.1	0.0012	

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rcd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 533 534 Sez. 40 Rett. 30x32 [cm] 20X32 ascensore							
0.100	0.420	0.320	5397	4524	28495	18835	ø 8 2br. 5.0'
0.420	1.528	1.108	5332	4524	25613	7534	ø 8 2br. 20.0'
1.528	1.848	0.320	5409	4524	28495	18835	ø 8 2br. 5.0'

Travata: 109 Travata 534 136

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>i</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 31 Rett. 30x32 [cm] 30x32																
534	0.100	4.62	4.62			4131	4644	0.19	-877	-4433	0.17					
				SLE Rare		2862			0			0.0	77.1	2558.6	413.7	
				SLE Freq.		2201			0			0.0	59.3	1968.1	318.3	0.0323
				SLE Q.P.		1940			0			0.0	52.3	1734.2	280.4	0.0284
Camp.	1.370	4.62	4.62	312	24	105	4644	0.19	-1187	-4433	0.17					
				SLE Rare		0			-844			23.4	0.0	158.3	780.9	
				SLE Freq.		0			-620			17.1	0.0	116.2	573.3	0.0507
				SLE Q.P.		0			-530			14.7	0.0	99.4	490.3	0.0434
136	2.640	4.62	4.62			2273	4644	0.19	-2393	-4433	0.17					
				SLE Rare		83			-22			0.6	2.2	74.5	20.7	
				SLE Freq.		4			-76			2.1	0.1	14.2	70.0	0.0062
				SLE Q.P.		0			-74			2.0	0.0	13.9	68.4	0.0061

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rcd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 534 136 Sez. 31 Rett. 30x32 [cm] 30x32							
0.100	0.420	0.320	11288	4524	28495	18835	ø 8 2br. 5.0'
0.420	0.725	0.305	11188	4524	25613	12054	ø 8 2br. 12.5'
0.725	2.013	1.288	5097	4524	25613	7534	ø 8 2br. 20.0'
2.013	2.318	0.305	3796	4524	25613	12054	ø 8 2br. 12.5'
2.318	2.638	0.320	3873	4524	28495	18835	ø 8 2br. 5.0'



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CORPO A

Travata: 110 Travata 940 939

Nodo	x [m]	A <sub>le</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 40 Rett. 30x32 [cm] 20X32 ascensore																
940	0.100	4.62	4.62			398	4644	0.19	-182	-4433	0.17					
				SLE Rare		120			0			0.0	3.2	107.5	17.4	
				SLE Freq.		111			0			0.0	3.0	99.4	16.1	0.0016
				SLE Q.P.		108			0			0.0	2.9	96.3	15.6	0.0016
Camp.	0.973	4.62	4.62	312	11	115	4644	0.19	-51	-4433	0.17					
				SLE Rare		44			-9			0.2	1.2	39.5	7.9	
				SLE Freq.		34			-9			0.2	0.9	30.4	7.9	0.0007
				SLE Q.P.		30			-9			0.2	0.8	26.8	7.9	0.0007
939	1.846	4.62	4.62			390	4644	0.19	-119	-4433	0.17					
				SLE Rare		151			0			0.0	4.1	134.9	21.8	
				SLE Freq.		140			0			0.0	3.8	124.9	20.2	0.0020
				SLE Q.P.		135			0			0.0	3.6	120.8	19.5	0.0020

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rcd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 940 939 Sez. 40 Rett. 30x32 [cm] 20X32 ascensore							
0.100	0.420	0.320	5404	4524	28495	18835	ø 8 2br. 5.0'
0.420	1.526	1.106	5339	4524	25613	7534	ø 8 2br. 20.0'
1.526	1.846	0.320	5416	4524	28495	18835	ø 8 2br. 5.0'

Travata: 110 Travata 137 939

Nodo	x [m]	A <sub>le</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 31 Rett. 30x32 [cm] 30x32																
137	0.150	7.63	7.63			3396	7200	0.23	-2168	-6964	0.21					
				SLE Rare		1022			0			0.0	22.0	572.2	141.3	
				SLE Freq.		873			0			0.0	18.8	488.9	120.8	0.0103
				SLE Q.P.		812			0			0.0	17.5	455.0	112.4	0.0096
Camp.	1.450	7.63	7.63	5628	459	0	7200	0.23	-3198	-6964	0.21					
				SLE Rare		0			-2370			51.9	0.0	395.2	1368.8	
				SLE Freq.		0			-2079			45.6	0.0	346.6	1200.5	0.1073
				SLE Q.P.		0			-1962			43.0	0.0	327.2	1133.2	0.0982
939	2.750	7.63	7.63			6661	7200	0.23	-887	-6964	0.21					
				SLE Rare		4068			0			0.0	87.5	2278.5	562.8	
				SLE Freq.		3525			0			0.0	75.8	1974.5	487.7	0.0417
				SLE Q.P.		3310			0			0.0	71.2	1853.6	457.9	0.0391

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rcd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 137 939 Sez. 31 Rett. 30x32 [cm] 30x32							

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0.150	0.469	0.319	10480	5350	28495	18835	ø 8 2br. 5.0'
0.469	1.284	0.815	9190	5350	25613	12054	ø 8 2br. 12.5'
1.284	1.611	0.327	6316	5350	25613	7534	ø 8 2br. 20.0'
1.611	2.426	0.815	10585	5350	25613	12054	ø 8 2br. 12.5'
2.426	2.746	0.319	11841	5350	28495	18835	ø 8 2br. 5.0'

Travata: 113 Travata 533 544

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>ti</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>te</sub> [kg/cm²]	σ <sub>ti</sub> [kg/cm²]	w mm
Trave Sez. 40 Rett. 30x32 [cm] 20X32 ascensore																
533	0.100	4.62	4.62			1714	4644	0.19	-1611	-4433	0.17					
				SLE Rare		45			0			0.0	1.2	40.6	6.6	
				SLE Freq.		51			0			0.0	1.4	45.8	7.4	0.0008
				SLE Q.P.		51			0			0.0	1.4	45.8	7.4	0.0008
Camp.	0.850	5.03	5.21	312	9	456	5005	0.19	-475	-4944	0.18					
				SLE Rare		0			-22			0.6	0.0	4.1	18.0	
				SLE Freq.		0			-22			0.6	0.0	4.1	18.0	0.0015
				SLE Q.P.		0			-22			0.6	0.0	4.1	18.0	0.0015
544	1.600	4.62	4.62			1711	4644	0.19	-1601	-4433	0.17					
				SLE Rare		65			0			0.0	1.7	58.0	9.4	
				SLE Freq.		58			0			0.0	1.6	51.6	8.3	0.0008
				SLE Q.P.		55			0			0.0	1.5	49.1	7.9	0.0008

Da [m]	A [m]	Dx [m]	VE <sub>d</sub> [kg]	VR <sub>d,c</sub> [kg]	VR <sub>cd</sub> [kg]	VR <sub>d</sub> [kg]	Staffe
Trave 533 544 Sez. 40 Rett. 30x32 [cm] 20X32 ascensore							
0.100	0.420	0.320	6232	4524	28495	18835	ø 8 2br. 5.0'
0.420	1.280	0.860	6155	4709	25613	7534	ø 8 2br. 20.0'
1.280	1.600	0.320	6232	4524	28495	18835	ø 8 2br. 5.0'

Travata: 114 Travata 534 545

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>ti</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>te</sub> [kg/cm²]	σ <sub>ti</sub> [kg/cm²]	w mm
Trave Sez. 40 Rett. 30x32 [cm] 20X32 ascensore																
534	0.100	18.10	18.10			9515	15680	0.31	-9337	-15420	0.28					
				SLE Rare		128			0			0.0	1.8	32.1	13.8	
				SLE Freq.		103			0			0.0	1.4	25.9	11.1	0.0008
				SLE Q.P.		89			0			0.0	1.2	22.3	9.6	0.0007
Camp.	0.850	18.10	18.10	2310	67	2575	15680	0.31	-3140	-15420	0.28					
				SLE Rare		0			-367			5.1	0.0	44.2	94.1	
				SLE Freq.		0			-351			4.9	0.0	42.3	90.0	0.0064
				SLE Q.P.		0			-347			4.8	0.0	41.7	88.8	0.0063
545	1.600	18.10	18.10			9923	15680	0.31	-9659	-15420	0.28					
				SLE Rare		172			0			0.0	2.4	43.1	18.5	
				SLE Freq.		143			0			0.0	2.0	35.7	15.3	0.0011
				SLE Q.P.		132			0			0.0	1.8	33.0	14.2	0.0010

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Da [m]	A [m]	Dx [m]	VEd [kg]	VRd,c [kg]	VRcd [kg]	VRd [kg]	Staffe
Trave 534 545 Sez. 40 Rett. 30x32 [cm] 20X32 ascensore							
0.100	0.420	0.320	21887	6840	28495	37670	ø 8 4br. 5.0'
0.420	1.280	0.860	21395	6840	25613	60272	ø 8 4br. 5.0'
1.280	1.600	0.320	21887	6840	28495	37670	ø 8 4br. 5.0'

Travata: 114 Travata 149 150 151 152 153 154

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>n</sub> [cm²]	q <sub>r</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>te</sub> [kg/cm²]	σ <sub>n</sub> [kg/cm²]	w mm
Trave Sez. 36 Rett. 65x32 [cm] 65x32																
149	0.150	7.70	4.03			6418	7981	0.16	-463	-4368	0.14					
				SLE Rare		4038			0			0.0	58.6	2130.0	144.7	
				SLE Freq.		3743			0			0.0	54.3	1974.4	134.2	0.0218
				SLE Q.P.		3633			0			0.0	52.7	1916.1	130.2	0.0211
Camp.	1.879	7.70	7.70	7004	1016	0	8020	0.17	-6522	-7588	0.16					
				SLE Rare		0			-4913			71.3	0.0	430.1	2696.1	
				SLE Freq.		0			-4572			66.4	0.0	400.3	2509.4	0.2766
				SLE Q.P.		0			-4437			64.4	0.0	388.5	2435.3	0.2642
150	3.608	18.10	8.40			9422	16711	0.26	0	-8197	0.18					
				SLE Rare		7105			0			0.0	75.1	1699.3	350.0	
				SLE Freq.		6654			0			0.0	70.4	1591.4	327.8	0.0330
				SLE Q.P.		6463			0			0.0	68.4	1545.9	318.4	0.0321
Trave Sez. 36 Rett. 65x32 [cm] 65x32																
150	0.200	18.10	8.40			15073	16711	0.26	0	-8197	0.18					
				SLE Rare		11360			0			0.0	120.2	2717.2	559.7	
				SLE Freq.		10602			0			0.0	112.1	2535.8	522.3	0.0526
				SLE Q.P.		10297			0			0.0	108.9	2462.8	507.3	0.0511
Camp.	2.870	7.70	15.71	7258	2350	0	8115	0.19	-12756	-14348	0.22					
				SLE Rare		0			-9611			109.7	0.0	900.3	2696.1	
				SLE Freq.		0			-8958			102.3	0.0	839.0	2512.7	0.2999
				SLE Q.P.		0			-8696			99.3	0.0	814.5	2439.3	0.2894
151	5.540	15.71	6.72			14036	14843	0.24	0	-6741	0.17					
				SLE Rare		10570			0			0.0	117.7	2866.3	524.8	
				SLE Freq.		9831			0			0.0	109.5	2665.9	488.1	0.0481
				SLE Q.P.		9538			0			0.0	106.2	2586.4	473.5	0.0467
Trave Sez. 36 Rett. 65x32 [cm] 65x32																
151	0.200	15.71	6.72			7300	14843	0.24	0	-6741	0.17					
				SLE Rare		5439			0			0.0	60.6	1474.8	270.0	
				SLE Freq.		5041			0			0.0	56.1	1366.8	250.2	0.0247
				SLE Q.P.		4880			0			0.0	54.4	1323.2	242.3	0.0239
Camp.	1.565	7.70	7.70	7258	711	0	8020	0.17	-2591	-7588	0.16					

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	SLE Rare	0			-1953			28.3	0.0	170.9	1071.6	
	SLE Freq.	0			-1821			26.4	0.0	159.4	999.4	0.1002
	SLE Q.P.	0			-1769			25.7	0.0	154.9	970.9	0.0974
152	2.930	7.70	4.55			3746	7989	0.16	-446	-4825	0.14	
	SLE Rare	2231			0			0.0	32.2	1177.4	89.2	
	SLE Freq.	2103			0			0.0	30.4	1110.1	84.1	0.0134
	SLE Q.P.	2052			0			0.0	29.6	1083.0	82.1	0.0131

Trave Sez. 36 Rett. 65x32 [cm] 65x32												
152	0.150	7.70	4.55			3091	7989	0.16	-457	-4825	0.14	
	SLE Rare	1961			0			0.0	28.3	1035.1	78.4	
	SLE Freq.	1837			0			0.0	26.5	969.6	73.5	0.0117
	SLE Q.P.	1786			0			0.0	25.8	942.6	71.4	0.0114
Camp.	1.465	7.70	7.70	7258	645	0	8020	0.17	-3129	-7588	0.16	
	SLE Rare	0			-2353			34.2	0.0	206.0	1291.5	
	SLE Freq.	0			-2178			31.6	0.0	190.7	1195.2	0.1199
	SLE Q.P.	0			-2109			30.6	0.0	184.7	1157.6	0.1161
153	2.780	7.70	7.35			5230	8018	0.17	0	-7281	0.15	
	SLE Rare	3947			0			0.0	55.7	2088.7	239.5	
	SLE Freq.	3702			0			0.0	52.3	1959.0	224.6	0.0288
	SLE Q.P.	3602			0			0.0	50.8	1906.0	218.5	0.0281

Trave Sez. 36 Rett. 65x32 [cm] 65x32												
153	0.150	7.70	4.55			5686	7989	0.16	-32	-4825	0.14	
	SLE Rare	3813			0			0.0	55.1	2012.5	152.5	
	SLE Freq.	3610			0			0.0	52.1	1905.2	144.4	0.0231
	SLE Q.P.	3520			0			0.0	50.8	1857.9	140.8	0.0225
Camp.	1.725	7.70	7.70	7787	900	0	8020	0.17	-4909	-7588	0.16	
	SLE Rare	0			-3699			53.7	0.0	323.8	2029.9	
	SLE Freq.	0			-3450			50.1	0.0	302.0	1893.4	0.1899
	SLE Q.P.	0			-3349			48.6	0.0	293.1	1837.7	0.1843
154	3.300	7.70	4.03			5566	7981	0.16	-1865	-4368	0.14	
	SLE Rare	2771			0			0.0	40.2	1461.8	99.3	
	SLE Freq.	2522			0			0.0	36.6	1330.1	90.4	0.0147
	SLE Q.P.	2431			0			0.0	35.3	1282.2	87.1	0.0141

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 149 150 Sez. 36 Rett. 65x32 [cm] 65x32							
0.150	0.470	0.320	12822	8170	61738	18835	ø 8 2br. 5.0'
0.470	3.288	2.818	13034	8170	55495	15068	ø 8 4br. 20.0'
3.288	3.608	0.320	15356	8170	61738	18835	ø 8 2br. 5.0'
Trave 150 151 Sez. 36 Rett. 65x32 [cm] 65x32							
0.202	0.525	0.323	19405	9125	61738	37670	ø 8 4br. 5.0'
0.525	1.564	1.040	17103	9347	55495	17221	ø 8 4br. 17.5'

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1.564	4.226	2.662	10862	11393	55495	15068	ø 8 4br. 20.0'
4.226	5.266	1.040	16711	9225	55495	17221	ø 8 4br. 17.5'
5.266	5.589	0.323	19013	8554	61738	37670	ø 8 4br. 5.0'

Trave 151 152 Sez. 36 Rett. 65x32 [cm] 65x32

0.197	0.512	0.315	13940	8170	61738	18835	ø 8 2br. 5.0'
0.512	2.568	2.057	12332	8178	55495	15068	ø 8 4br. 20.0'
2.568	2.883	0.315	12383	8170	61738	18835	ø 8 2br. 5.0'

Trave 152 153 Sez. 36 Rett. 65x32 [cm] 65x32

0.147	0.462	0.315	12422	8170	61738	18835	ø 8 2br. 5.0'
0.462	2.419	1.957	10812	8398	55495	15068	ø 8 4br. 20.0'
2.419	2.733	0.315	11499	8617	61738	18835	ø 8 2br. 5.0'

Trave 153 154 Sez. 36 Rett. 65x32 [cm] 65x32

0.152	0.566	0.414	12128	8170	61738	18835	ø 8 2br. 5.0'
0.566	2.935	2.369	10154	8448	55495	15068	ø 8 4br. 20.0'
2.935	3.349	0.414	12515	8170	61738	18835	ø 8 2br. 5.0'

Travata: 115 Travata 126 135

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>r</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 31 Rett. 30x32 [cm] 30x32																
126	0.050	7.63	7.63			496	7200	0.23	-1614	-6964	0.21					
				SLE Rare		0			-260			5.7	0.0	43.4	150.3	
				SLE Freq.		0			-248			5.4	0.0	41.4	143.2	0.0116
				SLE Q.P.		0			-232			5.1	0.0	38.7	133.9	0.0109
Camp.	1.625	7.63	7.63	6162	573	0	7200	0.23	-4219	-6964	0.21					
				SLE Rare		0			-2972			65.1	0.0	495.6	1716.4	
				SLE Freq.		0			-2083			45.7	0.0	347.4	1203.2	0.1076
				SLE Q.P.		0			-1727			37.8	0.0	288.0	997.4	0.0809
135	3.200	7.63	7.63			6002	7200	0.23	0	-6964	0.21					
				SLE Rare		4279			0			0.0	92.0	2396.7	592.0	
				SLE Freq.		3178			0			0.0	68.4	1780.1	439.7	0.0376
				SLE Q.P.		2740			0			0.0	58.9	1534.8	379.1	0.0324

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 126 135 Sez. 31 Rett. 30x32 [cm] 30x32							
0.053	0.395	0.341	8329	5350	28495	18835	ø 8 2br. 5.0'
0.395	1.259	0.865	7550	5350	25613	10045	ø 8 2br. 15.0'
1.259	2.204	0.944	5575	5350	25613	7534	ø 8 2br. 20.0'
2.204	3.068	0.865	9386	5350	25613	10045	ø 8 2br. 15.0'
3.068	3.410	0.341	11239	5350	28495	18835	ø 8 2br. 5.0'

Travata: 115 Travata 158 159 160

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 31 Rett. 30x32 [cm] 30x32																
158	0.150	3.39	4.62			3032	3581	0.17	0	-4433	0.17					
					SLE Rare	2043			0			0.0	62.1	2444.1	259.0	
					SLE Freq.	1917			0			0.0	58.3	2293.4	243.0	0.0329
					SLE Q.P.	1870			0			0.0	56.9	2237.8	237.1	0.0321
Camp.	1.035	3.39	4.62	3918	207	0	3581	0.17	-1433	-4433	0.17					
					SLE Rare	0			-818			23.3	0.0	165.8	755.1	
					SLE Freq.	0			-744			21.2	0.0	150.8	686.8	0.0606
					SLE Q.P.	0			-714			20.3	0.0	144.7	659.1	0.0581
159	1.920	3.39	4.62			1045	3581	0.17	-2438	-4433	0.17					
					SLE Rare	0			-724			20.6	0.0	146.7	668.3	
					SLE Freq.	0			-702			20.0	0.0	142.2	648.0	0.0572
					SLE Q.P.	0			-696			19.8	0.0	141.2	643.1	0.0567
Trave Sez. 31 Rett. 30x32 [cm] 30x32																
159	0.200	3.39	4.62			923	3581	0.17	0	-4433	0.17					
					SLE Rare	705			0			0.0	21.4	844.0	89.4	
					SLE Freq.	691			0			0.0	21.0	826.4	87.6	0.0118
					SLE Q.P.	684			0			0.0	20.8	818.9	86.8	0.0117
Camp.	0.425	2.93	4.62	5167	16	923	3170	0.17	-122	-4433	0.17					
					SLE Rare	249			-5			0.1	8.1	296.2	28.6	
					SLE Freq.	247			-5			0.1	8.0	293.2	28.4	0.0041
					SLE Q.P.	245			-5			0.1	8.0	291.7	28.2	0.0040
160	0.650	1.72	2.77			416	2070	0.14	-122	-2798	0.13					
					SLE Rare	0			-83			3.0	0.0	8.6	75.3	
					SLE Freq.	0			-82			3.0	0.0	8.4	73.7	0.0085
					SLE Q.P.	0			-81			2.9	0.0	8.4	73.2	0.0084

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 158 159 Sez. 31 Rett. 30x32 [cm] 30x32							
0.138	0.415	0.276	7078	4524	28495	18835	ø 8 2br. 5.0'
0.415	1.493	1.079	6238	4524	25613	7534	ø 8 2br. 20.0'
1.493	1.770	0.276	6938	4524	28495	18835	ø 8 2br. 5.0'
Trave 159 160 Sez. 31 Rett. 30x32 [cm] 30x32							
0.252	0.821	0.568	15293	3816	28495	18835	ø 8 2br. 5.0'

Travata: 116 Travata 131 132

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 38 Rett. 30x24 [cm] 30x24																
131	0.125	4.62	4.62			217	3199	0.27	-174	-2988	0.25					
					SLE Rare	23			0			0.0	1.1	29.8	3.8	

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CORPO A

				SLE Freq.	22			0			0.0	1.1	28.4	3.6	0.0004
				SLE Q.P.	21			0			0.0	1.1	27.8	3.5	0.0004
Camp.	0.798	6.09	6.09	234	5	190	4023	0.29	-250	-3801	0.27				
				SLE Rare	0			-32			1.4	0.0	8.2	33.9	
				SLE Freq.	0			-32			1.4	0.0	8.1	33.7	0.0024
				SLE Q.P.	0			-32			1.4	0.0	8.1	33.7	0.0024
132	1.470	4.62	4.62			484	3199	0.27	-483	-2988	0.25				
				SLE Rare	0			-2			0.1	0.0	0.4	2.4	
				SLE Freq.	0			-1			0.0	0.0	0.5	0.9	0.0001
				SLE Q.P.	1			-0			0.0	0.0	0.7	0.4	0.0000

Da [m]	A [m]	Dx [m]	VEd [kg]	VRd,c [kg]	VRcd [kg]	VRd [kg]	Staffe
Trave 131 132 Sez. 38 Rett. 30x24 [cm] 30x24							
0.125	0.375	0.250	4714	3818	19925	14634	ø 8 2br. 5.0'
0.375	1.220	0.845	4682	4164	17910	8429	ø 8 2br. 12.5'
1.220	1.470	0.250	4727	3818	19925	14634	ø 8 2br. 5.0'

Travata: 117 Travata 112 119 151

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>ti</sub> [cm²]	Q <sub>T</sub> [kg/m]	M <sub>rit</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>te</sub> [kg/cm²]	σ <sub>ti</sub> [kg/cm²]	w mm
Trave Sez. 31 Rett. 30x32 [cm] 30x32																
112	0.150	4.62	4.62			3478	4644	0.19	0	-4433	0.17					
				SLE Rare		2319			0			0.0	62.5	2073.7	335.3	
				SLE Freq.		2261			0			0.0	60.9	2021.5	326.9	0.0332
				SLE Q.P.		2240			0			0.0	60.4	2002.8	323.9	0.0329
Camp.	2.950	4.62	4.62	1376	479	0	4644	0.19	-2615	-4433	0.17					
				SLE Rare		0			-2006			55.5	0.0	376.1	1855.9	
				SLE Freq.		0			-1989			55.0	0.0	372.8	1839.7	0.1743
				SLE Q.P.		0			-1982			54.8	0.0	371.6	1833.4	0.1734
119	5.750	7.63	4.62			3755	7212	0.24	0	-4437	0.18					
				SLE Rare		2412			0			0.0	54.7	1344.7	384.4	
				SLE Freq.		2445			0			0.0	55.5	1363.2	389.7	0.0272
				SLE Q.P.		2448			0			0.0	55.5	1364.7	390.1	0.0272
Trave Sez. 31 Rett. 30x32 [cm] 30x32																
119	0.300	7.63	4.62			5358	7212	0.24	0	-4437	0.18					
				SLE Rare		4122			0			0.0	93.5	2298.0	656.9	
				SLE Freq.		4122			0			0.0	93.5	2298.0	656.9	0.0459
				SLE Q.P.		4121			0			0.0	93.5	2297.5	656.8	0.0459
Camp.	3.725	4.62	4.62	1273	707	0	4644	0.19	-3759	-4433	0.17					
				SLE Rare		0			-2890			80.0	0.0	541.9	2673.8	
				SLE Freq.		0			-2887			79.9	0.0	541.2	2670.4	0.2968
				SLE Q.P.		0			-2885			79.8	0.0	540.9	2669.3	0.2966
151	7.150	7.63	4.62			4393	7212	0.24	0	-4437	0.18					
				SLE Rare		3310			0			0.0	75.1	1845.6	527.6	

	SLE Freq.	3317			0			0.0	75.2	1849.1	528.6	0.0369
	SLE Q.P.	3318			0			0.0	75.3	1849.7	528.7	0.0369

Travata: 118 Travata 106 121 128 137 154

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CORPO A

Trave Sez. 31 Rett. 30x32 [cm] 30x32															
128	0.150	2.94	4.62			1375	3169	0.17	-294	-4434	0.17				
SLE Rare						626			0			0.0	20.4	549.3	72.3
SLE Freq.						635			0			0.0	20.7	556.9	73.2
SLE Q.P.						634			0			0.0	20.6	555.9	73.1
Camp.	1.575	4.62	4.62	1561	150	0	4644	0.19	-698	-4433	0.17				
SLE Rare						0			-537			14.8	0.0	100.6	496.4
SLE Freq.						0			-537			14.9	0.0	100.6	496.6
SLE Q.P.						0			-536			14.8	0.0	100.5	495.7
137	3.000	4.62	4.62			1722	4644	0.19	-224	-4433	0.17				
SLE Rare						878			0			0.0	23.7	785.0	126.9
SLE Freq.						864			0			0.0	23.3	772.2	124.9
SLE Q.P.						859			0			0.0	23.2	768.1	124.2

Trave Sez. 31 Rett. 30x32 [cm] 30x32															
137	0.150	4.62	4.62			1446	4644	0.19	-90	-4433	0.17				
SLE Rare						820			0			0.0	22.1	732.8	118.5
SLE Freq.						792			0			0.0	21.3	708.1	114.5
SLE Q.P.						783			0			0.0	21.1	700.3	113.2
Camp.	1.295	4.62	4.62	1561	109	0	4644	0.19	-710	-4433	0.17				
SLE Rare						0			-503			13.9	0.0	94.2	464.9
SLE Freq.						0			-505			14.0	0.0	94.7	467.3
SLE Q.P.						0			-505			14.0	0.0	94.6	466.9
154	2.440	1.89	2.61			707	2209	0.14	-944	-2659	0.13				
SLE Rare						0			-135			5.0	0.0	10.5	122.0
SLE Freq.						0			-117			4.3	0.0	9.1	105.3
SLE Q.P.						0			-113			4.2	0.0	8.8	102.2

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 106 121 Sez. 31 Rett. 30x32 [cm] 30x32							
0.153	0.478	0.326	1901	4524	28495	18835	ø 8 2br. 5.0'
0.478	5.575	5.097	1931	4524	25613	7534	ø 8 2br. 20.0'
5.575	5.901	0.326	2006	4524	28495	18835	ø 8 2br. 5.0'

Trave 121 128 Sez. 1 Rett. 30x32 [cm] 30x32							
0.188	0.490	0.301	7976	4598	29566	19543	ø 8 2br. 5.0'
0.490	1.073	0.584	7568	4598	26576	12508	ø 8 2br. 12.5'
1.073	1.375	0.301	7788	4598	29566	19543	ø 8 2br. 5.0'

Trave 128 137 Sez. 31 Rett. 30x32 [cm] 30x32							
0.152	0.491	0.338	4352	4524	28495	18835	ø 8 2br. 5.0'
0.491	2.710	2.219	4476	4524	25613	7534	ø 8 2br. 20.0'
2.710	3.048	0.338	4870	4524	28495	18835	ø 8 2br. 5.0'

Trave 137 154 Sez. 31 Rett. 30x32 [cm] 30x32							
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COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

0.150	0.470	0.320	4596	4524	28495	18835	ø 8 2br. 5.0'
0.470	2.118	1.648	4211	4069	25613	7534	ø 8 2br. 20.0'
2.118	2.437	0.320	4247	3771	28495	18835	ø 8 2br. 5.0'

Travata: 119 Travata 138 167

Nodo	x [m]	A <sub>te</sub> [cm <sup>2</sup> ]	A <sub>fi</sub> [cm <sup>2</sup> ]	q <sub>T</sub> [kg/m]	M <sub>rf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm <sup>2</sup> ]	σ <sub>bi</sub> [kg/cm <sup>2</sup> ]	σ <sub>fe</sub> [kg/cm <sup>2</sup> ]	σ <sub>fi</sub> [kg/cm <sup>2</sup> ]	w mm
Trave Sez. 31 Rett. 30x32 [cm] 30x32																
138	0.050	3.39	3.39			1873	3565	0.17	-101	-3371	0.15					
						SLE Rare	1332		0			0.0	41.1	1589.1	185.4	
						SLE Freq.	975		0			0.0	30.1	1163.6	135.7	0.0160
						SLE Q.P.	833		0			0.0	25.7	994.6	116.0	0.0137
Camp.	1.625	3.39	3.39	2404	231	0	3565	0.17	-1757	-3371	0.15					
						SLE Rare	0		-1223			38.9	0.0	237.3	1512.9	
						SLE Freq.	0		-805			25.6	0.0	156.2	995.7	0.0943
						SLE Q.P.	0		-637			20.3	0.0	123.7	788.5	0.0747
167	3.200	3.39	3.39			668	3565	0.17	-740	-3371	0.15					
						SLE Rare	193		0			0.0	6.0	230.2	26.9	
						SLE Freq.	70		-22			0.7	2.2	83.4	27.2	0.0026
						SLE Q.P.	36		-22			0.7	1.1	43.4	27.0	0.0026

Da [m]	A [m]	Dx [m]	VEd [kg]	VRd,c [kg]	VRcd [kg]	VRd [kg]	Staffe
Trave 138 167 Sez. 31 Rett. 30x32 [cm] 30x32							
0.052	0.388	0.335	4136	4083	28495	18835	ø 8 2br. 5.0'
0.388	3.019	2.631	3402	4083	25613	7534	ø 8 2br. 20.0'
3.019	3.355	0.335	3550	4083	28495	18835	ø 8 2br. 5.0'

Travata: 120 Travata 102 115 525

Nodo	x [m]	A <sub>te</sub> [cm <sup>2</sup> ]	A <sub>fi</sub> [cm <sup>2</sup> ]	q <sub>T</sub> [kg/m]	M <sub>rf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm <sup>2</sup> ]	σ <sub>bi</sub> [kg/cm <sup>2</sup> ]	σ <sub>fe</sub> [kg/cm <sup>2</sup> ]	σ <sub>fi</sub> [kg/cm <sup>2</sup> ]	w mm
Trave Sez. 33 Rett. 44x32 [cm] 44x32																
102	0.150	18.10	9.42			12306	16094	0.32	0	-8655	0.20					
						SLE Rare	8518		0			0.0	111.6	2082.7	866.5	
						SLE Freq.	7889		0			0.0	103.3	1928.9	802.5	0.0523
						SLE Q.P.	7639		0			0.0	100.0	1867.8	777.1	0.0497
Camp.	2.950	7.63	18.10	5692	1980	0	7543	0.21	-11147	-15673	0.32					
						SLE Rare	0		-8395			116.9	0.0	1053.2	2117.2	
						SLE Freq.	0		-7811			108.7	0.0	979.9	1969.8	0.2207
						SLE Q.P.	0		-7577			105.5	0.0	950.6	1911.0	0.2131
115	5.750	18.10	13.57			13983	16076	0.30	0	-12001	0.23					
						SLE Rare	10058		0			0.0	125.5	2468.1	915.3	
						SLE Freq.	9392		0			0.0	117.2	2304.6	854.6	0.0718
						SLE Q.P.	9123		0			0.0	113.8	2238.6	830.1	0.0689
Trave Sez. 33 Rett. 44x32 [cm] 44x32																

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CORPO A

115	0.250	18.10	13.57			7195	16076	0.30	-5032	-12001	0.23						
					SLE Rare	1332			0			0.0	16.6	326.8	121.2		
					SLE Freq.	1161			0			0.0	14.5	284.8	105.6	0.0075	
					SLE Q.P.	1082			0			0.0	13.5	265.4	98.4	0.0070	
Camp.	0.960	18.10	13.57	10581	302	2003	16076	0.30	-2207	-12001	0.23						
					SLE Rare	0			-333			4.4	0.0	31.8	111.1		
					SLE Freq.	0			-295			3.9	0.0	28.1	98.2	0.0085	
					SLE Q.P.	0			-279			3.7	0.0	26.6	92.9	0.0080	
525	1.670	18.10	13.57			7787	16076	0.30	-2364	-12001	0.23						
					SLE Rare	2882			0			0.0	35.9	707.2	262.2		
					SLE Freq.	2752			0			0.0	34.3	675.3	250.4	0.0178	
					SLE Q.P.	2712			0			0.0	33.8	665.4	246.8	0.0175	

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rcd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 102 115 Sez. 33 Rett. 44x32 [cm] 44x32							
0.153	0.502	0.349	15792	7343	41792	18835	ø 8 2br. 5.0'
0.502	1.689	1.187	14479	7871	37566	15068	ø 8 2br. 10.0'
1.689	4.263	2.574	10027	9208	37566	10045	ø 8 2br. 15.0'
4.263	5.451	1.187	14144	8536	37566	15068	ø 8 2br. 10.0'
5.451	5.800	0.349	16059	8209	41792	18835	ø 8 2br. 5.0'
Trave 115 525 Sez. 33 Rett. 44x32 [cm] 44x32							
0.387	0.695	0.308	24985	8366	41792	37670	ø 8 4br. 5.0'
0.695	1.447	0.752	22639	8366	37566	30136	ø 8 2br. 5.0'
1.447	1.755	0.308	24994	8366	41792	37670	ø 8 4br. 5.0'

Travata: 120 Travata 543 532

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>r</sub> [kg/m]	M <sub>ref</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>de</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>te</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 33 Rett. 44x32 [cm] 44x32																
543	0.300	7.63	7.63			2294	7516	0.20	-2175	-7189	0.19					
					SLE Rare	353			0			0.0	6.2	193.7	33.6	
					SLE Freq.	146			-14			0.3	2.6	80.2	13.9	0.0015
					SLE Q.P.	60			-12			0.2	1.1	32.8	6.9	0.0007
Camp.	1.200	7.63	7.63	8531	247	1178	7516	0.20	-2062	-7189	0.19					
					SLE Rare	0			-1050			19.1	0.0	128.3	596.6	
					SLE Freq.	0			-880			16.0	0.0	107.5	499.7	0.0474
					SLE Q.P.	0			-812			14.7	0.0	99.1	461.1	0.0437
532	2.100	7.63	7.63			5036	7516	0.20	-2587	-7189	0.19					
					SLE Rare	1369			0			0.0	24.2	751.8	130.6	
					SLE Freq.	1270			0			0.0	22.5	697.0	121.1	0.0131
					SLE Q.P.	1233			0			0.0	21.8	676.8	117.6	0.0127

Da	A	Dx	V <sub>Ed</sub>	V <sub>Rd,c</sub>	V <sub>Rcd</sub>	V <sub>Rd</sub>	Staffe
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COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

[m]	[m]	[m]	[kg]	[kg]	[kg]	[kg]	
Trave 543 532 Sez. 33 Rett. 44x32 [cm] 44x32							
0.544	0.926	0.382	11757	6906	41792	18835	ø 8 2br. 5.0'
0.926	2.310	1.384	10484	6906	37566	12054	ø 8 2br. 12.5'
2.310	2.692	0.382	11766	6906	41792	18835	ø 8 2br. 5.0'

Travata: 120 Travata 525 531 532

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>ti</sub> [cm²]	Q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>te</sub> [kg/cm²]	σ <sub>ti</sub> [kg/cm²]	w mm
Trave Sez. 33 Rett. 44x32 [cm] 44x32																
525	0.050	4.62	4.62			3078	4900	0.16	-1404	-4616	0.15					
					SLE Rare	1099			0			0.0	24.2	964.1	97.5	
					SLE Freq.	929			0			0.0	20.5	815.2	82.4	0.0115
					SLE Q.P.	862			0			0.0	19.0	755.9	76.4	0.0107
Camp.	0.790	4.62	4.62	8673	203	444	4900	0.16	-1030	-4616	0.15					
					SLE Rare	0			-639			14.5	0.0	82.1	581.5	
					SLE Freq.	0			-523			11.9	0.0	67.2	476.1	0.0509
					SLE Q.P.	0			-477			10.8	0.0	61.2	433.6	0.0464
531	1.530	4.62	4.62			2955	4900	0.16	-947	-4616	0.15					
					SLE Rare	1361			0			0.0	30.0	1193.8	120.7	
					SLE Freq.	1138			0			0.0	25.0	997.6	100.9	0.0141
					SLE Q.P.	1049			0			0.0	23.1	919.6	93.0	0.0130
Trave Sez. 33 Rett. 44x32 [cm] 44x32																
531	0.000	4.62	4.62			2916	4900	0.16	-1167	-4616	0.15					
					SLE Rare	1174			0			0.0	25.8	1029.3	104.1	
					SLE Freq.	974			0			0.0	21.4	854.5	86.4	0.0121
					SLE Q.P.	894			0			0.0	19.7	784.1	79.3	0.0111
Camp.	0.735	4.62	4.62	8604	199	442	4900	0.16	-1144	-4616	0.15					
					SLE Rare	0			-705			16.0	0.0	90.5	641.1	
					SLE Freq.	0			-586			13.3	0.0	75.2	533.1	0.0570
					SLE Q.P.	0			-538			12.2	0.0	69.1	490.0	0.0524
532	1.470	3.62	3.78			3175	4003	0.15	-1577	-3869	0.14					
					SLE Rare	1059			0			0.0	26.0	918.0	64.2	
					SLE Freq.	883			0			0.0	21.7	765.0	53.5	0.0097
					SLE Q.P.	813			0			0.0	20.0	704.3	49.3	0.0090

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 525 531 Sez. 33 Rett. 44x32 [cm] 44x32							
0.050	0.370	0.320	9895	5840	41792	18835	ø 8 2br. 5.0'
0.370	1.210	0.840	8589	5840	37566	10045	ø 8 2br. 15.0'
1.210	1.530	0.320	10148	5840	41792	18835	ø 8 2br. 5.0'
Trave 531 532 Sez. 33 Rett. 44x32 [cm] 44x32							
0.000	0.320	0.320	9615	5840	41792	18835	ø 8 2br. 5.0'

0.320	1.150	0.830	8081	5840	37566	10045	ø 8 2br. 15.0'
1.150	1.470	0.320	9282	5530	41792	18835	ø 8 2br. 5.0'

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>ti</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rit</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ti</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>ti</sub> [kg/cm²]	σ <sub>te</sub> [kg/cm²]	σ <sub>ti</sub> [kg/cm²]	w mm
Trave Sez. 40 Rett. 30x32 [cm] 20X32 ascensore																
940	0.100	4.62	4.62			338	4644	0.19	-222	-4433	0.17					
				SLE Rare		59			0			0.0	1.6	52.6	8.5	
				SLE Freq.		58			0			0.0	1.6	52.0	8.4	0.0009
				SLE Q.P.		58			0			0.0	1.6	51.8	8.4	0.0008
Camp.	0.850	5.03	5.21	312	9	74	5005	0.19	-86	-4944	0.18					
				SLE Rare		0			-17			0.4	0.0	3.1	13.8	
				SLE Freq.		0			-18			0.5	0.0	3.4	15.0	0.0013
				SLE Q.P.		0			-18			0.5	0.0	3.4	15.1	0.0013
947	1.600	4.62	4.62			339	4644	0.19	-227	-4433	0.17					
				SLE Rare		60			0			0.0	1.6	53.5	8.7	
				SLE Freq.		57			0			0.0	1.5	51.0	8.2	0.0008
				SLE Q.P.		56			0			0.0	1.5	50.1	8.1	0.0008

Da [m]	A [m]	Dx [m]	VEd [kg]	VRd,c [kg]	VRcd [kg]	VRd [kg]	Staffe
Trave 940 947 Sez. 40 Rett. 30x32 [cm] 20X32 ascensore							
0.100	0.420	0.320	6232	4524	28495	18835	ø 8 2br. 5.0'
0.420	1.280	0.860	6155	4709	25613	7534	ø 8 2br. 20.0'
1.280	1.600	0.320	6232	4524	28495	18835	ø 8 2br. 5.0'

Nodo	x [m]	A <sub>ie</sub> [cm²]	A <sub>ri</sub> [cm²]	q <sub>t</sub> [kg/m]	M <sub>rit</sub> [kgm]	M <sub>dte</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>ti</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm	
Trave Sez. 31 Rett. 30x32 [cm] 30x32																	
117	0.150	4.62	7.63			2592	4659	0.20	-3533	-6979	0.22						
				SLE Rare		0			-485			11.4	0.0	93.5	279.2		
				SLE Freq.		0			-477			11.2	0.0	92.1	275.0	0.0222	
				SLE Q.P.		0			-474			11.1	0.0	91.4	272.8	0.0220	
Camp.	0.820	4.62	7.63	6334	181	538	4659	0.20	-1812	-6979	0.22						
				SLE Rare		0			-655			15.4	0.0	126.4	377.3		
				SLE Freq.		0			-604			14.2	0.0	116.6	348.1	0.0281	
				SLE Q.P.		0			-584			13.7	0.0	112.7	336.4	0.0271	
127	1.490	4.62	6.55			4003	4658	0.20	-1122	-6054	0.20						
				SLE Rare		1521			0			0.0	40.0	1365.5	165.5		
				SLE Freq.		1462			0			0.0	38.5	1312.7	159.1	0.0221	
				SLE Q.P.		1443			0			0.0	38.0	1295.4	157.0	0.0218	
Trave Sez. 31 Rett. 30x32 [cm] 30x32																	
127	0.200	4.62	3.43			3475	4651	0.19	-1989	-3370	0.16						

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CORPO A

				SLE Rare	767			0			0.0	21.2	684.5	49.7	
				SLE Freq.	788			0			0.0	21.8	703.9	51.1	0.0110
				SLE Q.P.	791			0			0.0	21.9	706.1	51.3	0.0111
Camp.	1.575	4.62	4.62	3094	288	0	4644	0.19	-1446	-4433	0.17				
				SLE Rare	0			-1094			30.3	0.0	205.1	1012.1	
				SLE Freq.	0			-1035			28.6	0.0	194.1	957.6	0.0847
				SLE Q.P.	0			-1011			28.0	0.0	189.5	935.1	0.0827
136	2.950	4.62	4.62			4108	4644	0.19	-1435	-4433	0.17				
				SLE Rare	1582			0			0.0	42.6	1414.8	228.8	
				SLE Freq.	1474			0			0.0	39.7	1318.1	213.1	0.0216
				SLE Q.P.	1435			0			0.0	38.7	1283.0	207.5	0.0210

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 117 127 Sez. 31 Rett. 30x32 [cm] 30x32							
0.150	0.470	0.320	10985	5350	28495	18835	ø 8 2br. 5.0'
0.470	1.170	0.700	10083	5350	25613	12054	ø 8 2br. 12.5'
1.170	1.490	0.320	11459	5083	28495	18835	ø 8 2br. 5.0'
Trave 127 136 Sez. 31 Rett. 30x32 [cm] 30x32							
0.207	0.521	0.314	6228	4087	28495	18835	ø 8 2br. 5.0'
0.521	2.732	2.211	5581	4255	25613	7534	ø 8 2br. 20.0'
2.732	3.047	0.314	5839	4524	28495	18835	ø 8 2br. 5.0'

Travata: 124 Travata 136 149

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>r</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 33 Rett. 44x32 [cm] 44x32																
136	0.200	4.62	4.62			4622	4900	0.16	-825	-4616	0.15					
				SLE Rare		2266			0			0.0	49.9	1987.4	200.9	
				SLE Freq.		2063			0			0.0	45.4	1809.5	182.9	0.0256
				SLE Q.P.		1992			0			0.0	43.8	1746.9	176.6	0.0247
Camp.	1.425	4.62	4.62	3739	275	465	4900	0.16	-600	-4616	0.15					
				SLE Rare		0			-395			9.0	0.0	50.7	359.2	
				SLE Freq.		0			-398			9.0	0.0	51.1	362.4	0.0388
				SLE Q.P.		0			-398			9.0	0.0	51.1	361.9	0.0387
149	2.650	4.62	4.62			3774	4900	0.16	-1363	-4616	0.15					
				SLE Rare		1289			0			0.0	28.4	1130.1	114.3	
				SLE Freq.		1258			0			0.0	27.7	1103.1	111.5	0.0156
				SLE Q.P.		1235			0			0.0	27.2	1082.7	109.5	0.0153

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rcd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 136 149 Sez. 33 Rett. 44x32 [cm] 44x32							
0.210	0.569	0.359	6938	5840	41792	18835	ø 8 2br. 5.0'

0.569	2.425	1.856	6088	5840	37566	10045	Ø 8 2br. 15.0'
2.425	2.784	0.359	6960	5840	41792	18835	Ø 8 2br. 5.0'

Nodo	x [m]	A <sub>ie</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>if</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 31 Rett. 30x32 [cm] 30x32																
154	0.200	4.62	4.62			480	4644	0.19	-1434	-4433	0.17					
				SLE Rare		0			-529			14.6	0.0	99.1	488.9	
				SLE Freq.		0			-488			13.5	0.0	91.5	451.7	0.0400
				SLE Q.P.		0			-477			13.2	0.0	89.4	441.2	0.0390
Camp.	1.175	4.62	4.62	312	18	0	4644	0.19	-759	-4433	0.17					
				SLE Rare		0			-455			12.6	0.0	85.4	421.2	
				SLE Freq.		0			-429			11.9	0.0	80.4	396.6	0.0351
				SLE Q.P.		0			-419			11.6	0.0	78.6	387.8	0.0343
158	2.150	2.19	4.62			563	2506	0.16	-791	-4434	0.17					
				SLE Rare		0			-135			4.0	0.0	13.4	124.2	
				SLE Freq.		0			-122			3.6	0.0	12.1	112.2	0.0099
				SLE Q.P.		0			-114			3.4	0.0	11.4	105.2	0.0092

Da [m]	A [m]	Dx [m]	VEd [kg]	VRd,c [kg]	VRcd [kg]	VRd [kg]	Staffe
Trave 154 158 Sez. 31 Rett. 30x32 [cm] 30x32							
0.192	0.499	0.307	4893	4524	28495	18835	ø 8 2br. 5.0'
0.499	1.756	1.257	4813	4524	25613	7534	ø 8 2br. 20.0'
1.756	2.063	0.307	4485	4524	28495	18835	ø 8 2br. 5.0'

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 31 Rett. 30x32 [cm] 30x32																
105	0.150	7.63	4.62			4469	7212	0.24	0	-4437	0.18					
				SLE Rare		2851			0			0.0	64.7	1589.6	454.4	
				SLE Freq.		2764			0			0.0	62.7	1540.8	440.4	0.0308
				SLE Q.P.		2731			0			0.0	61.9	1522.7	435.3	0.0304
Camp.	2.950	4.62	4.62	1537	536	0	4644	0.19	-3045	-4433	0.17					
				SLE Rare		0			-2330			64.5	0.0	436.9	2155.9	
				SLE Freq.		0			-2292			63.4	0.0	429.7	2120.5	0.2157
				SLE Q.P.		0			-2277			63.0	0.0	426.9	2106.5	0.2137
120	5.750	4.62	4.62			4123	4644	0.19	0	-4433	0.17					
				SLE Rare		2384			0			0.0	64.3	2131.6	344.7	
				SLE Freq.		2393			0			0.0	64.5	2139.6	346.0	0.0351
				SLE Q.P.		2394			0			0.0	64.5	2140.3	346.1	0.0351

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Da [m]	A [m]	Dx [m]	VEd [kg]	VRd,c [kg]	VRcd [kg]	VRd [kg]	Staffe
Trave 105 120 Sez. 31 Rett. 30x32 [cm] 30x32							
0.150	0.470	0.320	5068	4450	28495	18835	ø 8 2br. 5.0'
0.470	5.426	4.956	4714	4450	25613	7534	ø 8 2br. 20.0'
5.426	5.746	0.320	4497	4450	28495	18835	ø 8 2br. 5.0'

Travata: 128 Travata 946 160

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rit</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>te</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 31 Rett. 30x32 [cm] 30x32																
946	0.100	4.62	4.62			2895	4644	0.19	0	-4433	0.17					
				SLE Rare		1824			0			0.0	49.2	1630.9	263.7	
				SLE Freq.		1806			0			0.0	48.7	1614.4	261.1	0.0265
				SLE Q.P.		1799			0			0.0	48.5	1608.5	260.1	0.0264
Camp.	1.455	4.62	4.62	1561	174	0	4644	0.19	-967	-4433	0.17					
				SLE Rare		0			-745			20.6	0.0	139.6	688.8	
				SLE Freq.		0			-748			20.7	0.0	140.3	692.4	0.0613
				SLE Q.P.		0			-749			20.7	0.0	140.4	692.6	0.0613
160	2.810	4.62	4.62			683	4644	0.19	-971	-4433	0.17					
				SLE Rare		0			-97			2.7	0.0	18.1	89.4	
				SLE Freq.		0			-88			2.4	0.0	16.6	81.9	0.0072
				SLE Q.P.		0			-86			2.4	0.0	16.1	79.3	0.0070

Da [m]	A [m]	Dx [m]	VEd [kg]	VRd,c [kg]	VRcd [kg]	VRd [kg]	Staffe
Trave 946 160 Sez. 31 Rett. 30x32 [cm] 30x32							
0.086	0.360	0.274	5215	4524	28495	18835	ø 8 2br. 5.0'
0.360	2.132	1.773	4836	4524	25613	7534	ø 8 2br. 20.0'
2.132	2.406	0.274	5285	4524	28495	18835	ø 8 2br. 5.0'

Travata: 128 Travata 939 946

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rit</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>te</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 40 Rett. 30x32 [cm] 20X32 ascensore																
939	0.100	6.16	6.16			1749	5989	0.21	-1951	-5767	0.19					
				SLE Rare		0			-60			1.4	0.0	10.7	41.8	
				SLE Freq.		0			-101			2.4	0.0	18.1	70.9	0.0056
				SLE Q.P.		0			-101			2.4	0.0	18.0	70.7	0.0056
Camp.	0.850	6.16	6.16	312	9	463	5989	0.21	-636	-5767	0.19					
				SLE Rare		0			-62			1.5	0.0	11.1	43.6	
				SLE Freq.		0			-65			1.6	0.0	11.6	45.6	0.0036
				SLE Q.P.		0			-64			1.5	0.0	11.5	45.2	0.0036
946	1.600	6.16	6.16			1867	5989	0.21	-1642	-5767	0.19					
				SLE Rare		76			0			0.0	1.8	51.8	11.1	
				SLE Freq.		111			0			0.0	2.6	75.7	16.2	0.0014



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	SLE Q.P.	112			0			0.0	2.6	76.4	16.3	0.0014
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Da [m]	A [m]	Dx [m]	VEd [kg]	VRd,c [kg]	VRcd [kg]	VRd [kg]	Staffe
Trave 939 946 Sez. 40 Rett. 30x32 [cm] 20X32 ascensore							
0.100	0.420	0.320	8018	4980	28495	18835	ø 8 2br. 5.0'
0.420	1.280	0.860	7941	4980	25613	8610	ø 8 2br. 17.5'
1.280	1.600	0.320	8018	4980	28495	18835	ø 8 2br. 5.0'

Travata: 130 Travata 108 123

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>i</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 31 Rett. 30x32 [cm] 30x32																
108	0.150	4.62	4.62			3068	4644	0.19	0	-4433	0.17					
				SLE Rare		2045			0			0.0	55.1	1828.1	295.6	
				SLE Freq.		2035			0			0.0	54.9	1819.8	294.3	0.0298
				SLE Q.P.		2033			0			0.0	54.8	1817.4	293.9	0.0298
Camp.	2.950	4.62	4.62	1273	443	0	4644	0.19	-2505	-4433	0.17					
				SLE Rare		0			-1926			53.3	0.0	361.1	1781.8	
				SLE Freq.		0			-1924			53.2	0.0	360.8	1780.2	0.1656
				SLE Q.P.		0			-1923			53.2	0.0	360.5	1778.9	0.1654
123	5.750	4.62	4.21			3298	4644	0.19	0	-4079	0.17					
				SLE Rare		2178			0			0.0	59.1	1946.4	292.3	
				SLE Freq.		2188			0			0.0	59.4	1954.6	293.5	0.0317
				SLE Q.P.		2189			0			0.0	59.4	1955.6	293.6	0.0317

Da [m]	A [m]	Dx [m]	VEd [kg]	VRd,c [kg]	VRcd [kg]	VRd [kg]	Staffe
Trave 108 123 Sez. 31 Rett. 30x32 [cm] 30x32							
0.151	0.474	0.323	4299	4450	28495	18835	ø 8 2br. 5.0'
0.474	5.479	5.004	4003	4081	25613	7534	ø 8 2br. 20.0'
5.479	5.801	0.323	4313	4099	28495	18835	ø 8 2br. 5.0'

Travata: 130 Travata 123 630

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>i</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 11 Rett. 25x32 [cm] 25X32																
123	0.200	4.62	4.62			1709	4544	0.20	-1732	-4362	0.18					
				SLE Rare		0			-74			2.2	0.0	16.2	69.0	
				SLE Freq.		0			-33			1.0	0.0	7.2	30.8	0.0025
				SLE Q.P.		0			-26			0.8	0.0	5.6	23.8	0.0020
Camp.	0.930	4.62	4.62	1509	44	2207	4544	0.20	-1586	-4362	0.18					
				SLE Rare		161			-34			1.0	4.8	145.1	31.6	
				SLE Freq.		153			-34			1.0	4.5	138.4	31.6	0.0026
				SLE Q.P.		151			-34			1.0	4.5	136.7	31.6	0.0026

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630	1.660	4.62	4.62			3398	4544	0.20	-1670	-4362	0.18						
				SLE Rare		939			0			0.0	27.8	847.5	164.3		
				SLE Freq.		879			0			0.0	26.0	793.2	153.8	0.0138	
				SLE Q.P.		867			0			0.0	25.7	782.2	151.7	0.0137	

Da [m]	A [m]	Dx [m]	VEd [kg]	VRd,c [kg]	VRcd [kg]	VRd [kg]	Staffe
Trave 123 630 Sez. 11 Rett. 25x32 [cm] 25X32							
0.236	0.575	0.339	6900	4007	23745	18835	ø 8 2br. 5.0'
0.575	1.444	0.869	6550	4007	21344	7534	ø 8 2br. 20.0'
1.444	1.783	0.339	6900	4007	23745	18835	ø 8 2br. 5.0'

Travata: 130 Travata 630 641 648

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>r</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>de</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>te</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 31 Rett. 30x32 [cm] 30x32																
630	0.050	4.62	4.62			1317	4644	0.19	0	-4433	0.17					
				SLE Rare		882			0			0.0	23.8	788.3	127.5	
				SLE Freq.		882			0			0.0	23.8	788.4	127.5	0.0129
				SLE Q.P.		882			0			0.0	23.8	788.4	127.5	0.0129
Camp.	1.575	4.62	4.62	1561	150	0	4644	0.19	-727	-4433	0.17					
				SLE Rare		0			-559			15.5	0.0	104.8	517.4	
				SLE Freq.		0			-560			15.5	0.0	105.0	518.1	0.0458
				SLE Q.P.		0			-560			15.5	0.0	105.0	518.1	0.0458
641	3.100	4.62	4.62			1409	4644	0.19	0	-4433	0.17					
				SLE Rare		989			0			0.0	26.6	884.1	143.0	
				SLE Freq.		987			0			0.0	26.6	882.3	142.7	0.0145
				SLE Q.P.		986			0			0.0	26.6	881.7	142.6	0.0145
Trave Sez. 31 Rett. 30x32 [cm] 30x32																
641	0.000	4.62	4.62			2172	4644	0.19	-1819	-4433	0.17					
				SLE Rare		165			0			0.0	4.4	147.6	23.9	
				SLE Freq.		176			0			0.0	4.7	157.0	25.4	0.0026
				SLE Q.P.		176			0			0.0	4.8	157.7	25.5	0.0026
Camp.	0.650	5.00	7.15	312	9	800	4985	0.20	-736	-6624	0.21					
				SLE Rare		0			-15			0.3	0.0	1.6	7.2	
				SLE Freq.		0			-13			0.3	0.0	1.4	6.6	0.0005
				SLE Q.P.		0			-13			0.3	0.0	1.4	6.4	0.0005
648	1.300	4.62	4.62			1403	4644	0.19	-1506	-4433	0.17					
				SLE Rare		0			-43			1.2	0.0	8.1	40.2	
				SLE Freq.		0			-51			1.4	0.0	9.6	47.3	0.0042
				SLE Q.P.		0			-52			1.4	0.0	9.7	47.7	0.0042

Da [m]	A [m]	Dx [m]	VEd [kg]	VRd,c [kg]	VRcd [kg]	VRd [kg]	Staffe
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Trave 630 641 Sez. 31 Rett. 30x32 [cm] 30x32							
0.050	0.370	0.320	4778	4524	28495	18835	ø 8 2br. 5.0'
0.370	2.780	2.410	4453	4524	25613	7534	ø 8 2br. 20.0'
2.780	3.100	0.320	4838	4524	28495	18835	ø 8 2br. 5.0'
Trave 641 648 Sez. 31 Rett. 30x32 [cm] 30x32							
0.000	1.127	1.127	7187	4524	28495	18835	ø 8 2br. 5.0'

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>fi</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 33 Rett. 44x32 [cm] 44x32																
109	0.200	13.57	3.74			9983	12385	0.30	-948	-3915	0.17					
				SLE Rare		5797			0			0.0	90.4	1856.4	332.1	
				SLE Freq.		5378			0			0.0	83.8	1722.1	308.1	0.0289
				SLE Q.P.		5213			0			0.0	81.3	1669.2	298.6	0.0280
Camp.	2.420	4.62	12.57	5996	1427	0	4988	0.19	-8159	-11318	0.26					
				SLE Rare		0			-6151			99.5	0.0	862.7	2174.7	
				SLE Freq.		0			-5744			92.9	0.0	805.7	2030.9	0.2249
				SLE Q.P.		0			-5582			90.3	0.0	782.9	1973.4	0.2172
114	4.640	18.10	9.42			9873	16094	0.32	-90	-8655	0.20					
				SLE Rare		6176			0			0.0	80.9	1509.9	628.2	
				SLE Freq.		5799			0			0.0	75.9	1417.8	589.9	0.0358
				SLE Q.P.		5645			0			0.0	73.9	1380.3	574.3	0.0348
Trave Sez. 33 Rett. 44x32 [cm] 44x32																
114	0.200	18.10	9.42			6809	16094	0.32	-2383	-8655	0.20					
				SLE Rare		2444			0			0.0	32.0	597.6	248.6	
				SLE Freq.		2286			0			0.0	29.9	559.0	232.6	0.0141
				SLE Q.P.		2221			0			0.0	29.1	543.1	226.0	0.0137
Camp.	1.340	18.10	9.42	5825	418	923	16094	0.32	-990	-8655	0.20					
				SLE Rare		0			-563			8.4	0.0	51.5	264.7	
				SLE Freq.		0			-524			7.8	0.0	47.9	246.4	0.0227
				SLE Q.P.		0			-508			7.6	0.0	46.5	239.0	0.0220
124	2.480	18.10	9.42			7429	16094	0.32	-2193	-8655	0.20					
				SLE Rare		2906			0			0.0	38.1	710.4	295.6	
				SLE Freq.		2718			0			0.0	35.6	664.4	276.4	0.0168
				SLE Q.P.		2644			0			0.0	34.6	646.5	269.0	0.0163
Trave Sez. 33 Rett. 44x32 [cm] 44x32																
124	0.200	18.10	9.42			8928	16094	0.32	0	-8655	0.20					
				SLE Rare		6161			0			0.0	80.7	1506.4	626.7	
				SLE Freq.		5756			0			0.0	75.4	1407.2	585.5	0.0355
				SLE Q.P.		5595			0			0.0	73.3	1368.0	569.2	0.0345
Camp.	2.410	4.62	9.42	5656	1305	0	4977	0.18	-7230	-8691	0.21					
				SLE Rare		0			-5453			96.9	0.0	768.2	2535.3	

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				SLE Freq.	0			-5101			90.6	0.0	718.6	2371.5	0.2862
				SLE Q.P.	0			-4960			88.1	0.0	698.7	2305.9	0.2764
542	4.620	13.57	6.67			7057	12408	0.27	0	-6384	0.19				
				SLE Rare	5168			0			0.0	76.9	1657.6	489.9	
				SLE Freq.	4840			0			0.0	72.0	1552.4	458.8	0.0345
				SLE Q.P.	4707			0			0.0	70.1	1509.7	446.2	0.0335

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 109 114 Sez. 33 Rett. 44x32 [cm] 44x32							
0.198	0.502	0.303	13959	5530	41792	18835	ø 8 2br. 5.0'
0.502	1.226	0.724	12676	6609	37566	15068	ø 8 2br. 10.0'
1.226	3.575	2.349	9624	8154	37566	10045	ø 8 2br. 15.0'
3.575	4.300	0.724	12392	8115	37566	15068	ø 8 2br. 10.0'
4.300	4.603	0.303	13638	7408	41792	18835	ø 8 2br. 5.0'
Trave 114 124 Sez. 33 Rett. 44x32 [cm] 44x32							
0.200	0.520	0.320	15413	7408	41792	18835	ø 8 2br. 5.0'
0.520	2.160	1.640	14127	7408	37566	15068	ø 8 2br. 10.0'
2.160	2.480	0.320	15393	7408	41792	18835	ø 8 2br. 5.0'
Trave 124 542 Sez. 33 Rett. 44x32 [cm] 44x32							
0.201	0.667	0.466	13673	7408	41792	18835	ø 8 2br. 5.0'
0.667	1.352	0.685	11849	7408	37566	12054	ø 8 2br. 12.5'
1.352	3.485	2.133	9183	7408	37566	10045	ø 8 2br. 15.0'
3.485	4.170	0.685	11497	6668	37566	12054	ø 8 2br. 12.5'
4.170	4.636	0.466	13267	6294	41792	18835	ø 8 2br. 5.0'

Travata: 136 Travata 168 170

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 31 Rett. 30x32 [cm] 30x32																
168	0.050	4.62	4.62			2385	4644	0.19	0	-4433	0.17					
				SLE Rare		1591			0			0.0	42.9	1422.6	230.0	
				SLE Freq.		1544			0			0.0	41.6	1380.1	223.2	0.0226
				SLE Q.P.		1525			0			0.0	41.1	1363.6	220.5	0.0224
Camp.	1.320	4.62	4.62	2209	256	0	4644	0.19	-1819	-4433	0.17					
				SLE Rare		0			-1384			38.3	0.0	259.5	1280.5	
				SLE Freq.		0			-1337			37.0	0.0	250.6	1236.8	0.1094
				SLE Q.P.		0			-1317			36.4	0.0	246.9	1218.1	0.1078
170	2.590	4.62	4.62			1069	4644	0.19	-660	-4433	0.17					
				SLE Rare		426			0			0.0	11.5	381.0	61.6	
				SLE Freq.		435			0			0.0	11.7	388.9	62.9	0.0064
				SLE Q.P.		433			0			0.0	11.7	387.0	62.6	0.0063

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Da [m]	A [m]	Dx [m]	VEd [kg]	VRd,c [kg]	VRcd [kg]	VRd [kg]	Staffe
Trave 168 170 Sez. 31 Rett. 30x32 [cm] 30x32							
0.039	0.463	0.425	6018	4524	28495	18835	ø 8 2br. 5.0'
0.463	1.583	1.120	5097	4524	25613	7534	ø 8 2br. 20.0'
1.583	2.008	0.425	6443	4524	28495	18835	ø 8 2br. 5.0'

Travata: 145 Travata 255 545

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>r</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>de</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 31 Rett. 30x32 [cm] 30x32																
255	0.125	3.39	3.39			2022	3565	0.17	-240	-3371	0.15					
					SLE Rare	1231			0			0.0	38.0	1468.7	171.3	
					SLE Freq.	1087			0			0.0	33.6	1297.2	151.3	0.0178
					SLE Q.P.	1034			0			0.0	31.9	1234.1	144.0	0.0169
Camp.	0.950	3.39	3.39	1880	73	903	3565	0.17	-1760	-3371	0.15					
					SLE Rare	0			-405			12.9	0.0	78.6	501.2	
					SLE Freq.	0			-372			11.8	0.0	72.2	460.2	0.0436
					SLE Q.P.	0			-359			11.4	0.0	69.7	444.5	0.0421
545	1.775	3.39	3.39			1107	3565	0.17	-2452	-3371	0.15					
					SLE Rare	0			-826			26.3	0.0	160.3	1022.3	
					SLE Freq.	0			-713			22.7	0.0	138.2	881.5	0.0835
					SLE Q.P.	0			-673			21.4	0.0	130.5	832.3	0.0788

Da [m]	A [m]	Dx [m]	VEd [kg]	VRd,c [kg]	VRcd [kg]	VRd [kg]	Staffe
Trave 255 545 Sez. 31 Rett. 30x32 [cm] 30x32							
0.122	0.433	0.311	5199	4083	28495	18835	ø 8 2br. 5.0'
0.433	1.423	0.990	4982	4083	25613	7534	ø 8 2br. 20.0'
1.423	1.734	0.311	5413	4083	28495	18835	ø 8 2br. 5.0'

Travata: 15 Travata 147 148

N.B. Nella travata che segue sono incluse le verifiche delle travate:

15 Travata 140 141

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>r</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>de</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 38 Rett. 30x24 [cm] 30x24																
147	0.100	4.62	4.62			705	3199	0.27	-1351	-2988	0.25					
					SLE Rare	0			-392			20.2	0.0	98.6	535.7	
					SLE Freq.	0			-341			17.5	0.0	85.7	465.7	0.0368
					SLE Q.P.	0			-323			16.6	0.0	81.1	441.0	0.0348
Camp.	0.975	4.62	4.62	234	9	373	3199	0.27	-264	-2988	0.25					
					SLE Rare	1			-43			2.2	0.1	10.8	58.8	
					SLE Freq.	1			-41			2.1	0.0	10.4	56.3	0.0044
					SLE Q.P.	0			-41			2.1	0.0	10.2	55.4	0.0044
148	1.850	4.62	4.62			1672	3199	0.27	-809	-2988	0.25					
					SLE Rare	508			0			0.0	25.0	657.1	83.4	

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

	SLE Freq.	452			0			0.0	22.2	584.1	74.2	0.0078
	SLE Q.P.	432			0			0.0	21.2	558.4	70.9	0.0074

Da [m]	A [m]	Dx [m]	VEd [kg]	VRd,c [kg]	VRcd [kg]	VRd [kg]	Staffe
Trave 147 148 Sez. 38 Rett. 30x24 [cm] 30x24							
0.104	0.363	0.259	3691	3818	19925	14634	ø 8 2br. 5.0'
0.363	1.658	1.295	3648	3818	17910	8429	ø 8 2br. 12.5'
1.658	1.917	0.259	3683	3818	19925	14634	ø 8 2br. 5.0'

Travata: 150 Travata 169 158

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>ti</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 31 Rett. 30x32 [cm] 30x32																
169	0.050	4.76	4.82			0	4767	0.19	-1572	-4606	0.17					
						SLE Rare	0		-1124			30.5	0.0	210.3	998.8	
						SLE Freq.	0		-1044			28.3	0.0	195.3	927.6	0.0806
						SLE Q.P.	0		-1014			27.5	0.0	189.8	901.1	0.0783
Camp.	1.505	4.62	4.62	877	89	444	4644	0.19	-1095	-4433	0.17					
						SLE Rare	0		-438			12.1	0.0	82.1	405.0	
						SLE Freq.	0		-416			11.5	0.0	78.1	385.2	0.0341
						SLE Q.P.	0		-407			11.3	0.0	76.3	376.6	0.0333
158	2.959	2.52	4.62			2505	2801	0.16	0	-4434	0.17					
						SLE Rare	1719		0			0.0	60.0	1497.4	172.0	
						SLE Freq.	1595		0			0.0	55.7	1389.0	159.5	0.0202
						SLE Q.P.	1549		0			0.0	54.1	1348.9	154.9	0.0196

Da [m]	A [m]	Dx [m]	VEd [kg]	VRd,c [kg]	VRcd [kg]	VRd [kg]	Staffe
Trave 169 158 Sez. 31 Rett. 30x32 [cm] 30x32							
0.050	0.367	0.317	3923	4589	28495	18835	ø 8 2br. 5.0'
0.367	2.615	2.248	3829	4524	25613	7534	ø 8 2br. 20.0'
2.615	2.932	0.317	3519	4524	28495	18835	ø 8 2br. 5.0'

Travata: 152 Travata 155 145

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>ti</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 38 Rett. 30x24 [cm] 30x24																
155	0.100	4.62	4.62			2812	3199	0.27	-833	-2988	0.25					
						SLE Rare	1158		0			0.0	56.9	1497.8	190.2	
						SLE Freq.	1035		0			0.0	50.8	1338.0	169.9	0.0178
						SLE Q.P.	989		0			0.0	48.6	1279.6	162.5	0.0171
Camp.	0.930	4.62	4.62	1940	75	224	3199	0.27	-931	-2988	0.25					
						SLE Rare	0		-319			16.4	0.0	80.1	435.4	
						SLE Freq.	0		-279			14.3	0.0	70.0	380.4	0.0300

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CORPO A

				SLE Q.P.	0			-263			13.5	0.0	66.0	358.6	0.0283
145	1.760	4.62	4.62			1683	3199	0.27	-2831	-2988	0.25				
				SLE Rare	0			-660			33.9	0.0	165.8	901.2	
				SLE Freq.	0			-596			30.6	0.0	149.6	813.2	0.0642
				SLE Q.P.	0			-574			29.5	0.0	144.3	784.2	0.0619

Da [m]	A [m]	Dx [m]	VEd [kg]	VRd,c [kg]	VRcd [kg]	VRd [kg]	Staffe
Trave 155 145 Sez. 38 Rett. 30x24 [cm] 30x24							
0.097	0.339	0.242	4760	3818	19925	14634	ø 8 2br. 5.0'
0.339	1.464	1.124	4467	3818	17910	8429	ø 8 2br. 12.5'
1.464	1.706	0.242	4727	3818	19925	14634	ø 8 2br. 5.0'

Travata: 230 Travata 157 156 155

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>i</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 38 Rett. 30x24 [cm] 30x24																
157	0.200	4.62	2.55			2775	3193	0.26	0	-1828	0.21					
				SLE Rare		2130			0			0.0	107.5	2736.9	212.7	
				SLE Freq.		2115			0			0.0	106.7	2717.7	211.2	0.0239
				SLE Q.P.		2109			0			0.0	106.4	2709.8	210.6	0.0239
Camp.	2.605	4.62	4.62	1564	443	0	3199	0.27	-2262	-2988	0.25					
				SLE Rare		0			-1736			89.2	0.0	436.1	2370.4	
				SLE Freq.		0			-1723			88.6	0.0	432.9	2353.2	0.2440
				SLE Q.P.		0			-1718			88.3	0.0	431.7	2346.3	0.2431
156	5.010	7.63	3.43			2891	4823	0.34	0	-2338	0.24					
				SLE Rare		2220			0			0.0	94.5	1801.9	371.0	
				SLE Freq.		2205			0			0.0	93.9	1790.1	368.6	0.0236
				SLE Q.P.		2199			0			0.0	93.6	1785.4	367.7	0.0235
Trave Sez. 38 Rett. 30x24 [cm] 30x24																
156	0.200	7.63	3.43			1114	4823	0.34	0	-2338	0.24					
				SLE Rare		799			0			0.0	34.0	648.3	133.5	
				SLE Freq.		800			0			0.0	34.0	649.3	133.7	0.0085
				SLE Q.P.		800			0			0.0	34.0	649.2	133.7	0.0085
Camp.	1.715	4.62	4.62	1535	175	0	3199	0.27	-901	-2988	0.25					
				SLE Rare		0			-692			35.6	0.0	173.8	944.8	
				SLE Freq.		0			-688			35.4	0.0	173.0	940.1	0.0742
				SLE Q.P.		0			-687			35.3	0.0	172.6	938.3	0.0741
155	3.230	1.88	3.04			1043	1623	0.21	0	-2089	0.20					
				SLE Rare		746			0			0.0	54.6	904.5	25.8	
				SLE Freq.		737			0			0.0	54.0	894.3	25.5	0.0078
				SLE Q.P.		734			0			0.0	53.7	889.9	25.4	0.0078

Da	A	Dx	VEd	VRd,c	VRcd	VRd	Staffe
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COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

[m]	[m]	[m]	[kg]	[kg]	[kg]	[kg]	
Trave 157 156 Sez. 38 Rett. 30x24 [cm] 30x24							
0.196	0.440	0.245	4039	3006	19925	14634	ø 8 2br. 5.0'
0.440	4.658	4.218	4023	3054	17910	8429	ø 8 2br. 12.5'
4.658	4.903	0.245	4338	3171	19925	14634	ø 8 2br. 5.0'
Trave 156 155 Sez. 38 Rett. 30x24 [cm] 30x24							
0.200	0.450	0.250	4015	2946	19925	14634	ø 8 2br. 5.0'
0.450	2.980	2.530	3729	2970	17910	8429	ø 8 2br. 12.5'
2.980	3.230	0.250	3124	2958	19925	14634	ø 8 2br. 5.0'

Travata: 240 Travata 132 143 156

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>t</sub> [kg/m]	M <sub>nf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 38 Rett. 30x24 [cm] 30x24																
132	1.450	4.62	4.62			1153	3199	0.27	-908	-2988	0.25					
					SLE Rare	104			0			0.0	5.1	134.3	17.0	
					SLE Freq.	123			0			0.0	6.1	159.3	20.2	0.0021
					SLE Q.P.	123			0			0.0	6.0	158.9	20.2	0.0021
Camp.	2.350	4.62	4.62	1187	34	267	3199	0.27	-381	-2988	0.25					
					SLE Rare	0			-96			4.9	0.0	24.1	130.9	
					SLE Freq.	0			-85			4.4	0.0	21.4	116.1	0.0092
					SLE Q.P.	0			-81			4.1	0.0	20.2	110.1	0.0087
143	3.250	4.62	4.62			918	3199	0.27	-554	-2988	0.25					
					SLE Rare	274			0			0.0	13.4	353.9	44.9	
					SLE Freq.	208			0			0.0	10.2	269.3	34.2	0.0036
					SLE Q.P.	182			0			0.0	8.9	235.4	29.9	0.0031
Trave Sez. 38 Rett. 30x24 [cm] 30x24																
143	0.300	4.62	4.62			2007	3199	0.27	-2535	-2988	0.25					
					SLE Rare	0			-333			17.1	0.0	83.7	454.8	
					SLE Freq.	0			-303			15.6	0.0	76.1	413.4	0.0326
					SLE Q.P.	0			-296			15.2	0.0	74.4	404.7	0.0319
Camp.	1.030	4.62	4.62	4464	204	43	3199	0.27	-1246	-2988	0.25					
					SLE Rare	0			-921			47.4	0.0	231.5	1258.2	
					SLE Freq.	0			-803			41.3	0.0	201.7	1096.5	0.0866
					SLE Q.P.	0			-756			38.8	0.0	189.9	1032.1	0.0815
156	1.760	7.63	4.62			3406	4823	0.33	-1417	-2991	0.25					
					SLE Rare	1218			0			0.0	50.7	992.0	261.0	
					SLE Freq.	1066			0			0.0	44.4	868.8	228.6	0.0138
					SLE Q.P.	1011			0			0.0	42.1	824.1	216.8	0.0131

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 132 143 Sez. 38 Rett. 30x24 [cm] 30x24							
3.066	3.364	0.298	3998	3818	19925	14634	ø 8 2br. 5.0'



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CORPO A

3.364	4.916	1.551	3842	3818	17910	8429	ø 8 2br. 12.5'
4.916	5.214	0.298	3998	3818	19925	14634	ø 8 2br. 5.0'
Trave 143 156 Sez. 38 Rett. 30x24 [cm] 30x24							
0.364	0.573	0.209	6538	3818	19925	14634	ø 8 2br. 5.0'
0.573	1.375	0.803	6990	3818	17910	8429	ø 8 2br. 12.5'
1.375	1.584	0.209	7825	3818	19925	14634	ø 8 2br. 5.0'

Travata: 375 Travata 257 256 255 149

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>r</sub> [kg/m]	M <sub>rf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>de</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>te</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 31 Rett. 30x32 [cm] 30x32																
257	0.200	4.62	3.90			2780	4643	0.19	0	-3810	0.16					
				SLE Rare		2135			0			0.0	58.3	1906.3	269.0	
				SLE Freq.		2122			0			0.0	58.0	1895.4	267.4	0.0304
				SLE Q.P.		2118			0			0.0	57.8	1891.0	266.8	0.0303
Camp.	2.605	4.62	4.62	1561	443	0	4644	0.19	-2336	-4433	0.17					
				SLE Rare		0			-1797			49.7	0.0	336.9	1662.2	
				SLE Freq.		0			-1796			49.7	0.0	336.7	1661.2	0.1480
				SLE Q.P.		0			-1795			49.7	0.0	336.6	1660.8	0.1480
256	5.010	4.62	4.41			2712	4644	0.19	0	-4250	0.17					
				SLE Rare		2089			0			0.0	56.5	1867.2	290.9	
				SLE Freq.		2101			0			0.0	56.8	1877.8	292.5	0.0306
				SLE Q.P.		2101			0			0.0	56.8	1877.9	292.5	0.0306
Trave Sez. 31 Rett. 30x32 [cm] 30x32																
256	0.200	4.62	2.73			1233	4640	0.19	-153	-2784	0.15					
				SLE Rare		622			0			0.0	17.4	554.2	57.7	
				SLE Freq.		647			0			0.0	18.1	576.8	60.1	0.0084
				SLE Q.P.		648			0			0.0	18.1	577.4	60.1	0.0084
Camp.	1.715	4.62	4.62	1561	178	0	4644	0.19	-621	-4433	0.17					
				SLE Rare		0			-481			13.3	0.0	90.1	444.7	
				SLE Freq.		0			-492			13.6	0.0	92.3	455.4	0.0403
				SLE Q.P.		0			-493			13.6	0.0	92.4	456.1	0.0403
255	3.230	4.62	4.62			2067	4644	0.19	0	-4433	0.17					
				SLE Rare		1472			0			0.0	39.7	1316.6	212.9	
				SLE Freq.		1414			0			0.0	38.1	1264.5	204.5	0.0207
				SLE Q.P.		1393			0			0.0	37.5	1245.6	201.4	0.0204
Trave Sez. 31 Rett. 30x32 [cm] 30x32																
255	0.150	4.62	4.62			2797	4644	0.19	0	-4433	0.17					
				SLE Rare		2120			0			0.0	57.1	1895.6	306.5	
				SLE Freq.		2009			0			0.0	54.1	1796.0	290.4	0.0295
				SLE Q.P.		1971			0			0.0	53.1	1762.4	285.0	0.0289
Camp.	1.655	4.62	4.62	2102	236	0	4644	0.19	-1084	-4433	0.17					
				SLE Rare		0			-830			23.0	0.0	155.5	767.5	

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CORPO A

				SLE Freq.	0			-816			22.6	0.0	152.9	754.6	0.0668
				SLE Q.P.	0			-810			22.4	0.0	151.9	749.4	0.0663
149	3.160	2.41	2.72			1213	2678	0.15	-834	-2767	0.14				
				SLE Rare	259			0			0.0	9.4	224.0	16.0	
				SLE Freq.	305			0			0.0	11.1	264.1	18.8	0.0034
				SLE Q.P.	312			0			0.0	11.4	270.2	19.3	0.0035

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 257 256 Sez. 31 Rett. 30x32 [cm] 30x32							
0.196	0.509	0.313	4800	4260	28495	18835	ø 8 2br. 5.0'
0.509	4.590	4.081	4408	4285	25613	7534	ø 8 2br. 20.0'
4.590	4.903	0.313	4709	4438	28495	18835	ø 8 2br. 5.0'
Trave 256 255 Sez. 31 Rett. 30x32 [cm] 30x32							
0.200	0.495	0.295	4784	3771	28495	18835	ø 8 2br. 5.0'
0.495	2.935	2.440	4429	4102	25613	7534	ø 8 2br. 20.0'
2.935	3.230	0.295	4301	4319	28495	18835	ø 8 2br. 5.0'
Trave 255 149 Sez. 31 Rett. 30x32 [cm] 30x32							
0.148	0.464	0.316	4813	4265	28495	18835	ø 8 2br. 5.0'
0.464	2.807	2.342	4319	4263	25613	7534	ø 8 2br. 20.0'
2.807	3.123	0.316	4739	3792	28495	18835	ø 8 2br. 5.0'

Travata: 379 Travata 166 165 164

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>r</sub> [kg/m]	M <sub>ref</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 31 Rett. 30x32 [cm] 30x32																
166	0.200	4.62	2.61			3203	4639	0.19	-290	-2678	0.15					
				SLE Rare		1681			0			0.0	47.1	1497.1	149.8	
				SLE Freq.		1668			0			0.0	46.7	1485.8	148.7	0.0212
				SLE Q.P.		1663			0			0.0	46.6	1481.6	148.3	0.0211
Camp.	2.600	4.62	4.62	1561	430	0	4644	0.19	-2238	-4433	0.17					
				SLE Rare		0			-1721			47.6	0.0	322.7	1592.1	
				SLE Freq.		0			-1720			47.6	0.0	322.4	1590.8	0.1407
				SLE Q.P.		0			-1719			47.6	0.0	322.3	1590.4	0.1407
165	5.000	7.63	3.92			3960	7213	0.24	0	-3833	0.17					
				SLE Rare		2482			0			0.0	57.2	1382.8	344.7	
				SLE Freq.		2496			0			0.0	57.5	1390.5	346.6	0.0268
				SLE Q.P.		2497			0			0.0	57.5	1390.9	346.7	0.0268
Trave Sez. 31 Rett. 30x32 [cm] 30x32																
165	0.200	7.63	3.92			5244	7213	0.24	0	-3833	0.17					
				SLE Rare		4030			0			0.0	92.9	2245.4	559.8	
				SLE Freq.		4018			0			0.0	92.6	2238.4	558.0	0.0431
				SLE Q.P.		4014			0			0.0	92.5	2236.4	557.5	0.0431

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Camp.	3.330	4.62	7.63	1561	703	0	4659	0.20	-3766	-6979	0.22				
				SLE Rare		0			-2896			67.9	0.0	558.9	1668.6
				SLE Freq.		0			-2893			67.8	0.0	558.4	1666.9
				SLE Q.P.		0			-2892			67.8	0.0	558.2	1666.3
164	6.460	4.62	3.23			4313	4641	0.19	0	-3224	0.16				
				SLE Rare		3008			0			0.0	83.2	2682.7	323.2
				SLE Freq.		3027			0			0.0	83.7	2699.7	325.3
				SLE Q.P.		3029			0			0.0	83.8	2701.4	325.5

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 166 165 Sez. 31 Rett. 30x32 [cm] 30x32							
0.198	0.515	0.317	4675	3771	28495	18835	ø 8 2br. 5.0'
0.515	4.635	4.120	4583	3992	25613	7534	ø 8 2br. 20.0'
4.635	4.952	0.317	4971	3898	28495	18835	ø 8 2br. 5.0'
Trave 165 164 Sez. 31 Rett. 30x32 [cm] 30x32							
0.199	0.585	0.386	5455	4229	28495	18835	ø 8 2br. 5.0'
0.585	6.026	5.441	4984	4523	25613	7534	ø 8 2br. 20.0'
6.026	6.412	0.386	5141	3956	28495	18835	ø 8 2br. 5.0'

Travata: 388 Travata 257 163 166

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>ti</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 33 Rett. 44x32 [cm] 44x32																
257	0.150	7.63	3.90			5892	7505	0.20	0	-4024	0.16					
				SLE Rare		4444			0			0.0	82.1	2427.0	417.9	
				SLE Freq.		4149			0			0.0	76.7	2266.4	390.2	0.0353
				SLE Q.P.		4036			0			0.0	74.6	2204.6	379.6	0.0343
Camp.	2.125	4.62	7.63	5490	1015	0	4951	0.18	-5959	-7193	0.18					
				SLE Rare		0			-4493			85.4	0.0	625.9	2544.3	
				SLE Freq.		0			-4198			79.8	0.0	584.9	2377.5	0.2828
				SLE Q.P.		0			-4081			77.5	0.0	568.6	2311.1	0.2724
163	4.100	7.63	4.68			6721	7513	0.20	-865	-4658	0.16					
				SLE Rare		3851			0			0.0	70.7	2106.7	244.5	
				SLE Freq.		3633			0			0.0	66.7	1987.4	230.7	0.0335
				SLE Q.P.		3540			0			0.0	65.0	1936.4	224.7	0.0327
Trave Sez. 33 Rett. 44x32 [cm] 44x32																
163	0.200	7.63	4.68			4859	7513	0.20	-2603	-4658	0.16					
				SLE Rare		1186			0			0.0	21.8	648.6	75.3	
				SLE Freq.		1173			0			0.0	21.5	641.8	74.5	0.0108
				SLE Q.P.		1160			0			0.0	21.3	634.5	73.6	0.0107
Camp.	1.205	4.62	4.62	5463	298	106	4900	0.16	-1875	-4616	0.15					
				SLE Rare		0			-1313			29.8	0.0	168.5	1194.3	
				SLE Freq.		0			-1220			27.7	0.0	156.6	1109.8	0.1187

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CORPO A

				SLE Q.P.	0			-1184			26.9	0.0	152.0	1077.3	0.1152
166	2.210	4.62	4.62			3715	4900	0.16	-2581	-4616	0.15				
				SLE Rare	682			0			0.0	15.0	598.0	60.5	
				SLE Freq.	596			0			0.0	13.1	522.8	52.9	0.0074
				SLE Q.P.	567			0			0.0	12.5	497.2	50.3	0.0070

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 257 163 Sez. 33 Rett. 44x32 [cm] 44x32							
0.150	0.470	0.320	11056	5530	41792	18835	ø 8 2br. 5.0'
0.470	3.779	3.309	9421	5794	37566	10045	ø 8 2br. 15.0'
3.779	4.099	0.320	10630	5865	41792	18835	ø 8 2br. 5.0'
Trave 163 166 Sez. 33 Rett. 44x32 [cm] 44x32							
0.200	0.512	0.312	9667	5594	41792	18835	ø 8 2br. 5.0'
0.512	1.898	1.386	8494	5798	37566	10045	ø 8 2br. 15.0'
1.898	2.210	0.312	8669	5840	41792	18835	ø 8 2br. 5.0'

Travata: 39 Travata 133 144

Nodo	x [m]	A <sub>te</sub> [cm <sup>2</sup> ]	A <sub>ti</sub> [cm <sup>2</sup> ]	q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm <sup>2</sup> ]	σ <sub>bi</sub> [kg/cm <sup>2</sup> ]	σ <sub>te</sub> [kg/cm <sup>2</sup> ]	σ <sub>ti</sub> [kg/cm <sup>2</sup> ]	w mm
Trave Sez. 40 Rett. 30x32 [cm] 20X32 ascensore																
133	0.125	9.42	13.57			1622	8649	0.25	-1587	-11748	0.29					
				SLE Rare		13			-6			0.1	0.2	6.0	1.9	
				SLE Freq.		17			-3			0.1	0.3	7.9	2.0	0.0002
				SLE Q.P.		18			-2			0.0	0.3	8.2	2.0	0.0002
Camp.	0.850	9.42	13.57	1265	37	405	8649	0.25	-574	-11748	0.29					
				SLE Rare		0			-163			2.9	0.0	25.5	54.8	
				SLE Freq.		0			-146			2.6	0.0	22.9	49.3	0.0037
				SLE Q.P.		0			-140			2.5	0.0	21.9	47.1	0.0036
144	1.575	9.42	13.57			1807	8649	0.25	-1487	-11748	0.29					
				SLE Rare		200			0			0.0	3.7	92.9	22.8	
				SLE Freq.		171			0			0.0	3.2	79.4	19.5	0.0019
				SLE Q.P.		160			0			0.0	3.0	74.2	18.2	0.0017

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 133 144 Sez. 40 Rett. 30x32 [cm] 20X32 ascensore							
0.125	0.445	0.320	14650	6481	28495	18835	ø 8 2br. 5.0'
0.445	1.255	0.810	14393	6481	25613	15068	ø 8 2br. 10.0'
1.255	1.575	0.320	14650	6481	28495	18835	ø 8 2br. 5.0'

Travata: 40 Travata 140 147

Nodo	x [m]	A <sub>te</sub> [cm <sup>2</sup> ]	A <sub>ti</sub> [cm <sup>2</sup> ]	q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm <sup>2</sup> ]	σ <sub>bi</sub> [kg/cm <sup>2</sup> ]	σ <sub>te</sub> [kg/cm <sup>2</sup> ]	σ <sub>ti</sub> [kg/cm <sup>2</sup> ]	w mm
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COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Trave Sez. 40 Rett. 30x32 [cm] 20X32 ascensore																	
140	0.125	4.62	4.62			717	4644	0.19	-605	-4433	0.17						
				SLE Rare	61				0			0.0	1.6	54.5	8.8		
				SLE Freq.	58				0			0.0	1.6	51.5	8.3	0.0008	
				SLE Q.P.	56				0			0.0	1.5	50.2	8.1	0.0008	
Camp.	0.850	4.69	4.72	1241	36	105	4705	0.19	-310	-4518	0.17						
				SLE Rare	0				-166			4.6	0.0	31.2	150.8		
				SLE Freq.	0				-150			4.1	0.0	28.1	135.8	0.0119	
				SLE Q.P.	0				-143			3.9	0.0	26.8	129.9	0.0114	
147	1.575	4.62	4.62			792	4644	0.19	-582	-4433	0.17						
				SLE Rare	131				0			0.0	3.5	117.3	19.0		
				SLE Freq.	113				0			0.0	3.0	100.8	16.3	0.0017	
				SLE Q.P.	105				0			0.0	2.8	94.2	15.2	0.0015	

Da [m]	A [m]	Dx [m]	VEd [kg]	VRd,c [kg]	VRcd [kg]	VRd [kg]	Staffe
Trave 140 147 Sez. 40 Rett. 30x32 [cm] 20X32 ascensore							
0.125	0.445	0.320	6833	4524	28495	18835	ø 8 2br. 5.0'
0.445	1.255	0.810	6580	4556	25613	7534	ø 8 2br. 20.0'
1.255	1.575	0.320	6833	4524	28495	18835	ø 8 2br. 5.0'

Travata: 41 Travata 141 148

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>te</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 38 Rett. 30x24 [cm] 30x24																
141	1.650	3.39	3.39			936	2503	0.23	-488	-2308	0.22					
				SLE Rare		247			0			0.0	13.7	422.3	32.8	
				SLE Freq.		231			0			0.0	12.8	394.9	30.6	0.0041
				SLE Q.P.		224			0			0.0	12.5	383.7	29.8	0.0039
Camp.	2.350	3.39	3.39	1163	34	128	2503	0.23	-338	-2308	0.22					
				SLE Rare		0			-130			7.6	0.0	31.4	235.2	
				SLE Freq.		0			-115			6.7	0.0	27.8	208.7	0.0174
				SLE Q.P.		0			-109			6.4	0.0	26.4	198.2	0.0165
148	3.050	3.39	3.39			830	2503	0.23	-810	-2308	0.22					
				SLE Rare		30			0			0.0	1.7	51.7	4.0	
				SLE Freq.		16			-1			0.0	0.9	26.8	2.1	0.0003
				SLE Q.P.		10			-1			0.0	0.6	17.2	1.3	0.0002

Da [m]	A [m]	Dx [m]	VEd [kg]	VRd,c [kg]	VRcd [kg]	VRd [kg]	Staffe
Trave 141 148 Sez. 38 Rett. 30x24 [cm] 30x24							
3.077	3.309	0.231	3980	3445	19925	14634	ø 8 2br. 5.0'
3.309	4.141	0.832	3802	3445	17910	8429	ø 8 2br. 12.5'
4.141	4.372	0.231	3999	3445	19925	14634	ø 8 2br. 5.0'

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Travata: 417 Travata 256 162 165

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>r</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 36 Rett. 65x32 [cm] 65x32																
256	0.150	9.24	7.70			8654	9379	0.18	0	-7591	0.16					
					SLE Rare	6482			0			0.0	84.8	2882.2	441.6	
					SLE Freq.	5901			0			0.0	77.2	2623.7	402.0	0.0405
					SLE Q.P.	5677			0			0.0	74.3	2524.2	386.7	0.0390
Camp.	2.075	7.70	12.72	9239	1745	0	8084	0.18	-10294	-11867	0.20					
					SLE Rare	0			-7712			94.0	0.0	717.6	2634.5	
					SLE Freq.	0			-7037			85.8	0.0	654.8	2404.1	0.2815
					SLE Q.P.	0			-6769			82.5	0.0	629.9	2312.3	0.2678
162	4.000	15.27	7.70			12463	14539	0.23	-1040	-7623	0.17					
					SLE Rare	7606			0			0.0	83.8	2109.7	578.7	
					SLE Freq.	6987			0			0.0	77.0	1938.1	531.6	0.0358
					SLE Q.P.	6728			0			0.0	74.1	1866.2	511.9	0.0344
Trave Sez. 36 Rett. 65x32 [cm] 65x32																
162	0.300	15.27	7.70			7640	14539	0.23	-4131	-7623	0.17					
					SLE Rare	1943			0			0.0	21.4	539.1	147.9	
					SLE Freq.	1933			0			0.0	21.3	536.2	147.1	0.0099
					SLE Q.P.	1913			0			0.0	21.1	530.7	145.6	0.0098
Camp.	1.255	7.70	7.70	9233	484	709	8020	0.17	-3651	-7588	0.16					
					SLE Rare	0			-2298			33.4	0.0	201.2	1261.2	
					SLE Freq.	0			-2067			30.0	0.0	180.9	1134.3	0.1137
					SLE Q.P.	0			-1978			28.7	0.0	173.1	1085.4	0.1088
165	2.210	7.70	7.70			3749	8020	0.17	-2840	-7588	0.16					
					SLE Rare	668			0			0.0	9.4	353.8	42.2	
					SLE Freq.	525			0			0.0	7.4	278.0	33.1	0.0041
					SLE Q.P.	476			0			0.0	6.7	252.0	30.0	0.0037

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 256 162 Sez. 36 Rett. 65x32 [cm] 65x32							
0.148	0.604	0.456	18067	8982	61738	37670	ø 8 4br. 5.0'
0.604	3.406	2.802	14757	9749	55495	15068	ø 8 4br. 20.0'
3.406	3.862	0.456	18811	8982	61738	37670	ø 8 4br. 5.0'
Trave 162 165 Sez. 36 Rett. 65x32 [cm] 65x32							
0.401	0.823	0.423	17355	8642	61738	18835	ø 8 2br. 5.0'
0.823	1.829	1.005	14617	8642	55495	15068	ø 8 2br. 10.0'
1.829	2.251	0.423	14408	8982	61738	18835	ø 8 2br. 5.0'

Travata: 442 Travata 149 161 164

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>r</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
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COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Trave Sez. 36 Rett. 65x32 [cm] 65x32																
149	0.200	12.72	7.02			9900	12344	0.21	0	-7034	0.16					
				SLE Rare		6494			0			0.0	76.8	2142.3	445.3	
				SLE Freq.		6064			0			0.0	71.7	2000.3	415.8	0.0346
				SLE Q.P.		5895			0			0.0	69.7	1944.6	404.2	0.0336
Camp.	2.290	7.70	15.71	5543	1281	0	8115	0.19	-10905	-14348	0.22					
				SLE Rare		0			-8120			92.7	0.0	760.6	2277.9	
				SLE Freq.		0			-7623			87.0	0.0	714.0	2138.4	0.2463
				SLE Q.P.		0			-7425			84.8	0.0	695.5	2082.9	0.2384
161	4.380	12.72	7.70			10622	12344	0.21	0	-7619	0.17					
				SLE Rare		7242			0			0.0	85.1	2390.0	537.5	
				SLE Freq.		6789			0			0.0	79.8	2240.7	503.9	0.0399
				SLE Q.P.		6605			0			0.0	77.6	2179.9	490.2	0.0388

Trave Sez. 36 Rett. 65x32 [cm] 65x32																
161	0.200	12.72	7.70			6007	12344	0.21	0	-7619	0.17					
				SLE Rare		3822			0			0.0	44.9	1261.5	283.7	
				SLE Freq.		3655			0			0.0	42.9	1206.4	271.3	0.0215
				SLE Q.P.		3578			0			0.0	42.0	1180.8	265.5	0.0210
Camp.	1.305	7.70	7.70	6726	432	86	8020	0.17	-1763	-7588	0.16					
				SLE Rare		0			-1325			19.2	0.0	116.0	727.4	
				SLE Freq.		0			-1223			17.8	0.0	107.1	671.4	0.0673
				SLE Q.P.		0			-1185			17.2	0.0	103.7	650.1	0.0652
164	2.410	3.88	7.70			2597	4638	0.15	-2358	-7575	0.15					
				SLE Rare		310			0			0.0	5.9	159.1	7.9	
				SLE Freq.		236			-1			0.0	4.5	120.9	6.0	0.0016
				SLE Q.P.		212			-2			0.0	4.0	108.7	5.4	0.0015

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 149 161 Sez. 36 Rett. 65x32 [cm] 65x32							
0.191	0.496	0.305	12799	8170	61738	18835	ø 8 2br. 5.0'
0.496	3.869	3.373	13622	8960	55495	15068	ø 8 4br. 20.0'
3.869	4.174	0.305	15878	8982	61738	18835	ø 8 2br. 5.0'

Trave 161 164 Sez. 36 Rett. 65x32 [cm] 65x32							
0.200	0.502	0.302	13922	8982	61738	18835	ø 8 2br. 5.0'
0.502	2.109	1.607	12534	8982	55495	15068	ø 8 4br. 20.0'
2.109	2.411	0.302	10801	8982	61738	18835	ø 8 2br. 5.0'

Travata: 59 Travata 142 157

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>ti</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rit</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>te</sub> [kg/cm²]	σ <sub>ti</sub> [kg/cm²]	w mm
Trave Sez. 38 Rett. 30x24 [cm] 30x24																
142	0.200	3.39	3.39			477	2503	0.23	-1465	-2308	0.22					
						SLE Rare	0			-513		30.1	0.0	124.0	930.5	

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

				SLE Freq.	0				-498			29.1	0.0	120.3	902.6	0.0751
				SLE Q.P.	0				-493			28.9	0.0	119.1	893.5	0.0744
Camp.	1.250	3.39	3.39	2633	162	0	2503	0.23	-1066	-2308	0.22					
				SLE Rare	0				-767			44.9	0.0	185.3	1389.9	
				SLE Freq.	0				-673			39.4	0.0	162.7	1220.7	0.1016
				SLE Q.P.	0				-636			37.2	0.0	153.7	1153.0	0.0960
157	2.300	3.39	3.39			2385	2503	0.23	-53	-2308	0.22					
				SLE Rare	1476				0			0.0	82.2	2529.0	196.2	
				SLE Freq.	1332				0			0.0	74.1	2281.8	177.0	0.0235
				SLE Q.P.	1279				0			0.0	71.2	2191.4	170.0	0.0225

Da [m]	A [m]	Dx [m]	VEd [kg]	VRd,c [kg]	VRcd [kg]	VRd [kg]	Staffe
Trave 142 157 Sez. 38 Rett. 30x24 [cm] 30x24							
0.198	0.445	0.247	4046	3445	19925	14634	ø 8 2br. 5.0'
0.445	2.028	1.583	3722	3445	17910	8429	ø 8 2br. 12.5'
2.028	2.275	0.247	4080	3445	19925	14634	ø 8 2br. 5.0'

Verifiche travate secondo, terzo e quarto impalcato:

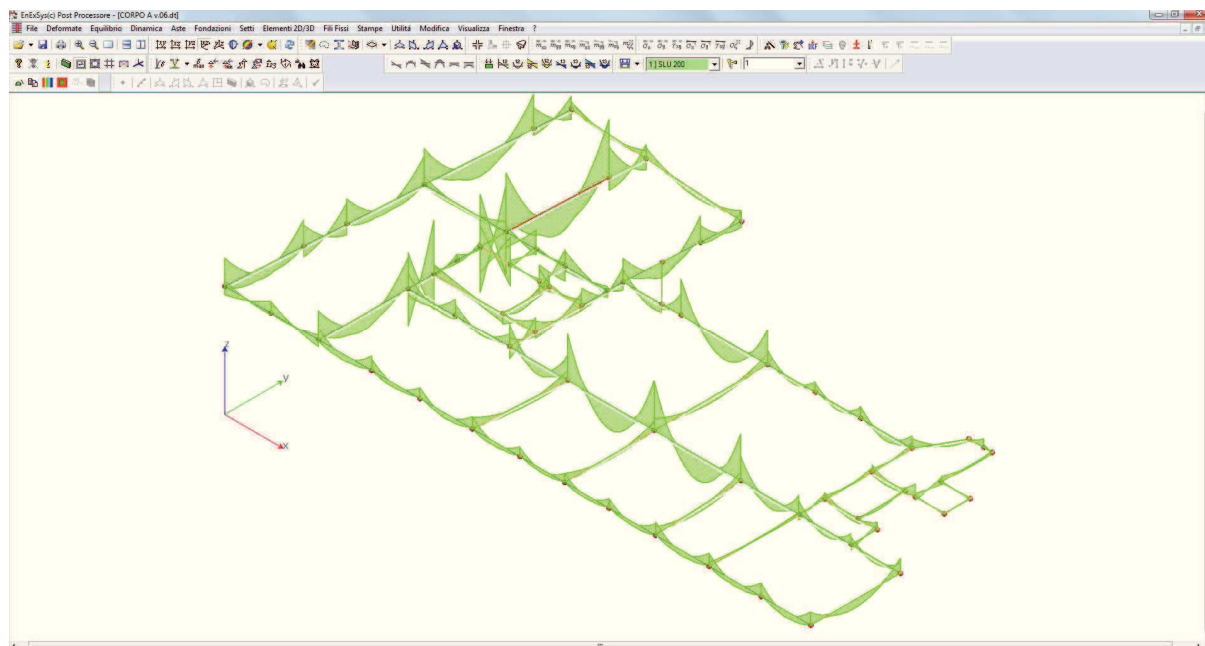


DIAGRAMMA INVILUPPO MOMENTI  $M_x$

Verifiche Travate :

Travata: 204 Travata 247 246

N.B. Nella travata che segue sono incluse le verifiche delle travate:

204 Travata 239 240

204 Travata 847 846

204 Travata 839 840



COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

204 Travata 340 339  
204 Travata 346 347  
204 Travata 747 746  
204 Travata 739 740  
204 Travata 440 439  
204 Travata 446 447

Nodo	x [m]	A <sub>te</sub> [cm <sup>2</sup> ]	A <sub>ti</sub> [cm <sup>2</sup> ]	q <sub>T</sub> [kg/m]	M <sub>rit</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm <sup>2</sup> ]	σ <sub>bi</sub> [kg/cm <sup>2</sup> ]	σ <sub>te</sub> [kg/cm <sup>2</sup> ]	σ <sub>ti</sub> [kg/cm <sup>2</sup> ]	w mm
Trave Sez. 10 Rett. 30x32 [cm] 20X32 ascensore																
247	0.100	4.62	4.62			1230	4614	0.17	-1017	-4614	0.17					
				SLE Rare		203			-49			1.3	5.3	180.3	43.9	
				SLE Freq.		182			-37			1.0	4.7	162.2	33.0	0.0026
				SLE Q.P.		174			-32			0.8	4.5	154.8	31.5	0.0025
Camp.	0.975	4.62	4.62	312	11	307	4614	0.17	-318	-4614	0.17					
				SLE Rare		40			-54			1.4	1.0	35.7	48.3	
				SLE Freq.		31			-54			1.4	0.8	27.4	47.8	0.0037
				SLE Q.P.		27			-54			1.4	0.7	24.3	47.6	0.0037
246	1.850	4.62	4.62			1165	4614	0.17	-1034	-4614	0.17					
				SLE Rare		146			-98			2.5	3.8	129.5	87.0	
				SLE Freq.		132			-77			2.0	3.4	117.1	68.7	0.0054
				SLE Q.P.		126			-70			1.8	3.3	112.2	62.0	0.0049

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 247 246 Sez. 10 Rett. 30x32 [cm] 20X32 ascensore							
0.100	0.421	0.321	5477	4598	29566	19543	ø 8 2br. 5.0'
0.421	1.534	1.113	5412	4598	26576	7817	ø 8 2br. 20.0'
1.534	1.854	0.321	5489	4598	29566	19543	ø 8 2br. 5.0'

Travata: 209 Travata 233 234

Nodo	x [m]	A <sub>te</sub> [cm <sup>2</sup> ]	A <sub>ti</sub> [cm <sup>2</sup> ]	q <sub>T</sub> [kg/m]	M <sub>rit</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm <sup>2</sup> ]	σ <sub>bi</sub> [kg/cm <sup>2</sup> ]	σ <sub>te</sub> [kg/cm <sup>2</sup> ]	σ <sub>ti</sub> [kg/cm <sup>2</sup> ]	w mm
Trave Sez. 10 Rett. 30x32 [cm] 20X32 ascensore																
233	0.125	4.62	4.62			776	4614	0.17	-630	-4614	0.17					
				SLE Rare		92			0			0.0	2.4	81.8	16.6	
				SLE Freq.		79			0			0.0	2.0	70.0	14.2	0.0011
				SLE Q.P.		73			0			0.0	1.9	65.1	13.2	0.0010
Camp.	0.986	4.62	4.62	312	11	194	4614	0.17	-195	-4614	0.17					
				SLE Rare		3			-12			0.3	0.1	2.9	10.6	
				SLE Freq.		0			-18			0.5	0.0	3.2	15.7	0.0012
				SLE Q.P.		0			-18			0.5	0.0	3.2	15.8	0.0012
234	1.848	4.62	4.62			832	4614	0.17	-653	-4614	0.17					
				SLE Rare		93			0			0.0	2.4	82.3	16.7	
				SLE Freq.		90			0			0.0	2.3	80.0	16.3	0.0013
				SLE Q.P.		89			0			0.0	2.3	79.4	16.1	0.0013

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CORPO A

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rcd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 233 234 Sez. 10 Rett. 30x32 [cm] 20X32 ascensore							
0.125	0.445	0.320	5554	4598	29566	19543	ø 8 2br. 5.0'
0.445	1.528	1.083	5495	4598	26576	7817	ø 8 2br. 20.0'
1.528	1.848	0.320	5572	4598	29566	19543	ø 8 2br. 5.0'

Travata: 212 Travata 233 244

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>dj</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 10 Rett. 30x32 [cm] 20X32 ascensore																
233	0.125	4.62	4.62			1782	4614	0.17	-1682	-4614	0.17					
				SLE Rare		49			0			0.0	1.3	44.0	8.9	
				SLE Freq.		50			0			0.0	1.3	44.5	9.0	0.0007
				SLE Q.P.		50			0			0.0	1.3	44.5	9.0	0.0007
Camp.	0.850	4.62	4.62	312	9	481	4614	0.17	-526	-4614	0.17					
				SLE Rare		0			-32			0.8	0.0	5.8	28.3	
				SLE Freq.		0			-31			0.8	0.0	5.6	27.7	0.0022
				SLE Q.P.		0			-31			0.8	0.0	5.6	27.5	0.0022
244	1.575	4.62	4.62			1766	4614	0.17	-1712	-4614	0.17					
				SLE Rare		27			0			0.0	0.7	23.6	4.8	
				SLE Freq.		27			0			0.0	0.7	24.0	4.9	0.0004
				SLE Q.P.		27			0			0.0	0.7	24.0	4.9	0.0004

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rcd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 233 244 Sez. 10 Rett. 30x32 [cm] 20X32 ascensore							
0.125	0.445	0.320	6538	4598	29566	19543	ø 8 2br. 5.0'
0.445	1.255	0.810	6461	4598	26576	7817	ø 8 2br. 20.0'
1.255	1.575	0.320	6538	4598	29566	19543	ø 8 2br. 5.0'

Travata: 213 Travata 234 245

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>dj</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 10 Rett. 30x32 [cm] 20X32 ascensore																
234	0.125	9.42	9.42			7495	8794	0.22	-6762	-8794	0.22					
				SLE Rare		366			0			0.0	6.8	166.8	54.7	
				SLE Freq.		371			0			0.0	6.9	168.8	55.4	0.0038
				SLE Q.P.		366			0			0.0	6.8	166.8	54.7	0.0038
Camp.	0.850	9.42	9.42	2309	67	2217	8794	0.22	-2268	-8794	0.22					
				SLE Rare		0			-135			2.5	0.0	20.1	61.3	
				SLE Freq.		0			-114			2.1	0.0	17.1	52.1	0.0036
				SLE Q.P.		0			-105			1.9	0.0	15.6	47.7	0.0033
245	1.575	9.42	9.42			7758	8794	0.22	-7087	-8794	0.22					
				SLE Rare		415			0			0.0	7.7	189.1	62.1	
				SLE Freq.		359			0			0.0	6.7	163.4	53.6	0.0037

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

	SLE Q.P.	335			0			0.0	6.2	152.7	50.1	0.0035
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Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 234 245 Sez. 10 Rett. 30x32 [cm] 20X32 ascensore							
0.125	0.445	0.320	13245	5832	29566	19543	ø 8 2br. 5.0'
0.445	1.255	0.810	12753	5832	26576	15634	ø 8 2br. 10.0'
1.255	1.575	0.320	13245	5832	29566	19543	ø 8 2br. 5.0'

Travata: 219 Travata 230 241

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 8 Rett. 30x24 [cm] 30x24																
230	0.050	4.62	4.62			1741	3168	0.23	0	-3168	0.23					
				SLE Rare		1325			0			0.0	62.1	1708.3	321.9	
				SLE Freq.		1279			0			0.0	59.9	1648.8	310.6	0.0214
				SLE Q.P.		1260			0			0.0	59.0	1625.1	306.2	0.0211
Camp.	1.550	4.62	4.62	2378	228	0	3168	0.23	-1132	-3168	0.23					
				SLE Rare		0			-862			40.4	0.0	209.4	1111.4	
				SLE Freq.		0			-832			39.0	0.0	202.2	1073.3	0.0740
				SLE Q.P.		0			-820			38.4	0.0	199.3	1058.0	0.0729
241	3.050	4.62	4.62			1739	3168	0.23	0	-3168	0.23					
				SLE Rare		1323			0			0.0	62.0	1706.6	321.5	
				SLE Freq.		1278			0			0.0	59.9	1647.5	310.4	0.0214
				SLE Q.P.		1259			0			0.0	59.0	1623.9	306.0	0.0211

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 230 241 Sez. 8 Rett. 30x24 [cm] 30x24							
0.050	0.300	0.250	4696	3954	20996	14162	ø 8 2br. 5.0'
0.300	2.800	2.500	4265	3954	18873	7402	ø 8 2br. 15.0'
2.800	3.050	0.250	4696	3954	20996	14162	ø 8 2br. 5.0'

Travata: 44 Travata 240 247

N.B. Nella travata che segue sono incluse le verifiche delle travate:

44 Travata 840 847  
44 Travata 839 846  
44 Travata 239 246  
44 Travata 339 346  
44 Travata 347 340  
44 Travata 439 446  
44 Travata 447 440

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 10 Rett. 30x32 [cm] 20X32 ascensore																
240	0.100	7.63	7.63			3347	7263	0.20	-3317	-7263	0.20					
				SLE Rare		229			-153			3.1	4.7	126.9	84.6	

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

				SLE Freq.	207			-69			1.4	4.3	115.0	38.3	0.0027
				SLE Q.P.	199			-36			0.7	4.1	110.4	31.8	0.0023
Camp.	0.850	7.63	7.63	1693	49	1485	7263	0.20	-1556	-7263	0.20				
				SLE Rare	117			-210			4.3	2.4	64.6	116.5	
				SLE Freq.	97			-184			3.8	2.0	53.5	102.0	0.0073
				SLE Q.P.	88			-174			3.6	1.8	49.0	96.2	0.0068
247	1.600	7.63	7.63			3040	7263	0.20	-3493	-7263	0.20				
				SLE Rare	284			-220			4.5	5.8	157.4	121.9	
				SLE Freq.	304			-227			4.7	6.2	168.3	126.1	0.0090
				SLE Q.P.	305			-227			4.7	6.3	168.9	125.7	0.0089

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 240 247 Sez. 10 Rett. 30x32 [cm] 20X32 ascensore							
0.100	0.407	0.307	10537	5436	29566	19543	ø 8 2br. 5.0'
0.407	1.293	0.887	10188	5436	26576	10423	ø 8 2br. 15.0'
1.293	1.600	0.307	10537	5436	29566	19543	ø 8 2br. 5.0'

Travata: 309 Travata 333 334

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>ri</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>ri</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>re</sub> [kg/cm²]	σ <sub>ri</sub> [kg/cm²]	w mm
Trave Sez. 10 Rett. 30x32 [cm] 20X32 ascensore																
333	0.125	4.62	4.62			372	4614	0.17	-209	-4614	0.17					
				SLE Rare	94			0				0.0	2.5	83.8	17.0	
				SLE Freq.	85			0				0.0	2.2	75.6	15.4	0.0012
				SLE Q.P.	82			0				0.0	2.1	72.6	14.8	0.0012
Camp.	0.986	4.62	4.62	312	11	73	4614	0.17	-77	-4614	0.17					
				SLE Rare	2			-12				0.3	0.1	2.2	10.8	
				SLE Freq.	0			-18				0.5	0.0	3.2	15.8	0.0012
				SLE Q.P.	0			-18				0.5	0.0	3.2	15.9	0.0012
334	1.848	4.62	4.62			370	4614	0.17	-208	-4614	0.17					
				SLE Rare	89			0				0.0	2.3	78.8	16.0	
				SLE Freq.	83			0				0.0	2.2	73.8	15.0	0.0012
				SLE Q.P.	81			0				0.0	2.1	71.7	14.6	0.0011

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 333 334 Sez. 10 Rett. 30x32 [cm] 20X32 ascensore							
0.125	0.445	0.320	5554	4598	29566	19543	ø 8 2br. 5.0'
0.445	1.528	1.083	5495	4598	26576	7817	ø 8 2br. 20.0'
1.528	1.848	0.320	5572	4598	29566	19543	ø 8 2br. 5.0'

Travata: 312 Travata 333 344

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>ri</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>ri</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>re</sub> [kg/cm²]	σ <sub>ri</sub> [kg/cm²]	w mm
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COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Trave Sez. 10 Rett. 30x32 [cm] 20X32 ascensore																
333	0.125	4.62	4.62			291	4614	0.17	-186	-4614	0.17					
						SLE Rare	52		0			0.0	1.3	45.9	9.3	
						SLE Freq.	52		0			0.0	1.4	46.6	9.5	0.0007
						SLE Q.P.	52		0			0.0	1.4	46.5	9.4	0.0007
Camp.	0.850	4.62	4.62	312	9	89	4614	0.17	-143	-4614	0.17					
						SLE Rare	0		-35			0.9	0.0	6.2	30.7	
						SLE Freq.	0		-34			0.9	0.0	6.1	30.1	0.0024
						SLE Q.P.	0		-34			0.9	0.0	6.1	29.8	0.0023
344	1.575	4.62	4.62			259	4614	0.17	-221	-4614	0.17					
						SLE Rare	19		0			0.0	0.5	16.7	3.4	
						SLE Freq.	19		0			0.0	0.5	16.9	3.4	0.0003
						SLE Q.P.	19		0			0.0	0.5	16.8	3.4	0.0003

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 333 344 Sez. 10 Rett. 30x32 [cm] 20X32 ascensore							
0.125	0.445	0.320	6538	4598	29566	19543	ø 8 2br. 5.0'
0.445	1.255	0.810	6461	4598	26576	7817	ø 8 2br. 20.0'
1.255	1.575	0.320	6538	4598	29566	19543	ø 8 2br. 5.0'

Travata: 313 Travata 334 345

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>ti</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rit</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>te</sub> [kg/cm²]	σ <sub>ti</sub> [kg/cm²]	w mm
Trave Sez. 10 Rett. 30x32 [cm] 20X32 ascensore																
334	0.125	7.63	7.63			5122	7263	0.20	-4948	-7263	0.20					
						SLE Rare	140		0			0.0	2.9	77.5	22.3	
						SLE Freq.	106		0			0.0	2.2	59.0	17.0	0.0012
						SLE Q.P.	87		0			0.0	1.8	48.3	13.9	0.0010
Camp.	0.850	7.63	7.63	2309	67	1336	7263	0.20	-1866	-7263	0.20					
						SLE Rare	0		-344			7.1	0.0	55.0	190.5	
						SLE Freq.	0		-331			6.8	0.0	53.0	183.6	0.0131
						SLE Q.P.	0		-328			6.7	0.0	52.5	181.9	0.0129
345	1.575	7.63	7.63			5388	7263	0.20	-5151	-7263	0.20					
						SLE Rare	150		0			0.0	3.1	83.2	24.0	
						SLE Freq.	126		0			0.0	2.6	70.0	20.2	0.0014
						SLE Q.P.	119		0			0.0	2.4	65.7	19.0	0.0013

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 334 345 Sez. 10 Rett. 30x32 [cm] 20X32 ascensore							
0.125	0.445	0.320	11133	5436	29566	19543	ø 8 2br. 5.0'
0.445	1.255	0.810	10641	5436	26576	12508	ø 8 2br. 12.5'
1.255	1.575	0.320	11133	5436	29566	19543	ø 8 2br. 5.0'

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Travata: 319 Travata 330 341

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rit</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 8 Rett. 30x24 [cm] 30x24																
330	0.050	4.62	4.62			1733	3168	0.23	0	-3168	0.23					
					SLE Rare	1319			0			0.0	61.8	1700.9	320.5	
					SLE Freq.	1274			0			0.0	59.7	1642.6	309.5	0.0213
					SLE Q.P.	1256			0			0.0	58.8	1619.2	305.1	0.0210
Camp.	1.550	4.62	4.62	2380	229	0	3168	0.23	-1135	-3168	0.23					
					SLE Rare	0			-864			40.5	0.0	209.9	1114.3	
					SLE Freq.	0			-834			39.1	0.0	202.7	1076.0	0.0742
					SLE Q.P.	0			-822			38.5	0.0	199.8	1060.6	0.0731
341	3.050	4.62	4.62			1745	3168	0.23	0	-3168	0.23					
					SLE Rare	1328			0			0.0	62.2	1712.4	322.6	
					SLE Freq.	1281			0			0.0	60.0	1652.2	311.3	0.0215
					SLE Q.P.	1263			0			0.0	59.1	1628.2	306.8	0.0211

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 330 341 Sez. 8 Rett. 30x24 [cm] 30x24							
0.050	0.300	0.250	4698	3954	20996	14162	ø 8 2br. 5.0'
0.300	2.800	2.500	4267	3954	18873	7402	ø 8 2br. 15.0'
2.800	3.050	0.250	4697	3954	20996	14162	ø 8 2br. 5.0'

Travata: 321 Travata 740 747

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rit</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 10 Rett. 30x32 [cm] 20X32 ascensore																
740	0.125	4.62	4.62			631	4614	0.17	-590	-4614	0.17					
					SLE Rare	15			0			0.0	0.4	13.0	2.7	
					SLE Freq.	21			0			0.0	0.5	18.7	3.8	0.0003
					SLE Q.P.	21			0			0.0	0.5	18.5	3.8	0.0003
Camp.	0.850	4.62	4.62	312	9	242	4614	0.17	-272	-4614	0.17					
					SLE Rare	0			-32			0.8	0.0	5.8	28.6	
					SLE Freq.	0			-32			0.8	0.0	5.8	28.3	0.0022
					SLE Q.P.	0			-32			0.8	0.0	5.7	28.1	0.0022
747	1.575	4.62	4.62			733	4614	0.17	-624	-4614	0.17					
					SLE Rare	66			0			0.0	1.7	58.4	11.9	
					SLE Freq.	58			0			0.0	1.5	51.4	10.5	0.0008
					SLE Q.P.	55			0			0.0	1.4	48.7	9.9	0.0008

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 740 747 Sez. 10 Rett. 30x32 [cm] 20X32 ascensore							
0.125	0.445	0.320	6538	4598	29566	19543	ø 8 2br. 5.0'
0.445	1.255	0.810	6461	4598	26576	7817	ø 8 2br. 20.0'

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1.255	1.575	0.320	6538	4598	29566	19543	ø 8 2br. 5.0'
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Travata: 328 Travata 739 746

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>te</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 10 Rett. 30x32 [cm] 20X32 ascensore																
739	0.125	4.62	4.62			2485	4614	0.17	-2508	-4614	0.17					
				SLE Rare		54			0			0.0	1.4	48.3	9.8	
				SLE Freq.		8			-13			0.3	0.2	6.8	11.1	0.0009
				SLE Q.P.		0			-12			0.3	0.0	2.2	11.0	0.0009
Camp.	0.850	4.62	4.62	312	9	882	4614	0.17	-713	-4614	0.17					
				SLE Rare		167			-7			0.2	4.3	148.5	30.2	
				SLE Freq.		141			-7			0.2	3.7	125.5	25.5	0.0020
				SLE Q.P.		131			-7			0.2	3.4	116.2	23.6	0.0019
746	1.575	4.62	4.62			2845	4614	0.17	-2047	-4614	0.17					
				SLE Rare		406			0			0.0	10.6	361.2	73.4	
				SLE Freq.		401			0			0.0	10.4	356.6	72.5	0.0057
				SLE Q.P.		399			0			0.0	10.4	354.8	72.1	0.0057

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 739 746 Sez. 10 Rett. 30x32 [cm] 20X32 ascensore							
0.125	0.445	0.320	6538	4598	29566	19543	ø 8 2br. 5.0'
0.445	1.255	0.810	6461	4598	26576	7817	ø 8 2br. 20.0'
1.255	1.575	0.320	6538	4598	29566	19543	ø 8 2br. 5.0'

Travata: 24 Travata 422 423

N.B. Nella travata che segue sono incluse le verifiche delle travate:

24 Travata 222 223

24 Travata 322 323

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>te</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 8 Rett. 30x24 [cm] 30x24																
422	0.150	3.39	3.39			574	2441	0.21	-634	-2441	0.21					
				SLE Rare		60			-177			9.5	3.2	102.1	303.7	
				SLE Freq.		123			-88			4.7	6.6	210.8	150.8	0.0110
				SLE Q.P.		125			-56			3.0	6.7	214.1	96.6	0.0071
Camp.	1.595	3.39	3.39	1483	156	0	2441	0.21	-815	-2441	0.21					
				SLE Rare		0			-628			33.6	0.0	148.9	1075.7	
				SLE Freq.		0			-629			33.6	0.0	149.3	1078.7	0.0790
				SLE Q.P.		0			-630			33.7	0.0	149.3	1079.2	0.0790
423	3.040	3.39	3.39			2071	2441	0.21	0	-2441	0.21					
				SLE Rare		1564			0			0.0	83.6	2679.7	370.8	
				SLE Freq.		1461			0			0.0	78.1	2503.3	346.4	0.0254
				SLE Q.P.		1425			0			0.0	76.2	2441.8	337.9	0.0247

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Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rcd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 422 423 Sez. 8 Rett. 30x24 [cm] 30x24							
0.148	0.394	0.246	3364	3568	20996	14162	ø 8 2br. 5.0'
0.394	2.747	2.353	3074	3568	18873	7402	ø 8 2br. 15.0'
2.747	2.993	0.246	3364	3568	20996	14162	ø 8 2br. 5.0'

Travata: 386 Travata 466 465 464

N.B. Nella travata che segue sono incluse le verifiche delle travate:

386 Travata 266 265 264

386 Travata 366 365 364

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 1 Rett. 30x32 [cm] 30x32																
466	0.200	4.62	4.62			3427	4614	0.17	-25	-4614	0.17					
						SLE Rare	2179		0			0.0	56.7	1936.9	393.8	
						SLE Freq.	2134		0			0.0	55.5	1896.9	385.7	0.0303
						SLE Q.P.	2118		0			0.0	55.1	1882.8	382.8	0.0300
Camp.	2.600	4.62	4.62	1680	463	0	4614	0.17	-2355	-4614	0.17					
						SLE Rare	0		-1808			47.0	0.0	326.7	1607.1	
						SLE Freq.	0		-1796			46.7	0.0	324.7	1597.0	0.1253
						SLE Q.P.	0		-1792			46.6	0.0	323.8	1592.9	0.1250
465	5.000	7.63	4.62			3681	7278	0.21	0	-4617	0.17					
						SLE Rare	2413		0			0.0	53.1	1335.2	445.6	
						SLE Freq.	2420		0			0.0	53.3	1339.0	446.9	0.0261
						SLE Q.P.	2421		0			0.0	53.3	1339.7	447.1	0.0261
Trave Sez. 1 Rett. 30x32 [cm] 30x32																
465	0.200	7.63	4.62			5492	7278	0.21	0	-4617	0.17					
						SLE Rare	4214		0			0.0	92.8	2331.6	778.2	
						SLE Freq.	4180		0			0.0	92.0	2312.6	771.8	0.0451
						SLE Q.P.	4167		0			0.0	91.8	2305.4	769.5	0.0449
Camp.	3.330	4.62	4.62	1713	771	0	4614	0.17	-4041	-4614	0.17					
						SLE Rare	0		-3101			80.6	0.0	560.4	2756.5	
						SLE Freq.	0		-3076			80.0	0.0	555.9	2734.2	0.2722
						SLE Q.P.	0		-3065			79.7	0.0	554.0	2725.1	0.2711
464	6.460	7.63	4.62			4826	7278	0.21	0	-4617	0.17					
						SLE Rare	3703		0			0.0	81.5	2048.7	683.8	
						SLE Freq.	3673		0			0.0	80.9	2032.3	678.3	0.0396
						SLE Q.P.	3661		0			0.0	80.6	2025.2	675.9	0.0395

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rcd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 466 465 Sez. 1 Rett. 30x32 [cm] 30x32							
0.198	0.515	0.317	3935	4598	29566	19543	ø 8 2br. 5.0'
0.515	4.635	4.120	3786	4598	26576	7817	ø 8 2br. 20.0'
4.635	4.952	0.317	4223	4598	29566	19543	ø 8 2br. 5.0'



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Trave 465 464 Sez. 1 Rett. 30x32 [cm] 30x32							
0.199	0.516	0.318	5371	4598	29566	19543	ø 8 2br. 5.0'
0.516	6.094	5.578	4863	4598	26576	7817	ø 8 2br. 20.0'
6.094	6.412	0.318	5451	4598	29566	19543	ø 8 2br. 5.0'

Travata: 391 Travata 409 414 424 442 463 466

N.B. Nella travata che segue sono incluse le verifiche delle travate:

391 Travata 209 214 224 242 263 266

391 Travata 309 314 324 342 363 366

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 3 Rett. 44x32 [cm] 44x32																
409	0.200	18.10	7.90			14569	16295	0.31	-3555	-7628	0.19					
					SLE Rare	6803			0			0.0	89.1	1650.9	342.0	
					SLE Freq.	6263			0			0.0	82.0	1519.8	314.8	0.0365
					SLE Q.P.	6061			0			0.0	79.4	1470.8	304.7	0.0353
Camp.	2.420	7.63	13.57	5996	1427	0	7490	0.19	-7772	-12573	0.24					
					SLE Rare	0			-5859			83.4	0.0	708.7	1864.4	
					SLE Freq.	0			-5468			77.8	0.0	661.5	1740.2	0.1765
					SLE Q.P.	0			-5313			75.6	0.0	642.7	1690.8	0.1703
414	4.640	22.62	18.10			13051	20262	0.28	-3232	-16425	0.23					
					SLE Rare	6047			0			0.0	63.2	1181.8	553.7	
					SLE Freq.	5694			0			0.0	59.5	1112.9	521.4	0.0305
					SLE Q.P.	5549			0			0.0	58.0	1084.5	508.1	0.0297
Trave Sez. 3 Rett. 44x32 [cm] 44x32																
414	0.200	22.62	18.10			10681	20262	0.28	-6831	-16425	0.23					
					SLE Rare	2477			0			0.0	25.9	484.1	226.8	
					SLE Freq.	2103			0			0.0	22.0	410.9	192.5	0.0113
					SLE Q.P.	2018			0			0.0	21.1	394.4	184.8	0.0108
Camp.	1.340	22.62	18.10	5825	418	1193	20262	0.28	-2076	-16425	0.23					
					SLE Rare	0			-981			10.4	0.0	82.5	237.5	
					SLE Freq.	0			-917			9.7	0.0	77.1	222.0	0.0153
					SLE Q.P.	0			-890			9.4	0.0	74.9	215.6	0.0148
424	2.480	22.62	18.10			10967	20262	0.28	-6627	-16425	0.23					
					SLE Rare	2348			0			0.0	24.5	459.0	215.0	
					SLE Freq.	2221			0			0.0	23.2	434.0	203.3	0.0119
					SLE Q.P.	2170			0			0.0	22.7	424.1	198.7	0.0116
Trave Sez. 3 Rett. 44x32 [cm] 44x32																
424	0.200	22.62	18.10			12949	20262	0.28	-2710	-16425	0.23					
					SLE Rare	6216			0			0.0	65.0	1214.9	569.2	
					SLE Freq.	5766			0			0.0	60.3	1126.9	527.9	0.0309
					SLE Q.P.	5597			0			0.0	58.5	1093.9	512.5	0.0300
Camp.	2.410	10.18	10.18	5656	1305	0	9750	0.20	-6447	-9750	0.20					
					SLE Rare	0			-4862			71.6	0.0	542.9	2013.6	

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				SLE Freq.	0			-4544			67.0	0.0	507.4	1882.1	0.1778
				SLE Q.P.	0			-4418			65.1	0.0	493.3	1829.8	0.1713
442	4.620	28.27	28.27			13589	25348	0.27	-2755	-25348	0.27				
				SLE Rare	7203			0			0.0	61.0	1139.2	561.7	
				SLE Freq.	6753			0			0.0	57.2	1068.1	526.6	0.0326
				SLE Q.P.	6571			0			0.0	55.7	1039.3	512.4	0.0312
Trave Sez. 3 Rett. 44x32 [cm] 44x32															
442	0.200	28.27	28.27			17761	25348	0.27	0	-25348	0.27				
				SLE Rare	13045			0			0.0	110.5	2063.2	1017.2	
				SLE Freq.	12178			0			0.0	103.2	1926.0	949.6	0.0735
				SLE Q.P.	11833			0			0.0	100.3	1871.6	922.7	0.0709
Camp.	3.380	18.10	18.10	5504	2528	0	16417	0.25	-13472	-16417	0.25				
				SLE Rare	0			-10163			113.7	0.0	933.8	2461.3	
				SLE Freq.	0			-9509			106.4	0.0	873.8	2303.1	0.2322
				SLE Q.P.	0			-9249			103.5	0.0	849.9	2240.0	0.2250
463	6.560	21.24	17.91			17138	19008	0.27	0	-16228	0.24				
				SLE Rare	12323			0			0.0	132.4	2569.5	1127.7	
				SLE Freq.	11557			0			0.0	124.2	2409.7	1057.5	0.0849
				SLE Q.P.	11252			0			0.0	120.9	2346.2	1029.7	0.0820
Trave Sez. 3 Rett. 44x32 [cm] 44x32															
463	0.200	11.95	11.08			9630	11093	0.22	-5421	-10380	0.21				
				SLE Rare	3499			0			0.0	50.0	713.0	229.5	
				SLE Freq.	3018			0			0.0	43.1	614.9	197.9	0.0146
				SLE Q.P.	2952			0			0.0	42.1	601.5	193.6	0.0142
Camp.	1.205	9.99	9.42	5196	283	1879	9528	0.20	-2138	-9038	0.20				
				SLE Rare	306			-689			10.6	4.7	123.6	308.8	
				SLE Freq.	239			-619			9.5	3.6	96.7	277.4	0.0225
				SLE Q.P.	227			-597			9.2	3.4	91.5	267.8	0.0217
466	2.210	9.42	9.42			7438	9039	0.20	-5628	-9039	0.20				
				SLE Rare	1069			0			0.0	16.6	478.9	120.0	
				SLE Freq.	944			0			0.0	14.6	422.8	105.9	0.0086
				SLE Q.P.	905			0			0.0	14.0	405.7	101.6	0.0082

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 409 414 Sez. 3 Rett. 44x32 [cm] 44x32							
0.198	0.541	0.343	14502	7014	43363	19543	ø 8 2br. 5.0'
0.541	1.510	0.969	13380	7295	38978	15634	ø 8 2br. 10.0'
1.510	3.291	1.781	10223	8501	38978	10423	ø 8 2br. 15.0'
3.291	4.260	0.969	12250	8501	38978	15634	ø 8 2br. 10.0'
4.260	4.603	0.343	13334	8955	43363	19543	ø 8 2br. 5.0'
Trave 414 424 Sez. 3 Rett. 44x32 [cm] 44x32							
0.200	0.520	0.320	19599	9357	43363	21714	ø 8 2br. 5.0'

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0.520	2.160	1.640	18608	9357	38978	20846	ø 8 2br. 7.5'
2.160	2.480	0.320	19580	9357	43363	21714	ø 8 2br. 5.0'
Trave 424 442 Sez. 3 Rett. 44x32 [cm] 44x32							
0.201	0.677	0.476	16899	8850	43363	19543	ø 8 2br. 5.0'
0.677	4.160	3.483	15470	7724	38978	15634	ø 8 2br. 10.0'
4.160	4.636	0.476	15953	10321	43363	19543	ø 8 2br. 5.0'
Trave 442 463 Sez. 3 Rett. 44x32 [cm] 44x32							
0.199	0.545	0.346	17742	10321	43363	19543	ø 8 2br. 5.0'
0.545	1.524	0.978	15815	9357	38978	20846	ø 8 2br. 7.5'
1.524	5.219	3.696	12326	9357	38978	12508	ø 8 2br. 12.5'
5.219	6.198	0.978	15501	8477	38978	20846	ø 8 2br. 7.5'
6.198	6.544	0.346	17401	8909	43363	19543	ø 8 2br. 5.0'
Trave 463 466 Sez. 3 Rett. 44x32 [cm] 44x32							
0.200	0.520	0.320	12763	7638	43363	19543	ø 8 2br. 5.0'
0.520	1.890	1.370	11848	7528	38978	12508	ø 8 2br. 12.5'
1.890	2.210	0.320	12513	7528	43363	19543	ø 8 2br. 5.0'

Travata: 401 Travata 409 401 402 410 403 411 404 412 413 405 406 407 408

N.B. Nella travata che segue sono incluse le verifiche delle travate:

401 Travata 209 201 202 210 203 211 204 212 213 205 206 207 208

401 Travata 309 301 302 310 303 311 304 312 313 305 306 307 308

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>r</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>de</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>ie</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 3 Rett. 44x32 [cm] 44x32																
409	0.150	4.62	7.63			2662	4825	0.15	-4826	-7491	0.18					
				SLE Rare		0			-1309			23.4	0.0	175.3	712.1	
				SLE Freq.		0			-1140			20.4	0.0	152.7	620.4	0.0523
				SLE Q.P.		0			-1082			19.3	0.0	144.9	588.7	0.0496
Camp.	1.480	4.62	4.62	1707	157	439	4796	0.14	-1436	-4796	0.14					
				SLE Rare		13			-568			12.1	0.3	70.8	496.6	
				SLE Freq.		0			-582			12.4	0.0	72.6	508.8	0.0493
				SLE Q.P.		0			-583			12.5	0.0	72.8	510.0	0.0494
401	2.810	7.63	2.42			5927	7494	0.18	-1033	-2838	0.14					
				SLE Rare		2742			0			0.0	51.1	1490.8	207.1	
				SLE Freq.		2542			0			0.0	47.4	1382.4	192.1	0.0144
				SLE Q.P.		2475			0			0.0	46.1	1345.6	187.0	0.0141
Trave Sez. 3 Rett. 44x32 [cm] 44x32																
401	0.200	7.63	2.42			5889	7494	0.18	-369	-2838	0.14					
				SLE Rare		3252			0			0.0	60.6	1768.5	245.7	
				SLE Freq.		3005			0			0.0	56.0	1633.8	227.0	0.0171
				SLE Q.P.		2922			0			0.0	54.5	1589.0	220.8	0.0166
Camp.	1.645	4.62	4.62	1707	167	617	4796	0.14	-1047	-4796	0.14					
				SLE Rare		145			-443			9.5	3.1	127.3	387.3	

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				SLE Freq.	86			-454			9.7	1.8	75.2	397.4	0.0385
				SLE Q.P.	71			-453			9.7	1.5	61.9	396.7	0.0384
402	3.090	4.51	7.63			2053	4695	0.15	-4052	-7491	0.18				
				SLE Rare	0			-1365			24.5	0.0	104.5	743.6	
				SLE Freq.	0			-1154			20.7	0.0	88.3	628.4	0.0529
				SLE Q.P.	0			-1088			19.5	0.0	83.2	592.4	0.0499
Trave Sez. 3 Rett. 44x32 [cm] 44x32															
402	0.200	7.63	7.63			4958	7488	0.18	-2288	-7488	0.18				
				SLE Rare	1899			0			0.0	32.4	1036.0	223.5	
				SLE Freq.	1789			0			0.0	30.5	976.2	210.6	0.0179
				SLE Q.P.	1743			0			0.0	29.7	950.8	205.2	0.0174
Camp.	1.670	4.62	4.62	5926	726	0	4796	0.14	-4029	-4796	0.14				
				SLE Rare	0			-3036			64.8	0.0	378.9	2655.9	
				SLE Freq.	0			-2829			60.4	0.0	353.0	2474.6	0.2446
				SLE Q.P.	0			-2747			58.7	0.0	342.8	2402.8	0.2330
410	3.140	7.63	2.42			6631	7494	0.18	-938	-2838	0.14				
				SLE Rare	3624			0			0.0	67.5	1970.4	273.8	
				SLE Freq.	3381			0			0.0	63.0	1838.4	255.4	0.0192
				SLE Q.P.	3286			0			0.0	61.3	1786.7	248.3	0.0187
Trave Sez. 3 Rett. 44x32 [cm] 44x32															
410	0.200	7.63	2.42			5196	7494	0.18	-1250	-2838	0.14				
				SLE Rare	2548			0			0.0	47.5	1385.2	192.5	
				SLE Freq.	2390			0			0.0	44.6	1299.6	180.6	0.0136
				SLE Q.P.	2326			0			0.0	43.4	1264.7	175.7	0.0132
Camp.	1.625	4.62	4.62	5926	596	0	4796	0.14	-2827	-4796	0.14				
				SLE Rare	0			-2130			45.5	0.0	265.8	1863.6	
				SLE Freq.	0			-1984			42.4	0.0	247.6	1735.9	0.1682
				SLE Q.P.	0			-1927			41.1	0.0	240.4	1685.5	0.1633
403	3.050	7.63	2.73			4917	7494	0.18	-446	-3113	0.14				
				SLE Rare	2948			0			0.0	54.6	1602.9	248.0	
				SLE Freq.	2753			0			0.0	51.0	1496.8	231.6	0.0179
				SLE Q.P.	2675			0			0.0	49.5	1454.4	225.0	0.0174
Trave Sez. 3 Rett. 44x32 [cm] 44x32															
403	0.150	7.63	2.73			4945	7494	0.18	-209	-3113	0.14				
				SLE Rare	3123			0			0.0	57.8	1698.1	262.7	
				SLE Freq.	2940			0			0.0	54.5	1598.8	247.4	0.0192
				SLE Q.P.	2866			0			0.0	53.1	1558.4	241.1	0.0187
Camp.	1.680	4.62	4.62	5926	701	0	4796	0.14	-3567	-4796	0.14				
				SLE Rare	0			-2690			57.5	0.0	335.7	2353.3	
				SLE Freq.	0			-2516			53.7	0.0	313.9	2200.7	0.2133
				SLE Q.P.	0			-2445			52.2	0.0	305.2	2139.2	0.2073
411	3.210	7.63	2.42			5476	7494	0.18	-868	-2838	0.14				
				SLE Rare	3074			0			0.0	57.3	1671.2	232.2	
				SLE Freq.	2838			0			0.0	52.9	1543.0	214.4	0.0161

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	SLE Q.P.	2746			0			0.0	51.2	1493.0	207.5	0.0156
Trave Sez. 3 Rett. 44x32 [cm] 44x32												
411	0.200	7.63	2.42			5332	7494	0.18	-1394	-2838	0.14	
	SLE Rare	2572			0			0.0	47.9	1398.2	194.3	
	SLE Freq.	2384			0			0.0	44.4	1296.5	180.1	0.0136
	SLE Q.P.	2311			0			0.0	43.1	1256.4	174.6	0.0131
Camp.	1.590	4.62	4.62	5677	556	0	4796	0.14	-2895	-4796	0.14	
	SLE Rare	0			-2183			46.6	0.0	272.4	1909.4	
	SLE Freq.	0			-2038			43.5	0.0	254.3	1782.9	0.1728
	SLE Q.P.	0			-1980			42.3	0.0	247.1	1732.4	0.1679
404	2.980	7.63	2.73			4624	7494	0.18	-836	-3113	0.14	
	SLE Rare	2426			0			0.0	44.9	1319.2	204.1	
	SLE Freq.	2285			0			0.0	42.3	1242.6	192.3	0.0149
	SLE Q.P.	2228			0			0.0	41.3	1211.3	187.4	0.0145
Trave Sez. 3 Rett. 44x32 [cm] 44x32												
404	0.150	7.63	2.73			4155	7494	0.18	-525	-3113	0.14	
	SLE Rare	2352			0			0.0	43.6	1279.1	197.9	
	SLE Freq.	2227			0			0.0	41.3	1211.1	187.4	0.0145
	SLE Q.P.	2176			0			0.0	40.3	1183.0	183.0	0.0142
Camp.	1.465	4.62	4.62	5926	509	0	4796	0.14	-2540	-4796	0.14	
	SLE Rare	0			-1915			40.9	0.0	239.0	1675.2	
	SLE Freq.	0			-1788			38.2	0.0	223.2	1564.4	0.1516
	SLE Q.P.	0			-1738			37.1	0.0	216.9	1520.2	0.1473
412	2.780	4.62	2.73			3980	4785	0.14	-764	-3060	0.13	
	SLE Rare	2255			0			0.0	49.7	1968.6	178.2	
	SLE Freq.	2079			0			0.0	45.9	1815.1	164.4	0.0197
	SLE Q.P.	2010			0			0.0	44.3	1754.9	158.9	0.0191
Trave Sez. 3 Rett. 44x32 [cm] 44x32												
412	0.150	4.62	2.73			4134	4785	0.14	-999	-3060	0.13	
	SLE Rare	2189			0			0.0	48.3	1911.4	173.1	
	SLE Freq.	2027			0			0.0	44.7	1769.9	160.3	0.0192
	SLE Q.P.	1963			0			0.0	43.3	1713.9	155.2	0.0186
Camp.	1.465	4.62	4.62	5926	509	0	4796	0.14	-2545	-4796	0.14	
	SLE Rare	0			-1919			41.0	0.0	239.5	1678.8	
	SLE Freq.	0			-1792			38.3	0.0	223.7	1567.8	0.1519
	SLE Q.P.	0			-1741			37.2	0.0	217.3	1523.5	0.1476
413	2.780	4.62	2.73			4402	4785	0.14	-644	-3060	0.13	
	SLE Rare	2426			0			0.0	53.5	2118.2	191.8	
	SLE Freq.	2285			0			0.0	50.4	1995.1	180.7	0.0217
	SLE Q.P.	2228			0			0.0	49.1	1945.3	176.1	0.0211
Trave Sez. 3 Rett. 44x32 [cm] 44x32												
413	0.150	4.62	2.73			4397	4785	0.14	-751	-3060	0.13	
	SLE Rare	2321			0			0.0	51.2	2026.1	183.5	

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				SLE Freq.	2199			0			0.0	48.5	1919.5	173.8	0.0208
				SLE Q.P.	2148			0			0.0	47.4	1875.3	169.8	0.0204
Camp.	1.500	4.62	4.62	5726	533	0	4796	0.14	-2683	-4796	0.14				
				SLE Rare	0			-2023			43.2	0.0	252.4	1769.5	
				SLE Freq.	0			-1890			40.4	0.0	235.8	1653.2	0.1602
				SLE Q.P.	0			-1836			39.2	0.0	229.2	1606.5	0.1557
405	2.850	7.63	2.42			5047	7494	0.18	-1306	-2838	0.14				
				SLE Rare	2471			0			0.0	46.1	1343.5	186.7	
				SLE Freq.	2277			0			0.0	42.5	1238.3	172.1	0.0129
				SLE Q.P.	2202			0			0.0	41.1	1197.6	166.4	0.0125
Trave Sez. 3 Rett. 44x32 [cm] 44x32															
405	0.200	7.63	2.42			5945	7494	0.18	-1098	-2838	0.14				
				SLE Rare	3165			0			0.0	59.0	1720.8	239.1	
				SLE Freq.	2945			0			0.0	54.9	1601.2	222.5	0.0167
				SLE Q.P.	2858			0			0.0	53.3	1554.2	216.0	0.0162
Camp.	1.740	4.62	4.62	5926	738	0	4796	0.14	-3770	-4796	0.14				
				SLE Rare	0			-2842			60.7	0.0	354.7	2486.6	
				SLE Freq.	0			-2655			56.7	0.0	331.4	2323.1	0.2251
				SLE Q.P.	0			-2581			55.1	0.0	322.1	2257.8	0.2188
406	3.280	7.63	2.42			5847	7494	0.18	-1122	-2838	0.14				
				SLE Rare	3039			0			0.0	56.6	1652.4	229.6	
				SLE Freq.	2847			0			0.0	53.1	1547.8	215.1	0.0162
				SLE Q.P.	2769			0			0.0	51.6	1505.8	209.2	0.0157
Trave Sez. 3 Rett. 44x32 [cm] 44x32															
406	0.200	7.63	2.42			5710	7494	0.18	-1336	-2838	0.14				
				SLE Rare	2812			0			0.0	52.4	1528.9	212.4	
				SLE Freq.	2628			0			0.0	49.0	1429.2	198.6	0.0149
				SLE Q.P.	2558			0			0.0	47.7	1391.1	193.3	0.0145
Camp.	1.735	4.62	4.62	5926	693	0	4796	0.14	-3517	-4796	0.14				
				SLE Rare	0			-2650			56.6	0.0	330.8	2318.6	
				SLE Freq.	0			-2470			52.8	0.0	308.3	2161.0	0.2094
				SLE Q.P.	0			-2399			51.2	0.0	299.4	2098.8	0.2034
407	3.270	7.63	4.62			5904	7491	0.18	-1212	-4825	0.15				
				SLE Rare	3240			0			0.0	57.8	1762.6	433.8	
				SLE Freq.	3022			0			0.0	53.9	1643.9	404.6	0.0270
				SLE Q.P.	2941			0			0.0	52.5	1600.3	393.8	0.0263
Trave Sez. 3 Rett. 44x32 [cm] 44x32															
407	0.200	7.63	2.42			5430	7494	0.18	-1344	-2838	0.14				
				SLE Rare	2970			0			0.0	55.4	1615.1	224.4	
				SLE Freq.	2805			0			0.0	52.3	1525.3	211.9	0.0159
				SLE Q.P.	2764			0			0.0	51.5	1502.7	208.8	0.0157
Camp.	1.605	4.62	4.62	7406	787	0	4796	0.14	-4340	-4796	0.14				
				SLE Rare	0			-3274			69.9	0.0	408.6	2864.6	
				SLE Freq.	0			-3027			64.6	0.0	377.7	2647.9	0.2726

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				SLE Q.P.	0				-2959			63.2	0.0	369.3	2589.1	0.2631
408	3.010	7.63	4.62			5508	7491	0.18	-1743	-4825	0.15					
				SLE Rare	2803				0			0.0	50.0	1525.2	375.4	
				SLE Freq.	2550				0			0.0	45.5	1387.3	341.4	0.0228
				SLE Q.P.	2465				0			0.0	44.0	1341.3	330.1	0.0221

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 409 401 Sez. 3 Rett. 44x32 [cm] 44x32							
0.149	0.467	0.318	4955	6897	43363	19543	ø 8 2br. 5.0'
0.467	2.474	2.007	6280	5665	38978	10423	ø 8 2br. 15.0'
2.474	2.791	0.318	6490	5665	43363	19543	ø 8 2br. 5.0'
Trave 401 402 Sez. 3 Rett. 44x32 [cm] 44x32							
0.210	0.547	0.336	6081	5665	43363	19543	ø 8 2br. 5.0'
0.547	2.912	2.365	5883	5665	38978	10423	ø 8 2br. 15.0'
2.912	3.248	0.336	4487	6970	43363	19543	ø 8 2br. 5.0'
Trave 402 410 Sez. 3 Rett. 44x32 [cm] 44x32							
0.191	0.496	0.305	8437	7018	43363	19543	ø 8 2br. 5.0'
0.496	2.691	2.195	8867	5665	38978	10423	ø 8 2br. 15.0'
2.691	2.996	0.305	9933	5665	43363	19543	ø 8 2br. 5.0'
Trave 410 403 Sez. 3 Rett. 44x32 [cm] 44x32							
0.202	0.532	0.330	8210	5665	43363	19543	ø 8 2br. 5.0'
0.532	2.749	2.217	7106	5665	38978	10423	ø 8 2br. 15.0'
2.749	3.079	0.330	8586	5665	43363	19543	ø 8 2br. 5.0'
Trave 403 411 Sez. 3 Rett. 44x32 [cm] 44x32							
0.149	0.441	0.293	9190	5665	43363	19543	ø 8 2br. 5.0'
0.441	2.889	2.448	7425	5665	38978	10423	ø 8 2br. 15.0'
2.889	3.182	0.293	9157	5665	43363	19543	ø 8 2br. 5.0'
Trave 411 404 Sez. 3 Rett. 44x32 [cm] 44x32							
0.200	0.520	0.320	8129	5665	43363	19543	ø 8 2br. 5.0'
0.520	2.660	2.140	7143	5665	38978	10423	ø 8 2br. 15.0'
2.660	2.980	0.320	8180	5665	43363	19543	ø 8 2br. 5.0'
Trave 404 412 Sez. 3 Rett. 44x32 [cm] 44x32							
0.150	0.470	0.320	8127	5665	43363	19543	ø 8 2br. 5.0'
0.470	2.460	1.990	7126	5665	38978	10423	ø 8 2br. 15.0'
2.460	2.780	0.320	7774	5665	43363	19543	ø 8 2br. 5.0'
Trave 412 413 Sez. 3 Rett. 44x32 [cm] 44x32							
0.150	0.470	0.320	7713	5665	43363	19543	ø 8 2br. 5.0'
0.470	2.460	1.990	6102	5665	38978	10423	ø 8 2br. 15.0'

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2.460	2.780	0.320	7947	5665	43363	19543	ø 8 2br. 5.0'
Trave 413 405 Sez. 3 Rett. 44x32 [cm] 44x32							
0.150	0.470	0.320	7917	5665	43363	19543	ø 8 2br. 5.0'
0.470	2.530	2.060	7054	5665	38978	10423	ø 8 2br. 15.0'
2.530	2.850	0.320	8055	5665	43363	19543	ø 8 2br. 5.0'
Trave 405 406 Sez. 3 Rett. 44x32 [cm] 44x32							
0.197	0.513	0.315	9334	5665	43363	19543	ø 8 2br. 5.0'
0.513	2.918	2.405	7410	5665	38978	10423	ø 8 2br. 15.0'
2.918	3.234	0.315	9212	5665	43363	19543	ø 8 2br. 5.0'
Trave 406 407 Sez. 3 Rett. 44x32 [cm] 44x32							
0.203	0.528	0.325	8884	5665	43363	19543	ø 8 2br. 5.0'
0.528	2.993	2.466	7759	5665	38978	10423	ø 8 2br. 15.0'
2.993	3.318	0.325	9180	5935	43363	19543	ø 8 2br. 5.0'
Trave 407 408 Sez. 3 Rett. 44x32 [cm] 44x32							
0.197	0.563	0.366	10633	5665	43363	19543	ø 8 2br. 5.0'
0.563	2.597	2.034	7835	5665	38978	10423	ø 8 2br. 15.0'
2.597	2.964	0.366	10503	5935	43363	19543	ø 8 2br. 5.0'

Travata: 402 Travata 429 430

N.B. Nella travata che segue sono incluse le verifiche delle travate:

402 Travata 229 230

402 Travata 329 330

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>ti</sub> [cm²]	Q <sub>T</sub> [kg/m]	M <sub>rit</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>te</sub> [kg/cm²]	σ <sub>ti</sub> [kg/cm²]	w mm
Trave Sez. 8 Rett. 30x24 [cm] 30x24																
429	0.150	7.63	4.62			1024	4888	0.30	-926	-3172	0.24					
				SLE Rare		185			-78			3.5	7.4	149.8	101.9	
				SLE Freq.		89			-125			5.6	3.6	72.3	162.4	0.0112
				SLE Q.P.		49			-123			5.5	2.0	39.7	159.5	0.0110
Camp.	1.595	7.63	4.62	234	25	203	4888	0.30	-1438	-3172	0.24					
				SLE Rare		0			-1028			46.2	0.0	204.0	1337.2	
				SLE Freq.		0			-777			34.9	0.0	154.2	1010.4	0.0700
				SLE Q.P.		0			-677			30.4	0.0	134.2	879.7	0.0609
430	3.040	7.63	4.62			3487	4888	0.30	-994	-3172	0.24					
				SLE Rare		2119			0			0.0	84.6	1713.3	574.0	
				SLE Freq.		1668			0			0.0	66.6	1348.5	451.8	0.0211
				SLE Q.P.		1490			0			0.0	59.5	1204.6	403.6	0.0188

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 429 430 Sez. 8 Rett. 30x24 [cm] 30x24							
0.148	0.394	0.246	3053	3954	20996	14162	ø 8 2br. 5.0'
0.394	2.747	2.353	4264	3954	18873	7402	ø 8 2br. 15.0'



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2.747	2.993	0.246	4323	3954	20996	14162	ø 8 2br. 5.0'
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Travata: 403 Travata 440 441

N.B. Nella travata che segue sono incluse le verifiche delle travate:

403 Travata 240 241

403 Travata 340 341

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 8 Rett. 30x24 [cm] 30x24																
440	0.100	7.63	7.63			1999	4873	0.29	-1762	-4873	0.29					
					SLE Rare	323			0			0.0	12.2	263.2	74.1	
					SLE Freq.	179			0			0.0	6.7	145.8	41.0	0.0026
					SLE Q.P.	119			0			0.0	4.5	96.5	27.2	0.0017
Camp.	0.940	7.63	7.63	234	9	847	4873	0.29	-1113	-4873	0.29					
					SLE Rare	0			-550			20.7	0.0	126.0	447.9	
					SLE Freq.	0			-408			15.4	0.0	93.4	332.1	0.0213
					SLE Q.P.	0			-351			13.2	0.0	80.5	286.1	0.0183
441	1.780	7.63	7.63			3656	4873	0.29	-2327	-4873	0.29					
					SLE Rare	970			0			0.0	36.5	790.1	222.3	
					SLE Freq.	782			0			0.0	29.5	636.9	179.2	0.0115
					SLE Q.P.	711			0			0.0	26.8	579.5	163.1	0.0104

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 440 441 Sez. 8 Rett. 30x24 [cm] 30x24							
0.100	0.350	0.250	5957	4675	20996	14162	ø 8 2br. 5.0'
0.350	1.530	1.180	5912	4675	18873	7402	ø 8 2br. 15.0'
1.530	1.780	0.250	5948	4675	20996	14162	ø 8 2br. 5.0'

Travata: 404 Travata 447 448

N.B. Nella travata che segue sono incluse le verifiche delle travate:

404 Travata 247 248

404 Travata 347 348

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 8 Rett. 30x24 [cm] 30x24																
447	1.050	3.39	3.39			859	2441	0.21	-725	-2441	0.21					
					SLE Rare	19			-58			3.1	1.0	31.8	99.7	
					SLE Freq.	64			-13			0.7	3.4	110.3	21.9	0.0016
					SLE Q.P.	67			-5			0.3	3.6	115.2	15.9	0.0012
Camp.	1.890	3.39	3.39	1483	55	138	2441	0.21	-472	-2441	0.21					
					SLE Rare	0			-247			13.2	0.0	58.6	423.5	
					SLE Freq.	0			-245			13.1	0.0	58.0	419.4	0.0307
					SLE Q.P.	0			-244			13.0	0.0	57.8	418.0	0.0306
448	2.730	3.39	3.39			1257	2441	0.21	-542	-2441	0.21					
					SLE Rare	438			0			0.0	23.4	751.5	104.0	
					SLE Freq.	393			0			0.0	21.0	674.2	93.3	0.0068

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	SLE Q.P.	377			0			0.0	20.2	646.9	89.5	0.0066
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Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 447 448 Sez. 8 Rett. 30x24 [cm] 30x24							
1.958	2.205	0.248	3854	3568	20996	14162	ø 8 2br. 5.0'
2.205	3.375	1.169	3605	3568	18873	7402	ø 8 2br. 15.0'
3.375	3.622	0.248	3893	3568	20996	14162	ø 8 2br. 5.0'

Travata: 406 Travata 415 416 417

N.B. Nella travata che segue sono incluse le verifiche delle travate:

406 Travata 215 216 217

406 Travata 315 316 317

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>ti</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rit</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 3 Rett. 44x32 [cm] 44x32																
415	0.150	10.18	7.63			6762	9752	0.20	-3847	-7487	0.18					
				SLE Rare		1669			0			0.0	25.6	690.9	199.5	
				SLE Freq.		1608			0			0.0	24.7	665.6	192.2	0.0130
				SLE Q.P.		1581			0			0.0	24.3	654.5	189.0	0.0128
Camp.	1.525	4.62	4.62	5926	570	0	4796	0.14	-3057	-4796	0.14					
				SLE Rare		0			-2306			49.3	0.0	287.8	2017.2	
				SLE Freq.		0			-2157			46.1	0.0	269.2	1886.8	0.1828
				SLE Q.P.		0			-2097			44.8	0.0	261.8	1834.9	0.1778
416	2.900	9.42	4.33			7674	9043	0.21	-2901	-4529	0.16					
				SLE Rare		2942			0			0.0	49.7	1316.2	175.3	
				SLE Freq.		2681			0			0.0	45.3	1199.1	159.7	0.0205
				SLE Q.P.		2578			0			0.0	43.5	1153.1	153.6	0.0197
Trave Sez. 3 Rett. 44x32 [cm] 44x32																
416	0.200	9.42	4.33			4819	9043	0.21	-68	-4529	0.16					
				SLE Rare		3398			0			0.0	57.4	1520.0	202.5	
				SLE Freq.		3115			0			0.0	52.6	1393.4	185.6	0.0238
				SLE Q.P.		3006			0			0.0	50.8	1344.6	179.1	0.0230
Camp.	1.760	4.62	4.62	5926	755	0	4796	0.14	-3527	-4796	0.14					
				SLE Rare		0			-2661			56.8	0.0	332.1	2327.8	
				SLE Freq.		0			-2491			53.2	0.0	310.9	2179.2	0.2112
				SLE Q.P.		0			-2423			51.7	0.0	302.3	2119.4	0.2054
417	3.320	7.63	4.21			5341	7492	0.18	0	-4457	0.15					
				SLE Rare		3662			0			0.0	65.9	1992.1	453.1	
				SLE Freq.		3451			0			0.0	62.1	1877.5	427.0	0.0299
				SLE Q.P.		3366			0			0.0	60.5	1830.9	416.4	0.0291

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
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Trave 415 416 Sez. 3 Rett. 44x32 [cm] 44x32							
0.150	0.453	0.303	9153	6927	43363	19543	ø 8 2br. 5.0'
0.453	2.597	2.143	8972	5853	38978	10423	ø 8 2br. 15.0'
2.597	2.900	0.303	9830	5740	43363	19543	ø 8 2br. 5.0'
Trave 416 417 Sez. 3 Rett. 44x32 [cm] 44x32							
0.197	0.513	0.316	9356	5797	43363	19543	ø 8 2br. 5.0'
0.513	2.958	2.445	7885	5665	38978	10423	ø 8 2br. 15.0'
2.958	3.274	0.316	9556	5665	43363	19543	ø 8 2br. 5.0'

Travata: 406 Travata 417 418 419 420 421

N.B. Nella travata che segue sono incluse le verifiche delle travate:

406 Travata 217 218 219 220 221

406 Travata 317 318 319 320 321

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 9 Rett. 60x32 [cm] 60x32																
417	0.200	10.18	10.18			9410	10005	0.18	0	-10005	0.18					
				SLE Rare		7064			0			0.0	89.3	2887.6	611.5	
				SLE Freq.		6476			0			0.0	81.9	2647.6	560.7	0.0481
				SLE Q.P.		6256			0			0.0	79.1	2557.4	541.6	0.0465
Camp.	1.880	10.18	10.18	10931	1587	0	10005	0.18	-8088	-10005	0.18					
				SLE Rare		0			-6074			76.8	0.0	525.8	2482.9	
				SLE Freq.		0			-5589			70.6	0.0	483.9	2285.0	0.2418
				SLE Q.P.		0			-5398			68.2	0.0	467.4	2206.9	0.2306
418	3.560	27.14	13.57			10727	24330	0.31	0	-12826	0.20					
				SLE Rare		7944			0			0.0	71.7	1290.2	636.8	
				SLE Freq.		6924			0			0.0	62.5	1124.5	555.1	0.0286
				SLE Q.P.		6671			0			0.0	60.2	1083.3	534.7	0.0276
Trave Sez. 9 Rett. 60x32 [cm] 60x32																
418	0.250	27.14	13.57			21112	24330	0.31	0	-12826	0.20					
				SLE Rare		15818			0			0.0	142.7	2568.9	1268.0	
				SLE Freq.		14439			0			0.0	130.2	2344.9	1157.5	0.0735
				SLE Q.P.		13893			0			0.0	125.3	2256.2	1113.7	0.0697
Camp.	2.920	10.18	18.85	10176	3295	0	10004	0.18	-16746	-17585	0.25					
				SLE Rare		0			-12530			128.8	0.0	1106.0	2850.5	
				SLE Freq.		0			-11430			117.5	0.0	1008.9	2600.4	0.2589
				SLE Q.P.		0			-10991			113.0	0.0	970.2	2500.5	0.2475
419	5.590	31.67	22.62			23860	28293	0.30	0	-20630	0.23					
				SLE Rare		17802			0			0.0	138.4	2489.0	1230.6	
				SLE Freq.		16227			0			0.0	126.1	2268.6	1121.7	0.0815
				SLE Q.P.		15597			0			0.0	121.3	2180.6	1078.2	0.0774
Trave Sez. 9 Rett. 60x32 [cm] 60x32																
419	0.150	31.67	22.62			23914	28293	0.30	0	-20630	0.23					
				SLE Rare		17811			0			0.0	138.5	2490.1	1231.2	

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				SLE Freq.	16238			0			0.0	126.2	2270.2	1122.5	0.0816
				SLE Q.P.	15609			0			0.0	121.4	2182.3	1079.0	0.0775
Camp.	2.820	10.18	18.10	10176	3295	0	10010	0.18	-16705	-16790	0.24				
				SLE Rare	0			-12513			132.0	0.0	1115.5	2983.5	
				SLE Freq.	0			-11415			120.4	0.0	1017.7	2721.7	0.3015
				SLE Q.P.	0			-10976			115.8	0.0	978.6	2617.1	0.2883
420	5.490	27.14	13.57			21145	24330	0.31	0	-12826	0.20				
				SLE Rare	15840			0			0.0	142.9	2572.5	1269.8	
				SLE Freq.	14452			0			0.0	130.3	2347.0	1158.5	0.0735
				SLE Q.P.	13903			0			0.0	125.4	2257.8	1114.5	0.0698

Trave Sez. 9 Rett. 60x32 [cm] 60x32															
420	0.250	27.14	13.57			11455	24330	0.31	0	-12826	0.20				
				SLE Rare	8508			0			0.0	76.7	1381.8	682.1	
				SLE Freq.	7252			0			0.0	65.4	1177.7	581.3	0.0300
				SLE Q.P.	6966			0			0.0	62.8	1131.3	558.4	0.0288
Camp.	1.935	10.18	10.18	10016	1462	0	10005	0.18	-7344	-10005	0.18				
				SLE Rare	0			-5498			69.5	0.0	476.0	2247.5	
				SLE Freq.	0			-5004			63.2	0.0	433.2	2045.5	0.2076
				SLE Q.P.	0			-4808			60.8	0.0	416.3	1965.6	0.1962
421	3.620	10.18	10.18			8623	10005	0.18	0	-10005	0.18				
				SLE Rare	6444			0			0.0	81.4	2634.2	557.9	
				SLE Freq.	5809			0			0.0	73.4	2374.8	502.9	0.0431
				SLE Q.P.	5571			0			0.0	70.4	2277.5	482.3	0.0414

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 417 418 Sez. 9 Rett. 60x32 [cm] 60x32							
0.200	0.569	0.369	18962	9498	59132	39086	ø 8 4br. 5.0'
0.569	1.560	0.991	14858	9498	53152	25015	ø 8 4br. 12.5'
1.560	2.150	0.590	12068	9498	53152	15634	ø 8 4br. 20.0'
2.150	3.141	0.991	18282	9498	53152	25015	ø 8 4br. 12.5'
3.141	3.511	0.369	20597	10242	59132	39086	ø 8 4br. 5.0'
Trave 418 419 Sez. 9 Rett. 60x32 [cm] 60x32							
0.302	0.622	0.320	26704	10454	59132	39086	ø 8 4br. 5.0'
0.622	2.590	1.969	23446	11334	53152	25015	ø 8 4br. 12.5'
2.590	3.350	0.760	10585	11664	53152	15634	ø 8 4br. 20.0'
3.350	5.319	1.969	24459	11664	53152	25015	ø 8 4br. 12.5'
5.319	5.639	0.320	27717	12395	59132	39086	ø 8 4br. 5.0'
Trave 419 420 Sez. 9 Rett. 60x32 [cm] 60x32							
0.151	0.471	0.320	27705	12395	59132	39086	ø 8 4br. 5.0'
0.471	2.440	1.969	24447	11506	53152	25015	ø 8 4br. 12.5'
2.440	3.200	0.760	10585	11506	53152	15634	ø 8 4br. 20.0'
3.200	5.168	1.969	23456	10686	53152	25015	ø 8 4br. 12.5'

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5.168	5.488	0.320	26714	10354	59132	39086	ø 8 4br. 5.0'
Trave 420 421 Sez. 9 Rett. 60x32 [cm] 60x32							
0.296	0.607	0.311	20581	10418	59132	39086	ø 8 4br. 5.0'
0.607	1.473	0.866	18578	9498	53152	20846	ø 8 4br. 15.0'
1.473	2.396	0.923	13005	9498	53152	15634	ø 8 4br. 20.0'
2.396	3.262	0.866	15473	9498	53152	20846	ø 8 4br. 15.0'
3.262	3.573	0.311	17476	9498	59132	39086	ø 8 4br. 5.0'

Travata: 406 Travata 421 622 623

N.B. Nella travata che segue sono incluse le verifiche delle travate:

406 Travata 221 822 823

406 Travata 321 722 723

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 3 Rett. 44x32 [cm] 44x32																
421	0.150	7.63	3.90			6518	7492	0.18	0	-4177	0.15					
				SLE Rare		4866			0			0.0	88.1	2647.0	563.5	
				SLE Freq.		4284			0			0.0	77.5	2330.3	496.1	0.0359
				SLE Q.P.		4133			0			0.0	74.8	2248.1	478.6	0.0346
Camp.	1.745	4.62	4.62	7150	846	0	4796	0.14	-4264	-4796	0.14					
				SLE Rare		0			-3211			68.6	0.0	400.7	2809.1	
				SLE Freq.		0			-2988			63.8	0.0	372.9	2613.7	0.2671
				SLE Q.P.		0			-2898			61.9	0.0	361.7	2535.7	0.2545
622	3.340	4.62	4.41			4674	4795	0.14	0	-4603	0.14					
				SLE Rare		3524			0			0.0	75.5	3082.5	423.0	
				SLE Freq.		3294			0			0.0	70.6	2880.7	395.3	0.0394
				SLE Q.P.		3202			0			0.0	68.6	2800.4	384.3	0.0383
Trave Sez. 3 Rett. 44x32 [cm] 44x32																
622	0.150	4.62	2.73			3004	4785	0.14	-107	-3060	0.13					
				SLE Rare		2233			0			0.0	49.3	1949.6	176.5	
				SLE Freq.		2156			0			0.0	47.5	1882.2	170.4	0.0204
				SLE Q.P.		2121			0			0.0	46.8	1851.5	167.6	0.0201
Camp.	1.595	4.62	4.62	5926	622	0	4796	0.14	-3265	-4796	0.14					
				SLE Rare		0			-2461			52.6	0.0	307.2	2153.2	
				SLE Freq.		0			-2299			49.1	0.0	286.9	2011.1	0.1949
				SLE Q.P.		0			-2234			47.7	0.0	278.8	1954.3	0.1894
623	3.040	7.63	3.90			4950	7492	0.18	0	-4177	0.15					
				SLE Rare		3695			0			0.0	66.9	2010.1	427.9	
				SLE Freq.		3275			0			0.0	59.3	1781.2	379.2	0.0274
				SLE Q.P.		3150			0			0.0	57.0	1713.4	364.8	0.0264

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 421 622 Sez. 3 Rett. 44x32 [cm] 44x32							
0.152	0.477	0.325	11893	5665	43363	19543	ø 8 2br. 5.0'

0.477	3.064	2.587	9663	5665	38978	10423	ø 8 2br. 15.0'
3.064	3.389	0.325	10831	5665	43363	19543	ø 8 2br. 5.0'
Trave 622 623 Sez. 3 Rett. 44x32 [cm] 44x32							
0.148	0.447	0.299	8663	5665	43363	19543	ø 8 2br. 5.0'
0.447	2.694	2.247	8045	5665	38978	10423	ø 8 2br. 15.0'
2.694	2.993	0.299	9510	5665	43363	19543	ø 8 2br. 5.0'

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>r</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 1 Rett. 30x32 [cm] 30x32																
425	0.125	7.63	7.63			4748	7263	0.20	-419	-7263	0.20					
				SLE Rare		3281			0			0.0	67.5	1818.8	524.8	
				SLE Freq.		2738			0			0.0	56.3	1518.0	438.0	0.0312
				SLE Q.P.		2657			0			0.0	54.6	1472.9	424.9	0.0302
Camp.	3.310	7.63	7.63	312	139	0	7263	0.20	-3622	-7263	0.20					
				SLE Rare		0			-2593			53.3	0.0	414.8	1437.6	
				SLE Freq.		0			-2071			42.6	0.0	331.3	1148.3	0.0883
				SLE Q.P.		0			-2010			41.3	0.0	321.4	1114.0	0.0842
427	6.495	7.63	7.63			6363	7263	0.20	-238	-7263	0.20					
				SLE Rare		4532			0			0.0	93.2	2512.3	724.8	
				SLE Freq.		3355			0			0.0	69.0	1859.7	536.5	0.0382
				SLE Q.P.		2888			0			0.0	59.4	1601.0	461.9	0.0329

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 425 427 Sez. 1 Rett. 30x32 [cm] 30x32							
0.125	0.443	0.319	3051	5436	29566	19543	ø 8 2br. 5.0'
0.443	6.152	5.709	6372	5436	26576	7817	ø 8 2br. 20.0'
6.152	6.471	0.319	6472	5436	29566	19543	ø 8 2br. 5.0'

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 10 Rett. 30x32 [cm] 20X32 ascensore																
647	0.125	13.57	13.57			4703	12252	0.25	-5025	-12252	0.25					
				SLE Rare		146			-180			2.8	2.3	47.3	58.3	
				SLE Freq.		141			-165			2.6	2.2	45.6	53.6	0.0036
				SLE Q.P.		139			-161			2.5	2.2	45.2	52.2	0.0035
Camp.	0.963	13.57	13.57	702	25	1508	12252	0.25	-1193	-12252	0.25					

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	SLE Rare	110			-86			1.3	1.7	35.5	28.0	
	SLE Freq.	80			-87			1.3	1.2	26.0	28.1	0.0019
	SLE Q.P.	69			-87			1.3	1.1	22.3	28.1	0.0019
646	1.800	13.57	13.57			5727	12252	0.25	-4490	-12252	0.25	
	SLE Rare	706			0			0.0	11.0	228.8	91.7	
	SLE Freq.	640			0			0.0	9.9	207.4	83.2	0.0055
	SLE Q.P.	618			0			0.0	9.6	200.4	80.4	0.0053

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 647 646 Sez. 10 Rett. 30x32 [cm] 20X32 ascensore							
0.122	0.434	0.312	15071	6586	29566	19543	ø 8 2br. 5.0'
0.434	1.444	1.010	14936	6586	26576	15634	ø 8 2br. 10.0'
1.444	1.757	0.312	15113	6586	29566	19543	ø 8 2br. 5.0'

Travata: 408 Travata 428 529

N.B. Nella travata che segue sono incluse le verifiche delle travate:

408 Travata 228 729

408 Travata 328 629

Nodo	x [m]	A <sub>le</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 1 Rett. 30x32 [cm] 30x32																
428	0.125	4.62	4.62			2903	4614	0.17	-764	-4614	0.17					
				SLE Rare		1838			0			0.0	47.8	1633.5	332.1	
				SLE Freq.		1493			0			0.0	38.8	1327.1	269.8	0.0212
				SLE Q.P.		1358			0			0.0	35.3	1207.7	245.5	0.0193
Camp.	1.720	4.62	4.62	2954	350	0	4614	0.17	-3450	-4614	0.17					
				SLE Rare		0			-2528			65.7	0.0	456.9	2247.5	
				SLE Freq.		0			-2121			55.2	0.0	383.4	1885.8	0.1613
				SLE Q.P.		0			-1957			50.9	0.0	353.8	1740.1	0.1422
529	3.315	4.62	4.62			3420	4614	0.17	0	-4614	0.17					
				SLE Rare		2521			0			0.0	65.5	2241.1	455.6	
				SLE Freq.		2162			0			0.0	56.2	1922.1	390.8	0.0307
				SLE Q.P.		2021			0			0.0	52.5	1796.2	365.2	0.0287

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 428 529 Sez. 1 Rett. 30x32 [cm] 30x32							
0.125	0.429	0.304	6523	4598	29566	19543	ø 8 2br. 5.0'
0.429	3.011	2.581	5815	4598	26576	7817	ø 8 2br. 20.0'
3.011	3.315	0.304	6282	4598	29566	19543	ø 8 2br. 5.0'

Travata: 409 Travata 432 433

N.B. Nella travata che segue sono incluse le verifiche delle travate:

409 Travata 232 233

409 Travata 332 333

Nodo	x	A <sub>le</sub>	A <sub>fi</sub>	q <sub>T</sub>	M <sub>rf</sub>	M <sub>de</sub>	M <sub>re</sub>	x/d	M <sub>di</sub>	M <sub>ri</sub>	x/d	σ <sub>be</sub>	σ <sub>bi</sub>	σ <sub>fe</sub>	σ <sub>fi</sub>	w
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	[m]	[cm²]	[cm²]	[kg/m]	[kgm]	[kgm]	[kgm]		[kgm]	[kgm]		[kg/cm²]	[kg/cm²]	[kg/cm²]	[kg/cm²]	mm
Trave Sez. 1 Rett. 30x32 [cm] 30x32																
432	0.150	22.62	22.62			11474	20004	0.29	-14452	-20004	0.29					
				SLE Rare	0				-1783			20.3	0.0	183.2	352.1	
				SLE Freq.	0				-1567			17.9	0.0	160.9	309.3	0.0181
				SLE Q.P.	0				-1489			17.0	0.0	152.9	293.9	0.0172
Camp.	0.990	22.62	22.62	312	12	11785	20004	0.29	-11053	-20004	0.29					
				SLE Rare	77				-69			0.8	0.9	15.3	13.7	
				SLE Freq.	65				-67			0.8	0.7	12.9	13.1	0.0008
				SLE Q.P.	61				-66			0.8	0.7	12.1	13.0	0.0008
433	1.830	22.62	22.62			18025	20004	0.29	-15250	-20004	0.29					
				SLE Rare	1834				0			0.0	20.9	362.1	188.4	
				SLE Freq.	1623				0			0.0	18.5	320.4	166.7	0.0098
				SLE Q.P.	1547				0			0.0	17.6	305.4	158.9	0.0093

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 432 433 Sez. 1 Rett. 30x32 [cm] 30x32							
0.146	0.458	0.312	24015	7037	29566	39086	ø 8 4br. 5.0'
0.458	1.472	1.014	23948	7037	26576	62538	ø 8 4br. 5.0'
1.472	1.784	0.312	24027	7037	29566	39086	ø 8 4br. 5.0'

Travata: 409 Travata 433 434

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>ti</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>ai</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>te</sub> [kg/cm²]	σ <sub>ti</sub> [kg/cm²]	w mm
Trave Sez. 10 Rett. 30x32 [cm] 20X32 ascensore																
433	0.125	4.62	4.62			236	4614	0.17	-0	-4614	0.17					
				SLE Rare	178				0			0.0	4.6	158.1	32.1	
				SLE Freq.	165				0			0.0	4.3	146.3	29.7	0.0023
				SLE Q.P.	160				0			0.0	4.2	142.3	28.9	0.0023
Camp.	0.986	4.62	4.62	702	25	89	4614	0.17	-146	-4614	0.17					
				SLE Rare	0				-51			1.3	0.0	9.1	44.9	
				SLE Freq.	0				-57			1.5	0.0	10.3	50.6	0.0040
				SLE Q.P.	0				-58			1.5	0.0	10.4	51.2	0.0040
434	1.848	4.62	4.62			326	4614	0.17	-65	-4614	0.17					
				SLE Rare	169				0			0.0	4.4	150.1	30.5	
				SLE Freq.	167				0			0.0	4.3	148.4	30.2	0.0024
				SLE Q.P.	167				0			0.0	4.3	148.0	30.1	0.0024

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 433 434 Sez. 10 Rett. 30x32 [cm] 20X32 ascensore							
0.125	0.445	0.320	5801	4598	29566	19543	ø 8 2br. 5.0'
0.445	1.528	1.083	5669	4598	26576	7817	ø 8 2br. 20.0'
1.528	1.848	0.320	5841	4598	29566	19543	ø 8 2br. 5.0'



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409 Travata 334 336

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>r</sub> [kg/m]	M <sub>rf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 1 Rett. 30x32 [cm] 30x32																
434	0.100	7.63	7.63			5670	7263	0.20	-2044	-7263	0.20					
				SLE Rare		3191			0			0.0	65.6	1768.7	510.3	
				SLE Freq.		2511			0			0.0	51.6	1392.0	401.6	0.0286
				SLE Q.P.		2379			0			0.0	48.9	1318.6	380.4	0.0271
Camp.	1.370	7.63	7.63	312	24	556	7263	0.20	-1190	-7263	0.20					
				SLE Rare		0			-737			15.2	0.0	117.9	408.5	
				SLE Freq.		0			-528			10.9	0.0	84.4	292.5	0.0208
				SLE Q.P.		0			-501			10.3	0.0	80.1	277.6	0.0197
436	2.640	7.63	7.63			2193	7263	0.20	-2269	-7263	0.20					
				SLE Rare		146			-90			1.8	3.0	81.1	49.7	
				SLE Freq.		35			-161			3.3	0.7	25.7	89.1	0.0063
				SLE Q.P.		19			-160			3.3	0.4	25.6	88.6	0.0063

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 434 436 Sez. 1 Rett. 30x32 [cm] 30x32							
0.100	0.420	0.320	11491	5436	29566	19543	ø 8 2br. 5.0'
0.420	0.731	0.312	11391	5436	26576	12508	ø 8 2br. 12.5'
0.731	2.007	1.275	6500	5436	26576	7817	ø 8 2br. 20.0'
2.007	2.318	0.312	5941	5436	26576	12508	ø 8 2br. 12.5'
2.318	2.638	0.320	6018	5436	29566	19543	ø 8 2br. 5.0'

410 Travata 337 739

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>r</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>dfe</sub> [kgm]	M <sub>rfe</sub> [kgm]	x/d	M <sub>dji</sub> [kgm]	M <sub>rji</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 1 Rett. 30x32 [cm] 30x32																
437	0.150	7.63	4.62			2468	7278	0.21	-1673	-4617	0.17					
				SLE Rare		806			0			0.0	17.7	445.9	148.8	
				SLE Freq.		660			0			0.0	14.5	365.3	121.9	0.0071
				SLE Q.P.		601			0			0.0	13.2	332.5	111.0	0.0065
Camp.	1.450	7.63	4.62	5231	426	0	7278	0.21	-2965	-4617	0.17					
				SLE Rare		0			-2196			53.9	0.0	335.5	1961.2	
				SLE Freq.		0			-1922			47.2	0.0	293.5	1715.9	0.1388
				SLE Q.P.		0			-1811			44.5	0.0	276.7	1617.3	0.1278
639	2.750	7.63	4.62			6344	7278	0.21	-13	-4617	0.17					
				SLE Rare		4706			0			0.0	103.6	2603.9	869.1	

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

	SLE Freq.	4143			0			0.0	91.2	2292.0	765.0	0.0447
	SLE Q.P.	3917			0			0.0	86.3	2167.1	723.3	0.0422

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 437 639 Sez. 1 Rett. 30x32 [cm] 30x32							
0.150	0.469	0.319	9325	4598	29566	19543	ø 8 2br. 5.0'
0.469	1.260	0.790	8035	4598	26576	12508	ø 8 2br. 12.5'
1.260	1.636	0.376	5580	4598	26576	7817	ø 8 2br. 20.0'
1.636	2.426	0.790	11078	4598	26576	12508	ø 8 2br. 12.5'
2.426	2.746	0.319	12334	4598	29566	19543	ø 8 2br. 5.0'

Travata: 411 Travata 442 443 471

N.B. Nella travata che segue sono incluse le verifiche delle travate:

411 Travata 242 243 271

411 Travata 342 343 371

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>T</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 3 Rett. 44x32 [cm] 44x32																
442	0.150	7.63	2.42			3610	7495	0.18	-1239	-2830	0.14					
				SLE Rare		1354			0			0.0	25.2	736.0	101.9	
				SLE Freq.		1353			0			0.0	25.2	735.9	101.9	0.0077
				SLE Q.P.		1353			0			0.0	25.2	735.4	101.8	0.0076
Camp.	2.660	4.62	4.62	1418	410	0	4796	0.14	-2334	-4796	0.14					
				SLE Rare		0			-1793			38.3	0.0	223.8	1569.0	
				SLE Freq.		0			-1786			38.2	0.0	222.9	1562.6	0.1514
				SLE Q.P.		0			-1784			38.1	0.0	222.6	1560.4	0.1512
443	5.170	6.02	9.42			4743	5980	0.17	-788	-9033	0.21					
				SLE Rare		2629			0			0.0	49.1	810.9	280.1	
				SLE Freq.		2632			0			0.0	49.1	811.9	280.4	0.0164
				SLE Q.P.		2631			0			0.0	49.1	811.7	280.4	0.0164
Trave Sez. 3 Rett. 44x32 [cm] 44x32																
443	0.200	6.02	9.42			2093	5980	0.17	-6316	-9033	0.21					
				SLE Rare		0			-3240			53.4	0.0	171.5	1452.1	
				SLE Freq.		0			-2864			47.2	0.0	151.6	1283.7	0.1094
				SLE Q.P.		0			-2738			45.1	0.0	144.9	1227.1	0.1018
Camp.	3.375	13.57	7.63	1708	760	970	12573	0.24	-755	-7490	0.19					
				SLE Rare		53			-581			9.3	0.8	55.0	318.9	
				SLE Freq.		47			-581			9.3	0.7	55.0	318.9	0.0273
				SLE Q.P.		45			-581			9.3	0.6	55.0	318.9	0.0273
471	6.550	7.63	7.63			4452	7488	0.18	-5878	-7488	0.18					
				SLE Rare		0			-933			15.9	0.0	109.8	509.1	
				SLE Freq.		0			-812			13.8	0.0	95.6	443.3	0.0376
				SLE Q.P.		0			-777			13.2	0.0	91.4	423.8	0.0359

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 442 443 Sez. 3 Rett. 44x32 [cm] 44x32							
0.150	0.469	0.319	4186	5665	43363	19543	ø 8 2br. 5.0'
0.469	4.842	4.372	4073	5665	38978	10423	ø 8 2br. 15.0'
4.842	5.161	0.319	3941	7231	43363	19543	ø 8 2br. 5.0'
Trave 443 471 Sez. 3 Rett. 44x32 [cm] 44x32							
0.198	0.514	0.317	8566	7370	43363	19543	ø 8 2br. 5.0'
0.514	1.910	1.395	10357	7018	38978	12508	ø 8 2br. 12.5'
1.910	4.768	2.858	7771	7018	38978	10423	ø 8 2br. 15.0'
4.768	6.163	1.395	4715	7018	38978	12508	ø 8 2br. 12.5'
6.163	6.480	0.317	4010	7018	43363	19543	ø 8 2br. 5.0'

Travata: 412 Travata 433 444

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 10 Rett. 30x32 [cm] 20X32 ascensore																
433	0.125	4.62	4.62			577	4614	0.17	-141	-4614	0.17					
				SLE Rare	377				0			0.0	9.8	335.3	68.2	
				SLE Freq.	334				0			0.0	8.7	296.9	60.4	0.0047
				SLE Q.P.	324				0			0.0	8.4	287.7	58.5	0.0046
Camp.	0.850	4.62	4.62	3424	99	0	4614	0.17	-493	-4614	0.17					
				SLE Rare	0				-368			9.6	0.0	66.5	326.9	
				SLE Freq.	0				-323			8.4	0.0	58.3	287.0	0.0225
				SLE Q.P.	0				-312			8.1	0.0	56.3	277.0	0.0217
444	1.575	4.62	4.62			552	4614	0.17	-155	-4614	0.17					
				SLE Rare	359				0			0.0	9.3	319.2	64.9	
				SLE Freq.	313				0			0.0	8.1	278.1	56.5	0.0044
				SLE Q.P.	301				0			0.0	7.8	267.7	54.4	0.0043

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 433 444 Sez. 10 Rett. 30x32 [cm] 20X32 ascensore							
0.125	0.445	0.320	7936	4598	29566	19543	ø 8 2br. 5.0'
0.445	1.255	0.810	7242	4598	26576	7817	ø 8 2br. 20.0'
1.255	1.575	0.320	7936	4598	29566	19543	ø 8 2br. 5.0'

Travata: 412 Travata 443 462 465

N.B. Nella travata che segue sono incluse le verifiche delle travate:

412 Travata 243 262 265

412 Travata 343 362 365

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 4 Rett. 70x32 [cm] 70x32																
443	0.125	37.17	31.67			30715	33115	0.28	0	-28532	0.25					
				SLE Rare	21680				0			0.0	138.5	2591.6	1209.5	

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

				SLE Freq.	19761			0			0.0	126.2	2362.2	1102.5	0.0881
				SLE Q.P.	19003			0			0.0	121.4	2271.7	1060.2	0.0838
Camp.	2.935	12.72	22.62	9298	3908	0	12424	0.19	-20417	-20889	0.25				
				SLE Rare	0			-15168			132.9	0.0	1141.0	2902.0	
				SLE Freq.	0			-13839			121.2	0.0	1041.0	2647.8	0.2866
				SLE Q.P.	0			-13318			116.7	0.0	1001.8	2548.1	0.2743
462	5.745	31.67	22.62			28373	28524	0.28	0	-20823	0.22				
				SLE Rare	18921			0			0.0	136.6	2630.0	1182.6	
				SLE Freq.	17337			0			0.0	125.2	2409.8	1083.6	0.0791
				SLE Q.P.	16697			0			0.0	120.6	2320.9	1043.6	0.0752

Trave Sez. 4 Rett. 70x32 [cm] 70x32															
462	0.300	31.67	22.62			14220	28524	0.28	-8985	-20823	0.22				
				SLE Rare	5080			0			0.0	36.7	706.1	317.5	
				SLE Freq.	4368			0			0.0	31.5	607.2	273.0	0.0160
				SLE Q.P.	4248			0			0.0	30.7	590.4	265.5	0.0155
Camp.	1.255	31.67	22.62	8840	464	3265	28524	0.28	-5409	-20823	0.22				
				SLE Rare	0			-2010			15.0	0.0	111.5	386.3	
				SLE Freq.	0			-1775			13.2	0.0	98.5	341.1	0.0256
				SLE Q.P.	0			-1693			12.6	0.0	94.0	325.4	0.0244
465	2.210	31.67	22.62			7245	28524	0.28	-6424	-20823	0.22				
				SLE Rare	665			-52			0.4	4.8	92.4	41.5	
				SLE Freq.	492			-79			0.6	3.6	68.3	30.7	0.0018
				SLE Q.P.	436			-79			0.6	3.1	60.6	27.2	0.0016

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 443 462 Sez. 4 Rett. 70x32 [cm] 70x32							
0.117	0.410	0.293	29134	15367	68987	39086	ø 8 4br. 5.0'
0.410	1.965	1.555	25876	13736	62011	31269	ø 8 4br. 10.0'
1.965	3.417	1.452	14764	13736	62011	17868	ø 8 4br. 17.5'
3.417	4.972	1.555	25159	13689	62011	31269	ø 8 4br. 10.0'
4.972	5.265	0.293	28012	13689	68987	39086	ø 8 4br. 5.0'
Trave 462 465 Sez. 4 Rett. 70x32 [cm] 70x32							
0.401	0.711	0.310	31097	13736	68987	39086	ø 8 4br. 5.0'
0.711	1.941	1.231	29738	13736	62011	31269	ø 8 4br. 10.0'
1.941	2.251	0.310	31276	13736	68987	39086	ø 8 4br. 5.0'

Travata: 413 Travata 434 445

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>n</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ni</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>te</sub> [kg/cm²]	σ <sub>ti</sub> [kg/cm²]	w mm
Trave Sez. 10 Rett. 30x32 [cm] 20X32 ascensore																
434	0.125	4.62	4.62			2166	4614	0.17	-1130	-4614	0.17					
						570			0			0.0	14.8	506.4	103.0	
						531			0			0.0	13.8	472.4	96.0	0.0075

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

				SLE Q.P.	518			0			0.0	13.5	460.3	93.6	0.0073
Camp.	0.850	4.62	4.62	3994	115	510	4614	0.17	-744	-4614	0.17				
				SLE Rare	0				-314			8.2	0.0	56.8	279.4
				SLE Freq.	0				-257			6.7	0.0	46.4	228.2
				SLE Q.P.	0				-240			6.2	0.0	43.3	213.0
445	1.575	4.62	4.62			2359	4614	0.17	-1409	-4614	0.17				
				SLE Rare	588				0			0.0	15.3	522.8	106.3
				SLE Freq.	502				0			0.0	13.0	446.1	90.7
				SLE Q.P.	475				0			0.0	12.3	422.0	85.8

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 434 445 Sez. 10 Rett. 30x32 [cm] 20X32 ascensore							
0.125	0.445	0.320	8184	4598	29566	19543	ø 8 2br. 5.0'
0.445	1.255	0.810	7381	4598	26576	7817	ø 8 2br. 20.0'
1.255	1.575	0.320	8184	4598	29566	19543	ø 8 2br. 5.0'

Travata: 413 Travata 449 450 451 452 453 454

N.B. Nella travata che segue sono incluse le verifiche delle travate:

413 Travata 249 250 251 252 253 254

413 Travata 349 350 351 352 353 354

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>le</sub> [kg/cm²]	σ <sub>li</sub> [kg/cm²]	w mm
Trave Sez. 3 Rett. 44x32 [cm] 44x32																
449	0.150	7.63	4.62			5413	7491	0.18	0	-4825	0.15					
						SLE Rare	4073			0		0.0	72.7	2215.8	545.4	
						SLE Freq.	3754			0		0.0	67.0	2042.7	502.7	0.0336
						SLE Q.P.	3644			0		0.0	65.0	1982.6	488.0	0.0326
Camp.	1.880	7.63	9.42	6460	937	0	7488	0.18	-6247	-9046	0.20					
						SLE Rare	0			-4709		74.8	0.0	564.0	2107.0	
						SLE Freq.	0			-4365		69.3	0.0	522.8	1953.2	0.1994
						SLE Q.P.	0			-4252		67.5	0.0	509.2	1902.4	0.1926
450	3.610	22.62	17.91			8800	20260	0.28	0	-16265	0.23					
						SLE Rare	6636			0		0.0	69.5	1296.9	603.5	
						SLE Freq.	6155			0		0.0	64.5	1203.0	559.8	0.0330
						SLE Q.P.	5999			0		0.0	62.9	1172.5	545.7	0.0321
Trave Sez. 3 Rett. 44x32 [cm] 44x32																
450	0.200	22.62	17.91			16396	20260	0.28	0	-16265	0.23					
						SLE Rare	12352			0		0.0	129.5	2414.1	1123.4	
						SLE Freq.	11431			0		0.0	119.8	2234.1	1039.6	0.0788
						SLE Q.P.	11124			0		0.0	116.6	2174.0	1011.7	0.0760
Camp.	2.870	7.63	18.10	7802	2526	0	7489	0.18	-13328	-16381	0.31					
						SLE Rare	0			-10036		131.0	0.0	1199.9	2428.9	
						SLE Freq.	0			-9269		121.0	0.0	1108.1	2243.1	0.2232
						SLE Q.P.	0			-9014		117.6	0.0	1077.7	2181.5	0.2163
451	5.540	18.10	15.67			15750	16408	0.26	0	-14339	0.23					

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

				SLE Rare	11857			0			0.0	137.2	2872.0	991.7	
				SLE Freq.	10940			0			0.0	126.6	2650.0	915.1	0.0842
				SLE Q.P.	10633			0			0.0	123.1	2575.7	889.4	0.0810
Trave Sez. 3 Rett. 44x32 [cm] 44x32															
451	0.200	18.10	15.67			6047	16408	0.26	0	-14339	0.23				
				SLE Rare	4545			0			0.0	52.6	1101.0	380.2	
				SLE Freq.	4163			0			0.0	48.2	1008.5	348.2	0.0261
				SLE Q.P.	4040			0			0.0	46.8	978.6	337.9	0.0253
Camp.	1.565	4.62	6.16	7802	764	0	4802	0.15	-3178	-6206	0.16				
				SLE Rare	0				-2394		45.7	0.0	313.3	1588.2	
				SLE Freq.	0				-2216		42.3	0.0	290.1	1470.3	0.1207
				SLE Q.P.	0				-2156		41.1	0.0	282.1	1430.2	0.1174
452	2.930	4.62	6.16			4105	4802	0.15	0	-6206	0.16				
				SLE Rare	3038			0			0.0	63.3	2661.5	359.1	
				SLE Freq.	2831			0			0.0	59.0	2480.7	334.7	0.0360
				SLE Q.P.	2762			0			0.0	57.6	2419.9	326.5	0.0351
Trave Sez. 3 Rett. 44x32 [cm] 44x32															
452	0.150	4.62	6.16			3698	4802	0.15	-44	-6206	0.16				
				SLE Rare	2693			0			0.0	56.1	2359.4	318.3	
				SLE Freq.	2495			0			0.0	52.0	2186.5	295.0	0.0317
				SLE Q.P.	2429			0			0.0	50.6	2128.1	287.1	0.0309
Camp.	1.465	4.62	6.16	7802	693	0	4802	0.15	-3366	-6206	0.16				
				SLE Rare	0				-2533		48.3	0.0	331.4	1680.1	
				SLE Freq.	0				-2330		44.5	0.0	305.0	1545.9	0.1269
				SLE Q.P.	0				-2263		43.2	0.0	296.2	1501.3	0.1233
453	2.780	6.16	4.62			4836	6206	0.16	0	-4802	0.15				
				SLE Rare	3646			0			0.0	69.6	2418.8	477.2	
				SLE Freq.	3381			0			0.0	64.5	2243.1	442.5	0.0328
				SLE Q.P.	3294			0			0.0	62.9	2185.1	431.1	0.0320
Trave Sez. 3 Rett. 44x32 [cm] 44x32															
453	0.150	6.16	4.62			5034	6206	0.16	0	-4802	0.15				
				SLE Rare	3697			0			0.0	70.6	2452.7	483.8	
				SLE Freq.	3468			0			0.0	66.2	2300.9	453.9	0.0337
				SLE Q.P.	3391			0			0.0	64.7	2249.5	443.8	0.0329
Camp.	1.725	4.62	6.16	7802	902	0	4802	0.15	-4982	-6206	0.16				
				SLE Rare	0				-3751		71.6	0.0	490.9	2488.3	
				SLE Freq.	0				-3459		66.0	0.0	452.8	2295.1	0.2165
				SLE Q.P.	0				-3364		64.2	0.0	440.2	2231.5	0.2078
454	3.300	7.63	4.62			5536	7491	0.18	0	-4825	0.15				
				SLE Rare	4015			0			0.0	71.7	2184.5	537.6	
				SLE Freq.	3669			0			0.0	65.5	1996.0	491.3	0.0328
				SLE Q.P.	3552			0			0.0	63.4	1932.5	475.6	0.0318

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 449 450 Sez. 3 Rett. 44x32 [cm] 44x32							
0.150	0.446	0.296	13037	5935	43363	19543	ø 8 2br. 5.0'
0.446	1.136	0.690	12008	6613	38978	15634	ø 8 2br. 10.0'
1.136	2.626	1.489	9715	7528	38978	10423	ø 8 2br. 15.0'
2.626	3.316	0.690	13191	7528	38978	15634	ø 8 2br. 10.0'
3.316	3.612	0.296	15497	8131	43363	19543	ø 8 2br. 5.0'
Trave 450 451 Sez. 3 Rett. 44x32 [cm] 44x32							
0.202	0.501	0.299	20771	9246	43363	21714	ø 8 2br. 5.0'
0.501	1.568	1.067	18477	9133	38978	20846	ø 8 2br. 7.5'
1.568	4.222	2.654	11410	9357	38978	12508	ø 8 2br. 12.5'
4.222	5.289	1.067	18233	8833	38978	20846	ø 8 2br. 7.5'
5.289	5.589	0.299	20528	8833	43363	21714	ø 8 2br. 5.0'
Trave 451 452 Sez. 3 Rett. 44x32 [cm] 44x32							
0.197	0.512	0.315	13434	7459	43363	19543	ø 8 2br. 5.0'
0.512	2.568	2.057	12204	6532	38978	12508	ø 8 2br. 12.5'
2.568	2.883	0.315	12354	6532	43363	19543	ø 8 2br. 5.0'
Trave 452 453 Sez. 3 Rett. 44x32 [cm] 44x32							
0.147	0.466	0.318	9960	6532	43363	19543	ø 8 2br. 5.0'
0.466	2.415	1.949	8554	6532	38978	10423	ø 8 2br. 15.0'
2.415	2.733	0.318	10909	5935	43363	19543	ø 8 2br. 5.0'
Trave 453 454 Sez. 3 Rett. 44x32 [cm] 44x32							
0.152	0.477	0.325	11963	5935	43363	19543	ø 8 2br. 5.0'
0.477	3.024	2.547	9796	6532	38978	10423	ø 8 2br. 15.0'
3.024	3.349	0.325	12257	5935	43363	19543	ø 8 2br. 5.0'

Travata: 414 Travata 426 435

N.B. Nella travata che segue sono incluse le verifiche delle travate:

414 Travata 226 235

414 Travata 326 335

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>0e</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 1 Rett. 30x32 [cm] 30x32																
426	0.050	7.63	7.63			1209	7263	0.20	-1887	-7263	0.20					
				SLE Rare		36			-228			4.7	0.7	36.5	126.6	
				SLE Freq.		0			-222			4.6	0.0	35.6	123.3	0.0088
				SLE Q.P.		0			-217			4.5	0.0	34.8	120.5	0.0086
Camp.	1.625	7.63	7.63	6162	573	0	7263	0.20	-4236	-7263	0.20					
				SLE Rare		0			-2986			61.4	0.0	477.5	1655.1	
				SLE Freq.		0			-2099			43.2	0.0	335.7	1163.4	0.0901
				SLE Q.P.		0			-2008			41.3	0.0	321.2	1113.2	0.0841
435	3.200	7.63	7.63			6026	7263	0.20	-1255	-7263	0.20					

	SLE Rare	4299			0			0.0	88.4	2383.3	687.6	
	SLE Freq.	3312			0			0.0	68.1	1836.3	529.8	0.0377
	SLE Q.P.	3184			0			0.0	65.5	1765.0	509.2	0.0362

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 426 435 Sez. 1 Rett. 30x32 [cm] 30x32							
0.053	0.725	0.671	9107	5436	29566	19543	ø 8 2br. 5.0'
0.725	2.739	2.014	7586	5436	26576	7817	ø 8 2br. 20.0'
2.739	3.410	0.671	11229	5436	29566	19543	ø 8 2br. 5.0'

414 Travata 372 360

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>ti</sub> [cm²]	Q <sub>t</sub> [kg/m]	M <sub>tf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>ti</sub> [kg/cm²]	σ <sub>te</sub> [kg/cm²]	σ <sub>ri</sub> [kg/cm²]	w mm
Trave Sez. 1 Rett. 30x32 [cm] 30x32																
472	0.050	7.63	4.62			862	7278	0.21	-905	-4617	0.17					
				SLE Rare		0			-503			12.4	0.0	76.9	449.5	
				SLE Freq.		0			-496			12.2	0.0	75.7	442.6	0.0350
				SLE Q.P.		0			-490			12.0	0.0	74.8	437.3	0.0346
Camp.	0.625	7.63	4.62	5167	122	5247	7278	0.21	-121	-4617	0.17					
				SLE Rare		2698			-91			2.2	59.4	1492.5	498.1	
				SLE Freq.		2579			-85			2.1	56.8	1427.0	476.3	0.0278
				SLE Q.P.		2534			-83			2.0	55.8	1401.9	467.9	0.0273
460	1.200	7.63	4.62			761	7278	0.21	-19	-4617	0.17					
				SLE Rare		135			0			0.0	3.0	74.6	24.9	
				SLE Freq.		130			0			0.0	2.9	72.2	24.1	0.0014
				SLE Q.P.		129			0			0.0	2.8	71.3	23.8	0.0014

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 472 460 Sez. 1 Rett. 30x32 [cm] 30x32							
0.041	0.978	0.937	12845	4598	29566	19543	ø 8 2br. 5.0'

416 Travata 312 319 351

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>T</sub> [kg/m]	M <sub>nf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>fi</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 1 Rett. 30x32 [cm] 30x32																
412	0.150	7.63	4.62			4684	7278	0.21	-610	-4617	0.17					
				SLE Rare		2655			0			0.0	58.5	1469.0	490.3	
				SLE Freq.		2568			0			0.0	56.6	1420.9	474.3	0.0277
				SLE Q.P.		2541			0			0.0	55.9	1405.6	469.1	0.0274



COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Camp.	2.950	4.62	4.62	1273	443	0	4614	0.17	-2371	-4614	0.17				
				SLE Rare		0			-1823			47.4	0.0	329.5	1620.9
				SLE Freq.		0			-1821			47.3	0.0	329.1	1618.8
				SLE Q.P.		0			-1820			47.3	0.0	329.0	1618.0
419	5.750	7.63	4.62			4183	7278	0.21	-1714	-4617	0.17				
				SLE Rare		1905			-107			2.6	41.9	1053.8	351.7
				SLE Freq.		1980			-21			0.5	43.6	1095.5	365.7
				SLE Q.P.		1985			-2			0.0	43.7	1098.0	366.5
Trave Sez. 1 Rett. 30x32 [cm] 30x32															
419	0.300	7.63	4.62			5913	7278	0.21	-638	-4617	0.17				
				SLE Rare		4027			0			0.0	88.7	2227.7	743.5
				SLE Freq.		4034			0			0.0	88.8	2231.8	744.9
				SLE Q.P.		4034			0			0.0	88.8	2231.7	744.8
Camp.	3.725	4.62	4.62	1273	707	0	4614	0.17	-3708	-4614	0.17				
				SLE Rare		0			-2852			74.2	0.0	515.4	2535.1
				SLE Freq.		0			-2851			74.1	0.0	515.3	2534.4
				SLE Q.P.		0			-2851			74.1	0.0	515.2	2534.2
451	7.150	7.63	4.62			5333	7278	0.21	-554	-4617	0.17				
				SLE Rare		3627			0			0.0	79.9	2006.4	669.7
				SLE Freq.		3614			0			0.0	79.6	1999.7	667.4
				SLE Q.P.		3610			0			0.0	79.5	1997.1	666.5

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 412 419 Sez. 1 Rett. 30x32 [cm] 30x32							
0.154	0.476	0.323	3748	4522	29566	19543	ø 8 2br. 5.0'
0.476	5.476	4.999	3343	4522	26576	7817	ø 8 2br. 20.0'
5.476	5.798	0.323	3409	4598	29566	19543	ø 8 2br. 5.0'
Trave 419 451 Sez. 1 Rett. 30x32 [cm] 30x32							
0.393	0.701	0.309	4613	4598	29566	19543	ø 8 2br. 5.0'
0.701	6.697	5.995	4191	4598	26576	7817	ø 8 2br. 20.0'
6.697	7.006	0.309	4455	4598	29566	19543	ø 8 2br. 5.0'

Travata: 418 Travata 467 438

N.B. Nella travata che segue sono incluse le verifiche delle travate:

418 Travata 267 238

418 Travata 367 338

Nodo	x [m]	A <sub>le</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>nf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 1 Rett. 30x32 [cm] 30x32																
467	0.050	3.39	3.39			495	3503	0.15	-451	-3503	0.15					
				SLE Rare		275			0			0.0	8.2	327.0	51.7	
				SLE Freq.		153			-2			0.0	4.6	182.0	28.8	0.0024
				SLE Q.P.		107			-2			0.1	3.2	127.7	20.2	0.0017
Camp.	1.625	3.39	3.39	2404	231	0	3503	0.15	-1690	-3503	0.15					

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

	SLE Rare	0			-1172			35.1	0.0	220.3	1394.2	
	SLE Freq.	0			-758			22.7	0.0	142.3	900.9	0.0763
	SLE Q.P.	0			-591			17.7	0.0	111.1	702.9	0.0595
438	3.200	3.39	3.39			2136	3503	0.15	-14	-3503	0.15	
	SLE Rare	1526			0			0.0	45.7	1815.4	286.8	
	SLE Freq.	1145			0			0.0	34.3	1362.2	215.2	0.0182
	SLE Q.P.	994			0			0.0	29.7	1181.7	186.7	0.0158

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 467 438 Sez. 1 Rett. 30x32 [cm] 30x32							
0.052	0.388	0.335	3573	4149	29566	19543	ø 8 2br. 5.0'
0.388	3.019	2.631	3455	4149	26576	7817	ø 8 2br. 20.0'
3.019	3.355	0.335	4189	4149	29566	19543	ø 8 2br. 5.0'

Travata: 419 Travata 423 430

N.B. Nella travata che segue sono incluse le verifiche delle travate:

419 Travata 223 230

419 Travata 323 330

Nodo	x [m]	A <sub>le</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>r</sub> [kg/m]	M <sub>rf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>le</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 8 Rett. 30x24 [cm] 30x24																
423	0.200	4.62	4.62			0	3168	0.23	-1654	-3168	0.23					
				SLE Rare	0				-1256			58.8	0.0	305.1	1619.2	
				SLE Freq.	0				-1183			55.4	0.0	287.4	1525.2	0.1185
				SLE Q.P.	0				-1169			54.8	0.0	284.0	1507.6	0.1165
Camp.	0.930	4.62	4.62	3802	111	235	3168	0.23	-885	-3168	0.23					
				SLE Rare	0				-473			22.1	0.0	114.8	609.5	
				SLE Freq.	0				-446			20.9	0.0	108.4	575.2	0.0396
				SLE Q.P.	0				-436			20.4	0.0	105.9	562.2	0.0388
430	1.660	4.62	4.62			2695	3168	0.23	0	-3168	0.23					
				SLE Rare	2044				0			0.0	95.8	2635.9	496.6	
				SLE Freq.	1934				0			0.0	90.6	2493.5	469.8	0.0324
				SLE Q.P.	1902				0			0.0	89.1	2452.5	462.1	0.0318

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 423 430 Sez. 8 Rett. 30x24 [cm] 30x24							
0.272	0.523	0.251	6263	3954	20996	14162	ø 8 2br. 5.0'
0.523	1.488	0.965	5605	3954	18873	7402	ø 8 2br. 15.0'
1.488	1.739	0.251	6263	3954	20996	14162	ø 8 2br. 5.0'

Travata: 419 Travata 430 441

Nodo	x [m]	A <sub>le</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>r</sub> [kg/m]	M <sub>rf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>le</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 8 Rett. 30x24 [cm] 30x24																

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

430	0.050	4.62	4.62			1738	3168	0.23	0	-3168	0.23						
				SLE Rare		1323			0			0.0	62.0	1705.8	321.4		
				SLE Freq.		1277			0			0.0	59.8	1646.6	310.2	0.0214	
				SLE Q.P.		1259			0			0.0	59.0	1623.0	305.8	0.0211	
Camp.	1.550	4.62	4.62	2380	229	0	3168	0.23	-1133	-3168	0.23						
				SLE Rare		0			-863			40.4	0.0	209.6	1112.3		
				SLE Freq.		0			-833			39.0	0.0	202.4	1074.0	0.0740	
				SLE Q.P.		0			-821			38.5	0.0	199.5	1058.7	0.0730	
441	3.050	4.62	4.62			1744	3168	0.23	0	-3168	0.23						
				SLE Rare		1328			0			0.0	62.2	1712.1	322.6		
				SLE Freq.		1281			0			0.0	60.0	1652.5	311.4	0.0215	
				SLE Q.P.		1263			0			0.0	59.2	1628.8	306.9	0.0212	

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 430 441 Sez. 8 Rett. 30x24 [cm] 30x24							
0.050	0.300	0.250	4698	3954	20996	14162	ø 8 2br. 5.0'
0.300	2.800	2.500	4267	3954	18873	7402	ø 8 2br. 15.0'
2.800	3.050	0.250	4697	3954	20996	14162	ø 8 2br. 5.0'

Travata: 419 Travata 441 448

N.B. Nella travata che segue sono incluse le verifiche delle travi:

419 Travata 241 248

419 Travata 341 348

Nodo	x [m]	A <sub>le</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 8 Rett. 30x24 [cm] 30x24																
441	1.000	4.62	4.62			1185	3168	0.23	-462	-3168	0.23					
				SLE Rare		464			0			0.0	21.8	598.9	112.8	
				SLE Freq.		448			0			0.0	21.0	577.6	108.8	0.0075
				SLE Q.P.		442			0			0.0	20.7	569.9	107.4	0.0074
Camp.	1.350	4.62	4.62	2864	83	6	3168	0.23	-458	-3168	0.23					
				SLE Rare		0			-347			16.3	0.0	84.4	447.8	
				SLE Freq.		0			-332			15.5	0.0	80.6	427.5	0.0295
				SLE Q.P.		0			-325			15.2	0.0	79.0	419.5	0.0289
448	1.700	4.62	4.62			689	3168	0.23	-712	-3168	0.23					
				SLE Rare		83			-51			2.4	3.9	107.5	66.1	
				SLE Freq.		74			-51			2.4	3.5	95.3	65.7	0.0045
				SLE Q.P.		70			-50			2.4	3.3	90.7	64.9	0.0045

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 441 448 Sez. 8 Rett. 30x24 [cm] 30x24							
1.415	1.770	0.355	10504	3954	20996	14162	ø 8 2br. 5.0'

Travata: 420 Travata 622 529

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

N.B. Nella travata che segue sono incluse le verifiche delle travate:

420 Travata 822 729

420 Travata 722 629

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>T</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 1 Rett. 30x32 [cm] 30x32																
622	0.150	4.62	4.62			0	4614	0.17	-3342	-4614	0.17					
					SLE Rare	0			-2540			66.0	0.0	459.1	2258.0	
					SLE Freq.	0			-2394			62.3	0.0	432.7	2128.4	0.1930
					SLE Q.P.	0			-2368			61.6	0.0	427.9	2104.7	0.1899
Camp.	0.805	4.62	4.62	312	9	886	4614	0.17	-1146	-4614	0.17					
					SLE Rare	18			-141			3.7	0.5	25.5	125.2	
					SLE Freq.	6			-144			3.7	0.1	26.0	127.9	0.0100
					SLE Q.P.	1			-143			3.7	0.0	25.8	126.7	0.0099
529	1.460	4.62	4.62			3130	4614	0.17	0	-4614	0.17					
					SLE Rare	2374			0			0.0	61.7	2110.8	429.1	
					SLE Freq.	2227			0			0.0	57.9	1979.4	402.4	0.0316
					SLE Q.P.	2199			0			0.0	57.2	1955.0	397.5	0.0312

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 622 529 Sez. 1 Rett. 30x32 [cm] 30x32							
0.141	0.447	0.306	7211	4598	29566	19543	ø 8 2br. 5.0'
0.447	1.069	0.621	7128	4598	26576	7817	ø 8 2br. 20.0'
1.069	1.375	0.306	7211	4598	29566	19543	ø 8 2br. 5.0'

Travata: 420 Travata 402 415 425

N.B. Nella travata che segue sono incluse le verifiche delle travate:

420 Travata 202 215 225

420 Travata 302 315 325

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>T</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 3 Rett. 44x32 [cm] 44x32																
402	0.150	18.10	9.28			15770	16334	0.30	-1064	-8828	0.19					
					SLE Rare	9427			0			0.0	120.6	2286.4	538.7	
					SLE Freq.	8675			0			0.0	111.0	2104.2	495.8	0.0576
					SLE Q.P.	8390			0			0.0	107.3	2034.9	479.5	0.0548
Camp.	2.950	18.10	27.14	5692	1980	0	16427	0.23	-10825	-24042	0.32					
					SLE Rare	0			-8152			81.0	0.0	741.8	1337.7	
					SLE Freq.	0			-7583			75.3	0.0	690.0	1244.2	0.1065
					SLE Q.P.	0			-7356			73.1	0.0	669.4	1207.0	0.1027
415	5.750	20.38	19.14			15898	18243	0.26	-57	-17201	0.25					
					SLE Rare	9808			0			0.0	105.5	1363.4	527.9	
					SLE Freq.	9169			0			0.0	98.7	1274.6	493.5	0.0350
					SLE Q.P.	8910			0			0.0	95.9	1238.5	479.6	0.0340
Trave Sez. 3 Rett. 44x32 [cm] 44x32																
415	0.250	28.53	30.40			16159	25179	0.28	-18915	-26740	0.29					

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

				SLE Rare	78				-1528			13.0	0.7	103.2	215.2	
				SLE Freq.	0				-1413			12.0	0.0	95.4	199.0	0.0122
				SLE Q.P.	0				-1378			11.7	0.0	93.1	194.1	0.0119
Camp.	0.960	31.86	31.86	10581	302	9102	27994	0.29	-7581	-27994	0.29					
				SLE Rare	506				-421			3.4	4.1	71.3	59.3	
				SLE Freq.	475				-365			2.9	3.8	67.0	51.4	0.0031
				SLE Q.P.	470				-343			2.8	3.8	66.2	48.3	0.0029
425	1.670	31.86	31.86			26152	27994	0.29	-17116	-27994	0.29					
				SLE Rare	4853				0			0.0	39.2	684.1	347.1	
				SLE Freq.	4592				0			0.0	37.1	647.2	328.4	0.0200
				SLE Q.P.	4518				0			0.0	36.5	636.9	323.2	0.0197

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 402 415 Sez. 3 Rett. 44x32 [cm] 44x32							
0.153	0.475	0.323	15853	7332	43363	19543	ø 8 2br. 5.0'
0.475	1.894	1.419	14008	8573	38978	15634	ø 8 2br. 10.0'
1.894	4.058	2.164	9080	10321	38978	10423	ø 8 2br. 15.0'
4.058	5.477	1.419	14040	9833	38978	15634	ø 8 2br. 10.0'
5.477	5.800	0.323	15809	9364	43363	19543	ø 8 2br. 5.0'
Trave 415 425 Sez. 3 Rett. 44x32 [cm] 44x32							
0.317	1.794	1.477	42466	10321	43363	43429	ø 8 4br. 5.0'

Travata: 420 Travata 432 443

N.B. Nella travata che segue sono incluse le verifiche delle travate:

420 Travata 232 243

420 Travata 332 343

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>if</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>te</sub> [kg/cm²]	σ <sub>ti</sub> [kg/cm²]	w mm
Trave Sez. 3 Rett. 44x32 [cm] 44x32																
432	0.125	36.95	31.86			26748	32108	0.32	-22230	-27933	0.28					
						SLE Rare	3082		0			0.0	24.1	378.1	220.6	
						SLE Freq.	2832		0			0.0	22.1	347.4	202.7	0.0114
						SLE Q.P.	2765		0			0.0	21.6	339.2	197.9	0.0111
Camp.	1.025	36.95	31.86	5662	164	8673	32108	0.32	-7727	-27933	0.28					
						SLE Rare	934		-120			0.9	7.3	114.6	66.9	
						SLE Freq.	801		-112			0.9	6.3	98.3	57.3	0.0032
						SLE Q.P.	771		-109			0.8	6.0	94.5	55.2	0.0031
443	1.925	36.95	31.86			21099	32108	0.32	-21568	-27933	0.28					
						SLE Rare	1837		-805			6.2	14.4	225.4	131.5	
						SLE Freq.	1345		-644			5.0	10.5	165.0	96.3	0.0056
						SLE Q.P.	1253		-603			4.7	9.8	153.7	89.7	0.0052

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
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Trave 432 443 Sez. 3 Rett. 44x32 [cm] 44x32							
0.162	0.558	0.397	36074	10321	43363	39086	ø 8 4br. 5.0'
0.558	1.997	1.438	35083	10321	38978	62538	ø 8 4br. 5.0'
1.997	2.393	0.397	35769	10321	43363	39086	ø 8 4br. 5.0'

Travata: 420 Travata 425 431 432

N.B. Nella travata che segue sono incluse le verifiche delle travate:

420 Travata 225 231 232

420 Travata 325 331 332

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>de</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>te</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 3 Rett. 44x32 [cm] 44x32																
425	0.050	4.62	4.62			2634	4796	0.14	-1011	-4796	0.14					
					SLE Rare	1079			0			0.0	23.0	943.6	134.6	
					SLE Freq.	901			0			0.0	19.2	788.4	112.5	0.0109
					SLE Q.P.	831			0			0.0	17.7	726.7	103.7	0.0100
Camp.	0.790	4.62	4.62	8673	203	634	4796	0.14	-1191	-4796	0.14					
					SLE Rare	0			-680			14.5	0.0	84.8	594.7	
					SLE Freq.	0			-559			11.9	0.0	69.8	489.1	0.0474
					SLE Q.P.	0			-511			10.9	0.0	63.7	446.6	0.0433
431	1.530	4.62	4.62			3437	4796	0.14	-1499	-4796	0.14					
					SLE Rare	1351			0			0.0	28.8	1181.6	168.6	
					SLE Freq.	1134			0			0.0	24.2	992.1	141.5	0.0137
					SLE Q.P.	1048			0			0.0	22.4	916.7	130.8	0.0127
Trave Sez. 3 Rett. 44x32 [cm] 44x32																
431	0.000	4.62	4.62			3492	4796	0.14	-1687	-4796	0.14					
					SLE Rare	1217			0			0.0	26.0	1064.4	151.8	
					SLE Freq.	1008			0			0.0	21.5	882.2	125.8	0.0122
					SLE Q.P.	925			0			0.0	19.8	809.5	115.5	0.0112
Camp.	0.735	4.62	4.62	8604	199	633	4796	0.14	-1323	-4796	0.14					
					SLE Rare	0			-740			15.8	0.0	92.4	647.7	
					SLE Freq.	0			-617			13.2	0.0	77.1	540.2	0.0523
					SLE Q.P.	0			-568			12.1	0.0	70.9	497.2	0.0482
432	1.470	4.62	4.62			2586	4796	0.14	-1172	-4796	0.14					
					SLE Rare	1001			0			0.0	21.4	876.0	125.0	
					SLE Freq.	834			0			0.0	17.8	729.6	104.1	0.0101
					SLE Q.P.	767			0			0.0	16.4	671.4	95.8	0.0093

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 425 431 Sez. 3 Rett. 44x32 [cm] 44x32							
0.050	0.370	0.320	9788	5935	43363	19543	ø 8 2br. 5.0'
0.370	1.210	0.840	8537	5935	38978	10423	ø 8 2br. 15.0'
1.210	1.530	0.320	10010	5935	43363	19543	ø 8 2br. 5.0'
Trave 431 432 Sez. 3 Rett. 44x32 [cm] 44x32							

0.000	0.320	0.320	10010	5935	43363	19543	ø 8 2br. 5.0'
0.320	1.150	0.830	8540	5935	38978	10423	ø 8 2br. 15.0'
1.150	1.470	0.320	9772	5935	43363	19543	ø 8 2br. 5.0'

422 Travata 308 723

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>tr</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>kd</sub> [kgm]	M <sub>ki</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>be</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 1 Rett. 30x32 [cm] 30x32																
408	0.150	7.63	4.62			6164	7278	0.21	0	-4617	0.17					
				SLE Rare		4667			0			0.0	102.8	2582.2	861.8	
				SLE Freq.		4284			0			0.0	94.3	2370.2	791.1	0.0462
				SLE Q.P.		4190			0			0.0	92.3	2318.0	773.7	0.0452
Camp.	2.950	4.62	7.63	2933	1020	0	4617	0.17	-5572	-7278	0.21					
				SLE Rare		0			-4215			92.8	0.0	778.4	2332.2	
				SLE Freq.		0			-3847			84.7	0.0	710.4	2128.4	0.2038
				SLE Q.P.		0			-3755			82.7	0.0	693.3	2077.4	0.1978
623	5.750	7.63	4.21			6900	7276	0.22	0	-4251	0.17					
				SLE Rare		5219			0			0.0	116.2	2887.9	893.8	
				SLE Freq.		4755			0			0.0	105.9	2631.0	814.3	0.0504
				SLE Q.P.		4637			0			0.0	103.3	2566.1	794.2	0.0492

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 408 623 Sez. 1 Rett. 30x32 [cm] 30x32							
0.151	0.474	0.323	8005	4549	29566	19543	ø 8 2br. 5.0'
0.474	5.479	5.004	7342	4551	26576	7817	ø 8 2br. 20.0'
5.479	5.801	0.323	8273	4300	29566	19543	ø 8 2br. 5.0'

424 Travata 317 327 336

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>t</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>dte</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>te</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 1 Rett. 30x32 [cm] 30x32																
417	0.150	7.63	9.42			3898	7254	0.20	-6824	-8806	0.23					
				SLE Rare		0			-1554			30.0	0.0	249.7	706.5	
				SLE Freq.		0			-1478			28.5	0.0	237.4	671.7	0.0462
				SLE Q.P.		0			-1463			28.2	0.0	235.1	665.2	0.0457
Camp.	0.820	7.63	9.42	6334	181	1317	7254	0.20	-2966	-8806	0.23					
				SLE Rare		0			-754			14.5	0.0	121.1	342.7	
				SLE Freq.		0			-696			13.4	0.0	111.8	316.3	0.0217
				SLE Q.P.		0			-673			13.0	0.0	108.1	305.8	0.0210
427	1.490	7.63	9.42			6921	7254	0.20	-2286	-8806	0.23					

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CORPO A

				SLE Rare	2476			0			0.0	49.2	1374.8	366.6	
				SLE Freq.	2354			0			0.0	46.8	1307.3	348.6	0.0270
				SLE Q.P.	2318			0			0.0	46.1	1287.1	343.3	0.0266
Trave Sez. 1 Rett. 30x32 [cm] 30x32															
427	0.200	7.63	9.42			5698	7254	0.20	-4176	-8806	0.23				
				SLE Rare	796			0			0.0	15.8	442.2	117.9	
				SLE Freq.	820			0			0.0	16.3	455.3	121.4	0.0094
				SLE Q.P.	821			0			0.0	16.3	456.2	121.7	0.0094
Camp.	1.575	7.63	9.42	3094	288	472	7254	0.20	-1491	-8806	0.23				
				SLE Rare	0			-970			18.7	0.0	155.9	441.2	
				SLE Freq.	0			-921			17.8	0.0	148.0	418.7	0.0288
				SLE Q.P.	0			-901			17.4	0.0	144.7	409.4	0.0281
436	2.950	7.63	9.42			6697	7254	0.20	-3209	-8806	0.23				
				SLE Rare	1941			0			0.0	38.6	1078.0	287.5	
				SLE Freq.	1795			0			0.0	35.7	997.0	265.9	0.0206
				SLE Q.P.	1744			0			0.0	34.7	968.6	258.3	0.0200

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 417 427 Sez. 1 Rett. 30x32 [cm] 30x32							
0.150	0.470	0.320	14098	5832	29566	19543	ø 8 2br. 5.0'
0.470	1.170	0.700	13125	5832	26576	15634	ø 8 2br. 10.0'
1.170	1.490	0.320	13946	5832	29566	19543	ø 8 2br. 5.0'
Trave 427 436 Sez. 1 Rett. 30x32 [cm] 30x32							
0.207	0.537	0.330	7357	5832	29566	19543	ø 8 2br. 5.0'
0.537	2.716	2.179	7004	5832	26576	7817	ø 8 2br. 20.0'
2.716	3.047	0.330	7357	5832	29566	19543	ø 8 2br. 5.0'

Travata: 424 Travata 436 449

N.B. Nella travata che segue sono incluse le verifiche delle travate:

424 Travata 236 249

424 Travata 336 349

Nodo	x [m]	A <sub>le</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rf</sub> [kgm]	M <sub>le</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>le</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 3 Rett. 44x32 [cm] 44x32																
436	0.200	9.42	9.42			8711	9039	0.20	-2124	-9039	0.20					
				SLE Rare	3884			0			0.0	60.2	1740.5	436.1		
				SLE Freq.	3538			0			0.0	54.8	1585.5	397.2	0.0322	
				SLE Q.P.	3420			0			0.0	53.0	1532.7	384.0	0.0311	
Camp.	1.425	9.42	9.42	4738	349	998	9039	0.20	-2881	-9039	0.20					
				SLE Rare	38			-1122			17.4	0.6	125.9	502.6		
				SLE Freq.	31			-1093			16.9	0.5	122.7	489.7	0.0396	
				SLE Q.P.	30			-1083			16.8	0.5	121.6	485.5	0.0393	
449	2.650	9.42	9.42			5928	9039	0.20	-6022	-9039	0.20					
				SLE Rare	741			-319			4.9	11.5	332.2	143.0		



	SLE Freq.	756			-157			2.4	11.7	338.6	84.8	0.0069
	SLE Q.P.	756			-128			2.0	11.7	338.9	84.9	0.0069

Travata: 426 Travata 406 421 428 437 454  
N.B. Nella travata che segue sono incluse le verifiche delle travate:  
426 Travata 206 221 228 237 254  
426 Travata 306 321 328 337 354

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CORPO A

				SLE Freq.	823			0			0.0	18.1	339.9	130.8	0.0067
				SLE Q.P.	818			0			0.0	18.0	338.0	130.0	0.0066
Camp.	1.575	4.62	4.62	1561	150	0	4614	0.17	-671	-4614	0.17				
				SLE Rare	0			-517			13.4	0.0	93.4	459.6	
				SLE Freq.	0			-521			13.5	0.0	94.1	463.1	0.0363
				SLE Q.P.	0			-521			13.5	0.0	94.2	463.2	0.0364
437	3.000	4.62	4.62			2038	4614	0.17	-574	-4614	0.17				
				SLE Rare	803			0			0.0	20.9	713.9	145.1	
				SLE Freq.	801			0			0.0	20.8	712.4	144.8	0.0114
				SLE Q.P.	799			0			0.0	20.8	710.4	144.4	0.0113

Trave Sez. 1 Rett. 30x32 [cm] 30x32															
437	0.150	4.62	4.62			2059	4614	0.17	-852	-4614	0.17				
				SLE Rare	666			0			0.0	17.3	591.7	120.3	
				SLE Freq.	645			0			0.0	16.8	573.7	116.6	0.0092
				SLE Q.P.	642			0			0.0	16.7	570.3	115.9	0.0091
Camp.	1.295	4.62	4.62	1561	109	259	4614	0.17	-634	-4614	0.17				
				SLE Rare	0			-281			7.3	0.0	50.8	250.1	
				SLE Freq.	0			-294			7.6	0.0	53.1	261.3	0.0205
				SLE Q.P.	0			-294			7.6	0.0	53.1	261.0	0.0205
454	2.440	4.62	4.62			2317	4614	0.17	-1207	-4614	0.17				
				SLE Rare	891			0			0.0	23.2	792.3	161.1	
				SLE Freq.	863			0			0.0	22.4	767.3	156.0	0.0122
				SLE Q.P.	850			0			0.0	22.1	755.4	153.6	0.0121

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 406 421 Sez. 1 Rett. 30x32 [cm] 30x32							
0.151	0.474	0.323	2793	4598	29566	19543	ø 8 2br. 5.0'
0.474	5.479	5.004	2717	4598	26576	7817	ø 8 2br. 20.0'
5.479	5.801	0.323	2579	5436	29566	19543	ø 8 2br. 5.0'
Trave 421 428 Sez. 1 Rett. 30x32 [cm] 30x32							
0.194	0.505	0.311	13578	5436	29566	19543	ø 8 2br. 5.0'
0.505	1.155	0.650	13182	5436	26576	15634	ø 8 2br. 10.0'
1.155	1.466	0.311	12590	5436	29566	19543	ø 8 2br. 5.0'
Trave 428 437 Sez. 1 Rett. 30x32 [cm] 30x32							
0.152	0.462	0.310	5454	5436	29566	19543	ø 8 2br. 5.0'
0.462	2.739	2.277	5491	4598	26576	7817	ø 8 2br. 20.0'
2.739	3.048	0.310	5852	4598	29566	19543	ø 8 2br. 5.0'
Trave 437 454 Sez. 1 Rett. 30x32 [cm] 30x32							
0.150	0.470	0.320	5436	4598	29566	19543	ø 8 2br. 5.0'
0.470	2.118	1.648	5052	4598	26576	7817	ø 8 2br. 20.0'
2.118	2.437	0.320	5376	4598	29566	19543	ø 8 2br. 5.0'

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CORPO A**

Travata: 428 Travata 646 460

N.B. Nella travata che segue sono incluse le verifiche delle travate:

428 Travata 846 260

428 Travata 746 360

Nodo	x [m]	A <sub>te</sub> [cm <sup>2</sup> ]	A <sub>fi</sub> [cm <sup>2</sup> ]	Q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm <sup>2</sup> ]	σ <sub>bi</sub> [kg/cm <sup>2</sup> ]	σ <sub>fe</sub> [kg/cm <sup>2</sup> ]	σ <sub>fi</sub> [kg/cm <sup>2</sup> ]	w mm
Trave Sez. 1 Rett. 30x32 [cm] 30x32																
646	0.125	4.62	4.62			3442	4614	0.17	-179	-4614	0.17					
					SLE Rare	1832			0			0.0	47.6	1629.0	331.2	
					SLE Freq.	1837			0			0.0	47.8	1633.2	332.0	0.0261
					SLE Q.P.	1836			0			0.0	47.8	1632.6	331.9	0.0261
Camp.	1.495	4.62	4.62	1561	174	614	4614	0.17	-1604	-4614	0.17					
					SLE Rare	0			-739			19.2	0.0	133.6	657.3	
					SLE Freq.	0			-740			19.2	0.0	133.7	657.9	0.0516
					SLE Q.P.	0			-740			19.2	0.0	133.7	657.8	0.0516
460	2.865	4.62	4.62			818	4614	0.17	-930	-4614	0.17					
					SLE Rare	124			-92			2.4	3.2	110.6	81.7	
					SLE Freq.	123			-89			2.3	3.2	109.2	78.9	0.0062
					SLE Q.P.	122			-88			2.3	3.2	108.6	78.3	0.0061

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 646 460 Sez. 1 Rett. 30x32 [cm] 30x32							
0.109	0.388	0.279	5201	4598	29566	19543	ø 8 2br. 5.0'
0.388	2.221	1.833	4864	4598	26576	7817	ø 8 2br. 20.0'
2.221	2.500	0.279	5305	4598	29566	19543	ø 8 2br. 5.0'

Travata: 431 Travata 454 472

N.B. Nella travata che segue sono incluse le verifiche delle travate:

431 Travata 254 272

431 Travata 354 372

Nodo	x [m]	A <sub>te</sub> [cm <sup>2</sup> ]	A <sub>fi</sub> [cm <sup>2</sup> ]	Q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm <sup>2</sup> ]	σ <sub>bi</sub> [kg/cm <sup>2</sup> ]	σ <sub>fe</sub> [kg/cm <sup>2</sup> ]	σ <sub>fi</sub> [kg/cm <sup>2</sup> ]	w mm
Trave Sez. 3 Rett. 44x32 [cm] 44x32																
454	0.125	7.63	7.63			4469	7488	0.18	0	-7488	0.18					
					SLE Rare	3399			0			0.0	57.9	1854.4	400.1	
					SLE Freq.	3271			0			0.0	55.8	1784.7	385.1	0.0326
					SLE Q.P.	3221			0			0.0	54.9	1757.6	379.2	0.0321
Camp.	1.327	7.63	7.63	4282	321	243	7488	0.18	-2123	-7488	0.18					
					SLE Rare	0			-1508			25.7	0.0	177.5	822.9	
					SLE Freq.	0			-1477			25.2	0.0	173.9	805.8	0.0683
					SLE Q.P.	0			-1463			24.9	0.0	172.3	798.3	0.0677
472	2.530	7.63	7.63			200	7488	0.18	-1623	-7488	0.18					
					SLE Rare	0			-748			12.8	0.0	88.1	408.1	
					SLE Freq.	0			-722			12.3	0.0	85.0	394.0	0.0334
					SLE Q.P.	0			-711			12.1	0.0	83.7	387.7	0.0329

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Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rcd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 454 472 Sez. 3 Rett. 44x32 [cm] 44x32							
0.118	0.420	0.302	8825	7018	43363	19543	ø 8 2br. 5.0'
0.420	2.083	1.664	8382	7018	38978	10423	ø 8 2br. 15.0'
2.083	2.385	0.302	9196	7018	43363	19543	ø 8 2br. 5.0'

Travata: 432 Travata 405 420

N.B. Nella travata che segue sono incluse le verifiche delle travate:

432 Travata 205 220

432 Travata 211 218

432 Travata 305 320

432 Travata 311 318

432 Travata 411 418

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>te</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 1 Rett. 30x32 [cm] 30x32																
405	0.150	7.63	4.62			6107	7278	0.21	-1109	-4617	0.17					
				SLE Rare		3349			0			0.0	73.7	1852.7	618.4	
				SLE Freq.		3206			0			0.0	70.6	1773.5	591.9	0.0346
				SLE Q.P.		3154			0			0.0	69.5	1745.2	582.5	0.0340
Camp.	2.950	4.62	4.62	1537	536	0	4614	0.17	-2969	-4614	0.17					
				SLE Rare		0			-2273			59.1	0.0	410.7	2020.3	
				SLE Freq.		0			-2237			58.2	0.0	404.2	1988.4	0.1747
				SLE Q.P.		0			-2222			57.8	0.0	401.7	1975.7	0.1730
420	5.750	7.63	4.62			5035	7278	0.21	-2147	-4617	0.17					
				SLE Rare		2182			-105			2.6	48.0	1207.0	402.8	
				SLE Freq.		2221			-36			0.9	48.9	1228.9	410.1	0.0240
				SLE Q.P.		2226			-15			0.4	49.0	1231.3	411.0	0.0240

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rcd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 405 420 Sez. 1 Rett. 30x32 [cm] 30x32							
0.150	0.470	0.320	4632	4522	29566	19543	ø 8 2br. 5.0'
0.470	5.426	4.956	4140	4522	26576	7817	ø 8 2br. 20.0'
5.426	5.746	0.320	4092	4522	29566	19543	ø 8 2br. 5.0'

Travata: 437 Travata 468 470

N.B. Nella travata che segue sono incluse le verifiche delle travate:

437 Travata 268 270

437 Travata 368 370

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>te</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 1 Rett. 30x32 [cm] 30x32																
468	0.050	3.39	3.39			2590	3503	0.15	-651	-3503	0.15					
				SLE Rare		1579			0			0.0	47.3	1878.0	296.7	
				SLE Freq.		1473			0			0.0	44.1	1752.5	276.9	0.0235

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				SLE Q.P.	1450			0			0.0	43.4	1724.3	272.4	0.0231
Camp.	1.320	3.39	3.39	2436	283	59	3503	0.15	-2256	-3503	0.15				
				SLE Rare	0			-1713			51.3	0.0	321.8	2037.0	
				SLE Freq.	0			-1600			47.9	0.0	300.7	1903.0	0.1612
				SLE Q.P.	0			-1576			47.2	0.0	296.1	1873.8	0.1587
470	2.590	3.39	3.39			651	3503	0.15	-941	-3503	0.15				
				SLE Rare	202			-594			17.8	6.1	240.6	706.4	
				SLE Freq.	196			-468			14.0	5.9	233.0	556.1	0.0471
				SLE Q.P.	184			-438			13.1	5.5	218.3	521.0	0.0441

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 468 470 Sez. 1 Rett. 30x32 [cm] 30x32							
0.039	0.287	0.248	4551	4149	29566	19543	ø 8 2br. 5.0'
0.287	1.758	1.471	3546	4149	26576	7817	ø 8 2br. 20.0'
1.758	2.006	0.248	3644	4149	29566	19543	ø 8 2br. 5.0'

Travata: 483 Travata 449 461 464

N.B. Nella travata che segue sono incluse le verifiche delle travate:

483 Travata 249 261 264

483 Travata 349 361 364

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>le</sub> [kg/cm²]	σ <sub>li</sub> [kg/cm²]	w mm
Trave Sez. 3 Rett. 44x32 [cm] 44x32																
449	0.200	13.57	3.66			10816	12505	0.28	-593	-3992	0.16					
				SLE Rare		7013			0			0.0	107.8	2235.2	454.0	
				SLE Freq.		6509			0			0.0	100.0	2074.6	421.4	0.0343
				SLE Q.P.		6342			0			0.0	97.5	2021.4	410.6	0.0334
Camp.	2.290	4.62	13.57	6211	1435	0	4870	0.17	-10042	-12565	0.27					
				SLE Rare		0			-7577			113.8	0.0	1020.2	2410.7	
				SLE Freq.		0			-7035			105.6	0.0	947.2	2238.2	0.2381
				SLE Q.P.		0			-6869			103.1	0.0	924.8	2185.4	0.2315
461	4.380	13.57	7.63			11733	12573	0.24	-586	-7490	0.19					
				SLE Rare		7727			0			0.0	110.0	2458.9	934.7	
				SLE Freq.		7181			0			0.0	102.2	2285.2	868.6	0.0512
				SLE Q.P.		7006			0			0.0	99.7	2229.4	847.5	0.0500
Trave Sez. 3 Rett. 44x32 [cm] 44x32																
461	0.200	13.57	7.63			6930	12573	0.24	-2912	-7490	0.19					
				SLE Rare		2924			0			0.0	41.6	930.4	353.7	
				SLE Freq.		2766			0			0.0	39.4	880.1	334.6	0.0197
				SLE Q.P.		2718			0			0.0	38.7	864.8	328.7	0.0194
Camp.	1.305	9.93	7.63	7269	467	148	9501	0.20	-2258	-7490	0.18					
				SLE Rare		0			-1699			28.1	0.0	188.5	928.9	
				SLE Freq.		0			-1566			25.9	0.0	173.7	855.8	0.0728
				SLE Q.P.		0			-1521			25.1	0.0	168.7	831.2	0.0707
464	2.410	7.63	7.63			5440	7488	0.18	-3524	-7488	0.18					

	SLE Rare	1152			0			0.0	19.6	628.3	135.6	
	SLE Freq.	1004			0			0.0	17.1	547.7	118.2	0.0100
	SLE Q.P.	958			0			0.0	16.3	522.7	112.8	0.0096

Travata: 53 Travata 422 429  
N.B. Nella travata che segue sono incluse le verifiche delle travate:  
53 Travata 222 229  
53 Travata 322 329

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 422 429 Sez. 8 Rett. 30x24 [cm] 30x24							
0.141	0.377	0.235	6010	3954	20996	14162	ø 8 2br. 5.0'
0.377	1.139	0.763	5563	3954	18873	7402	ø 8 2br. 15.0'
1.139	1.375	0.235	6010	3954	20996	14162	ø 8 2br. 5.0'

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N.B. Nella travata che segue sono incluse le verifiche delle travate:

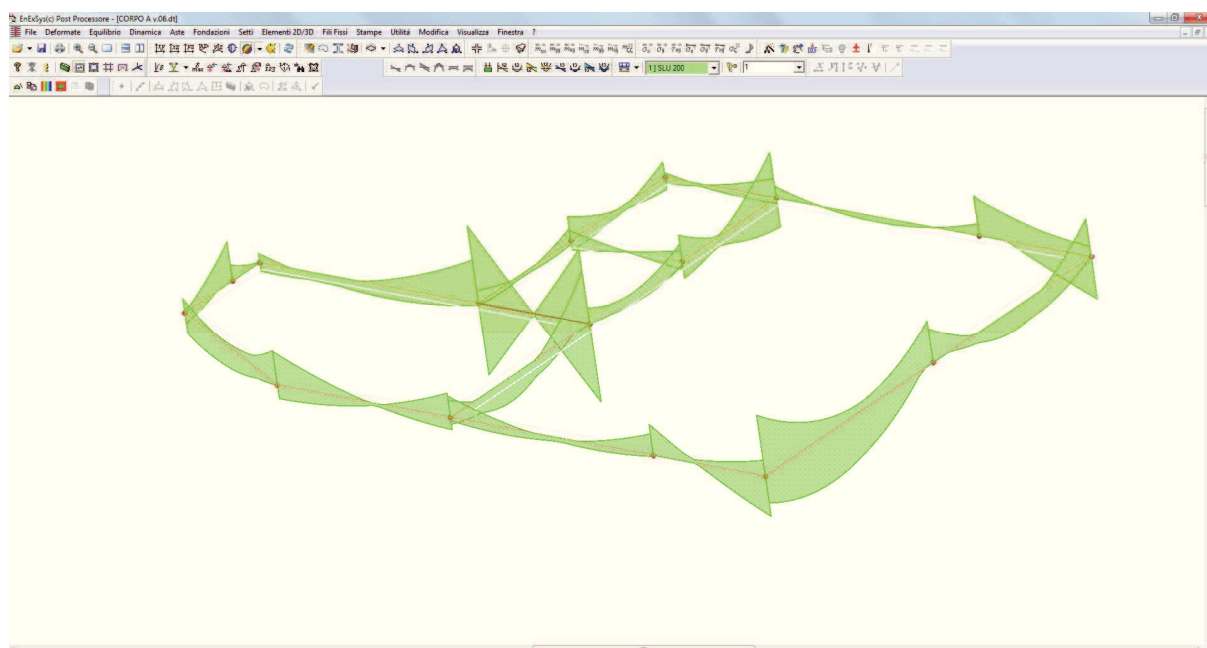
55 Travata 258 269

55 Travata 358 369

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 8 Rett. 30x24 [cm] 30x24																
458	0.050	3.39	3.39			1146	2441	0.21	0	-2441	0.21					
					SLE Rare	814			0			0.0	43.5	1395.2	193.1	
					SLE Freq.	594			0			0.0	31.8	1018.3	140.9	0.0103
					SLE Q.P.	506			0			0.0	27.1	867.8	120.1	0.0088
Camp.	1.625	3.39	3.39	3223	310	0	2441	0.21	-2214	-2441	0.21					
					SLE Rare	0			-1571			84.0	0.0	372.6	2692.7	
					SLE Freq.	0			-1143			61.1	0.0	271.0	1958.4	0.1577
					SLE Q.P.	0			-971			51.9	0.0	230.3	1664.5	0.1219
469	3.200	3.39	3.39			2124	2441	0.21	0	-2441	0.21					
					SLE Rare	1511			0			0.0	80.8	2589.1	358.3	
					SLE Freq.	1112			0			0.0	59.4	1905.4	263.7	0.0193
					SLE Q.P.	952			0			0.0	50.9	1631.8	225.8	0.0165

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 458 469 Sez. 8 Rett. 30x24 [cm] 30x24							
0.052	0.528	0.476	4526	3568	20996	14162	ø 8 2br. 5.0'
0.528	2.879	2.351	3785	3568	18873	7402	ø 8 2br. 15.0'
2.879	3.355	0.476	5179	3568	20996	14162	ø 8 2br. 5.0'

Verifiche travate quinto impalcato:







Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>T</sub> [kg/m]	M <sub>rf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 1 Rett. 30x32 [cm] 30x32																
539	0.150	7.63	4.62			5537	7278	0.21	0	-4617	0.17					
				SLE Rare		4014			0			0.0	88.4	2221.0	741.3	
				SLE Freq.		3533			0			0.0	77.8	1954.6	652.4	0.0381
				SLE Q.P.		3409			0			0.0	75.1	1886.2	629.5	0.0368
Camp.	1.450	7.63	4.62	6838	557	0	7278	0.21	-3318	-4617	0.17					
				SLE Rare		0			-2459			60.4	0.0	375.5	2195.3	
				SLE Freq.		0			-2080			51.1	0.0	317.6	1856.9	0.1574
				SLE Q.P.		0			-1988			48.8	0.0	303.7	1775.5	0.1467
537	2.750	7.63	4.62			1636	7278	0.21	-1488	-4617	0.17					
				SLE Rare		516			0			0.0	11.4	285.3	95.2	
				SLE Freq.		360			0			0.0	7.9	199.0	66.4	0.0039
				SLE Q.P.		320			0			0.0	7.1	177.2	59.1	0.0035

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 539 537 Sez. 1 Rett. 30x32 [cm] 30x32							
0.150	0.469	0.319	11052	4598	29566	19543	ø 8 2br. 5.0'
0.469	1.102	0.632	8751	4598	26576	8934	ø 8 2br. 17.5'
1.102	1.794	0.692	6279	4598	26576	7817	ø 8 2br. 20.0'
1.794	2.426	0.632	8775	4598	26576	8934	ø 8 2br. 17.5'
2.426	2.746	0.319	9918	4598	29566	19543	ø 8 2br. 5.0'

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>r</sub> [kg/m]	M <sub>rf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 1 Rett. 30x32 [cm] 30x32																
540	0.100	7.63	7.63			2601	7263	0.20	-2059	-7263	0.20					
				SLE Rare		334			0			0.0	6.9	185.3	53.5	
				SLE Freq.		287			0			0.0	5.9	159.2	45.9	0.0033
				SLE Q.P.		271			0			0.0	5.6	150.3	43.4	0.0031
Camp.	0.960	7.63	7.63	4882	182	1363	7263	0.20	-2092	-7263	0.20					
				SLE Rare		0			-726			14.9	0.0	116.1	402.5	
				SLE Freq.		0			-620			12.8	0.0	99.2	343.7	0.0244
				SLE Q.P.		0			-593			12.2	0.0	94.8	328.6	0.0234
541	1.820	7.63	7.63			4808	7263	0.20	-3035	-7263	0.20					
				SLE Rare		1121			0			0.0	23.1	621.6	179.4	
				SLE Freq.		943			0			0.0	19.4	522.6	150.8	0.0107
				SLE Q.P.		886			0			0.0	18.2	491.4	141.8	0.0101

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 540 541 Sez. 1 Rett. 30x32 [cm] 30x32							
0.101	0.423	0.322	11020	5436	29566	19543	ø 8 2br. 5.0'

0.423	1.512	1.088	10075	5436	26576	10423	ø 8 2br. 15.0'
1.512	1.834	0.322	10946	5436	29566	19543	ø 8 2br. 5.0'

Nodo	x [m]	A <sub>ie</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>if</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 1 Rett. 30x32 [cm] 30x32																
548	0.150	4.62	4.62			1215	4614	0.17	-1309	-4614	0.17					
				SLE Rare		9			-69			1.8	0.2	12.4	61.0	
				SLE Freq.		0			-77			2.0	0.0	13.9	68.1	0.0053
				SLE Q.P.		0			-76			2.0	0.0	13.7	67.3	0.0053
Camp.	0.990	4.62	4.62	3145	460	3039	4614	0.17	-1352	-4614	0.17					
				SLE Rare		848			-345			9.0	22.0	753.6	307.1	
				SLE Freq.		828			-326			8.5	21.5	736.0	289.6	0.0227
				SLE Q.P.		820			-321			8.3	21.3	729.0	285.2	0.0224
546	1.830	4.62	4.62			873	4614	0.17	-490	-4614	0.17					
				SLE Rare		254			0			0.0	6.6	226.1	46.0	
				SLE Freq.		235			0			0.0	6.1	208.6	42.4	0.0033
				SLE Q.P.		229			0			0.0	6.0	203.7	41.4	0.0033

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 548 546 Sez. 1 Rett. 30x32 [cm] 30x32							
0.125	0.290	0.165	9288	4598	29566	19543	ø 8 2br. 5.0'
0.290	0.800	0.510	7828	4598	26576	8934	ø 8 2br. 17.5'
0.800	0.965	0.165	9141	4598	29566	19543	ø 8 2br. 5.0'

Nodo	x [m]	A <sub>ie</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>ti</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 1 Rett. 30x32 [cm] 30x32																
572	0.050	7.63	4.62			1061	7278	0.21	-1208	-4617	0.17					
				SLE Rare		0			-564			13.8	0.0	86.1	503.3	
				SLE Freq.		0			-503			12.4	0.0	76.9	449.5	0.0355
				SLE Q.P.		0			-489			12.0	0.0	74.7	436.4	0.0345
Camp.	0.625	7.63	4.62	5489	129	5024	7278	0.21	-129	-4617	0.17					
				SLE Rare		2388			-97			2.4	52.6	1321.1	440.9	
				SLE Freq.		2216			-87			2.1	48.8	1226.3	409.3	0.0239
				SLE Q.P.		2174			-85			2.1	47.9	1202.9	401.5	0.0235
560	1.200	7.63	4.62			875	7278	0.21	0	-4617	0.17					
				SLE Rare		166			0			0.0	3.7	91.7	30.6	
				SLE Freq.		151			0			0.0	3.3	83.6	27.9	0.0016
				SLE Q.P.		148			0			0.0	3.3	82.0	27.4	0.0016

Da	A	Dx	$V_{Ed}$	$V_{Rd,c}$	$V_{Rd}$	$V_{Rd}$	Staffe
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COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

[m]	[m]	[m]	[kg]	[kg]	[kg]	[kg]	
Trave 572 560 Sez. 1 Rett. 30x32 [cm] 30x32							
0.041	0.978	0.937	12897	4598	29566	19543	ø 8 2br. 5.0'

Travata: 505 Travata 521 528 537 554

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>r</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>de</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>te</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 1 Rett. 30x32 [cm] 30x32																
521	0.200	7.63	7.63			1327	7263	0.20	-4040	-7263	0.20					
					SLE Rare	0			-1554			32.0	0.0	248.5	861.4	
					SLE Freq.	0			-1400			28.8	0.0	223.9	776.0	0.0552
					SLE Q.P.	0			-1357			27.9	0.0	217.0	752.2	0.0535
Camp.	0.855	7.63	7.63	1951	57	711	7263	0.20	-1934	-7263	0.20					
					SLE Rare	0			-218			4.5	0.0	34.9	120.9	
					SLE Freq.	0			-212			4.4	0.0	33.9	117.4	0.0083
					SLE Q.P.	0			-209			4.3	0.0	33.4	115.7	0.0082
528	1.510	7.63	7.63			2955	7263	0.20	0	-7263	0.20					
					SLE Rare	1873			0			0.0	38.5	1038.3	299.6	
					SLE Freq.	1733			0			0.0	35.6	960.9	277.2	0.0197
					SLE Q.P.	1697			0			0.0	34.9	940.8	271.4	0.0193
Trave Sez. 1 Rett. 30x32 [cm] 30x32																
528	0.150	7.63	7.63			2275	7263	0.20	-358	-7263	0.20					
					SLE Rare	1146			0			0.0	23.6	635.2	183.3	
					SLE Freq.	1084			0			0.0	22.3	601.0	173.4	0.0123
					SLE Q.P.	1073			0			0.0	22.1	595.0	171.7	0.0122
Camp.	1.575	7.63	7.63	1951	188	0	7263	0.20	-770	-7263	0.20					
					SLE Rare	0			-598			12.3	0.0	95.6	331.4	
					SLE Freq.	0			-622			12.8	0.0	99.5	344.7	0.0245
					SLE Q.P.	0			-625			12.8	0.0	99.9	346.3	0.0246
537	3.000	4.62	4.62			2217	4614	0.17	-634	-4614	0.17					
					SLE Rare	897			0			0.0	23.3	797.6	162.2	
					SLE Freq.	897			0			0.0	23.3	797.3	162.1	0.0127
					SLE Q.P.	892			0			0.0	23.2	793.4	161.3	0.0127
Trave Sez. 1 Rett. 30x32 [cm] 30x32																
537	0.150	4.62	4.62			2459	4614	0.17	-1279	-4614	0.17					
					SLE Rare	560			0			0.0	14.6	498.2	101.3	
					SLE Freq.	588			0			0.0	15.3	522.8	106.3	0.0083
					SLE Q.P.	590			0			0.0	15.3	524.1	106.6	0.0084
Camp.	1.295	4.62	4.62	1951	136	480	4614	0.17	-839	-4614	0.17					
					SLE Rare	0			-334			8.7	0.0	60.4	297.2	
					SLE Freq.	0			-347			9.0	0.0	62.7	308.4	0.0242
					SLE Q.P.	0			-348			9.1	0.0	63.0	309.7	0.0243
554	2.440	4.74	3.35			3308	4690	0.17	-1510	-3446	0.16					
					SLE Rare	976			0			0.0	26.4	397.2	79.6	

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CORPO A

	SLE Freq.	918			0			0.0	24.9	373.7	74.9	0.0062
	SLE Q.P.	900			0			0.0	24.4	366.2	73.4	0.0061

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
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Trave 521 528 Sez. 1 Rett. 30x32 [cm] 30x32

0.194	0.505	0.311	12062	5436	29566	19543	ø 8 2br. 5.0'
0.505	1.155	0.650	11645	5436	26576	12508	ø 8 2br. 12.5'
1.155	1.466	0.311	12139	5436	29566	19543	ø 8 2br. 5.0'

Trave 528 537 Sez. 1 Rett. 30x32 [cm] 30x32

0.152	0.471	0.318	6272	5436	29566	19543	ø 8 2br. 5.0'
0.471	2.730	2.259	5809	5436	26576	7817	ø 8 2br. 20.0'
2.730	3.048	0.318	6272	4598	29566	19543	ø 8 2br. 5.0'

Trave 537 554 Sez. 1 Rett. 30x32 [cm] 30x32

0.150	0.461	0.312	5277	4598	29566	19543	ø 8 2br. 5.0'
0.461	2.126	1.665	5277	4206	26576	7817	ø 8 2br. 20.0'
2.126	2.437	0.312	5746	3992	29566	19543	ø 8 2br. 5.0'

Travata: 506 Travata 539 546

N.B. Nella travata che segue sono incluse le verifiche delle travate:

506 Travata 540 547

506 Travata 540 539

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 10 Rett. 30x32 [cm] 20X32 ascensore																
539	0.100	18.10	18.10			7918	16128	0.27	-8426	-16128	0.27					
				SLE Rare		843			-321			4.2	11.0	206.8	96.8	
				SLE Freq.		729			-272			3.6	9.5	178.7	83.6	0.0051
				SLE Q.P.		699			-254			3.3	9.2	171.5	80.3	0.0049
Camp.	0.950	18.10	18.10	5272	152	2118	16128	0.27	-2519	-16128	0.27					
				SLE Rare		0			-644			8.4	0.0	73.9	158.0	
				SLE Freq.		0			-557			7.3	0.0	63.9	136.6	0.0084
				SLE Q.P.		0			-536			7.0	0.0	61.5	131.4	0.0081
546	1.800	18.10	18.10			8257	16128	0.27	-7676	-16128	0.27					
				SLE Rare		947			0			0.0	12.4	232.2	108.7	
				SLE Freq.		825			0			0.0	10.8	202.4	94.7	0.0058
				SLE Q.P.		795			0			0.0	10.4	194.9	91.2	0.0056

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
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Trave 539 546 Sez. 10 Rett. 30x32 [cm] 20X32 ascensore

0.112	0.469	0.358	19385	7037	29566	19543	ø 8 2br. 5.0'
0.469	1.654	1.185	19230	7037	26576	20846	ø 8 2br. 7.5'
1.654	2.012	0.358	19385	7037	29566	19543	ø 8 2br. 5.0'

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CORPO A

Travata: 506 Travata 546 560

Nodo	x [m]	A <sub>le</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 1 Rett. 30x32 [cm] 30x32																
546	0.100	7.63	4.62			4876	7278	0.21	-582	-4617	0.17					
					SLE Rare	2378			0			0.0	52.4	1315.5	439.1	
					SLE Freq.	2350			0			0.0	51.8	1300.4	434.0	0.0254
					SLE Q.P.	2340			0			0.0	51.5	1294.9	432.2	0.0252
Camp.	1.470	7.63	4.62	1951	218	477	7278	0.21	-1548	-4617	0.17					
					SLE Rare	0			-843			20.7	0.0	128.8	752.8	
					SLE Freq.	0			-852			20.9	0.0	130.2	761.1	0.0601
					SLE Q.P.	0			-853			20.9	0.0	130.3	761.6	0.0602
560	2.840	7.63	4.62			984	7278	0.21	-1073	-4617	0.17					
					SLE Rare	38			-59			1.4	0.8	21.2	52.4	
					SLE Freq.	40			-57			1.4	0.9	22.2	50.6	0.0040
					SLE Q.P.	40			-56			1.4	0.9	22.1	49.8	0.0039

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rcd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 546 560 Sez. 1 Rett. 30x32 [cm] 30x32							
0.087	0.363	0.277	6674	4598	29566	19543	ø 8 2br. 5.0'
0.363	2.180	1.817	6206	4598	26576	7817	ø 8 2br. 20.0'
2.180	2.457	0.277	6761	4598	29566	19543	ø 8 2br. 5.0'

Travata: 508 Travata 523 541 548

Nodo	x [m]	A <sub>le</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 1 Rett. 30x32 [cm] 30x32																
523	0.200	9.42	7.63			0	8806	0.23	-2312	-7254	0.20					
					SLE Rare	0			-1547			30.8	0.0	229.2	859.3	
					SLE Freq.	0			-1476			29.3	0.0	218.6	819.7	0.0585
					SLE Q.P.	0			-1459			29.0	0.0	216.1	810.2	0.0578
Camp.	0.930	9.42	7.63	1951	451	380	8806	0.23	-451	-7254	0.20					
					SLE Rare	8			-347			6.9	0.2	51.4	192.7	
					SLE Freq.	8			-347			6.9	0.1	51.4	192.7	0.0138
					SLE Q.P.	7			-347			6.9	0.1	51.4	192.7	0.0138
541	1.660	9.42	7.63			785	8806	0.23	0	-7254	0.20					
					SLE Rare	604			0			0.0	11.6	274.4	97.0	
					SLE Freq.	604			0			0.0	11.6	274.5	97.0	0.0061
					SLE Q.P.	604			0			0.0	11.6	274.5	97.0	0.0061
Trave Sez. 1 Rett. 30x32 [cm] 30x32																
541	1.650	9.42	7.63			2188	8806	0.23	-662	-7254	0.20					
					SLE Rare	826			0			0.0	15.9	375.4	132.6	
					SLE Freq.	808			0			0.0	15.6	367.2	129.8	0.0082

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CORPO A

				SLE Q.P.	803			0			0.0	15.5	364.9	129.0	0.0082
Camp.	2.350	9.42	7.63	1951	56	746	8806	0.23	-649	-7254	0.20				
				SLE Rare	0			-159			3.2	0.0	23.5	88.1	
				SLE Freq.	0			-162			3.2	0.0	24.0	89.9	0.0064
				SLE Q.P.	0			-162			3.2	0.0	24.0	90.1	0.0064
548	3.050	9.42	7.63			446	8806	0.23	-812	-7254	0.20				
				SLE Rare	0			-196			3.9	0.0	29.1	109.1	
				SLE Freq.	0			-186			3.7	0.0	27.5	103.2	0.0074
				SLE Q.P.	0			-183			3.6	0.0	27.1	101.5	0.0072

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 523 541 Sez. 1 Rett. 30x32 [cm] 30x32							
0.169	0.315	0.146	14173	5436	29566	19543	ø 8 2br. 5.0'
0.315	0.527	0.212	12336	5436	26576	12508	ø 8 2br. 12.5'
0.527	0.673	0.146	14173	5436	29566	19543	ø 8 2br. 5.0'
Trave 541 548 Sez. 1 Rett. 30x32 [cm] 30x32							
3.077	3.494	0.417	12587	5436	29566	19543	ø 8 2br. 5.0'
3.494	3.955	0.461	11896	5436	26576	12508	ø 8 2br. 12.5'
3.955	4.372	0.417	12627	5436	29566	19543	ø 8 2br. 5.0'

Travata: 509 Travata 554 572

Nodo	x [m]	A <sub>le</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>T</sub> [kg/m]	M <sub>rf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 1 Rett. 30x32 [cm] 30x32																
554	0.125	4.62	7.63			3599	4617	0.17	-672	-7278	0.21					
				SLE Rare		1842			0			0.0	45.2	1645.1	281.4	
				SLE Freq.		1738			0			0.0	42.7	1551.9	265.5	0.0254
				SLE Q.P.		1710			0			0.0	42.0	1526.6	261.1	0.0249
Camp.	1.305	4.62	7.63	3252	244	461	4617	0.17	-2972	-7278	0.21					
				SLE Rare		0			-1466			32.3	0.0	270.8	811.3	
				SLE Freq.		0			-1363			30.0	0.0	251.7	754.0	0.0532
				SLE Q.P.		0			-1339			29.5	0.0	247.3	740.9	0.0523
572	2.485	4.62	7.63			1577	4617	0.17	-2863	-7278	0.21					
				SLE Rare		0			-569			12.5	0.0	105.0	314.7	
				SLE Freq.		0			-517			11.4	0.0	95.4	285.8	0.0202
				SLE Q.P.		0			-504			11.1	0.0	93.0	278.8	0.0197

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave 554 572 Sez. 1 Rett. 30x32 [cm] 30x32							
0.116	0.412	0.296	7772	5436	29566	19543	ø 8 2br. 5.0'
0.412	2.005	1.593	7277	5436	26576	7817	ø 8 2br. 20.0'
2.005	2.302	0.296	8134	5436	29566	19543	ø 8 2br. 5.0'

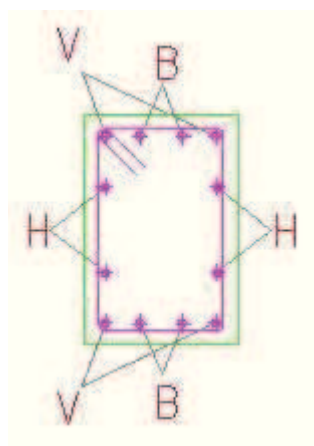
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### 2.2.4.b Verifica dei pilastri

I pilastri vengono verificati a presso-tensoflessione deviata.

Le verifiche vengono riportate per la sezione di sommità e in quella di base in tutte le combinazioni di carico.

Nelle stampe si riportano (per le due sezioni di verifica succitate) le sollecitazioni relative alla combinazione di calcolo critica.



< p>

Simbologia utilizzata:

Nodo	Numero nodo del modello fem
Comb.	Indica la combinazione critica per la verifica dei diversi materiali
Ft.	Tensione di lavoro massima per acciaio teso
Fc.	Tensione di lavoro massima per acciaio compresso
ClsMax	Tensione di lavoro massima per cls compresso
ClsMed	Tensione di lavoro media del cls
N	Sforzo assiale sollecitante
M <sub>x</sub> , M <sub>y</sub>	Momenti flettenti sollecitanti
σ	Tensione normale di lavoro
T <sub>x</sub> , T <sub>y</sub>	Tagli sollecitanti
τ	Tensione tangenziale di lavoro

Nodo	Numero nodo del modello fem
Comb	Indica la combinazione critica per la verifica a pressoflessione
N	Sforzo assiale sollecitante



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$M_x, M_y$	Momenti flettenti sollecitanti
$S_d/S_r$	Coefficiente di sicurezza a pressoflessione (rapporto sollecitazione/resistenza)
Da	Ascissa iniziale concio per armatura a taglio
A	Ascissa finale concio per armatura a taglio
$V_{dx}, V_{dy}$	Tagli sollecitanti
$V_{rx}, V_{ry}$	Tagli resistenti elemento con armatura a taglio ( $V_{Rd}$ nel DM2008)
Staffe	Armatura resistente a taglio

Sezioni Impiegate:

Sez. Nu m.	Info	Dimensi oni	Criter io	Calcestruz zo	$f_{ck}$ [kg/c m <sup>2</sup> ]	$f_{cd}$ [kg/c m <sup>2</sup> ]	$\sigma_{RARE}$ [kg/c m <sup>2</sup> ]	$\sigma_{FREQ}$ [kg/c m <sup>2</sup> ]	$\sigma_{QP}$ [kg/c m <sup>2</sup> ]	Accia io	$f_{yk}$ [kg/cm ²]	$f_{yd}$ [kg/cm ²]	$\sigma_{YRARE}$ [kg/cm ²]	$\sigma_{YFREQ}$ [kg/cm ²]	$\sigma_{YQP}$ [kg/cm ²]	Copr. [cm]	Verifica	cot g $\theta$
41	Rett. 40x30	B 40 [cm] H 30 [cm]	Verpil	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	4.000	Deviata	1.5
11	Rett. 40x30	B 40 [cm] H 30 [cm]	Verpil	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	3.000	Deviata	1.5
33	Rett. 30x30	B 30 [cm] H 30 [cm]	Verpil	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	4.000	Deviata	1.5
3	Rett. 30x30	B 30 [cm] H 30 [cm]	Verpil	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	3.000	Deviata	1.5
34	Rett. 30x40	B 30 [cm] H 40 [cm]	Verpil	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	4.000	Deviata	1.5
4	Rett. 30x40	B 30 [cm] H 40 [cm]	Verpil	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	3.000	Deviata	1.5
46	Rett. 30x50	B 30 [cm] H 50 [cm]	Verpil	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	3.000	Deviata	1.5
16	Rett. 30x50	B 30 [cm] H 50 [cm]	Verpil	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	3.000	Deviata	1.5
45	Rett. 50x30	B 50 [cm] H 30 [cm]	Verpil	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	3.000	Deviata	1.5
15	Rett. 50x30	B 50 [cm] H 30 [cm]	Verpil	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	3.000	Deviata	1.5
44	Rett. 30x60	B 30 [cm] H 60 [cm]	Verpil	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	3.000	Deviata	1.5
14	Rett. 30x60	B 30 [cm] H 60 [cm]	Verpil	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	3.000	Deviata	1.5
42	Rett. 40x60	B 40 [cm] H 60 [cm]	Verpil	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	4.000	Deviata	1.5

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12	Rett. 40x60	B 40 [cm] H 60 [cm]	Verpil	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	3.000	Devia	1.5
40	Rett. 40x25	B 40 [cm] H 25 [cm]	Verpil	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	4.000	Devia	1.5
10	Rett. 40x25	B 40 [cm] H 25 [cm]	Verpil	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	3.000	Devia	1.5

#### Verifiche Pilastri:

N.B. Nella formula (7.4.28) del punto 7.4.6.2.2. TU2008 nel calcolo di  $A_{st}$  è stata inclusa l'area totale delle staffe in entrambe le direzioni. La formula (7.4.28) del punto 7.4.6.2.2. TU2008 in "CDB" viene applicata alle sole regioni critiche terminali. Fattore di sovrarresistenza  $\gamma_{R,d}=1.10$  Nella verifica a presso-flessione è ignorato il metodo  $\alpha$  per il calcolo delle azioni di progetto. Il controllo della gerarchia delle resistenti è demandato al controllo dell'equilibrio nodale.

Pilastro: 1/101 / L 3.540[m] / Sezione 41 B 40 [cm]H 30 [cm]

Af: 10  $\phi$  18 Af=25.45 [cm<sup>2</sup>] < 1 $\phi$ 18 x 4 V + 2 $\phi$ 18 x 2 B + 1 $\phi$ 18 x 2 H >

Staffe:  $\phi$  8 4br.x2br./12.5' x 51.0/ $\phi$  8 4br.x2br./20.0' x 252.0/ $\phi$  8 4br.x2br./12.5' x 51.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
1	9	-26562	-1582	4764	1.00	1.00	0.32
101	7	-26666	-139	-3720	1.00	1.00	0.22

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.250	0.760	3855	20903	6957	14700	$\phi$ 8 4br.x2br./12.5'
0.760	3.280	3855	13064	6957	9187	$\phi$ 8 4br.x2br./20.0'
3.280	3.790	3855	20903	6957	14700	$\phi$ 8 4br.x2br./12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

#### Combinazioni Rare

1	Ft. 20	-28811	-648	362	-158.6
	$\sigma_{s,c19}$	-29175	-660	381	-394.6
	$\sigma_{cls,Max19}$	-29175	-660	381	-30.6
	$\sigma_{cls,Med19}$	-29175	-660	381	-18.4
101	Ft. 20	-27626	-260	-205	-209.9
	$\sigma_{s,c19}$	-27990	-276	-218	-320.8
	$\sigma_{cls,Max19}$	-27990	-276	-218	-23.3
	$\sigma_{cls,Med19}$	-27990	-276	-218	-17.7

#### Combinazioni Frequenti

1	Ft. 21	-28194	-620	333	-159.0
	$\sigma_{s,c21}$	-28194	-620	333	-375.7
	$\sigma_{cls,Max21}$	-28194	-620	333	-29.0

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Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Med</sub> 21	-28194	-620	333	-17.8
101	Ft. 22	-26729	-250	-172	-205.9
	σ <sub>s,c</sub> 21	-27009	-260	-183	-305.9
	σ <sub>cls,Max</sub> 21	-27009	-260	-183	-22.2
	σ <sub>cls,Med</sub> 21	-27009	-260	-183	-17.1
Combinazioni Quasi Permanenti					
1	Ft. 23	-27858	-608	317	-159.1
	σ <sub>s,c</sub> 23	-27858	-608	317	-369.3
	σ <sub>cls,Max</sub> 23	-27858	-608	317	-28.5
	σ <sub>cls,Med</sub> 23	-27858	-608	317	-17.6
101	Ft. 23	-26673	-252	-170	-205.4
	σ <sub>s,c</sub> 23	-26673	-252	-170	-300.5
	σ <sub>cls,Max</sub> 23	-26673	-252	-170	-21.7
	σ <sub>cls,Med</sub> 23	-26673	-252	-170	-16.9

Pilastro: 101/201 / L 3.050[m] / Sezione 11 B 40 [cm] H 30 [cm]

Af: 8 ø 18 Af=20.36 [cm²] < 1φ18 x 4 V + 2φ18 x 2 B + 0φ12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 50.8/ø 8 4br.x2br./15.0' x 203.3/ø 8 4br.x2br./10.0' x 50.8

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
101	15	-22359	2019	-3101	1.00	1.00	0.28
201	14	-17964	-1036	-2781	1.00	1.00	0.21

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.668	796	27190	3572	18906	ø 8 4br.x2br./10.0'
0.668	2.702	796	18127	3572	12604	ø 8 4br.x2br./15.0'
2.702	3.210	796	27190	3572	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

101	Ft. 19	-21731	1209	-54	-57.6
	σ <sub>s,c</sub> 19	-21731	1209	-54	-375.4
	σ <sub>cls,Max</sub> 19	-21731	1209	-54	-29.8
	σ <sub>cls,Med</sub> 19	-21731	1209	-54	-14.6
201	Ft. 19	-20720	-808	-97	-93.3
	σ <sub>s,c</sub> 19	-20720	-808	-97	-319.6
	σ <sub>cls,Max</sub> 19	-20720	-808	-97	-24.6
	σ <sub>cls,Med</sub> 19	-20720	-808	-97	-13.8

Combinazioni Frequenti

101	Ft. 21	-20938	1117	-53	-61.5
	σ <sub>s,c</sub> 21	-20938	1117	-53	-355.8
	σ <sub>cls,Max</sub> 21	-20938	1117	-53	-28.1
	σ <sub>cls,Med</sub> 21	-20938	1117	-53	-13.9
201	Ft. 21	-19927	-744	-84	-95.0

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Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>s,c</sub> 21	-19927	-744	-84	-302.1
	σ <sub>cls,Max</sub> 21	-19927	-744	-84	-23.2
	σ <sub>cls,Med</sub> 21	-19927	-744	-84	-13.2
Combinazioni Quasi Permanenti					
101	Ft. 23	-20667	1083	-52	-63.3
	σ <sub>s,c</sub> 23	-20667	1083	-52	-348.6
	σ <sub>cls,Max</sub> 23	-20667	1083	-52	-27.5
	σ <sub>cls,Med</sub> 23	-20667	1083	-52	-13.7
201	Ft. 23	-19656	-721	-80	-95.6
	σ <sub>s,c</sub> 23	-19656	-721	-80	-296.1
	σ <sub>cls,Max</sub> 23	-19656	-721	-80	-22.7
	σ <sub>cls,Med</sub> 23	-19656	-721	-80	-13.1

Pilastro: 201/301 / L 2.910[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 8 ø 18 Af=20.36 [cm²] < 1φ18 x 4 V + 2φ18 x 2 B + 0φ12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 48.5/ø 8 4br.x2br./15.0' x 194.0/ø 8 4br.x2br./10.0' x 48.5

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
201	15	-14369	1682	-3945	1.00	1.00	0.32
301	14	-11047	366	-4199	1.00	1.00	0.29

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.645	860	27190	3910	18906	ø 8 4br.x2br./10.0'
0.645	2.585	860	18127	3910	12604	ø 8 4br.x2br./15.0'
2.585	3.070	860	27190	3910	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

201	Ft. 19	-13924	478	210	-54.2
	σ <sub>s,c</sub> 19	-13924	478	210	-223.3
	σ <sub>cls,Max</sub> 19	-13924	478	210	-17.2
	σ <sub>cls,Med</sub> 19	-13924	478	210	-9.2
301	Ft. 19	-12955	-380	-225	-55.3
	σ <sub>s,c</sub> 19	-12955	-380	-225	-202.8
	σ <sub>cls,Max</sub> 19	-12955	-380	-225	-15.5
	σ <sub>cls,Med</sub> 19	-12955	-380	-225	-8.6

Combinazioni Frequenti

201	Ft. 21	-13379	447	191	-54.9
	σ <sub>s,c</sub> 21	-13379	447	191	-211.7
	σ <sub>cls,Max</sub> 21	-13379	447	191	-16.3
	σ <sub>cls,Med</sub> 21	-13379	447	191	-8.9
301	Ft. 21	-12410	-383	-200	-52.3
	σ <sub>s,c</sub> 21	-12410	-383	-200	-195.0
	σ <sub>cls,Max</sub> 21	-12410	-383	-200	-14.9

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Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Med</sub> 21	-12410	-383	-200	-8.2
Combinazioni Quasi Permanenti					
201	Ft. 23	-13193	433	185	-55.6
	σ <sub>s,c</sub> 23	-13193	433	185	-207.3
	σ <sub>cls,Max</sub> 23	-13193	433	185	-15.9
	σ <sub>cls,Med</sub> 23	-13193	433	185	-8.8
301	Ft. 23	-12224	-375	-194	-52.2
	σ <sub>s,c</sub> 23	-12224	-375	-194	-191.4
	σ <sub>cls,Max</sub> 23	-12224	-375	-194	-14.7
	σ <sub>cls,Med</sub> 23	-12224	-375	-194	-8.1

Pilastro: 301/401 / L 2.910[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 8 ø 18 Af=20.36 [cm²] < 1ø18 x 4 V + 2ø18 x 2 B + 0ø12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 48.5/ø 8 4br.x2br./15.0' x 194.0/ø 8 4br.x2br./10.0' x 48.5

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
301	14	-4928	398	3675	1.00	1.00	0.28
401	15	-4826	-2462	3791	1.00	1.00	0.39

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.645	1122	27190	5819	18906	ø 8 4br.x2br./10.0'
0.645	2.585	1122	18127	5819	12604	ø 8 4br.x2br./15.0'
2.585	3.070	1122	27190	5819	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

301	Ft. 19	-5687	913	288	227.6
	σ <sub>s,c</sub> 19	-5687	913	288	-239.0
	σ <sub>cls,Max</sub> 19	-5687	913	288	-22.5
	σ <sub>cls,Med</sub> 19	-5687	913	288	-9.1
401	Ft. 20	-4618	-1498	-333	542.7
	σ <sub>s,c</sub> 19	-4718	-1498	-351	-333.1
	σ <sub>cls,Max</sub> 19	-4718	-1498	-351	-34.8
	σ <sub>cls,Med</sub> 19	-4718	-1498	-351	-14.3

Combinazioni Frequenti

301	Ft. 21	-5447	822	260	192.6
	σ <sub>s,c</sub> 21	-5447	822	260	-217.4
	σ <sub>cls,Max</sub> 21	-5447	822	260	-20.2
	σ <sub>cls,Med</sub> 21	-5447	822	260	-8.2
401	Ft. 21	-4478	-1283	-327	451.2
	σ <sub>s,c</sub> 21	-4478	-1283	-327	-294.6
	σ <sub>cls,Max</sub> 21	-4478	-1283	-327	-30.3
	σ <sub>cls,Med</sub> 21	-4478	-1283	-327	-12.3

Combinazioni Quasi Permanenti

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
301	Ft. 23	-5361	793	250	181.8
	σ <sub>s,c</sub> 23	-5361	793	250	-210.3
	σ <sub>cls,Max</sub> 23	-5361	793	250	-19.5
	σ <sub>cls,Med</sub> 23	-5361	793	250	-7.9
401	Ft. 23	-4392	-1229	-316	428.3
	σ <sub>s,c</sub> 23	-4392	-1229	-316	-283.8
	σ <sub>cls,Max</sub> 23	-4392	-1229	-316	-29.1
	σ <sub>cls,Med</sub> 23	-4392	-1229	-316	-11.8

Pilastro: 2/102 / L 3.540[m] / Sezione 41 B 40 [cm]H 30 [cm]

Af: 8 ø 24 Af=36.19 [cm²] < 1 ø24 x 4 V + 2 ø24 x 2 B + 0 ø18 x 2 H >

Staffe: ø 8 4br.x2br./12.5' x 54.0/ø 8 4br.x2br./20.0' x 246.0/ø 8 4br.x2br./12.5' x 54.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
2	7	-70474	-453	5598	1.00	1.00	0.37
102	1	-105992	-3648	-2164	1.00	1.00	0.45

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.250	0.790	8498	20903	7771	14700	ø 8 4br.x2br./12.5'
0.790	3.250	8498	13064	7771	9187	ø 8 4br.x2br./20.0'
3.250	3.790	8498	20903	7771	14700	ø 8 4br.x2br./12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

2	Ft. 20	-78793	368	1114	-534.2
	σ <sub>s,c</sub> 19	-81067	404	1171	-850.7
	σ <sub>cls,Max</sub> 19	-81067	404	1171	-61.7
	σ <sub>cls,Med</sub> 19	-81067	404	1171	-46.5
102	Ft. 19	-79882	-2745	-1617	-255.9
	σ <sub>s,c</sub> 19	-79882	-2745	-1617	-1119.1
	σ <sub>cls,Max</sub> 19	-79882	-2745	-1617	-91.3
	σ <sub>cls,Med</sub> 19	-79882	-2745	-1617	-45.8

Combinazioni Frequenti

2	Ft. 22	-73632	347	1005	-502.4
	σ <sub>s,c</sub> 21	-75342	369	1046	-785.9
	σ <sub>cls,Max</sub> 21	-75342	369	1046	-56.9
	σ <sub>cls,Med</sub> 21	-75342	369	1046	-43.2
102	Ft. 22	-72447	-2467	-1401	-240.6
	σ <sub>s,c</sub> 21	-74157	-2548	-1457	-1034.6
	σ <sub>cls,Max</sub> 21	-74157	-2548	-1457	-84.4
	σ <sub>cls,Med</sub> 21	-74157	-2548	-1457	-42.5

Combinazioni Quasi Permanenti

2	Ft. 23	-73342	351	1001	-499.9
	σ <sub>s,c</sub> 23	-73342	351	1001	-762.5

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Max</sub> 23	-73342	351	1001	-55.1
	σ <sub>cls,Med</sub> 23	-73342	351	1001	-42.1
102	Ft. 23	-72157	-2468	-1397	-238.4
	σ <sub>s,c</sub> 23	-72157	-2468	-1397	-1003.6
	σ <sub>cls,Max</sub> 23	-72157	-2468	-1397	-81.8
	σ <sub>cls,Med</sub> 23	-72157	-2468	-1397	-41.4

Pilastro: 102/202 / L 3.050[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 8 ø 24 Af=36.19 [cm²] < 1φ24 x 4 V + 2φ24 x 2 B + 0φ12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 50.8/ø 8 4br.x2br./15.0' x 203.3/ø 8 4br.x2br./10.0' x 50.8

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
102	1	-78362	7267	2781	1.00	1.00	0.51
202	1	-77048	-6460	-2755	1.00	1.00	0.47

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.668	6009	27190	4460	18906	ø 8 4br.x2br./10.0'
0.668	2.702	6009	18127	4460	12604	ø 8 4br.x2br./15.0'
2.702	3.210	6009	27190	4460	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

102	Ft. 19	-59021	5466	2084	441.2
	σ <sub>s,c</sub> 19	-59021	5466	2084	-1350.8
	σ <sub>cls,Max</sub> 19	-59021	5466	2084	-117.1
	σ <sub>cls,Med</sub> 19	-59021	5466	2084	-48.2
202	Ft. 19	-58010	-4859	-2063	333.2
	σ <sub>s,c</sub> 19	-58010	-4859	-2063	-1261.0
	σ <sub>cls,Max</sub> 19	-58010	-4859	-2063	-108.0
	σ <sub>cls,Med</sub> 19	-58010	-4859	-2063	-44.1

Combinazioni Frequenti

102	Ft. 21	-54566	5060	1897	405.0
	σ <sub>s,c</sub> 21	-54566	5060	1897	-1246.1
	σ <sub>cls,Max</sub> 21	-54566	5060	1897	-108.0
	σ <sub>cls,Med</sub> 21	-54566	5060	1897	-44.6
202	Ft. 21	-53555	-4493	-1871	304.5
	σ <sub>s,c</sub> 21	-53555	-4493	-1871	-1161.2
	σ <sub>cls,Max</sub> 21	-53555	-4493	-1871	-99.4
	σ <sub>cls,Med</sub> 21	-53555	-4493	-1871	-40.8

Combinazioni Quasi Permanenti

102	Ft. 23	-53080	4901	1826	386.8
	σ <sub>s,c</sub> 23	-53080	4901	1826	-1206.9
	σ <sub>cls,Max</sub> 23	-53080	4901	1826	-104.6
	σ <sub>cls,Med</sub> 23	-53080	4901	1826	-43.2

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
202	Ft. 23	-52069	-4351	-1800	290.0
	σ <sub>s,c</sub> 23	-52069	-4351	-1800	-1124.4
	σ <sub>cls,Max</sub> 23	-52069	-4351	-1800	-96.2
	σ <sub>cls,Med</sub> 23	-52069	-4351	-1800	-39.5

Pilastro: 202/302 / L 2.910[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 8 ø 24 Af=36.19 [cm²] < 1φ24 x 4 V + 2φ24 x 2 B + 0φ12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 48.5/ø 8 4br.x2br./15.0' x 194.0/ø 8 4br.x2br./10.0' x 48.5

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
202	15	-37433	7708	-2311	1.00	1.00	0.44
302	15	-36464	-7319	2216	1.00	1.00	0.42

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.645	6197	27190	5730	18906	ø 8 4br.x2br./10.0'
0.645	2.585	6197	18127	5730	12604	ø 8 4br.x2br./15.0'
2.585	3.070	6197	27190	5730	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

202	Ft. 19	-37492	4480	2049	617.4
	σ <sub>s,c</sub> 19	-37492	4480	2049	-1085.6
	σ <sub>cls,Max</sub> 19	-37492	4480	2049	-97.7
	σ <sub>cls,Med</sub> 19	-37492	4480	2049	-38.1
302	Ft. 19	-36523	-4384	-2024	610.9
	σ <sub>s,c</sub> 19	-36523	-4384	-2024	-1064.1
	σ <sub>cls,Max</sub> 19	-36523	-4384	-2024	-95.9
	σ <sub>cls,Med</sub> 19	-36523	-4384	-2024	-37.3

Combinazioni Frequenti

202	Ft. 21	-34275	4161	1867	578.9
	σ <sub>s,c</sub> 21	-34275	4161	1867	-1000.3
	σ <sub>cls,Max</sub> 21	-34275	4161	1867	-90.2
	σ <sub>cls,Med</sub> 21	-34275	4161	1867	-35.3
302	Ft. 21	-33306	-4111	-1851	584.8
	σ <sub>s,c</sub> 21	-33306	-4111	-1851	-986.1
	σ <sub>cls,Max</sub> 21	-33306	-4111	-1851	-89.2
	σ <sub>cls,Med</sub> 21	-33306	-4111	-1851	-34.8

Combinazioni Quasi Permanenti

202	Ft. 23	-33292	4029	1798	556.8
	σ <sub>s,c</sub> 23	-33292	4029	1798	-967.9
	σ <sub>cls,Max</sub> 23	-33292	4029	1798	-87.3
	σ <sub>cls,Med</sub> 23	-33292	4029	1798	-34.1
302	Ft. 23	-32323	-3986	-1783	564.6
	σ <sub>s,c</sub> 23	-32323	-3986	-1783	-954.7



COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Max</sub> 23	-32323	-3986	-1783	-86.3
	σ <sub>cls,Med</sub> 23	-32323	-3986	-1783	-33.7

Pilastro: 302/402 / L 2.910[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 8 ø 24 Af=36.19 [cm²] < 1φ24 x 4 V + 2φ24 x 2 B + 0φ12 x 2 H >

Staffe: ø 8 4br.x2br./15.0' x 48.5/ø 8 4br.x2br./20.0' x 194.0/ø 8 4br.x2br./15.0' x 48.5

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
302	1	-21885	6819	3313	1.00	1.00	0.44
402	15	-14479	-9093	1659	1.00	1.00	0.53

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.645	9044	18127	8414	12604	ø 8 4br.x2br./15.0'
0.645	2.585	9044	13595	8414	9453	ø 8 4br.x2br./20.0'
2.585	3.070	9044	18127	8414	12604	ø 8 4br.x2br./15.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

302	Ft. 19	-16338	5106	2474	1365.1
	σ <sub>s,c</sub> 19	-16338	5106	2474	-1093.3
	σ <sub>cls,Max</sub> 19	-16338	5106	2474	-109.4
	σ <sub>cls,Med</sub> 19	-16338	5106	2474	-39.8
402	Ft. 19	-15369	-5887	-2988	1694.9
	σ <sub>s,c</sub> 19	-15369	-5887	-2988	-1256.8
	σ <sub>cls,Max</sub> 19	-15369	-5887	-2988	-127.5
	σ <sub>cls,Med</sub> 19	-15369	-5887	-2988	-45.6

Combinazioni Frequenti

302	Ft. 21	-14334	4610	2211	1239.4
	σ <sub>s,c</sub> 21	-14334	4610	2211	-980.7
	σ <sub>cls,Max</sub> 21	-14334	4610	2211	-98.4
	σ <sub>cls,Med</sub> 21	-14334	4610	2211	-35.8
402	Ft. 21	-13365	-5122	-2622	1479.0
	σ <sub>s,c</sub> 21	-13365	-5122	-2622	-1096.7
	σ <sub>cls,Max</sub> 21	-13365	-5122	-2622	-111.2
	σ <sub>cls,Med</sub> 21	-13365	-5122	-2622	-39.7

Combinazioni Quasi Permanenti

302	Ft. 23	-13846	4447	2124	1193.5
	σ <sub>s,c</sub> 23	-13846	4447	2124	-944.8
	σ <sub>cls,Max</sub> 23	-13846	4447	2124	-94.8
	σ <sub>cls,Med</sub> 23	-13846	4447	2124	-34.5
402	Ft. 23	-12877	-4915	-2515	1417.8
	σ <sub>s,c</sub> 23	-12877	-4915	-2515	-1052.7
	σ <sub>cls,Max</sub> 23	-12877	-4915	-2515	-106.7
	σ <sub>cls,Med</sub> 23	-12877	-4915	-2515	-38.1

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Pilastro: 103/3 / L 3.540[m] / Sezione 33 B 30 [cm]H 30 [cm]  
Af: 8 ø 18 Af=20.36 [cm²] < 1φ18 x 4 V + 1φ18 x 2 B + 1φ18 x 2 H >  
Staffe: ø 8/12.5' x 50.0/ø 8/20.0' x 254.0/ø 8/12.5' x 50.0  
Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	Q <sub>12</sub>	Q <sub>13</sub>	Sd/Sr
103	1	-77721	128	146	1.00	1.00	0.36
3	1	-78877	-921	1	1.00	1.00	0.40

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.660	3278	10451	5282	10451	ø 8/12.5'
0.660	3.200	3278	6532	5282	6532	ø 8/20.0'
3.200	3.700	3278	10451	5282	10451	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

103	Ft. 20	-56791	89	105	-675.6
	σ <sub>s,c</sub> 19	-58521	94	110	-760.9
	σ <sub>cls,Max</sub> 19	-58521	94	110	-52.1
	σ <sub>cls,Med</sub> 19	-58521	94	110	-48.6
3	Ft. 20	-57680	-674	1	-609.9
	σ <sub>s,c</sub> 19	-59409	-694	0	-850.2
	σ <sub>cls,Max</sub> 19	-59409	-694	0	-61.2
	σ <sub>cls,Med</sub> 19	-59409	-694	0	-49.3

Combinazioni Frequenti

103	Ft. 22	-52821	76	101	-629.1
	σ <sub>s,c</sub> 21	-54125	80	104	-702.9
	σ <sub>cls,Max</sub> 21	-54125	80	104	-48.1
	σ <sub>cls,Med</sub> 21	-54125	80	104	-44.9
3	Ft. 22	-53710	-627	-1	-568.1
	σ <sub>s,c</sub> 21	-55014	-642	-1	-787.4
	σ <sub>cls,Max</sub> 21	-55014	-642	-1	-56.7
	σ <sub>cls,Med</sub> 21	-55014	-642	-1	-45.6

Combinazioni Quasi Permanenti

103	Ft. 23	-52594	75	101	-626.4
	σ <sub>s,c</sub> 23	-52594	75	101	-682.7
	σ <sub>cls,Max</sub> 23	-52594	75	101	-46.7
	σ <sub>cls,Med</sub> 23	-52594	75	101	-43.6
3	Ft. 23	-53483	-625	-1	-565.6
	σ <sub>s,c</sub> 23	-53483	-625	-1	-765.5
	σ <sub>cls,Max</sub> 23	-53483	-625	-1	-55.1
	σ <sub>cls,Med</sub> 23	-53483	-625	-1	-44.4

Pilastro: 103/203 / L 3.050[m] / Sezione 3 B 30 [cm]H 30 [cm]  
Af: 4 ø 18 Af=10.18 [cm²] < 1φ18 x 4 V + 0φ18 x 2 B + 0φ18 x 2 H >  
Staffe: ø 8/12.5' x 50.8/ø 8/20.0' x 203.3/ø 8/12.5' x 50.8  
Verifiche a Presso-Flessione S.L.U.

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
103	1	-57948	608	180	1.00	1.00	0.35
203	14	-37686	-514	-2094	1.00	1.00	0.33

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.668	269	10876	3893	10876	ø 8/12.5'
0.668	2.702	269	6798	3893	6798	ø 8/20.0'
2.702	3.210	269	10876	3893	10876	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

103	Ft. 20	-42464	447	137	-497.3
	σ <sub>s,c</sub> 19	-43610	460	139	-731.9
	σ <sub>cls,Max</sub> 19	-43610	460	139	-52.2
	σ <sub>cls,Med</sub> 19	-43610	460	139	-41.4
203	Ft. 20	-41706	-223	-137	-527.8
	σ <sub>s,c</sub> 19	-42852	-227	-139	-678.1
	σ <sub>cls,Max</sub> 19	-42852	-227	-139	-47.3
	σ <sub>cls,Med</sub> 19	-42852	-227	-139	-40.7

Combinazioni Frequenti

103	Ft. 22	-39275	422	141	-455.7
	σ <sub>s,c</sub> 21	-40190	431	141	-678.4
	σ <sub>cls,Max</sub> 21	-40190	431	141	-48.4
	σ <sub>cls,Med</sub> 21	-40190	431	141	-38.2
203	Ft. 22	-38517	-212	-140	-483.8
	σ <sub>s,c</sub> 21	-39432	-215	-141	-627.6
	σ <sub>cls,Max</sub> 21	-39432	-215	-141	-43.8
	σ <sub>cls,Med</sub> 21	-39432	-215	-141	-37.5

Combinazioni Quasi Permanenti

103	Ft. 23	-39049	421	141	-452.6
	σ <sub>s,c</sub> 23	-39049	421	141	-660.3
	σ <sub>cls,Max</sub> 23	-39049	421	141	-47.2
	σ <sub>cls,Med</sub> 23	-39049	421	141	-37.1
203	Ft. 23	-38291	-211	-141	-480.6
	σ <sub>s,c</sub> 23	-38291	-211	-141	-610.7
	σ <sub>cls,Max</sub> 23	-38291	-211	-141	-42.7
	σ <sub>cls,Med</sub> 23	-38291	-211	-141	-36.4

Pilastro: 203/303 / L 2.910[m] / Sezione 3 B 30 [cm]H 30 [cm]

Af: 4 ø 18 Af=10.18 [cm²] < 1ø18 x 4 V + 0ø18 x 2 B + 0ø18 x 2 H >

Staffe: ø 8/12.5' x 48.5/ø 8/20.0' x 194.0/ø 8/12.5' x 48.5

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
203	14	-24517	-439	2807	1.00	1.00	0.34
303	14	-23790	163	-2789	1.00	1.00	0.32

Verifiche a Taglio

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.645	314	10876	4065	10876	ø 8/12.5'
0.645	2.585	314	6798	4065	6798	ø 8/20.0'
2.585	3.070	314	10876	4065	10876	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

203	Ft. 20	-27539	95	126	-351.7
	σ <sub>s,c</sub> 19	-28106	98	125	-441.6
	σ <sub>cls,Max</sub> 19	-28106	98	125	-30.7
	σ <sub>cls,Med</sub> 19	-28106	98	125	-26.7
303	Ft. 20	-26812	-114	-128	-337.4
	σ <sub>s,c</sub> 19	-27380	-118	-128	-435.7
	σ <sub>cls,Max</sub> 19	-27380	-118	-128	-30.4
	σ <sub>cls,Med</sub> 19	-27380	-118	-128	-26.0

Combinazioni Frequenti

203	Ft. 22	-25116	92	134	-316.1
	σ <sub>s,c</sub> 21	-25646	94	133	-407.3
	σ <sub>cls,Max</sub> 21	-25646	94	133	-28.4
	σ <sub>cls,Med</sub> 21	-25646	94	133	-24.4
303	Ft. 22	-24389	-119	-137	-300.2
	σ <sub>s,c</sub> 21	-24919	-121	-137	-402.7
	σ <sub>cls,Max</sub> 21	-24919	-121	-137	-28.3
	σ <sub>cls,Med</sub> 21	-24919	-121	-137	-23.7

Combinazioni Quasi Permanenti

203	Ft. 23	-24889	93	135	-312.7
	σ <sub>s,c</sub> 23	-24889	93	135	-396.6
	σ <sub>cls,Max</sub> 23	-24889	93	135	-27.7
	σ <sub>cls,Med</sub> 23	-24889	93	135	-23.6
303	Ft. 23	-24162	-121	-139	-296.4
	σ <sub>s,c</sub> 23	-24162	-121	-139	-392.2
	σ <sub>cls,Max</sub> 23	-24162	-121	-139	-27.6
	σ <sub>cls,Med</sub> 23	-24162	-121	-139	-23.0

Pilastro: 303/403 / L 2.910[m] / Sezione 3 B 30 [cm]H 30 [cm]

Af: 4 ø 18 Af=10.18 [cm²] < 1ø18 x 4 V + 0ø18 x 2 B + 0ø18 x 2 H >

Staffe: ø 8/12.5' x 48.5/ø 8/20.0' x 194.0/ø 8/12.5' x 48.5

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
303	14	-10724	295	2483	1.00	1.00	0.32
403	14	-9998	129	-2702	1.00	1.00	0.37

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.645	235	10876	3934	10876	ø 8/12.5'
0.645	2.585	235	6798	3934	6798	ø 8/20.0'

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
2.585	3.070	235	10876	3934	10876	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

303	Ft. 19	-12722	217	153	-112.9
	σ <sub>s,c</sub> 19	-12722	217	153	-249.7
	σ <sub>cls,Max</sub> 19	-12722	217	153	-18.7
	σ <sub>cls,Med</sub> 20	-12729	213	155	-12.1
403	Ft. 20	-12003	-257	-186	-89.2
	σ <sub>s,c</sub> 20	-12003	-257	-186	-252.8
	σ <sub>cls,Max</sub> 20	-12003	-257	-186	-19.3
	σ <sub>cls,Med</sub> 20	-12003	-257	-186	-11.4

Combinazioni Frequenti

303	Ft. 22	-11066	199	155	-92.2
	σ <sub>s,c</sub> 21	-11213	203	154	-225.7
	σ <sub>cls,Max</sub> 21	-11213	203	154	-17.1
	σ <sub>cls,Med</sub> 21	-11213	203	154	-10.7
403	Ft. 22	-10339	-222	-177	-73.8
	σ <sub>s,c</sub> 21	-10486	-226	-174	-223.3
	σ <sub>cls,Max</sub> 21	-10486	-226	-174	-17.1
	σ <sub>cls,Med</sub> 21	-10486	-226	-174	-10.0

Combinazioni Quasi Permanenti

303	Ft. 23	-10838	198	155	-89.2
	σ <sub>s,c</sub> 23	-10838	198	155	-219.6
	σ <sub>cls,Max</sub> 23	-10838	198	155	-16.6
	σ <sub>cls,Med</sub> 23	-10838	198	155	-10.3
403	Ft. 23	-10111	-217	-174	-71.8
	σ <sub>s,c</sub> 23	-10111	-217	-174	-216.3
	σ <sub>cls,Max</sub> 23	-10111	-217	-174	-16.6
	σ <sub>cls,Med</sub> 23	-10111	-217	-174	-9.6

Pilastro: 104/4 / L 3.540[m] / Sezione 33 B 30 [cm]H 30 [cm]

Af: 8 ø 18 Af=20.36 [cm²] < 1φ18 x 4 V + 1φ18 x 2 B + 1φ18 x 2 H >

Staffe: ø 8/12.5' x 50.0/ø 8/20.0' x 254.0/ø 8/12.5' x 50.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
104	1	-70962	-68	-5	1.00	1.00	0.32
4	1	-72118	-684	6	1.00	1.00	0.36

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.660	310	10451	4622	10451	ø 8/12.5'
0.660	3.200	310	6532	4622	6532	ø 8/20.0'
3.200	3.700	310	10451	4622	10451	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
Combinazioni Rare					
104	Ft. 20	-51915	-58	-7	-635.7
	σ <sub>s,c</sub> 19	-53456	-55	-5	-674.8
	σ <sub>cls,Max</sub> 19	-53456	-55	-5	-45.4
	σ <sub>cls,Med</sub> 19	-53456	-55	-5	-44.3
4	Ft. 20	-52804	-500	8	-576.0
	σ <sub>s,c</sub> 19	-54345	-515	6	-759.5
	σ <sub>cls,Max</sub> 19	-54345	-515	6	-54.0
	σ <sub>cls,Med</sub> 19	-54345	-515	6	-45.1
Combinazioni Frequenti					
104	Ft. 22	-48363	-66	-11	-589.6
	σ <sub>s,c</sub> 21	-49526	-63	-9	-627.9
	σ <sub>cls,Max</sub> 21	-49526	-63	-9	-42.3
	σ <sub>cls,Med</sub> 21	-49526	-63	-9	-41.1
4	Ft. 22	-49251	-465	11	-536.7
	σ <sub>s,c</sub> 21	-50415	-477	10	-705.1
	σ <sub>cls,Max</sub> 21	-50415	-477	10	-50.2
	σ <sub>cls,Med</sub> 21	-50415	-477	10	-41.8
Combinazioni Quasi Permanenti					
104	Ft. 23	-48158	-66	-11	-587.0
	σ <sub>s,c</sub> 23	-48158	-66	-11	-611.6
	σ <sub>cls,Max</sub> 23	-48158	-66	-11	-41.3
	σ <sub>cls,Med</sub> 23	-48158	-66	-11	-40.0
4	Ft. 23	-49047	-463	12	-534.5
	σ <sub>s,c</sub> 23	-49047	-463	12	-686.2
	σ <sub>cls,Max</sub> 23	-49047	-463	12	-48.8
	σ <sub>cls,Med</sub> 23	-49047	-463	12	-40.7

Pilastro: 104/204 / L 3.050[m] / Sezione 3 B 30 [cm]H 30 [cm]  
Af: 4 ø 18 Af=10.18 [cm²] < 1ø18 x 4 V + 0ø18 x 2 B + 0ø18 x 2 H >  
Staffe: ø 8/12.5' x 50.8/ø 8/20.0' x 203.3/ø 8/12.5' x 50.8  
Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N [kg]	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
104	15	-37256	903	-2105	1.00	1.00	0.35
204	15	-36498	-239	1990	1.00	1.00	0.31

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.668	355	10876	3282	10876	ø 8/12.5'
0.668	2.702	355	6798	3282	6798	ø 8/20.0'
2.702	3.210	355	10876	3282	10876	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Combinazioni Rare					
104	Ft. 20	-39158	559	-93	-437.5
	$\sigma_{s,c19}$	-40182	570	-99	-696.2
	$\sigma_{cls,Max19}$	-40182	570	-99	-50.2
	$\sigma_{cls,Med19}$	-40182	570	-99	-38.2
204	Ft. 20	-38400	-335	72	-472.0
	$\sigma_{s,c19}$	-39424	-339	77	-638.7
	$\sigma_{cls,Max19}$	-39424	-339	77	-44.9
	$\sigma_{cls,Med19}$	-39424	-339	77	-37.5
Combinazioni Frequenti					
104	Ft. 22	-36282	537	-84	-402.2
	$\sigma_{s,c21}$	-37101	545	-88	-645.6
	$\sigma_{cls,Max21}$	-37101	545	-88	-46.6
	$\sigma_{cls,Med21}$	-37101	545	-88	-35.2
204	Ft. 22	-35523	-325	65	-434.2
	$\sigma_{s,c21}$	-36343	-328	69	-591.1
	$\sigma_{cls,Max21}$	-36343	-328	69	-41.6
	$\sigma_{cls,Med21}$	-36343	-328	69	-34.5
Combinazioni Quasi Permanenti					
104	Ft. 23	-36075	536	-84	-399.5
	$\sigma_{s,c23}$	-36075	536	-84	-628.6
	$\sigma_{cls,Max23}$	-36075	536	-84	-45.4
	$\sigma_{cls,Med23}$	-36075	536	-84	-34.3
204	Ft. 23	-35317	-324	65	-431.4
	$\sigma_{s,c23}$	-35317	-324	65	-575.1
	$\sigma_{cls,Max23}$	-35317	-324	65	-40.5
	$\sigma_{cls,Med23}$	-35317	-324	65	-33.5

Pilastro: 204/304 / L 2.910[m] / Sezione 3 B 30 [cm]H 30 [cm]  
 Af: 4  $\phi$  18 Af=10.18 [cm<sup>2</sup>] < 1  $\phi$  18 x 4 V + 0  $\phi$  18 x 2 B + 0  $\phi$  18 x 2 H >  
 Staffe:  $\phi$  8/12.5' x 48.5/ $\phi$  8/20.0' x 194.0/ $\phi$  8/12.5' x 48.5  
 Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
204	15	-23925	729	-2700	1.00	1.00	0.34
304	15	-23198	-602	2667	1.00	1.00	0.33

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.645	409	10876	4059	10876	$\phi$ 8/12.5'
0.645	2.585	409	6798	4059	6798	$\phi$ 8/20.0'
2.585	3.070	409	10876	4059	10876	$\phi$ 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare					
204	Ft. 20	-25525	231	-65	-309.1
	$\sigma_{s,c19}$	-26030	235	-72	-427.4

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Max</sub> 19	-26030	235	-72	-30.2
	σ <sub>cls,Med</sub> 19	-26030	235	-72	-24.7
304	Ft. 20	-24798	-289	55	-289.9
	σ <sub>s,c</sub> 19	-25303	-292	62	-425.8
	σ <sub>cls,Max</sub> 19	-25303	-292	62	-30.4
	σ <sub>cls,Med</sub> 19	-25303	-292	62	-24.0

Combinazioni Frequenti

204	Ft. 22	-23325	225	-56	-280.5
	σ <sub>s,c</sub> 21	-23800	227	-61	-392.3
	σ <sub>cls,Max</sub> 21	-23800	227	-61	-27.8
	σ <sub>cls,Med</sub> 21	-23800	227	-61	-22.6
304	Ft. 22	-22598	-285	47	-260.7
	σ <sub>s,c</sub> 21	-23074	-287	52	-391.3
	σ <sub>cls,Max</sub> 21	-23074	-287	52	-28.0
	σ <sub>cls,Med</sub> 21	-23074	-287	52	-21.9

Combinazioni Quasi Permanenti

204	Ft. 23	-23116	225	-56	-277.5
	σ <sub>s,c</sub> 23	-23116	225	-56	-381.2
	σ <sub>cls,Max</sub> 23	-23116	225	-56	-27.0
	σ <sub>cls,Med</sub> 23	-23116	225	-56	-22.0
304	Ft. 23	-22390	-285	48	-257.7
	σ <sub>s,c</sub> 23	-22390	-285	48	-380.3
	σ <sub>cls,Max</sub> 23	-22390	-285	48	-27.2
	σ <sub>cls,Med</sub> 23	-22390	-285	48	-21.3

Pilastro: 304/404 / L 2.910[m] / Sezione 3 B 30 [cm]H 30 [cm]  
 Af: 4 ø 18 Af=10.18 [cm²] < 1φ18 x 4 V + 0φ18 x 2 B + 0φ18 x 2 H >  
 Staffe: ø 8/12.5' x 48.5/ø 8/20.0' x 194.0/ø 8/12.5' x 48.5  
 Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
304	15	-10527	472	-2330	1.00	1.00	0.31
404	15	-9800	-727	2516	1.00	1.00	0.36

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.645	367	10876	3919	10876	ø 8/12.5'
0.645	2.585	367	6798	3919	6798	ø 8/20.0'
2.585	3.070	367	10876	3919	10876	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

304	Ft. 19	-11870	328	-47	-99.8
	σ <sub>s,c</sub> 19	-11870	328	-47	-238.4
	σ <sub>cls,Max</sub> 19	-11870	328	-47	-18.0
	σ <sub>cls,Med</sub> 20	-11883	323	-44	-11.3



COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
404	Ft. 19	-11143	-275	38	-101.2
	σ <sub>s,c</sub> 19	-11143	-275	38	-216.4
	σ <sub>cls,Max</sub> 19	-11143	-275	38	-16.2
	σ <sub>cls,Med</sub> 20	-11156	-267	35	-10.6
Combinazioni Frequenti					
304	Ft. 22	-10359	308	-35	-84.3
	σ <sub>s,c</sub> 21	-10491	313	-38	-214.1
	σ <sub>cls,Max</sub> 21	-10491	313	-38	-16.2
	σ <sub>cls,Med</sub> 21	-10491	313	-38	-10.0
404	Ft. 22	-9633	-245	24	-87.6
	σ <sub>s,c</sub> 21	-9764	-251	26	-190.4
	σ <sub>cls,Max</sub> 21	-9764	-251	26	-14.2
	σ <sub>cls,Med</sub> 21	-9764	-251	26	-9.3
Combinazioni Quasi Permanenti					
304	Ft. 23	-10149	307	-34	-81.6
	σ <sub>s,c</sub> 23	-10149	307	-34	-207.7
	σ <sub>cls,Max</sub> 23	-10149	307	-34	-15.8
	σ <sub>cls,Med</sub> 23	-10149	307	-34	-9.6
404	Ft. 23	-9422	-244	23	-85.1
	σ <sub>s,c</sub> 23	-9422	-244	23	-183.4
	σ <sub>cls,Max</sub> 23	-9422	-244	23	-13.7
	σ <sub>cls,Med</sub> 23	-9422	-244	23	-9.0

Pilastro: 105/5 / L 3.540[m] / Sezione 41 B 40 [cm]H 30 [cm]

Af: 10 ø 18 Af=25.45 [cm²] < 1ø18 x 4 V + 2ø18 x 2 B + 1ø18 x 2 H >

Staffe: ø 8 4br.x2br./12.5' x 49.0/ø 8 4br.x2br./20.0' x 256.0/ø 8 4br.x2br./12.5' x 49.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
105	1	-93523	-845	521	1.00	1.00	0.35
5	7	-65419	-272	-4773	1.00	1.00	0.36

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.650	5464	20903	7440	14700	ø 8 4br.x2br./12.5'
0.650	3.210	5464	13064	7440	9187	ø 8 4br.x2br./20.0'
3.210	3.700	5464	20903	7440	14700	ø 8 4br.x2br./12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

105	Ft. 20	-68701	-649	371	-535.9
	σ <sub>s,c</sub> 19	-70568	-650	390	-786.9
	σ <sub>cls,Max</sub> 19	-70568	-650	390	-56.7
	σ <sub>cls,Med</sub> 19	-70568	-650	390	-44.6
5	Ft. 20	-69886	-494	-245	-578.7
	σ <sub>s,c</sub> 19	-71753	-513	-258	-768.3

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Max</sub> 19	-71753	-513	-258	-54.4
	σ <sub>cls,Med</sub> 19	-71753	-513	-258	-45.4
Combinazioni Frequenti					
105	Ft. 22	-64382	-651	341	-497.8
	σ <sub>s,c</sub> 21	-65793	-651	354	-738.1
	σ <sub>cls,Max</sub> 21	-65793	-651	354	-53.4
	σ <sub>cls,Med</sub> 21	-65793	-651	354	-41.6
5	Ft. 22	-65567	-446	-222	-545.8
	σ <sub>s,c</sub> 21	-66978	-461	-231	-714.0
	σ <sub>cls,Max</sub> 21	-66978	-461	-231	-50.5
	σ <sub>cls,Med</sub> 21	-66978	-461	-231	-42.3
Combinazioni Quasi Permanenti					
105	Ft. 23	-64133	-651	340	-495.5
	σ <sub>s,c</sub> 23	-64133	-651	340	-720.9
	σ <sub>cls,Max</sub> 23	-64133	-651	340	-52.2
	σ <sub>cls,Med</sub> 23	-64133	-651	340	-40.5
5	Ft. 23	-65318	-443	-221	-543.8
	σ <sub>s,c</sub> 23	-65318	-443	-221	-695.1
	σ <sub>cls,Max</sub> 23	-65318	-443	-221	-49.1
	σ <sub>cls,Med</sub> 23	-65318	-443	-221	-41.3

Pilastro: 105/205 / L 3.050[m] / Sezione 11 B 40 [cm] H 30 [cm]

Af: 8 ø 18 Af=20.36 [cm²] < 1φ18 x 4 V + 2φ18 x 2 B + 0φ12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 50.8/ø 8 4br.x2br./15.0' x 203.3/ø 8 4br.x2br./10.0' x 50.8

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
105	1	-69370	2464	447	1.00	1.00	0.35
205	1	-68056	-2116	-462	1.00	1.00	0.33

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.668	2666	27190	3762	18906	ø 8 4br.x2br./10.0'
0.668	2.702	2666	18127	3762	12604	ø 8 4br.x2br./15.0'
2.702	3.210	2666	27190	3762	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

105	Ft. 20	-51070	1851	330	-237.3
	σ <sub>s,c</sub> 19	-52313	1878	340	-797.3
	σ <sub>cls,Max</sub> 19	-52313	1878	340	-61.2
	σ <sub>cls,Med</sub> 19	-52313	1878	340	-34.8
205	Ft. 20	-50059	-1590	-338	-259.2
	σ <sub>s,c</sub> 19	-51302	-1613	-349	-754.9
	σ <sub>cls,Max</sub> 19	-51302	-1613	-349	-57.3
	σ <sub>cls,Med</sub> 19	-51302	-1613	-349	-34.1

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Combinazioni Frequenti					
105	Ft. 22	-47602	1799	319	-210.5
	$\sigma_{s,c}21$	-48595	1818	326	-751.2
	$\sigma_{cls,Max}21$	-48595	1818	326	-57.8
	$\sigma_{cls,Med}21$	-48595	1818	326	-32.3
205	Ft. 22	-46591	-1545	-324	-232.0
	$\sigma_{s,c}21$	-47584	-1562	-331	-709.3
	$\sigma_{cls,Max}21$	-47584	-1562	-331	-54.1
	$\sigma_{cls,Med}21$	-47584	-1562	-331	-31.6
Combinazioni Quasi Permanenti					
105	Ft. 23	-47355	1797	320	-208.3
	$\sigma_{s,c}23$	-47355	1797	320	-735.4
	$\sigma_{cls,Max}23$	-47355	1797	320	-56.7
	$\sigma_{cls,Med}23$	-47355	1797	320	-31.5
205	Ft. 23	-46344	-1543	-324	-229.8
	$\sigma_{s,c}23$	-46344	-1543	-324	-693.8
	$\sigma_{cls,Max}23$	-46344	-1543	-324	-52.9
	$\sigma_{cls,Med}23$	-46344	-1543	-324	-30.8

Pilastro: 205/305 / L 2.910[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 8  $\phi$  18 Af=20.36 [cm<sup>2</sup>] < 1 $\phi$ 18 x 4 V + 2 $\phi$ 18 x 2 B + 0 $\phi$ 12 x 2 H >

Staffe:  $\phi$  8 4br.x2br./10.0' x 48.5/ $\phi$  8 4br.x2br./15.0' x 194.0/ $\phi$  8 4br.x2br./10.0' x 48.5

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
205	15	-30221	2080	-3574	1.00	1.00	0.31
305	15	-29252	-2099	3450	1.00	1.00	0.30

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.645	2768	27190	4058	18906	$\phi$ 8 4br.x2br./10.0'
0.645	2.585	2768	18127	4058	12604	$\phi$ 8 4br.x2br./15.0'
2.585	3.070	2768	27190	4058	18906	$\phi$ 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare					
205	Ft. 20	-32675	1534	306	-96.7
	$\sigma_{s,c}19$	-33309	1558	314	-564.7
	$\sigma_{cls,Max}19$	-33309	1558	314	-44.4
	$\sigma_{cls,Med}19$	-33309	1558	314	-22.1
305	Ft. 20	-31706	-1636	-298	-74.9
	$\sigma_{s,c}19$	-32340	-1660	-307	-567.3
	$\sigma_{cls,Max}19$	-32340	-1660	-307	-44.9
	$\sigma_{cls,Med}19$	-32340	-1660	-307	-21.7
Combinazioni Frequenti					
205	Ft. 22	-30046	1487	300	-77.2
	$\sigma_{s,c}21$	-30631	1504	304	-530.1

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Max</sub> 21	-30631	1504	304	-41.8
	σ <sub>cls,Med</sub> 21	-30631	1504	304	-20.4
305	Ft. 22	-29077	-1589	-294	-54.1
	σ <sub>s,c</sub> 21	-29662	-1607	-299	-533.4
	σ <sub>cls,Max</sub> 21	-29662	-1607	-299	-42.5
	σ <sub>cls,Med</sub> 21	-29662	-1607	-299	-20.1
Combinazioni Quasi Permanenti					
205	Ft. 23	-29803	1485	300	-74.9
	σ <sub>s,c</sub> 23	-29803	1485	300	-519.0
	σ <sub>cls,Max</sub> 23	-29803	1485	300	-41.0
	σ <sub>cls,Med</sub> 23	-29803	1485	300	-19.9
305	Ft. 23	-28834	-1587	-295	-51.6
	σ <sub>s,c</sub> 23	-28834	-1587	-295	-522.4
	σ <sub>cls,Max</sub> 23	-28834	-1587	-295	-41.6
	σ <sub>cls,Med</sub> 23	-28834	-1587	-295	-19.6

Pilastro: 305/405 / L 2.910[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 8 ø 18 Af=20.36 [cm²] < 1 ø 18 x 4 V + 2 ø 18 x 2 B + 0 ø 12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 48.5/ø 8 4br.x2br./15.0' x 194.0/ø 8 4br.x2br./10.0' x 48.5

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
305	15	-12422	1985	-2850	1.00	1.00	0.28
405	15	-11453	-1926	3520	1.00	1.00	0.32

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.645	4019	27190	5971	18906	ø 8 4br.x2br./10.0'
0.645	2.585	4019	18127	5971	12604	ø 8 4br.x2br./15.0'
2.585	3.070	4019	27190	5971	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

305	Ft. 19	-14337	1481	330	172.1
	σ <sub>s,c</sub> 19	-14337	1481	330	-395.7
	σ <sub>cls,Max</sub> 19	-14337	1481	330	-34.5
	σ <sub>cls,Med</sub> 19	-14337	1481	330	-15.1
405	Ft. 19	-13368	-1161	-372	102.8
	σ <sub>s,c</sub> 19	-13368	-1161	-372	-340.8
	σ <sub>cls,Max</sub> 19	-13368	-1161	-372	-28.9
	σ <sub>cls,Med</sub> 19	-13368	-1161	-372	-12.3

Combinazioni Frequenti

305	Ft. 21	-12705	1416	311	191.9
	σ <sub>s,c</sub> 21	-12705	1416	311	-371.3
	σ <sub>cls,Max</sub> 21	-12705	1416	311	-32.8
	σ <sub>cls,Med</sub> 21	-12705	1416	311	-14.3

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
405	Ft. 21	-11736	-1088	-343	113.7
	σ <sub>s,c</sub> 21	-11736	-1088	-343	-313.6
	σ <sub>cls,Max</sub> 21	-11736	-1088	-343	-26.9
	σ <sub>cls,Med</sub> 21	-11736	-1088	-343	-11.4
Combinazioni Quasi Permanenti					
305	Ft. 23	-12292	1393	305	194.8
	σ <sub>s,c</sub> 23	-12292	1393	305	-363.8
	σ <sub>cls,Max</sub> 23	-12292	1393	305	-32.3
	σ <sub>cls,Med</sub> 23	-12292	1393	305	-14.1
405	Ft. 23	-11323	-1063	-336	115.0
	σ <sub>s,c</sub> 23	-11323	-1063	-336	-305.8
	σ <sub>cls,Max</sub> 23	-11323	-1063	-336	-26.3
	σ <sub>cls,Med</sub> 23	-11323	-1063	-336	-11.1

Pilastro: 106/6 / L 3.540[m] / Sezione 41 B 40 [cm]H 30 [cm]

Af: 10 ø 18 Af=25.45 [cm²] < 1ø18 x 4 V + 2ø18 x 2 B + 1ø18 x 2 H >

Staffe: ø 8 4br.x2br./12.5' x 50.0/ø 8 4br.x2br./20.0' x 254.0/ø 8 4br.x2br./12.5' x 50.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
106	9	-59417	-498	3594	1.00	1.00	0.31
6	7	-60415	-233	-4915	1.00	1.00	0.35

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.660	704	20903	7359	14700	ø 8 4br.x2br./12.5'
0.660	3.200	704	13064	7359	9187	ø 8 4br.x2br./20.0'
3.200	3.700	704	20903	7359	14700	ø 8 4br.x2br./12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

106	Ft. 20	-63541	-150	148	-569.6
	σ <sub>s,c</sub> 19	-65377	-152	152	-653.7
	σ <sub>cls,Max</sub> 19	-65377	-152	152	-44.7
	σ <sub>cls,Med</sub> 19	-65377	-152	152	-41.3
6	Ft. 20	-64726	-505	-303	-522.4
	σ <sub>s,c</sub> 19	-66562	-515	-314	-725.0
	σ <sub>cls,Max</sub> 19	-66562	-515	-314	-51.7
	σ <sub>cls,Med</sub> 19	-66562	-515	-314	-42.1

Combinazioni Frequenti

106	Ft. 22	-59245	-154	118	-531.4
	σ <sub>s,c</sub> 21	-60637	-154	123	-606.1
	σ <sub>cls,Max</sub> 21	-60637	-154	123	-41.5
	σ <sub>cls,Med</sub> 21	-60637	-154	123	-38.3
6	Ft. 22	-60430	-470	-262	-490.0
	σ <sub>s,c</sub> 21	-61822	-479	-272	-671.4

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Max</sub> 21	-61822	-479	-272	-47.8
	σ <sub>cls,Med</sub> 21	-61822	-479	-272	-39.1
Combinazioni Quasi Permanenti					
106	Ft. 23	-58994	-155	114	-529.3
	σ <sub>s,c</sub> 23	-58994	-155	114	-589.7
	σ <sub>cls,Max</sub> 23	-58994	-155	114	-40.4
	σ <sub>cls,Med</sub> 23	-58994	-155	114	-37.3
6	Ft. 23	-60179	-467	-258	-488.4
	σ <sub>s,c</sub> 23	-60179	-467	-258	-653.0
	σ <sub>cls,Max</sub> 23	-60179	-467	-258	-46.5
	σ <sub>cls,Med</sub> 23	-60179	-467	-258	-38.0

Pilastro: 106/206 / L 3.050[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 8 ø 18 Af=20.36 [cm²] < 1φ18 x 4 V + 2φ18 x 2 B + 0φ12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 50.8/ø 8 4br.x2br./15.0' x 203.3/ø 8 4br.x2br./10.0' x 50.8

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
106	15	-44622	1153	-3149	1.00	1.00	0.28
206	1	-63984	-874	266	1.00	1.00	0.27

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.668	1659	27190	3626	18906	ø 8 4br.x2br./10.0'
0.668	2.702	1659	18127	3626	12604	ø 8 4br.x2br./15.0'
2.702	3.210	1659	27190	3626	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

106	Ft. 20	-47955	803	-224	-350.8
	σ <sub>s,c</sub> 19	-49183	818	-238	-620.7
	σ <sub>cls,Max</sub> 19	-49183	818	-238	-45.1
	σ <sub>cls,Med</sub> 19	-49183	818	-238	-32.7
206	Ft. 20	-46944	-655	193	-362.9
	σ <sub>s,c</sub> 19	-48172	-664	201	-587.0
	σ <sub>cls,Max</sub> 19	-48172	-664	201	-42.2
	σ <sub>cls,Med</sub> 19	-48172	-664	201	-32.0

Combinazioni Frequenti

106	Ft. 22	-44484	771	-212	-321.5
	σ <sub>s,c</sub> 21	-45470	782	-221	-577.2
	σ <sub>cls,Max</sub> 21	-45470	782	-221	-42.0
	σ <sub>cls,Med</sub> 21	-45470	782	-221	-30.2
206	Ft. 22	-43473	-628	185	-332.8
	σ <sub>s,c</sub> 21	-44459	-635	190	-545.0
	σ <sub>cls,Max</sub> 21	-44459	-635	190	-39.2
	σ <sub>cls,Med</sub> 21	-44459	-635	190	-29.5

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Combinazioni Quasi Permanenti					
106	Ft. 23	-44234	770	-213	-319.1
	$\sigma_{s,c}23$	-44234	770	-213	-562.4
	$\sigma_{cls,Max}23$	-44234	770	-213	-41.0
	$\sigma_{cls,Med}23$	-44234	770	-213	-29.4
206	Ft. 23	-43223	-626	185	-330.5
	$\sigma_{s,c}23$	-43223	-626	185	-530.9
	$\sigma_{cls,Max}23$	-43223	-626	185	-38.2
	$\sigma_{cls,Med}23$	-43223	-626	185	-28.7

Pilastro: 206/306 / L 2.910[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 8  $\phi$  18 Af=20.36 [cm<sup>2</sup>] < 1 $\phi$ 18 x 4 V + 2 $\phi$ 18 x 2 B + 0 $\phi$ 12 x 2 H >

Staffe:  $\phi$  8 4br.x2br./10.0' x 48.5/ $\phi$  8 4br.x2br./15.0' x 194.0/ $\phi$  8 4br.x2br./10.0' x 48.5

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
206	15	-28741	900	-4187	1.00	1.00	0.29
306	15	-27772	-854	4036	1.00	1.00	0.28

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.645	1755	27190	3920	18906	$\phi$ 8 4br.x2br./10.0'
0.645	2.585	1755	18127	3920	12604	$\phi$ 8 4br.x2br./15.0'
2.585	3.070	1755	27190	3920	18906	$\phi$ 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare

206	Ft. 20	-31379	557	-187	-220.9
	$\sigma_{s,c}19$	-31984	566	-199	-413.1
	$\sigma_{cls,Max}19$	-31984	566	-199	-30.2
	$\sigma_{cls,Med}19$	-31984	566	-199	-21.2
306	Ft. 20	-30410	-550	156	-215.7
	$\sigma_{s,c}19$	-31015	-561	172	-399.6
	$\sigma_{cls,Max}19$	-31015	-561	172	-29.2
	$\sigma_{cls,Med}19$	-31015	-561	172	-20.6

Combinazioni Frequenti

206	Ft. 22	-28719	531	-178	-198.7
	$\sigma_{s,c}21$	-29291	538	-185	-381.1
	$\sigma_{cls,Max}21$	-29291	538	-185	-27.9
	$\sigma_{cls,Med}21$	-29291	538	-185	-19.5
306	Ft. 22	-27750	-528	153	-192.3
	$\sigma_{s,c}21$	-28322	-536	162	-368.5
	$\sigma_{cls,Max}21$	-28322	-536	162	-27.0
	$\sigma_{cls,Med}21$	-28322	-536	162	-18.8

Combinazioni Quasi Permanenti

206	Ft. 23	-28466	529	-179	-196.3
	$\sigma_{s,c}23$	-28466	529	-179	-371.0

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Max</sub> 23	-28466	529	-179	-27.2
	σ <sub>cls,Med</sub> 23	-28466	529	-179	-18.9
306	Ft. 23	-27497	-527	156	-189.6
	σ <sub>s,c</sub> 23	-27497	-527	156	-358.4
	σ <sub>cls,Max</sub> 23	-27497	-527	156	-26.3
	σ <sub>cls,Med</sub> 23	-27497	-527	156	-18.3

Pilastro: 306/406 / L 2.910[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 8 ø 18 Af=20.36 [cm²] < 1φ18 x 4 V + 2φ18 x 2 B + 0φ12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 48.5/ø 8 4br.x2br./15.0' x 194.0/ø 8 4br.x2br./10.0' x 48.5

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
306	15	-12761	1090	-3509	1.00	1.00	0.26
406	15	-11792	-1474	4286	1.00	1.00	0.34

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.645	2557	27190	5780	18906	ø 8 4br.x2br./10.0'
0.645	2.585	2557	18127	5780	12604	ø 8 4br.x2br./15.0'
2.585	3.070	2557	27190	5780	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

306	Ft. 19	-14666	750	-205	-27.5
	σ <sub>s,c</sub> 19	-14666	750	-205	-264.6
	σ <sub>cls,Max</sub> 19	-14666	750	-205	-21.0
	σ <sub>cls,Med</sub> 19	-14666	750	-205	-9.9
406	Ft. 19	-13697	-922	257	19.9
	σ <sub>s,c</sub> 19	-13697	-922	257	-287.5
	σ <sub>cls,Max</sub> 19	-13697	-922	257	-23.5
	σ <sub>cls,Med</sub> 19	-13697	-922	257	-10.4

Combinazioni Frequenti

306	Ft. 21	-13012	711	-193	-16.5
	σ <sub>s,c</sub> 21	-13012	711	-193	-242.2
	σ <sub>cls,Max</sub> 21	-13012	711	-193	-19.4
	σ <sub>cls,Med</sub> 21	-13012	711	-193	-8.9
406	Ft. 21	-12043	-871	235	31.5
	σ <sub>s,c</sub> 21	-12043	-871	235	-263.5
	σ <sub>cls,Max</sub> 21	-12043	-871	235	-21.7
	σ <sub>cls,Med</sub> 21	-12043	-871	235	-9.6

Combinazioni Quasi Permanenti

306	Ft. 23	-12599	697	-187	-14.7
	σ <sub>s,c</sub> 23	-12599	697	-187	-235.8
	σ <sub>cls,Max</sub> 23	-12599	697	-187	-18.9
	σ <sub>cls,Med</sub> 23	-12599	697	-187	-8.7



COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
406	Ft. 23	-11630	-854	228	33.4
	σ <sub>s,c</sub> 23	-11630	-854	228	-256.6
	σ <sub>cls,Max</sub> 23	-11630	-854	228	-21.2
	σ <sub>cls,Med</sub> 23	-11630	-854	228	-9.4

Pilastro: 107/7 / L 3.540[m] / Sezione 41 B 40 [cm]H 30 [cm]

Af: 10 ø 18 Af=25.45 [cm²] < 1φ18 x 4 V + 2φ18 x 2 B + 1φ18 x 2 H >

Staffe: ø 8 4br.x2br./12.5' x 50.0/ø 8 4br.x2br./20.0' x 254.0/ø 8 4br.x2br./12.5' x 50.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
107	3	-56615	604	-3507	1.00	1.00	0.30
7	4	-57933	-1271	4583	1.00	1.00	0.36

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.660	569	20903	7398	14700	ø 8 4br.x2br./12.5'
0.660	3.200	569	13064	7398	9187	ø 8 4br.x2br./20.0'
3.200	3.700	569	20903	7398	14700	ø 8 4br.x2br./12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

107	Ft. 20	-61282	147	-65	-557.0
	σ <sub>s,c</sub> 19	-62783	143	-75	-620.2
	σ <sub>cls,Max</sub> 19	-62783	143	-75	-42.3
	σ <sub>cls,Med</sub> 19	-62783	143	-75	-39.7
7	Ft. 20	-62467	-747	146	-487.9
	σ <sub>s,c</sub> 19	-63968	-754	164	-713.7
	σ <sub>cls,Max</sub> 19	-63968	-754	164	-51.7
	σ <sub>cls,Med</sub> 19	-63968	-754	164	-40.4

Combinazioni Frequenti

107	Ft. 22	-56908	125	-56	-519.0
	σ <sub>s,c</sub> 21	-58125	125	-63	-572.6
	σ <sub>cls,Max</sub> 21	-58125	125	-63	-39.0
	σ <sub>cls,Med</sub> 21	-58125	125	-63	-36.7
7	Ft. 22	-58093	-698	136	-453.5
	σ <sub>s,c</sub> 21	-59310	-706	146	-662.0
	σ <sub>cls,Max</sub> 21	-59310	-706	146	-48.0
	σ <sub>cls,Med</sub> 21	-59310	-706	146	-37.5

Combinazioni Quasi Permanenti

107	Ft. 23	-56585	121	-57	-516.3
	σ <sub>s,c</sub> 23	-56585	121	-57	-557.0
	σ <sub>cls,Max</sub> 23	-56585	121	-57	-37.9
	σ <sub>cls,Med</sub> 23	-56585	121	-57	-35.8
7	Ft. 23	-57770	-692	138	-450.9
	σ <sub>s,c</sub> 23	-57770	-692	138	-644.8

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Max</sub> 23	-57770	-692	138	-46.8
	σ <sub>cls,Med</sub> 23	-57770	-692	138	-36.5

Pilastro: 107/207 / L 3.050[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm²] < 1ø18 x 4 V + 2ø14 x 2 B + 0ø12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 50.8/ø 8 4br.x2br./15.0' x 203.3/ø 8 4br.x2br./10.0' x 50.8

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
107	1	-63073	614	-146	1.00	1.00	0.27
207	1	-61758	-519	-75	1.00	1.00	0.26

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.668	372	27190	3960	18906	ø 8 4br.x2br./10.0'
0.668	2.702	372	18127	3960	12604	ø 8 4br.x2br./15.0'
2.702	3.210	372	27190	3960	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

107	Ft. 20	-46595	465	-55	-415.6
	σ <sub>s,c</sub> 19	-47509	468	-101	-566.9
	σ <sub>cls,Max</sub> 19	-47509	468	-101	-39.9
	σ <sub>cls,Med</sub> 19	-47509	468	-101	-32.9
207	Ft. 20	-45584	-409	-134	-403.3
	σ <sub>s,c</sub> 20	-45584	-409	-134	-543.0
	σ <sub>cls,Max</sub> 20	-45584	-409	-134	-38.2
	σ <sub>cls,Med</sub> 19	-46498	-395	-66	-32.2

Combinazioni Frequenti

107	Ft. 22	-43000	446	-46	-381.8
	σ <sub>s,c</sub> 21	-43825	449	-72	-522.8
	σ <sub>cls,Max</sub> 21	-43825	449	-72	-36.8
	σ <sub>cls,Med</sub> 21	-43825	449	-72	-30.3
207	Ft. 22	-41989	-378	-106	-373.3
	σ <sub>s,c</sub> 21	-42814	-373	-71	-502.3
	σ <sub>cls,Max</sub> 21	-42814	-373	-71	-35.2
	σ <sub>cls,Med</sub> 21	-42814	-373	-71	-29.6

Combinazioni Quasi Permanenti

107	Ft. 23	-42676	444	-53	-377.9
	σ <sub>s,c</sub> 23	-42676	444	-53	-508.1
	σ <sub>cls,Max</sub> 23	-42676	444	-53	-35.8
	σ <sub>cls,Med</sub> 23	-42676	444	-53	-29.5
207	Ft. 23	-41665	-372	-90	-372.7
	σ <sub>s,c</sub> 23	-41665	-372	-90	-492.3
	σ <sub>cls,Max</sub> 23	-41665	-372	-90	-34.5
	σ <sub>cls,Med</sub> 23	-41665	-372	-90	-28.8

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Pilastro: 207/307 / L 2.910[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 4  $\phi$  18 + 4  $\phi$  14 Af=16.34 [cm<sup>2</sup>] < 1 $\phi$ 18 x 4 V + 2 $\phi$ 14 x 2 B + 0 $\phi$ 12 x 2 H >

Staffe:  $\phi$  8 4br.x2br./10.0' x 48.5/ $\phi$  8 4br.x2br./15.0' x 194.0/ $\phi$  8 4br.x2br./10.0' x 48.5

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
207	15	-26147	297	-3899	1.00	1.00	0.26
307	15	-25178	-159	3974	1.00	1.00	0.26

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.645	221	27190	4671	18906	$\phi$ 8 4br.x2br./10.0'
0.645	2.585	221	18127	4671	12604	$\phi$ 8 4br.x2br./15.0'
2.585	3.070	221	27190	4671	18906	$\phi$ 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare

207	Ft. 20	-28978	236	40	-264.9
	$\sigma_{s,c}19$	-29527	219	-37	-339.9
	$\sigma_{cls,Max}19$	-29527	219	-37	-23.6
	$\sigma_{cls,Med}19$	-29527	219	-37	-20.4
307	Ft. 19	-28558	-74	266	-255.8
	$\sigma_{s,c}19$	-28558	-74	266	-337.1
	$\sigma_{cls,Max}19$	-28558	-74	266	-23.4
	$\sigma_{cls,Med}19$	-28558	-74	266	-19.8

Combinazioni Frequenti

207	Ft. 22	-26481	210	25	-244.2
	$\sigma_{s,c}21$	-27007	203	-16	-309.2
	$\sigma_{cls,Max}21$	-27007	203	-16	-21.5
	$\sigma_{cls,Med}21$	-27007	203	-16	-18.7
307	Ft. 22	-25512	-73	188	-233.4
	$\sigma_{s,c}21$	-26038	-72	218	-305.1
	$\sigma_{cls,Max}21$	-26038	-72	218	-21.2
	$\sigma_{cls,Med}21$	-26038	-72	218	-18.0

Combinazioni Quasi Permanenti

207	Ft. 23	-26240	203	9	-244.4
	$\sigma_{s,c}23$	-26240	203	9	-300.4
	$\sigma_{cls,Max}23$	-26240	203	9	-20.9
	$\sigma_{cls,Med}23$	-26240	203	9	-18.2
307	Ft. 23	-25271	-72	193	-230.3
	$\sigma_{s,c}23$	-25271	-72	193	-294.3
	$\sigma_{cls,Max}23$	-25271	-72	193	-20.4
	$\sigma_{cls,Med}23$	-25271	-72	193	-17.5

Pilastro: 307/407 / L 2.910[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 4  $\phi$  18 + 4  $\phi$  14 Af=16.34 [cm<sup>2</sup>] < 1 $\phi$ 18 x 4 V + 2 $\phi$ 14 x 2 B + 0 $\phi$ 12 x 2 H >

Staffe:  $\phi$  8 4br.x2br./10.0' x 48.5/ $\phi$  8 4br.x2br./15.0' x 194.0/ $\phi$  8 4br.x2br./10.0' x 48.5

Verifiche a Presso-Flessione S.L.U.

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
307	15	-11764	152	-3564	1.00	1.00	0.24
407	15	-10795	-503	4224	1.00	1.00	0.32

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.645	262	27190	6638	18906	ø 8 4br.x2br./10.0'
0.645	2.585	262	18127	6638	12604	ø 8 4br.x2br./15.0'
2.585	3.070	262	27190	6638	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

Combinazioni Rare

307	Ft. 19	-13649	198	-464	-61.6
	σ <sub>s,c</sub> 19	-13649	198	-464	-221.7
	σ <sub>cls,Max</sub> 19	-13649	198	-464	-16.7
	σ <sub>cls,Med</sub> 20	-13678	190	-427	-9.5
407	Ft. 19	-12680	-448	434	-21.5
	σ <sub>s,c</sub> 19	-12680	-448	434	-241.6
	σ <sub>cls,Max</sub> 19	-12680	-448	434	-19.0
	σ <sub>cls,Med</sub> 19	-12680	-448	434	-8.9

Combinazioni Frequenti

307	Ft. 21	-12060	198	-396	-53.0
	σ <sub>s,c</sub> 21	-12060	198	-396	-197.4
	σ <sub>cls,Max</sub> 21	-12060	198	-396	-14.9
	σ <sub>cls,Med</sub> 21	-12060	198	-396	-8.3
407	Ft. 21	-11091	-440	371	-13.2
	σ <sub>s,c</sub> 21	-11091	-440	371	-216.8
	σ <sub>cls,Max</sub> 21	-11091	-440	371	-17.1
	σ <sub>cls,Med</sub> 21	-11091	-440	371	-7.8

Combinazioni Quasi Permanenti

307	Ft. 23	-11669	196	-370	-52.2
	σ <sub>s,c</sub> 23	-11669	196	-370	-190.0
	σ <sub>cls,Max</sub> 23	-11669	196	-370	-14.3
	σ <sub>cls,Med</sub> 23	-11669	196	-370	-8.1
407	Ft. 23	-10700	-436	342	-12.9
	σ <sub>s,c</sub> 23	-10700	-436	342	-208.9
	σ <sub>cls,Max</sub> 23	-10700	-436	342	-16.5
	σ <sub>cls,Med</sub> 23	-10700	-436	342	-7.5

Pilastro: 108/8 / L 3.540[m] / Sezione 41 B 40 [cm]H 30 [cm]

Af: 10 ø 18 Af=25.45 [cm<sup>2</sup>] < 1ø18 x 4 V + 2ø18 x 2 B + 1ø18 x 2 H >

Staffe: ø 8 4br.x2br./12.5' x 50.0/ø 8 4br.x2br./20.0' x 254.0/ø 8 4br.x2br./12.5' x 50.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
108	3	-45056	646	-3030	1.00	1.00	0.25
8	4	-49245	-1730	3020	1.00	1.00	0.30

Verifiche a Taglio

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.660	4893	20903	6404	14700	ø 8 4br.x2br./12.5'
0.660	3.200	4893	13064	6404	9187	ø 8 4br.x2br./20.0'
3.200	3.700	4893	20903	6404	14700	ø 8 4br.x2br./12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

108	Ft. 19	-46706	-177	-772	-343.1
	σ <sub>s,c</sub> 19	-46706	-177	-772	-542.8
	σ <sub>cls,Max</sub> 19	-46706	-177	-772	-39.1
	σ <sub>cls,Med</sub> 19	-46706	-177	-772	-29.5
8	Ft. 20	-47460	-1047	-435	-280.2
	σ <sub>s,c</sub> 19	-47891	-1048	-394	-620.0
	σ <sub>cls,Max</sub> 20	-47460	-1047	-435	-47.6
	σ <sub>cls,Med</sub> 19	-47891	-1048	-394	-30.3

Combinazioni Frequenti

108	Ft. 21	-43873	-225	-708	-317.0
	σ <sub>s,c</sub> 21	-43873	-225	-708	-515.2
	σ <sub>cls,Max</sub> 21	-43873	-225	-708	-37.4
	σ <sub>cls,Med</sub> 21	-43873	-225	-708	-27.7
8	Ft. 22	-44559	-950	-416	-266.3
	σ <sub>s,c</sub> 21	-45058	-960	-395	-582.6
	σ <sub>cls,Max</sub> 21	-45058	-960	-395	-44.6
	σ <sub>cls,Med</sub> 21	-45058	-960	-395	-28.5

Combinazioni Quasi Permanenti

108	Ft. 23	-43057	-232	-674	-311.8
	σ <sub>s,c</sub> 23	-43057	-232	-674	-504.9
	σ <sub>cls,Max</sub> 23	-43057	-232	-674	-36.6
	σ <sub>cls,Med</sub> 23	-43057	-232	-674	-27.2
8	Ft. 23	-44242	-937	-406	-265.9
	σ <sub>s,c</sub> 23	-44242	-937	-406	-573.3
	σ <sub>cls,Max</sub> 23	-44242	-937	-406	-43.9
	σ <sub>cls,Med</sub> 23	-44242	-937	-406	-28.0

Pilastro: 108/208 / L 3.050[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm²] < 1φ18 x 4 V + 2φ14 x 2 B + 0φ12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 50.8/ø 8 4br.x2br./15.0' x 203.3/ø 8 4br.x2br./10.0' x 50.8

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
108	1	-48778	2647	-3208	1.00	1.00	0.38
208	2	-47262	-3420	3052	1.00	1.00	0.41

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.668	2153	27190	2182	18906	ø 8 4br.x2br./10.0'
0.668	2.702	2153	18127	2182	12604	ø 8 4br.x2br./15.0'

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
2.702	3.210	2153	27190	2182	18906	Ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

108	Ft. 19	-36922	2025	-2410	251.9
	σ <sub>s,c</sub> 19	-36922	2025	-2410	-974.3
	σ <sub>cls,Max</sub> 19	-36922	2025	-2410	-80.5
	σ <sub>cls,Med</sub> 19	-36922	2025	-2410	-30.9
208	Ft. 20	-35777	-2592	2300	406.5
	σ <sub>s,c</sub> 20	-35777	-2592	2300	-1058.3
	σ <sub>cls,Max</sub> 20	-35777	-2592	2300	-89.6
	σ <sub>cls,Med</sub> 20	-35777	-2592	2300	-33.3

Combinazioni Frequenti

108	Ft. 21	-34578	1967	-2216	244.9
	σ <sub>s,c</sub> 21	-34578	1967	-2216	-919.0
	σ <sub>cls,Max</sub> 21	-34578	1967	-2216	-76.1
	σ <sub>cls,Med</sub> 21	-34578	1967	-2216	-29.2
208	Ft. 22	-33265	-2392	2105	365.2
	σ <sub>s,c</sub> 21	-33567	-2346	2152	-975.1
	σ <sub>cls,Max</sub> 22	-33265	-2392	2105	-82.4
	σ <sub>cls,Med</sub> 22	-33265	-2392	2105	-30.7

Combinazioni Quasi Permanenti

108	Ft. 23	-33958	1961	-2145	241.3
	σ <sub>s,c</sub> 23	-33958	1961	-2145	-903.0
	σ <sub>cls,Max</sub> 23	-33958	1961	-2145	-74.8
	σ <sub>cls,Med</sub> 23	-33958	1961	-2145	-28.7
208	Ft. 23	-32947	-2344	2089	354.9
	σ <sub>s,c</sub> 23	-32947	-2344	2089	-961.3
	σ <sub>cls,Max</sub> 23	-32947	-2344	2089	-81.2
	σ <sub>cls,Med</sub> 23	-32947	-2344	2089	-30.3

Pilastro: 208/308 / L 2.910[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 4 Ø 18 + 4 Ø 14 Af=16.34 [cm²] < 1Ø18 x 4 V + 2Ø14 x 2 B + 0Ø12 x 2 H >

Staffe: Ø 8 4br.x2br./10.0' x 48.5/Ø 8 4br.x2br./15.0' x 194.0/Ø 8 4br.x2br./10.0' x 48.5

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
208	15	-22277	2459	-4358	1.00	1.00	0.41
308	15	-21308	-1680	3970	1.00	1.00	0.33

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.645	2735	27190	2832	18906	Ø 8 4br.x2br./10.0'
0.645	2.585	2735	18127	2832	12604	Ø 8 4br.x2br./15.0'
2.585	3.070	2735	27190	2832	18906	Ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
Combinazioni Rare					
208	Ft. 20	-20463	2365	-2114	783.5
	σ <sub>s,c</sub> 20	-20463	2365	-2114	-929.1
	σ <sub>cls,Max</sub> 20	-20463	2365	-2114	-84.2
	σ <sub>cls,Med</sub> 20	-20463	2365	-2114	-29.1
308	Ft. 19	-19846	-1413	1881	368.8
	σ <sub>s,c</sub> 19	-19846	-1413	1881	-684.8
	σ <sub>cls,Max</sub> 19	-19846	-1413	1881	-58.9
	σ <sub>cls,Med</sub> 19	-19846	-1413	1881	-20.7
Combinazioni Frequenti					
208	Ft. 22	-19214	2166	-1937	697.0
	σ <sub>s,c</sub> 22	-19214	2166	-1937	-852.0
	σ <sub>cls,Max</sub> 22	-19214	2166	-1937	-76.9
	σ <sub>cls,Med</sub> 22	-19214	2166	-1937	-26.6
308	Ft. 21	-18551	-1372	1739	356.4
	σ <sub>s,c</sub> 21	-18551	-1372	1739	-647.3
	σ <sub>cls,Max</sub> 21	-18551	-1372	1739	-55.8
	σ <sub>cls,Med</sub> 21	-18551	-1372	1739	-19.6
Combinazioni Quasi Permanenti					
208	Ft. 23	-19108	2116	-1924	675.7
	σ <sub>s,c</sub> 23	-19108	2116	-1924	-838.8
	σ <sub>cls,Max</sub> 23	-19108	2116	-1924	-75.6
	σ <sub>cls,Med</sub> 23	-19108	2116	-1924	-26.1
308	Ft. 23	-18139	-1372	1681	353.0
	σ <sub>s,c</sub> 23	-18139	-1372	1681	-635.6
	σ <sub>cls,Max</sub> 23	-18139	-1372	1681	-54.9
	σ <sub>cls,Med</sub> 23	-18139	-1372	1681	-19.2

Pilastro: 308/408 / L 2.910[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm²] < 1ø18 x 4 V + 2ø14 x 2 B + 0ø12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 48.5/ø 8 4br.x2br./15.0' x 194.0/ø 8 4br.x2br./10.0' x 48.5

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
308	15	-9778	915	-3511	1.00	1.00	0.28
408	17	-8616	-2211	4097	1.00	1.00	0.42

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.645	4049	27190	4185	18906	ø 8 4br.x2br./10.0'
0.645	2.585	4049	18127	4185	12604	ø 8 4br.x2br./15.0'
2.585	3.070	4049	27190	4185	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Combinazioni Rare					
308	Ft. 19	-9583	1219	-2101	832.9
	$\sigma_{s,c}19$	-9583	1219	-2101	-667.5
	$\sigma_{cls,Max}19$	-9583	1219	-2101	-62.7
	$\sigma_{cls,Med}19$	-9583	1219	-2101	-21.1
408	Ft. 19	-8614	-1827	2614	1367.8
	$\sigma_{s,c}19$	-8614	-1827	2614	-887.8
	$\sigma_{cls,Max}19$	-8614	-1827	2614	-87.1
	$\sigma_{cls,Med}19$	-8614	-1827	2614	-29.0
Combinazioni Frequenti					
308	Ft. 21	-8829	1239	-1886	791.9
	$\sigma_{s,c}21$	-8829	1239	-1886	-630.4
	$\sigma_{cls,Max}21$	-8829	1239	-1886	-59.5
	$\sigma_{cls,Med}21$	-8829	1239	-1886	-19.9
408	Ft. 21	-7860	-1828	2275	1272.8
	$\sigma_{s,c}21$	-7860	-1828	2275	-821.8
	$\sigma_{cls,Max}21$	-7860	-1828	2275	-81.1
	$\sigma_{cls,Med}21$	-7860	-1828	2275	-27.0
Combinazioni Quasi Permanenti					
308	Ft. 23	-8631	1237	-1809	770.1
	$\sigma_{s,c}23$	-8631	1237	-1809	-615.2
	$\sigma_{cls,Max}23$	-8631	1237	-1809	-58.1
	$\sigma_{cls,Med}23$	-8631	1237	-1809	-19.4
408	Ft. 23	-7662	-1826	2175	1243.0
	$\sigma_{s,c}23$	-7662	-1826	2175	-801.2
	$\sigma_{cls,Max}23$	-7662	-1826	2175	-79.2
	$\sigma_{cls,Med}23$	-7662	-1826	2175	-26.4

Pilastro: 9/109 / L 3.540[m] / Sezione 34 B 30 [cm]H 40 [cm]

Af: 10  $\phi$  18 Af=25.45 [cm<sup>2</sup>] < 1 $\phi$ 18 x 4 V + 1 $\phi$ 18 x 2 B + 2 $\phi$ 18 x 2 H >

Staffe:  $\phi$  8 2br.x4br./12.5' x 49.0/ $\phi$  8 2br.x4br./20.0' x 256.0/ $\phi$  8 2br.x4br./12.5' x 49.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
9	15	-46197	-3031	2697	1.00	1.00	0.33
109	1	-62570	2822	-597	1.00	1.00	0.30

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.250	0.740	7611	14700	4880	20903	$\phi$ 8 2br.x4br./12.5'
0.740	3.300	7611	9187	4880	13064	$\phi$ 8 2br.x4br./20.0'
3.300	3.790	7611	14700	4880	20903	$\phi$ 8 2br.x4br./12.5'

Verifiche a Presso-Flessione S.L.E.



Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
Combinazioni Rare					
9	Ft. 20	-47255	803	899	-258.6
	σ <sub>s,c</sub> 19	-48449	798	928	-652.0
	σ <sub>cls,Max</sub> 19	-48449	798	928	-50.2
	σ <sub>cls,Med</sub> 19	-48449	798	928	-30.6
109	Ft. 19	-47264	2125	-445	-178.1
	σ <sub>s,c</sub> 19	-47264	2125	-445	-718.3
	σ <sub>cls,Max</sub> 19	-47264	2125	-445	-55.8
	σ <sub>cls,Med</sub> 19	-47264	2125	-445	-29.9
Combinazioni Frequenti					
9	Ft. 22	-44540	764	832	-244.7
	σ <sub>s,c</sub> 21	-45438	765	854	-611.3
	σ <sub>cls,Max</sub> 21	-45438	765	854	-47.0
	σ <sub>cls,Med</sub> 21	-45438	765	854	-28.7
109	Ft. 22	-43355	1917	-381	-170.0
	σ <sub>s,c</sub> 21	-44253	1980	-396	-669.1
	σ <sub>cls,Max</sub> 21	-44253	1980	-396	-51.9
	σ <sub>cls,Med</sub> 21	-44253	1980	-396	-28.0
Combinazioni Quasi Permanenti					
9	Ft. 23	-44387	758	828	-244.3
	σ <sub>s,c</sub> 23	-44387	758	828	-597.6
	σ <sub>cls,Max</sub> 23	-44387	758	828	-45.9
	σ <sub>cls,Med</sub> 23	-44387	758	828	-28.1
109	Ft. 23	-43202	1919	-379	-168.5
	σ <sub>s,c</sub> 23	-43202	1919	-379	-650.9
	σ <sub>cls,Max</sub> 23	-43202	1919	-379	-50.4
	σ <sub>cls,Med</sub> 23	-43202	1919	-379	-27.3

Pilastro: 109/209 / L 3.050[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4 ø 18 + 6 ø 14 Af=19.42 [cm<sup>2</sup>] < 1ø18 x 4 V + 1ø14 x 2 B + 2ø14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 50.8/ø 8 2br.x4br./15.0' x 203.3/ø 8 2br.x4br./10.0' x 50.8

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
109	15	-34087	8915	-1437	1.00	1.00	0.56
209	15	-33076	-6157	1332	1.00	1.00	0.40

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
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Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.668	5051	18906	2427	27190	ø 8 2br.x4br./10.0'
0.668	2.702	5051	12604	2427	18127	ø 8 2br.x4br./15.0'
2.702	3.210	5051	18906	2427	27190	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

#### Combinazioni Rare

109	Ft. 19	-35475	5298	-24	547.7
	σ <sub>s,c</sub> 19	-35475	5298	-24	-1022.4
	σ <sub>cls,Max</sub> 19	-35475	5298	-24	-83.8
	σ <sub>cls,Med</sub> 19	-35475	5298	-24	-41.7
209	Ft. 19	-34464	-4442	135	337.5
	σ <sub>s,c</sub> 19	-34464	-4442	135	-903.2
	σ <sub>cls,Max</sub> 19	-34464	-4442	135	-73.2
	σ <sub>cls,Med</sub> 19	-34464	-4442	135	-35.4

#### Combinazioni Frequenti

109	Ft. 21	-33121	4915	21	501.4
	σ <sub>s,c</sub> 21	-33121	4915	21	-949.8
	σ <sub>cls,Max</sub> 21	-33121	4915	21	-77.8
	σ <sub>cls,Med</sub> 21	-33121	4915	21	-38.7
209	Ft. 21	-32110	-4116	85	300.7
	σ <sub>s,c</sub> 21	-32110	-4116	85	-831.0
	σ <sub>cls,Max</sub> 21	-32110	-4116	85	-67.1
	σ <sub>cls,Med</sub> 21	-32110	-4116	85	-32.8

#### Combinazioni Quasi Permanenti

109	Ft. 23	-32336	4767	36	479.6
	σ <sub>s,c</sub> 23	-32336	4767	36	-922.5
	σ <sub>cls,Max</sub> 23	-32336	4767	36	-75.7
	σ <sub>cls,Med</sub> 23	-32336	4767	36	-37.5
209	Ft. 23	-31325	-3992	69	284.3
	σ <sub>s,c</sub> 23	-31325	-3992	69	-804.6
	σ <sub>cls,Max</sub> 23	-31325	-3992	69	-64.9
	σ <sub>cls,Med</sub> 23	-31325	-3992	69	-31.9

Pilastro: 209/309 / L 2.910[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4 ø 18 + 6 ø 14 Af=19.42 [cm<sup>2</sup>] < 1ø18 x 4 V + 1ø14 x 2 B + 2ø14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 48.5/ø 8 2br.x4br./15.0' x 194.0/ø 8 2br.x4br./10.0' x 48.5

Verifiche a Presso-Flessione S.L.U.

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
209	15	-21727	9137	-2220	1.00	1.00	0.66
309	15	-20758	-8138	2110	1.00	1.00	0.58

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.645	6184	18906	3026	27190	ø 8 2br.x4br./10.0'
0.645	2.585	6184	12604	3026	18127	ø 8 2br.x4br./15.0'
2.585	3.070	6184	18906	3026	27190	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

Combinazioni Rare

209	Ft. 19	-22630	3880	-251	559.8
	σ <sub>s,c</sub> 19	-22630	3880	-251	-769.9
	σ <sub>cls,Max</sub> 19	-22630	3880	-251	-65.4
	σ <sub>cls,Med</sub> 19	-22630	3880	-251	-30.3
309	Ft. 19	-21661	-3714	218	531.0
	σ <sub>s,c</sub> 19	-21661	-3714	218	-732.5
	σ <sub>cls,Max</sub> 19	-21661	-3714	218	-62.2
	σ <sub>cls,Med</sub> 19	-21661	-3714	218	-29.0

Combinazioni Frequenti

209	Ft. 21	-20926	3608	-188	515.2
	σ <sub>s,c</sub> 21	-20926	3608	-188	-706.2
	σ <sub>cls,Max</sub> 21	-20926	3608	-188	-60.0
	σ <sub>cls,Med</sub> 21	-20926	3608	-188	-28.2
309	Ft. 21	-19957	-3505	156	508.8
	σ <sub>s,c</sub> 21	-19957	-3505	156	-678.6
	σ <sub>cls,Max</sub> 21	-19957	-3505	156	-57.7
	σ <sub>cls,Med</sub> 21	-19957	-3505	156	-27.4

Combinazioni Quasi Permanenti

209	Ft. 23	-20404	3495	-167	491.0
	σ <sub>s,c</sub> 23	-20404	3495	-167	-681.9
	σ <sub>cls,Max</sub> 23	-20404	3495	-167	-57.8
	σ <sub>cls,Med</sub> 23	-20404	3495	-167	-27.3
309	Ft. 23	-19435	-3403	136	488.5
	σ <sub>s,c</sub> 23	-19435	-3403	136	-656.0
	σ <sub>cls,Max</sub> 23	-19435	-3403	136	-55.7
	σ <sub>cls,Med</sub> 23	-19435	-3403	136	-26.6

Pilastro: 309/409 / L 2.910[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af:  $4 \phi 18 + 6 \phi 14$  Af=19.42 [cm<sup>2</sup>] <  $1 \phi 18 \times 4 V + 1 \phi 14 \times 2 B + 2 \phi 14 \times 2 H$  >

Staffe:  $\phi 8$  2br.x4br./10.0' x 48.5/ $\phi 8$  2br.x4br./15.0' x 194.0/ $\phi 8$  2br.x4br./10.0' x 48.5

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
309	15	-9279	8560	-1986	1.00	1.00	0.68
409	15	-8310	-11310	2595	1.00	1.00	0.92

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.645	7913	18906	4441	27190	$\phi 8$ 2br.x4br./10.0'
0.645	2.585	7913	12604	4441	18127	$\phi 8$ 2br.x4br./15.0'
2.585	3.070	7913	18906	4441	27190	$\phi 8$ 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare

309	Ft. 19	-9917	4848	-428	1559.6
	$\sigma_{s,c}19$	-9917	4848	-428	-862.9
	$\sigma_{cls,Max}19$	-9917	4848	-428	-83.4
	$\sigma_{cls,Med}19$	-9917	4848	-428	-36.7
409	Ft. 19	-8948	-6096	672	2183.1
	$\sigma_{s,c}19$	-8948	-6096	672	-1087.5
	$\sigma_{cls,Max}19$	-8948	-6096	672	-107.8
	$\sigma_{cls,Med}19$	-8948	-6096	672	-45.8

Combinazioni Frequenti

309	Ft. 21	-8859	4394	-353	1410.6
	$\sigma_{s,c}21$	-8859	4394	-353	-772.3
	$\sigma_{cls,Max}21$	-8859	4394	-353	-74.7
	$\sigma_{cls,Med}21$	-8859	4394	-353	-33.2
409	Ft. 21	-7890	-5332	581	1904.3
	$\sigma_{s,c}21$	-7890	-5332	581	-950.1
	$\sigma_{cls,Max}21$	-7890	-5332	581	-94.1
	$\sigma_{cls,Med}21$	-7890	-5332	581	-40.1

Combinazioni Quasi Permanenti

309	Ft. 23	-8600	4246	-327	1357.3
	$\sigma_{s,c}23$	-8600	4246	-327	-743.2
	$\sigma_{cls,Max}23$	-8600	4246	-327	-71.9
	$\sigma_{cls,Med}23$	-8600	4246	-327	-32.1
409	Ft. 23	-7631	-5128	548	1826.3

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>s,c</sub> 23	-7631	-5128	548	-911.6
	σ <sub>cls,Max</sub> 23	-7631	-5128	548	-90.3
	σ <sub>cls,Med</sub> 23	-7631	-5128	548	-38.5

Pilastro: 10/110 / L 3.540[m] / Sezione 41 B 40 [cm]H 30 [cm]

Af: 10 ø 18 Af=25.45 [cm²] < 1φ18 x 4 V + 2φ18 x 2 B + 1φ18 x 2 H >

Staffe: ø 8 4br.x2br./12.5' x 51.0/ø 8 4br.x2br./20.0' x 252.0/ø 8 4br.x2br./12.5' x 51.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
10	9	-56352	-1444	4290	1.00	1.00	0.35
110	6	-56518	-107	3809	1.00	1.00	0.30

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.250	0.760	4261	20903	7396	14700	ø 8 4br.x2br./12.5'
0.760	3.280	4261	13064	7396	9187	ø 8 4br.x2br./20.0'
3.280	3.790	4261	20903	7396	14700	ø 8 4br.x2br./12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

#### Combinazioni Rare

10	Ft. 20	-61611	-650	-196	-486.4
	σ <sub>s,c</sub> 19	-63442	-666	-198	-701.6
	σ <sub>cls,Max</sub> 19	-63442	-666	-198	-50.6
	σ <sub>cls,Med</sub> 19	-63442	-666	-198	-40.1
110	Ft. 20	-60426	-98	349	-525.8
	σ <sub>s,c</sub> 19	-62257	-105	357	-639.4
	σ <sub>cls,Max</sub> 19	-62257	-105	357	-44.1
	σ <sub>cls,Med</sub> 19	-62257	-105	357	-39.4

#### Combinazioni Frequenti

10	Ft. 22	-57344	-607	-196	-451.0
	σ <sub>s,c</sub> 21	-58730	-620	-197	-651.3
	σ <sub>cls,Max</sub> 21	-58730	-620	-197	-47.0
	σ <sub>cls,Med</sub> 21	-58730	-620	-197	-37.1
110	Ft. 22	-56159	-98	340	-486.2
	σ <sub>s,c</sub> 21	-57545	-102	345	-593.2
	σ <sub>cls,Max</sub> 21	-57545	-102	345	-41.0
	σ <sub>cls,Med</sub> 21	-57545	-102	345	-36.4

#### Combinazioni Quasi Permanenti

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
10	Ft. 23	-57095	-604	-196	-449.0
	σ <sub>s,c</sub> 23	-57095	-604	-196	-633.9
	σ <sub>cls,Max</sub> 23	-57095	-604	-196	-45.8
	σ <sub>cls,Med</sub> 23	-57095	-604	-196	-36.1
110	Ft. 23	-55910	-99	340	-483.6
	σ <sub>s,c</sub> 23	-55910	-99	340	-576.8
	σ <sub>cls,Max</sub> 23	-55910	-99	340	-39.9
	σ <sub>cls,Med</sub> 23	-55910	-99	340	-35.3

Pilastro: 110/210 / L 3.050[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm²] < 1ø18 x 4 V + 2ø14 x 2 B + 0ø12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 50.8/ø 8 4br.x2br./15.0' x 203.3/ø 8 4br.x2br./10.0' x 50.8

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
110	15	-43107	1390	-3568	1.00	1.00	0.32
210	1	-61292	-689	924	1.00	1.00	0.27

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.668	539	27190	3576	18906	ø 8 4br.x2br./10.0'
0.668	2.702	539	18127	3576	12604	ø 8 4br.x2br./15.0'
2.702	3.210	539	27190	3576	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

110	Ft. 20	-45884	816	-750	-281.2
	σ <sub>s,c</sub> 19	-47112	848	-781	-692.1
	σ <sub>cls,Max</sub> 19	-47112	848	-781	-51.4
	σ <sub>cls,Med</sub> 19	-47112	848	-781	-32.6
210	Ft. 20	-44873	-501	671	-321.6
	σ <sub>s,c</sub> 19	-46101	-518	696	-627.9
	σ <sub>cls,Max</sub> 19	-46101	-518	696	-45.6
	σ <sub>cls,Med</sub> 19	-46101	-518	696	-31.9

Combinazioni Frequenti

110	Ft. 22	-42414	761	-700	-258.2
	σ <sub>s,c</sub> 21	-43400	784	-721	-638.1
	σ <sub>cls,Max</sub> 21	-43400	784	-721	-47.4
	σ <sub>cls,Med</sub> 21	-43400	784	-721	-30.0

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
210	Ft. 22	-41403	-465	628	-295.3
	σ <sub>s,c</sub> 21	-42389	-477	646	-578.1
	σ <sub>cls,Max</sub> 21	-42389	-477	646	-42.0
	σ <sub>cls,Med</sub> 21	-42389	-477	646	-29.3
Combinazioni Quasi Permanenti					
110	Ft. 23	-42164	759	-699	-256.0
	σ <sub>s,c</sub> 23	-42164	759	-699	-619.4
	σ <sub>cls,Max</sub> 23	-42164	759	-699	-46.0
	σ <sub>cls,Med</sub> 23	-42164	759	-699	-29.2
210	Ft. 23	-41153	-463	627	-293.1
	σ <sub>s,c</sub> 23	-41153	-463	627	-561.2
	σ <sub>cls,Max</sub> 23	-41153	-463	627	-40.8
	σ <sub>cls,Med</sub> 23	-41153	-463	627	-28.5

Pilastro: 210/310 / L 2.910[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm²] < 1φ18 x 4 V + 2φ14 x 2 B + 0φ12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 48.5/ø 8 4br.x2br./15.0' x 194.0/ø 8 4br.x2br./10.0' x 48.5

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
210	15	-27870	1125	-4542	1.00	1.00	0.33
310	15	-26901	-730	4380	1.00	1.00	0.30

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.645	569	27190	3927	18906	ø 8 4br.x2br./10.0'
0.645	2.585	569	18127	3927	12604	ø 8 4br.x2br./15.0'
2.585	3.070	569	27190	3927	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

210	Ft. 20	-30112	263	-629	-204.8
	σ <sub>s,c</sub> 19	-30735	280	-658	-432.4
	σ <sub>cls,Max</sub> 19	-30735	280	-658	-31.5
	σ <sub>cls,Med</sub> 19	-30735	280	-658	-21.3
310	Ft. 19	-29766	-239	621	-205.3
	σ <sub>s,c</sub> 19	-29766	-239	621	-412.6
	σ <sub>cls,Max</sub> 19	-29766	-239	621	-29.9
	σ <sub>cls,Med</sub> 19	-29766	-239	621	-20.6

Combinazioni Frequenti					
210	Ft. 22	-27458	251	-591	-183.3
	$\sigma_{s,c21}$	-28039	261	-610	-396.4
	$\sigma_{cls,Max21}$	-28039	261	-610	-28.9
	$\sigma_{cls,Med21}$	-28039	261	-610	-19.4
310	Ft. 22	-26489	-231	561	-179.3
	$\sigma_{s,c21}$	-27070	-242	580	-380.3
	$\sigma_{cls,Max21}$	-27070	-242	580	-27.7
	$\sigma_{cls,Med21}$	-27070	-242	580	-18.7
Combinazioni Quasi Permanenti					
210	Ft. 23	-27209	253	-590	-180.5
	$\sigma_{s,c23}$	-27209	253	-590	-384.4
	$\sigma_{cls,Max23}$	-27209	253	-590	-28.0
	$\sigma_{cls,Med23}$	-27209	253	-590	-18.8
310	Ft. 23	-26240	-237	563	-175.7
	$\sigma_{s,c23}$	-26240	-237	563	-369.0
	$\sigma_{cls,Max23}$	-26240	-237	563	-26.9
	$\sigma_{cls,Med23}$	-26240	-237	563	-18.2

Pilastro: 310/410 / L 2.910[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af:  $4 \varnothing 18 + 4 \varnothing 14$  Af=16.34 [cm<sup>2</sup>] <  $1\varnothing 18 \times 4 V + 2\varnothing 14 \times 2 B + 0\varnothing 12 \times 2 H$  >

Staffe:  $\varnothing 8$  4br.x2br./10.0' x 48.5/ $\varnothing 8$  4br.x2br./15.0' x 194.0/ $\varnothing 8$  4br.x2br./10.0' x 48.5

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
310	15	-12525	335	-3987	1.00	1.00	0.28
410	15	-11556	-1419	4909	1.00	1.00	0.42

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.645	625	27190	5760	18906	$\varnothing 8$ 4br.x2br./10.0'
0.645	2.585	625	18127	5760	12604	$\varnothing 8$ 4br.x2br./15.0'
2.585	3.070	625	27190	5760	18906	$\varnothing 8$ 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare					
310	Ft. 19	-14283	571	-805	29.8
	$\sigma_{s,c19}$	-14283	571	-805	-322.2
	$\sigma_{cls,Max19}$	-14283	571	-805	-25.9
	$\sigma_{cls,Med19}$	-14283	571	-805	-10.8



Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
410	Ft. 19	-13314	-899	1027	171.3
	σ <sub>s,c</sub> 19	-13314	-899	1027	-409.0
	σ <sub>cls,Max</sub> 19	-13314	-899	1027	-34.6
	σ <sub>cls,Med</sub> 19	-13314	-899	1027	-12.6
Combinazioni Frequenti					
310	Ft. 21	-12610	515	-736	32.3
	σ <sub>s,c</sub> 21	-12610	515	-736	-289.6
	σ <sub>cls,Max</sub> 21	-12610	515	-736	-23.3
	σ <sub>cls,Med</sub> 21	-12610	515	-736	-9.6
410	Ft. 21	-11641	-766	918	148.8
	σ <sub>s,c</sub> 21	-11641	-766	918	-357.1
	σ <sub>cls,Max</sub> 21	-11641	-766	918	-30.2
	σ <sub>cls,Med</sub> 21	-11641	-766	918	-11.0
Combinazioni Quasi Permanenti					
310	Ft. 23	-12189	497	-714	31.4
	σ <sub>s,c</sub> 23	-12189	497	-714	-280.1
	σ <sub>cls,Max</sub> 23	-12189	497	-714	-22.5
	σ <sub>cls,Med</sub> 23	-12189	497	-714	-9.3
410	Ft. 23	-11220	-733	887	142.4
	σ <sub>s,c</sub> 23	-11220	-733	887	-343.5
	σ <sub>cls,Max</sub> 23	-11220	-733	887	-29.0
	σ <sub>cls,Med</sub> 23	-11220	-733	887	-10.6

Pilastro: 11/111 / L 3.540[m] / Sezione 41 B 40 [cm]H 30 [cm]

Af: 10 ø 18 Af=25.45 [cm²] < 1ø18 x 4 V + 2ø18 x 2 B + 1ø18 x 2 H >

Staffe: ø 8 4br.x2br./12.5' x 51.0/ø 8 4br.x2br./20.0' x 252.0/ø 8 4br.x2br./12.5' x 51.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
11	7	-65345	-470	4818	1.00	1.00	0.37
111	1	-93334	-920	-251	1.00	1.00	0.35

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.250	0.760	5530	20903	7501	14700	ø 8 4br.x2br./12.5'
0.760	3.280	5530	13064	7501	9187	ø 8 4br.x2br./20.0'
3.280	3.790	5530	20903	7501	14700	ø 8 4br.x2br./12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare					
11	Ft. 20	-69751	-522	371	-561.0
	$\sigma_{s,c}19$	-71609	-543	385	-783.4
	$\sigma_{cls,Max}19$	-71609	-543	385	-55.9
	$\sigma_{cls,Med}19$	-71609	-543	385	-45.3
111	Ft. 20	-68566	-702	-180	-547.7
	$\sigma_{s,c}19$	-70424	-707	-187	-771.6
	$\sigma_{cls,Max}19$	-70424	-707	-187	-55.4
	$\sigma_{cls,Med}19$	-70424	-707	-187	-44.5
Combinazioni Frequenti					
11	Ft. 22	-65429	-471	339	-529.4
	$\sigma_{s,c}21$	-66836	-487	350	-727.9
	$\sigma_{cls,Max}21$	-66836	-487	350	-51.9
	$\sigma_{cls,Med}21$	-66836	-487	350	-42.3
111	Ft. 22	-64244	-700	-161	-508.9
	$\sigma_{s,c}21$	-65651	-703	-166	-723.8
	$\sigma_{cls,Max}21$	-65651	-703	-166	-52.1
	$\sigma_{cls,Med}21$	-65651	-703	-166	-41.5
Combinazioni Quasi Permanenti					
11	Ft. 23	-65178	-468	338	-527.6
	$\sigma_{s,c}23$	-65178	-468	338	-708.7
	$\sigma_{cls,Max}23$	-65178	-468	338	-50.5
	$\sigma_{cls,Med}23$	-65178	-468	338	-41.2
111	Ft. 23	-63993	-701	-159	-506.6
	$\sigma_{s,c}23$	-63993	-701	-159	-707.1
	$\sigma_{cls,Max}23$	-63993	-701	-159	-51.0
	$\sigma_{cls,Med}23$	-63993	-701	-159	-40.5

Pilastro: 111/211 / L 3.050[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 4  $\phi$  18 + 4  $\phi$  14 Af=16.34 [cm<sup>2</sup>] < 1 $\phi$ 18 x 4 V + 2 $\phi$ 14 x 2 B + 0 $\phi$ 12 x 2 H >

Staffe:  $\phi$  8 4br.x2br./10.0' x 50.8/ $\phi$  8 4br.x2br./15.0' x 203.3/ $\phi$  8 4br.x2br./10.0' x 50.8

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
111	15	-49370	3153	-2784	1.00	1.00	0.39
211	1	-68378	-2200	213	1.00	1.00	0.35

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.668	2596	27190	3760	18906	$\phi$ 8 4br.x2br./10.0'
0.668	2.702	2596	18127	3760	12604	$\phi$ 8 4br.x2br./15.0'
2.702	3.210	2596	27190	3760	18906	$\phi$ 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
Combinazioni Rare					
111	Ft. 20	-51299	1995	-202	-244.3
	σ <sub>s,c</sub> 19	-52551	2030	-217	-840.1
	σ <sub>cls,Max</sub> 19	-52551	2030	-217	-64.7
	σ <sub>cls,Med</sub> 19	-52551	2030	-217	-36.4
211	Ft. 20	-50288	-1649	148	-286.1
	σ <sub>s,c</sub> 19	-51540	-1675	158	-775.7
	σ <sub>cls,Max</sub> 19	-51540	-1675	158	-58.9
	σ <sub>cls,Med</sub> 19	-51540	-1675	158	-35.7
Combinazioni Frequenti					
111	Ft. 22	-47800	1928	-181	-219.2
	σ <sub>s,c</sub> 21	-48801	1954	-191	-788.0
	σ <sub>cls,Max</sub> 21	-48801	1954	-191	-60.9
	σ <sub>cls,Med</sub> 21	-48801	1954	-191	-33.8
211	Ft. 22	-46789	-1598	133	-258.1
	σ <sub>s,c</sub> 21	-47790	-1617	140	-727.0
	σ <sub>cls,Max</sub> 21	-47790	-1617	140	-55.3
	σ <sub>cls,Med</sub> 21	-47790	-1617	140	-33.1
Combinazioni Quasi Permanenti					
111	Ft. 23	-47550	1926	-181	-217.0
	σ <sub>s,c</sub> 23	-47550	1926	-181	-770.2
	σ <sub>cls,Max</sub> 23	-47550	1926	-181	-59.5
	σ <sub>cls,Med</sub> 23	-47550	1926	-181	-32.9
211	Ft. 23	-46539	-1596	133	-255.8
	σ <sub>s,c</sub> 23	-46539	-1596	133	-710.3
	σ <sub>cls,Max</sub> 23	-46539	-1596	133	-54.1
	σ <sub>cls,Med</sub> 23	-46539	-1596	133	-32.2

Pilastro: 211/311 / L 2.910[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm<sup>2</sup>] < 1ø18 x 4 V + 2ø14 x 2 B + 0ø12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 48.5/ø 8 4br.x2br./15.0' x 194.0/ø 8 4br.x2br./10.0' x 48.5

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
211	15	-31193	3213	-3772	1.00	1.00	0.41
311	15	-30224	-3065	3639	1.00	1.00	0.39

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
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Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.645	2774	27190	4106	18906	ø 8 4br.x2br./10.0'
0.645	2.585	2774	18127	4106	12604	ø 8 4br.x2br./15.0'
2.585	3.070	2774	27190	4106	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

#### Combinazioni Rare

211	Ft. 20	-32888	1565	-149	-116.4
	σ <sub>s,c</sub> 19	-33528	1593	-163	-578.4
	σ <sub>cls,Max</sub> 19	-33528	1593	-163	-45.4
	σ <sub>cls,Med</sub> 19	-33528	1593	-163	-23.2
311	Ft. 20	-31919	-1684	152	-90.0
	σ <sub>s,c</sub> 19	-32559	-1713	167	-584.8
	σ <sub>cls,Max</sub> 19	-32559	-1713	167	-46.3
	σ <sub>cls,Med</sub> 19	-32559	-1713	167	-22.6

#### Combinazioni Frequenti

211	Ft. 22	-30230	1514	-131	-97.5
	σ <sub>s,c</sub> 21	-30821	1534	-141	-539.9
	σ <sub>cls,Max</sub> 21	-30821	1534	-141	-42.5
	σ <sub>cls,Med</sub> 21	-30821	1534	-141	-21.3
311	Ft. 22	-29261	-1634	136	-70.1
	σ <sub>s,c</sub> 21	-29852	-1655	146	-546.8
	σ <sub>cls,Max</sub> 21	-29852	-1655	146	-43.5
	σ <sub>cls,Med</sub> 21	-29852	-1655	146	-21.1

#### Combinazioni Quasi Permanenti

211	Ft. 23	-29984	1512	-132	-95.2
	σ <sub>s,c</sub> 23	-29984	1512	-132	-527.3
	σ <sub>cls,Max</sub> 23	-29984	1512	-132	-41.6
	σ <sub>cls,Med</sub> 23	-29984	1512	-132	-20.8
311	Ft. 23	-29015	-1633	137	-67.5
	σ <sub>s,c</sub> 23	-29015	-1633	137	-534.3
	σ <sub>cls,Max</sub> 23	-29015	-1633	137	-42.6
	σ <sub>cls,Med</sub> 23	-29015	-1633	137	-20.6

Pilastro: 311/411 / L 2.910[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm<sup>2</sup>] < 1ø18 x 4 V + 2ø14 x 2 B + 0ø12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 48.5/ø 8 4br.x2br./15.0' x 194.0/ø 8 4br.x2br./10.0' x 48.5

Verifiche a Presso-Flessione S.L.U.

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
311	15	-12925	2660	-3076	1.00	1.00	0.37
411	15	-11956	-2818	3797	1.00	1.00	0.43

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.645	3997	27190	5999	18906	ø 8 4br.x2br./10.0'
0.645	2.585	3997	18127	5999	12604	ø 8 4br.x2br./15.0'
2.585	3.070	3997	27190	5999	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

Combinazioni Rare

311	Ft. 19	-14471	1521	-211	183.6
	σ <sub>s,c</sub> 19	-14471	1521	-211	-404.5
	σ <sub>cls,Max</sub> 19	-14471	1521	-211	-35.6
	σ <sub>cls,Med</sub> 19	-14471	1521	-211	-16.3
411	Ft. 19	-13502	-1153	242	84.6
	σ <sub>s,c</sub> 19	-13502	-1153	242	-336.5
	σ <sub>cls,Max</sub> 19	-13502	-1153	242	-28.5
	σ <sub>cls,Med</sub> 19	-13502	-1153	242	-12.8

Combinazioni Frequenti

311	Ft. 21	-12820	1450	-183	203.6
	σ <sub>s,c</sub> 21	-12820	1450	-183	-375.9
	σ <sub>cls,Max</sub> 21	-12820	1450	-183	-33.6
	σ <sub>cls,Med</sub> 21	-12820	1450	-183	-15.5
411	Ft. 21	-11851	-1075	203	93.0
	σ <sub>s,c</sub> 21	-11851	-1075	203	-305.3
	σ <sub>cls,Max</sub> 21	-11851	-1075	203	-26.1
	σ <sub>cls,Med</sub> 21	-11851	-1075	203	-11.8

Combinazioni Quasi Permanenti

311	Ft. 23	-12401	1425	-173	205.8
	σ <sub>s,c</sub> 23	-12401	1425	-173	-367.0
	σ <sub>cls,Max</sub> 23	-12401	1425	-173	-32.9
	σ <sub>cls,Med</sub> 23	-12401	1425	-173	-15.2
411	Ft. 23	-11432	-1048	192	93.0
	σ <sub>s,c</sub> 23	-11432	-1048	192	-296.0
	σ <sub>cls,Max</sub> 23	-11432	-1048	192	-25.4
	σ <sub>cls,Med</sub> 23	-11432	-1048	192	-11.5

Pilastro: 112/12 / L 3.540[m] / Sezione 33 B 30 [cm]H 30 [cm]

Af: 8 ø 18 Af=20.36 [cm²] < 1ø18 x 4 V + 1ø18 x 2 B + 1ø18 x 2 H >

Staffe: ø 8/12.5' x 52.0/ø 8/20.0' x 250.0/ø 8/12.5' x 52.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
112	1	-81567	-723	78	1.00	1.00	0.40
12	1	-82722	-495	-85	1.00	1.00	0.40

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.680	4098	10451	4647	10451	ø 8/12.5'
0.680	3.180	4098	6532	4647	6532	ø 8/20.0'
3.180	3.700	4098	10451	4647	10451	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

112	Ft. 20	-59923	-555	54	-648.3
	σ <sub>s,c</sub> 19	-61546	-556	58	-864.0
	σ <sub>cls,Max</sub> 19	-61546	-556	58	-61.6
	σ <sub>cls,Med</sub> 19	-61546	-556	58	-51.1
12	Ft. 20	-60811	-354	-59	-690.8
	σ <sub>s,c</sub> 19	-62434	-369	-63	-846.0
	σ <sub>cls,Max</sub> 19	-62434	-369	-63	-59.2
	σ <sub>cls,Med</sub> 19	-62434	-369	-63	-51.8

Combinazioni Frequenti

112	Ft. 22	-56150	-555	47	-602.5
	σ <sub>s,c</sub> 21	-57378	-556	50	-810.8
	σ <sub>cls,Max</sub> 21	-57378	-556	50	-58.0
	σ <sub>cls,Med</sub> 21	-57378	-556	50	-47.6
12	Ft. 22	-57038	-317	-52	-650.9
	σ <sub>s,c</sub> 21	-58267	-329	-54	-786.3
	σ <sub>cls,Max</sub> 21	-58267	-329	-54	-54.9
	σ <sub>cls,Med</sub> 21	-58267	-329	-54	-48.3

Combinazioni Quasi Permanenti

112	Ft. 23	-55930	-555	47	-599.8
	σ <sub>s,c</sub> 23	-55930	-555	47	-792.3
	σ <sub>cls,Max</sub> 23	-55930	-555	47	-56.8
	σ <sub>cls,Med</sub> 23	-55930	-555	47	-46.4
12	Ft. 23	-56819	-315	-51	-648.6

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>s,c</sub> 23	-56819	-315	-51	-765.5
	σ <sub>cls,Max</sub> 23	-56819	-315	-51	-53.4
	σ <sub>cls,Med</sub> 23	-56819	-315	-51	-47.1

Pilastro: 112/212 / L 3.050[m] / Sezione 3 B 30 [cm]H 30 [cm]

Af: 4 ø 18 Af=10.18 [cm²] < 1φ18 x 4 V + 0φ18 x 2 B + 0φ18 x 2 H >

Staffe: ø 8/12.5' x 50.8/ø 8/20.0' x 203.3/ø 8/12.5' x 50.8

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
112	15	-43018	2262	-1981	1.00	1.00	0.45
212	1	-59782	-1669	43	1.00	1.00	0.41

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.668	2158	10876	2778	10876	ø 8/12.5'
0.668	2.702	2158	6798	2778	6798	ø 8/20.0'
2.702	3.210	2158	10876	2778	10876	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

#### Combinazioni Rare

112	Ft. 20	-44715	1505	-39	-352.1
	σ <sub>s,c</sub> 19	-45818	1525	-43	-942.3
	σ <sub>cls,Max</sub> 19	-45818	1525	-43	-71.6
	σ <sub>cls,Med</sub> 19	-45818	1525	-43	-43.5
212	Ft. 20	-43957	-1260	29	-388.5
	σ <sub>s,c</sub> 19	-45060	-1274	31	-883.0
	σ <sub>cls,Max</sub> 19	-45060	-1274	31	-66.2
	σ <sub>cls,Med</sub> 19	-45060	-1274	31	-42.8

#### Combinazioni Frequenti

112	Ft. 22	-41656	1463	-33	-317.4
	σ <sub>s,c</sub> 21	-42535	1478	-35	-885.4
	σ <sub>cls,Max</sub> 21	-42535	1478	-35	-67.5
	σ <sub>cls,Med</sub> 21	-42535	1478	-35	-40.4
212	Ft. 22	-40898	-1228	24	-351.7
	σ <sub>s,c</sub> 21	-41777	-1239	25	-828.7
	σ <sub>cls,Max</sub> 21	-41777	-1239	25	-62.3
	σ <sub>cls,Med</sub> 21	-41777	-1239	25	-39.7

#### Combinazioni Quasi Permanenti

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
112	Ft. 23	-41439	1461	-32	-314.8
	σ <sub>s,c</sub> 23	-41439	1461	-32	-866.2
	σ <sub>cls,Max</sub> 23	-41439	1461	-32	-66.1
	σ <sub>cls,Med</sub> 23	-41439	1461	-32	-39.4
212	Ft. 23	-40681	-1227	23	-348.9
	σ <sub>s,c</sub> 23	-40681	-1227	23	-810.4
	σ <sub>cls,Max</sub> 23	-40681	-1227	23	-61.0
	σ <sub>cls,Med</sub> 23	-40681	-1227	23	-38.6

Pilastro: 212/312 / L 2.910[m] / Sezione 3 B 30 [cm]H 30 [cm]

Af: 4 ø 18 Af=10.18 [cm<sup>2</sup>] < 1ø18 x 4 V + 0ø18 x 2 B + 0ø18 x 2 H >

Staffe: ø 8/12.5' x 48.5/ø 8/20.0' x 194.0/ø 8/12.5' x 48.5

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
212	15	-26991	2250	-2605	1.00	1.00	0.46
312	15	-26264	-2192	2578	1.00	1.00	0.45

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.645	2798	10876	3016	10876	ø 8/12.5'
0.645	2.585	2798	6798	3016	6798	ø 8/20.0'
2.585	3.070	2798	10876	3016	10876	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

#### Combinazioni Rare

212	Ft. 20	-28489	1185	-39	-180.1
	σ <sub>s,c</sub> 19	-29051	1198	-43	-643.0
	σ <sub>cls,Max</sub> 19	-29051	1198	-43	-49.8
	σ <sub>cls,Med</sub> 19	-29051	1198	-43	-27.6
312	Ft. 20	-27762	-1261	38	-155.7
	σ <sub>s,c</sub> 19	-28324	-1274	43	-646.7
	σ <sub>cls,Max</sub> 19	-28324	-1274	43	-50.5
	σ <sub>cls,Med</sub> 19	-28324	-1274	43	-26.9

#### Combinazioni Frequenti

212	Ft. 22	-26173	1155	-31	-154.1
	σ <sub>s,c</sub> 21	-26690	1164	-34	-601.5
	σ <sub>cls,Max</sub> 21	-26690	1164	-34	-46.8
	σ <sub>cls,Med</sub> 21	-26690	1164	-34	-25.4



Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
312	Ft. 22	-25446	-1232	30	-129.7
	σ <sub>s,c</sub> 21	-25964	-1242	33	-605.3
	σ <sub>cls,Max</sub> 21	-25964	-1242	33	-47.5
	σ <sub>cls,Med</sub> 21	-25964	-1242	33	-24.7
Combinazioni Quasi Permanenti					
212	Ft. 23	-25960	1153	-30	-151.5
	σ <sub>s,c</sub> 23	-25960	1153	-30	-588.3
	σ <sub>cls,Max</sub> 23	-25960	1153	-30	-45.9
	σ <sub>cls,Med</sub> 23	-25960	1153	-30	-24.7
312	Ft. 23	-25233	-1230	30	-127.0
	σ <sub>s,c</sub> 23	-25233	-1230	30	-592.1
	σ <sub>cls,Max</sub> 23	-25233	-1230	30	-46.5
	σ <sub>cls,Med</sub> 23	-25233	-1230	30	-24.0

Pilastro: 312/412 / L 2.910[m] / Sezione 3 B 30 [cm]H 30 [cm]

Af: 4 ø 18 Af=10.18 [cm²] < 1ø18 x 4 V + 0ø18 x 2 B + 0ø18 x 2 H >

Staffe: ø 8/12.5' x 48.5/ø 8/20.0' x 194.0/ø 8/12.5' x 48.5

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
312	15	-11013	1970	-2267	1.00	1.00	0.46
412	15	-10286	-2051	2475	1.00	1.00	0.50

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.645	3348	10876	3443	10876	ø 8/12.5'
0.645	2.585	3348	6798	3443	6798	ø 8/20.0'
2.585	3.070	3348	10876	3443	10876	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

312	Ft. 19	-12398	1168	-50	134.1
	σ <sub>s,c</sub> 19	-12398	1168	-50	-422.1
	σ <sub>cls,Max</sub> 19	-12398	1168	-50	-36.6
	σ <sub>cls,Med</sub> 19	-12398	1168	-50	-17.7
412	Ft. 19	-11671	-950	55	57.5
	σ <sub>s,c</sub> 19	-11671	-950	55	-362.8
	σ <sub>cls,Max</sub> 19	-11671	-950	55	-30.6
	σ <sub>cls,Med</sub> 19	-11671	-950	55	-14.7

Combinazioni Frequenti					
312	Ft. 21	-10961	1119	-42	165.6
	$\sigma_{s,c21}$	-10961	1119	-42	-393.8
	$\sigma_{cls,Max21}$	-10961	1119	-42	-34.8
	$\sigma_{cls,Med21}$	-10961	1119	-42	-16.9
412	Ft. 21	-10235	-889	45	74.3
	$\sigma_{s,c21}$	-10235	-889	45	-330.9
	$\sigma_{cls,Max21}$	-10235	-889	45	-28.2
	$\sigma_{cls,Med21}$	-10235	-889	45	-13.6
Combinazioni Quasi Permanenti					
312	Ft. 23	-10597	1102	-39	171.9
	$\sigma_{s,c23}$	-10597	1102	-39	-385.4
	$\sigma_{cls,Max23}$	-10597	1102	-39	-34.2
	$\sigma_{cls,Med23}$	-10597	1102	-39	-16.6
412	Ft. 23	-9870	-868	42	76.4
	$\sigma_{s,c23}$	-9870	-868	42	-321.4
	$\sigma_{cls,Max23}$	-9870	-868	42	-27.5
	$\sigma_{cls,Med23}$	-9870	-868	42	-13.3

Pilastro: 113/13 / L 3.540[m] / Sezione 33 B 30 [cm]H 30 [cm]

Af: 4  $\phi$  24 + 4  $\phi$  18 Af=28.27 [cm<sup>2</sup>] < 1 $\phi$ 24 x 4 V + 1 $\phi$ 18 x 2 B + 1 $\phi$ 18 x 2 H >

Staffe:  $\phi$  8/12.5' x 50.0/ $\phi$  8/20.0' x 254.0/ $\phi$  8/12.5' x 50.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
113	7	-48494	-133	2157	1.00	1.00	0.29
13	1	-71415	-663	-198	1.00	1.00	0.31

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.660	317	10451	5400	10451	$\phi$ 8/12.5'
0.660	3.200	317	6532	5400	6532	$\phi$ 8/20.0'
3.200	3.700	317	10451	5400	10451	$\phi$ 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare					
113	Ft. 20	-51407	-59	124	-556.6
	$\sigma_{s,c19}$	-52929	-56	130	-625.8
	$\sigma_{cls,Max19}$	-52929	-56	130	-42.9
	$\sigma_{cls,Med19}$	-52929	-56	130	-40.0

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
13	Ft. 20	-52296	-485	-142	-504.3
	σ <sub>s,c</sub> 19	-53818	-499	-148	-700.7
	σ <sub>cls,Max</sub> 19	-53818	-499	-148	-50.8
	σ <sub>cls,Med</sub> 19	-53818	-499	-148	-40.6
Combinazioni Frequenti					
113	Ft. 22	-47899	-67	113	-517.4
	σ <sub>s,c</sub> 21	-49048	-64	117	-581.1
	σ <sub>cls,Max</sub> 21	-49048	-64	117	-39.9
	σ <sub>cls,Med</sub> 21	-49048	-64	117	-37.0
13	Ft. 22	-48788	-452	-129	-471.0
	σ <sub>s,c</sub> 21	-49937	-462	-134	-649.5
	σ <sub>cls,Max</sub> 21	-49937	-462	-134	-47.0
	σ <sub>cls,Med</sub> 21	-49937	-462	-134	-37.7
Combinazioni Quasi Permanenti					
113	Ft. 23	-47697	-67	112	-515.1
	σ <sub>s,c</sub> 23	-47697	-67	112	-565.5
	σ <sub>cls,Max</sub> 23	-47697	-67	112	-38.8
	σ <sub>cls,Med</sub> 23	-47697	-67	112	-36.0
13	Ft. 23	-48586	-450	-129	-469.1
	σ <sub>s,c</sub> 23	-48586	-450	-129	-631.7
	σ <sub>cls,Max</sub> 23	-48586	-450	-129	-45.7
	σ <sub>cls,Med</sub> 23	-48586	-450	-129	-36.7

Pilastro: 113/213 / L 3.050[m] / Sezione 3 B 30 [cm] H 30 [cm]

Af: 4 ø 24 Af=18.10 [cm²] < 1φ24 x 4 V + 0φ24 x 2 B + 0φ24 x 2 H >

Staffe: ø 8/12.5' x 50.8/ø 8/20.0' x 203.3/ø 8/12.5' x 50.8

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
113	1	-52859	721	9	1.00	1.00	0.28
213	1	-51873	-444	1	1.00	1.00	0.26

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.668	346	10876	2774	10876	ø 8/12.5'
0.668	2.702	346	6798	2774	6798	ø 8/20.0'
2.702	3.210	346	10876	2774	10876	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare					
113	Ft. 20	-38791	539	10	-409.8
	$\sigma_{s,c}19$	-39803	548	8	-597.9
	$\sigma_{cls,Max}19$	-39803	548	8	-42.8
	$\sigma_{cls,Med}19$	-39803	548	8	-34.0
213	Ft. 20	-38033	-334	-2	-433.9
	$\sigma_{s,c}19$	-39045	-338	-1	-553.7
	$\sigma_{cls,Max}19$	-39045	-338	-1	-38.7
	$\sigma_{cls,Med}19$	-39045	-338	-1	-33.3
Combinazioni Frequenti					
113	Ft. 22	-35952	519	13	-376.0
	$\sigma_{s,c}21$	-36762	526	12	-556.0
	$\sigma_{cls,Max}21$	-36762	526	12	-39.9
	$\sigma_{cls,Med}21$	-36762	526	12	-31.4
213	Ft. 22	-35193	-324	-5	-398.4
	$\sigma_{s,c}21$	-36003	-327	-4	-513.6
	$\sigma_{cls,Max}21$	-36003	-327	-4	-36.0
	$\sigma_{cls,Med}21$	-36003	-327	-4	-30.7
Combinazioni Quasi Permanenti					
113	Ft. 23	-35748	518	14	-373.5
	$\sigma_{s,c}23$	-35748	518	14	-542.0
	$\sigma_{cls,Max}23$	-35748	518	14	-38.9
	$\sigma_{cls,Med}23$	-35748	518	14	-30.5
213	Ft. 23	-34990	-323	-6	-395.9
	$\sigma_{s,c}23$	-34990	-323	-6	-500.2
	$\sigma_{cls,Max}23$	-34990	-323	-6	-35.1
	$\sigma_{cls,Med}23$	-34990	-323	-6	-29.9

Pilastro: 213/313 / L 2.910[m] / Sezione 3 B 30 [cm]H 30 [cm]  
 Af: 4  $\phi$  24 Af=18.10 [cm<sup>2</sup>] < 1 $\phi$ 24 x 4 V + 0 $\phi$ 24 x 2 B + 0 $\phi$ 24 x 2 H >  
 Staffe:  $\phi$  8/12.5' x 48.5/ $\phi$  8/20.0' x 194.0/ $\phi$  8/12.5' x 48.5  
 Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
213	15	-22615	493	-2694	1.00	1.00	0.26
313	15	-21889	-453	2676	1.00	1.00	0.26

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.645	328	10876	2983	10876	$\phi$ 8/12.5'
0.645	2.585	328	6798	2983	6798	$\phi$ 8/20.0'
2.585	3.070	328	10876	2983	10876	$\phi$ 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
Combinazioni Rare					
213	Ft. 20	-25290	233	-31	-282.0
	σ <sub>s,c</sub> 19	-25790	236	-35	-373.2
	σ <sub>cls,Max</sub> 19	-25790	236	-35	-26.3
	σ <sub>cls,Med</sub> 19	-25790	236	-35	-22.0
313	Ft. 20	-24563	-287	36	-263.3
	σ <sub>s,c</sub> 19	-25063	-290	40	-373.3
	σ <sub>cls,Max</sub> 19	-25063	-290	40	-26.6
	σ <sub>cls,Med</sub> 19	-25063	-290	40	-21.4
Combinazioni Frequenti					
213	Ft. 22	-23118	227	-23	-256.5
	σ <sub>s,c</sub> 21	-23589	229	-26	-342.4
	σ <sub>cls,Max</sub> 21	-23589	229	-26	-24.2
	σ <sub>cls,Med</sub> 21	-23589	229	-26	-20.1
313	Ft. 22	-22392	-283	28	-237.5
	σ <sub>s,c</sub> 21	-22862	-285	31	-342.7
	σ <sub>cls,Max</sub> 21	-22862	-285	31	-24.5
	σ <sub>cls,Med</sub> 21	-22862	-285	31	-19.5
Combinazioni Quasi Permanenti					
213	Ft. 23	-22913	227	-22	-254.0
	σ <sub>s,c</sub> 23	-22913	227	-22	-332.8
	σ <sub>cls,Max</sub> 23	-22913	227	-22	-23.5
	σ <sub>cls,Med</sub> 23	-22913	227	-22	-19.6
313	Ft. 23	-22186	-283	27	-235.0
	σ <sub>s,c</sub> 23	-22186	-283	27	-333.2
	σ <sub>cls,Max</sub> 23	-22186	-283	27	-23.9
	σ <sub>cls,Med</sub> 23	-22186	-283	27	-18.9

Pilastro: 313/413 / L 2.910[m] / Sezione 3 B 30 [cm] H 30 [cm]

Af: 4 ø 24 Af=18.10 [cm²] < 1ø24 x 4 V + 0ø24 x 2 B + 0ø24 x 2 H >

Staffe: ø 8/12.5' x 48.5/ø 8/20.0' x 194.0/ø 8/12.5' x 48.5

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
313	15	-9965	438	-2381	1.00	1.00	0.22
413	15	-9239	-607	2596	1.00	1.00	0.25

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
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COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.160	0.645	318	10876	4356	10876	ø 8/12.5'
0.645	2.585	318	6798	4356	6798	ø 8/20.0'
2.585	3.070	318	10876	4356	10876	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

**Combinazioni Rare**

313	Ft. 19	-11752	326	-67	-88.2
	σ <sub>s,c</sub> 19	-11752	326	-67	-212.7
	σ <sub>cls,Max</sub> 19	-11752	326	-67	-16.3
	σ <sub>cls,Med</sub> 20	-11763	320	-64	-10.0
413	Ft. 19	-11025	-281	85	-83.2
	σ <sub>s,c</sub> 19	-11025	-281	85	-199.1
	σ <sub>cls,Max</sub> 19	-11025	-281	85	-15.2
	σ <sub>cls,Med</sub> 20	-11037	-273	81	-9.4

**Combinazioni Frequenti**

313	Ft. 22	-10261	306	-54	-74.3
	σ <sub>s,c</sub> 21	-10392	311	-57	-191.3
	σ <sub>cls,Max</sub> 21	-10392	311	-57	-14.7
	σ <sub>cls,Med</sub> 21	-10392	311	-57	-8.9
413	Ft. 22	-9535	-252	70	-71.1
	σ <sub>s,c</sub> 21	-9665	-258	73	-176.2
	σ <sub>cls,Max</sub> 21	-9665	-258	73	-13.5
	σ <sub>cls,Med</sub> 21	-9665	-258	73	-8.3

**Combinazioni Quasi Permanenti**

313	Ft. 23	-10055	305	-53	-71.9
	σ <sub>s,c</sub> 23	-10055	305	-53	-185.6
	σ <sub>cls,Max</sub> 23	-10055	305	-53	-14.3
	σ <sub>cls,Med</sub> 23	-10055	305	-53	-8.6
413	Ft. 23	-9328	-250	69	-68.8
	σ <sub>s,c</sub> 23	-9328	-250	69	-170.1
	σ <sub>cls,Max</sub> 23	-9328	-250	69	-13.0
	σ <sub>cls,Med</sub> 23	-9328	-250	69	-8.0

Pilastro: 114/14 / L 3.700[m] / Sezione 34 B 30 [cm]H 40 [cm]

Af: 4 ø 28 + 6 ø 14 Af=33.87 [cm<sup>2</sup>] < 1ø28 x 4 V + 1ø14 x 2 B + 2ø14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 50.0/ø 8 2br.x4br./15.0' x 270.0/ø 8 2br.x4br./10.0' x 50.0

Verifiche a Presso-Flessione S.L.U.

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
114	1	-89082	2290	-197	1.00	1.00	0.33
14	15	-72611	4614	1662	1.00	1.00	0.36

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.625	10998	18375	817	26128	ø 8 2br.x4br./10.0'
0.625	3.325	10998	12250	817	17419	ø 8 2br.x4br./15.0'
3.325	3.825	10998	18375	817	26128	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

Combinazioni Rare

114	Ft. 20	-65083	1657	-146	-414.8
	σ <sub>s,c</sub> 19	-67065	1727	-149	-752.1
	σ <sub>cls,Max</sub> 19	-67065	1727	-149	-55.3
	σ <sub>cls,Med</sub> 19	-67065	1727	-149	-39.3
14	Ft. 20	-66268	-74	612	-511.1
	σ <sub>s,c</sub> 19	-68250	-85	627	-672.3
	σ <sub>cls,Max</sub> 19	-68250	-85	627	-48.1
	σ <sub>cls,Med</sub> 19	-68250	-85	627	-40.0

Combinazioni Frequenti

114	Ft. 22	-60492	1570	-138	-382.7
	σ <sub>s,c</sub> 21	-61990	1617	-141	-697.2
	σ <sub>cls,Max</sub> 21	-61990	1617	-141	-51.3
	σ <sub>cls,Med</sub> 21	-61990	1617	-141	-36.3
14	Ft. 22	-61677	-83	575	-474.6
	σ <sub>s,c</sub> 21	-63175	-88	587	-623.4
	σ <sub>cls,Max</sub> 21	-63175	-88	587	-44.6
	σ <sub>cls,Med</sub> 21	-63175	-88	587	-37.0

Combinazioni Quasi Permanenti

114	Ft. 23	-60226	1572	-138	-380.3
	σ <sub>s,c</sub> 23	-60226	1572	-138	-677.6
	σ <sub>cls,Max</sub> 23	-60226	1572	-138	-49.9
	σ <sub>cls,Med</sub> 23	-60226	1572	-138	-35.3
14	Ft. 23	-61411	-87	573	-472.4
	σ <sub>s,c</sub> 23	-61411	-87	573	-606.3
	σ <sub>cls,Max</sub> 23	-61411	-87	573	-43.4
	σ <sub>cls,Med</sub> 23	-61411	-87	573	-36.0

Pilastro: 114/214 / L 3.120[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af:  $4 \phi 28 + 4 \phi 14$  Af=30.79 [cm<sup>2</sup>] <  $1 \phi 28 \times 4 V + 0 \phi 12 \times 2 B + 2 \phi 14 \times 2 H$  >

Staffe:  $\phi 8$  2br.x4br./10.0' x 52.0/ $\phi 8$  2br.x4br./15.0' x 208.0/ $\phi 8$  2br.x4br./10.0' x 52.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
114	14	-35880	10252	-190	1.00	1.00	0.43
214	14	-34869	-8389	-136	1.00	1.00	0.36

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.645	10868	18906	235	27190	$\phi 8$ 2br.x4br./10.0'
0.645	2.725	10868	12604	235	18127	$\phi 8$ 2br.x4br./15.0'
2.725	3.245	10868	18906	235	27190	$\phi 8$ 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare

114	Ft. 20	-49005	2981	-130	-156.4
	$\sigma_{s,c} 19$	-50321	3087	-130	-749.8
	$\sigma_{cls,Max} 19$	-50321	3087	-130	-57.1
	$\sigma_{cls,Med} 19$	-50321	3087	-130	-30.3
214	Ft. 20	-47994	-2609	24	-192.6
	$\sigma_{s,c} 19$	-49310	-2701	24	-694.0
	$\sigma_{cls,Max} 19$	-49310	-2701	24	-52.1
	$\sigma_{cls,Med} 19$	-49310	-2701	24	-29.7

Combinazioni Frequenti

114	Ft. 22	-45279	2839	-128	-135.9
	$\sigma_{s,c} 21$	-46336	2909	-128	-697.5
	$\sigma_{cls,Max} 21$	-46336	2909	-128	-53.2
	$\sigma_{cls,Med} 21$	-46336	2909	-128	-27.9
214	Ft. 22	-44268	-2475	26	-171.0
	$\sigma_{s,c} 21$	-45325	-2538	25	-643.3
	$\sigma_{cls,Max} 21$	-45325	-2538	25	-48.4
	$\sigma_{cls,Med} 21$	-45325	-2538	25	-27.3

Combinazioni Quasi Permanenti

114	Ft. 23	-45011	2839	-128	-133.5
	$\sigma_{s,c} 23$	-45011	2839	-128	-679.0
	$\sigma_{cls,Max} 23$	-45011	2839	-128	-51.8
	$\sigma_{cls,Med} 23$	-45011	2839	-128	-27.1
214	Ft. 23	-44000	-2474	26	-168.7



Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>s,c</sub> 23	-44000	-2474	26	-625.6
	σ <sub>cls,Max</sub> 23	-44000	-2474	26	-47.1
	σ <sub>cls,Med</sub> 23	-44000	-2474	26	-26.5

Pilastro: 214/314 / L 2.980[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4 ø 28 + 4 ø 14 Af=30.79 [cm²] < 1φ28 x 4 V + 0φ12 x 2 B + 2φ14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 49.7/ø 8 2br.x4br./12.5' x 198.7/ø 8 2br.x4br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
214	14	-23115	-12157	336	1.00	1.00	0.54
314	14	-22146	11508	-333	1.00	1.00	0.51

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	13613	18906	244	27190	ø 8 2br.x4br./10.0'
0.622	2.608	13613	15125	244	21752	ø 8 2br.x4br./12.5'
2.608	3.105	13613	18906	244	27190	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

214	Ft. 19	-32602	-2184	-55	-89.2
	σ <sub>s,c</sub> 19	-32602	-2184	-55	-499.4
	σ <sub>cls,Max</sub> 19	-32602	-2184	-55	-38.2
	σ <sub>cls,Med</sub> 19	-32602	-2184	-55	-19.6
314	Ft. 19	-31633	2192	4	-85.2
	σ <sub>s,c</sub> 19	-31633	2192	4	-485.8
	σ <sub>cls,Max</sub> 19	-31633	2192	4	-37.1
	σ <sub>cls,Med</sub> 19	-31633	2192	4	-19.0

Combinazioni Frequenti

214	Ft. 22	-29098	-2044	-46	-71.2
	σ <sub>s,c</sub> 21	-29712	-2092	-48	-464.2
	σ <sub>cls,Max</sub> 21	-29712	-2092	-48	-35.6
	σ <sub>cls,Med</sub> 21	-29712	-2092	-48	-17.9
314	Ft. 22	-28129	2064	-1	-65.5
	σ <sub>s,c</sub> 21	-28743	2118	0	-452.7
	σ <sub>cls,Max</sub> 21	-28743	2118	0	-34.7
	σ <sub>cls,Med</sub> 21	-28743	2118	0	-17.4

Combinazioni Quasi Permanenti

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
214	Ft. 23	-28827	-2050	-45	-68.3
	σ <sub>s,c</sub> 23	-28827	-2050	-45	-452.1
	σ <sub>cls,Max</sub> 23	-28827	-2050	-45	-34.7
	σ <sub>cls,Med</sub> 23	-28827	-2050	-45	-17.3
314	Ft. 23	-27858	2076	-1	-61.9
	σ <sub>s,c</sub> 23	-27858	2076	-1	-441.0
	σ <sub>cls,Max</sub> 23	-27858	2076	-1	-33.8
	σ <sub>cls,Med</sub> 23	-27858	2076	-1	-16.9

Pilastro: 314/414 / L 2.980[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4 ø 28 + 4 ø 14 Af=30.79 [cm²] < 1φ28 x 4 V + 0φ12 x 2 B + 2φ14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 49.7/ø 8 2br.x4br./12.5' x 198.7/ø 8 2br.x4br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
314	14	-11184	11588	22	1.00	1.00	0.56
414	14	-10215	-13794	176	1.00	1.00	0.69

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	13844	18906	145	27190	ø 8 2br.x4br./10.0'
0.622	2.608	13844	15125	145	21752	ø 8 2br.x4br./12.5'
2.608	3.105	13844	18906	145	27190	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

314	Ft. 19	-15074	2587	34	215.9
	σ <sub>s,c</sub> 19	-15074	2587	34	-399.1
	σ <sub>cls,Max</sub> 19	-15074	2587	34	-33.9
	σ <sub>cls,Med</sub> 19	-15074	2587	34	-16.7
414	Ft. 20	-14129	-3139	-108	374.1
	σ <sub>s,c</sub> 20	-14129	-3139	-108	-463.8
	σ <sub>cls,Max</sub> 20	-14129	-3139	-108	-40.9
	σ <sub>cls,Med</sub> 20	-14129	-3139	-108	-19.6

Combinazioni Frequenti

314	Ft. 21	-13252	2403	28	217.4
	σ <sub>s,c</sub> 21	-13252	2403	28	-364.8
	σ <sub>cls,Max</sub> 21	-13252	2403	28	-31.2
	σ <sub>cls,Med</sub> 21	-13252	2403	28	-15.4

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
414	Ft. 21	-12283	-2789	-98	339.9
	σ <sub>s,c</sub> 21	-12283	-2789	-98	-410.5
	σ <sub>cls,Max</sub> 21	-12283	-2789	-98	-36.3
	σ <sub>cls,Med</sub> 21	-12283	-2789	-98	-17.4
Combinazioni Quasi Permanenti					
314	Ft. 23	-12802	2346	26	215.1
	σ <sub>s,c</sub> 23	-12802	2346	26	-354.9
	σ <sub>cls,Max</sub> 23	-12802	2346	26	-30.4
	σ <sub>cls,Med</sub> 23	-12802	2346	26	-15.0
414	Ft. 23	-11833	-2709	-94	332.4
	σ <sub>s,c</sub> 23	-11833	-2709	-94	-397.7
	σ <sub>cls,Max</sub> 23	-11833	-2709	-94	-35.2
	σ <sub>cls,Med</sub> 23	-11833	-2709	-94	-16.9

Pilastro: 115/15 / L 3.700[m] / Sezione 46 B 30 [cm]H 50 [cm]

Af: 4 ø 28 + 4 ø 24 Af=42.73 [cm<sup>2</sup>] < 1φ28 x 4 V + 0φ24 x 2 B + 2φ24 x 2 H >

Staffe: ø 8 2br.x4br./12.5' x 43.0/ø 8 2br.x4br./15.0' x 284.0/ø 8 2br.x4br./12.5' x 43.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
115	15	-141848	271	-1619	1.00	1.00	0.39
15	15	-143330	8435	2686	1.00	1.00	0.50

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.555	14708	19373	8416	21752	ø 8 2br.x4br./12.5'
0.555	3.395	14708	16144	8416	18127	ø 8 2br.x4br./15.0'
3.395	3.825	14708	19373	8416	21752	ø 8 2br.x4br./12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

Combinazioni Rare

115	Ft. 20	-87159	3558	732	-324.1
	σ <sub>s,c</sub> 19	-90474	3671	759	-929.9
	σ <sub>cls,Max</sub> 19	-90474	3671	759	-68.3
	σ <sub>cls,Med</sub> 19	-90474	3671	759	-42.3
15	Ft. 20	-88640	-721	-155	-562.4
	σ <sub>s,c</sub> 19	-91955	-706	-155	-701.9
	σ <sub>cls,Max</sub> 19	-91955	-706	-155	-48.0
	σ <sub>cls,Med</sub> 19	-91955	-706	-155	-43.0

Combinazioni Frequenti					
115	Ft. 22	-79993	3395	700	-287.0
	$\sigma_{s,c21}$	-82453	3471	718	-857.6
	$\sigma_{cls,Max21}$	-82453	3471	718	-63.1
	$\sigma_{cls,Med21}$	-82453	3471	718	-38.5
15	Ft. 22	-81475	-764	-165	-508.7
	$\sigma_{s,c21}$	-83934	-752	-164	-649.4
	$\sigma_{cls,Max21}$	-83934	-752	-164	-44.6
	$\sigma_{cls,Med21}$	-83934	-752	-164	-39.2
Combinazioni Quasi Permanenti					
115	Ft. 23	-79619	3393	700	-284.4
	$\sigma_{s,c23}$	-79619	3393	700	-831.3
	$\sigma_{cls,Max23}$	-79619	3393	700	-61.3
	$\sigma_{cls,Med23}$	-79619	3393	700	-37.2
15	Ft. 23	-81100	-767	-166	-505.7
	$\sigma_{s,c23}$	-81100	-767	-166	-630.7
	$\sigma_{cls,Max23}$	-81100	-767	-166	-43.4
	$\sigma_{cls,Med23}$	-81100	-767	-166	-37.9

Pilastro: 115/215 / L 3.120[m] / Sezione 16 B 30 [cm]H 50 [cm]

Af:  $4 \phi 28 + 4 \phi 24$  Af=42.73 [cm<sup>2</sup>] <  $1 \phi 28 \times 4 V + 0 \phi 24 \times 2 B + 2 \phi 24 \times 2 H$  >

Staffe:  $\phi 8$  2br.x4br./15.0' x 312.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
115	14	1790	-15239	3387	1.00	1.00	0.57
215	14	3054	14630	-2900	1.00	1.00	0.54

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	3.245	14305	16144	3068	18127	$\phi 8$ 2br.x4br./15.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare					
115	Ft. 19	-65502	-6531	1302	85.4
	$\sigma_{s,c19}$	-65502	-6531	1302	-992.7
	$\sigma_{cls,Max19}$	-65502	-6531	1302	-77.7
	$\sigma_{cls,Med19}$	-65502	-6531	1302	-33.7
215	Ft. 20	-62081	6044	-1141	59.2
	$\sigma_{s,c19}$	-64238	6225	-1172	-950.7

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Max</sub> 19	-64238	6225	-1172	-74.0
	σ <sub>cls,Med</sub> 19	-64238	6225	-1172	-32.5
Combinazioni Frequenti					
115	Ft. 22	-57609	-6010	1203	104.3
	σ <sub>s,c</sub> 21	-59307	-6148	1232	-921.2
	σ <sub>cls,Max</sub> 21	-59307	-6148	1232	-72.4
	σ <sub>cls,Med</sub> 21	-59307	-6148	1232	-31.1
215	Ft. 22	-56346	5721	-1094	79.5
	σ <sub>s,c</sub> 21	-58044	5850	-1116	-880.6
	σ <sub>cls,Max</sub> 21	-58044	5850	-1116	-68.9
	σ <sub>cls,Med</sub> 21	-58044	5850	-1116	-30.0
Combinazioni Quasi Permanenti					
115	Ft. 23	-57219	-6003	1203	107.4
	σ <sub>s,c</sub> 23	-57219	-6003	1203	-895.5
	σ <sub>cls,Max</sub> 23	-57219	-6003	1203	-70.4
	σ <sub>cls,Med</sub> 23	-57219	-6003	1203	-30.2
215	Ft. 23	-55956	5710	-1094	82.2
	σ <sub>s,c</sub> 23	-55956	5710	-1094	-855.9
	σ <sub>cls,Max</sub> 23	-55956	5710	-1094	-67.0
	σ <sub>cls,Med</sub> 23	-55956	5710	-1094	-29.1

Pilastro: 215/315 / L 2.980[m] / Sezione 16 B 30 [cm]H 50 [cm]

Af: 4 ø 28 + 4 ø 24 Af=42.73 [cm²] < 1φ28 x 4 V + 0φ24 x 2 B + 2φ24 x 2 H >

Staffe: ø 8 2br.x4br./12.5' x 298.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
215	14	2407	-22376	3459	1.00	1.00	0.80
315	14	3619	20439	-3741	1.00	1.00	0.75

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	3.105	19327	19373	3607	21752	ø 8 2br.x4br./12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
Combinazioni Rare					
215	Ft. 19	-41678	-5785	1072	247.7
	σ <sub>s,c</sub> 19	-41678	-5785	1072	-783.7
	σ <sub>cls,Max</sub> 19	-41678	-5785	1072	-63.2

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Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Med</sub> 19	-41678	-5785	1072	-26.5
315	Ft. 19	-40466	5819	-1065	267.7
	σ <sub>s,c</sub> 19	-40466	5819	-1065	-780.2
	σ <sub>cls,Max</sub> 19	-40466	5819	-1065	-63.1
	σ <sub>cls,Med</sub> 19	-40466	5819	-1065	-26.5
Combinazioni Frequenti					
215	Ft. 21	-37184	-5502	1032	271.6
	σ <sub>s,c</sub> 21	-37184	-5502	1032	-735.4
	σ <sub>cls,Max</sub> 21	-37184	-5502	1032	-59.7
	σ <sub>cls,Med</sub> 21	-37184	-5502	1032	-24.9
315	Ft. 21	-35972	5560	-1026	296.3
	σ <sub>s,c</sub> 21	-35972	5560	-1026	-734.2
	σ <sub>cls,Max</sub> 21	-35972	5560	-1026	-59.9
	σ <sub>cls,Med</sub> 21	-35972	5560	-1026	-24.9
Combinazioni Quasi Permanenti					
215	Ft. 23	-35800	-5390	1014	275.8
	σ <sub>s,c</sub> 23	-35800	-5390	1014	-718.0
	σ <sub>cls,Max</sub> 23	-35800	-5390	1014	-58.4
	σ <sub>cls,Med</sub> 23	-35800	-5390	1014	-24.3
315	Ft. 23	-34589	5447	-1006	300.4
	σ <sub>s,c</sub> 23	-34589	5447	-1006	-716.5
	σ <sub>cls,Max</sub> 23	-34589	5447	-1006	-58.5
	σ <sub>cls,Med</sub> 23	-34589	5447	-1006	-24.3

Pilastro: 315/415 / L 2.980[m] / Sezione 16 B 30 [cm]H 50 [cm]

Af: 4 ø 28 + 4 ø 24 Af=42.73 [cm²] < 1ø28 x 4 V + 0ø24 x 2 B + 2ø24 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 298.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
315	14	346	-21305	3745	1.00	1.00	0.77
415	14	1557	26647	-4157	1.00	1.00	0.95

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	3.105	21166	24216	5319	27190	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
315	Ft. 19	-19124	-7098	1135	871.8
	σ <sub>s,c</sub> 19	-19124	-7098	1135	-801.5
	σ <sub>cls,Max</sub> 19	-19124	-7098	1135	-70.6
	σ <sub>cls,Med</sub> 19	-19124	-7098	1135	-28.7
415	Ft. 19	-17913	8689	-1213	1170.1
	σ <sub>s,c</sub> 20	-18001	8672	-1226	-932.9
	σ <sub>cls,Max</sub> 20	-18001	8672	-1226	-83.4
	σ <sub>cls,Med</sub> 19	-17913	8689	-1213	-34.3
Combinazioni Frequenti					
315	Ft. 21	-16162	-6586	1060	846.3
	σ <sub>s,c</sub> 21	-16162	-6586	1060	-736.8
	σ <sub>cls,Max</sub> 21	-16162	-6586	1060	-65.4
	σ <sub>cls,Med</sub> 21	-16162	-6586	1060	-26.4
415	Ft. 21	-14951	7847	-1101	1086.6
	σ <sub>s,c</sub> 21	-14951	7847	-1101	-836.1
	σ <sub>cls,Max</sub> 21	-14951	7847	-1101	-75.2
	σ <sub>cls,Med</sub> 21	-14951	7847	-1101	-30.8
Combinazioni Quasi Permanenti					
315	Ft. 23	-15443	-6427	1035	833.9
	σ <sub>s,c</sub> 23	-15443	-6427	1035	-717.7
	σ <sub>cls,Max</sub> 23	-15443	-6427	1035	-63.8
	σ <sub>cls,Med</sub> 23	-15443	-6427	1035	-25.7
415	Ft. 23	-14232	7632	-1076	1065.0
	σ <sub>s,c</sub> 23	-14232	7632	-1076	-812.3
	σ <sub>cls,Max</sub> 23	-14232	7632	-1076	-73.1
	σ <sub>cls,Med</sub> 23	-14232	7632	-1076	-29.9

Pilastro: 16/116 / L 3.700[m] / Sezione 41 B 40 [cm] H 30 [cm]

Af: 10 ø 18 Af=25.45 [cm²] < 1ø18 x 4 V + 2ø18 x 2 B + 1ø18 x 2 H >

Staffe: ø 8 4br.x2br./12.5' x 50.0/ø 8 4br.x2br./20.0' x 270.0/ø 8 4br.x2br./12.5' x 50.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
16	15	-66229	1923	-3770	1.00	1.00	0.37
116	15	-65044	-149	2732	1.00	1.00	0.30

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.625	4063	20903	7388	14700	ø 8 4br.x2br./12.5'
0.625	3.325	4063	13064	7388	9187	ø 8 4br.x2br./20.0'
3.325	3.825	4063	20903	7388	14700	ø 8 4br.x2br./12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
Combinazioni Rare					
16	Ft. 20	-60088	268	-35	-534.1
	σ <sub>s,c</sub> 19	-62034	287	-37	-626.4
	σ <sub>cls,Max</sub> 19	-62034	287	-37	-43.3
	σ <sub>cls,Med</sub> 19	-62034	287	-37	-39.2
116	Ft. 20	-58903	84	-108	-537.6
	σ <sub>s,c</sub> 19	-60849	84	-112	-598.5
	σ <sub>cls,Max</sub> 19	-60849	84	-112	-40.6
	σ <sub>cls,Med</sub> 19	-60849	84	-112	-38.5
Combinazioni Frequenti					
16	Ft. 22	-55645	234	-33	-496.3
	σ <sub>s,c</sub> 21	-57110	247	-34	-574.7
	σ <sub>cls,Max</sub> 21	-57110	247	-34	-39.6
	σ <sub>cls,Med</sub> 21	-57110	247	-34	-36.1
116	Ft. 22	-54460	84	-99	-496.3
	σ <sub>s,c</sub> 21	-55925	84	-102	-550.9
	σ <sub>cls,Max</sub> 21	-55925	84	-102	-37.4
	σ <sub>cls,Med</sub> 21	-55925	84	-102	-35.4
Combinazioni Quasi Permanenti					
16	Ft. 23	-55393	233	-33	-494.1
	σ <sub>s,c</sub> 23	-55393	233	-33	-556.5
	σ <sub>cls,Max</sub> 23	-55393	233	-33	-38.3
	σ <sub>cls,Med</sub> 23	-55393	233	-33	-35.0
116	Ft. 23	-54208	84	-99	-493.9
	σ <sub>s,c</sub> 23	-54208	84	-99	-534.2
	σ <sub>cls,Max</sub> 23	-54208	84	-99	-36.3
	σ <sub>cls,Med</sub> 23	-54208	84	-99	-34.3

Pilastro: 116/216 / L 3.120[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm<sup>2</sup>] < 1ø18 x 4 V + 2ø14 x 2 B + 0ø12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 52.0/ø 8 4br.x2br./15.0' x 208.0/ø 8 4br.x2br./10.0' x 52.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
116	15	-49268	440	-2833	1.00	1.00	0.28
216	15	-48257	122	2796	1.00	1.00	0.27

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
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Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.645	354	27190	4382	18906	ø 8 4br.x2br./10.0'
0.645	2.725	354	18127	4382	12604	ø 8 4br.x2br./15.0'
2.725	3.245	354	27190	4382	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

#### Combinazioni Rare

116	Ft. 20	-44383	-306	142	-403.6
	σ <sub>s,c</sub> 19	-45695	-314	142	-532.4
	σ <sub>cls,Max</sub> 19	-45695	-314	142	-37.1
	σ <sub>cls,Med</sub> 19	-45695	-314	142	-31.6
216	Ft. 20	-43372	271	-193	-392.0
	σ <sub>s,c</sub> 19	-44684	277	-196	-523.3
	σ <sub>cls,Max</sub> 19	-44684	277	-196	-36.5
	σ <sub>cls,Med</sub> 19	-44684	277	-196	-30.9

#### Combinazioni Frequenti

116	Ft. 22	-40784	-291	143	-368.2
	σ <sub>s,c</sub> 21	-41827	-296	143	-490.0
	σ <sub>cls,Max</sub> 21	-41827	-296	143	-34.2
	σ <sub>cls,Med</sub> 21	-41827	-296	143	-28.9
216	Ft. 22	-39773	253	-188	-357.5
	σ <sub>s,c</sub> 21	-40816	258	-191	-480.0
	σ <sub>cls,Max</sub> 21	-40816	258	-191	-33.5
	σ <sub>cls,Med</sub> 21	-40816	258	-191	-28.2

#### Combinazioni Quasi Permanenti

116	Ft. 23	-40532	-290	143	-365.7
	σ <sub>s,c</sub> 23	-40532	-290	143	-475.8
	σ <sub>cls,Max</sub> 23	-40532	-290	143	-33.2
	σ <sub>cls,Med</sub> 23	-40532	-290	143	-28.0
216	Ft. 23	-39521	251	-188	-355.0
	σ <sub>s,c</sub> 23	-39521	251	-188	-465.5
	σ <sub>cls,Max</sub> 23	-39521	251	-188	-32.5
	σ <sub>cls,Med</sub> 23	-39521	251	-188	-27.3

Pilastro: 216/316 / L 2.980[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm²] < 1ø18 x 4 V + 2ø14 x 2 B + 0ø12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 49.7/ø 8 4br.x2br./15.0' x 198.7/ø 8 4br.x2br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

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CORPO A

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
216	14	-19803	-1433	4102	1.00	1.00	0.33
316	14	-18834	945	-4012	1.00	1.00	0.29

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	733	27190	5043	18906	ø 8 4br.x2br./10.0'
0.622	2.608	733	18127	5043	12604	ø 8 4br.x2br./15.0'
2.608	3.105	733	27190	5043	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

216	Ft. 20	-28708	-143	263	-248.7
	σ <sub>s,c</sub> 19	-29388	-143	265	-354.8
	σ <sub>cls,Max</sub> 19	-29388	-143	265	-24.9
	σ <sub>cls,Med</sub> 19	-29388	-143	265	-20.3
316	Ft. 20	-27739	145	-289	-235.2
	σ <sub>s,c</sub> 19	-28419	150	-291	-348.5
	σ <sub>cls,Max</sub> 19	-28419	150	-291	-24.5
	σ <sub>cls,Med</sub> 19	-28419	150	-291	-19.7

Combinazioni Frequenti

216	Ft. 22	-25972	-143	253	-221.4
	σ <sub>s,c</sub> 21	-26592	-143	255	-324.6
	σ <sub>cls,Max</sub> 21	-26592	-143	255	-22.8
	σ <sub>cls,Med</sub> 21	-26592	-143	255	-18.4
316	Ft. 22	-25003	147	-274	-208.2
	σ <sub>s,c</sub> 21	-25623	150	-276	-317.8
	σ <sub>cls,Max</sub> 21	-25623	150	-276	-22.4
	σ <sub>cls,Med</sub> 21	-25623	150	-276	-17.7

Combinazioni Quasi Permanenti

216	Ft. 23	-25722	-143	252	-218.9
	σ <sub>s,c</sub> 23	-25722	-143	252	-315.2
	σ <sub>cls,Max</sub> 23	-25722	-143	252	-22.2
	σ <sub>cls,Med</sub> 23	-25722	-143	252	-17.8
316	Ft. 23	-24753	148	-273	-205.7
	σ <sub>s,c</sub> 23	-24753	148	-273	-308.2
	σ <sub>cls,Max</sub> 23	-24753	148	-273	-21.8
	σ <sub>cls,Med</sub> 23	-24753	148	-273	-17.1

Pilastro: 316/416 / L 2.980[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 4  $\phi$  18 + 4  $\phi$  14 Af=16.34 [cm<sup>2</sup>] < 1 $\phi$ 18 x 4 V + 2 $\phi$ 14 x 2 B + 0 $\phi$ 12 x 2 H >

Staffe:  $\phi$  8 4br.x2br./10.0' x 49.7/ $\phi$  8 4br.x2br./15.0' x 198.7/ $\phi$  8 4br.x2br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
316	14	-7959	-843	3827	1.00	1.00	0.32
416	14	-6990	1842	-4596	1.00	1.00	0.45

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	827	27190	6652	18906	$\phi$ 8 4br.x2br./10.0'
0.622	2.608	827	18127	6652	12604	$\phi$ 8 4br.x2br./15.0'
2.608	3.105	827	27190	6652	18906	$\phi$ 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare

316	Ft. 19	-12946	-323	271	-60.1
	$\sigma_{s,c}$ 19	-12946	-323	271	-208.7
	$\sigma_{cls,Max}$ 19	-12946	-323	271	-15.9
	$\sigma_{cls,Med}$ 19	-12946	-323	271	-9.0
416	Ft. 20	-11948	556	-218	-24.7
	$\sigma_{s,c}$ 19	-11977	554	-223	-223.7
	$\sigma_{cls,Max}$ 19	-11977	554	-223	-17.7
	$\sigma_{cls,Med}$ 19	-11977	554	-223	-8.4

Combinazioni Frequenti

316	Ft. 22	-11068	-299	256	-45.6
	$\sigma_{s,c}$ 21	-11252	-303	259	-187.0
	$\sigma_{cls,Max}$ 21	-11252	-303	259	-14.3
	$\sigma_{cls,Med}$ 21	-11252	-303	259	-7.8
416	Ft. 22	-10099	501	-217	-12.2
	$\sigma_{s,c}$ 21	-10283	505	-220	-199.7
	$\sigma_{cls,Max}$ 21	-10283	505	-220	-15.9
	$\sigma_{cls,Med}$ 21	-10283	505	-220	-7.3

Combinazioni Quasi Permanenti

316	Ft. 23	-10821	-297	255	-43.4
	$\sigma_{s,c}$ 23	-10821	-297	255	-181.2
	$\sigma_{cls,Max}$ 23	-10821	-297	255	-13.9
	$\sigma_{cls,Med}$ 23	-10821	-297	255	-7.5
416	Ft. 23	-9852	493	-218	-10.5

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>s,c</sub> 23	-9852	493	-218	-193.6
	σ <sub>cls,Max</sub> 23	-9852	493	-218	-15.4
	σ <sub>cls,Med</sub> 23	-9852	493	-218	-7.0

Pilastro: 17/117 / L 3.700[m] / Sezione 41 B 40 [cm]H 30 [cm]

Af: 10 ø 18 Af=25.45 [cm²] < 1φ18 x 4 V + 2φ18 x 2 B + 1φ18 x 2 H >

Staffe: ø 8 4br.x2br./12.5' x 50.0/ø 8 4br.x2br./17.5' x 270.0/ø 8 4br.x2br./12.5' x 50.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
17	1	-134099	661	1130	1.00	1.00	0.50
117	1	-132559	-31	-1647	1.00	1.00	0.50

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.625	5260	20903	9844	14700	ø 8 4br.x2br./12.5'
0.625	3.325	5260	14930	9844	10500	ø 8 4br.x2br./17.5'
3.325	3.825	5260	20903	9844	14700	ø 8 4br.x2br./12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

17	Ft. 20	-96987	455	801	-783.6
	σ <sub>s,c</sub> 19	-100596	488	843	-1098.5
	σ <sub>cls,Max</sub> 19	-100596	488	843	-77.9
	σ <sub>cls,Med</sub> 19	-100596	488	843	-63.6
117	Ft. 20	-95802	3	-1179	-787.9
	σ <sub>s,c</sub> 19	-99411	-15	-1234	-1070.4
	σ <sub>cls,Max</sub> 19	-99411	-15	-1234	-74.8
	σ <sub>cls,Med</sub> 19	-99411	-15	-1234	-62.9

Combinazioni Frequenti

17	Ft. 22	-89066	397	724	-723.2
	σ <sub>s,c</sub> 21	-91754	421	754	-997.5
	σ <sub>cls,Max</sub> 21	-91754	421	754	-70.6
	σ <sub>cls,Med</sub> 21	-91754	421	754	-58.0
117	Ft. 22	-87881	24	-1086	-719.8
	σ <sub>s,c</sub> 21	-90569	12	-1124	-975.0
	σ <sub>cls,Max</sub> 21	-90569	12	-1124	-68.1
	σ <sub>cls,Med</sub> 21	-90569	12	-1124	-57.3

Combinazioni Quasi Permanenti

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
17	Ft. 23	-88642	396	721	-719.6
	σ <sub>s,c</sub> 23	-88642	396	721	-961.6
	σ <sub>cls,Max</sub> 23	-88642	396	721	-68.0
	σ <sub>cls,Med</sub> 23	-88642	396	721	-56.0
117	Ft. 23	-87457	23	-1083	-716.2
	σ <sub>s,c</sub> 23	-87457	23	-1083	-942.6
	σ <sub>cls,Max</sub> 23	-87457	23	-1083	-65.9
	σ <sub>cls,Med</sub> 23	-87457	23	-1083	-55.3

Pilastro: 117/217 / L 3.120[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm²] < 1ø18 x 4 V + 2ø14 x 2 B + 0ø12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 52.0/ø 8 4br.x2br./15.0' x 208.0/ø 8 4br.x2br./10.0' x 52.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
117	1	-97812	-556	2331	1.00	1.00	0.45
217	1	-96498	635	-2462	1.00	1.00	0.45

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.645	2831	27190	7503	18906	ø 8 4br.x2br./10.0'
0.645	2.725	2831	18127	7503	12604	ø 8 4br.x2br./15.0'
2.725	3.245	2831	27190	7503	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

117	Ft. 20	-70889	-444	1681	-482.3
	σ <sub>s,c</sub> 19	-73294	-430	1752	-1020.8
	σ <sub>cls,Max</sub> 19	-73294	-430	1752	-73.9
	σ <sub>cls,Med</sub> 19	-73294	-430	1752	-50.7
217	Ft. 20	-69878	501	-1767	-454.3
	σ <sub>s,c</sub> 19	-72283	489	-1847	-1029.1
	σ <sub>cls,Max</sub> 19	-72283	489	-1847	-75.0
	σ <sub>cls,Med</sub> 19	-72283	489	-1847	-50.0

Combinazioni Frequenti

117	Ft. 22	-64548	-440	1566	-430.3
	σ <sub>s,c</sub> 21	-66436	-433	1615	-934.1
	σ <sub>cls,Max</sub> 21	-66436	-433	1615	-67.9
	σ <sub>cls,Med</sub> 21	-66436	-433	1615	-46.0

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
217	Ft. 22	-63537	490	-1635	-405.2
	σ <sub>s,c</sub> 21	-65425	484	-1691	-939.2
	σ <sub>cls,Max</sub> 21	-65425	484	-1691	-68.6
	σ <sub>cls,Med</sub> 21	-65425	484	-1691	-45.3
Combinazioni Quasi Permanenti					
117	Ft. 23	-64120	-437	1563	-426.5
	σ <sub>s,c</sub> 23	-64120	-437	1563	-904.6
	σ <sub>cls,Max</sub> 23	-64120	-437	1563	-65.8
	σ <sub>cls,Med</sub> 23	-64120	-437	1563	-44.4
217	Ft. 23	-63109	486	-1631	-401.7
	σ <sub>s,c</sub> 23	-63109	486	-1631	-908.5
	σ <sub>cls,Max</sub> 23	-63109	486	-1631	-66.4
	σ <sub>cls,Med</sub> 23	-63109	486	-1631	-43.7

Pilastro: 217/317 / L 2.980[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm<sup>2</sup>] < 1φ18 x 4 V + 2φ14 x 2 B + 0φ12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 49.7/ø 8 4br.x2br./15.0' x 198.7/ø 8 4br.x2br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
217	14	-31207	-3831	4696	1.00	1.00	0.51
317	14	-30238	3639	-4700	1.00	1.00	0.50

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	3314	27190	6556	18906	ø 8 4br.x2br./10.0'
0.622	2.608	3314	18127	6556	12604	ø 8 4br.x2br./15.0'
2.608	3.105	3314	27190	6556	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

Combinazioni Rare

217	Ft. 20	-45759	-575	1940	-174.0
	σ <sub>s,c</sub> 19	-46959	-559	2025	-796.1
	σ <sub>cls,Max</sub> 19	-46959	-559	2025	-60.1
	σ <sub>cls,Med</sub> 19	-46959	-559	2025	-32.5
317	Ft. 20	-44790	668	-1972	-147.9
	σ <sub>s,c</sub> 19	-45990	655	-2053	-802.1
	σ <sub>cls,Max</sub> 19	-45990	655	-2053	-61.0
	σ <sub>cls,Med</sub> 19	-45990	655	-2053	-31.8

Combinazioni Frequenti					
217	Ft. 22	-40950	-563	1796	-142.4
	$\sigma_{s,c21}$	-42042	-555	1856	-724.9
	$\sigma_{cls,Max21}$	-42042	-555	1856	-55.0
	$\sigma_{cls,Med21}$	-42042	-555	1856	-29.1
317	Ft. 22	-39981	645	-1835	-117.0
	$\sigma_{s,c21}$	-41073	639	-1892	-730.3
	$\sigma_{cls,Max21}$	-41073	639	-1892	-55.8
	$\sigma_{cls,Med21}$	-41073	639	-1892	-28.4
Combinazioni Quasi Permanenti					
217	Ft. 23	-40513	-558	1792	-139.0
	$\sigma_{s,c23}$	-40513	-558	1792	-702.1
	$\sigma_{cls,Max23}$	-40513	-558	1792	-53.3
	$\sigma_{cls,Med23}$	-40513	-558	1792	-28.0
317	Ft. 23	-39544	639	-1831	-113.7
	$\sigma_{s,c23}$	-39544	639	-1831	-707.3
	$\sigma_{cls,Max23}$	-39544	639	-1831	-54.1
	$\sigma_{cls,Med23}$	-39544	639	-1831	-27.4

Pilastro: 317/417 / L 2.980[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 4  $\phi$  18 + 4  $\phi$  14 Af=16.34 [cm<sup>2</sup>] < 1 $\phi$ 18 x 4 V + 2 $\phi$ 14 x 2 B + 0 $\phi$ 12 x 2 H >

Staffe:  $\phi$  8 4br.x2br./10.0' x 49.7/ $\phi$  8 4br.x2br./15.0' x 198.7/ $\phi$  8 4br.x2br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
317	14	-14528	-3484	4366	1.00	1.00	0.52
417	14	-13559	4089	-5065	1.00	1.00	0.62

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	4706	27190	7563	18906	$\phi$ 8 4br.x2br./10.0'
0.622	2.608	4706	18127	7563	12604	$\phi$ 8 4br.x2br./15.0'
2.608	3.105	4706	27190	7563	18906	$\phi$ 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare					
317	Ft. 19	-21169	-801	2366	291.0
	$\sigma_{s,c19}$	-21169	-801	2366	-655.5
	$\sigma_{cls,Max19}$	-21169	-801	2366	-54.8
	$\sigma_{cls,Med19}$	-21169	-801	2366	-21.4

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
417	Ft. 19	-20200	911	-2667	452.4
	σ <sub>s,c</sub> 19	-20200	911	-2667	-728.4
	σ <sub>cls,Max</sub> 19	-20200	911	-2667	-62.3
	σ <sub>cls,Med</sub> 19	-20200	911	-2667	-23.9
Combinazioni Frequenti					
317	Ft. 21	-18161	-782	2116	300.9
	σ <sub>s,c</sub> 21	-18161	-782	2116	-595.8
	σ <sub>cls,Max</sub> 21	-18161	-782	2116	-50.3
	σ <sub>cls,Med</sub> 21	-18161	-782	2116	-19.3
417	Ft. 21	-17192	891	-2320	436.1
	σ <sub>s,c</sub> 21	-17192	891	-2320	-652.3
	σ <sub>cls,Max</sub> 21	-17192	891	-2320	-56.3
	σ <sub>cls,Med</sub> 21	-17192	891	-2320	-21.1
Combinazioni Quasi Permanenti					
317	Ft. 23	-17406	-779	2035	298.8
	σ <sub>s,c</sub> 23	-17406	-779	2035	-578.2
	σ <sub>cls,Max</sub> 23	-17406	-779	2035	-48.9
	σ <sub>cls,Med</sub> 23	-17406	-779	2035	-18.6
417	Ft. 23	-16437	888	-2217	427.3
	σ <sub>s,c</sub> 23	-16437	888	-2217	-630.7
	σ <sub>cls,Max</sub> 23	-16437	888	-2217	-54.6
	σ <sub>cls,Med</sub> 23	-16437	888	-2217	-20.2

Pilastro: 18/118 / L 3.700[m] / Sezione 45 B 50 [cm]H 30 [cm]

Af: 8 ø 18 Af=20.36 [cm<sup>2</sup>] < 1φ18 x 4 V + 2φ18 x 2 B + 0φ18 x 2 H >

Staffe: ø 8 4br.x2br./12.5' x 46.0/ø 8 4br.x2br./12.5' x 278.0/ø 8 4br.x2br./12.5' x 46.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
18	1	-216493	-472	1093	1.00	1.00	0.70
118	1	-214567	1184	-3970	1.00	1.00	0.75

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.585	5120	21752	12646	19373	ø 8 4br.x2br./12.5'
0.585	3.365	5120	21752	12646	19373	ø 8 4br.x2br./12.5'
3.365	3.825	5120	21752	12646	19373	ø 8 4br.x2br./12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]



Combinazioni Rare					
18	Ft. 20	-156642	-369	755	-1202.0
	$\sigma_{s,c}19$	-162347	-366	813	-1452.6
	$\sigma_{cls,Max}19$	-162347	-366	813	-99.0
	$\sigma_{cls,Med}19$	-162347	-366	813	-89.9
118	Ft. 20	-155161	906	-2793	-970.2
	$\sigma_{s,c}19$	-160866	910	-2964	-1669.6
	$\sigma_{cls,Max}19$	-160866	910	-2964	-117.9
	$\sigma_{cls,Med}19$	-160866	910	-2964	-89.1
Combinazioni Frequenti					
18	Ft. 22	-143489	-377	689	-1097.1
	$\sigma_{s,c}21$	-147797	-375	727	-1325.8
	$\sigma_{cls,Max}21$	-147797	-375	727	-90.5
	$\sigma_{cls,Med}21$	-147797	-375	727	-81.9
118	Ft. 22	-142008	905	-2555	-880.0
	$\sigma_{s,c}21$	-146316	907	-2670	-1525.0
	$\sigma_{cls,Max}21$	-146316	907	-2670	-107.9
	$\sigma_{cls,Med}21$	-146316	907	-2670	-81.0
Combinazioni Quasi Permanenti					
18	Ft. 23	-142733	-378	690	-1090.7
	$\sigma_{s,c}23$	-142733	-378	690	-1281.1
	$\sigma_{cls,Max}23$	-142733	-378	690	-87.5
	$\sigma_{cls,Med}23$	-142733	-378	690	-79.1
118	Ft. 23	-141252	905	-2553	-873.8
	$\sigma_{s,c}23$	-141252	905	-2553	-1473.4
	$\sigma_{cls,Max}23$	-141252	905	-2553	-104.3
	$\sigma_{cls,Med}23$	-141252	905	-2553	-78.2

Pilastro: 118/218 / L 3.120[m] / Sezione 15 B 50 [cm]H 30 [cm]

Af: 8  $\phi$  18 Af=20.36 [cm<sup>2</sup>] < 1 $\phi$ 18 x 4 V + 2 $\phi$ 18 x 2 B + 0 $\phi$ 18 x 2 H >

Staffe:  $\phi$  8 4br.x2br./12.5' x 52.0/ $\phi$  8 4br.x2br./12.5' x 208.0/ $\phi$  8 4br.x2br./12.5' x 52.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
118	1	-160426	-1776	6728	1.00	1.00	0.64
218	1	-158784	1567	-6251	1.00	1.00	0.62

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.645	2197	21752	13944	19373	$\phi$ 8 4br.x2br./12.5'
0.645	2.725	2197	21752	13944	19373	$\phi$ 8 4br.x2br./12.5'
2.725	3.245	2197	21752	13944	19373	$\phi$ 8 4br.x2br./12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
Combinazioni Rare					
118	Ft. 20	-116409	-1369	4761	-442.1
	σ <sub>s,c</sub> 19	-120196	-1368	5030	-1545.1
	σ <sub>cls,Max</sub> 19	-120196	-1368	5030	-113.6
	σ <sub>cls,Med</sub> 19	-120196	-1368	5030	-66.6
218	Ft. 20	-115145	1208	-4430	-475.2
	σ <sub>s,c</sub> 19	-118932	1208	-4672	-1488.9
	σ <sub>cls,Max</sub> 19	-118932	1208	-4672	-108.9
	σ <sub>cls,Med</sub> 19	-118932	1208	-4672	-65.9
Combinazioni Frequenti					
118	Ft. 22	-105783	-1379	4369	-384.0
	σ <sub>s,c</sub> 21	-108814	-1377	4551	-1413.4
	σ <sub>cls,Max</sub> 21	-108814	-1377	4551	-104.3
	σ <sub>cls,Med</sub> 21	-108814	-1377	4551	-60.3
218	Ft. 22	-104519	1217	-4053	-415.9
	σ <sub>s,c</sub> 21	-107551	1216	-4220	-1359.2
	σ <sub>cls,Max</sub> 21	-107551	1216	-4220	-99.7
	σ <sub>cls,Med</sub> 21	-107551	1216	-4220	-59.6
Combinazioni Quasi Permanenti					
118	Ft. 23	-105022	-1380	4364	-377.9
	σ <sub>s,c</sub> 23	-105022	-1380	4364	-1367.2
	σ <sub>cls,Max</sub> 23	-105022	-1380	4364	-101.0
	σ <sub>cls,Med</sub> 23	-105022	-1380	4364	-58.2
218	Ft. 23	-103759	1218	-4046	-410.1
	σ <sub>s,c</sub> 23	-103759	1218	-4046	-1314.1
	σ <sub>cls,Max</sub> 23	-103759	1218	-4046	-96.5
	σ <sub>cls,Med</sub> 23	-103759	1218	-4046	-57.5

Pilastro: 218/318 / L 2.980[m] / Sezione 15 B 50 [cm]H 30 [cm]

Af: 8 ø 18 Af=20.36 [cm²] < 1ø18 x 4 V + 2ø18 x 2 B + 0ø18 x 2 H >

Staffe: ø 8 4br.x2br./12.5' x 50.0/ø 8 4br.x2br./12.5' x 198.0/ø 8 4br.x2br./12.5' x 50.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
218	1	-105100	-1450	5708	1.00	1.00	0.45
318	1	-103525	1635	-5397	1.00	1.00	0.44

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
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COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.625	2776	21752	14272	19373	ø 8 4br.x2br./12.5'
0.625	2.605	2776	21752	14272	19373	ø 8 4br.x2br./12.5'
2.605	3.105	2776	21752	14272	19373	ø 8 4br.x2br./12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

**Combinazioni Rare**

218	Ft. 19	-78606	-1121	4271	-193.5
	σ <sub>s,c</sub> 19	-78606	-1121	4271	-1112.7
	σ <sub>cls,Max</sub> 19	-78606	-1121	4271	-83.1
	σ <sub>cls,Med</sub> 19	-78606	-1121	4271	-43.5
318	Ft. 19	-77394	1261	-4041	-186.8
	σ <sub>s,c</sub> 19	-77394	1261	-4041	-1099.3
	σ <sub>cls,Max</sub> 19	-77394	1261	-4041	-82.3
	σ <sub>cls,Med</sub> 19	-77394	1261	-4041	-42.9

**Combinazioni Frequenti**

218	Ft. 22	-68603	-1146	3722	-151.4
	σ <sub>s,c</sub> 21	-70367	-1141	3882	-1015.5
	σ <sub>cls,Max</sub> 21	-70367	-1141	3882	-76.2
	σ <sub>cls,Med</sub> 21	-70367	-1141	3882	-39.0
318	Ft. 22	-67392	1276	-3534	-142.5
	σ <sub>s,c</sub> 21	-69155	1274	-3702	-1005.2
	σ <sub>cls,Max</sub> 21	-69155	1274	-3702	-75.7
	σ <sub>cls,Med</sub> 21	-69155	1274	-3702	-38.3

**Combinazioni Quasi Permanenti**

218	Ft. 23	-67837	-1148	3724	-144.7
	σ <sub>s,c</sub> 23	-67837	-1148	3724	-982.6
	σ <sub>cls,Max</sub> 23	-67837	-1148	3724	-73.8
	σ <sub>cls,Med</sub> 23	-67837	-1148	3724	-37.6
318	Ft. 23	-66626	1277	-3550	-134.7
	σ <sub>s,c</sub> 23	-66626	1277	-3550	-972.4
	σ <sub>cls,Max</sub> 23	-66626	1277	-3550	-73.3
	σ <sub>cls,Med</sub> 23	-66626	1277	-3550	-36.9

Pilastro: 318/418 / L 2.980[m] / Sezione 15 B 50 [cm]H 30 [cm]

Af: 8 ø 18 Af=20.36 [cm<sup>2</sup>] < 1ø18 x 4 V + 2ø18 x 2 B + 0ø18 x 2 H >

Staffe: ø 8 4br.x2br./12.5' x 50.0/ø 8 4br.x2br./12.5' x 198.0/ø 8 4br.x2br./12.5' x 50.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
318	14	-30724	-2495	7019	1.00	1.00	0.39
418	14	-29513	2732	-9476	1.00	1.00	0.51

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.625	3868	21752	13725	19373	ø 8 4br.x2br./12.5'
0.625	2.605	3868	21752	13725	19373	ø 8 4br.x2br./12.5'
2.605	3.105	3868	21752	13725	19373	ø 8 4br.x2br./12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

Combinazioni Rare

318	Ft. 19	-37276	-832	5527	411.7
	σ <sub>s,c</sub> 19	-37276	-832	5527	-915.7
	σ <sub>cls,Max</sub> 19	-37276	-832	5527	-73.0
	σ <sub>cls,Med</sub> 19	-37276	-832	5527	-31.2
418	Ft. 19	-36065	307	-7386	834.0
	σ <sub>s,c</sub> 19	-36065	307	-7386	-1063.3
	σ <sub>cls,Max</sub> 19	-36065	307	-7386	-86.3
	σ <sub>cls,Med</sub> 19	-36065	307	-7386	-40.8

Combinazioni Frequenti

318	Ft. 21	-32142	-867	4913	415.6
	σ <sub>s,c</sub> 21	-32142	-867	4913	-830.5
	σ <sub>cls,Max</sub> 21	-32142	-867	4913	-66.8
	σ <sub>cls,Med</sub> 21	-32142	-867	4913	-27.8
418	Ft. 21	-30931	366	-6425	759.6
	σ <sub>s,c</sub> 21	-30931	366	-6425	-940.0
	σ <sub>cls,Max</sub> 21	-30931	366	-6425	-76.7
	σ <sub>cls,Med</sub> 21	-30931	366	-6425	-35.5

Combinazioni Quasi Permanenti

318	Ft. 23	-30866	-878	4713	406.8
	σ <sub>s,c</sub> 23	-30866	-878	4713	-803.8
	σ <sub>cls,Max</sub> 23	-30866	-878	4713	-64.8
	σ <sub>cls,Med</sub> 23	-30866	-878	4713	-26.8
418	Ft. 23	-29654	386	-6170	737.7
	σ <sub>s,c</sub> 23	-29654	386	-6170	-908.3
	σ <sub>cls,Max</sub> 23	-29654	386	-6170	-74.2
	σ <sub>cls,Med</sub> 23	-29654	386	-6170	-34.1

Pilastro: 19/119 / L 3.700[m] / Sezione 44 B 30 [cm]H 60 [cm]

Af: 10  $\phi$  28 Af=61.58 [cm<sup>2</sup>] < 1 $\phi$ 28 x 4 V + 1 $\phi$ 28 x 2 B + 2 $\phi$ 28 x 2 H >

Staffe:  $\phi$  8 2br.x4br./7.5' x 61.7/ $\phi$  8 2br.x4br./15.0' x 246.7/ $\phi$  8 2br.x4br./7.5' x 61.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
19	1	-269353	18	215	1.00	1.00	0.52
119	1	-267042	-362	-143	1.00	1.00	0.51

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.742	19228	39369	15230	36254	$\phi$ 8 2br.x4br./7.5'
0.742	3.208	19228	19685	15230	18127	$\phi$ 8 2br.x4br./15.0'
3.208	3.825	19228	39369	15230	36254	$\phi$ 8 2br.x4br./7.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare

19	Ft. 20	-195222	21	151	-1063.5
	$\sigma_{s,c}19$	-202116	16	160	-1125.2
	$\sigma_{cls,Max}19$	-202116	16	160	-75.4
	$\sigma_{cls,Med}19$	-202116	16	160	-74.2
119	Ft. 20	-193444	-296	-99	-1046.2
	$\sigma_{s,c}19$	-200339	-283	-105	-1122.5
	$\sigma_{cls,Max}19$	-200339	-283	-105	-75.3
	$\sigma_{cls,Med}19$	-200339	-283	-105	-73.6

Combinazioni Frequenti

19	Ft. 22	-179242	28	133	-976.5
	$\sigma_{s,c}21$	-184455	25	139	-1026.8
	$\sigma_{cls,Max}21$	-184455	25	139	-68.8
	$\sigma_{cls,Med}21$	-184455	25	139	-67.7
119	Ft. 22	-177464	-306	-85	-958.7
	$\sigma_{s,c}21$	-182678	-298	-89	-1024.7
	$\sigma_{cls,Max}21$	-182678	-298	-89	-68.7
	$\sigma_{cls,Med}21$	-182678	-298	-89	-67.1

Combinazioni Quasi Permanenti

19	Ft. 23	-178316	28	132	-971.5
	$\sigma_{s,c}23$	-178316	28	132	-992.6
	$\sigma_{cls,Max}23$	-178316	28	132	-66.5
	$\sigma_{cls,Med}23$	-178316	28	132	-65.5
119	Ft. 23	-176539	-305	-84	-953.7

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>s,c</sub> 23	-176539	-305	-84	-990.8
	σ <sub>cls,Max</sub> 23	-176539	-305	-84	-66.4
	σ <sub>cls,Med</sub> 23	-176539	-305	-84	-64.8

Pilastro: 119/219 / L 3.120[m] / Sezione 14 B 30 [cm]H 60 [cm]

Af: 10 ø 28 Af=61.58 [cm²] < 1φ28 x 4 V + 1φ28 x 2 B + 2φ28 x 2 H >

Staffe: ø 8 2br.x4br./12.5' x 52.0/ø 8 2br.x4br./12.5' x 208.0/ø 8 2br.x4br./12.5' x 52.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
119	1	-199229	1305	-126	1.00	1.00	0.39
219	1	-197258	-1120	95	1.00	1.00	0.38

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.645	4176	23622	18116	21752	ø 8 2br.x4br./12.5'
0.645	2.725	4176	23622	18116	21752	ø 8 2br.x4br./12.5'
2.725	3.245	4176	23622	18116	21752	ø 8 2br.x4br./12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

#### Combinazioni Rare

119	Ft. 20	-144796	975	-89	-751.1
	σ <sub>s,c</sub> 19	-149367	991	-94	-870.0
	σ <sub>cls,Max</sub> 19	-149367	991	-94	-58.8
	σ <sub>cls,Med</sub> 19	-149367	991	-94	-54.8
219	Ft. 20	-143280	-848	69	-749.3
	σ <sub>s,c</sub> 19	-147850	-855	71	-854.5
	σ <sub>cls,Max</sub> 19	-147850	-855	71	-57.6
	σ <sub>cls,Med</sub> 19	-147850	-855	71	-54.3

#### Combinazioni Frequenti

119	Ft. 22	-131913	932	-79	-682.6
	σ <sub>s,c</sub> 21	-135577	944	-83	-791.4
	σ <sub>cls,Max</sub> 21	-135577	944	-83	-53.5
	σ <sub>cls,Med</sub> 21	-135577	944	-83	-49.8
219	Ft. 22	-130397	-826	63	-679.8
	σ <sub>s,c</sub> 21	-134061	-831	64	-777.0
	σ <sub>cls,Max</sub> 21	-134061	-831	64	-52.4
	σ <sub>cls,Med</sub> 21	-134061	-831	64	-49.2

#### Combinazioni Quasi Permanenti

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
119	Ft. 23	-130987	929	-79	-677.6
	σ <sub>s,c</sub> 23	-130987	929	-79	-765.2
	σ <sub>cls,Max</sub> 23	-130987	929	-79	-51.7
	σ <sub>cls,Med</sub> 23	-130987	929	-79	-48.1
219	Ft. 23	-129471	-824	62	-674.8
	σ <sub>s,c</sub> 23	-129471	-824	62	-751.3
	σ <sub>cls,Max</sub> 23	-129471	-824	62	-50.7
	σ <sub>cls,Med</sub> 23	-129471	-824	62	-47.5

Pilastro: 219/319 / L 2.980[m] / Sezione 14 B 30 [cm]H 60 [cm]

Af: 10 ø 28 Af=61.58 [cm²] < 1ø28 x 4 V + 1ø28 x 2 B + 2ø28 x 2 H >

Staffe: ø 8 2br.x4br./12.5' x 60.0/ø 8 2br.x4br./12.5' x 178.0/ø 8 2br.x4br./12.5' x 60.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
219	1	-130383	1353	-73	1.00	1.00	0.26
319	1	-128493	-1167	56	1.00	1.00	0.25

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.725	4428	23622	18171	21752	ø 8 2br.x4br./12.5'
0.725	2.505	4428	23622	18171	21752	ø 8 2br.x4br./12.5'
2.505	3.105	4428	23622	18171	21752	ø 8 2br.x4br./12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

#### Combinazioni Rare

219	Ft. 20	-95302	1005	-50	-480.1
	σ <sub>s,c</sub> 19	-97581	1025	-54	-583.3
	σ <sub>cls,Max</sub> 19	-97581	1025	-54	-39.6
	σ <sub>cls,Med</sub> 19	-97581	1025	-54	-35.8
319	Ft. 20	-93848	-878	36	-478.2
	σ <sub>s,c</sub> 19	-96128	-889	41	-568.9
	σ <sub>cls,Max</sub> 19	-96128	-889	41	-38.5
	σ <sub>cls,Med</sub> 19	-96128	-889	41	-35.3

#### Combinazioni Frequenti

219	Ft. 22	-85469	954	-44	-428.4
	σ <sub>s,c</sub> 21	-87606	970	-47	-525.6
	σ <sub>cls,Max</sub> 21	-87606	970	-47	-35.7
	σ <sub>cls,Med</sub> 21	-87606	970	-47	-32.2

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
319	Ft. 22	-84015	-851	32	-425.5
	σ <sub>s,c</sub> 21	-86152	-859	36	-512.3
	σ <sub>cls,Max</sub> 21	-86152	-859	36	-34.7
	σ <sub>cls,Med</sub> 21	-86152	-859	36	-31.6
Combinazioni Quasi Permanenti					
219	Ft. 23	-84542	951	-44	-423.4
	σ <sub>s,c</sub> 23	-84542	951	-44	-507.8
	σ <sub>cls,Max</sub> 23	-84542	951	-44	-34.5
	σ <sub>cls,Med</sub> 23	-84542	951	-44	-31.0
319	Ft. 23	-83089	-849	33	-420.4
	σ <sub>s,c</sub> 23	-83089	-849	33	-494.8
	σ <sub>cls,Max</sub> 23	-83089	-849	33	-33.6
	σ <sub>cls,Med</sub> 23	-83089	-849	33	-30.5

Pilastro: 319/419 / L 2.980[m] / Sezione 14 B 30 [cm]H 60 [cm]

Af: 10 ø 28 Af=61.58 [cm<sup>2</sup>] < 1ø28 x 4 V + 1ø28 x 2 B + 2ø28 x 2 H >

Staffe: ø 8 2br.x4br./12.5' x 49.0/ø 8 2br.x4br./12.5' x 200.0/ø 8 2br.x4br./12.5' x 49.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
319	1	-61702	1366	-104	1.00	1.00	0.13
419	15	-36496	-4660	2119	1.00	1.00	0.15

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.615	6543	23622	18766	21752	ø 8 2br.x4br./12.5'
0.615	2.615	6543	23622	18766	21752	ø 8 2br.x4br./12.5'
2.615	3.105	6543	23622	18766	21752	ø 8 2br.x4br./12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

Combinazioni Rare

319	Ft. 19	-45919	1032	-78	-205.0
	σ <sub>s,c</sub> 19	-45919	1032	-78	-300.8
	σ <sub>cls,Max</sub> 19	-45919	1032	-78	-20.8
	σ <sub>cls,Med</sub> 20	-45937	1012	-77	-16.9
419	Ft. 19	-44466	-1076	131	-191.4
	σ <sub>s,c</sub> 19	-44466	-1076	131	-298.4
	σ <sub>cls,Max</sub> 19	-44466	-1076	131	-20.8
	σ <sub>cls,Med</sub> 20	-44483	-1043	131	-16.3



Combinazioni Frequenti					
319	Ft. 22	-39128	948	-70	-171.6
	$\sigma_{s,c}21$	-39737	965	-71	-263.5
	$\sigma_{cls,Max}21$	-39737	965	-71	-18.3
	$\sigma_{cls,Med}21$	-39737	965	-71	-14.6
419	Ft. 22	-37674	-951	117	-160.1
	$\sigma_{s,c}21$	-38284	-978	118	-259.4
	$\sigma_{cls,Max}21$	-38284	-978	118	-18.2
	$\sigma_{cls,Med}21$	-38284	-978	118	-14.1
Combinazioni Quasi Permanenti					
319	Ft. 23	-38196	943	-69	-166.7
	$\sigma_{s,c}23$	-38196	943	-69	-254.0
	$\sigma_{cls,Max}23$	-38196	943	-69	-17.6
	$\sigma_{cls,Med}23$	-38196	943	-69	-14.0
419	Ft. 23	-36743	-944	115	-155.3
	$\sigma_{s,c}23$	-36743	-944	115	-249.4
	$\sigma_{cls,Max}23$	-36743	-944	115	-17.5
	$\sigma_{cls,Med}23$	-36743	-944	115	-13.5

Pilastro: 20/120 / L 3.700[m] / Sezione 45 B 50 [cm]H 30 [cm]

Af:  $8 \phi 18$  Af=20.36 [cm<sup>2</sup>] <  $1 \phi 18 \times 4 V + 2 \phi 18 \times 2 B + 0 \phi 18 \times 2 H$  >

Staffe:  $\phi 8$  4br.x2br./12.5' x 51.0/ $\phi 8$  4br.x2br./12.5' x 268.0/ $\phi 8$  4br.x2br./12.5' x 51.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
20	1	-212895	-600	-156	1.00	1.00	0.69
120	1	-210970	1089	3319	1.00	1.00	0.73

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.635	5167	21752	12707	19373	$\phi 8$ 4br.x2br./12.5'
0.635	3.315	5167	21752	12707	19373	$\phi 8$ 4br.x2br./12.5'
3.315	3.825	5167	21752	12707	19373	$\phi 8$ 4br.x2br./12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare					
20	Ft. 20	-153886	-460	-87	-1222.6
	$\sigma_{s,c}19$	-159580	-461	-113	-1384.0
	$\sigma_{cls,Max}19$	-159580	-461	-113	-93.9
	$\sigma_{cls,Med}19$	-159580	-461	-113	-88.4

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
120	Ft. 20	-152404	839	2345	-990.1
	σ <sub>s,c</sub> 19	-158099	839	2484	-1600.8
	σ <sub>cls,Max</sub> 19	-158099	839	2484	-112.5
	σ <sub>cls,Med</sub> 19	-158099	839	2484	-87.6
Combinazioni Frequenti					
20	Ft. 22	-140726	-458	-80	-1114.0
	σ <sub>s,c</sub> 21	-145028	-458	-95	-1261.4
	σ <sub>cls,Max</sub> 21	-145028	-458	-95	-85.7
	σ <sub>cls,Med</sub> 21	-145028	-458	-95	-80.3
120	Ft. 22	-139244	842	2169	-894.4
	σ <sub>s,c</sub> 21	-143547	842	2261	-1462.4
	σ <sub>cls,Max</sub> 21	-143547	842	2261	-103.0
	σ <sub>cls,Med</sub> 21	-143547	842	2261	-79.5
Combinazioni Quasi Permanenti					
20	Ft. 23	-139966	-458	-84	-1107.4
	σ <sub>s,c</sub> 23	-139966	-458	-84	-1218.4
	σ <sub>cls,Max</sub> 23	-139966	-458	-84	-82.8
	σ <sub>cls,Med</sub> 23	-139966	-458	-84	-77.5
120	Ft. 23	-138485	842	2170	-888.0
	σ <sub>s,c</sub> 23	-138485	842	2170	-1413.2
	σ <sub>cls,Max</sub> 23	-138485	842	2170	-99.6
	σ <sub>cls,Med</sub> 23	-138485	842	2170	-76.7

Pilastro: 120/220 / L 3.120[m] / Sezione 15 B 50 [cm]H 30 [cm]

Af: 8 ø 18 Af=20.36 [cm²] < 1φ18 x 4 V + 2φ18 x 2 B + 0φ18 x 2 H >

Staffe: ø 8 4br.x2br./12.5' x 52.0/ø 8 4br.x2br./12.5' x 208.0/ø 8 4br.x2br./12.5' x 52.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
120	1	-158470	-1613	-7116	1.00	1.00	0.64
220	1	-156827	1488	6380	1.00	1.00	0.62

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.645	2195	21752	13888	19373	ø 8 4br.x2br./12.5'
0.645	2.725	2195	21752	13888	19373	ø 8 4br.x2br./12.5'
2.725	3.245	2195	21752	13888	19373	ø 8 4br.x2br./12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare					
120	Ft. 20	-114907	-1251	-5044	-419.7
	$\sigma_{s,c}19$	-118689	-1245	-5322	-1542.7
	$\sigma_{cls,Max}19$	-118689	-1245	-5322	-113.4
	$\sigma_{cls,Med}19$	-118689	-1245	-5322	-65.7
220	Ft. 20	-113643	1150	4528	-461.0
	$\sigma_{s,c}19$	-117425	1148	4771	-1477.9
	$\sigma_{cls,Max}19$	-117425	1148	4771	-108.1
	$\sigma_{cls,Med}19$	-117425	1148	4771	-65.0
Combinazioni Frequenti					
120	Ft. 22	-104270	-1267	-4633	-362.4
	$\sigma_{s,c}21$	-107300	-1262	-4822	-1410.1
	$\sigma_{cls,Max}21$	-107300	-1262	-4822	-104.0
	$\sigma_{cls,Med}21$	-107300	-1262	-4822	-59.4
220	Ft. 22	-103006	1161	4149	-401.7
	$\sigma_{s,c}21$	-106036	1159	4316	-1348.2
	$\sigma_{cls,Max}21$	-106036	1159	4316	-98.9
	$\sigma_{cls,Med}21$	-106036	1159	4316	-58.7
Combinazioni Quasi Permanenti					
120	Ft. 23	-103507	-1268	-4628	-356.3
	$\sigma_{s,c}23$	-103507	-1268	-4628	-1363.7
	$\sigma_{cls,Max}23$	-103507	-1268	-4628	-100.7
	$\sigma_{cls,Med}23$	-103507	-1268	-4628	-57.3
220	Ft. 23	-102243	1162	4142	-395.8
	$\sigma_{s,c}23$	-102243	1162	4142	-1303.2
	$\sigma_{cls,Max}23$	-102243	1162	4142	-95.7
	$\sigma_{cls,Med}23$	-102243	1162	4142	-56.6

Pilastro: 220/320 / L 2.980[m] / Sezione 15 B 50 [cm]H 30 [cm]

Af: 8  $\phi$  18 Af=20.36 [cm<sup>2</sup>] < 1 $\phi$ 18 x 4 V + 2 $\phi$ 18 x 2 B + 0 $\phi$ 18 x 2 H >

Staffe:  $\phi$  8 4br.x2br./12.5' x 50.0/ $\phi$  8 4br.x2br./12.5' x 198.0/ $\phi$  8 4br.x2br./12.5' x 50.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
220	1	-104407	-1482	-5772	1.00	1.00	0.45
320	1	-102832	1628	5557	1.00	1.00	0.44

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.625	2774	21752	14226	19373	$\phi$ 8 4br.x2br./12.5'
0.625	2.605	2774	21752	14226	19373	$\phi$ 8 4br.x2br./12.5'
2.605	3.105	2774	21752	14226	19373	$\phi$ 8 4br.x2br./12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
Combinazioni Rare					
220	Ft. 19	-78073	-1144	-4318	-182.9
	σ <sub>s,c</sub> 19	-78073	-1144	-4318	-1114.5
	σ <sub>cls,Max</sub> 19	-78073	-1144	-4318	-83.3
	σ <sub>cls,Med</sub> 19	-78073	-1144	-4318	-43.2
320	Ft. 19	-76862	1255	4162	-173.4
	σ <sub>s,c</sub> 19	-76862	1255	4162	-1103.8
	σ <sub>cls,Max</sub> 19	-76862	1255	4162	-82.8
	σ <sub>cls,Med</sub> 19	-76862	1255	4162	-42.6
Combinazioni Frequenti					
220	Ft. 22	-68073	-1160	-3760	-142.5
	σ <sub>s,c</sub> 21	-69832	-1158	-3923	-1016.1
	σ <sub>cls,Max</sub> 21	-69832	-1158	-3923	-76.3
	σ <sub>cls,Med</sub> 21	-69832	-1158	-3923	-38.7
320	Ft. 22	-66861	1266	3647	-130.2
	σ <sub>s,c</sub> 21	-68621	1265	3817	-1009.0
	σ <sub>cls,Max</sub> 21	-68621	1265	3817	-76.1
	σ <sub>cls,Med</sub> 21	-68621	1265	3817	-38.0
Combinazioni Quasi Permanenti					
220	Ft. 23	-67304	-1162	-3763	-135.7
	σ <sub>s,c</sub> 23	-67304	-1162	-3763	-982.7
	σ <sub>cls,Max</sub> 23	-67304	-1162	-3763	-73.9
	σ <sub>cls,Med</sub> 23	-67304	-1162	-3763	-37.3
320	Ft. 23	-66093	1267	3663	-122.3
	σ <sub>s,c</sub> 23	-66093	1267	3663	-975.9
	σ <sub>cls,Max</sub> 23	-66093	1267	3663	-73.7
	σ <sub>cls,Med</sub> 23	-66093	1267	3663	-36.6

Pilastro: 320/420 / L 2.980[m] / Sezione 15 B 50 [cm]H 30 [cm]

Af: 8 ø 18 Af=20.36 [cm<sup>2</sup>] < 1ø18 x 4 V + 2ø18 x 2 B + 0ø18 x 2 H >

Staffe: ø 8 4br.x2br./12.5' x 50.0/ø 8 4br.x2br./12.5' x 198.0/ø 8 4br.x2br./12.5' x 50.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
320	1	-50616	-1037	-7224	1.00	1.00	0.35
420	1	-49041	335	9285	1.00	1.00	0.40

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
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COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.625	3875	21752	13732	19373	ø 8 4br.x2br./12.5'
0.625	2.605	3875	21752	13732	19373	ø 8 4br.x2br./12.5'
2.605	3.105	3875	21752	13732	19373	ø 8 4br.x2br./12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

**Combinazioni Rare**

320	Ft. 19	-37658	-806	-5385	367.5
	σ <sub>s,c</sub> 19	-37658	-806	-5385	-895.6
	σ <sub>cls,Max</sub> 19	-37658	-806	-5385	-71.1
	σ <sub>cls,Med</sub> 19	-37658	-806	-5385	-30.5
420	Ft. 19	-36447	272	6892	676.6
	σ <sub>s,c</sub> 19	-36447	272	6892	-997.8
	σ <sub>cls,Max</sub> 19	-36447	272	6892	-80.1
	σ <sub>cls,Med</sub> 19	-36447	272	6892	-38.0

**Combinazioni Frequenti**

320	Ft. 21	-32534	-837	-4769	367.8
	σ <sub>s,c</sub> 21	-32534	-837	-4769	-808.9
	σ <sub>cls,Max</sub> 21	-32534	-837	-4769	-64.8
	σ <sub>cls,Med</sub> 21	-32534	-837	-4769	-27.1
420	Ft. 21	-31322	323	5921	596.0
	σ <sub>s,c</sub> 21	-31322	323	5921	-871.3
	σ <sub>cls,Max</sub> 21	-31322	323	5921	-70.2
	σ <sub>cls,Med</sub> 21	-31322	323	5921	-32.7

**Combinazioni Quasi Permanenti**

320	Ft. 23	-31263	-847	-4569	358.5
	σ <sub>s,c</sub> 23	-31263	-847	-4569	-782.0
	σ <sub>cls,Max</sub> 23	-31263	-847	-4569	-62.7
	σ <sub>cls,Med</sub> 23	-31263	-847	-4569	-26.0
420	Ft. 23	-30052	340	5660	571.5
	σ <sub>s,c</sub> 23	-30052	340	5660	-838.3
	σ <sub>cls,Max</sub> 23	-30052	340	5660	-67.6
	σ <sub>cls,Med</sub> 23	-30052	340	5660	-31.3

Pilastro: 21/121 / L 3.700[m] / Sezione 34 B 30 [cm]H 40 [cm]

Af: 4 ø 24 + 6 ø 14 Af=27.33 [cm<sup>2</sup>] < 1ø24 x 4 V + 1ø14 x 2 B + 2ø14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 51.0/ø 8 2br.x4br./15.0' x 268.0/ø 8 2br.x4br./10.0' x 51.0

Verifiche a Presso-Flessione S.L.U.

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
21	1	-132105	-998	-379	1.00	1.00	0.47
121	1	-130565	1055	657	1.00	1.00	0.47

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.635	7735	18375	8570	26128	ø 8 2br.x4br./10.0'
0.635	3.315	7735	12250	8570	17419	ø 8 2br.x4br./15.0'
3.315	3.825	7735	18375	8570	26128	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

Combinazioni Rare

21	Ft. 20	-96053	-737	-267	-796.1
	σ <sub>s,c</sub> 19	-99312	-752	-282	-1027.1
	σ <sub>cls,Max</sub> 19	-99312	-752	-282	-71.9
	σ <sub>cls,Med</sub> 19	-99312	-752	-282	-61.7
121	Ft. 20	-94868	781	458	-759.7
	σ <sub>s,c</sub> 19	-98127	796	488	-1043.2
	σ <sub>cls,Max</sub> 19	-98127	796	488	-74.1
	σ <sub>cls,Med</sub> 19	-98127	796	488	-60.9

Combinazioni Frequenti

21	Ft. 22	-88906	-680	-239	-738.1
	σ <sub>s,c</sub> 21	-91333	-693	-249	-943.6
	σ <sub>cls,Max</sub> 21	-91333	-693	-249	-66.0
	σ <sub>cls,Med</sub> 21	-91333	-693	-249	-56.7
121	Ft. 22	-87721	729	407	-703.6
	σ <sub>s,c</sub> 21	-90148	742	428	-957.2
	σ <sub>cls,Max</sub> 21	-90148	742	428	-67.9
	σ <sub>cls,Med</sub> 21	-90148	742	428	-56.0

Combinazioni Quasi Permanenti

21	Ft. 23	-88524	-675	-238	-735.1
	σ <sub>s,c</sub> 23	-88524	-675	-238	-914.4
	σ <sub>cls,Max</sub> 23	-88524	-675	-238	-63.9
	σ <sub>cls,Med</sub> 23	-88524	-675	-238	-55.0
121	Ft. 23	-87339	724	406	-700.6
	σ <sub>s,c</sub> 23	-87339	724	406	-926.9
	σ <sub>cls,Max</sub> 23	-87339	724	406	-65.7
	σ <sub>cls,Med</sub> 23	-87339	724	406	-54.2

Pilastro: 121/221 / L 3.120[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4  $\phi$  24 + 4  $\phi$  14 Af=24.25 [cm<sup>2</sup>] < 1 $\phi$ 24 x 4 V + 0 $\phi$ 12 x 2 B + 2 $\phi$ 14 x 2 H >

Staffe:  $\phi$  8 2br.x4br./10.0' x 52.0/ $\phi$  8 2br.x4br./15.0' x 208.0/ $\phi$  8 2br.x4br./10.0' x 52.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
121	1	-100369	-1286	-1246	1.00	1.00	0.40
221	1	-99055	1362	1252	1.00	1.00	0.40

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.645	4567	18906	8261	27190	$\phi$ 8 2br.x4br./10.0'
0.645	2.725	4567	12604	8261	18127	$\phi$ 8 2br.x4br./15.0'
2.725	3.245	4567	18906	8261	27190	$\phi$ 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare

121	Ft. 20	-73219	-960	-863	-504.0
	$\sigma_{s,c}$ 19	-75421	-973	-923	-930.2
	$\sigma_{cls,Max}$ 19	-75421	-973	-923	-67.8
	$\sigma_{cls,Med}$ 19	-75421	-973	-923	-48.2
221	Ft. 20	-72208	1014	868	-488.3
	$\sigma_{s,c}$ 19	-74410	1029	927	-926.6
	$\sigma_{cls,Max}$ 19	-74410	1029	927	-67.7
	$\sigma_{cls,Med}$ 19	-74410	1029	927	-47.6

Combinazioni Frequenti

121	Ft. 22	-67393	-903	-763	-465.6
	$\sigma_{s,c}$ 21	-69124	-916	-805	-850.1
	$\sigma_{cls,Max}$ 21	-69124	-916	-805	-61.9
	$\sigma_{cls,Med}$ 21	-69124	-916	-805	-44.2
221	Ft. 22	-66382	947	766	-451.1
	$\sigma_{s,c}$ 21	-68113	961	808	-845.3
	$\sigma_{cls,Max}$ 21	-68113	961	808	-61.7
	$\sigma_{cls,Med}$ 21	-68113	961	808	-43.6

Combinazioni Quasi Permanenti

121	Ft. 23	-66999	-898	-760	-462.7
	$\sigma_{s,c}$ 23	-66999	-898	-760	-822.6
	$\sigma_{cls,Max}$ 23	-66999	-898	-760	-59.8
	$\sigma_{cls,Med}$ 23	-66999	-898	-760	-42.8
221	Ft. 23	-65988	940	763	-448.4

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
	σ <sub>s,c</sub> 23	-65988	940	763	-817.6
	σ <sub>cls,Max</sub> 23	-65988	940	763	-59.6
	σ <sub>cls,Med</sub> 23	-65988	940	763	-42.2

Pilastro: 221/321 / L 2.980[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4 ø 24 + 4 ø 14 Af=24.25 [cm<sup>2</sup>] < 1φ24 x 4 V + 0φ12 x 2 B + 2φ14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 49.7/ø 8 2br.x4br./15.0' x 198.7/ø 8 2br.x4br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
221	1	-69049	-1507	-1324	1.00	1.00	0.30
321	1	-67789	1610	1326	1.00	1.00	0.30

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	6256	18906	6537	27190	ø 8 2br.x4br./10.0'
0.622	2.608	6256	12604	6537	18127	ø 8 2br.x4br./15.0'
2.608	3.105	6256	18906	6537	27190	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

Combinazioni Rare

221	Ft. 20	-50722	-1125	-915	-265.5
	σ <sub>s,c</sub> 19	-51849	-1138	-980	-727.4
	σ <sub>cls,Max</sub> 19	-51849	-1138	-980	-54.9
	σ <sub>cls,Med</sub> 19	-51849	-1138	-980	-33.2
321	Ft. 20	-49753	1201	914	-248.7
	σ <sub>s,c</sub> 19	-50880	1215	982	-726.0
	σ <sub>cls,Max</sub> 19	-50880	1215	982	-55.0
	σ <sub>cls,Med</sub> 19	-50880	1215	982	-32.5

Combinazioni Frequenti

221	Ft. 22	-46196	-1046	-806	-242.8
	σ <sub>s,c</sub> 21	-47222	-1060	-852	-660.1
	σ <sub>cls,Max</sub> 21	-47222	-1060	-852	-49.7
	σ <sub>cls,Med</sub> 21	-47222	-1060	-852	-30.2
321	Ft. 22	-45227	1113	806	-226.8
	σ <sub>s,c</sub> 21	-46253	1128	853	-657.7
	σ <sub>cls,Max</sub> 21	-46253	1128	853	-49.7
	σ <sub>cls,Med</sub> 21	-46253	1128	853	-29.6

Combinazioni Quasi Permanenti



Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
221	Ft. 23	-45784	-1038	-804	-240.1
	σ <sub>s,c</sub> 23	-45784	-1038	-804	-638.3
	σ <sub>cls,Max</sub> 23	-45784	-1038	-804	-48.0
	σ <sub>cls,Med</sub> 23	-45784	-1038	-804	-29.3
321	Ft. 23	-44815	1103	804	-224.1
	σ <sub>s,c</sub> 23	-44815	1103	804	-635.6
	σ <sub>cls,Max</sub> 23	-44815	1103	804	-48.0
	σ <sub>cls,Med</sub> 23	-44815	1103	804	-28.7

Pilastro: 321/421 / L 2.980[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4 ø 24 + 4 ø 14 Af=24.25 [cm<sup>2</sup>] < 1ø24 x 4 V + 0ø12 x 2 B + 2ø14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 49.7/ø 8 2br.x4br./15.0' x 198.7/ø 8 2br.x4br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
321	1	-37927	-1499	-1461	1.00	1.00	0.20
421	1	-36667	1348	1602	1.00	1.00	0.20

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	6241	18906	6485	27190	ø 8 2br.x4br./10.0'
0.622	2.608	6241	12604	6485	18127	ø 8 2br.x4br./15.0'
2.608	3.105	6241	18906	6485	27190	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

Combinazioni Rare

321	Ft. 19	-28428	-1131	-1079	-29.9
	σ <sub>s,c</sub> 19	-28428	-1131	-1079	-514.7
	σ <sub>cls,Max</sub> 19	-28428	-1131	-1079	-41.1
	σ <sub>cls,Med</sub> 19	-28428	-1131	-1079	-18.6
421	Ft. 19	-27459	1017	1180	-19.0
	σ <sub>s,c</sub> 19	-27459	1017	1180	-506.4
	σ <sub>cls,Max</sub> 19	-27459	1017	1180	-40.7
	σ <sub>cls,Med</sub> 19	-27459	1017	1180	-18.1

Combinazioni Frequenti

321	Ft. 21	-25461	-1047	-914	-29.9
	σ <sub>s,c</sub> 21	-25461	-1047	-914	-457.9
	σ <sub>cls,Max</sub> 21	-25461	-1047	-914	-36.5
	σ <sub>cls,Med</sub> 21	-25461	-1047	-914	-16.6

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
421	Ft. 21	-24492	935	975	-24.1
	σ <sub>s,c</sub> 21	-24492	935	975	-444.9
	σ <sub>cls,Max</sub> 21	-24492	935	975	-35.6
	σ <sub>cls,Med</sub> 21	-24492	935	975	-16.1
Combinazioni Quasi Permanenti					
321	Ft. 23	-24706	-1023	-862	-31.3
	σ <sub>s,c</sub> 23	-24706	-1023	-862	-442.2
	σ <sub>cls,Max</sub> 23	-24706	-1023	-862	-35.2
	σ <sub>cls,Med</sub> 23	-24706	-1023	-862	-16.1
421	Ft. 23	-23737	913	921	-25.7
	σ <sub>s,c</sub> 23	-23737	913	921	-429.0
	σ <sub>cls,Max</sub> 23	-23737	913	921	-34.3
	σ <sub>cls,Med</sub> 23	-23737	913	921	-15.5

Pilastro: 421/521 / L 2.980[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4 ø 24 + 4 ø 14 Af=24.25 [cm²] < 1φ24 x 4 V + 0φ12 x 2 B + 2φ14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 49.7/ø 8 2br.x4br./15.0' x 198.7/ø 8 2br.x4br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
421	13	-3748	-5843	-2345	1.00	1.00	0.44
521	16	-6734	-1865	-4138	1.00	1.00	0.35

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	5591	18906	5674	27190	ø 8 2br.x4br./10.0'
0.622	2.608	5591	12604	5674	18127	ø 8 2br.x4br./15.0'
2.608	3.105	5591	18906	5674	27190	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

421	Ft. 19	-6222	-1506	659	384.1
	σ <sub>s,c</sub> 19	-6222	-1506	659	-352.3
	σ <sub>cls,Max</sub> 19	-6222	-1506	659	-33.0
	σ <sub>cls,Med</sub> 19	-6222	-1506	659	-11.6
521	Ft. 19	-5253	1734	-2036	933.0
	σ <sub>s,c</sub> 19	-5253	1734	-2036	-596.5
	σ <sub>cls,Max</sub> 19	-5253	1734	-2036	-61.7
	σ <sub>cls,Med</sub> 19	-5253	1734	-2036	-20.7

Combinazioni Frequenti					
421	Ft. 21	-5823	-1371	672	363.0
	$\sigma_{s,c21}$	-5823	-1371	672	-334.0
	$\sigma_{cls,Max21}$	-5823	-1371	672	-31.4
	$\sigma_{cls,Med21}$	-5823	-1371	672	-10.8
521	Ft. 21	-4854	1546	-1866	843.1
	$\sigma_{s,c21}$	-4854	1546	-1866	-540.1
	$\sigma_{cls,Max21}$	-4854	1546	-1866	-55.9
	$\sigma_{cls,Med21}$	-4854	1546	-1866	-18.8
Combinazioni Quasi Permanenti					
421	Ft. 23	-5725	-1334	671	355.9
	$\sigma_{s,c23}$	-5725	-1334	671	-328.4
	$\sigma_{cls,Max23}$	-5725	-1334	671	-30.9
	$\sigma_{cls,Med23}$	-5725	-1334	671	-10.6
521	Ft. 23	-4756	1494	-1823	819.3
	$\sigma_{s,c23}$	-4756	1494	-1823	-525.3
	$\sigma_{cls,Max23}$	-4756	1494	-1823	-54.4
	$\sigma_{cls,Med23}$	-4756	1494	-1823	-18.4

Pilastro: 22/122 / L 3.700[m] / Sezione 33 B 30 [cm]H 30 [cm]

Af: 4  $\phi$  18 + 4  $\phi$  14 Af=16.34 [cm<sup>2</sup>] < 1 $\phi$ 18 x 4 V + 1 $\phi$ 14 x 2 B + 1 $\phi$ 14 x 2 H >

Staffe:  $\phi$  8/10.0' x 61.7/ $\phi$  8/15.0' x 246.7/ $\phi$  8/10.0' x 61.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
22	1	-101359	-157	-448	1.00	1.00	0.51
122	1	-100203	177	425	1.00	1.00	0.51

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.742	2901	13064	4759	13064	$\phi$ 8/10.0'
0.742	3.208	2901	8709	4759	8709	$\phi$ 8/15.0'
3.208	3.825	2901	13064	4759	13064	$\phi$ 8/10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare

22	Ft. 20	-73990	-126	-321	-895.9
	$\sigma_{s,c19}$	-76309	-121	-335	-1074.6
	$\sigma_{cls,Max19}$	-76309	-121	-335	-74.7
	$\sigma_{cls,Med19}$	-76309	-121	-335	-66.6

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
122	Ft. 20	-73101	134	304	-885.7
	σ <sub>s,c</sub> 19	-75420	135	318	-1062.4
	σ <sub>cls,Max</sub> 19	-75420	135	318	-73.9
	σ <sub>cls,Med</sub> 19	-75420	135	318	-65.9
Combinazioni Frequenti					
22	Ft. 22	-68831	-123	-292	-833.5
	σ <sub>s,c</sub> 21	-70565	-121	-302	-993.9
	σ <sub>cls,Max</sub> 21	-70565	-121	-302	-69.1
	σ <sub>cls,Med</sub> 21	-70565	-121	-302	-61.6
122	Ft. 22	-67942	128	276	-823.7
	σ <sub>s,c</sub> 21	-69676	129	286	-980.9
	σ <sub>cls,Max</sub> 21	-69676	129	286	-68.2
	σ <sub>cls,Med</sub> 21	-69676	129	286	-60.9
Combinazioni Quasi Permanenti					
22	Ft. 23	-68549	-121	-291	-830.3
	σ <sub>s,c</sub> 23	-68549	-121	-291	-965.7
	σ <sub>cls,Max</sub> 23	-68549	-121	-291	-67.1
	σ <sub>cls,Med</sub> 23	-68549	-121	-291	-59.9
122	Ft. 23	-67660	127	275	-820.3
	σ <sub>s,c</sub> 23	-67660	127	275	-952.4
	σ <sub>cls,Max</sub> 23	-67660	127	275	-66.2
	σ <sub>cls,Med</sub> 23	-67660	127	275	-59.1

Pilastro: 122/822 / L 3.120[m] / Sezione 3 B 30 [cm]H 30 [cm]

Af: 4 ø 18 Af=10.18 [cm<sup>2</sup>] < 1ø18 x 4 V + 0ø18 x 2 B + 0ø18 x 2 H >

Staffe: ø 8/12.5' x 52.0/ø 8/20.0' x 208.0/ø 8/12.5' x 52.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
122	6	-52944	-9	-3160	1.00	1.00	0.47
222	9	-51749	-367	-3101	1.00	1.00	0.46
222	1	-73626	-976	143	1.00	1.00	0.45
822	1	-73331	1962	1522	1.00	1.00	0.54

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.645	847	10876	3739	10876	ø 8/12.5'
0.645	2.725	4207	6798	5215	6798	ø 8/20.0'
2.725	3.245	4207	10876	5215	10876	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
Combinazioni Rare					
122	Ft. 20	-55818	-161	-230	-723.2
	σ <sub>s,c</sub> 19	-57395	-159	-250	-893.2
	σ <sub>cls,Max</sub> 19	-57395	-159	-250	-61.8
	σ <sub>cls,Med</sub> 19	-57395	-159	-250	-54.5
222	Ft. 20	-55287	113	-149	-739.5
	σ <sub>s,c</sub> 19	-56864	102	-142	-855.2
	σ <sub>cls,Max</sub> 19	-56864	102	-142	-58.4
	σ <sub>cls,Med</sub> 19	-56864	102	-142	-54.0
222	Ft. 20	-53863	-771	145	-598.4
	σ <sub>s,c</sub> 19	-55370	-750	123	-950.1
	σ <sub>cls,Max</sub> 19	-55370	-750	123	-68.2
	σ <sub>cls,Med</sub> 19	-55370	-750	123	-52.6
822	Ft. 20	-53636	1513	1060	-289.3
	σ <sub>s,c</sub> 19	-55143	1497	1130	-1270.6
	σ <sub>cls,Max</sub> 19	-55143	1497	1130	-99.5
	σ <sub>cls,Med</sub> 19	-55143	1497	1130	-52.4
Combinazioni Frequenti					
122	Ft. 22	-51635	-159	-189	-671.5
	σ <sub>s,c</sub> 21	-52876	-158	-204	-820.2
	σ <sub>cls,Max</sub> 21	-52876	-158	-204	-56.7
	σ <sub>cls,Med</sub> 21	-52876	-158	-204	-50.2
222	Ft. 22	-51104	118	-166	-675.6
	σ <sub>s,c</sub> 21	-52345	112	-161	-796.2
	σ <sub>cls,Max</sub> 21	-52345	112	-161	-54.6
	σ <sub>cls,Med</sub> 21	-52345	112	-161	-49.7
222	Ft. 22	-49688	-746	183	-536.4
	σ <sub>s,c</sub> 21	-50890	-737	168	-892.1
	σ <sub>cls,Max</sub> 21	-50890	-737	168	-64.6
	σ <sub>cls,Med</sub> 21	-50890	-737	168	-48.3
822	Ft. 22	-49460	1443	943	-264.3
	σ <sub>s,c</sub> 21	-50662	1440	992	-1170.9
	σ <sub>cls,Max</sub> 21	-50662	1440	992	-91.7
	σ <sub>cls,Med</sub> 21	-50662	1440	992	-48.1
Combinazioni Quasi Permanenti					

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
122	Ft. 23	-51352	-158	-187	-668.0
	σ <sub>s,c</sub> 23	-51352	-158	-187	-795.5
	σ <sub>cls,Max</sub> 23	-51352	-158	-187	-55.0
	σ <sub>cls,Med</sub> 23	-51352	-158	-187	-48.8
222	Ft. 23	-50821	117	-167	-671.6
	σ <sub>s,c</sub> 23	-50821	117	-167	-776.7
	σ <sub>cls,Max</sub> 23	-50821	117	-167	-53.4
	σ <sub>cls,Med</sub> 23	-50821	117	-167	-48.3
222	Ft. 23	-49392	-739	185	-533.4
	σ <sub>s,c</sub> 23	-49392	-739	185	-874.2
	σ <sub>cls,Max</sub> 23	-49392	-739	185	-63.5
	σ <sub>cls,Med</sub> 23	-49392	-739	185	-46.9
822	Ft. 23	-49165	1430	940	-263.0
	σ <sub>s,c</sub> 23	-49165	1430	940	-1138.1
	σ <sub>cls,Max</sub> 23	-49165	1430	940	-89.2
	σ <sub>cls,Med</sub> 23	-49165	1430	940	-46.7

Pilastro: 822/722 / L 2.980[m] / Sezione 3 B 30 [cm]H 30 [cm]

Af: 4 ø 18 Af=10.18 [cm²] < 1ø18 x 4 V + 0ø18 x 2 B + 0ø18 x 2 H >

Staffe: ø 8/12.5' x 49.7/ø 8/15.0' x 198.7/ø 8/12.5' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
822	4	-38226	-1571	-4164	1.00	1.00	0.56
322	12	-34794	1665	-3006	1.00	1.00	0.46
322	17	-37157	-1898	2640	1.00	1.00	0.45
722	1	-53302	2281	1656	1.00	1.00	0.47

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	2179	10876	3508	10876	ø 8/12.5'
0.622	2.608	5067	9063	5199	9063	ø 8/15.0'
2.608	3.105	5067	10876	5199	10876	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
Combinazioni Rare					
822	Ft. 20	-40875	-702	-525	-355.8

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>s,c</sub> 19	-41734	-685	-565	-825.4
	σ <sub>cls,Max</sub> 19	-41734	-685	-565	-62.0
	σ <sub>cls,Med</sub> 19	-41734	-685	-565	-39.6
322	Ft. 20	-40375	378	-34	-499.3
	σ <sub>s,c</sub> 19	-41235	359	-17	-656.9
	σ <sub>cls,Max</sub> 19	-41235	359	-17	-45.9
	σ <sub>cls,Med</sub> 19	-41235	359	-17	-39.2
322	Ft. 20	-39485	-913	139	-368.4
	σ <sub>s,c</sub> 19	-40271	-893	120	-760.9
	σ <sub>cls,Max</sub> 19	-40271	-893	120	-56.4
	σ <sub>cls,Med</sub> 19	-40271	-893	120	-38.3
722	Ft. 20	-39258	1753	1156	-8.4
	σ <sub>s,c</sub> 19	-40044	1738	1229	-1125.8
	σ <sub>cls,Max</sub> 19	-40044	1738	1229	-92.0
	σ <sub>cls,Med</sub> 19	-40044	1738	1229	-40.0
Combinazioni Frequenti					
822	Ft. 22	-37414	-681	-459	-322.7
	σ <sub>s,c</sub> 21	-38197	-673	-487	-758.4
	σ <sub>cls,Max</sub> 21	-38197	-673	-487	-57.1
	σ <sub>cls,Med</sub> 21	-38197	-673	-487	-36.3
322	Ft. 22	-36914	375	-64	-445.1
	σ <sub>s,c</sub> 21	-37698	364	-52	-614.0
	σ <sub>cls,Max</sub> 21	-37698	364	-52	-43.3
	σ <sub>cls,Med</sub> 21	-37698	364	-52	-35.8
322	Ft. 22	-35994	-872	180	-318.6
	σ <sub>s,c</sub> 21	-36740	-865	166	-713.9
	σ <sub>cls,Max</sub> 21	-36740	-865	166	-53.4
	σ <sub>cls,Med</sub> 21	-36740	-865	166	-34.9
722	Ft. 22	-35767	1665	1027	2.2
	σ <sub>s,c</sub> 21	-36513	1665	1078	-1034.5
	σ <sub>cls,Max</sub> 21	-36513	1665	1078	-84.7
	σ <sub>cls,Med</sub> 21	-36513	1665	1078	-36.6
Combinazioni Quasi Permanenti					
822	Ft. 23	-37098	-675	-457	-319.7
	σ <sub>s,c</sub> 23	-37098	-675	-457	-737.5
	σ <sub>cls,Max</sub> 23	-37098	-675	-457	-55.5

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Med</sub> 23	-37098	-675	-457	-35.2
322	Ft. 23	-36599	371	-65	-441.1
	σ <sub>s,c</sub> 23	-36599	371	-65	-601.9
	σ <sub>cls,Max</sub> 23	-36599	371	-65	-42.6
	σ <sub>cls,Med</sub> 23	-36599	371	-65	-34.8
322	Ft. 23	-35661	-863	182	-315.1
	σ <sub>s,c</sub> 23	-35661	-863	182	-701.1
	σ <sub>cls,Max</sub> 23	-35661	-863	182	-52.6
	σ <sub>cls,Med</sub> 23	-35661	-863	182	-33.9
722	Ft. 23	-35434	1651	1022	3.5
	σ <sub>s,c</sub> 23	-35434	1651	1022	-1006.2
	σ <sub>cls,Max</sub> 23	-35434	1651	1022	-82.4
	σ <sub>cls,Med</sub> 23	-35434	1651	1022	-35.6

Pilastro: 722/622 / L 2.980[m] / Sezione 3 B 30 [cm]H 30 [cm]

Af: 4 ø 18 Af=10.18 [cm²] < 1ø18 x 4 V + 0ø18 x 2 B + 0ø18 x 2 H >

Staffe: ø 8/12.5' x 49.7/ø 8/20.0' x 198.7/ø 8/12.5' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
722	4	-24721	-1435	-2993	1.00	1.00	0.43
422	14	-22943	1105	-2541	1.00	1.00	0.35
422	17	-23861	-1875	1965	1.00	1.00	0.36
622	1	-35012	2707	1787	1.00	1.00	0.44

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	1805	10876	3483	10876	ø 8/12.5'
0.622	2.608	4774	6798	4041	6798	ø 8/20.0'
2.608	3.105	4774	10876	4041	10876	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

722	Ft. 19	-27498	-793	-626	-129.8
	σ <sub>s,c</sub> 19	-27498	-793	-626	-653.9
	σ <sub>cls,Max</sub> 19	-27498	-793	-626	-51.6
	σ <sub>cls,Med</sub> 19	-27498	-793	-626	-26.1



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CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
422	Ft. 20	-26870	465	3	-296.4
	σ <sub>s,c</sub> 19	-26998	444	15	-469.5
	σ <sub>cls,Max</sub> 20	-26870	465	3	-33.9
	σ <sub>cls,Med</sub> 19	-26998	444	15	-25.6
422	Ft. 20	-26443	-1163	93	-144.8
	σ <sub>s,c</sub> 20	-26443	-1163	93	-608.8
	σ <sub>cls,Max</sub> 20	-26443	-1163	93	-47.6
	σ <sub>cls,Med</sub> 19	-26485	-1136	71	-25.2
622	Ft. 19	-26257	2060	1327	475.8
	σ <sub>s,c</sub> 19	-26257	2060	1327	-1092.4
	σ <sub>cls,Max</sub> 19	-26257	2060	1327	-96.7
	σ <sub>cls,Med</sub> 19	-26257	2060	1327	-35.5
Combinazioni Frequenti					
722	Ft. 22	-24516	-787	-514	-109.2
	σ <sub>s,c</sub> 21	-24845	-779	-541	-597.7
	σ <sub>cls,Max</sub> 21	-24845	-779	-541	-47.3
	σ <sub>cls,Med</sub> 21	-24845	-779	-541	-23.6
422	Ft. 22	-24017	457	-33	-251.7
	σ <sub>s,c</sub> 21	-24346	446	-23	-433.6
	σ <sub>cls,Max</sub> 22	-24017	457	-33	-31.6
	σ <sub>cls,Med</sub> 21	-24346	446	-23	-23.1
422	Ft. 22	-23512	-1094	140	-107.3
	σ <sub>s,c</sub> 22	-23512	-1094	140	-562.8
	σ <sub>cls,Max</sub> 22	-23512	-1094	140	-44.4
	σ <sub>cls,Med</sub> 21	-23801	-1086	123	-22.6
622	Ft. 21	-23574	1960	1171	472.8
	σ <sub>s,c</sub> 21	-23574	1960	1171	-1006.6
	σ <sub>cls,Max</sub> 21	-23574	1960	1171	-89.6
	σ <sub>cls,Med</sub> 21	-23574	1960	1171	-33.0
Combinazioni Quasi Permanenti					
722	Ft. 23	-24150	-780	-511	-105.9
	σ <sub>s,c</sub> 23	-24150	-780	-511	-582.3
	σ <sub>cls,Max</sub> 23	-24150	-780	-511	-46.1
	σ <sub>cls,Med</sub> 23	-24150	-780	-511	-22.9
422	Ft. 23	-23651	452	-36	-246.9
	σ <sub>s,c</sub> 23	-23651	452	-36	-427.1

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Max</sub> 23	-23651	452	-36	-31.2
	σ <sub>cls,Med</sub> 23	-23651	452	-36	-22.5
422	Ft. 23	-23120	-1080	142	-103.9
	σ <sub>s,c</sub> 23	-23120	-1080	142	-555.0
	σ <sub>cls,Max</sub> 23	-23120	-1080	142	-43.9
	σ <sub>cls,Med</sub> 23	-23120	-1080	142	-22.0
622	Ft. 23	-22892	1942	1110	467.8
	σ <sub>s,c</sub> 23	-22892	1942	1110	-981.2
	σ <sub>cls,Max</sub> 23	-22892	1942	1110	-87.5
	σ <sub>cls,Med</sub> 23	-22892	1942	1110	-32.4

Pilastro: 622/522 / L 2.980[m] / Sezione 3 B 30 [cm]H 30 [cm]

Af: 4 ø 18 Af=10.18 [cm²] < 1ø18 x 4 V + 0ø18 x 2 B + 0ø18 x 2 H >

Staffe: ø 8/12.5' x 49.7/ø 8/20.0' x 198.7/ø 8/12.5' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
622	13	-12916	-1388	-3687	1.00	1.00	0.57
522	13	-12190	442	3663	1.00	1.00	0.53

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	787	10876	3767	10876	ø 8/12.5'
0.622	2.608	787	6798	3767	6798	ø 8/20.0'
2.608	3.105	787	10876	3767	10876	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

**Combinazioni Rare**

622	Ft. 19	-14605	-650	-547	24.3
	σ <sub>s,c</sub> 19	-14605	-650	-547	-435.0
	σ <sub>cls,Max</sub> 19	-14605	-650	-547	-36.0
	σ <sub>cls,Med</sub> 19	-14605	-650	-547	-15.0
522	Ft. 19	-13878	296	665	-17.5
	σ <sub>s,c</sub> 19	-13878	296	665	-376.7
	σ <sub>cls,Max</sub> 19	-13878	296	665	-30.6
	σ <sub>cls,Med</sub> 19	-13878	296	665	-13.7

**Combinazioni Frequenti**

622	Ft. 21	-13284	-623	-478	25.1
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Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>s,c</sub> 21	-13284	-623	-478	-398.2
	σ <sub>cls,Max</sub> 21	-13284	-623	-478	-33.0
	σ <sub>cls,Med</sub> 21	-13284	-623	-478	-13.7
522	Ft. 21	-12557	275	576	-20.0
	σ <sub>s,c</sub> 21	-12557	275	576	-337.0
	σ <sub>cls,Max</sub> 21	-12557	275	576	-27.3
	σ <sub>cls,Med</sub> 21	-12557	275	576	-12.3
Combinazioni Quasi Permanenti					
622	Ft. 23	-12963	-618	-451	23.3
	σ <sub>s,c</sub> 23	-12963	-618	-451	-387.5
	σ <sub>cls,Max</sub> 23	-12963	-618	-451	-32.1
	σ <sub>cls,Med</sub> 23	-12963	-618	-451	-13.4
522	Ft. 23	-12236	269	545	-22.5
	σ <sub>s,c</sub> 23	-12236	269	545	-325.6
	σ <sub>cls,Max</sub> 23	-12236	269	545	-26.3
	σ <sub>cls,Med</sub> 23	-12236	269	545	-11.9

Pilastro: 23/123 / L 3.700[m] / Sezione 34 B 30 [cm]H 40 [cm]

Af: 4 ø 18 + 6 ø 14 Af=19.42 [cm²] < 1ø18 x 4 V + 1ø14 x 2 B + 2ø14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 61.7/ø 8 2br.x4br./15.0' x 246.7/ø 8 2br.x4br./10.0' x 61.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
23	1	-85487	369	-652	1.00	1.00	0.35
123	1	-83946	1060	1691	1.00	1.00	0.38

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.742	6349	18375	4787	26128	ø 8 2br.x4br./10.0'
0.742	3.208	6349	12250	4787	17419	ø 8 2br.x4br./15.0'
3.208	3.825	6349	18375	4787	26128	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

23	Ft. 20	-63690	243	-446	-559.2
	σ <sub>s,c</sub> 19	-64750	272	-483	-740.4
	σ <sub>cls,Max</sub> 19	-64750	272	-483	-52.6
	σ <sub>cls,Med</sub> 19	-64750	272	-483	-43.4
123	Ft. 20	-62505	827	1201	-391.1

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
	σ <sub>s,c</sub> 19	-63565	815	1267	-883.9
	σ <sub>cls,Max</sub> 19	-63565	815	1267	-67.7
	σ <sub>cls,Med</sub> 19	-63565	815	1267	-42.6
Combinazioni Frequenti					
23	Ft. 22	-60226	214	-398	-533.5
	σ <sub>s,c</sub> 21	-61119	232	-422	-692.1
	σ <sub>cls,Max</sub> 21	-61119	232	-422	-49.0
	σ <sub>cls,Med</sub> 21	-61119	232	-422	-41.0
123	Ft. 22	-59041	816	1110	-368.9
	σ <sub>s,c</sub> 21	-59934	810	1154	-832.8
	σ <sub>cls,Max</sub> 21	-59934	810	1154	-63.7
	σ <sub>cls,Med</sub> 21	-59934	810	1154	-40.2
Combinazioni Quasi Permanenti					
23	Ft. 23	-59946	215	-398	-530.5
	σ <sub>s,c</sub> 23	-59946	215	-398	-675.5
	σ <sub>cls,Max</sub> 23	-59946	215	-398	-47.7
	σ <sub>cls,Med</sub> 23	-59946	215	-398	-40.2
123	Ft. 23	-58761	812	1110	-366.5
	σ <sub>s,c</sub> 23	-58761	812	1110	-815.6
	σ <sub>cls,Max</sub> 23	-58761	812	1110	-62.3
	σ <sub>cls,Med</sub> 23	-58761	812	1110	-39.4

Pilastro: 123/823 / L 3.120[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm<sup>2</sup>] < 1ø18 x 4 V + 0ø12 x 2 B + 2ø14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 52.0/ø 8 2br.x4br./12.5' x 208.0/ø 8 2br.x4br./10.0' x 52.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
123	4	-50378	-2097	-4677	1.00	1.00	0.45
223	4	-49670	1465	4200	1.00	1.00	0.40
223	9	-42269	-1539	-4505	1.00	1.00	0.40
823	9	-41966	5057	5994	1.00	1.00	0.67

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.645	2826	18906	3854	27190	ø 8 2br.x4br./10.0'
0.645	2.725	9327	15125	10938	21752	ø 8 2br.x4br./12.5'
2.725	3.245	9327	18906	10938	27190	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
Combinazioni Rare					
123	Ft. 19	-51826	-1725	-2253	-32.7
	σ <sub>s,c</sub> 19	-51826	-1725	-2253	-1040.4
	σ <sub>cls,Max</sub> 19	-51826	-1725	-2253	-82.7
	σ <sub>cls,Med</sub> 19	-51826	-1725	-2253	-37.0
223	Ft. 20	-50442	317	914	-365.6
	σ <sub>s,c</sub> 19	-51118	330	948	-694.7
	σ <sub>cls,Max</sub> 19	-51118	330	948	-50.9
	σ <sub>cls,Med</sub> 19	-51118	330	948	-35.4
223	Ft. 20	-47405	-487	-822	-326.6
	σ <sub>s,c</sub> 19	-47964	-441	-836	-660.0
	σ <sub>cls,Max</sub> 19	-47964	-441	-836	-48.4
	σ <sub>cls,Med</sub> 19	-47964	-441	-836	-33.2
823	Ft. 20	-47102	4115	2677	577.8
	σ <sub>s,c</sub> 20	-47102	4115	2677	-1429.2
	σ <sub>cls,Max</sub> 20	-47102	4115	2677	-120.1
	σ <sub>cls,Med</sub> 20	-47102	4115	2677	-44.0
Combinazioni Frequenti					
123	Ft. 21	-48761	-1691	-2071	-29.3
	σ <sub>s,c</sub> 21	-48761	-1691	-2071	-980.4
	σ <sub>cls,Max</sub> 21	-48761	-1691	-2071	-77.9
	σ <sub>cls,Med</sub> 21	-48761	-1691	-2071	-34.8
223	Ft. 22	-47409	334	862	-339.1
	σ <sub>s,c</sub> 21	-48053	339	885	-655.6
	σ <sub>cls,Max</sub> 21	-48053	339	885	-48.1
	σ <sub>cls,Med</sub> 21	-48053	339	885	-33.3
223	Ft. 22	-44429	-413	-794	-308.0
	σ <sub>s,c</sub> 21	-45004	-394	-804	-619.6
	σ <sub>cls,Max</sub> 21	-45004	-394	-804	-45.5
	σ <sub>cls,Med</sub> 21	-45004	-394	-804	-31.1
823	Ft. 22	-44126	3748	2486	509.0
	σ <sub>s,c</sub> 21	-44701	3662	2571	-1321.2
	σ <sub>cls,Max</sub> 21	-44701	3662	2571	-110.7
	σ <sub>cls,Med</sub> 21	-44701	3662	2571	-40.9
Combinazioni Quasi Permanenti					

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
123	Ft. 23	-47826	-1681	-2001	-30.5
	σ <sub>s,c</sub> 23	-47826	-1681	-2001	-959.9
	σ <sub>cls,Max</sub> 23	-47826	-1681	-2001	-76.2
	σ <sub>cls,Med</sub> 23	-47826	-1681	-2001	-34.1
223	Ft. 23	-47118	338	861	-335.6
	σ <sub>s,c</sub> 23	-47118	338	861	-642.6
	σ <sub>cls,Max</sub> 23	-47118	338	861	-47.1
	σ <sub>cls,Med</sub> 23	-47118	338	861	-32.6
223	Ft. 23	-44125	-394	-793	-307.1
	σ <sub>s,c</sub> 23	-44125	-394	-793	-608.9
	σ <sub>cls,Max</sub> 23	-44125	-394	-793	-44.7
	σ <sub>cls,Med</sub> 23	-44125	-394	-793	-30.5
823	Ft. 23	-43822	3658	2482	493.8
	σ <sub>s,c</sub> 23	-43822	3658	2482	-1299.4
	σ <sub>cls,Max</sub> 23	-43822	3658	2482	-108.9
	σ <sub>cls,Med</sub> 23	-43822	3658	2482	-40.2

Pilastro: 823/723 / L 2.980[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm²] < 1ø18 x 4 V + 0ø12 x 2 B + 2ø14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 49.7/ø 8 2br.x4br./12.5' x 198.7/ø 8 2br.x4br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
823	4	-32439	-3735	-5795	1.00	1.00	0.60
323	4	-31773	2322	4977	1.00	1.00	0.46
323	9	-26730	-2082	-4413	1.00	1.00	0.41
723	9	-26427	2918	5191	1.00	1.00	0.52

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	4854	18906	4951	27190	ø 8 2br.x4br./10.0'
0.622	2.608	8062	15125	9775	21752	ø 8 2br.x4br./12.5'
2.608	3.105	8062	18906	9775	27190	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
Combinazioni Rare					
823	Ft. 20	-33143	-2272	-1442	161.6

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>s,c</sub> 20	-33143	-2272	-1442	-824.7
	σ <sub>cls,Max</sub> 20	-33143	-2272	-1442	-67.2
	σ <sub>cls,Med</sub> 19	-33754	-2140	-1513	-26.7
323	Ft. 20	-32477	838	663	-152.2
	σ <sub>s,c</sub> 19	-33088	783	686	-525.2
	σ <sub>cls,Max</sub> 19	-33088	783	686	-39.6
	σ <sub>cls,Med</sub> 19	-33088	783	686	-22.9
323	Ft. 19	-30344	-349	-1132	-124.4
	σ <sub>s,c</sub> 19	-30344	-349	-1132	-505.6
	σ <sub>cls,Max</sub> 19	-30344	-349	-1132	-39.1
	σ <sub>cls,Med</sub> 19	-30344	-349	-1132	-21.0
723	Ft. 19	-30041	1846	3014	615.5
	σ <sub>s,c</sub> 19	-30041	1846	3014	-1045.0
	σ <sub>cls,Max</sub> 19	-30041	1846	3014	-91.9
	σ <sub>cls,Med</sub> 19	-30041	1846	3014	-34.6
Combinazioni Frequenti					
823	Ft. 22	-31197	-2081	-1333	136.1
	σ <sub>s,c</sub> 21	-31707	-2026	-1381	-767.4
	σ <sub>cls,Max</sub> 21	-31707	-2026	-1381	-62.3
	σ <sub>cls,Med</sub> 21	-31707	-2026	-1381	-25.0
323	Ft. 22	-30531	762	624	-145.9
	σ <sub>s,c</sub> 21	-31041	739	640	-492.8
	σ <sub>cls,Max</sub> 21	-31041	739	640	-37.2
	σ <sub>cls,Med</sub> 21	-31041	739	640	-21.5
323	Ft. 22	-27938	-318	-1060	-112.4
	σ <sub>s,c</sub> 21	-28384	-334	-1078	-476.4
	σ <sub>cls,Max</sub> 21	-28384	-334	-1078	-36.9
	σ <sub>cls,Med</sub> 21	-28384	-334	-1078	-19.6
723	Ft. 21	-28081	1831	2759	577.1
	σ <sub>s,c</sub> 21	-28081	1831	2759	-982.6
	σ <sub>cls,Max</sub> 21	-28081	1831	2759	-86.3
	σ <sub>cls,Med</sub> 21	-28081	1831	2759	-32.0
Combinazioni Quasi Permanenti					
823	Ft. 23	-31043	-2031	-1330	129.2
	σ <sub>s,c</sub> 23	-31043	-2031	-1330	-754.5
	σ <sub>cls,Max</sub> 23	-31043	-2031	-1330	-61.2

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
	σ <sub>cls,Med</sub> 23	-31043	-2031	-1330	-24.5
323	Ft. 23	-30377	741	623	-146.8
	σ <sub>s,c</sub> 23	-30377	741	623	-483.9
	σ <sub>cls,Max</sub> 23	-30377	741	623	-36.5
	σ <sub>cls,Med</sub> 23	-30377	741	623	-21.0
323	Ft. 23	-27769	-323	-1058	-110.3
	σ <sub>s,c</sub> 23	-27769	-323	-1058	-466.2
	σ <sub>cls,Max</sub> 23	-27769	-323	-1058	-36.1
	σ <sub>cls,Med</sub> 23	-27769	-323	-1058	-19.2
723	Ft. 23	-27466	1824	2662	558.5
	σ <sub>s,c</sub> 23	-27466	1824	2662	-959.4
	σ <sub>cls,Max</sub> 23	-27466	1824	2662	-84.1
	σ <sub>cls,Med</sub> 23	-27466	1824	2662	-31.1

Pilastro: 723/623 / L 2.980[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm<sup>2</sup>] < 1φ18 x 4 V + 0φ12 x 2 B + 2φ14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 49.7/ø 8 2br.x4br./15.0' x 198.7/ø 8 2br.x4br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
723	4	-18528	-2282	-4220	1.00	1.00	0.43
423	15	-16238	-1138	3764	1.00	1.00	0.34
423	9	-13329	-2065	-3906	1.00	1.00	0.41
623	9	-13026	2628	5357	1.00	1.00	0.60

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	3389	18906	3823	27190	ø 8 2br.x4br./10.0'
0.622	2.608	6584	12604	9018	18127	ø 8 2br.x4br./15.0'
2.608	3.105	6584	18906	9018	27190	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
Combinazioni Rare					
723	Ft. 19	-19405	-947	-1581	209.4
	σ <sub>s,c</sub> 19	-19405	-947	-1581	-560.7
	σ <sub>cls,Max</sub> 19	-19405	-947	-1581	-47.7
	σ <sub>cls,Med</sub> 19	-19405	-947	-1581	-18.5



COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
423	Ft. 19	-18739	433	740	-46.1
	σ <sub>s,c</sub> 19	-18739	433	740	-342.9
	σ <sub>cls,Max</sub> 19	-18739	433	740	-26.9
	σ <sub>cls,Med</sub> 19	-18739	433	740	-13.0
423	Ft. 19	-16108	-824	-1215	151.7
	σ <sub>s,c</sub> 19	-16108	-824	-1215	-452.2
	σ <sub>cls,Max</sub> 19	-16108	-824	-1215	-38.2
	σ <sub>cls,Med</sub> 19	-16108	-824	-1215	-14.7
623	Ft. 19	-15805	1785	3098	1281.4
	σ <sub>s,c</sub> 19	-15805	1785	3098	-993.2
	σ <sub>cls,Max</sub> 19	-15805	1785	3098	-97.0
	σ <sub>cls,Med</sub> 19	-15805	1785	3098	-34.8
Combinazioni Frequenti					
723	Ft. 21	-18009	-962	-1445	204.8
	σ <sub>s,c</sub> 21	-18009	-962	-1445	-529.1
	σ <sub>cls,Max</sub> 21	-18009	-962	-1445	-45.0
	σ <sub>cls,Med</sub> 21	-18009	-962	-1445	-17.2
423	Ft. 22	-17114	438	678	-36.7
	σ <sub>s,c</sub> 21	-17343	430	699	-322.8
	σ <sub>cls,Max</sub> 21	-17343	430	699	-25.4
	σ <sub>cls,Med</sub> 21	-17343	430	699	-12.1
423	Ft. 21	-14800	-765	-1133	146.1
	σ <sub>s,c</sub> 21	-14800	-765	-1133	-420.0
	σ <sub>cls,Max</sub> 21	-14800	-765	-1133	-35.5
	σ <sub>cls,Med</sub> 21	-14800	-765	-1133	-13.6
623	Ft. 21	-14497	1788	2754	1173.4
	σ <sub>s,c</sub> 21	-14497	1788	2754	-924.9
	σ <sub>cls,Max</sub> 21	-14497	1788	2754	-89.8
	σ <sub>cls,Med</sub> 21	-14497	1788	2754	-31.6
Combinazioni Quasi Permanenti					
723	Ft. 23	-17616	-969	-1393	199.9
	σ <sub>s,c</sub> 23	-17616	-969	-1393	-517.9
	σ <sub>cls,Max</sub> 23	-17616	-969	-1393	-44.0
	σ <sub>cls,Med</sub> 23	-17616	-969	-1393	-16.7
423	Ft. 23	-16950	434	681	-35.2
	σ <sub>s,c</sub> 23	-16950	434	681	-316.6

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Max</sub> 23	-16950	434	681	-24.9
	σ <sub>cls,Med</sub> 23	-16950	434	681	-11.8
423	Ft. 23	-14455	-751	-1109	144.1
	σ <sub>s,c</sub> 23	-14455	-751	-1109	-411.2
	σ <sub>cls,Max</sub> 23	-14455	-751	-1109	-34.8
	σ <sub>cls,Med</sub> 23	-14455	-751	-1109	-13.3
623	Ft. 23	-14152	1789	2654	1140.8
	σ <sub>s,c</sub> 23	-14152	1789	2654	-905.3
	σ <sub>cls,Max</sub> 23	-14152	1789	2654	-87.7
	σ <sub>cls,Med</sub> 23	-14152	1789	2654	-30.6

Pilastro: 623/523 / L 2.980[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm²] < 1φ18 x 4 V + 0φ12 x 2 B + 2φ14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 49.7/ø 8 2br.x4br./15.0' x 198.7/ø 8 2br.x4br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
623	13	-3695	-2857	-4680	1.00	1.00	0.62
523	13	-2726	2935	4447	1.00	1.00	0.61

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	4519	18906	3001	27190	ø 8 2br.x4br./10.0'
0.622	2.608	4519	12604	3001	18127	ø 8 2br.x4br./15.0'
2.608	3.105	4519	18906	3001	27190	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

**Combinazioni Rare**

623	Ft. 19	-5006	-1364	-1732	1058.3
	σ <sub>s,c</sub> 19	-5006	-1364	-1732	-608.6
	σ <sub>cls,Max</sub> 19	-5006	-1364	-1732	-62.6
	σ <sub>cls,Med</sub> 19	-5006	-1364	-1732	-21.0
523	Ft. 19	-4037	2101	2401	1733.2
	σ <sub>s,c</sub> 19	-4037	2101	2401	-869.5
	σ <sub>cls,Max</sub> 19	-4037	2101	2401	-92.0
	σ <sub>cls,Med</sub> 19	-4037	2101	2401	-30.7

**Combinazioni Frequenti**

623	Ft. 21	-4556	-1343	-1527	973.9
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Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>s,c</sub> 21	-4556	-1343	-1527	-566.7
	σ <sub>cls,Max</sub> 21	-4556	-1343	-1527	-57.9
	σ <sub>cls,Med</sub> 21	-4556	-1343	-1527	-19.3
523	Ft. 21	-3587	1988	2142	1591.4
	σ <sub>s,c</sub> 21	-3587	1988	2142	-799.9
	σ <sub>cls,Max</sub> 21	-3587	1988	2142	-84.4
	σ <sub>cls,Med</sub> 21	-3587	1988	2142	-28.1
Combinazioni Quasi Permanenti					
623	Ft. 23	-4436	-1340	-1469	951.2
	σ <sub>s,c</sub> 23	-4436	-1340	-1469	-555.4
	σ <sub>cls,Max</sub> 23	-4436	-1340	-1469	-56.6
	σ <sub>cls,Med</sub> 23	-4436	-1340	-1469	-18.9
523	Ft. 23	-3467	1960	2069	1552.5
	σ <sub>s,c</sub> 23	-3467	1960	2069	-781.0
	σ <sub>cls,Max</sub> 23	-3467	1960	2069	-82.3
	σ <sub>cls,Med</sub> 23	-3467	1960	2069	-27.4

Pilastro: 24/124 / L 3.700[m] / Sezione 34 B 30 [cm]H 40 [cm]

Af: 4 ø 28 + 6 ø 14 Af=33.87 [cm²] < 1φ28 x 4 V + 1φ14 x 2 B + 2φ14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 51.0/ø 8 2br.x4br./15.0' x 268.0/ø 8 2br.x4br./10.0' x 51.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
24	13	-70100	3840	1802	1.00	1.00	0.34
124	1	-85757	1668	-280	1.00	1.00	0.30

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.635	10989	18375	5040	26128	ø 8 2br.x4br./10.0'
0.635	3.315	10989	12250	5040	17419	ø 8 2br.x4br./15.0'
3.315	3.825	10989	18375	5040	26128	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

24	Ft. 20	-63908	181	834	-459.1
	σ <sub>s,c</sub> 19	-65784	179	854	-681.9
	σ <sub>cls,Max</sub> 19	-65784	179	854	-50.1
	σ <sub>cls,Med</sub> 19	-65784	179	854	-38.5
124	Ft. 20	-62723	1211	-207	-425.8

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
	σ <sub>s,c</sub> 19	-64599	1261	-212	-697.1
	σ <sub>cls,Max</sub> 19	-64599	1261	-212	-50.7
	σ <sub>cls,Med</sub> 19	-64599	1261	-212	-37.8
Combinazioni Frequenti					
24	Ft. 22	-59619	156	784	-428.8
	σ <sub>s,c</sub> 21	-61033	157	799	-632.6
	σ <sub>cls,Max</sub> 21	-61033	157	799	-46.5
	σ <sub>cls,Med</sub> 21	-61033	157	799	-35.7
124	Ft. 22	-58434	1159	-195	-393.8
	σ <sub>s,c</sub> 21	-59848	1191	-199	-648.1
	σ <sub>cls,Max</sub> 21	-59848	1191	-199	-47.2
	σ <sub>cls,Med</sub> 21	-59848	1191	-199	-35.0
Combinazioni Quasi Permanenti					
24	Ft. 23	-59376	152	781	-427.3
	σ <sub>s,c</sub> 23	-59376	152	781	-615.6
	σ <sub>cls,Max</sub> 23	-59376	152	781	-45.2
	σ <sub>cls,Med</sub> 23	-59376	152	781	-34.8
124	Ft. 23	-58191	1161	-195	-391.6
	σ <sub>s,c</sub> 23	-58191	1161	-195	-630.5
	σ <sub>cls,Max</sub> 23	-58191	1161	-195	-46.0
	σ <sub>cls,Med</sub> 23	-58191	1161	-195	-34.1

Pilastro: 124/224 / L 3.120[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4 ø 28 + 4 ø 14 Af=30.79 [cm<sup>2</sup>] < 1ø28 x 4 V + 0ø12 x 2 B + 2ø14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 52.0/ø 8 2br.x4br./15.0' x 208.0/ø 8 2br.x4br./10.0' x 52.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
124	15	-33429	-9628	-190	1.00	1.00	0.40
224	15	-32418	7822	234	1.00	1.00	0.33

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.645	10855	18906	257	27190	ø 8 2br.x4br./10.0'
0.645	2.725	10855	12604	257	18127	ø 8 2br.x4br./15.0'
2.725	3.245	10855	18906	257	27190	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
Combinazioni Rare					

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
124	Ft. 20	-46753	-2769	-231	-144.4
	σ <sub>s,c</sub> 19	-47990	-2885	-234	-721.7
	σ <sub>cls,Max</sub> 19	-47990	-2885	-234	-55.2
	σ <sub>cls,Med</sub> 19	-47990	-2885	-234	-28.9
224	Ft. 20	-45742	2198	98	-201.7
	σ <sub>s,c</sub> 19	-46979	2288	100	-643.6
	σ <sub>cls,Max</sub> 19	-46979	2288	100	-48.2
	σ <sub>cls,Med</sub> 19	-46979	2288	100	-28.3
Combinazioni Frequenti					
124	Ft. 22	-43337	-2601	-223	-129.8
	σ <sub>s,c</sub> 21	-44322	-2680	-226	-668.9
	σ <sub>cls,Max</sub> 21	-44322	-2680	-226	-51.2
	σ <sub>cls,Med</sub> 21	-44322	-2680	-226	-26.7
224	Ft. 22	-42326	2067	96	-183.2
	σ <sub>s,c</sub> 21	-43311	2128	97	-595.5
	σ <sub>cls,Max</sub> 21	-43311	2128	97	-44.6
	σ <sub>cls,Med</sub> 21	-43311	2128	97	-26.1
Combinazioni Quasi Permanenti					
124	Ft. 23	-43096	-2599	-223	-127.8
	σ <sub>s,c</sub> 23	-43096	-2599	-223	-650.2
	σ <sub>cls,Max</sub> 23	-43096	-2599	-223	-49.8
	σ <sub>cls,Med</sub> 23	-43096	-2599	-223	-25.9
224	Ft. 23	-42085	2065	96	-181.2
	σ <sub>s,c</sub> 23	-42085	2065	96	-578.6
	σ <sub>cls,Max</sub> 23	-42085	2065	96	-43.4
	σ <sub>cls,Med</sub> 23	-42085	2065	96	-25.3

Pilastro: 224/324 / L 2.980[m] / Sezione 4 B 30 [cm] H 40 [cm]

Af: 4 ø 28 + 4 ø 14 Af=30.79 [cm<sup>2</sup>] < 1ø28 x 4 V + 0ø12 x 2 B + 2ø14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 49.7/ø 8 2br.x4br./12.5' x 198.7/ø 8 2br.x4br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
224	15	-21444	11968	-242	1.00	1.00	0.53
324	15	-20475	-11289	197	1.00	1.00	0.50

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	13619	18906	220	27190	ø 8 2br.x4br./10.0'
0.622	2.608	13619	15125	220	21752	ø 8 2br.x4br./12.5'
2.608	3.105	13619	18906	220	27190	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
Combinazioni Rare					
224	Ft. 19	-31078	2088	4	-89.7
	σ <sub>s,c</sub> 19	-31078	2088	4	-471.4
	σ <sub>cls,Max</sub> 19	-31078	2088	4	-35.9
	σ <sub>cls,Med</sub> 19	-31078	2088	4	-18.7
324	Ft. 19	-30109	-2132	-53	-71.5
	σ <sub>s,c</sub> 19	-30109	-2132	-53	-472.0
	σ <sub>cls,Max</sub> 19	-30109	-2132	-53	-36.2
	σ <sub>cls,Med</sub> 19	-30109	-2132	-53	-18.1
Combinazioni Frequenti					
224	Ft. 21	-28439	1931	7	-79.8
	σ <sub>s,c</sub> 21	-28439	1931	7	-433.6
	σ <sub>cls,Max</sub> 21	-28439	1931	7	-33.1
	σ <sub>cls,Med</sub> 21	-28439	1931	7	-17.1
324	Ft. 21	-27470	-1989	-54	-60.7
	σ <sub>s,c</sub> 21	-27470	-1989	-54	-435.2
	σ <sub>cls,Max</sub> 21	-27470	-1989	-54	-33.5
	σ <sub>cls,Med</sub> 21	-27470	-1989	-54	-16.6
Combinazioni Quasi Permanenti					
224	Ft. 23	-27623	1868	8	-78.0
	σ <sub>s,c</sub> 23	-27623	1868	8	-420.6
	σ <sub>cls,Max</sub> 23	-27623	1868	8	-32.1
	σ <sub>cls,Med</sub> 23	-27623	1868	8	-16.6
324	Ft. 23	-26654	-1928	-54	-58.9
	σ <sub>s,c</sub> 23	-26654	-1928	-54	-422.3
	σ <sub>cls,Max</sub> 23	-26654	-1928	-54	-32.5
	σ <sub>cls,Med</sub> 23	-26654	-1928	-54	-16.1

Pilastro: 324/424 / L 2.980[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4 ø 28 + 4 ø 14 Af=30.79 [cm<sup>2</sup>] < 1ø28 x 4 V + 0ø12 x 2 B + 2ø14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 49.7/ø 8 2br.x4br./12.5' x 198.7/ø 8 2br.x4br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
324	15	-10014	-11305	-39	1.00	1.00	0.55
424	15	-9045	13266	-193	1.00	1.00	0.66

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
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Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	13807	18906	89	27190	ø 8 2br.x4br./10.0'
0.622	2.608	13807	15125	89	21752	ø 8 2br.x4br./12.5'
2.608	3.105	13807	18906	89	27190	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

#### Combinazioni Rare

324	Ft. 19	-13876	-2592	-41	245.9
	σ <sub>s,c</sub> 19	-13876	-2592	-41	-391.9
	σ <sub>cls,Max</sub> 19	-13876	-2592	-41	-33.7
	σ <sub>cls,Med</sub> 19	-13876	-2592	-41	-16.5
424	Ft. 19	-12907	2911	-21	339.6
	σ <sub>s,c</sub> 19	-12907	2911	-21	-416.4
	σ <sub>cls,Max</sub> 19	-12907	2911	-21	-36.7
	σ <sub>cls,Med</sub> 19	-12907	2911	-21	-18.2

#### Combinazioni Frequenti

324	Ft. 21	-12308	-2350	-41	230.3
	σ <sub>s,c</sub> 21	-12308	-2350	-41	-354.0
	σ <sub>cls,Max</sub> 21	-12308	-2350	-41	-30.5
	σ <sub>cls,Med</sub> 21	-12308	-2350	-41	-14.9
424	Ft. 21	-11339	2567	-17	300.3
	σ <sub>s,c</sub> 21	-11339	2567	-17	-366.7
	σ <sub>cls,Max</sub> 21	-11339	2567	-17	-32.3
	σ <sub>cls,Med</sub> 21	-11339	2567	-17	-16.0

#### Combinazioni Quasi Permanenti

324	Ft. 23	-11910	-2270	-41	222.1
	σ <sub>s,c</sub> 23	-11910	-2270	-41	-342.3
	σ <sub>cls,Max</sub> 23	-11910	-2270	-41	-29.5
	σ <sub>cls,Med</sub> 23	-11910	-2270	-41	-14.4
424	Ft. 23	-10941	2470	-16	288.2
	σ <sub>s,c</sub> 23	-10941	2470	-16	-353.0
	σ <sub>cls,Max</sub> 23	-10941	2470	-16	-31.1
	σ <sub>cls,Med</sub> 23	-10941	2470	-16	-15.4

Pilastro: 27/127 / L 3.700[m] / Sezione 34 B 30 [cm]H 40 [cm]

Af: 4 ø 18 + 6 ø 14 Af=19.42 [cm<sup>2</sup>] < 1φ18 x 4 V + 1φ14 x 2 B + 2φ14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 48.0/ø 8 2br.x4br./15.0' x 274.0/ø 8 2br.x4br./10.0' x 48.0

Verifiche a Presso-Flessione S.L.U.

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
27	14	-53802	-4050	1915	1.00	1.00	0.38
127	1	-76492	861	1477	1.00	1.00	0.35

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.605	6532	18375	4630	26128	ø 8 2br.x4br./10.0'
0.605	3.345	6532	12250	4630	17419	ø 8 2br.x4br./15.0'
3.345	3.825	6532	18375	4630	26128	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

Combinazioni Rare

27	Ft. 20	-55405	-809	595	-397.5
	σ <sub>s,c</sub> 19	-58203	-829	530	-739.3
	σ <sub>cls,Max</sub> 19	-58203	-829	530	-54.3
	σ <sub>cls,Med</sub> 19	-58203	-829	530	-39.0
127	Ft. 19	-57018	648	1025	-376.9
	σ <sub>s,c</sub> 19	-57018	648	1025	-770.2
	σ <sub>cls,Max</sub> 19	-57018	648	1025	-58.4
	σ <sub>cls,Med</sub> 19	-57018	648	1025	-38.2

Combinazioni Frequenti

27	Ft. 22	-49969	-747	639	-343.8
	σ <sub>s,c</sub> 21	-51989	-764	600	-678.6
	σ <sub>cls,Max</sub> 21	-51989	-764	600	-50.4
	σ <sub>cls,Med</sub> 21	-51989	-764	600	-34.9
127	Ft. 22	-48784	587	520	-363.7
	σ <sub>s,c</sub> 21	-50804	598	668	-657.8
	σ <sub>cls,Max</sub> 21	-50804	598	668	-48.9
	σ <sub>cls,Med</sub> 21	-50804	598	668	-34.1

Combinazioni Quasi Permanenti

27	Ft. 23	-49736	-742	634	-342.7
	σ <sub>s,c</sub> 23	-49736	-742	634	-657.9
	σ <sub>cls,Max</sub> 23	-49736	-742	634	-49.2
	σ <sub>cls,Med</sub> 23	-49736	-742	634	-33.4
127	Ft. 23	-48551	582	523	-361.5
	σ <sub>s,c</sub> 23	-48551	582	523	-615.3
	σ <sub>cls,Max</sub> 23	-48551	582	523	-45.3
	σ <sub>cls,Med</sub> 23	-48551	582	523	-32.6



Pilastro: 127/227 / L 3.120[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4  $\phi$  18 + 4  $\phi$  14 Af=16.34 [cm<sup>2</sup>] < 1 $\phi$ 18 x 4 V + 0 $\phi$ 12 x 2 B + 2 $\phi$ 14 x 2 H >

Staffe:  $\phi$  8 2br.x4br./10.0' x 52.0/ $\phi$  8 2br.x4br./15.0' x 208.0/ $\phi$  8 2br.x4br./10.0' x 52.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
127	15	-34461	4492	-2633	1.00	1.00	0.41
227	1	-57036	1089	3249	1.00	1.00	0.36

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.645	4689	18906	2577	27190	$\phi$ 8 2br.x4br./10.0'
0.645	2.725	4689	12604	2577	18127	$\phi$ 8 2br.x4br./15.0'
2.725	3.245	4689	18906	2577	27190	$\phi$ 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare

127	Ft. 19	-43551	-550	-2700	-15.3
	$\sigma_{s,c}$ 19	-43551	-550	-2700	-881.4
	$\sigma_{cls,Max}$ 19	-43551	-550	-2700	-71.3
	$\sigma_{cls,Med}$ 19	-43551	-550	-2700	-32.8
227	Ft. 19	-42540	825	2316	-31.3
	$\sigma_{s,c}$ 19	-42540	825	2316	-848.6
	$\sigma_{cls,Max}$ 19	-42540	825	2316	-68.0
	$\sigma_{cls,Med}$ 19	-42540	825	2316	-30.8

Combinazioni Frequenti

127	Ft. 21	-38930	-528	-2022	-72.9
	$\sigma_{s,c}$ 21	-38930	-528	-2022	-734.6
	$\sigma_{cls,Max}$ 21	-38930	-528	-2022	-58.4
	$\sigma_{cls,Med}$ 21	-38930	-528	-2022	-27.5
227	Ft. 21	-37919	776	1721	-74.5
	$\sigma_{s,c}$ 21	-37919	776	1721	-712.4
	$\sigma_{cls,Max}$ 21	-37919	776	1721	-56.3
	$\sigma_{cls,Med}$ 21	-37919	776	1721	-26.5

Combinazioni Quasi Permanenti

127	Ft. 23	-37312	-524	-1751	-93.9
	$\sigma_{s,c}$ 23	-37312	-524	-1751	-680.6
	$\sigma_{cls,Max}$ 23	-37312	-524	-1751	-53.7
	$\sigma_{cls,Med}$ 23	-37312	-524	-1751	-25.9
227	Ft. 23	-36301	762	1484	-91.5

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
	σ <sub>s,c</sub> 23	-36301	762	1484	-662.1
	σ <sub>cls,Max</sub> 23	-36301	762	1484	-51.9
	σ <sub>cls,Med</sub> 23	-36301	762	1484	-25.2

Pilastro: 227/327 / L 2.980[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm<sup>2</sup>] < 1φ18 x 4 V + 0φ12 x 2 B + 2φ14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 49.7/ø 8 2br.x4br./15.0' x 198.7/ø 8 2br.x4br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
227	15	-22453	5875	-2942	1.00	1.00	0.54
327	14	-24979	7308	-289	1.00	1.00	0.49

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	5965	18906	2701	27190	ø 8 2br.x4br./10.0'
0.622	2.608	5965	12604	2701	18127	ø 8 2br.x4br./15.0'
2.608	3.105	5965	18906	2701	27190	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

Combinazioni Rare

227	Ft. 19	-28147	-994	-2004	147.0
	σ <sub>s,c</sub> 19	-28147	-994	-2004	-700.5
	σ <sub>cls,Max</sub> 19	-28147	-994	-2004	-58.3
	σ <sub>cls,Med</sub> 19	-28147	-994	-2004	-23.8
327	Ft. 19	-27178	1041	1978	168.0
	σ <sub>s,c</sub> 19	-27178	1041	1978	-696.3
	σ <sub>cls,Max</sub> 19	-27178	1041	1978	-58.2
	σ <sub>cls,Med</sub> 19	-27178	1041	1978	-23.5

Combinazioni Frequenti

227	Ft. 21	-25171	-941	-1434	58.9
	σ <sub>s,c</sub> 21	-25171	-941	-1434	-571.5
	σ <sub>cls,Max</sub> 21	-25171	-941	-1434	-46.5
	σ <sub>cls,Med</sub> 21	-25171	-941	-1434	-19.4
327	Ft. 21	-24202	979	1376	67.9
	σ <sub>s,c</sub> 21	-24202	979	1376	-559.2
	σ <sub>cls,Max</sub> 21	-24202	979	1376	-45.6
	σ <sub>cls,Med</sub> 21	-24202	979	1376	-18.8

Combinazioni Quasi Permanenti

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
227	Ft. 23	-24201	-927	-1202	26.6
	σ <sub>s,c</sub> 23	-24201	-927	-1202	-524.0
	σ <sub>cls,Max</sub> 23	-24201	-927	-1202	-42.2
	σ <sub>cls,Med</sub> 23	-24201	-927	-1202	-18.0
327	Ft. 23	-23232	963	1126	31.2
	σ <sub>s,c</sub> 23	-23232	963	1126	-508.2
	σ <sub>cls,Max</sub> 23	-23232	963	1126	-40.9
	σ <sub>cls,Med</sub> 23	-23232	963	1126	-17.3

Pilastro: 327/427 / L 2.980[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm<sup>2</sup>] < 1ø18 x 4 V + 0ø12 x 2 B + 2ø14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 49.7/ø 8 2br.x4br./15.0' x 198.7/ø 8 2br.x4br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
327	14	-10393	-7458	-183	1.00	1.00	0.61
427	14	-9424	9069	104	1.00	1.00	0.76

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	7092	18906	3927	27190	ø 8 2br.x4br./10.0'
0.622	2.608	7092	12604	3927	18127	ø 8 2br.x4br./15.0'
2.608	3.105	7092	18906	3927	27190	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

#### Combinazioni Rare

327	Ft. 19	-12291	-1446	-2305	958.7
	σ <sub>s,c</sub> 19	-12291	-1446	-2305	-764.9
	σ <sub>cls,Max</sub> 19	-12291	-1446	-2305	-74.2
	σ <sub>cls,Med</sub> 19	-12291	-1446	-2305	-26.3
427	Ft. 19	-11322	1924	2672	1353.3
	σ <sub>s,c</sub> 19	-11322	1924	2672	-922.1
	σ <sub>cls,Max</sub> 19	-11322	1924	2672	-91.7
	σ <sub>cls,Med</sub> 19	-11322	1924	2672	-31.4

#### Combinazioni Frequenti

327	Ft. 21	-11000	-1343	-1792	733.6
	σ <sub>s,c</sub> 21	-11000	-1343	-1792	-643.3
	σ <sub>cls,Max</sub> 21	-11000	-1343	-1792	-61.1
	σ <sub>cls,Med</sub> 21	-11000	-1343	-1792	-21.1

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
427	Ft. 21	-10031	1776	2282	1177.3
	σ <sub>s,c</sub> 21	-10031	1776	2282	-816.0
	σ <sub>cls,Max</sub> 21	-10031	1776	2282	-80.7
	σ <sub>cls,Med</sub> 21	-10031	1776	2282	-27.3
Combinazioni Quasi Permanenti					
327	Ft. 23	-10689	-1314	-1602	645.9
	σ <sub>s,c</sub> 23	-10689	-1314	-1602	-599.4
	σ <sub>cls,Max</sub> 23	-10689	-1314	-1602	-56.3
	σ <sub>cls,Med</sub> 23	-10689	-1314	-1602	-19.3
427	Ft. 23	-9720	1731	2171	1123.4
	σ <sub>s,c</sub> 23	-9720	1731	2171	-785.6
	σ <sub>cls,Max</sub> 23	-9720	1731	2171	-77.5
	σ <sub>cls,Med</sub> 23	-9720	1731	2171	-26.2

Pilastro: 128/28 / L 3.700[m] / Sezione 33 B 30 [cm]H 30 [cm]

Af: 8 ø 18 Af=20.36 [cm²] < 1φ18 x 4 V + 1φ18 x 2 B + 1φ18 x 2 H >

Staffe: ø 8/12.5' x 61.7/ø 8/20.0' x 246.7/ø 8/12.5' x 61.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
128	1	-68373	575	780	1.00	1.00	0.35
28	3	-45667	-1614	1989	1.00	1.00	0.36

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.742	4376	10451	3775	10451	ø 8/12.5'
0.742	3.208	4376	6532	3775	6532	ø 8/20.0'
3.208	3.825	4376	10451	3775	10451	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

128	Ft. 20	-49640	416	498	-471.7
	σ <sub>s,c</sub> 19	-51438	430	566	-799.2
	σ <sub>cls,Max</sub> 19	-51438	430	566	-59.8
	σ <sub>cls,Med</sub> 19	-51438	430	566	-42.7
28	Ft. 20	-50529	-494	33	-544.6
	σ <sub>s,c</sub> 19	-52327	-511	6	-733.8
	σ <sub>cls,Max</sub> 19	-52327	-511	6	-52.3
	σ <sub>cls,Med</sub> 19	-52327	-511	6	-43.4

Combinazioni Frequenti					
128	Ft. 22	-46214	372	412	-450.0
	$\sigma_{s,c21}$	-47506	383	457	-725.3
	$\sigma_{cls,Max21}$	-47506	383	457	-53.8
	$\sigma_{cls,Med21}$	-47506	383	457	-39.4
28	Ft. 22	-47103	-445	60	-505.5
	$\sigma_{s,c21}$	-48395	-459	42	-682.3
	$\sigma_{cls,Max21}$	-48395	-459	42	-48.8
	$\sigma_{cls,Med21}$	-48395	-459	42	-40.1
Combinazioni Quasi Permanenti					
128	Ft. 23	-46074	368	412	-448.7
	$\sigma_{s,c23}$	-46074	368	412	-698.0
	$\sigma_{cls,Max23}$	-46074	368	412	-51.6
	$\sigma_{cls,Med23}$	-46074	368	412	-38.2
28	Ft. 23	-46962	-442	58	-504.6
	$\sigma_{s,c23}$	-46962	-442	58	-664.3
	$\sigma_{cls,Max23}$	-46962	-442	58	-47.5
	$\sigma_{cls,Med23}$	-46962	-442	58	-39.0

Pilastro: 128/228 / L 3.120[m] / Sezione 3 B 30 [cm]H 30 [cm]  
Af:  $8 \varnothing 18$  Af=20.36 [cm<sup>2</sup>] <  $1\varnothing 18 \times 4 V + 1\varnothing 18 \times 2 B + 1\varnothing 18 \times 2 H$  >  
Staffe:  $\varnothing 8/12.5' \times 52.0/\varnothing 8/20.0' \times 208.0/\varnothing 8/12.5' \times 52.0$   
Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
128	1	-55334	-620	1529	1.00	1.00	0.32
228	1	-54348	728	-1373	1.00	1.00	0.31

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.645	4317	10876	1657	10876	$\varnothing 8/12.5'$
0.645	2.725	4317	6798	1657	6798	$\varnothing 8/20.0'$
2.725	3.245	4317	10876	1657	10876	$\varnothing 8/12.5'$

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare					
128	Ft. 19	-41659	-463	1119	-252.1
	$\sigma_{s,c19}$	-41659	-463	1119	-784.7
	$\sigma_{cls,Max19}$	-41659	-463	1119	-60.4
	$\sigma_{cls,Med19}$	-41659	-463	1119	-34.6

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
228	Ft. 19	-40900	544	-1004	-248.6
	σ <sub>s,c</sub> 19	-40900	544	-1004	-769.4
	σ <sub>cls,Max</sub> 19	-40900	544	-1004	-59.2
	σ <sub>cls,Med</sub> 19	-40900	544	-1004	-33.9
Combinazioni Frequenti					
128	Ft. 21	-38556	-411	935	-253.1
	σ <sub>s,c</sub> 21	-38556	-411	935	-706.5
	σ <sub>cls,Max</sub> 21	-38556	-411	935	-54.0
	σ <sub>cls,Med</sub> 21	-38556	-411	935	-32.0
228	Ft. 21	-37797	483	-834	-248.6
	σ <sub>s,c</sub> 21	-37797	483	-834	-692.2
	σ <sub>cls,Max</sub> 21	-37797	483	-834	-52.9
	σ <sub>cls,Med</sub> 21	-37797	483	-834	-31.4
Combinazioni Quasi Permanenti					
128	Ft. 23	-37442	-396	861	-254.4
	σ <sub>s,c</sub> 23	-37442	-396	861	-677.5
	σ <sub>cls,Max</sub> 23	-37442	-396	861	-51.6
	σ <sub>cls,Med</sub> 23	-37442	-396	861	-31.1
228	Ft. 23	-36684	465	-766	-249.4
	σ <sub>s,c</sub> 23	-36684	465	-766	-663.7
	σ <sub>cls,Max</sub> 23	-36684	465	-766	-50.5
	σ <sub>cls,Med</sub> 23	-36684	465	-766	-30.4

Pilastro: 228/328 / L 2.980[m] / Sezione 3 B 30 [cm]H 30 [cm]

Af: 8 ø 18 Af=20.36 [cm<sup>2</sup>] < 1ø18 x 4 V + 1ø18 x 2 B + 1ø18 x 2 H >

Staffe: ø 8/12.5' x 49.7/ø 8/20.0' x 198.7/ø 8/12.5' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
228	1	-40293	-883	1272	1.00	1.00	0.26
328	1	-39348	937	-1277	1.00	1.00	0.25

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	5692	10876	1706	10876	ø 8/12.5'
0.622	2.608	5692	6798	1706	6798	ø 8/20.0'
2.608	3.105	5692	10876	1706	10876	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

Combinazioni Rare					
228	Ft. 19	-30357	-660	929	-110.3
	$\sigma_{s,c}19$	-30357	-660	929	-645.2
	$\sigma_{cls,Max}19$	-30357	-660	929	-51.1
	$\sigma_{cls,Med}19$	-30357	-660	929	-25.2
328	Ft. 19	-29631	700	-932	-94.0
	$\sigma_{s,c}19$	-29631	700	-932	-643.4
	$\sigma_{cls,Max}19$	-29631	700	-932	-51.3
	$\sigma_{cls,Med}19$	-29631	700	-932	-24.7
Combinazioni Frequenti					
228	Ft. 21	-28152	-588	768	-122.1
	$\sigma_{s,c}21$	-28152	-588	768	-578.5
	$\sigma_{cls,Max}21$	-28152	-588	768	-45.5
	$\sigma_{cls,Med}21$	-28152	-588	768	-23.4
328	Ft. 21	-27425	622	-769	-107.1
	$\sigma_{s,c}21$	-27425	622	-769	-575.4
	$\sigma_{cls,Max}21$	-27425	622	-769	-45.5
	$\sigma_{cls,Med}21$	-27425	622	-769	-22.8
Combinazioni Quasi Permanenti					
228	Ft. 23	-27377	-566	703	-127.1
	$\sigma_{s,c}23$	-27377	-566	703	-554.3
	$\sigma_{cls,Max}23$	-27377	-566	703	-43.5
	$\sigma_{cls,Med}23$	-27377	-566	703	-22.7
328	Ft. 23	-26650	599	-704	-112.4
	$\sigma_{s,c}23$	-26650	599	-704	-550.9
	$\sigma_{cls,Max}23$	-26650	599	-704	-43.4
	$\sigma_{cls,Med}23$	-26650	599	-704	-22.1

Pilastro: 328/428 / L 2.980[m] / Sezione 3 B 30 [cm]H 30 [cm]  
 Af: 8  $\phi$  18 Af=20.36 [cm<sup>2</sup>] < 1 $\phi$ 18 x 4 V + 1 $\phi$ 18 x 2 B + 1 $\phi$ 18 x 2 H >  
 Staffe:  $\phi$  8/12.5' x 49.7/ $\phi$  8/20.0' x 198.7/ $\phi$  8/12.5' x 49.7  
 Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
328	13	-19549	-1480	990	1.00	1.00	0.20
428	13	-18822	1595	-1156	1.00	1.00	0.22

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	5765	10876	1728	10876	$\phi$ 8/12.5'
0.622	2.608	5765	6798	1728	6798	$\phi$ 8/20.0'
2.608	3.105	5765	10876	1728	10876	$\phi$ 8/12.5'

Verifiche a Presso-Flessione S.L.E.

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
Combinazioni Rare					
328	Ft. 19	-18838	-724	916	63.2
	σ <sub>s,c</sub> 19	-18838	-724	916	-521.5
	σ <sub>cls,Max</sub> 19	-18838	-724	916	-43.7
	σ <sub>cls,Med</sub> 19	-18838	-724	916	-17.7
428	Ft. 19	-18111	731	-893	72.4
	σ <sub>s,c</sub> 19	-18111	731	-893	-511.1
	σ <sub>cls,Max</sub> 19	-18111	731	-893	-42.9
	σ <sub>cls,Med</sub> 19	-18111	731	-893	-17.2
Combinazioni Frequenti					
328	Ft. 21	-17580	-640	750	26.1
	σ <sub>s,c</sub> 21	-17580	-640	750	-458.5
	σ <sub>cls,Max</sub> 21	-17580	-640	750	-37.9
	σ <sub>cls,Med</sub> 21	-17580	-640	750	-15.8
428	Ft. 21	-16853	644	-726	33.6
	σ <sub>s,c</sub> 21	-16853	644	-726	-447.0
	σ <sub>cls,Max</sub> 21	-16853	644	-726	-37.1
	σ <sub>cls,Med</sub> 21	-16853	644	-726	-15.3
Combinazioni Quasi Permanenti					
328	Ft. 23	-17154	-616	681	12.5
	σ <sub>s,c</sub> 23	-17154	-616	681	-435.9
	σ <sub>cls,Max</sub> 23	-17154	-616	681	-35.9
	σ <sub>cls,Med</sub> 23	-17154	-616	681	-15.2
428	Ft. 23	-16427	620	-654	18.9
	σ <sub>s,c</sub> 23	-16427	620	-654	-423.6
	σ <sub>cls,Max</sub> 23	-16427	620	-654	-35.0
	σ <sub>cls,Med</sub> 23	-16427	620	-654	-14.7

Pilastro: 528/428 / L 2.980[m] / Sezione 3 B 30 [cm]H 30 [cm]

Af: 8 ø 18 Af=20.36 [cm²] < 1ø18 x 4 V + 1ø18 x 2 B + 1ø18 x 2 H >

Staffe: ø 8/12.5' x 45.0/ø 8/20.0' x 208.0/ø 8/12.5' x 45.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
528	13	-7592	3781	85	1.00	1.00	0.37
428	13	-8318	-3717	300	1.00	1.00	0.37

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
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Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.575	6118	10876	4217	10876	ø 8/12.5'
0.575	2.655	6118	6798	4217	6798	ø 8/20.0'
2.655	3.105	6118	10876	4217	10876	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

#### Combinazioni Rare

528	Ft. 19	-6195	969	686	458.2
	σ <sub>s,c</sub> 19	-6195	969	686	-438.2
	σ <sub>cls,Max</sub> 19	-6195	969	686	-42.9
	σ <sub>cls,Med</sub> 19	-6195	969	686	-14.6
428	Ft. 19	-6922	-934	-977	531.9
	σ <sub>s,c</sub> 19	-6922	-934	-977	-506.2
	σ <sub>cls,Max</sub> 19	-6922	-934	-977	-49.5
	σ <sub>cls,Med</sub> 19	-6922	-934	-977	-16.5

#### Combinazioni Frequenti

528	Ft. 21	-5960	848	595	373.7
	σ <sub>s,c</sub> 21	-5960	848	595	-385.2
	σ <sub>cls,Max</sub> 21	-5960	848	595	-37.2
	σ <sub>cls,Med</sub> 21	-5960	848	595	-12.8
428	Ft. 21	-6687	-828	-829	429.1
	σ <sub>s,c</sub> 21	-6687	-828	-829	-442.5
	σ <sub>cls,Max</sub> 21	-6687	-828	-829	-42.8
	σ <sub>cls,Med</sub> 21	-6687	-828	-829	-14.3

#### Combinazioni Quasi Permanenti

528	Ft. 23	-5899	812	568	348.8
	σ <sub>s,c</sub> 23	-5899	812	568	-369.7
	σ <sub>cls,Max</sub> 23	-5899	812	568	-35.6
	σ <sub>cls,Med</sub> 23	-5899	812	568	-12.2
428	Ft. 23	-6626	-798	-773	393.4
	σ <sub>s,c</sub> 23	-6626	-798	-773	-420.7
	σ <sub>cls,Max</sub> 23	-6626	-798	-773	-40.4
	σ <sub>cls,Med</sub> 23	-6626	-798	-773	-13.5

Pilastro: 129/29 / L 3.700[m] / Sezione 33 B 30 [cm]H 30 [cm]

Af: 4 ø 24 + 4 ø 14 Af=24.25 [cm²] < 1ø24 x 4 V + 1ø14 x 2 B + 1ø14 x 2 H >

Staffe: ø 8/10.0' x 51.0/ø 8/15.0' x 268.0/ø 8/10.0' x 51.0

Verifiche a Presso-Flessione S.L.U.

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
129	1	-61841	-5	-1084	1.00	1.00	0.31
29	3	-43595	-1154	1867	1.00	1.00	0.30

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.635	3582	13064	4999	13064	ø 8/10.0'
0.635	3.315	3582	8709	4999	8709	ø 8/15.0'
3.315	3.825	3582	13064	4999	13064	ø 8/10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

Combinazioni Rare

129	Ft. 20	-43746	20	-710	-411.2
	σ <sub>s,c</sub> 19	-46136	4	-791	-667.9
	σ <sub>cls,Max</sub> 19	-46136	4	-791	-49.2
	σ <sub>cls,Med</sub> 19	-46136	4	-791	-36.5
29	Ft. 20	-44635	-186	375	-448.8
	σ <sub>s,c</sub> 19	-47025	-181	417	-644.3
	σ <sub>cls,Max</sub> 19	-47025	-181	417	-46.8
	σ <sub>cls,Med</sub> 19	-47025	-181	417	-37.2

Combinazioni Frequenti

129	Ft. 22	-39641	37	-595	-379.4
	σ <sub>s,c</sub> 21	-41318	27	-650	-589.3
	σ <sub>cls,Max</sub> 21	-41318	27	-650	-43.5
	σ <sub>cls,Med</sub> 21	-41318	27	-650	-32.7
29	Ft. 22	-40530	-184	315	-409.1
	σ <sub>s,c</sub> 21	-42207	-181	343	-576.5
	σ <sub>cls,Max</sub> 21	-42207	-181	343	-41.8
	σ <sub>cls,Med</sub> 21	-42207	-181	343	-33.4

Combinazioni Quasi Permanenti

129	Ft. 23	-39516	37	-594	-378.1
	σ <sub>s,c</sub> 23	-39516	37	-594	-559.9
	σ <sub>cls,Max</sub> 23	-39516	37	-594	-41.4
	σ <sub>cls,Med</sub> 23	-39516	37	-594	-31.3
29	Ft. 23	-40405	-182	314	-407.9
	σ <sub>s,c</sub> 23	-40405	-182	314	-551.2
	σ <sub>cls,Max</sub> 23	-40405	-182	314	-39.9
	σ <sub>cls,Med</sub> 23	-40405	-182	314	-32.0

Pilastro: 129/729 / L 3.120[m] / Sezione 3 B 30 [cm]H 30 [cm]

Af: 4  $\phi$  24 Af=18.10 [cm<sup>2</sup>] < 1 $\phi$ 24 x 4 V + 0 $\phi$ 24 x 2 B + 0 $\phi$ 24 x 2 H >

Staffe:  $\phi$  8/12.5' x 52.0/ $\phi$  8/20.0' x 208.0/ $\phi$  8/12.5' x 52.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
129	1	-52944	117	-1414	1.00	1.00	0.31
229	4	-35257	705	2762	1.00	1.00	0.32
229	1	-46830	-1501	407	1.00	1.00	0.29
729	1	-46535	1919	2623	1.00	1.00	0.41

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.645	836	10876	2451	10876	$\phi$ 8/12.5'
0.645	2.725	4604	6798	5315	6798	$\phi$ 8/20.0'
2.725	3.245	4604	10876	5315	10876	$\phi$ 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare

129	Ft. 20	-37732	36	-933	-329.5
	$\sigma_{s,c}$ 19	-39571	72	-1033	-681.9
	$\sigma_{cls,Max}$ 19	-39571	72	-1033	-51.3
	$\sigma_{cls,Med}$ 19	-39571	72	-1033	-33.8
229	Ft. 20	-37201	199	19	-441.8
	$\sigma_{s,c}$ 19	-39040	175	9	-529.1
	$\sigma_{cls,Max}$ 19	-39040	175	9	-36.2
	$\sigma_{cls,Med}$ 19	-39040	175	9	-33.3
229	Ft. 20	-33353	-1179	218	-205.7
	$\sigma_{s,c}$ 19	-34988	-1155	282	-675.7
	$\sigma_{cls,Max}$ 19	-34988	-1155	282	-52.6
	$\sigma_{cls,Med}$ 19	-34988	-1155	282	-29.9
729	Ft. 20	-33126	1517	1770	152.1
	$\sigma_{s,c}$ 19	-34761	1478	1933	-1011.6
	$\sigma_{cls,Max}$ 19	-34761	1478	1933	-86.8
	$\sigma_{cls,Med}$ 19	-34761	1478	1933	-34.5

Combinazioni Frequenti

129	Ft. 22	-34349	-8	-786	-314.0
	$\sigma_{s,c}$ 21	-35660	16	-854	-594.4

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Max</sub> 21	-35660	16	-854	-44.2
	σ <sub>cls,Med</sub> 21	-35660	16	-854	-30.4
229	Ft. 22	-33818	221	24	-394.3
	σ <sub>s,c</sub> 21	-35129	206	18	-485.3
	σ <sub>cls,Max</sub> 21	-35129	206	18	-33.5
	σ <sub>cls,Med</sub> 21	-35129	206	18	-30.0
229	Ft. 22	-30308	-1157	140	-182.5
	σ <sub>s,c</sub> 21	-31477	-1146	182	-613.5
	σ <sub>cls,Max</sub> 21	-31477	-1146	182	-47.9
	σ <sub>cls,Med</sub> 21	-31477	-1146	182	-26.9
729	Ft. 22	-30081	1491	1547	150.9
	σ <sub>s,c</sub> 21	-31250	1473	1656	-921.3
	σ <sub>cls,Max</sub> 21	-31250	1473	1656	-79.3
	σ <sub>cls,Med</sub> 21	-31250	1473	1656	-31.2
Combinazioni Quasi Permanenti					
129	Ft. 23	-34222	-7	-784	-312.7
	σ <sub>s,c</sub> 23	-34222	-7	-784	-563.7
	σ <sub>cls,Max</sub> 23	-34222	-7	-784	-41.8
	σ <sub>cls,Med</sub> 23	-34222	-7	-784	-29.2
229	Ft. 23	-33691	219	23	-393.1
	σ <sub>s,c</sub> 23	-33691	219	23	-469.8
	σ <sub>cls,Max</sub> 23	-33691	219	23	-32.6
	σ <sub>cls,Med</sub> 23	-33691	219	23	-28.8
229	Ft. 23	-30190	-1150	141	-182.0
	σ <sub>s,c</sub> 23	-30190	-1150	141	-591.1
	σ <sub>cls,Max</sub> 23	-30190	-1150	141	-46.2
	σ <sub>cls,Med</sub> 23	-30190	-1150	141	-25.8
729	Ft. 23	-29963	1481	1546	150.4
	σ <sub>s,c</sub> 23	-29963	1481	1546	-888.6
	σ <sub>cls,Max</sub> 23	-29963	1481	1546	-76.6
	σ <sub>cls,Med</sub> 23	-29963	1481	1546	-30.0

Pilastro: 729/629 / L 2.980[m] / Sezione 3 B 30 [cm]H 30 [cm]

Af: 4 ø 24 Af=18.10 [cm²] < 1ø24 x 4 V + 0ø24 x 2 B + 0ø24 x 2 H >

Staffe: ø 8/12.5' x 49.7/ø 8/15.0' x 198.7/ø 8/12.5' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
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COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

729	4	-24730	-1667	-3826	1.00	1.00	0.41
329	4	-24231	1415	2767	1.00	1.00	0.32
329	9	-18639	-1816	-2825	1.00	1.00	0.35
629	9	-18412	2153	3163	1.00	1.00	0.40

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	2305	10876	3113	10876	ø 8/12.5'
0.622	2.608	5478	9063	6260	9063	ø 8/15.0'
2.608	3.105	5478	10876	6260	10876	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

Combinazioni Rare

729	Ft. 20	-25966	-693	-895	-80.4
	σ <sub>s,c</sub> 19	-27162	-663	-980	-608.4
	σ <sub>cls,Max</sub> 19	-27162	-663	-980	-49.2
	σ <sub>cls,Med</sub> 19	-27162	-663	-980	-23.3
329	Ft. 20	-25466	522	26	-239.2
	σ <sub>s,c</sub> 19	-26663	498	11	-422.1
	σ <sub>cls,Max</sub> 19	-26663	498	11	-30.8
	σ <sub>cls,Med</sub> 19	-26663	498	11	-22.8
329	Ft. 20	-21267	-1275	75	-55.8
	σ <sub>s,c</sub> 19	-22274	-1246	126	-503.1
	σ <sub>cls,Max</sub> 19	-22274	-1246	126	-40.8
	σ <sub>cls,Med</sub> 19	-22274	-1246	126	-19.5
629	Ft. 19	-22047	1827	2018	623.7
	σ <sub>s,c</sub> 19	-22047	1827	2018	-999.3
	σ <sub>cls,Max</sub> 19	-22047	1827	2018	-93.7
	σ <sub>cls,Med</sub> 19	-22047	1827	2018	-32.3

Combinazioni Frequenti

729	Ft. 22	-23639	-697	-778	-68.5
	σ <sub>s,c</sub> 21	-24503	-680	-834	-554.1
	σ <sub>cls,Max</sub> 21	-24503	-680	-834	-45.0
	σ <sub>cls,Med</sub> 21	-24503	-680	-834	-21.1
329	Ft. 22	-23139	529	39	-206.3
	σ <sub>s,c</sub> 21	-24004	515	30	-393.8

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
	σ <sub>cls,Max</sub> 21	-24004	515	30	-29.1
	σ <sub>cls,Med</sub> 21	-24004	515	30	-20.5
329	Ft. 22	-19296	-1242	19	-41.6
	σ <sub>s,c</sub> 21	-20024	-1229	52	-460.7
	σ <sub>cls,Max</sub> 21	-20024	-1229	52	-37.6
	σ <sub>cls,Med</sub> 21	-20024	-1229	52	-18.4
629	Ft. 21	-19797	1797	1732	587.7
	σ <sub>s,c</sub> 21	-19797	1797	1732	-914.3
	σ <sub>cls,Max</sub> 21	-19797	1797	1732	-86.0
	σ <sub>cls,Med</sub> 21	-19797	1797	1732	-29.5
Combinazioni Quasi Permanenti					
729	Ft. 23	-23539	-692	-777	-68.1
	σ <sub>s,c</sub> 23	-23539	-692	-777	-534.5
	σ <sub>cls,Max</sub> 23	-23539	-692	-777	-43.4
	σ <sub>cls,Med</sub> 23	-23539	-692	-777	-20.3
329	Ft. 23	-23040	525	39	-205.7
	σ <sub>s,c</sub> 23	-23040	525	39	-384.4
	σ <sub>cls,Max</sub> 23	-23040	525	39	-28.6
	σ <sub>cls,Med</sub> 23	-23040	525	39	-19.7
329	Ft. 23	-19210	-1233	20	-42.0
	σ <sub>s,c</sub> 23	-19210	-1233	20	-446.2
	σ <sub>cls,Max</sub> 23	-19210	-1233	20	-36.5
	σ <sub>cls,Med</sub> 23	-19210	-1233	20	-18.1
629	Ft. 23	-18983	1801	1619	577.7
	σ <sub>s,c</sub> 23	-18983	1801	1619	-884.7
	σ <sub>cls,Max</sub> 23	-18983	1801	1619	-83.4
	σ <sub>cls,Med</sub> 23	-18983	1801	1619	-28.6

Pilastro: 629/529 / L 2.980[m] / Sezione 3 B 30 [cm]H 30 [cm]  
Af: 4 ø 24 Af=18.10 [cm<sup>2</sup>] < 1ø24 x 4 V + 0ø24 x 2 B + 0ø24 x 2 H >  
Staffe: ø 8/15.0' x 49.7/ø 8/15.0' x 198.7/ø 8/15.0' x 49.7  
Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
629	4	-11766	-1533	-2900	1.00	1.00	0.35
429	12	-11803	1481	-1788	1.00	1.00	0.25
429	17	-7570	-2258	1065	1.00	1.00	0.26

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

529	1	-11191	3448	3598	1.00	1.00	0.57
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Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	2524	9063	2524	9063	ø 8/15.0'
0.622	2.608	5595	9063	3551	9063	ø 8/15.0'
2.608	3.105	5595	9063	3551	9063	ø 8/15.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

Combinazioni Rare

629	Ft. 20	-13251	-846	-871	172.3
	σ <sub>s,c</sub> 19	-13841	-813	-948	-485.1
	σ <sub>cls,Max</sub> 19	-13841	-813	-948	-43.3
	σ <sub>cls,Med</sub> 19	-13841	-813	-948	-15.9
429	Ft. 20	-12751	567	-43	-66.5
	σ <sub>s,c</sub> 19	-13341	542	-69	-267.7
	σ <sub>cls,Max</sub> 19	-13341	542	-69	-21.1
	σ <sub>cls,Med</sub> 19	-13341	542	-69	-11.4
429	Ft. 20	-8156	-1602	-48	438.8
	σ <sub>s,c</sub> 20	-8156	-1602	-48	-397.5
	σ <sub>cls,Max</sub> 20	-8156	-1602	-48	-40.4
	σ <sub>cls,Med</sub> 20	-8156	-1602	-48	-19.6
529	Ft. 19	-8339	2642	2654	1890.3
	σ <sub>s,c</sub> 19	-8339	2642	2654	-1211.0
	σ <sub>cls,Max</sub> 19	-8339	2642	2654	-132.4
	σ <sub>cls,Med</sub> 19	-8339	2642	2654	-44.1

Combinazioni Frequenti

629	Ft. 22	-12045	-839	-760	168.5
	σ <sub>s,c</sub> 21	-12477	-821	-812	-447.0
	σ <sub>cls,Max</sub> 21	-12477	-821	-812	-40.0
	σ <sub>cls,Med</sub> 21	-12477	-821	-812	-14.6
429	Ft. 22	-11546	568	-20	-54.6
	σ <sub>s,c</sub> 21	-11977	555	-36	-246.9
	σ <sub>cls,Max</sub> 21	-11977	555	-36	-19.6
	σ <sub>cls,Med</sub> 21	-11977	555	-36	-10.2
429	Ft. 22	-7346	-1540	-90	456.0

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
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Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
	σ <sub>s,c</sub> 22	-7346	-1540	-90	-386.9
	σ <sub>cls,Max</sub> 22	-7346	-1540	-90	-39.8
	σ <sub>cls,Med</sub> 22	-7346	-1540	-90	-18.8
529	Ft. 21	-7416	2575	2285	1750.0
	σ <sub>s,c</sub> 21	-7416	2575	2285	-1107.6
	σ <sub>cls,Max</sub> 21	-7416	2575	2285	-121.5
	σ <sub>cls,Med</sub> 21	-7416	2575	2285	-40.5
Combinazioni Quasi Permanenti					
629	Ft. 23	-11988	-832	-759	167.5
	σ <sub>s,c</sub> 23	-11988	-832	-759	-434.0
	σ <sub>cls,Max</sub> 23	-11988	-832	-759	-39.0
	σ <sub>cls,Med</sub> 23	-11988	-832	-759	-14.2
429	Ft. 23	-11489	564	-21	-54.4
	σ <sub>s,c</sub> 23	-11489	564	-21	-239.8
	σ <sub>cls,Max</sub> 23	-11489	564	-21	-19.1
	σ <sub>cls,Med</sub> 23	-11489	564	-21	-9.8
429	Ft. 23	-7310	-1525	-89	449.7
	σ <sub>s,c</sub> 23	-7310	-1525	-89	-383.5
	σ <sub>cls,Max</sub> 23	-7310	-1525	-89	-39.5
	σ <sub>cls,Med</sub> 23	-7310	-1525	-89	-18.6
529	Ft. 23	-7083	2575	2137	1706.5
	σ <sub>s,c</sub> 23	-7083	2575	2137	-1071.4
	σ <sub>cls,Max</sub> 23	-7083	2575	2137	-117.7
	σ <sub>cls,Med</sub> 23	-7083	2575	2137	-39.2

Pilastro: 36/136 / L 3.700[m] / Sezione 34 B 30 [cm]H 40 [cm]

Af: 4 ø 18 + 6 ø 14 Af=19.42 [cm<sup>2</sup>] < 1φ18 x 4 V + 1φ14 x 2 B + 2φ14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 50.0/ø 8 2br.x4br./15.0' x 270.0/ø 8 2br.x4br./10.0' x 50.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
36	8	-35854	512	3739	1.00	1.00	0.33
136	9	-30393	1185	-2074	1.00	1.00	0.23

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.625	6042	18375	4040	26128	ø 8 2br.x4br./10.0'
0.625	3.325	6042	12250	4040	17419	ø 8 2br.x4br./15.0'
3.325	3.825	6042	18375	4040	26128	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.



Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
Combinazioni Rare					
36	Ft. 20	-39621	175	786	-281.7
	σ <sub>s,c</sub> 19	-40956	141	797	-526.5
	σ <sub>cls,Max</sub> 19	-40956	141	797	-39.6
	σ <sub>cls,Med</sub> 19	-40956	141	797	-27.5
136	Ft. 20	-38436	124	-322	-333.2
	σ <sub>s,c</sub> 19	-39771	185	-297	-456.8
	σ <sub>cls,Max</sub> 19	-39771	185	-297	-32.5
	σ <sub>cls,Med</sub> 19	-39771	185	-297	-26.7
Combinazioni Frequenti					
36	Ft. 22	-36809	201	742	-256.2
	σ <sub>s,c</sub> 21	-37793	180	752	-493.2
	σ <sub>cls,Max</sub> 21	-37793	180	752	-37.2
	σ <sub>cls,Med</sub> 21	-37793	180	752	-25.3
136	Ft. 22	-35624	64	-339	-309.2
	σ <sub>s,c</sub> 21	-36608	103	-324	-419.6
	σ <sub>cls,Max</sub> 21	-36608	103	-324	-29.9
	σ <sub>cls,Med</sub> 21	-36608	103	-324	-24.5
Combinazioni Quasi Permanenti					
36	Ft. 23	-36668	198	738	-255.6
	σ <sub>s,c</sub> 23	-36668	198	738	-482.1
	σ <sub>cls,Max</sub> 23	-36668	198	738	-36.5
	σ <sub>cls,Med</sub> 23	-36668	198	738	-24.6
136	Ft. 23	-35483	67	-337	-307.8
	σ <sub>s,c</sub> 23	-35483	67	-337	-406.1
	σ <sub>cls,Max</sub> 23	-35483	67	-337	-29.0
	σ <sub>cls,Med</sub> 23	-35483	67	-337	-23.8

Pilastro: 136/236 / L 3.120[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm<sup>2</sup>] < 1ø18 x 4 V + 0ø12 x 2 B + 2ø14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 52.0/ø 8 2br.x4br./15.0' x 208.0/ø 8 2br.x4br./10.0' x 52.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
136	14	-20965	-5001	690	1.00	1.00	0.34
236	15	-33138	-4154	637	1.00	1.00	0.29

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
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Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.645	4773	18906	2123	27190	ø 8 2br.x4br./10.0'
0.645	2.725	4773	12604	2123	18127	ø 8 2br.x4br./15.0'
2.725	3.245	4773	18906	2123	27190	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

#### Combinazioni Rare

136	Ft. 19	-30886	-119	-133	-289.2
	σ <sub>s,c</sub> 19	-30886	-119	-133	-352.0
	σ <sub>cls,Max</sub> 19	-30886	-119	-133	-24.3
	σ <sub>cls,Med</sub> 19	-30886	-119	-133	-21.4
236	Ft. 20	-28916	-148	-102	-269.5
	σ <sub>s,c</sub> 20	-28916	-148	-102	-330.8
	σ <sub>cls,Max</sub> 20	-28916	-148	-102	-22.8
	σ <sub>cls,Med</sub> 19	-29875	-92	-50	-20.7

#### Combinazioni Frequenti

136	Ft. 22	-27688	15	9	-284.6
	σ <sub>s,c</sub> 21	-28415	-29	-33	-302.7
	σ <sub>cls,Max</sub> 21	-28415	-29	-33	-20.4
	σ <sub>cls,Med</sub> 21	-28415	-29	-33	-19.7
236	Ft. 22	-26677	-208	-156	-232.1
	σ <sub>s,c</sub> 22	-26677	-208	-156	-321.8
	σ <sub>cls,Max</sub> 22	-26677	-208	-156	-22.6
	σ <sub>cls,Med</sub> 21	-27404	-172	-123	-19.0

#### Combinazioni Quasi Permanenti

136	Ft. 23	-27557	11	8	-283.8
	σ <sub>s,c</sub> 23	-27557	11	8	-288.4
	σ <sub>cls,Max</sub> 23	-27557	11	8	-19.3
	σ <sub>cls,Med</sub> 23	-27557	11	8	-19.1
236	Ft. 23	-26546	-206	-155	-231.2
	σ <sub>s,c</sub> 23	-26546	-206	-155	-319.9
	σ <sub>cls,Max</sub> 23	-26546	-206	-155	-22.4
	σ <sub>cls,Med</sub> 23	-26546	-206	-155	-18.4

Pilastro: 236/336 / L 2.980[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm²] < 1ø18 x 4 V + 0ø12 x 2 B + 2ø14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 49.7/ø 8 2br.x4br./15.0' x 198.7/ø 8 2br.x4br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
236	15	-21016	7217	-603	1.00	1.00	0.52
336	15	-20047	-6826	562	1.00	1.00	0.49

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	6651	18906	2698	27190	ø 8 2br.x4br./10.0'
0.622	2.608	6651	12604	2698	18127	ø 8 2br.x4br./15.0'
2.608	3.105	6651	18906	2698	27190	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare

236	Ft. 20	-19086	550	293	-95.6
	$\sigma_{s,c20}$	-19086	550	293	-300.7
	$\sigma_{cls,Max20}$	-19086	550	293	-22.5
	$\sigma_{cls,Med19}$	-19597	505	244	-13.6
336	Ft. 20	-18117	-589	-300	-80.1
	$\sigma_{s,c20}$	-18117	-589	-300	-296.1
	$\sigma_{cls,Max20}$	-18117	-589	-300	-22.3
	$\sigma_{cls,Med19}$	-18628	-531	-244	-12.9

Combinazioni Frequenti

236	Ft. 22	-17486	570	330	-71.7
	$\sigma_{s,c22}$	-17486	570	330	-291.4
	$\sigma_{cls,Max22}$	-17486	570	330	-22.1
	$\sigma_{cls,Med21}$	-17910	544	300	-12.4
336	Ft. 22	-16517	-602	-341	-56.5
	$\sigma_{s,c22}$	-16517	-602	-341	-286.4
	$\sigma_{cls,Max22}$	-16517	-602	-341	-21.9
	$\sigma_{cls,Med21}$	-16941	-569	-307	-11.7

Combinazioni Quasi Permanenti

236	Ft. 23	-17361	565	327	-71.5
	$\sigma_{s,c23}$	-17361	565	327	-289.0
	$\sigma_{cls,Max23}$	-17361	565	327	-21.9
	$\sigma_{cls,Med23}$	-17361	565	327	-12.0
336	Ft. 23	-16392	-593	-336	-56.8
	$\sigma_{s,c23}$	-16392	-593	-336	-283.5
	$\sigma_{cls,Max23}$	-16392	-593	-336	-21.7
	$\sigma_{cls,Med23}$	-16392	-593	-336	-11.3

Pilastro: 336/436 / L 2.980[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4  $\phi$  18 + 4  $\phi$  14 Af=16.34 [cm<sup>2</sup>] < 1 $\phi$ 18 x 4 V + 0 $\phi$ 12 x 2 B + 2 $\phi$ 14 x 2 H >

Staffe:  $\phi$  8 2br.x4br./10.0' x 49.7/ $\phi$  8 2br.x4br./15.0' x 198.7/ $\phi$  8 2br.x4br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
336	15	-7802	6680	-125	1.00	1.00	0.55
436	15	-6833	-7792	255	1.00	1.00	0.67

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	7197	18906	3946	27190	$\phi$ 8 2br.x4br./10.0'
0.622	2.608	7197	12604	3946	18127	$\phi$ 8 2br.x4br./15.0'
2.608	3.105	7197	18906	3946	27190	$\phi$ 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare

336	Ft. 20	-7669	732	374	92.8
	$\sigma_{s,c20}$	-7669	732	374	-231.4
	$\sigma_{cls,Max20}$	-7669	732	374	-19.4
	$\sigma_{cls,Med20}$	-7669	732	374	-7.2
436	Ft. 19	-6785	-754	-448	147.2
	$\sigma_{s,c19}$	-6785	-754	-448	-247.0
	$\sigma_{cls,Max19}$	-6785	-754	-448	-21.3
	$\sigma_{cls,Med19}$	-6785	-754	-448	-7.5

Combinazioni Frequenti

336	Ft. 22	-6802	726	397	122.1
	$\sigma_{s,c22}$	-6802	726	397	-231.5
	$\sigma_{cls,Max22}$	-6802	726	397	-19.7
	$\sigma_{cls,Med22}$	-6802	726	397	-7.1
436	Ft. 22	-5833	-745	-441	177.2
	$\sigma_{s,c21}$	-5958	-747	-446	-243.4
	$\sigma_{cls,Max21}$	-5958	-747	-446	-21.4
	$\sigma_{cls,Med21}$	-5958	-747	-446	-7.4

Combinazioni Quasi Permanenti

336	Ft. 23	-6699	718	396	122.7
	$\sigma_{s,c23}$	-6699	718	396	-229.6
	$\sigma_{cls,Max23}$	-6699	718	396	-19.6
	$\sigma_{cls,Med23}$	-6699	718	396	-7.0
436	Ft. 23	-5730	-744	-443	181.9

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>s,c</sub> 23	-5730	-744	-443	-242.0
	σ <sub>cls,Max</sub> 23	-5730	-744	-443	-21.3
	σ <sub>cls,Med</sub> 23	-5730	-744	-443	-7.4

Pilastro: 37/137 / L 3.700[m] / Sezione 33 B 30 [cm]H 30 [cm]

Af: 8 ø 18 Af=20.36 [cm²] < 1φ18 x 4 V + 1φ18 x 2 B + 1φ18 x 2 H >

Staffe: ø 8/12.5' x 61.7/ø 8/20.0' x 246.7/ø 8/12.5' x 61.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
37	8	-47154	632	2682	1.00	1.00	0.36
137	8	-46265	-498	-2295	1.00	1.00	0.33

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.742	4606	10451	4290	10451	ø 8/12.5'
0.742	3.208	4606	6532	4290	6532	ø 8/20.0'
3.208	3.825	4606	10451	4290	10451	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

37	Ft. 20	-46714	-62	115	-553.0
	σ <sub>s,c</sub> 19	-48078	-78	138	-632.9
	σ <sub>cls,Max</sub> 19	-48078	-78	138	-43.6
	σ <sub>cls,Med</sub> 19	-48078	-78	138	-39.9
137	Ft. 20	-45825	107	-494	-474.3
	σ <sub>s,c</sub> 19	-47189	128	-543	-694.5
	σ <sub>cls,Max</sub> 19	-47189	128	-543	-50.7
	σ <sub>cls,Med</sub> 19	-47189	128	-543	-39.1

Combinazioni Frequenti

37	Ft. 22	-43983	-44	90	-525.9
	σ <sub>s,c</sub> 21	-44976	-55	105	-585.1
	σ <sub>cls,Max</sub> 21	-44976	-55	105	-40.1
	σ <sub>cls,Med</sub> 21	-44976	-55	105	-37.3
137	Ft. 22	-43095	83	-431	-454.3
	σ <sub>s,c</sub> 21	-44087	96	-463	-638.1
	σ <sub>cls,Max</sub> 21	-44087	96	-463	-46.2
	σ <sub>cls,Med</sub> 21	-44087	96	-463	-36.6

Combinazioni Quasi Permanenti

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
37	Ft. 23	-43859	-45	91	-524.2
	σ <sub>s,c</sub> 23	-43859	-45	91	-567.4
	σ <sub>cls,Max</sub> 23	-43859	-45	91	-38.7
	σ <sub>cls,Med</sub> 23	-43859	-45	91	-36.4
137	Ft. 23	-42970	83	-431	-452.6
	σ <sub>s,c</sub> 23	-42970	83	-431	-616.9
	σ <sub>cls,Max</sub> 23	-42970	83	-431	-44.5
	σ <sub>cls,Med</sub> 23	-42970	83	-431	-35.6

Pilastro: 137/237 / L 3.120[m] / Sezione 3 B 30 [cm]H 30 [cm]

Af: 4 ø 18 Af=10.18 [cm²] < 1ø18 x 4 V + 0ø18 x 2 B + 0ø18 x 2 H >

Staffe: ø 8/12.5' x 52.0/ø 8/20.0' x 208.0/ø 8/12.5' x 52.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
137	1	-49336	-318	1177	1.00	1.00	0.33
237	1	-48351	381	-956	1.00	1.00	0.32

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.645	3087	10876	2441	10876	ø 8/12.5'
0.645	2.725	3087	6798	2441	6798	ø 8/20.0'
2.725	3.245	3087	10876	2441	10876	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

137	Ft. 19	-37246	-230	868	-327.9
	σ <sub>s,c</sub> 19	-37246	-230	868	-733.5
	σ <sub>cls,Max</sub> 19	-37246	-230	868	-55.1
	σ <sub>cls,Med</sub> 19	-37246	-230	868	-35.4
237	Ft. 19	-36488	278	-703	-338.9
	σ <sub>s,c</sub> 19	-36488	278	-703	-701.0
	σ <sub>cls,Max</sub> 19	-36488	278	-703	-52.2
	σ <sub>cls,Med</sub> 19	-36488	278	-703	-34.7

Combinazioni Frequenti

137	Ft. 21	-34802	-186	749	-323.4
	σ <sub>s,c</sub> 21	-34802	-186	749	-668.5
	σ <sub>cls,Max</sub> 21	-34802	-186	749	-49.8
	σ <sub>cls,Med</sub> 21	-34802	-186	749	-33.1

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
237	Ft. 21	-34044	231	-600	-331.7
	σ <sub>s,c</sub> 21	-34044	231	-600	-638.5
	σ <sub>cls,Max</sub> 21	-34044	231	-600	-47.2
	σ <sub>cls,Med</sub> 21	-34044	231	-600	-32.3
Combinazioni Quasi Permanenti					
137	Ft. 23	-33947	-168	700	-323.6
	σ <sub>s,c</sub> 23	-33947	-168	700	-643.9
	σ <sub>cls,Max</sub> 23	-33947	-168	700	-47.8
	σ <sub>cls,Med</sub> 23	-33947	-168	700	-32.2
237	Ft. 23	-33189	212	-557	-331.1
	σ <sub>s,c</sub> 23	-33189	212	-557	-614.8
	σ <sub>cls,Max</sub> 23	-33189	212	-557	-45.3
	σ <sub>cls,Med</sub> 23	-33189	212	-557	-31.5

Pilastro: 237/337 / L 2.980[m] / Sezione 3 B 30 [cm]H 30 [cm]

Af: 4 ø 18 Af=10.18 [cm<sup>2</sup>] < 1ø18 x 4 V + 0ø18 x 2 B + 0ø18 x 2 H >

Staffe: ø 8/12.5' x 49.7/ø 8/20.0' x 198.7/ø 8/12.5' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
237	1	-37286	-404	755	1.00	1.00	0.25
337	1	-36342	384	-730	1.00	1.00	0.24

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	3421	10876	2698	10876	ø 8/12.5'
0.622	2.608	3421	6798	2698	6798	ø 8/20.0'
2.608	3.105	3421	10876	2698	10876	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

Combinazioni Rare

237	Ft. 19	-28147	-297	552	-244.5
	σ <sub>s,c</sub> 19	-28147	-297	552	-557.7
	σ <sub>cls,Max</sub> 19	-28147	-297	552	-41.9
	σ <sub>cls,Med</sub> 19	-28147	-297	552	-26.7
337	Ft. 19	-27420	281	-532	-240.6
	σ <sub>s,c</sub> 19	-27420	281	-532	-540.8
	σ <sub>cls,Max</sub> 19	-27420	281	-532	-40.6
	σ <sub>cls,Med</sub> 19	-27420	281	-532	-26.0

Combinazioni Frequenti					
237	Ft. 21	-26254	-251	460	-242.9
	$\sigma_{s,c}21$	-26254	-251	460	-505.3
	$\sigma_{cls,Max}21$	-26254	-251	460	-37.7
	$\sigma_{cls,Med}21$	-26254	-251	460	-24.9
337	Ft. 21	-25527	236	-439	-239.2
	$\sigma_{s,c}21$	-25527	236	-439	-488.3
	$\sigma_{cls,Max}21$	-25527	236	-439	-36.3
	$\sigma_{cls,Med}21$	-25527	236	-439	-24.2
Combinazioni Quasi Permanenti					
237	Ft. 23	-25619	-231	422	-244.5
	$\sigma_{s,c}23$	-25619	-231	422	-485.6
	$\sigma_{cls,Max}23$	-25619	-231	422	-36.0
	$\sigma_{cls,Med}23$	-25619	-231	422	-24.3
337	Ft. 23	-24892	216	-401	-240.8
	$\sigma_{s,c}23$	-24892	216	-401	-468.6
	$\sigma_{cls,Max}23$	-24892	216	-401	-34.7
	$\sigma_{cls,Med}23$	-24892	216	-401	-23.6

Pilastro: 337/437 / L 2.980[m] / Sezione 3 B 30 [cm]H 30 [cm]  
Af:  $4 \phi 18$  Af=10.18 [cm<sup>2</sup>] <  $1 \phi 18 \times 4 V + 0 \phi 18 \times 2 B + 0 \phi 18 \times 2 H$  >  
Staffe:  $\phi 8/12.5' \times 49.7/\phi 8/20.0' \times 198.7/\phi 8/12.5' \times 49.7$   
Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
337	1	-25407	-318	590	1.00	1.00	0.17
437	13	-17299	1143	-307	1.00	1.00	0.17

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	3425	10876	2701	10876	$\phi 8/12.5'$
0.622	2.608	3425	6798	2701	6798	$\phi 8/20.0'$
2.608	3.105	3425	10876	2701	10876	$\phi 8/12.5'$

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare					
337	Ft. 19	-19175	-230	427	-151.8
	$\sigma_{s,c}19$	-19175	-230	427	-394.6
	$\sigma_{cls,Max}19$	-19175	-230	427	-30.0
	$\sigma_{cls,Med}19$	-19175	-230	427	-18.2



Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
437	Ft. 19	-18448	216	-332	-161.8
	σ <sub>s,c</sub> 19	-18448	216	-332	-364.0
	σ <sub>cls,Max</sub> 19	-18448	216	-332	-27.3
	σ <sub>cls,Med</sub> 19	-18448	216	-332	-17.5
Combinazioni Frequenti					
337	Ft. 21	-17820	-188	346	-155.4
	σ <sub>s,c</sub> 21	-17820	-188	346	-352.5
	σ <sub>cls,Max</sub> 21	-17820	-188	346	-26.5
	σ <sub>cls,Med</sub> 21	-17820	-188	346	-16.9
437	Ft. 21	-17094	171	-267	-162.7
	σ <sub>s,c</sub> 21	-17094	171	-267	-324.5
	σ <sub>cls,Max</sub> 21	-17094	171	-267	-24.1
	σ <sub>cls,Med</sub> 21	-17094	171	-267	-16.2
Combinazioni Quasi Permanenti					
337	Ft. 23	-17403	-168	310	-159.7
	σ <sub>s,c</sub> 23	-17403	-168	310	-336.3
	σ <sub>cls,Max</sub> 23	-17403	-168	310	-25.1
	σ <sub>cls,Med</sub> 23	-17403	-168	310	-16.5
437	Ft. 23	-16676	151	-233	-166.7
	σ <sub>s,c</sub> 23	-16676	151	-233	-308.6
	σ <sub>cls,Max</sub> 23	-16676	151	-233	-22.7
	σ <sub>cls,Med</sub> 23	-16676	151	-233	-15.8

Pilastro: 537/437 / L 2.980[m] / Sezione 3 B 30 [cm] H 30 [cm]

Af: 4 ø 18 Af=10.18 [cm²] < 1ø18 x 4 V + 0ø18 x 2 B + 0ø18 x 2 H >

Staffe: ø 8/12.5' x 49.7/ø 8/20.0' x 198.7/ø 8/12.5' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
537	14	-8661	2468	1449	1.00	1.00	0.43
437	13	-9663	-2777	61	1.00	1.00	0.39

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	3616	10876	3279	10876	ø 8/12.5'
0.622	2.608	3616	6798	3279	6798	ø 8/20.0'
2.608	3.105	3616	10876	3279	10876	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare					
537	Ft. 19	-9462	359	944	233.9
	$\sigma_{s,c}19$	-9462	359	944	-419.2
	$\sigma_{cls,Max}19$	-9462	359	944	-37.9
	$\sigma_{cls,Med}19$	-9462	359	944	-14.9
437	Ft. 19	-10188	-362	-722	96.0
	$\sigma_{s,c}19$	-10188	-362	-722	-363.6
	$\sigma_{cls,Max}19$	-10188	-362	-722	-31.2
	$\sigma_{cls,Med}19$	-10188	-362	-722	-12.2
Combinazioni Frequenti					
537	Ft. 21	-8648	331	755	153.9
	$\sigma_{s,c}21$	-8648	331	755	-353.3
	$\sigma_{cls,Max}21$	-8648	331	755	-31.3
	$\sigma_{cls,Med}21$	-8648	331	755	-12.1
437	Ft. 21	-9375	-325	-589	58.2
	$\sigma_{s,c}21$	-9375	-325	-589	-313.1
	$\sigma_{cls,Max}21$	-9375	-325	-589	-26.5
	$\sigma_{cls,Med}21$	-9375	-325	-589	-10.6
Combinazioni Quasi Permanenti					
537	Ft. 23	-8446	318	706	132.6
	$\sigma_{s,c}23$	-8446	318	706	-334.9
	$\sigma_{cls,Max}23$	-8446	318	706	-29.4
	$\sigma_{cls,Med}23$	-8446	318	706	-11.4
437	Ft. 23	-9173	-307	-544	43.5
	$\sigma_{s,c}23$	-9173	-307	-544	-296.0
	$\sigma_{cls,Max}23$	-9173	-307	-544	-24.9
	$\sigma_{cls,Med}23$	-9173	-307	-544	-10.1

Pilastro: 42/542 / L 3.700[m] / Sezione 34 B 30 [cm]H 40 [cm]

Af: 4  $\phi$  28 + 2  $\phi$  18 + 4  $\phi$  24 Af=47.82 [cm<sup>2</sup>] < 1 $\phi$ 28 x 4 V + 1 $\phi$ 18 x 2 B + 2 $\phi$ 24 x 2 H >

Staffe:  $\phi$  8 2br.x4br./5.0' x 76.0/ $\phi$  8 2br.x4br./15.0' x 218.0/ $\phi$  8 2br.x4br./5.0' x 76.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
42	13	-91310	-8664	-3301	1.00	1.00	0.51
142	14	-91596	8739	508	1.00	1.00	0.45
142	15	-76307	-8712	919	1.00	1.00	0.42
542	15	-76040	12829	-1716	1.00	1.00	0.56

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.885	9761	34213	7033	32433	$\phi$ 8 2br.x4br./5.0'

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.885	3.065	9761	12250	7033	17419	ø 8 2br.x4br./15.0'
3.065	3.825	24173	34213	8435	32433	ø 8 2br.x4br./5.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

**Combinazioni Rare**

42	Ft. 20	-92592	129	-1211	-600.2
	σ <sub>s,c</sub> 19	-95064	147	-1235	-871.8
	σ <sub>cls,Max</sub> 19	-95064	147	-1235	-63.9
	σ <sub>cls,Med</sub> 19	-95064	147	-1235	-49.6
142	Ft. 20	-91674	-471	459	-635.4
	σ <sub>s,c</sub> 19	-94146	-512	464	-822.2
	σ <sub>cls,Max</sub> 19	-94146	-512	464	-58.1
	σ <sub>cls,Med</sub> 19	-94146	-512	464	-49.1
142	Ft. 20	-89699	-705	848	-564.2
	σ <sub>s,c</sub> 19	-91991	-698	856	-857.4
	σ <sub>cls,Max</sub> 19	-91991	-698	856	-62.7
	σ <sub>cls,Med</sub> 19	-91991	-698	856	-48.0
542	Ft. 19	-91724	6199	-1651	-37.8
	σ <sub>s,c</sub> 19	-91724	6199	-1651	-1390.1
	σ <sub>cls,Max</sub> 19	-91724	6199	-1651	-115.6
	σ <sub>cls,Med</sub> 19	-91724	6199	-1651	-50.9

**Combinazioni Frequenti**

42	Ft. 22	-86517	121	-1148	-559.1
	σ <sub>s,c</sub> 21	-88418	132	-1167	-812.2
	σ <sub>cls,Max</sub> 21	-88418	132	-1167	-59.6
	σ <sub>cls,Med</sub> 21	-88418	132	-1167	-46.1
142	Ft. 22	-85599	-431	443	-592.7
	σ <sub>s,c</sub> 21	-87500	-457	447	-764.1
	σ <sub>cls,Max</sub> 21	-87500	-457	447	-54.0
	σ <sub>cls,Med</sub> 21	-87500	-457	447	-45.6
142	Ft. 22	-83829	-686	830	-521.6
	σ <sub>s,c</sub> 21	-85613	-683	836	-804.4
	σ <sub>cls,Max</sub> 21	-85613	-683	836	-59.0
	σ <sub>cls,Med</sub> 21	-85613	-683	836	-44.7

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
542	Ft. 21	-85346	5772	-1643	-22.7
	σ <sub>s,c</sub> 21	-85346	5772	-1643	-1304.9
	σ <sub>cls,Max</sub> 21	-85346	5772	-1643	-108.9
	σ <sub>cls,Med</sub> 21	-85346	5772	-1643	-47.6
Combinazioni Quasi Permanenti					
42	Ft. 23	-86138	124	-1144	-556.3
	σ <sub>s,c</sub> 23	-86138	124	-1144	-791.5
	σ <sub>cls,Max</sub> 23	-86138	124	-1144	-58.1
	σ <sub>cls,Med</sub> 23	-86138	124	-1144	-44.9
142	Ft. 23	-85220	-433	441	-589.7
	σ <sub>s,c</sub> 23	-85220	-433	441	-743.8
	σ <sub>cls,Max</sub> 23	-85220	-433	441	-52.6
	σ <sub>cls,Med</sub> 23	-85220	-433	441	-44.4
142	Ft. 23	-83446	-682	829	-519.0
	σ <sub>s,c</sub> 23	-83446	-682	829	-786.7
	σ <sub>cls,Max</sub> 23	-83446	-682	829	-57.8
	σ <sub>cls,Med</sub> 23	-83446	-682	829	-43.5
542	Ft. 23	-83179	5603	-1639	-20.1
	σ <sub>s,c</sub> 23	-83179	5603	-1639	-1273.6
	σ <sub>cls,Max</sub> 23	-83179	5603	-1639	-106.4
	σ <sub>cls,Med</sub> 23	-83179	5603	-1639	-46.4

Pilastro: 542/242 / L 3.120[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4 ø 28 + 2 ø 18 + 4 ø 24 Af=47.82 [cm<sup>2</sup>] < 1φ28 x 4 V + 1φ18 x 2 B + 2φ24 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 52.0/ø 8 2br.x4br./15.0' x 208.0/ø 8 2br.x4br./10.0' x 52.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
542	14	-76595	10309	-1913	1.00	1.00	0.47
242	15	-64456	7498	-164	1.00	1.00	0.34

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.645	11340	18906	2184	27190	ø 8 2br.x4br./10.0'
0.645	2.725	11340	12604	2184	18127	ø 8 2br.x4br./15.0'
2.725	3.245	11340	18906	2184	27190	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

Combinazioni Rare					
542	Ft. 20	-76776	562	-745	-482.0
	$\sigma_{s,c}19$	-78679	585	-747	-736.3
	$\sigma_{cls,Max}19$	-78679	585	-747	-52.8
	$\sigma_{cls,Med}19$	-78679	585	-747	-41.0
242	Ft. 20	-75765	1946	743	-358.5
	$\sigma_{s,c}19$	-77668	2018	746	-848.1
	$\sigma_{cls,Max}19$	-77668	2018	746	-63.0
	$\sigma_{cls,Med}19$	-77668	2018	746	-40.5
Combinazioni Frequenti					
542	Ft. 22	-71416	556	-745	-440.5
	$\sigma_{s,c}21$	-72941	569	-746	-690.1
	$\sigma_{cls,Max}21$	-72941	569	-746	-49.7
	$\sigma_{cls,Med}21$	-72941	569	-746	-38.0
242	Ft. 22	-70405	1821	743	-327.0
	$\sigma_{s,c}21$	-71930	1872	745	-791.0
	$\sigma_{cls,Max}21$	-71930	1872	745	-58.9
	$\sigma_{cls,Med}21$	-71930	1872	745	-37.5
Combinazioni Quasi Permanenti					
542	Ft. 23	-71031	559	-745	-437.2
	$\sigma_{s,c}23$	-71031	559	-745	-674.2
	$\sigma_{cls,Max}23$	-71031	559	-745	-48.6
	$\sigma_{cls,Med}23$	-71031	559	-745	-37.0
242	Ft. 23	-70020	1817	744	-324.3
	$\sigma_{s,c}23$	-70020	1817	744	-771.4
	$\sigma_{cls,Max}23$	-70020	1817	744	-57.5
	$\sigma_{cls,Med}23$	-70020	1817	744	-36.5

Pilastro: 242/342 / L 2.980[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4  $\phi$  28 + 2  $\phi$  18 + 4  $\phi$  24 Af=47.82 [cm<sup>2</sup>] < 1 $\phi$ 28 x 4 V + 1 $\phi$ 18 x 2 B + 2 $\phi$ 24 x 2 H >

Staffe:  $\phi$  8 2br.x4br./7.5' x 49.7/ $\phi$  8 2br.x4br./7.5' x 198.7/ $\phi$  8 2br.x4br./7.5' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
242	15	-41291	11447	-9	1.00	1.00	0.41
342	15	-40322	-10447	36	1.00	1.00	0.38

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	19018	25208	2789	33752	$\phi$ 8 2br.x4br./7.5'
0.622	2.608	19018	25208	2789	33752	$\phi$ 8 2br.x4br./7.5'
2.608	3.105	19018	25208	2789	33752	$\phi$ 8 2br.x4br./7.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
Combinazioni Rare					
242	Ft. 19	-50307	4261	801	60.1
	σ <sub>s,c</sub> 19	-50307	4261	801	-836.8
	σ <sub>cls,Max</sub> 19	-50307	4261	801	-67.3
	σ <sub>cls,Med</sub> 19	-50307	4261	801	-29.7
342	Ft. 19	-49338	-3571	-823	-1.2
	σ <sub>s,c</sub> 19	-49338	-3571	-823	-767.5
	σ <sub>cls,Max</sub> 19	-49338	-3571	-823	-61.1
	σ <sub>cls,Med</sub> 19	-49338	-3571	-823	-27.3
Combinazioni Frequenti					
242	Ft. 21	-46157	3975	802	70.6
	σ <sub>s,c</sub> 21	-46157	3975	802	-781.3
	σ <sub>cls,Max</sub> 21	-46157	3975	802	-63.1
	σ <sub>cls,Med</sub> 21	-46157	3975	802	-27.5
342	Ft. 21	-45188	-3360	-825	15.9
	σ <sub>s,c</sub> 21	-45188	-3360	-825	-718.6
	σ <sub>cls,Max</sub> 21	-45188	-3360	-825	-57.5
	σ <sub>cls,Med</sub> 21	-45188	-3360	-825	-25.3
Combinazioni Quasi Permanenti					
242	Ft. 23	-44883	3859	802	70.6
	σ <sub>s,c</sub> 23	-44883	3859	802	-761.5
	σ <sub>cls,Max</sub> 23	-44883	3859	802	-61.5
	σ <sub>cls,Med</sub> 23	-44883	3859	802	-26.8
342	Ft. 23	-43914	-3266	-825	18.3
	σ <sub>s,c</sub> 23	-43914	-3266	-825	-701.0
	σ <sub>cls,Max</sub> 23	-43914	-3266	-825	-56.1
	σ <sub>cls,Med</sub> 23	-43914	-3266	-825	-24.7

Pilastro: 342/442 / L 2.980[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4 ø 28 + 2 ø 18 + 4 ø 24 Af=47.82 [cm<sup>2</sup>] < 1φ28 x 4 V + 1φ18 x 2 B + 2φ24 x 2 H >

Staffe: ø 8 2br.x4br./7.5' x 52.0/ø 8 2br.x4br./7.5' x 194.0/ø 8 2br.x4br./7.5' x 52.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
342	15	-17562	-10873	173	1.00	1.00	0.39
442	15	-16593	13598	-825	1.00	1.00	0.50

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
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Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.645	19164	25208	4093	33752	ø 8 2br.x4br./7.5'
0.645	2.585	19164	25208	4093	33752	ø 8 2br.x4br./7.5'
2.585	3.105	19164	25208	4093	33752	ø 8 2br.x4br./7.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

#### Combinazioni Rare

342	Ft. 19	-22276	-3879	-559	357.5
	σ <sub>s,c</sub> 19	-22276	-3879	-559	-598.5
	σ <sub>cls,Max</sub> 19	-22276	-3879	-559	-51.9
	σ <sub>cls,Med</sub> 19	-22276	-3879	-559	-22.6
442	Ft. 19	-21307	4773	259	492.7
	σ <sub>s,c</sub> 19	-21307	4773	259	-644.6
	σ <sub>cls,Max</sub> 19	-21307	4773	259	-56.7
	σ <sub>cls,Med</sub> 19	-21307	4773	259	-26.7

#### Combinazioni Frequenti

342	Ft. 21	-19680	-3529	-562	343.1
	σ <sub>s,c</sub> 21	-19680	-3529	-562	-547.8
	σ <sub>cls,Max</sub> 21	-19680	-3529	-562	-47.8
	σ <sub>cls,Med</sub> 21	-19680	-3529	-562	-20.5
442	Ft. 21	-18711	4214	264	441.9
	σ <sub>s,c</sub> 21	-18711	4214	264	-573.2
	σ <sub>cls,Max</sub> 21	-18711	4214	264	-50.5
	σ <sub>cls,Med</sub> 21	-18711	4214	264	-23.5

#### Combinazioni Quasi Permanenti

342	Ft. 23	-19034	-3415	-562	334.8
	σ <sub>s,c</sub> 23	-19034	-3415	-562	-532.3
	σ <sub>cls,Max</sub> 23	-19034	-3415	-562	-46.5
	σ <sub>cls,Med</sub> 23	-19034	-3415	-562	-19.9
442	Ft. 23	-18065	4062	264	426.6
	σ <sub>s,c</sub> 23	-18065	4062	264	-553.9
	σ <sub>cls,Max</sub> 23	-18065	4062	264	-48.8
	σ <sub>cls,Med</sub> 23	-18065	4062	264	-22.7

Pilastro: 43/543 / L 3.700[m] / Sezione 42 B 40 [cm]H 60 [cm]

Af: 4 ø 28 + 4 ø 18 + 4 ø 24 Af=52.90 [cm<sup>2</sup>] < 1ø28 x 4 V + 2ø18 x 2 B + 2ø24 x 2 H >

Staffe: ø 8 4br./5.0' x 77.0/ø 8 4br./20.0' x 216.0/ø 8 4br./5.0' x 77.0

Verifiche a Presso-Flessione S.L.U.

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
43	14	-150086	-38899	-1180	1.00	1.00	0.66
143	14	-148250	31941	783	1.00	1.00	0.57
143	14	-148732	28640	1472	1.00	1.00	0.53
543	15	-4701	31588	-1684	1.00	1.00	0.63

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.895	23149	71986	12260	68427	ø 8 4br./5.0'
0.895	3.055	23149	28996	12260	18375	ø 8 4br./20.0'
3.055	3.825	64722	71986	22736	68427	ø 8 4br./5.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

Combinazioni Rare

43	Ft. 20	-89558	-4858	-1182	-198.7
	σ <sub>s,c</sub> 19	-92732	-5105	-1243	-668.9
	σ <sub>cls,Max</sub> 19	-92732	-5105	-1243	-49.4
	σ <sub>cls,Med</sub> 19	-92732	-5105	-1243	-29.0
143	Ft. 20	-87722	1467	471	-339.7
	σ <sub>s,c</sub> 19	-90896	1524	501	-502.6
	σ <sub>cls,Max</sub> 19	-90896	1524	501	-35.1
	σ <sub>cls,Med</sub> 19	-90896	1524	501	-28.5
143	Ft. 20	-84397	1356	1649	-273.3
	σ <sub>s,c</sub> 19	-87244	1431	1700	-537.8
	σ <sub>cls,Max</sub> 19	-87244	1431	1700	-39.1
	σ <sub>cls,Med</sub> 19	-87244	1431	1700	-27.3
543	Ft. 20	-83863	3961	-1734	-177.2
	σ <sub>s,c</sub> 19	-86710	4289	-1722	-634.7
	σ <sub>cls,Max</sub> 19	-86710	4289	-1722	-47.3
	σ <sub>cls,Med</sub> 19	-86710	4289	-1722	-27.2

Combinazioni Frequenti

43	Ft. 22	-82225	-4332	-1082	-186.9
	σ <sub>s,c</sub> 21	-84622	-4515	-1124	-605.0
	σ <sub>cls,Max</sub> 21	-84622	-4515	-1124	-44.6
	σ <sub>cls,Med</sub> 21	-84622	-4515	-1124	-26.5
143	Ft. 22	-80389	1320	426	-312.4



Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
	σ <sub>s,c</sub> 21	-82786	1365	447	-456.5
	σ <sub>cls,Max</sub> 21	-82786	1365	447	-31.9
	σ <sub>cls,Med</sub> 21	-82786	1365	447	-25.9
143	Ft. 22	-77417	1240	1545	-249.4
	σ <sub>s,c</sub> 21	-79605	1291	1582	-491.6
	σ <sub>cls,Max</sub> 21	-79605	1291	1582	-35.7
	σ <sub>cls,Med</sub> 21	-79605	1291	1582	-24.9
543	Ft. 22	-76883	3469	-1762	-160.1
	σ <sub>s,c</sub> 21	-79071	3692	-1753	-579.7
	σ <sub>cls,Max</sub> 21	-79071	3692	-1753	-43.3
	σ <sub>cls,Med</sub> 21	-79071	3692	-1753	-24.8
Combinazioni Quasi Permanenti					
43	Ft. 23	-81802	-4306	-1080	-186.0
	σ <sub>s,c</sub> 23	-81802	-4306	-1080	-582.5
	σ <sub>cls,Max</sub> 23	-81802	-4306	-1080	-42.9
	σ <sub>cls,Med</sub> 23	-81802	-4306	-1080	-25.6
143	Ft. 23	-79966	1311	426	-310.8
	σ <sub>s,c</sub> 23	-79966	1311	426	-440.4
	σ <sub>cls,Max</sub> 23	-79966	1311	426	-30.7
	σ <sub>cls,Med</sub> 23	-79966	1311	426	-25.0
143	Ft. 23	-76983	1238	1540	-247.7
	σ <sub>s,c</sub> 23	-76983	1238	1540	-475.5
	σ <sub>cls,Max</sub> 23	-76983	1238	1540	-34.6
	σ <sub>cls,Med</sub> 23	-76983	1238	1540	-24.1
543	Ft. 23	-76449	3461	-1764	-158.2
	σ <sub>s,c</sub> 23	-76449	3461	-1764	-559.9
	σ <sub>cls,Max</sub> 23	-76449	3461	-1764	-41.8
	σ <sub>cls,Med</sub> 23	-76449	3461	-1764	-23.9

Pilastro: 543/243 / L 3.120[m] / Sezione 12 B 40 [cm]H 60 [cm]

Af: 4 ø 28 + 4 ø 18 + 4 ø 24 Af=52.90 [cm<sup>2</sup>] < 1ø28 x 4 V + 2ø18 x 2 B + 2ø24 x 2 H >

Staffe: ø 8 4br./12.5' x 52.0/ø 8 4br./20.0' x 208.0/ø 8 4br./12.5' x 52.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
543	15	-1332	33510	-1345	1.00	1.00	0.66
243	15	690	-22214	1955	1.00	1.00	0.45

Verifiche a Taglio

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.645	16528	47243	4005	30249	ø 8 4br./12.5'
0.645	2.725	16528	29527	4005	18906	ø 8 4br./20.0'
2.725	3.245	16528	47243	4005	30249	ø 8 4br./12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

**Combinazioni Rare**

543	Ft. 20	-76477	3283	-1248	-184.9
	σ <sub>s,c</sub> 19	-78728	3415	-1250	-548.8
	σ <sub>cls,Max</sub> 19	-78728	3415	-1250	-39.7
	σ <sub>cls,Med</sub> 19	-78728	3415	-1250	-24.7
243	Ft. 19	-76706	-8800	1968	50.8
	σ <sub>s,c</sub> 19	-76706	-8800	1968	-767.0
	σ <sub>cls,Max</sub> 19	-76706	-8800	1968	-57.8
	σ <sub>cls,Med</sub> 19	-76706	-8800	1968	-25.5

**Combinazioni Frequenti**

543	Ft. 22	-70260	3023	-1230	-165.7
	σ <sub>s,c</sub> 21	-72053	3119	-1232	-506.2
	σ <sub>cls,Max</sub> 21	-72053	3119	-1232	-36.6
	σ <sub>cls,Med</sub> 21	-72053	3119	-1232	-22.6
243	Ft. 21	-70031	-8043	1876	51.2
	σ <sub>s,c</sub> 21	-70031	-8043	1876	-704.8
	σ <sub>cls,Max</sub> 21	-70031	-8043	1876	-53.1
	σ <sub>cls,Med</sub> 21	-70031	-8043	1876	-23.4

**Combinazioni Quasi Permanenti**

543	Ft. 23	-69822	3012	-1227	-164.2
	σ <sub>s,c</sub> 23	-69822	3012	-1227	-491.7
	σ <sub>cls,Max</sub> 23	-69822	3012	-1227	-35.6
	σ <sub>cls,Med</sub> 23	-69822	3012	-1227	-21.9
243	Ft. 23	-67800	-7759	1846	50.1
	σ <sub>s,c</sub> 23	-67800	-7759	1846	-682.8
	σ <sub>cls,Max</sub> 23	-67800	-7759	1846	-51.5
	σ <sub>cls,Med</sub> 23	-67800	-7759	1846	-22.6

Pilastro: 243/343 / L 2.980[m] / Sezione 12 B 40 [cm]H 60 [cm]

Af: 4 ø 28 + 4 ø 18 + 4 ø 24 Af=52.90 [cm<sup>2</sup>] < 1ø28 x 4 V + 2ø18 x 2 B + 2ø24 x 2 H >

Staffe: ø 8 4br./12.5' x 51.0/ø 8 4br./20.0' x 196.0/ø 8 4br./12.5' x 51.0

Verifiche a Presso-Flessione S.L.U.

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
243	15	-623	32088	-2424	1.00	1.00	0.64
343	15	1315	-28296	2406	1.00	1.00	0.58

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.635	22522	47243	6111	30249	ø 8 4br./12.5'
0.635	2.595	22522	29527	6111	18906	ø 8 4br./20.0'
2.595	3.105	22522	47243	6111	30249	ø 8 4br./12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

243	Ft. 19	-49979	12985	-2639	633.3
	σ <sub>s,c</sub> 19	-49979	12985	-2639	-916.1
	σ <sub>cls,Max</sub> 19	-49979	12985	-2639	-73.5
	σ <sub>cls,Med</sub> 19	-49979	12985	-2639	-29.6
343	Ft. 19	-48041	-10700	2570	461.1
	σ <sub>s,c</sub> 19	-48041	-10700	2570	-796.8
	σ <sub>cls,Max</sub> 19	-48041	-10700	2570	-63.4
	σ <sub>cls,Med</sub> 19	-48041	-10700	2570	-25.2

Combinazioni Frequenti

243	Ft. 21	-45146	11891	-2482	594.1
	σ <sub>s,c</sub> 21	-45146	11891	-2482	-841.8
	σ <sub>cls,Max</sub> 21	-45146	11891	-2482	-67.7
	σ <sub>cls,Med</sub> 21	-45146	11891	-2482	-27.1
343	Ft. 21	-43208	-9934	2422	449.1
	σ <sub>s,c</sub> 21	-43208	-9934	2422	-738.8
	σ <sub>cls,Max</sub> 21	-43208	-9934	2422	-59.0
	σ <sub>cls,Med</sub> 21	-43208	-9934	2422	-23.3

Combinazioni Quasi Permanenti

243	Ft. 23	-43687	11446	-2432	572.0
	σ <sub>s,c</sub> 23	-43687	11446	-2432	-813.6
	σ <sub>cls,Max</sub> 23	-43687	11446	-2432	-65.4
	σ <sub>cls,Med</sub> 23	-43687	11446	-2432	-26.2
343	Ft. 23	-41749	-9574	2375	434.8
	σ <sub>s,c</sub> 23	-41749	-9574	2375	-715.0
	σ <sub>cls,Max</sub> 23	-41749	-9574	2375	-57.1
	σ <sub>cls,Med</sub> 23	-41749	-9574	2375	-22.5

Pilastro: 343/443 / L 2.980[m] / Sezione 12 B 40 [cm]H 60 [cm]

Af: 4  $\phi$  28 + 4  $\phi$  18 + 4  $\phi$  24 Af=52.90 [cm<sup>2</sup>] < 1 $\phi$ 28 x 4 V + 2 $\phi$ 18 x 2 B + 2 $\phi$ 24 x 2 H >

Staffe:  $\phi$  8 4br./12.5' x 298.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
343	15	-1827	31094	-2311	1.00	1.00	0.62
443	15	111	-43058	2459	1.00	1.00	0.86

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	3.105	30754	47243	9028	30249	$\phi$ 8 4br./12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

#### Combinazioni Rare

343	Ft. 19	-24304	14063	-2945	1185.5
	$\sigma_{s,c}$ 19	-24304	14063	-2945	-921.4
	$\sigma_{cls,Max}$ 19	-24304	14063	-2945	-78.3
	$\sigma_{cls,Med}$ 19	-24304	14063	-2945	-30.1
443	Ft. 19	-22366	-19690	3447	1817.7
	$\sigma_{s,c}$ 19	-22366	-19690	3447	-1201.5
	$\sigma_{cls,Max}$ 19	-22366	-19690	3447	-103.9
	$\sigma_{cls,Med}$ 19	-22366	-19690	3447	-40.6

#### Combinazioni Frequenti

343	Ft. 21	-20946	12580	-2757	1086.4
	$\sigma_{s,c}$ 21	-20946	12580	-2757	-830.9
	$\sigma_{cls,Max}$ 21	-20946	12580	-2757	-70.8
	$\sigma_{cls,Med}$ 21	-20946	12580	-2757	-26.9
443	Ft. 21	-19008	-17120	3200	1607.4
	$\sigma_{s,c}$ 21	-19008	-17120	3200	-1058.7
	$\sigma_{cls,Max}$ 21	-19008	-17120	3200	-91.7
	$\sigma_{cls,Med}$ 21	-19008	-17120	3200	-35.4

#### Combinazioni Quasi Permanenti

343	Ft. 23	-20157	12105	-2697	1049.3
	$\sigma_{s,c}$ 23	-20157	12105	-2697	-802.8
	$\sigma_{cls,Max}$ 23	-20157	12105	-2697	-68.5
	$\sigma_{cls,Med}$ 23	-20157	12105	-2697	-25.9
443	Ft. 23	-18219	-16446	3117	1548.9
	$\sigma_{s,c}$ 23	-18219	-16446	3117	-1020.2
	$\sigma_{cls,Max}$ 23	-18219	-16446	3117	-88.4

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Med</sub> 23	-18219	-16446	3117	-34.1

Pilastro: 48/648 / L 3.700[m] / Sezione 33 B 30 [cm]H 30 [cm]

Af: 8 ø 18 Af=20.36 [cm²] < 1φ18 x 4 V + 1φ18 x 2 B + 1φ18 x 2 H >

Staffe: ø 8/12.5' x 46.0/ø 8/20.0' x 278.0/ø 8/12.5' x 46.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
48	6	-8642	646	2248	1.00	1.00	0.25
148	5	-5727	557	-2233	1.00	1.00	0.25
148	10	-22083	-1980	2927	1.00	1.00	0.41
648	3	-5124	-2379	1849	1.00	1.00	0.37

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.585	3581	10451	2742	10451	ø 8/12.5'
0.585	3.365	4790	6532	5515	6532	ø 8/20.0'
3.365	3.825	4790	10451	5515	10451	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

48	Ft. 20	-15944	113	264	-138.2
	σ <sub>s,c</sub> 19	-16251	113	277	-264.5
	σ <sub>cls,Max</sub> 19	-16251	113	277	-20.2
	σ <sub>cls,Med</sub> 19	-16251	113	277	-13.5
148	Ft. 20	-15255	-38	-141	-161.3
	σ <sub>s,c</sub> 19	-15562	-36	-147	-222.9
	σ <sub>cls,Max</sub> 19	-15562	-36	-147	-16.1
	σ <sub>cls,Med</sub> 19	-15562	-36	-147	-12.9
148	Ft. 19	-14450	-109	217	-127.8
	σ <sub>s,c</sub> 19	-14450	-109	217	-231.9
	σ <sub>cls,Max</sub> 19	-14450	-109	217	-17.6
	σ <sub>cls,Med</sub> 19	-14450	-109	217	-12.0
648	Ft. 20	-14012	-38	18	-165.5
	σ <sub>s,c</sub> 19	-14250	-34	17	-185.5
	σ <sub>cls,Max</sub> 19	-14250	-34	17	-12.7
	σ <sub>cls,Med</sub> 19	-14250	-34	17	-11.8

Combinazioni Frequenti					
48	Ft. 22	-15348	109	234	-136.1
	$\sigma_{s,c21}$	-15569	110	244	-250.3
	$\sigma_{cls,Max21}$	-15569	110	244	-19.0
	$\sigma_{cls,Med21}$	-15569	110	244	-12.9
148	Ft. 22	-14659	-38	-126	-156.3
	$\sigma_{s,c21}$	-14881	-37	-130	-211.9
	$\sigma_{cls,Max21}$	-14881	-37	-130	-15.2
	$\sigma_{cls,Med21}$	-14881	-37	-130	-12.3
148	Ft. 21	-13901	-89	188	-128.6
	$\sigma_{s,c21}$	-13901	-89	188	-217.4
	$\sigma_{cls,Max21}$	-13901	-89	188	-16.3
	$\sigma_{cls,Med21}$	-13901	-89	188	-11.5
648	Ft. 22	-13526	-47	19	-157.8
	$\sigma_{s,c21}$	-13700	-44	19	-180.5
	$\sigma_{cls,Max21}$	-13700	-44	19	-12.4
	$\sigma_{cls,Med21}$	-13700	-44	19	-11.4
Combinazioni Quasi Permanenti					
48	Ft. 23	-15322	109	233	-136.1
	$\sigma_{s,c23}$	-15322	109	233	-245.2
	$\sigma_{cls,Max23}$	-15322	109	233	-18.6
	$\sigma_{cls,Med23}$	-15322	109	233	-12.7
148	Ft. 23	-14634	-38	-125	-156.2
	$\sigma_{s,c23}$	-14634	-38	-125	-208.1
	$\sigma_{cls,Max23}$	-14634	-38	-125	-14.9
	$\sigma_{cls,Med23}$	-14634	-38	-125	-12.1
148	Ft. 23	-13704	-82	178	-129.0
	$\sigma_{s,c23}$	-13704	-82	178	-212.1
	$\sigma_{cls,Max23}$	-13704	-82	178	-15.8
	$\sigma_{cls,Med23}$	-13704	-82	178	-11.4
648	Ft. 23	-13503	-47	19	-157.4
	$\sigma_{s,c23}$	-13503	-47	19	-178.7
	$\sigma_{cls,Max23}$	-13503	-47	19	-12.3
	$\sigma_{cls,Med23}$	-13503	-47	19	-11.2

Pilastro: 248/648 / L 2.110[m] / Sezione 3 B 30 [cm]H 30 [cm]  
Af: 4  $\phi$  18 Af=10.18 [cm<sup>2</sup>] < 1 $\phi$ 18 x 4 V + 0 $\phi$ 18 x 2 B + 0 $\phi$ 18 x 2 H >  
Staffe:  $\phi$  8/12.5' x 45.0/ $\phi$  8/20.0' x 121.0/ $\phi$  8/12.5' x 45.0  
Verifiche a Presso-Flessione S.L.U.

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
648	5	-8001	12	2343	1.00	1.00	0.33
248	7	-16799	475	796	1.00	1.00	0.15

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.575	1800	10876	1489	10876	ø 8/12.5'
0.575	1.785	1800	6798	1489	6798	ø 8/20.0'
1.785	2.235	1800	10876	1489	10876	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

648	Ft. 20	-13923	-7	46	-188.6
	σ <sub>s,c</sub> 19	-14157	-7	47	-211.7
	σ <sub>cls,Max</sub> 19	-14157	-7	47	-14.4
	σ <sub>cls,Med</sub> 19	-14157	-7	47	-13.4
248	Ft. 20	-13392	112	-224	-128.8
	σ <sub>s,c</sub> 19	-13626	116	-231	-258.4
	σ <sub>cls,Max</sub> 19	-13626	116	-231	-19.2
	σ <sub>cls,Med</sub> 19	-13626	116	-231	-12.9

Combinazioni Frequenti

648	Ft. 22	-13450	-6	43	-182.6
	σ <sub>s,c</sub> 21	-13620	-6	44	-203.3
	σ <sub>cls,Max</sub> 21	-13620	-6	44	-13.8
	σ <sub>cls,Med</sub> 21	-13620	-6	44	-12.9
248	Ft. 22	-12919	105	-207	-126.4
	σ <sub>s,c</sub> 21	-13089	108	-213	-245.7
	σ <sub>cls,Max</sub> 21	-13089	108	-213	-18.2
	σ <sub>cls,Med</sub> 21	-13089	108	-213	-12.4

Combinazioni Quasi Permanenti

648	Ft. 23	-13428	-6	43	-182.3
	σ <sub>s,c</sub> 23	-13428	-6	43	-200.4
	σ <sub>cls,Max</sub> 23	-13428	-6	43	-13.6
	σ <sub>cls,Med</sub> 23	-13428	-6	43	-12.8
248	Ft. 23	-12897	105	-206	-126.3
	σ <sub>s,c</sub> 23	-12897	105	-206	-241.2
	σ <sub>cls,Max</sub> 23	-12897	105	-206	-17.8
	σ <sub>cls,Med</sub> 23	-12897	105	-206	-12.3

Pilastro: 248/348 / L 2.980[m] / Sezione 3 B 30 [cm]H 30 [cm]

Af: 4  $\phi$  18 Af=10.18 [cm<sup>2</sup>] < 1 $\phi$ 18 x 4 V + 0 $\phi$ 18 x 2 B + 0 $\phi$ 18 x 2 H >

Staffe:  $\phi$  8/12.5' x 49.7/ $\phi$  8/20.0' x 198.7/ $\phi$  8/12.5' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
248	10	-16281	-466	-938	1.00	1.00	0.16
348	18	-13880	403	445	1.00	1.00	0.11

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	1168	10876	900	10876	$\phi$ 8/12.5'
0.622	2.608	1168	6798	900	6798	$\phi$ 8/20.0'
2.608	3.105	1168	10876	900	10876	$\phi$ 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

#### Combinazioni Rare

248	Ft. 19	-10652	-146	-287	-71.8
	$\sigma_{s,c}$ 19	-10652	-146	-287	-231.8
	$\sigma_{cls,Max}$ 19	-10652	-146	-287	-17.9
	$\sigma_{cls,Med}$ 19	-10652	-146	-287	-10.1
348	Ft. 19	-9925	130	272	-67.4
	$\sigma_{s,c}$ 19	-9925	130	272	-215.5
	$\sigma_{cls,Max}$ 19	-9925	130	272	-16.6
	$\sigma_{cls,Med}$ 19	-9925	130	272	-9.4

#### Combinazioni Frequenti

248	Ft. 21	-10252	-136	-261	-72.8
	$\sigma_{s,c}$ 21	-10252	-136	-261	-219.4
	$\sigma_{cls,Max}$ 21	-10252	-136	-261	-16.9
	$\sigma_{cls,Med}$ 21	-10252	-136	-261	-9.7
348	Ft. 21	-9525	119	245	-68.4
	$\sigma_{s,c}$ 21	-9525	119	245	-203.0
	$\sigma_{cls,Max}$ 21	-9525	119	245	-15.6
	$\sigma_{cls,Med}$ 21	-9525	119	245	-9.0

#### Combinazioni Quasi Permanenti

248	Ft. 23	-10111	-132	-251	-73.3
	$\sigma_{s,c}$ 23	-10111	-132	-251	-214.9
	$\sigma_{cls,Max}$ 23	-10111	-132	-251	-16.5
	$\sigma_{cls,Med}$ 23	-10111	-132	-251	-9.6
348	Ft. 23	-9384	115	236	-68.9



Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>s,c</sub> 23	-9384	115	236	-198.5
	σ <sub>cls,Max</sub> 23	-9384	115	236	-15.2
	σ <sub>cls,Med</sub> 23	-9384	115	236	-8.9

Pilastro: 348/448 / L 2.980[m] / Sezione 3 B 30 [cm]H 30 [cm]

Af: 4 ø 18 Af=10.18 [cm²] < 1φ18 x 4 V + 0φ18 x 2 B + 0φ18 x 2 H >

Staffe: ø 8/12.5' x 49.7/ø 8/20.0' x 198.7/ø 8/12.5' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
348	10	-11394	-606	-528	1.00	1.00	0.12
448	10	-10667	574	670	1.00	1.00	0.12

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	1170	10876	901	10876	ø 8/12.5'
0.622	2.608	1170	6798	901	6798	ø 8/20.0'
2.608	3.105	1170	10876	901	10876	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

#### Combinazioni Rare

348	Ft. 19	-7001	-119	-262	-29.5
	σ <sub>s,c</sub> 19	-7001	-119	-262	-170.1
	σ <sub>cls,Max</sub> 19	-7001	-119	-262	-13.5
	σ <sub>cls,Med</sub> 19	-7001	-119	-262	-6.7
448	Ft. 19	-6275	139	275	-12.3
	σ <sub>s,c</sub> 19	-6275	139	275	-166.3
	σ <sub>cls,Max</sub> 19	-6275	139	275	-13.4
	σ <sub>cls,Med</sub> 19	-6275	139	275	-6.1

#### Combinazioni Frequenti

348	Ft. 21	-6742	-110	-236	-32.2
	σ <sub>s,c</sub> 21	-6742	-110	-236	-160.0
	σ <sub>cls,Max</sub> 21	-6742	-110	-236	-12.6
	σ <sub>cls,Med</sub> 21	-6742	-110	-236	-6.4
448	Ft. 21	-6015	129	249	-15.8
	σ <sub>s,c</sub> 21	-6015	129	249	-155.5
	σ <sub>cls,Max</sub> 21	-6015	129	249	-12.5
	σ <sub>cls,Med</sub> 21	-6015	129	249	-5.8

#### Combinazioni Quasi Permanenti

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
348	Ft. 23	-6654	-106	-228	-33.2
	σ <sub>s,c</sub> 23	-6654	-106	-228	-156.4
	σ <sub>cls,Max</sub> 23	-6654	-106	-228	-12.3
	σ <sub>cls,Med</sub> 23	-6654	-106	-228	-6.3
448	Ft. 23	-5928	124	240	-17.1
	σ <sub>s,c</sub> 23	-5928	124	240	-151.8
	σ <sub>cls,Max</sub> 23	-5928	124	240	-12.2
	σ <sub>cls,Med</sub> 23	-5928	124	240	-5.7

Pilastro: 448/548 / L 3.990[m] / Sezione 3 B 30 [cm]H 30 [cm]

Af: 4 ø 18 Af=10.18 [cm²] < 1ø18 x 4 V + 0ø18 x 2 B + 0ø18 x 2 H >

Staffe: ø 8/12.5' x 47.0/ø 8/20.0' x 305.0/ø 8/12.5' x 47.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
448	3	-406	425	606	1.00	1.00	0.13
548	3	548	-670	-601	1.00	1.00	0.17

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.595	1760	10876	1599	10876	ø 8/12.5'
0.595	3.645	1760	6798	1599	6798	ø 8/20.0'
3.645	4.115	1760	10876	1599	10876	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

448	Ft. 19	-3514	8	-196	-12.3
	σ <sub>s,c</sub> 19	-3514	8	-196	-87.7
	σ <sub>cls,Max</sub> 19	-3514	8	-196	-7.0
	σ <sub>cls,Med</sub> 19	-3514	8	-196	-3.4
548	Ft. 19	-2560	-92	282	78.0
	σ <sub>s,c</sub> 19	-2560	-92	282	-119.3
	σ <sub>cls,Max</sub> 19	-2560	-92	282	-11.0
	σ <sub>cls,Med</sub> 19	-2560	-92	282	-4.4

Combinazioni Frequenti

448	Ft. 21	-3384	7	-174	-14.8
	σ <sub>s,c</sub> 21	-3384	7	-174	-81.7
	σ <sub>cls,Max</sub> 21	-3384	7	-174	-6.5
	σ <sub>cls,Med</sub> 21	-3384	7	-174	-3.2

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
548	Ft. 21	-2430	-87	245	59.6
	σ <sub>s,c</sub> 21	-2430	-87	245	-106.9
	σ <sub>cls,Max</sub> 21	-2430	-87	245	-9.7
	σ <sub>cls,Med</sub> 21	-2430	-87	245	-3.8
Combinazioni Quasi Permanenti					
448	Ft. 23	-3346	8	-166	-15.6
	σ <sub>s,c</sub> 23	-3346	8	-166	-79.8
	σ <sub>cls,Max</sub> 23	-3346	8	-166	-6.3
	σ <sub>cls,Med</sub> 23	-3346	8	-166	-3.2
548	Ft. 23	-2392	-86	233	53.5
	σ <sub>s,c</sub> 23	-2392	-86	233	-102.8
	σ <sub>cls,Max</sub> 23	-2392	-86	233	-9.2
	σ <sub>cls,Med</sub> 23	-2392	-86	233	-3.7

Pilastro: 49/149 / L 3.700[m] / Sezione 34 B 30 [cm]H 40 [cm]

Af: 4 ø 24 + 6 ø 14 Af=27.33 [cm²] < 1φ24 x 4 V + 1φ14 x 2 B + 2φ14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 51.0/ø 8 2br.x4br./15.0' x 268.0/ø 8 2br.x4br./10.0' x 51.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
49	1	-128936	784	1662	1.00	1.00	0.49
149	1	-127396	-2645	-2169	1.00	1.00	0.52

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.635	8991	18375	6149	26128	ø 8 2br.x4br./10.0'
0.635	3.315	8991	12250	6149	17419	ø 8 2br.x4br./15.0'
3.315	3.825	8991	18375	6149	26128	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

49	Ft. 20	-94264	571	1205	-689.8
	σ <sub>s,c</sub> 19	-97034	593	1248	-1099.4
	σ <sub>cls,Max</sub> 19	-97034	593	1248	-81.1
	σ <sub>cls,Med</sub> 19	-97034	593	1248	-60.3
149	Ft. 20	-93079	-1918	-1566	-512.6
	σ <sub>s,c</sub> 19	-95849	-1996	-1629	-1261.9
	σ <sub>cls,Max</sub> 19	-95849	-1996	-1629	-97.6
	σ <sub>cls,Med</sub> 19	-95849	-1996	-1629	-59.5

Combinazioni Frequenti					
49	Ft. 22	-87370	547	1110	-638.5
	$\sigma_{s,c}21$	-89507	561	1142	-1014.4
	$\sigma_{cls,Max}21$	-89507	561	1142	-74.8
	$\sigma_{cls,Med}21$	-89507	561	1142	-55.6
149	Ft. 22	-86185	-1818	-1447	-471.0
	$\sigma_{s,c}21$	-88322	-1869	-1492	-1164.7
	$\sigma_{cls,Max}21$	-88322	-1869	-1492	-90.1
	$\sigma_{cls,Med}21$	-88322	-1869	-1492	-54.9
Combinazioni Quasi Permanenti					
49	Ft. 23	-86933	547	1105	-634.9
	$\sigma_{s,c}23$	-86933	547	1105	-985.0
	$\sigma_{cls,Max}23$	-86933	547	1105	-72.6
	$\sigma_{cls,Med}23$	-86933	547	1105	-54.0
149	Ft. 23	-85748	-1818	-1442	-467.4
	$\sigma_{s,c}23$	-85748	-1818	-1442	-1130.4
	$\sigma_{cls,Max}23$	-85748	-1818	-1442	-87.4
	$\sigma_{cls,Med}23$	-85748	-1818	-1442	-53.3

Pilastro: 149/249 / L 3.120[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af:  $4 \varnothing 24 + 4 \varnothing 14$  Af=24.25 [cm<sup>2</sup>] <  $1 \varnothing 24 \times 4 V + 0 \varnothing 12 \times 2 B + 2 \varnothing 14 \times 2 H$  >

Staffe:  $\varnothing 8$  2br.x4br./10.0' x 52.0/ $\varnothing 8$  2br.x4br./15.0' x 208.0/ $\varnothing 8$  2br.x4br./10.0' x 52.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
149	16	-51121	-8938	-2784	1.00	1.00	0.55
249	1	-92072	5488	3103	1.00	1.00	0.53

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.645	7003	18906	3385	27190	$\varnothing 8$ 2br.x4br./10.0'
0.645	2.725	7003	12604	3385	18127	$\varnothing 8$ 2br.x4br./15.0'
2.725	3.245	7003	18906	3385	27190	$\varnothing 8$ 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare					
149	Ft. 19	-70185	-4257	-2219	35.0
	$\sigma_{s,c}19$	-70185	-4257	-2219	-1372.9
	$\sigma_{cls,Max}19$	-70185	-4257	-2219	-110.1
	$\sigma_{cls,Med}19$	-70185	-4257	-2219	-47.5

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
249	Ft. 19	-69174	4127	2335	47.5
	σ <sub>s,c</sub> 19	-69174	4127	2335	-1364.9
	σ <sub>cls,Max</sub> 19	-69174	4127	2335	-109.8
	σ <sub>cls,Med</sub> 19	-69174	4127	2335	-47.0
Combinazioni Frequenti					
149	Ft. 21	-64269	-3930	-2043	37.5
	σ <sub>s,c</sub> 21	-64269	-3930	-2043	-1262.2
	σ <sub>cls,Max</sub> 21	-64269	-3930	-2043	-101.3
	σ <sub>cls,Med</sub> 21	-64269	-3930	-2043	-43.6
249	Ft. 21	-63258	3790	2154	48.1
	σ <sub>s,c</sub> 21	-63258	3790	2154	-1252.4
	σ <sub>cls,Max</sub> 21	-63258	3790	2154	-100.8
	σ <sub>cls,Med</sub> 21	-63258	3790	2154	-43.1
Combinazioni Quasi Permanenti					
149	Ft. 23	-62345	-3813	-1980	36.2
	σ <sub>s,c</sub> 23	-62345	-3813	-1980	-1224.2
	σ <sub>cls,Max</sub> 23	-62345	-3813	-1980	-98.3
	σ <sub>cls,Med</sub> 23	-62345	-3813	-1980	-42.3
249	Ft. 23	-61334	3680	2092	48.0
	σ <sub>s,c</sub> 23	-61334	3680	2092	-1215.5
	σ <sub>cls,Max</sub> 23	-61334	3680	2092	-97.9
	σ <sub>cls,Med</sub> 23	-61334	3680	2092	-41.8

Pilastro: 249/349 / L 2.980[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4 ø 24 + 4 ø 14 Af=24.25 [cm²] < 1φ24 x 4 V + 0φ12 x 2 B + 2φ14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 49.7/ø 8 2br.x4br./15.0' x 198.7/ø 8 2br.x4br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
249	16	-31721	10438	3357	1.00	1.00	0.66
349	16	-30752	-9832	-3336	1.00	1.00	0.63

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	8112	18906	2936	27190	ø 8 2br.x4br./10.0'
0.622	2.608	8112	12604	2936	18127	ø 8 2br.x4br./15.0'
2.608	3.105	8112	18906	2936	27190	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare					
249	Ft. 19	-44115	4127	2497	455.3
	$\sigma_{s,c}19$	-44115	4127	2497	-1207.8
	$\sigma_{cls,Max}19$	-44115	4127	2497	-102.9
	$\sigma_{cls,Med}19$	-44115	4127	2497	-38.0
349	Ft. 19	-43146	-3896	-2432	416.5
	$\sigma_{s,c}19$	-43146	-3896	-2432	-1160.6
	$\sigma_{cls,Max}19$	-43146	-3896	-2432	-98.6
	$\sigma_{cls,Med}19$	-43146	-3896	-2432	-36.6
Combinazioni Frequenti					
249	Ft. 21	-39962	3773	2314	430.7
	$\sigma_{s,c}21$	-39962	3773	2314	-1107.1
	$\sigma_{cls,Max}21$	-39962	3773	2314	-94.5
	$\sigma_{cls,Med}21$	-39962	3773	2314	-34.7
349	Ft. 21	-38993	-3586	-2260	402.5
	$\sigma_{s,c}21$	-38993	-3586	-2260	-1067.6
	$\sigma_{cls,Max}21$	-38993	-3586	-2260	-91.0
	$\sigma_{cls,Med}21$	-38993	-3586	-2260	-33.5
Combinazioni Quasi Permanenti					
249	Ft. 23	-38693	3657	2251	420.2
	$\sigma_{s,c}23$	-38693	3657	2251	-1074.2
	$\sigma_{cls,Max}23$	-38693	3657	2251	-91.7
	$\sigma_{cls,Med}23$	-38693	3657	2251	-33.7
349	Ft. 23	-37724	-3472	-2197	392.3
	$\sigma_{s,c}23$	-37724	-3472	-2197	-1035.0
	$\sigma_{cls,Max}23$	-37724	-3472	-2197	-88.3
	$\sigma_{cls,Med}23$	-37724	-3472	-2197	-32.5

Pilastro: 349/449 / L 2.980[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4  $\phi$  24 + 4  $\phi$  14 Af=24.25 [cm<sup>2</sup>] < 1 $\phi$ 24 x 4 V + 0 $\phi$ 12 x 2 B + 2 $\phi$ 14 x 2 H >

Staffe:  $\phi$  8 2br.x4br./10.0' x 49.7/ $\phi$  8 2br.x4br./15.0' x 198.7/ $\phi$  8 2br.x4br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
349	15	-13573	10294	3329	1.00	1.00	0.70
449	15	-12604	-12323	-3643	1.00	1.00	0.84

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	9855	18906	4405	27190	$\phi$ 8 2br.x4br./10.0'
0.622	2.608	9855	12604	4405	18127	$\phi$ 8 2br.x4br./15.0'
2.608	3.105	9855	18906	4405	27190	$\phi$ 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
Combinazioni Rare					
349	Ft. 19	-20089	4396	2800	1293.0
	σ <sub>s,c</sub> 19	-20089	4396	2800	-1187.8
	σ <sub>cls,Max</sub> 19	-20089	4396	2800	-112.6
	σ <sub>cls,Med</sub> 19	-20089	4396	2800	-37.7
449	Ft. 19	-19120	-5349	-3101	1690.7
	σ <sub>s,c</sub> 19	-19120	-5349	-3101	-1367.6
	σ <sub>cls,Max</sub> 19	-19120	-5349	-3101	-131.9
	σ <sub>cls,Med</sub> 19	-19120	-5349	-3101	-44.2
Combinazioni Frequenti					
349	Ft. 21	-17454	3981	2554	1204.4
	σ <sub>s,c</sub> 21	-17454	3981	2554	-1075.3
	σ <sub>cls,Max</sub> 21	-17454	3981	2554	-102.4
	σ <sub>cls,Med</sub> 21	-17454	3981	2554	-34.2
449	Ft. 21	-16485	-4769	-2780	1534.7
	σ <sub>s,c</sub> 21	-16485	-4769	-2780	-1219.2
	σ <sub>cls,Max</sub> 21	-16485	-4769	-2780	-118.0
	σ <sub>cls,Med</sub> 21	-16485	-4769	-2780	-39.5
Combinazioni Quasi Permanenti					
349	Ft. 23	-16813	3845	2474	1167.3
	σ <sub>s,c</sub> 23	-16813	3845	2474	-1039.7
	σ <sub>cls,Max</sub> 23	-16813	3845	2474	-99.1
	σ <sub>cls,Med</sub> 23	-16813	3845	2474	-33.1
449	Ft. 23	-15844	-4605	-2689	1486.0
	σ <sub>s,c</sub> 23	-15844	-4605	-2689	-1177.5
	σ <sub>cls,Max</sub> 23	-15844	-4605	-2689	-114.0
	σ <sub>cls,Med</sub> 23	-15844	-4605	-2689	-38.2

Pilastro: 150/50 / L 3.700[m] / Sezione 41 B 40 [cm] H 30 [cm]

Af: 4 ø 28 + 6 ø 14 Af=33.87 [cm<sup>2</sup>] < 1φ28 x 4 V + 2φ14 x 2 B + 1φ14 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 48.0/ø 8 4br.x2br./15.0' x 274.0/ø 8 4br.x2br./10.0' x 48.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
150	1	-147075	-1112	2139	1.00	1.00	0.51
50	1	-148616	2313	-459	1.00	1.00	0.54

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
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Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.605	4952	26128	10848	18375	ø 8 4br.x2br./10.0'
0.605	3.345	4952	17419	10848	12250	ø 8 4br.x2br./15.0'
3.345	3.825	4952	26128	10848	18375	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

#### Combinazioni Rare

150	Ft. 20	-107655	-809	1541	-729.6
	σ <sub>s,c</sub> 19	-110619	-838	1610	-1196.2
	σ <sub>cls,Max</sub> 19	-110619	-838	1610	-88.0
	σ <sub>cls,Med</sub> 19	-110619	-838	1610	-64.8
50	Ft. 20	-108840	1692	-322	-752.5
	σ <sub>s,c</sub> 19	-111804	1741	-344	-1192.3
	σ <sub>cls,Max</sub> 19	-111804	1741	-344	-88.9
	σ <sub>cls,Med</sub> 19	-111804	1741	-344	-65.5

#### Combinazioni Frequenti

150	Ft. 22	-99322	-758	1450	-669.5
	σ <sub>s,c</sub> 21	-101696	-779	1495	-1101.9
	σ <sub>cls,Max</sub> 21	-101696	-779	1495	-81.1
	σ <sub>cls,Med</sub> 21	-101696	-779	1495	-59.5
50	Ft. 22	-100507	1567	-304	-693.8
	σ <sub>s,c</sub> 21	-102881	1605	-318	-1097.6
	σ <sub>cls,Max</sub> 21	-102881	1605	-318	-81.8
	σ <sub>cls,Med</sub> 21	-102881	1605	-318	-60.2

#### Combinazioni Quasi Permanenti

150	Ft. 23	-98724	-757	1450	-664.5
	σ <sub>s,c</sub> 23	-98724	-757	1450	-1069.6
	σ <sub>cls,Max</sub> 23	-98724	-757	1450	-78.7
	σ <sub>cls,Med</sub> 23	-98724	-757	1450	-57.8
50	Ft. 23	-99909	1559	-306	-689.2
	σ <sub>s,c</sub> 23	-99909	1559	-306	-1065.6
	σ <sub>cls,Max</sub> 23	-99909	1559	-306	-79.4
	σ <sub>cls,Med</sub> 23	-99909	1559	-306	-58.5

Pilastro: 150/250 / L 3.120[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 4 ø 28 + 4 ø 14 Af=30.79 [cm²] < 1ø28 x 4 V + 2ø14 x 2 B + 0ø12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 52.0/ø 8 4br.x2br./15.0' x 208.0/ø 8 4br.x2br./10.0' x 52.0

Verifiche a Presso-Flessione S.L.U.



COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
150	1	-109423	316	4242	1.00	1.00	0.45
250	1	-108109	-539	-4303	1.00	1.00	0.45

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.645	516	27190	10941	18906	ø 8 4br.x2br./10.0'
0.645	2.725	516	18127	10941	12604	ø 8 4br.x2br./15.0'
2.725	3.245	516	27190	10941	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

Combinazioni Rare

150	Ft. 20	-80442	232	3089	-419.2
	σ <sub>s,c</sub> 19	-82243	239	3195	-1059.6
	σ <sub>cls,Max</sub> 19	-82243	239	3195	-78.4
	σ <sub>cls,Med</sub> 19	-82243	239	3195	-49.5
250	Ft. 20	-79431	-417	-3148	-384.7
	σ <sub>s,c</sub> 19	-81232	-409	-3237	-1072.7
	σ <sub>cls,Max</sub> 19	-81232	-409	-3237	-80.0
	σ <sub>cls,Med</sub> 19	-81232	-409	-3237	-48.9

Combinazioni Frequenti

150	Ft. 22	-73616	217	2884	-377.8
	σ <sub>s,c</sub> 21	-75218	222	2961	-973.1
	σ <sub>cls,Max</sub> 21	-75218	222	2961	-72.0
	σ <sub>cls,Med</sub> 21	-75218	222	2961	-45.3
250	Ft. 22	-72605	-381	-2910	-348.6
	σ <sub>s,c</sub> 21	-74207	-380	-2980	-982.8
	σ <sub>cls,Max</sub> 21	-74207	-380	-2980	-73.3
	σ <sub>cls,Med</sub> 21	-74207	-380	-2980	-44.7

Combinazioni Quasi Permanenti

150	Ft. 23	-73012	217	2876	-373.3
	σ <sub>s,c</sub> 23	-73012	217	2876	-944.8
	σ <sub>cls,Max</sub> 23	-73012	217	2876	-70.0
	σ <sub>cls,Med</sub> 23	-73012	217	2876	-43.9
250	Ft. 23	-72001	-375	-2894	-345.3
	σ <sub>s,c</sub> 23	-72001	-375	-2894	-954.5
	σ <sub>cls,Max</sub> 23	-72001	-375	-2894	-71.2
	σ <sub>cls,Med</sub> 23	-72001	-375	-2894	-43.3

Pilastro: 250/350 / L 2.980[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 4  $\phi$  28 + 4  $\phi$  14 Af=30.79 [cm<sup>2</sup>] < 1 $\phi$ 28 x 4 V + 2 $\phi$ 14 x 2 B + 0 $\phi$ 12 x 2 H >

Staffe:  $\phi$  8 4br.x2br./10.0' x 49.7/ $\phi$  8 4br.x2br./12.5' x 198.7/ $\phi$  8 4br.x2br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
250	1	-68734	656	4264	1.00	1.00	0.33
350	1	-67475	-395	-3933	1.00	1.00	0.31

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	817	27190	13645	18906	$\phi$ 8 4br.x2br./10.0'
0.622	2.608	817	21752	13645	15125	$\phi$ 8 4br.x2br./12.5'
2.608	3.105	817	27190	13645	18906	$\phi$ 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare

250	Ft. 20	-50467	502	3106	-117.9
	$\sigma_{s,c}$ 19	-51565	496	3208	-811.8
	$\sigma_{cls,Max}$ 19	-51565	496	3208	-62.9
	$\sigma_{cls,Med}$ 19	-51565	496	3208	-31.0
350	Ft. 19	-50596	-300	-2964	-153.8
	$\sigma_{s,c}$ 19	-50596	-300	-2964	-759.6
	$\sigma_{cls,Max}$ 19	-50596	-300	-2964	-58.1
	$\sigma_{cls,Med}$ 19	-50596	-300	-2964	-30.4

Combinazioni Frequenti

250	Ft. 22	-45726	460	2887	-99.6
	$\sigma_{s,c}$ 21	-46756	461	2962	-742.2
	$\sigma_{cls,Max}$ 21	-46756	461	2962	-57.6
	$\sigma_{cls,Med}$ 21	-46756	461	2962	-28.2
350	Ft. 22	-44757	-285	-2682	-128.4
	$\sigma_{s,c}$ 21	-45787	-290	-2767	-697.0
	$\sigma_{cls,Max}$ 21	-45787	-290	-2767	-53.5
	$\sigma_{cls,Med}$ 21	-45787	-290	-2767	-27.6

Combinazioni Quasi Permanenti

250	Ft. 23	-45279	453	2875	-97.3
	$\sigma_{s,c}$ 23	-45279	453	2875	-720.1
	$\sigma_{cls,Max}$ 23	-45279	453	2875	-55.9
	$\sigma_{cls,Med}$ 23	-45279	453	2875	-27.3
350	Ft. 23	-44310	-285	-2685	-124.1

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
	σ <sub>s,c</sub> 23	-44310	-285	-2685	-675.8
	σ <sub>cls,Max</sub> 23	-44310	-285	-2685	-51.9
	σ <sub>cls,Med</sub> 23	-44310	-285	-2685	-26.7

Pilastro: 350/450 / L 2.980[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 4 ø 28 + 4 ø 14 Af=30.79 [cm<sup>2</sup>] < 1φ28 x 4 V + 2φ14 x 2 B + 0φ12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 49.7/ø 8 4br.x2br./12.5' x 198.7/ø 8 4br.x2br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
350	1	-32369	526	4497	1.00	1.00	0.23
450	1	-31109	-857	-5398	1.00	1.00	0.26

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	866	27190	14066	18906	ø 8 4br.x2br./10.0'
0.622	2.608	866	21752	14066	15125	ø 8 4br.x2br./12.5'
2.608	3.105	866	27190	14066	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

Combinazioni Rare

350	Ft. 19	-24145	397	3370	237.3
	σ <sub>s,c</sub> 19	-24145	397	3370	-600.6
	σ <sub>cls,Max</sub> 19	-24145	397	3370	-50.5
	σ <sub>cls,Med</sub> 19	-24145	397	3370	-22.6
450	Ft. 19	-23176	-643	-4027	436.3
	σ <sub>s,c</sub> 19	-23176	-643	-4027	-705.4
	σ <sub>cls,Max</sub> 19	-23176	-643	-4027	-61.5
	σ <sub>cls,Med</sub> 19	-23176	-643	-4027	-26.2

Combinazioni Frequenti

350	Ft. 21	-21122	370	3054	232.1
	σ <sub>s,c</sub> 21	-21122	370	3054	-540.7
	σ <sub>cls,Max</sub> 21	-21122	370	3054	-45.7
	σ <sub>cls,Med</sub> 21	-21122	370	3054	-20.4
450	Ft. 21	-20153	-581	-3540	391.5
	σ <sub>s,c</sub> 21	-20153	-581	-3540	-621.0
	σ <sub>cls,Max</sub> 21	-20153	-581	-3540	-54.3
	σ <sub>cls,Med</sub> 21	-20153	-581	-3540	-23.0

Combinazioni Quasi Permanenti

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
350	Ft. 23	-20371	360	2950	225.4
	σ <sub>s,c</sub> 23	-20371	360	2950	-522.5
	σ <sub>cls,Max</sub> 23	-20371	360	2950	-44.2
	σ <sub>cls,Med</sub> 23	-20371	360	2950	-19.7
450	Ft. 23	-19402	-565	-3409	378.1
	σ <sub>s,c</sub> 23	-19402	-565	-3409	-598.8
	σ <sub>cls,Max</sub> 23	-19402	-565	-3409	-52.4
	σ <sub>cls,Med</sub> 23	-19402	-565	-3409	-22.2

Pilastro: 151/51 / L 3.700[m] / Sezione 41 B 40 [cm]H 30 [cm]

Af: 4 ø 24 + 6 ø 14 Af=27.33 [cm²] < 1ø24 x 4 V + 2ø14 x 2 B + 1ø14 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 48.0/ø 8 4br.x2br./15.0' x 274.0/ø 8 4br.x2br./10.0' x 48.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
151	1	-146818	492	-2344	1.00	1.00	0.55
51	1	-148359	2025	-149	1.00	1.00	0.57

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.605	5370	26128	9396	18375	ø 8 4br.x2br./10.0'
0.605	3.345	5370	17419	9396	12250	ø 8 4br.x2br./15.0'
3.345	3.825	5370	26128	9396	18375	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

151	Ft. 20	-107862	408	-1692	-801.4
	σ <sub>s,c</sub> 19	-110609	392	-1771	-1239.7
	σ <sub>cls,Max</sub> 19	-110609	392	-1771	-89.3
	σ <sub>cls,Med</sub> 19	-110609	392	-1771	-68.7
51	Ft. 20	-109047	1464	-116	-838.8
	σ <sub>s,c</sub> 19	-111794	1515	-107	-1224.5
	σ <sub>cls,Max</sub> 19	-111794	1515	-107	-89.3
	σ <sub>cls,Med</sub> 19	-111794	1515	-107	-69.4

Combinazioni Frequenti

151	Ft. 22	-100155	452	-1622	-731.1
	σ <sub>s,c</sub> 21	-102354	440	-1671	-1158.9
	σ <sub>cls,Max</sub> 21	-102354	440	-1671	-83.9
	σ <sub>cls,Med</sub> 21	-102354	440	-1671	-63.6

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
51	Ft. 22	-101340	1322	-75	-785.2
	σ <sub>s,c</sub> 21	-103539	1363	-74	-1128.4
	σ <sub>cls,Max</sub> 21	-103539	1363	-74	-82.0
	σ <sub>cls,Med</sub> 21	-103539	1363	-74	-64.3
Combinazioni Quasi Permanenti					
151	Ft. 23	-99603	456	-1627	-725.1
	σ <sub>s,c</sub> 23	-99603	456	-1627	-1130.9
	σ <sub>cls,Max</sub> 23	-99603	456	-1627	-82.0
	σ <sub>cls,Med</sub> 23	-99603	456	-1627	-61.9
51	Ft. 23	-100788	1312	-68	-781.5
	σ <sub>s,c</sub> 23	-100788	1312	-68	-1096.6
	σ <sub>cls,Max</sub> 23	-100788	1312	-68	-79.6
	σ <sub>cls,Med</sub> 23	-100788	1312	-68	-62.6

Pilastro: 151/251 / L 3.120[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 4 ø 24 + 4 ø 14 Af=24.25 [cm²] < 1φ24 x 4 V + 2φ14 x 2 B + 0φ12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 52.0/ø 8 4br.x2br./15.0' x 208.0/ø 8 4br.x2br./10.0' x 52.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
151	1	-108724	-2864	-5685	1.00	1.00	0.57
251	1	-107409	2395	5706	1.00	1.00	0.55

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.645	2686	27190	9310	18906	ø 8 4br.x2br./10.0'
0.645	2.725	2686	18127	9310	12604	ø 8 4br.x2br./15.0'
2.725	3.245	2686	27190	9310	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

151	Ft. 20	-80143	-2184	-4138	-91.2
	σ <sub>s,c</sub> 19	-81843	-2194	-4284	-1476.9
	σ <sub>cls,Max</sub> 19	-81843	-2194	-4284	-116.7
	σ <sub>cls,Med</sub> 19	-81843	-2194	-4284	-53.3
251	Ft. 20	-79132	1831	4188	-120.1
	σ <sub>s,c</sub> 19	-80832	1838	4298	-1425.5
	σ <sub>cls,Max</sub> 19	-80832	1838	4298	-111.9
	σ <sub>cls,Med</sub> 19	-80832	1838	4298	-52.3

Combinazioni Frequenti					
151	Ft. 22	-73832	-2155	-3879	-58.1
	$\sigma_{s,c}21$	-75333	-2164	-3982	-1381.4
	$\sigma_{cls,Max}21$	-75333	-2164	-3982	-109.6
	$\sigma_{cls,Med}21$	-75333	-2164	-3982	-49.4
251	Ft. 22	-72821	1820	3888	-89.9
	$\sigma_{s,c}21$	-74322	1825	3975	-1329.5
	$\sigma_{cls,Max}21$	-74322	1825	3975	-104.7
	$\sigma_{cls,Med}21$	-74322	1825	3975	-48.3
Combinazioni Quasi Permanenti					
151	Ft. 23	-73281	-2153	-3870	-53.5
	$\sigma_{s,c}23$	-73281	-2153	-3870	-1349.5
	$\sigma_{cls,Max}23$	-73281	-2153	-3870	-107.2
	$\sigma_{cls,Med}23$	-73281	-2153	-3870	-48.2
251	Ft. 23	-72270	1820	3867	-86.6
	$\sigma_{s,c}23$	-72270	1820	3867	-1298.5
	$\sigma_{cls,Max}23$	-72270	1820	3867	-102.4
	$\sigma_{cls,Med}23$	-72270	1820	3867	-47.0

Pilastro: 251/351 / L 2.980[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af:  $4 \phi 24 + 4 \phi 14$  Af=24.25 [cm<sup>2</sup>] <  $1 \phi 24 \times 4 V + 2 \phi 14 \times 2 B + 0 \phi 12 \times 2 H$  >

Staffe:  $\phi 8$  4br.x2br./10.0' x 49.7/ $\phi 8$  4br.x2br./15.0' x 198.7/ $\phi 8$  4br.x2br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
251	1	-67553	-2190	-5526	1.00	1.00	0.43
351	1	-66293	2460	5113	1.00	1.00	0.42

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	2731	27190	11519	18906	$\phi 8$ 4br.x2br./10.0'
0.622	2.608	2731	18127	11519	12604	$\phi 8$ 4br.x2br./15.0'
2.608	3.105	2731	27190	11519	18906	$\phi 8$ 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare					
251	Ft. 19	-50751	-1686	-4165	188.4
	$\sigma_{s,c}19$	-50751	-1686	-4165	-1132.7
	$\sigma_{cls,Max}19$	-50751	-1686	-4165	-92.6
	$\sigma_{cls,Med}19$	-50751	-1686	-4165	-37.6

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
351	Ft. 19	-49782	1892	3859	191.2
	σ <sub>s,c</sub> 19	-49782	1892	3859	-1117.1
	σ <sub>cls,Max</sub> 19	-49782	1892	3859	-91.7
	σ <sub>cls,Med</sub> 19	-49782	1892	3859	-36.8
Combinazioni Frequenti					
251	Ft. 22	-45334	-1694	-3780	210.7
	σ <sub>s,c</sub> 21	-46292	-1693	-3870	-1064.5
	σ <sub>cls,Max</sub> 21	-46292	-1693	-3870	-87.6
	σ <sub>cls,Med</sub> 21	-46292	-1693	-3870	-35.0
351	Ft. 21	-45323	1889	3624	221.4
	σ <sub>s,c</sub> 21	-45323	1889	3624	-1055.3
	σ <sub>cls,Max</sub> 21	-45323	1889	3624	-87.3
	σ <sub>cls,Med</sub> 21	-45323	1889	3624	-34.4
Combinazioni Quasi Permanenti					
251	Ft. 23	-44921	-1695	-3766	215.0
	σ <sub>s,c</sub> 23	-44921	-1695	-3766	-1041.9
	σ <sub>cls,Max</sub> 23	-44921	-1695	-3766	-85.9
	σ <sub>cls,Med</sub> 23	-44921	-1695	-3766	-34.1
351	Ft. 23	-43952	1888	3525	226.8
	σ <sub>s,c</sub> 23	-43952	1888	3525	-1033.0
	σ <sub>cls,Max</sub> 23	-43952	1888	3525	-85.6
	σ <sub>cls,Med</sub> 23	-43952	1888	3525	-33.5

Pilastro: 351/451 / L 2.980[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 4 ø 24 + 4 ø 14 Af=24.25 [cm²] < 1φ24 x 4 V + 2φ14 x 2 B + 0φ12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 49.7/ø 8 4br.x2br./15.0' x 198.7/ø 8 4br.x2br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
351	1	-30229	-1912	-5776	1.00	1.00	0.36
451	1	-28970	1129	6921	1.00	1.00	0.38

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	3915	27190	11620	18906	ø 8 4br.x2br./10.0'
0.622	2.608	3915	18127	11620	12604	ø 8 4br.x2br./15.0'
2.608	3.105	3915	27190	11620	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Combinazioni Rare					
351	Ft. 19	-22558	-1469	-4336	833.4
	$\sigma_{s,c} 19$	-22558	-1469	-4336	-963.9
	$\sigma_{cls,Max} 19$	-22558	-1469	-4336	-87.1
	$\sigma_{cls,Med} 19$	-22558	-1469	-4336	-32.5
451	Ft. 19	-21589	868	5170	981.6
	$\sigma_{s,c} 19$	-21589	868	5170	-966.1
	$\sigma_{cls,Max} 19$	-21589	868	5170	-87.8
	$\sigma_{cls,Med} 19$	-21589	868	5170	-36.6
Combinazioni Frequenti					
351	Ft. 21	-19776	-1465	-3955	817.3
	$\sigma_{s,c} 21$	-19776	-1465	-3955	-896.5
	$\sigma_{cls,Max} 21$	-19776	-1465	-3955	-81.7
	$\sigma_{cls,Med} 21$	-19776	-1465	-3955	-29.9
451	Ft. 21	-18807	865	4566	897.3
	$\sigma_{s,c} 21$	-18807	865	4566	-869.1
	$\sigma_{cls,Max} 21$	-18807	865	4566	-79.3
	$\sigma_{cls,Med} 21$	-18807	865	4566	-32.4
Combinazioni Quasi Permanenti					
351	Ft. 23	-19082	-1463	-3829	804.6
	$\sigma_{s,c} 23$	-19082	-1463	-3829	-875.4
	$\sigma_{cls,Max} 23$	-19082	-1463	-3829	-79.9
	$\sigma_{cls,Med} 23$	-19082	-1463	-3829	-29.0
451	Ft. 23	-18113	863	4406	873.4
	$\sigma_{s,c} 23$	-18113	863	4406	-843.5
	$\sigma_{cls,Max} 23$	-18113	863	4406	-77.1
	$\sigma_{cls,Med} 23$	-18113	863	4406	-31.3

Pilastro: 152/52 / L 3.700[m] / Sezione 33 B 30 [cm]H 30 [cm]  
 Af:  $8 \phi 18 \text{ Af}=20.36 [\text{cm}^2] < 1 \phi 18 \times 4 V + 1 \phi 18 \times 2 B + 1 \phi 18 \times 2 H >$   
 Staffe:  $\phi 8/12.5' \times 49.0/\phi 8/20.0' \times 272.0/\phi 8/12.5' \times 49.0$   
 Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
152	1	-82556	-50	-148	1.00	1.00	0.38
52	1	-83711	1214	236	1.00	1.00	0.43

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.615	432	10451	5262	10451	$\phi 8/12.5'$
0.615	3.335	432	6532	5262	6532	$\phi 8/20.0'$
3.335	3.825	432	10451	5262	10451	$\phi 8/12.5'$

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]



COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
Combinazioni Rare					
152	Ft. 20	-60436	-28	-119	-728.5
	σ <sub>s,c</sub> 19	-62097	-33	-115	-796.5
	σ <sub>cls,Max</sub> 19	-62097	-33	-115	-54.1
	σ <sub>cls,Med</sub> 19	-62097	-33	-115	-51.5
52	Ft. 20	-61325	887	182	-592.4
	σ <sub>s,c</sub> 19	-62986	912	181	-958.4
	σ <sub>cls,Max</sub> 19	-62986	912	181	-71.0
	σ <sub>cls,Med</sub> 19	-62986	912	181	-52.3
Combinazioni Frequenti					
152	Ft. 22	-55776	-12	-119	-673.1
	σ <sub>s,c</sub> 21	-57106	-16	-117	-731.9
	σ <sub>cls,Max</sub> 21	-57106	-16	-117	-49.7
	σ <sub>cls,Med</sub> 21	-57106	-16	-117	-47.4
52	Ft. 22	-56665	815	178	-546.5
	σ <sub>s,c</sub> 21	-57994	835	178	-883.5
	σ <sub>cls,Max</sub> 21	-57994	835	178	-65.5
	σ <sub>cls,Med</sub> 21	-57994	835	178	-48.1
Combinazioni Quasi Permanenti					
152	Ft. 23	-55443	-11	-118	-669.3
	σ <sub>s,c</sub> 23	-55443	-11	-118	-710.6
	σ <sub>cls,Max</sub> 23	-55443	-11	-118	-48.2
	σ <sub>cls,Med</sub> 23	-55443	-11	-118	-46.0
52	Ft. 23	-56331	810	177	-543.3
	σ <sub>s,c</sub> 23	-56331	810	177	-858.7
	σ <sub>cls,Max</sub> 23	-56331	810	177	-63.7
	σ <sub>cls,Med</sub> 23	-56331	810	177	-46.7

Pilastro: 152/252 / L 3.120[m] / Sezione 3 B 30 [cm]H 30 [cm]  
Af: 4 ø 18 Af=10.18 [cm²] < 1ø18 x 4 V + 0ø18 x 2 B + 0ø18 x 2 H >  
Staffe: ø 8/12.5' x 52.0/ø 8/20.0' x 208.0/ø 8/12.5' x 52.0  
Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
152	1	-63090	-779	-175	1.00	1.00	0.39
252	1	-62105	349	207	1.00	1.00	0.36

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.645	335	10876	4107	10876	ø 8/12.5'
0.645	2.725	335	6798	4107	6798	ø 8/20.0'
2.725	3.245	335	10876	4107	10876	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
Combinazioni Rare					

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
152	Ft. 20	-46355	-585	-137	-527.3
	σ <sub>s,c</sub> 19	-47427	-593	-135	-810.1
	σ <sub>cls,Max</sub> 19	-47427	-593	-135	-58.1
	σ <sub>cls,Med</sub> 19	-47427	-593	-135	-45.1
252	Ft. 20	-45597	263	158	-571.9
	σ <sub>s,c</sub> 19	-46668	266	159	-743.5
	σ <sub>cls,Max</sub> 19	-46668	266	159	-52.0
	σ <sub>cls,Med</sub> 19	-46668	266	159	-44.3

Combinazioni Frequenti

152	Ft. 22	-42485	-563	-135	-476.5
	σ <sub>s,c</sub> 21	-43422	-569	-134	-748.6
	σ <sub>cls,Max</sub> 21	-43422	-569	-134	-53.9
	σ <sub>cls,Med</sub> 21	-43422	-569	-134	-41.2
252	Ft. 22	-41727	256	157	-518.3
	σ <sub>s,c</sub> 21	-42664	258	158	-684.7
	σ <sub>cls,Max</sub> 21	-42664	258	158	-48.0
	σ <sub>cls,Med</sub> 21	-42664	258	158	-40.5

Combinazioni Quasi Permanenti

152	Ft. 23	-42153	-562	-135	-472.1
	σ <sub>s,c</sub> 23	-42153	-562	-135	-729.2
	σ <sub>cls,Max</sub> 23	-42153	-562	-135	-52.5
	σ <sub>cls,Med</sub> 23	-42153	-562	-135	-40.0
252	Ft. 23	-41394	255	157	-513.7
	σ <sub>s,c</sub> 23	-41394	255	157	-666.0
	σ <sub>cls,Max</sub> 23	-41394	255	157	-46.7
	σ <sub>cls,Med</sub> 23	-41394	255	157	-39.3

Pilastro: 252/352 / L 2.980[m] / Sezione 3 B 30 [cm]H 30 [cm]

Af: 4 ø 18 Af=10.18 [cm²] < 1ø18 x 4 V + 0ø18 x 2 B + 0ø18 x 2 H >

Staffe: ø 8/12.5' x 49.7/ø 8/20.0' x 198.7/ø 8/12.5' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
252	5	-26343	-167	-1626	1.00	1.00	0.24
352	5	-25617	247	1703	1.00	1.00	0.24

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	185	10876	4119	10876	ø 8/12.5'
0.622	2.608	185	6798	4119	6798	ø 8/20.0'
2.608	3.105	185	10876	4119	10876	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
Combinazioni Rare					
252	Ft. 20	-29125	-31	-203	-372.0
	σ <sub>s,c</sub> 19	-29766	-28	-204	-466.9

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Max</sub> 19	-29766	-28	-204	-32.4
	σ <sub>cls,Med</sub> 19	-29766	-28	-204	-28.3
352	Ft. 20	-28398	156	232	-333.1
	σ <sub>s,c</sub> 19	-29040	155	231	-485.1
	σ <sub>cls,Max</sub> 19	-29040	155	231	-34.5
	σ <sub>cls,Med</sub> 19	-29040	155	231	-27.6
Combinazioni Frequenti					
252	Ft. 22	-26435	-38	-197	-333.2
	σ <sub>s,c</sub> 21	-27029	-36	-198	-428.4
	σ <sub>cls,Max</sub> 21	-27029	-36	-198	-29.9
	σ <sub>cls,Med</sub> 21	-27029	-36	-198	-25.7
352	Ft. 22	-25708	156	220	-296.8
	σ <sub>s,c</sub> 21	-26303	156	221	-444.4
	σ <sub>cls,Max</sub> 21	-26303	156	221	-31.7
	σ <sub>cls,Med</sub> 21	-26303	156	221	-25.0
Combinazioni Quasi Permanenti					
252	Ft. 23	-26185	-39	-196	-329.7
	σ <sub>s,c</sub> 23	-26185	-39	-196	-416.6
	σ <sub>cls,Max</sub> 23	-26185	-39	-196	-29.1
	σ <sub>cls,Med</sub> 23	-26185	-39	-196	-24.9
352	Ft. 23	-25458	156	219	-293.5
	σ <sub>s,c</sub> 23	-25458	156	219	-432.0
	σ <sub>cls,Max</sub> 23	-25458	156	219	-30.9
	σ <sub>cls,Med</sub> 23	-25458	156	219	-24.2

Pilastro: 352/452 / L 2.980[m] / Sezione 3 B 30 [cm]H 30 [cm]  
Af: 4 ø 18 Af=10.18 [cm²] < 1φ18 x 4 V + 0φ18 x 2 B + 0φ18 x 2 H >  
Staffe: ø 8/12.5' x 49.7/ø 8/20.0' x 198.7/ø 8/12.5' x 49.7  
Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
352	5	-11376	-105	-974	1.00	1.00	0.12
452	5	-10649	73	1042	1.00	1.00	0.13

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	140	10876	3923	10876	ø 8/12.5'
0.622	2.608	140	6798	3923	6798	ø 8/20.0'
2.608	3.105	140	10876	3923	10876	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

352	Ft. 20	-13421	-154	-205	-125.1
	σ <sub>s,c</sub> 19	-13440	-154	-203	-257.5
	σ <sub>cls,Max</sub> 20	-13421	-154	-205	-19.2
	σ <sub>cls,Med</sub> 19	-13440	-154	-203	-12.8

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
452	Ft. 19	-12713	54	155	-142.6
	σ <sub>s,c</sub> 19	-12713	54	155	-219.7
	σ <sub>cls,Max</sub> 19	-12713	54	155	-15.8
	σ <sub>cls,Med</sub> 19	-12713	54	155	-12.1
Combinazioni Frequenti					
352	Ft. 22	-11640	-153	-205	-99.7
	σ <sub>s,c</sub> 21	-11812	-153	-204	-234.3
	σ <sub>cls,Max</sub> 21	-11812	-153	-204	-17.6
	σ <sub>cls,Med</sub> 21	-11812	-153	-204	-11.2
452	Ft. 22	-10913	55	171	-113.9
	σ <sub>s,c</sub> 21	-11086	55	170	-199.5
	σ <sub>cls,Max</sub> 21	-11086	55	170	-14.6
	σ <sub>cls,Med</sub> 21	-11086	55	170	-10.5
Combinazioni Quasi Permanenti					
352	Ft. 23	-11401	-153	-205	-96.4
	σ <sub>s,c</sub> 23	-11401	-153	-205	-228.5
	σ <sub>cls,Max</sub> 23	-11401	-153	-205	-17.2
	σ <sub>cls,Med</sub> 23	-11401	-153	-205	-10.8
452	Ft. 23	-10674	55	174	-109.9
	σ <sub>s,c</sub> 23	-10674	55	174	-194.3
	σ <sub>cls,Max</sub> 23	-10674	55	174	-14.2
	σ <sub>cls,Med</sub> 23	-10674	55	174	-10.1

Pilastro: 153/53 / L 3.700[m] / Sezione 33 B 30 [cm]H 30 [cm]  
Af: 8 ø 18 Af=20.36 [cm²] < 1φ18 x 4 V + 1φ18 x 2 B + 1φ18 x 2 H >  
Staffe: ø 8/12.5' x 46.0/ø 8/20.0' x 278.0/ø 8/12.5' x 46.0  
Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
153	1	-95254	-41	-98	1.00	1.00	0.43
53	1	-96410	1121	317	1.00	1.00	0.49

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.585	3159	10451	5649	10451	ø 8/12.5'
0.585	3.365	3159	6532	5649	6532	ø 8/20.0'
3.365	3.825	3159	10451	5649	10451	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

153	Ft. 20	-69729	-28	-73	-851.6
	σ <sub>s,c</sub> 19	-71663	-29	-71	-907.8
	σ <sub>cls,Max</sub> 19	-71663	-29	-71	-61.2
	σ <sub>cls,Med</sub> 19	-71663	-29	-71	-59.5
53	Ft. 20	-70618	821	232	-710.6
	σ <sub>s,c</sub> 19	-72551	843	236	-1075.2

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Max</sub> 19	-72551	843	236	-78.7
	σ <sub>cls,Med</sub> 19	-72551	843	236	-60.2
Combinazioni Frequenti					
153	Ft. 22	-64429	-19	-50	-790.8
	σ <sub>s,c</sub> 21	-65965	-20	-51	-832.3
	σ <sub>cls,Max</sub> 21	-65965	-20	-51	-55.9
	σ <sub>cls,Med</sub> 21	-65965	-20	-51	-54.7
53	Ft. 22	-65318	756	202	-659.8
	σ <sub>s,c</sub> 21	-66854	774	207	-988.7
	σ <sub>cls,Max</sub> 21	-66854	774	207	-72.3
	σ <sub>cls,Med</sub> 21	-66854	774	207	-55.5
Combinazioni Quasi Permanenti					
153	Ft. 23	-64058	-18	-46	-786.9
	σ <sub>s,c</sub> 23	-64058	-18	-46	-807.4
	σ <sub>cls,Max</sub> 23	-64058	-18	-46	-54.2
	σ <sub>cls,Med</sub> 23	-64058	-18	-46	-53.1
53	Ft. 23	-64947	751	199	-656.4
	σ <sub>s,c</sub> 23	-64947	751	199	-960.0
	σ <sub>cls,Max</sub> 23	-64947	751	199	-70.2
	σ <sub>cls,Med</sub> 23	-64947	751	199	-53.9

Pilastro: 153/253 / L 3.120[m] / Sezione 3 B 30 [cm] H 30 [cm]

Af: 4 ø 18 Af=10.18 [cm²] < 1ø18 x 4 V + 0ø18 x 2 B + 0ø18 x 2 H >

Staffe: ø 8/12.5' x 52.0/ø 8/20.0' x 208.0/ø 8/12.5' x 52.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
153	1	-70255	-645	67	1.00	1.00	0.42
253	1	-69269	145	-73	1.00	1.00	0.39

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.645	234	10876	4519	10876	ø 8/12.5'
0.645	2.725	234	6798	4519	6798	ø 8/20.0'
2.725	3.245	234	10876	4519	10876	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

153	Ft. 20	-51651	-476	54	-638.0
	σ <sub>s,c</sub> 19	-52815	-487	56	-853.0
	σ <sub>cls,Max</sub> 19	-52815	-487	56	-59.9
	σ <sub>cls,Med</sub> 19	-52815	-487	56	-50.2
253	Ft. 20	-50893	106	-62	-694.2
	σ <sub>s,c</sub> 19	-52057	109	-61	-773.1
	σ <sub>cls,Max</sub> 19	-52057	109	-61	-52.5
	σ <sub>cls,Med</sub> 19	-52057	109	-61	-49.5

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Combinazioni Frequenti					
153	Ft. 22	-47326	-449	76	-577.4
	$\sigma_{s,c}21$	-48354	-457	75	-787.4
	$\sigma_{cls,Max}21$	-48354	-457	75	-55.5
	$\sigma_{cls,Med}21$	-48354	-457	75	-45.9
253	Ft. 22	-46568	98	-79	-630.8
	$\sigma_{s,c}21$	-47596	101	-77	-711.0
	$\sigma_{cls,Max}21$	-47596	101	-77	-48.4
	$\sigma_{cls,Med}21$	-47596	101	-77	-45.2
Combinazioni Quasi Permanenti					
153	Ft. 23	-46948	-447	80	-571.7
	$\sigma_{s,c}23$	-46948	-447	80	-766.2
	$\sigma_{cls,Max}23$	-46948	-447	80	-54.0
	$\sigma_{cls,Med}23$	-46948	-447	80	-44.6
253	Ft. 23	-46190	98	-81	-625.1
	$\sigma_{s,c}23$	-46190	98	-81	-691.2
	$\sigma_{cls,Max}23$	-46190	98	-81	-47.1
	$\sigma_{cls,Med}23$	-46190	98	-81	-43.9

Pilastro: 253/353 / L 2.980[m] / Sezione 3 B 30 [cm]H 30 [cm]  
 Af: 4  $\phi$  18 Af=10.18 [cm<sup>2</sup>] < 1  $\phi$  18 x 4 V + 0  $\phi$  18 x 2 B + 0  $\phi$  18 x 2 H >  
 Staffe:  $\phi$  8/12.5' x 49.7/ $\phi$  8/20.0' x 198.7/ $\phi$  8/12.5' x 49.7  
 Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
253	8	-29472	280	1617	1.00	1.00	0.26
353	8	-28745	-155	-1666	1.00	1.00	0.25

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	179	10876	4131	10876	$\phi$ 8/12.5'
0.622	2.608	179	6798	4131	6798	$\phi$ 8/20.0'
2.608	3.105	179	10876	4131	10876	$\phi$ 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare					
253	Ft. 20	-32363	183	67	-415.0
	$\sigma_{s,c}19$	-33060	188	65	-517.8
	$\sigma_{cls,Max}19$	-33060	188	65	-35.9
	$\sigma_{cls,Med}19$	-33060	188	65	-31.4
353	Ft. 20	-31636	-67	-47	-429.7
	$\sigma_{s,c}19$	-32333	-69	-49	-482.6
	$\sigma_{cls,Max}19$	-32333	-69	-49	-32.8
	$\sigma_{cls,Med}19$	-32333	-69	-49	-30.7
Combinazioni Frequenti					
253	Ft. 22	-29361	173	86	-370.7
	$\sigma_{s,c}21$	-30014	176	83	-475.6

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Max</sub> 21	-30014	176	83	-33.2
	σ <sub>cls,Med</sub> 21	-30014	176	83	-28.5
353	Ft. 22	-28634	-64	-74	-382.5
	σ <sub>s,c</sub> 21	-29287	-66	-73	-442.9
	σ <sub>cls,Max</sub> 21	-29287	-66	-73	-30.3
	σ <sub>cls,Med</sub> 21	-29287	-66	-73	-27.8
Combinazioni Quasi Permanenti					
253	Ft. 23	-29078	172	88	-366.3
	σ <sub>s,c</sub> 23	-29078	172	88	-462.4
	σ <sub>cls,Max</sub> 23	-29078	172	88	-32.3
	σ <sub>cls,Med</sub> 23	-29078	172	88	-27.6
353	Ft. 23	-28352	-64	-78	-377.7
	σ <sub>s,c</sub> 23	-28352	-64	-78	-430.3
	σ <sub>cls,Max</sub> 23	-28352	-64	-78	-29.5
	σ <sub>cls,Med</sub> 23	-28352	-64	-78	-26.9

Pilastro: 353/453 / L 2.980[m] / Sezione 3 B 30 [cm]H 30 [cm]

Af: 4 ø 18 Af=10.18 [cm²] < 1ø18 x 4 V + 0ø18 x 2 B + 0ø18 x 2 H >

Staffe: ø 8/12.5' x 49.7/ø 8/20.0' x 198.7/ø 8/12.5' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
353	8	-13253	-36	977	1.00	1.00	0.13
453	8	-12527	-180	-1122	1.00	1.00	0.14

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	114	10876	3976	10876	ø 8/12.5'
0.622	2.608	114	6798	3976	6798	ø 8/20.0'
2.608	3.105	114	10876	3976	10876	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

353	Ft. 19	-15409	23	47	-206.6
	σ <sub>s,c</sub> 20	-15439	22	49	-233.0
	σ <sub>cls,Max</sub> 20	-15439	22	49	-15.9
	σ <sub>cls,Med</sub> 20	-15439	22	49	-14.7
453	Ft. 20	-14712	-67	-63	-185.5
	σ <sub>s,c</sub> 20	-14712	-67	-63	-233.7
	σ <sub>cls,Max</sub> 20	-14712	-67	-63	-16.3
	σ <sub>cls,Med</sub> 20	-14712	-67	-63	-14.0

Combinazioni Frequenti

353	Ft. 22	-13313	21	69	-173.2
	σ <sub>s,c</sub> 21	-13490	21	66	-208.4
	σ <sub>cls,Max</sub> 21	-13490	21	66	-14.4
	σ <sub>cls,Med</sub> 21	-13490	21	66	-12.8

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
453	Ft. 22	-12586	-63	-70	-154.7
	σ <sub>s,c</sub> 21	-12763	-65	-63	-205.5
	σ <sub>cls,Max</sub> 21	-12763	-65	-63	-14.4
	σ <sub>cls,Med</sub> 21	-12763	-65	-63	-12.1
Combinazioni Quasi Permanenti					
353	Ft. 23	-13018	21	71	-168.5
	σ <sub>s,c</sub> 23	-13018	21	71	-202.5
	σ <sub>cls,Max</sub> 23	-13018	21	71	-14.0
	σ <sub>cls,Med</sub> 23	-13018	21	71	-12.4
453	Ft. 23	-12291	-63	-69	-150.7
	σ <sub>s,c</sub> 23	-12291	-63	-69	-199.5
	σ <sub>cls,Max</sub> 23	-12291	-63	-69	-14.0
	σ <sub>cls,Med</sub> 23	-12291	-63	-69	-11.7

Pilastro: 54/154 / L 3.700[m] / Sezione 34 B 30 [cm]H 40 [cm]

Af: 4 ø 18 + 6 ø 14 Af=19.42 [cm²] < 1φ18 x 4 V + 1φ14 x 2 B + 2φ14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 50.0/ø 8 2br.x4br./15.0' x 270.0/ø 8 2br.x4br./10.0' x 50.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
54	3	-67714	-1779	-3061	1.00	1.00	0.40
154	1	-92452	1130	1479	1.00	1.00	0.41

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.625	6115	18375	4896	26128	ø 8 2br.x4br./10.0'
0.625	3.325	6115	12250	4896	17419	ø 8 2br.x4br./15.0'
3.325	3.825	6115	18375	4896	26128	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

54	Ft. 20	-69685	-511	-355	-602.6
	σ <sub>s,c</sub> 19	-71147	-528	-372	-817.9
	σ <sub>cls,Max</sub> 19	-71147	-528	-372	-57.9
	σ <sub>cls,Med</sub> 19	-71147	-528	-372	-47.7
154	Ft. 20	-68500	835	1063	-467.9
	σ <sub>s,c</sub> 19	-69962	856	1110	-933.0
	σ <sub>cls,Max</sub> 19	-69962	856	1110	-70.3
	σ <sub>cls,Med</sub> 19	-69962	856	1110	-46.9

Combinazioni Frequenti

54	Ft. 22	-65955	-484	-324	-571.8
	σ <sub>s,c</sub> 21	-67092	-496	-336	-769.2
	σ <sub>cls,Max</sub> 21	-67092	-496	-336	-54.4
	σ <sub>cls,Med</sub> 21	-67092	-496	-336	-45.0
154	Ft. 22	-64770	794	988	-444.1
	σ <sub>s,c</sub> 21	-65907	809	1021	-876.0



COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Max</sub> 21	-65907	809	1021	-65.9
	σ <sub>cls,Med</sub> 21	-65907	809	1021	-44.2
Combinazioni Quasi Permanenti					
54	Ft. 23	-65713	-484	-323	-569.5
	σ <sub>s,c</sub> 23	-65713	-484	-323	-752.4
	σ <sub>cls,Max</sub> 23	-65713	-484	-323	-53.2
	σ <sub>cls,Med</sub> 23	-65713	-484	-323	-44.1
154	Ft. 23	-64528	792	986	-442.1
	σ <sub>s,c</sub> 23	-64528	792	986	-856.1
	σ <sub>cls,Max</sub> 23	-64528	792	986	-64.3
	σ <sub>cls,Med</sub> 23	-64528	792	986	-43.3

Pilastro: 154/254 / L 3.120[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm²] < 1ø18 x 4 V + 0ø12 x 2 B + 2ø14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 52.0/ø 8 2br.x4br./15.0' x 208.0/ø 8 2br.x4br./10.0' x 52.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
154	1	-77759	-383	-2703	1.00	1.00	0.41
254	1	-76445	-1029	2461	1.00	1.00	0.40

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.645	3273	18906	3478	27190	ø 8 2br.x4br./10.0'
0.645	2.725	3273	12604	3478	18127	ø 8 2br.x4br./15.0'
2.725	3.245	3273	18906	3478	27190	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

154	Ft. 20	-57832	-286	-1951	-308.1
	σ <sub>s,c</sub> 19	-58873	-290	-2027	-913.9
	σ <sub>cls,Max</sub> 19	-58873	-290	-2027	-69.8
	σ <sub>cls,Med</sub> 19	-58873	-290	-2027	-40.7
254	Ft. 20	-56821	-769	1787	-263.6
	σ <sub>s,c</sub> 19	-57862	-783	1843	-936.0
	σ <sub>cls,Max</sub> 19	-57862	-783	1843	-71.7
	σ <sub>cls,Med</sub> 19	-57862	-783	1843	-40.0

Combinazioni Frequenti

154	Ft. 22	-54653	-270	-1794	-297.9
	σ <sub>s,c</sub> 21	-55510	-273	-1850	-853.5
	σ <sub>cls,Max</sub> 21	-55510	-273	-1850	-65.0
	σ <sub>cls,Med</sub> 21	-55510	-273	-1850	-38.4
254	Ft. 22	-53642	-745	1619	-255.6
	σ <sub>s,c</sub> 21	-54499	-755	1665	-874.2
	σ <sub>cls,Max</sub> 21	-54499	-755	1665	-66.8
	σ <sub>cls,Med</sub> 21	-54499	-755	1665	-37.7

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Combinazioni Quasi Permanenti					
154	Ft. 23	-54409	-268	-1786	-296.6
	$\sigma_{s,c23}$	-54409	-268	-1786	-833.0
	$\sigma_{cls,Max23}$	-54409	-268	-1786	-63.4
	$\sigma_{cls,Med23}$	-54409	-268	-1786	-37.7
254	Ft. 23	-53398	-745	1606	-254.8
	$\sigma_{s,c23}$	-53398	-745	1606	-853.7
	$\sigma_{cls,Max23}$	-53398	-745	1606	-65.2
	$\sigma_{cls,Med23}$	-53398	-745	1606	-37.0

Pilastro: 254/354 / L 2.980[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4  $\phi$  18 + 4  $\phi$  14 Af=16.34 [cm<sup>2</sup>] < 1 $\phi$ 18 x 4 V + 0 $\phi$ 12 x 2 B + 2 $\phi$ 14 x 2 H >

Staffe:  $\phi$  8 2br.x4br./10.0' x 49.7/ $\phi$  8 2br.x4br./15.0' x 198.7/ $\phi$  8 2br.x4br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
254	1	-52772	2269	-2204	1.00	1.00	0.33
354	1	-51513	-1981	2108	1.00	1.00	0.32

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	4143	18906	4130	27190	$\phi$ 8 2br.x4br./10.0'
0.622	2.608	4143	12604	4130	18127	$\phi$ 8 2br.x4br./15.0'
2.608	3.105	4143	18906	4130	27190	$\phi$ 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare

254	Ft. 19	-39935	1725	-1647	14.1
	$\sigma_{s,c19}$	-39935	1725	-1647	-838.7
	$\sigma_{cls,Max19}$	-39935	1725	-1647	-66.9
	$\sigma_{cls,Med19}$	-39935	1725	-1647	-29.0
354	Ft. 19	-38966	-1507	1576	-15.2
	$\sigma_{s,c19}$	-38966	-1507	1576	-791.4
	$\sigma_{cls,Max19}$	-38966	-1507	1576	-62.8
	$\sigma_{cls,Med19}$	-38966	-1507	1576	-27.9

Combinazioni Frequenti

254	Ft. 21	-37554	1655	-1477	6.1
	$\sigma_{s,c21}$	-37554	1655	-1477	-782.1
	$\sigma_{cls,Max21}$	-37554	1655	-1477	-62.2
	$\sigma_{cls,Med21}$	-37554	1655	-1477	-27.1
354	Ft. 21	-36585	-1453	1421	-18.3
	$\sigma_{s,c21}$	-36585	-1453	1421	-739.3
	$\sigma_{cls,Max21}$	-36585	-1453	1421	-58.6
	$\sigma_{cls,Med21}$	-36585	-1453	1421	-26.1

Combinazioni Quasi Permanenti

254	Ft. 23	-36794	1629	-1421	2.8
	$\sigma_{s,c23}$	-36794	1629	-1421	-763.4

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Max</sub> 23	-36794	1629	-1421	-60.6
	σ <sub>cls,Med</sub> 23	-36794	1629	-1421	-26.5
354	Ft. 23	-35825	-1432	1364	-20.9
	σ <sub>s,c</sub> 23	-35825	-1432	1364	-721.1
	σ <sub>cls,Max</sub> 23	-35825	-1432	1364	-57.1
	σ <sub>cls,Med</sub> 23	-35825	-1432	1364	-25.5

Pilastro: 354/454 / L 2.980[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm²] < 1φ18 x 4 V + 0φ12 x 2 B + 2φ14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 49.7/ø 8 2br.x4br./15.0' x 198.7/ø 8 2br.x4br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
354	1	-29246	1647	-2190	1.00	1.00	0.25
454	1	-27987	-1510	2387	1.00	1.00	0.25

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	4143	18906	4094	27190	ø 8 2br.x4br./10.0'
0.622	2.608	4143	12604	4094	18127	ø 8 2br.x4br./15.0'
2.608	3.105	4143	18906	4094	27190	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

354	Ft. 19	-22104	1251	-1631	222.7
	σ <sub>s,c</sub> 19	-22104	1251	-1631	-632.4
	σ <sub>cls,Max</sub> 19	-22104	1251	-1631	-53.4
	σ <sub>cls,Med</sub> 19	-22104	1251	-1631	-20.2
454	Ft. 19	-21135	-1144	1771	268.1
	σ <sub>s,c</sub> 19	-21135	-1144	1771	-638.3
	σ <sub>cls,Max</sub> 19	-21135	-1144	1771	-54.6
	σ <sub>cls,Med</sub> 19	-21135	-1144	1771	-20.8

Combinazioni Frequenti

354	Ft. 21	-20589	1198	-1436	190.6
	σ <sub>s,c</sub> 21	-20589	1198	-1436	-578.2
	σ <sub>cls,Max</sub> 21	-20589	1198	-1436	-48.6
	σ <sub>cls,Med</sub> 21	-20589	1198	-1436	-18.4
454	Ft. 21	-19620	-1085	1517	213.2
	σ <sub>s,c</sub> 21	-19620	-1085	1517	-571.0
	σ <sub>cls,Max</sub> 21	-19620	-1085	1517	-48.4
	σ <sub>cls,Med</sub> 21	-19620	-1085	1517	-18.4

Combinazioni Quasi Permanenti

354	Ft. 23	-20172	1177	-1374	178.2
	σ <sub>s,c</sub> 23	-20172	1177	-1374	-560.6
	σ <sub>cls,Max</sub> 23	-20172	1177	-1374	-47.0
	σ <sub>cls,Med</sub> 23	-20172	1177	-1374	-17.8

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
454	Ft. 23	-19203	-1063	1448	197.7
	σ <sub>s,c</sub> 23	-19203	-1063	1448	-551.7
	σ <sub>cls,Max</sub> 23	-19203	-1063	1448	-46.7
	σ <sub>cls,Med</sub> 23	-19203	-1063	1448	-17.7

Pilastro: 554/454 / L 2.980[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm<sup>2</sup>] < 1ø18 x 4 V + 0ø12 x 2 B + 2ø14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 49.7/ø 8 2br.x4br./15.0' x 198.7/ø 8 2br.x4br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
554	15	-5415	-5723	1229	1.00	1.00	0.53
454	15	-6384	6209	1435	1.00	1.00	0.57

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	6032	18906	4824	27190	ø 8 2br.x4br./10.0'
0.622	2.608	6032	12604	4824	18127	ø 8 2br.x4br./15.0'
2.608	3.105	6032	18906	4824	27190	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]

**Combinazioni Rare**

554	Ft. 20	-6466	-1006	608	307.0
	σ <sub>s,c</sub> 20	-6466	-1006	608	-327.4
	σ <sub>cls,Max</sub> 20	-6466	-1006	608	-29.6
	σ <sub>cls,Med</sub> 20	-6466	-1006	608	-10.1
454	Ft. 20	-7435	816	566	183.4
	σ <sub>s,c</sub> 20	-7435	816	566	-284.3
	σ <sub>cls,Max</sub> 20	-7435	816	566	-24.8
	σ <sub>cls,Med</sub> 19	-7450	823	559	-8.6

**Combinazioni Frequenti**

554	Ft. 21	-6195	-914	574	271.4
	σ <sub>s,c</sub> 21	-6195	-914	574	-302.4
	σ <sub>cls,Max</sub> 21	-6195	-914	574	-27.2
	σ <sub>cls,Med</sub> 21	-6195	-914	574	-9.3
454	Ft. 21	-7164	753	434	130.0
	σ <sub>s,c</sub> 21	-7164	753	434	-244.9
	σ <sub>cls,Max</sub> 21	-7164	753	434	-20.9
	σ <sub>cls,Med</sub> 21	-7164	753	434	-7.5

**Combinazioni Quasi Permanenti**

554	Ft. 23	-6119	-897	565	265.0
	σ <sub>s,c</sub> 23	-6119	-897	565	-297.1
	σ <sub>cls,Max</sub> 23	-6119	-897	565	-26.7
	σ <sub>cls,Med</sub> 23	-6119	-897	565	-9.1
454	Ft. 23	-7088	734	404	117.8
	σ <sub>s,c</sub> 23	-7088	734	404	-235.3

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Max</sub> 23	-7088	734	404	-20.0
	σ <sub>cls,Med</sub> 23	-7088	734	404	-7.2

Pilastro: 55/255 / L 3.700[m] / Sezione 33 B 30 [cm]H 30 [cm]  
 Af: 8 ø 18 Af=20.36 [cm²] < 1φ18 x 4 V + 1φ18 x 2 B + 1φ18 x 2 H >  
 Staffe: ø 8/12.5' x 61.7/ø 8/20.0' x 246.7/ø 8/12.5' x 61.7  
 Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
55	13	-14943	-4790	-1165	1.00	1.00	0.53
155	13	-14254	3808	1374	1.00	1.00	0.45
155	8	-7815	-958	-2780	1.00	1.00	0.33
255	5	-7142	1495	-1565	1.00	1.00	0.26

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.742	5245	10451	4926	10451	ø 8/12.5'
0.742	3.208	5245	6532	4926	6532	ø 8/20.0'
3.208	3.825	5245	10451	4926	10451	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

55	Ft. 19	-13161	-726	32	-40.3
	σ <sub>s,c</sub> 19	-13161	-726	32	-285.9
	σ <sub>cls,Max</sub> 19	-13161	-726	32	-24.1
	σ <sub>cls,Med</sub> 19	-13161	-726	32	-11.7
155	Ft. 20	-12140	449	198	-47.6
	σ <sub>s,c</sub> 19	-12473	473	194	-261.8
	σ <sub>cls,Max</sub> 19	-12473	473	194	-21.8
	σ <sub>cls,Med</sub> 19	-12473	473	194	-10.4
155	Ft. 19	-8093	-893	-457	264.2
	σ <sub>s,c</sub> 19	-8093	-893	-457	-364.8
	σ <sub>cls,Max</sub> 19	-8093	-893	-457	-37.2
	σ <sub>cls,Med</sub> 19	-8093	-893	-457	-13.6
255	Ft. 19	-7893	1249	-1022	676.3
	σ <sub>s,c</sub> 19	-7893	1249	-1022	-580.7
	σ <sub>cls,Max</sub> 19	-7893	1249	-1022	-64.4
	σ <sub>cls,Med</sub> 19	-7893	1249	-1022	-21.5

Combinazioni Frequenti

55	Ft. 21	-12495	-654	15	-47.9
	σ <sub>s,c</sub> 21	-12495	-654	15	-262.7
	σ <sub>cls,Max</sub> 21	-12495	-654	15	-21.9
	σ <sub>cls,Med</sub> 21	-12495	-654	15	-10.8
155	Ft. 22	-11573	407	206	-46.1

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>s,c</sub> 21	-11806	423	203	-247.1
	σ <sub>cls,Max</sub> 21	-11806	423	203	-20.6
	σ <sub>cls,Med</sub> 21	-11806	423	203	-9.8
155	Ft. 21	-7718	-788	-472	234.1
	σ <sub>s,c</sub> 21	-7718	-788	-472	-341.8
	σ <sub>cls,Max</sub> 21	-7718	-788	-472	-34.6
	σ <sub>cls,Med</sub> 21	-7718	-788	-472	-12.4
255	Ft. 21	-7517	1120	-924	587.7
	σ <sub>s,c</sub> 21	-7517	1120	-924	-525.4
	σ <sub>cls,Max</sub> 21	-7517	1120	-924	-57.8
	σ <sub>cls,Med</sub> 21	-7517	1120	-924	-19.3
Combinazioni Quasi Permanenti					
55	Ft. 23	-12245	-628	10	-50.2
	σ <sub>s,c</sub> 23	-12245	-628	10	-254.4
	σ <sub>cls,Max</sub> 23	-12245	-628	10	-21.1
	σ <sub>cls,Med</sub> 23	-12245	-628	10	-10.5
155	Ft. 23	-11557	405	206	-46.0
	σ <sub>s,c</sub> 23	-11557	405	206	-241.5
	σ <sub>cls,Max</sub> 23	-11557	405	206	-20.1
	σ <sub>cls,Med</sub> 23	-11557	405	206	-9.6
155	Ft. 23	-7579	-749	-477	223.4
	σ <sub>s,c</sub> 23	-7579	-749	-477	-333.1
	σ <sub>cls,Max</sub> 23	-7579	-749	-477	-33.6
	σ <sub>cls,Med</sub> 23	-7579	-749	-477	-11.9
255	Ft. 23	-7379	1074	-891	557.4
	σ <sub>s,c</sub> 23	-7379	1074	-891	-506.1
	σ <sub>cls,Max</sub> 23	-7379	1074	-891	-55.5
	σ <sub>cls,Med</sub> 23	-7379	1074	-891	-18.6

Pilastro: 56/256 / L 3.700[m] / Sezione 41 B 40 [cm]H 30 [cm]

Af: 4 ø 28 + 6 ø 22 Af=47.44 [cm²] < 1ø28 x 4 V + 2ø22 x 2 B + 1ø22 x 2 H >

Staffe: ø 8 4br.x2br./15.0' x 370.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
56	13	-28377	-7182	-3251	1.00	1.00	0.43
156	13	-27459	6023	3160	1.00	1.00	0.37
156	8	-18158	-1000	-6739	1.00	1.00	0.27
256	1	-25902	-10749	1606	1.00	1.00	0.56

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	3.825	12108	17419	10918	12250	ø 8 4br.x2br./15.0'

Verifiche a Presso-Flessione S.L.E.

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
Combinazioni Rare					
56	Ft. 19	-30199	-1539	259	-67.1
	σ <sub>s,c</sub> 19	-30199	-1539	259	-406.2
	σ <sub>cls,Max</sub> 19	-30199	-1539	259	-34.7
	σ <sub>cls,Med</sub> 19	-30199	-1539	259	-16.4
156	Ft. 19	-29281	1721	131	-48.0
	σ <sub>s,c</sub> 19	-29281	1721	131	-407.6
	σ <sub>cls,Max</sub> 19	-29281	1721	131	-35.4
	σ <sub>cls,Med</sub> 19	-29281	1721	131	-17.2
156	Ft. 20	-19083	59	-1571	-14.2
	σ <sub>s,c</sub> 19	-19811	36	-1597	-288.2
	σ <sub>cls,Max</sub> 19	-19811	36	-1597	-23.3
	σ <sub>cls,Med</sub> 19	-19811	36	-1597	-11.4
256	Ft. 19	-19544	-8055	1240	1703.2
	σ <sub>s,c</sub> 19	-19544	-8055	1240	-1140.6
	σ <sub>cls,Max</sub> 19	-19544	-8055	1240	-140.2
	σ <sub>cls,Med</sub> 19	-19544	-8055	1240	-63.0
Combinazioni Frequenti					
56	Ft. 21	-28387	-1397	219	-70.4
	σ <sub>s,c</sub> 21	-28387	-1397	219	-374.8
	σ <sub>cls,Max</sub> 21	-28387	-1397	219	-31.8
	σ <sub>cls,Med</sub> 21	-28387	-1397	219	-15.2
156	Ft. 21	-27469	1551	151	-50.5
	σ <sub>s,c</sub> 21	-27469	1551	151	-378.2
	σ <sub>cls,Max</sub> 21	-27469	1551	151	-32.7
	σ <sub>cls,Med</sub> 21	-27469	1551	151	-15.7
156	Ft. 22	-18082	109	-1528	-3.4
	σ <sub>s,c</sub> 21	-18570	92	-1546	-280.5
	σ <sub>cls,Max</sub> 21	-18570	92	-1546	-22.9
	σ <sub>cls,Med</sub> 21	-18570	92	-1546	-10.9
256	Ft. 21	-18303	-7351	1253	1560.0
	σ <sub>s,c</sub> 21	-18303	-7351	1253	-1059.4
	σ <sub>cls,Max</sub> 21	-18303	-7351	1253	-129.5
	σ <sub>cls,Med</sub> 21	-18303	-7351	1253	-57.6
Combinazioni Quasi Permanenti					
56	Ft. 23	-27673	-1345	204	-71.2
	σ <sub>s,c</sub> 23	-27673	-1345	204	-362.9
	σ <sub>cls,Max</sub> 23	-27673	-1345	204	-30.8
	σ <sub>cls,Med</sub> 23	-27673	-1345	204	-14.7
156	Ft. 23	-26755	1488	159	-51.1
	σ <sub>s,c</sub> 23	-26755	1488	159	-366.8

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Max</sub> 23	-26755	1488	159	-31.6
	σ <sub>cls,Med</sub> 23	-26755	1488	159	-15.2
156	Ft. 23	-18078	112	-1527	-3.2
	σ <sub>s,c</sub> 23	-18078	112	-1527	-277.3
	σ <sub>cls,Max</sub> 23	-18078	112	-1527	-22.8
	σ <sub>cls,Med</sub> 23	-18078	112	-1527	-10.7
256	Ft. 23	-17811	-7078	1259	1504.7
	σ <sub>s,c</sub> 23	-17811	-7078	1259	-1027.9
	σ <sub>cls,Max</sub> 23	-17811	-7078	1259	-125.4
	σ <sub>cls,Med</sub> 23	-17811	-7078	1259	-55.5

Pilastro: 57/257 / L 3.700[m] / Sezione 41 B 40 [cm]H 30 [cm]

Af: 10 ø 24 Af=45.24 [cm²] < 1ø24 x 4 V + 2ø24 x 2 B + 1ø24 x 2 H >

Staffe: ø 8 4br.x2br./12.5' x 61.7/ø 8 4br.x2br./12.5' x 246.7/ø 8 4br.x2br./12.5' x 61.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
57	13	-18353	-6525	-4592	1.00	1.00	0.46
157	13	-17435	5801	2877	1.00	1.00	0.37
157	4	-12188	-2681	6631	1.00	1.00	0.35
257	1	-16056	-7457	-4093	1.00	1.00	0.50

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.742	9690	20903	10152	14700	ø 8 4br.x2br./12.5'
0.742	3.208	9690	20903	12941	14700	ø 8 4br.x2br./12.5'
3.208	3.825	9690	20903	12941	14700	ø 8 4br.x2br./12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

57	Ft. 19	-19607	-1400	-1458	180.4
	σ <sub>s,c</sub> 19	-19607	-1400	-1458	-453.3
	σ <sub>cls,Max</sub> 19	-19607	-1400	-1458	-41.9
	σ <sub>cls,Med</sub> 19	-19607	-1400	-1458	-15.3
157	Ft. 19	-18689	1547	40	46.3
	σ <sub>s,c</sub> 19	-18689	1547	40	-316.9
	σ <sub>cls,Max</sub> 19	-18689	1547	40	-29.1
	σ <sub>cls,Med</sub> 19	-18689	1547	40	-14.4
157	Ft. 19	-12438	-574	2623	361.9
	σ <sub>s,c</sub> 19	-12438	-574	2623	-434.7
	σ <sub>cls,Max</sub> 19	-12438	-574	2623	-41.7
	σ <sub>cls,Med</sub> 19	-12438	-574	2623	-16.6
257	Ft. 19	-12171	-5619	-3136	1660.4



COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>s,c</sub> 19	-12171	-5619	-3136	-1133.6
	σ <sub>cls,Max</sub> 19	-12171	-5619	-3136	-130.8
	σ <sub>cls,Med</sub> 19	-12171	-5619	-3136	-48.0
Combinazioni Frequenti					
57	Ft. 21	-18655	-1302	-1372	163.5
	σ <sub>s,c</sub> 21	-18655	-1302	-1372	-425.4
	σ <sub>cls,Max</sub> 21	-18655	-1302	-1372	-39.2
	σ <sub>cls,Med</sub> 21	-18655	-1302	-1372	-14.3
157	Ft. 21	-17737	1429	22	34.6
	σ <sub>s,c</sub> 21	-17737	1429	22	-294.5
	σ <sub>cls,Max</sub> 21	-17737	1429	22	-26.9
	σ <sub>cls,Med</sub> 21	-17737	1429	22	-13.3
157	Ft. 21	-11850	-492	2598	355.5
	σ <sub>s,c</sub> 21	-11850	-492	2598	-417.0
	σ <sub>cls,Max</sub> 21	-11850	-492	2598	-40.0
	σ <sub>cls,Med</sub> 21	-11850	-492	2598	-16.3
257	Ft. 21	-11583	-5232	-3094	1567.1
	σ <sub>s,c</sub> 21	-11583	-5232	-3094	-1079.5
	σ <sub>cls,Max</sub> 21	-11583	-5232	-3094	-124.0
	σ <sub>cls,Med</sub> 21	-11583	-5232	-3094	-45.0
Combinazioni Quasi Permanenti					
57	Ft. 23	-18281	-1266	-1343	158.1
	σ <sub>s,c</sub> 23	-18281	-1266	-1343	-415.5
	σ <sub>cls,Max</sub> 23	-18281	-1266	-1343	-38.3
	σ <sub>cls,Med</sub> 23	-18281	-1266	-1343	-14.0
157	Ft. 23	-17363	1386	16	30.6
	σ <sub>s,c</sub> 23	-17363	1386	16	-286.1
	σ <sub>cls,Max</sub> 23	-17363	1386	16	-26.1
	σ <sub>cls,Med</sub> 23	-17363	1386	16	-13.0
157	Ft. 23	-11618	-462	2589	353.6
	σ <sub>s,c</sub> 23	-11618	-462	2589	-410.3
	σ <sub>cls,Max</sub> 23	-11618	-462	2589	-39.3
	σ <sub>cls,Med</sub> 23	-11618	-462	2589	-16.2
257	Ft. 23	-11351	-5082	-3078	1531.2
	σ <sub>s,c</sub> 23	-11351	-5082	-3078	-1058.5
	σ <sub>cls,Max</sub> 23	-11351	-5082	-3078	-121.4
	σ <sub>cls,Med</sub> 23	-11351	-5082	-3078	-43.9

Pilastro: 158/58 / L 3.700[m] / Sezione 33 B 30 [cm]H 30 [cm]  
Af: 8 ø 18 Af=20.36 [cm²] < 1φ18 x 4 V + 1φ18 x 2 B + 1φ18 x 2 H >  
Staffe: ø 8/12.5' x 46.0/ø 8/20.0' x 278.0/ø 8/12.5' x 46.0  
Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
158	8	-7634	608	2355	1.00	1.00	0.26

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

58	8	-8523	-67	-2576	1.00	1.00	0.26
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Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.585	5607	10451	5676	10451	ø 8/12.5'
0.585	3.365	5607	6532	5676	6532	ø 8/20.0'
3.365	3.825	5607	10451	5676	10451	ø 8/12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

158	Ft. 19	-7526	1142	732	519.8
	σ <sub>s,c</sub> 19	-7526	1142	732	-483.9
	σ <sub>cls,Max</sub> 19	-7526	1142	732	-52.8
	σ <sub>cls,Med</sub> 19	-7526	1142	732	-18.2
58	Ft. 19	-8415	-581	-673	197.8
	σ <sub>s,c</sub> 19	-8415	-581	-673	-344.2
	σ <sub>cls,Max</sub> 19	-8415	-581	-673	-34.0
	σ <sub>cls,Med</sub> 19	-8415	-581	-673	-11.8

Combinazioni Frequenti

158	Ft. 21	-6995	1067	697	492.7
	σ <sub>s,c</sub> 21	-6995	1067	697	-455.1
	σ <sub>cls,Max</sub> 21	-6995	1067	697	-49.7
	σ <sub>cls,Med</sub> 21	-6995	1067	697	-17.1
58	Ft. 21	-7884	-538	-642	187.7
	σ <sub>s,c</sub> 21	-7884	-538	-642	-323.7
	σ <sub>cls,Max</sub> 21	-7884	-538	-642	-32.0
	σ <sub>cls,Med</sub> 21	-7884	-538	-642	-11.1

Combinazioni Quasi Permanenti

158	Ft. 23	-6792	1042	684	483.7
	σ <sub>s,c</sub> 23	-6792	1042	684	-444.6
	σ <sub>cls,Max</sub> 23	-6792	1042	684	-48.6
	σ <sub>cls,Med</sub> 23	-6792	1042	684	-16.7
58	Ft. 23	-7681	-524	-630	184.6
	σ <sub>s,c</sub> 23	-7681	-524	-630	-316.4
	σ <sub>cls,Max</sub> 23	-7681	-524	-630	-31.3
	σ <sub>cls,Med</sub> 23	-7681	-524	-630	-10.9

Pilastro: 159/59 / L 3.700[m] / Sezione 41 B 40 [cm]H 30 [cm]

Af: 4 ø 18 + 6 ø 14 Af=19.42 [cm²] < 1φ18 x 4 V + 2φ14 x 2 B + 1φ14 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 48.0/ø 8 4br.x2br./15.0' x 274.0/ø 8 4br.x2br./10.0' x 48.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
159	1	-65727	10	1637	1.00	1.00	0.29
59	1	-67267	618	-1608	1.00	1.00	0.30

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
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COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.605	605	26128	6046	18375	ø 8 4br.x2br./10.0'
0.605	3.345	605	17419	6046	12250	ø 8 4br.x2br./15.0'
3.345	3.825	605	26128	6046	18375	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

159	Ft. 20	-48779	5	1240	-357.9
	σ <sub>s,c</sub> 19	-49834	7	1250	-635.2
	σ <sub>cls,Max</sub> 19	-49834	7	1250	-45.8
	σ <sub>cls,Med</sub> 19	-49834	7	1250	-33.4
59	Ft. 20	-49964	467	-1207	-316.7
	σ <sub>s,c</sub> 19	-51019	473	-1225	-701.6
	σ <sub>cls,Max</sub> 19	-51019	473	-1225	-52.6
	σ <sub>cls,Med</sub> 19	-51019	473	-1225	-34.2

Combinazioni Frequenti

159	Ft. 22	-46562	0	1209	-338.9
	σ <sub>s,c</sub> 21	-47339	2	1217	-606.5
	σ <sub>cls,Max</sub> 21	-47339	2	1217	-43.8
	σ <sub>cls,Med</sub> 21	-47339	2	1217	-31.7
59	Ft. 22	-47747	459	-1168	-299.5
	σ <sub>s,c</sub> 21	-48524	463	-1181	-670.7
	σ <sub>cls,Max</sub> 21	-48524	463	-1181	-50.4
	σ <sub>cls,Med</sub> 21	-48524	463	-1181	-32.5

Combinazioni Quasi Permanenti

159	Ft. 23	-46451	-0	1206	-338.1
	σ <sub>s,c</sub> 23	-46451	-0	1206	-596.4
	σ <sub>cls,Max</sub> 23	-46451	-0	1206	-43.0
	σ <sub>cls,Med</sub> 23	-46451	-0	1206	-31.1
59	Ft. 23	-47636	459	-1166	-298.7
	σ <sub>s,c</sub> 23	-47636	459	-1166	-659.7
	σ <sub>cls,Max</sub> 23	-47636	459	-1166	-49.6
	σ <sub>cls,Med</sub> 23	-47636	459	-1166	-31.9

Pilastro: 159/259 / L 3.120[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm²] < 1ø18 x 4 V + 2ø14 x 2 B + 0ø12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 52.0/ø 8 4br.x2br./15.0' x 208.0/ø 8 4br.x2br./10.0' x 52.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
159	1	-58379	-392	407	1.00	1.00	0.25
259	1	-57064	69	1065	1.00	1.00	0.25

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.645	256	27190	3488	18906	ø 8 4br.x2br./10.0'
0.645	2.725	256	18127	3488	12604	ø 8 4br.x2br./15.0'

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
2.725	3.245	256	27190	3488	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

159	Ft. 20	-43463	-296	338	-372.8
	σ <sub>s,c</sub> 19	-44291	-299	320	-536.6
	σ <sub>cls,Max</sub> 19	-44291	-299	320	-37.7
	σ <sub>cls,Med</sub> 19	-44291	-299	320	-30.7
259	Ft. 20	-42452	55	771	-344.2
	σ <sub>s,c</sub> 19	-43280	54	802	-549.3
	σ <sub>cls,Max</sub> 19	-43280	54	802	-38.7
	σ <sub>cls,Med</sub> 19	-43280	54	802	-30.0

Combinazioni Frequenti

159	Ft. 22	-41519	-289	352	-351.8
	σ <sub>s,c</sub> 21	-42147	-291	342	-515.7
	σ <sub>cls,Max</sub> 21	-42147	-291	342	-36.4
	σ <sub>cls,Med</sub> 21	-42147	-291	342	-29.2
259	Ft. 22	-40508	57	724	-329.1
	σ <sub>s,c</sub> 21	-41136	56	745	-520.8
	σ <sub>cls,Max</sub> 21	-41136	56	745	-36.7
	σ <sub>cls,Med</sub> 21	-41136	56	745	-28.5

Combinazioni Quasi Permanenti

159	Ft. 23	-41404	-288	351	-350.8
	σ <sub>s,c</sub> 23	-41404	-288	351	-508.7
	σ <sub>cls,Max</sub> 23	-41404	-288	351	-35.9
	σ <sub>cls,Med</sub> 23	-41404	-288	351	-28.7
259	Ft. 23	-40393	57	723	-328.0
	σ <sub>s,c</sub> 23	-40393	57	723	-510.6
	σ <sub>cls,Max</sub> 23	-40393	57	723	-36.0
	σ <sub>cls,Med</sub> 23	-40393	57	723	-28.0

Pilastro: 259/359 / L 2.980[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm²] < 1 ø 18 x 4 V + 2 ø 14 x 2 B + 0 ø 12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 49.7/ø 8 4br.x2br./15.0' x 198.7/ø 8 4br.x2br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
259	1	-43447	220	-2274	1.00	1.00	0.24
359	1	-42187	-146	2038	1.00	1.00	0.23

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	398	27190	4399	18906	ø 8 4br.x2br./10.0'
0.622	2.608	398	18127	4399	12604	ø 8 4br.x2br./15.0'
2.608	3.105	398	27190	4399	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
Combinazioni Rare					
259	Ft. 19	-32947	165	-1724	-120.5
	σ <sub>s,c</sub> 19	-32947	165	-1724	-563.5
	σ <sub>cls,Max</sub> 19	-32947	165	-1724	-42.3
	σ <sub>cls,Med</sub> 19	-32947	165	-1724	-22.8
359	Ft. 20	-31429	-102	1506	-138.4
	σ <sub>s,c</sub> 19	-31978	-109	1544	-525.3
	σ <sub>cls,Max</sub> 19	-31978	-109	1544	-39.1
	σ <sub>cls,Med</sub> 19	-31978	-109	1544	-22.1
Combinazioni Frequenti					
259	Ft. 22	-30823	145	-1609	-114.3
	σ <sub>s,c</sub> 21	-31266	151	-1639	-534.3
	σ <sub>cls,Max</sub> 21	-31266	151	-1639	-40.1
	σ <sub>cls,Med</sub> 21	-31266	151	-1639	-21.6
359	Ft. 22	-29854	-96	1436	-130.9
	σ <sub>s,c</sub> 21	-30297	-100	1463	-497.2
	σ <sub>cls,Max</sub> 21	-30297	-100	1463	-37.0
	σ <sub>cls,Med</sub> 21	-30297	-100	1463	-21.0
Combinazioni Quasi Permanenti					
259	Ft. 23	-30708	145	-1607	-113.4
	σ <sub>s,c</sub> 23	-30708	145	-1607	-524.1
	σ <sub>cls,Max</sub> 23	-30708	145	-1607	-39.3
	σ <sub>cls,Med</sub> 23	-30708	145	-1607	-21.3
359	Ft. 23	-29739	-96	1433	-130.0
	σ <sub>s,c</sub> 23	-29739	-96	1433	-487.4
	σ <sub>cls,Max</sub> 23	-29739	-96	1433	-36.3
	σ <sub>cls,Med</sub> 23	-29739	-96	1433	-20.6

Pilastro: 359/459 / L 2.980[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm²] < 1ø18 x 4 V + 2ø14 x 2 B + 0ø12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 49.7/ø 8 4br.x2br./15.0' x 198.7/ø 8 4br.x2br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
359	1	-28673	174	-1471	1.00	1.00	0.16
459	13	-21713	-951	2343	1.00	1.00	0.20

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	462	27190	4403	18906	ø 8 4br.x2br./10.0'
0.622	2.608	462	18127	4403	12604	ø 8 4br.x2br./15.0'
2.608	3.105	462	27190	4403	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Combinazioni Rare					
359	Ft. 19	-21725	131	-1113	-79.3
	$\sigma_{s,c}19$	-21725	131	-1113	-371.8
	$\sigma_{cls,Max}19$	-21725	131	-1113	-28.0
	$\sigma_{cls,Med}19$	-21725	131	-1113	-15.0
459	Ft. 19	-20756	-183	860	-91.6
	$\sigma_{s,c}19$	-20756	-183	860	-339.3
	$\sigma_{cls,Max}19$	-20756	-183	860	-25.4
	$\sigma_{cls,Med}19$	-20756	-183	860	-14.4
Combinazioni Frequenti					
359	Ft. 21	-20508	121	-1051	-75.1
	$\sigma_{s,c}21$	-20508	121	-1051	-350.6
	$\sigma_{cls,Max}21$	-20508	121	-1051	-26.4
	$\sigma_{cls,Med}21$	-20508	121	-1051	-14.2
459	Ft. 21	-19539	-171	809	-86.4
	$\sigma_{s,c}21$	-19539	-171	809	-319.2
	$\sigma_{cls,Max}21$	-19539	-171	809	-23.9
	$\sigma_{cls,Med}21$	-19539	-171	809	-13.5
Combinazioni Quasi Permanenti					
359	Ft. 23	-20134	117	-1027	-74.6
	$\sigma_{s,c}23$	-20134	117	-1027	-343.4
	$\sigma_{cls,Max}23$	-20134	117	-1027	-25.8
	$\sigma_{cls,Med}23$	-20134	117	-1027	-13.9
459	Ft. 23	-19165	-167	786	-85.8
	$\sigma_{s,c}23$	-19165	-167	786	-312.1
	$\sigma_{cls,Max}23$	-19165	-167	786	-23.3
	$\sigma_{cls,Med}23$	-19165	-167	786	-13.3

Pilastro: 559/459 / L 2.980[m] / Sezione 11 B 40 [cm]H 30 [cm]

Af: 4  $\phi$  18 + 4  $\phi$  14 Af=16.34 [cm<sup>2</sup>] < 1 $\phi$ 18 x 4 V + 2 $\phi$ 14 x 2 B + 0 $\phi$ 12 x 2 H >

Staffe:  $\phi$  8 4br.x2br./10.0' x 49.7/ $\phi$  8 4br.x2br./15.0' x 198.7/ $\phi$  8 4br.x2br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
559	15	-7321	-1826	-2808	1.00	1.00	0.31
459	15	-8290	1921	3738	1.00	1.00	0.37

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	3055	27190	6381	18906	$\phi$ 8 4br.x2br./10.0'
0.622	2.608	3055	18127	6381	12604	$\phi$ 8 4br.x2br./15.0'
2.608	3.105	3055	27190	6381	18906	$\phi$ 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare					
559	Ft. 19	-10504	-30	-2046	397.9
	$\sigma_{s,c}19$	-10504	-30	-2046	-404.4

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Max</sub> 19	-10504	-30	-2046	-35.2
	σ <sub>cls,Med</sub> 19	-10504	-30	-2046	-17.3
459	Ft. 19	-11473	82	1227	66.5
	σ <sub>s,c</sub> 19	-11473	82	1227	-283.7
	σ <sub>cls,Max</sub> 19	-11473	82	1227	-22.6
	σ <sub>cls,Med</sub> 19	-11473	82	1227	-10.7
Combinazioni Frequenti					
559	Ft. 21	-9737	-13	-1837	339.2
	σ <sub>s,c</sub> 21	-9737	-13	-1837	-361.9
	σ <sub>cls,Max</sub> 21	-9737	-13	-1837	-31.3
	σ <sub>cls,Med</sub> 21	-9737	-13	-1837	-15.5
459	Ft. 21	-10706	65	1126	55.2
	σ <sub>s,c</sub> 21	-10706	65	1126	-259.8
	σ <sub>cls,Max</sub> 21	-10706	65	1126	-20.7
	σ <sub>cls,Med</sub> 21	-10706	65	1126	-9.8
Combinazioni Quasi Permanenti					
559	Ft. 23	-9547	-8	-1784	324.1
	σ <sub>s,c</sub> 23	-9547	-8	-1784	-351.0
	σ <sub>cls,Max</sub> 23	-9547	-8	-1784	-30.3
	σ <sub>cls,Med</sub> 23	-9547	-8	-1784	-15.1
459	Ft. 23	-10516	60	1095	50.6
	σ <sub>s,c</sub> 23	-10516	60	1095	-252.8
	σ <sub>cls,Max</sub> 23	-10516	60	1095	-20.1
	σ <sub>cls,Med</sub> 23	-10516	60	1095	-9.6

Pilastro: 161/61 / L 3.700[m] / Sezione 34 B 30 [cm]H 40 [cm]

Af: 4 ø 18 + 6 ø 14 Af=19.42 [cm²] < 1ø18 x 4 V + 1ø14 x 2 B + 2ø14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 51.0/ø 8 2br.x4br./15.0' x 268.0/ø 8 2br.x4br./10.0' x 51.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
161	1	-108373	-1934	-754	1.00	1.00	0.46
61	1	-109913	48	2221	1.00	1.00	0.50

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.635	8161	18375	3775	26128	ø 8 2br.x4br./10.0'
0.635	3.315	8161	12250	3775	17419	ø 8 2br.x4br./15.0'
3.315	3.825	8161	18375	3775	26128	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

161	Ft. 20	-79585	-1367	-543	-588.2
	σ <sub>s,c</sub> 19	-81620	-1448	-565	-1044.5
	σ <sub>cls,Max</sub> 19	-81620	-1448	-565	-76.6
	σ <sub>cls,Med</sub> 19	-81620	-1448	-565	-54.7

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
61	Ft. 20	-80770	-2	1630	-604.1
	σ <sub>s,c</sub> 19	-82805	27	1673	-1047.6
	σ <sub>cls,Max</sub> 19	-82805	27	1673	-78.3
	σ <sub>cls,Med</sub> 19	-82805	27	1673	-55.5
Combinazioni Frequenti					
161	Ft. 22	-73793	-1265	-493	-546.9
	σ <sub>s,c</sub> 21	-75430	-1318	-510	-961.7
	σ <sub>cls,Max</sub> 21	-75430	-1318	-510	-70.4
	σ <sub>cls,Med</sub> 21	-75430	-1318	-510	-50.6
61	Ft. 22	-74978	-21	1514	-560.0
	σ <sub>s,c</sub> 21	-76615	-4	1548	-968.6
	σ <sub>cls,Max</sub> 21	-76615	-4	1548	-72.2
	σ <sub>cls,Med</sub> 21	-76615	-4	1548	-51.4
Combinazioni Quasi Permanenti					
161	Ft. 23	-73374	-1266	-490	-543.0
	σ <sub>s,c</sub> 23	-73374	-1266	-490	-933.1
	σ <sub>cls,Max</sub> 23	-73374	-1266	-490	-68.3
	σ <sub>cls,Med</sub> 23	-73374	-1266	-490	-49.2
61	Ft. 23	-74559	-19	1506	-556.9
	σ <sub>s,c</sub> 23	-74559	-19	1506	-943.1
	σ <sub>cls,Max</sub> 23	-74559	-19	1506	-70.4
	σ <sub>cls,Med</sub> 23	-74559	-19	1506	-50.0

Pilastro: 161/261 / L 3.120[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm²] < 1ø18 x 4 V + 0ø12 x 2 B + 2ø14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 52.0/ø 8 2br.x4br./15.0' x 208.0/ø 8 2br.x4br./10.0' x 52.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
161	14	-50763	7975	611	1.00	1.00	0.52
261	14	-49752	-6644	-94	1.00	1.00	0.44

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.645	7037	18906	205	27190	ø 8 2br.x4br./10.0'
0.645	2.725	7037	12604	205	18127	ø 8 2br.x4br./15.0'
2.725	3.245	7037	18906	205	27190	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

161	Ft. 19	-60377	3058	380	-222.2
	σ <sub>s,c</sub> 19	-60377	3058	380	-1031.2
	σ <sub>cls,Max</sub> 19	-60377	3058	380	-77.5
	σ <sub>cls,Med</sub> 19	-60377	3058	380	-41.8
261	Ft. 20	-58163	-3030	-88	-241.2
	σ <sub>s,c</sub> 19	-59366	-3107	-97	-988.8



COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Max</sub> 19	-59366	-3107	-97	-73.7
	σ <sub>cls,Med</sub> 19	-59366	-3107	-97	-41.1
Combinazioni Frequenti					
161	Ft. 22	-54424	2744	365	-198.7
	σ <sub>s,c</sub> 21	-55512	2820	369	-951.8
	σ <sub>cls,Max</sub> 21	-55512	2820	369	-71.6
	σ <sub>cls,Med</sub> 21	-55512	2820	369	-38.4
261	Ft. 22	-53413	-2784	-93	-219.7
	σ <sub>s,c</sub> 21	-54501	-2848	-98	-908.5
	σ <sub>cls,Max</sub> 21	-54501	-2848	-98	-67.7
	σ <sub>cls,Med</sub> 21	-54501	-2848	-98	-37.7
Combinazioni Quasi Permanenti					
161	Ft. 23	-53995	2735	365	-195.4
	σ <sub>s,c</sub> 23	-53995	2735	365	-925.6
	σ <sub>cls,Max</sub> 23	-53995	2735	365	-69.7
	σ <sub>cls,Med</sub> 23	-53995	2735	365	-37.4
261	Ft. 23	-52984	-2764	-96	-217.2
	σ <sub>s,c</sub> 23	-52984	-2764	-96	-882.7
	σ <sub>cls,Max</sub> 23	-52984	-2764	-96	-65.8
	σ <sub>cls,Med</sub> 23	-52984	-2764	-96	-36.7

Pilastro: 261/361 / L 2.980[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm²] < 1ø18 x 4 V + 0ø12 x 2 B + 2ø14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 49.7/ø 8 2br.x4br./15.0' x 198.7/ø 8 2br.x4br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
261	14	-31439	-8960	15	1.00	1.00	0.59
361	14	-30470	8432	0	1.00	1.00	0.55

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	7436	18906	303	27190	ø 8 2br.x4br./10.0'
0.622	2.608	7436	12604	303	18127	ø 8 2br.x4br./15.0'
2.608	3.105	7436	18906	303	27190	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

261	Ft. 20	-36906	-2882	124	-26.4
	σ <sub>s,c</sub> 19	-37661	-2952	116	-751.2
	σ <sub>cls,Max</sub> 19	-37661	-2952	116	-57.7
	σ <sub>cls,Med</sub> 19	-37661	-2952	116	-28.0
361	Ft. 19	-36692	2795	-16	-51.8
	σ <sub>s,c</sub> 19	-36692	2795	-16	-707.8
	σ <sub>cls,Max</sub> 19	-36692	2795	-16	-53.9
	σ <sub>cls,Med</sub> 19	-36692	2795	-16	-26.9

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Combinazioni Frequenti					
261	Ft. 22	-33642	-2666	108	-18.9
	$\sigma_{s,c}21$	-34350	-2724	105	-689.2
	$\sigma_{cls,Max}21$	-34350	-2724	105	-52.9
	$\sigma_{cls,Med}21$	-34350	-2724	105	-25.8
361	Ft. 21	-33381	2598	-11	-39.7
	$\sigma_{s,c}21$	-33381	2598	-11	-650.5
	$\sigma_{cls,Max}21$	-33381	2598	-11	-49.6
	$\sigma_{cls,Med}21$	-33381	2598	-11	-24.7
Combinazioni Quasi Permanenti					
261	Ft. 23	-33334	-2650	104	-17.9
	$\sigma_{s,c}23$	-33334	-2650	104	-669.9
	$\sigma_{cls,Max}23$	-33334	-2650	104	-51.5
	$\sigma_{cls,Med}23$	-33334	-2650	104	-25.0
361	Ft. 23	-32365	2523	-11	-37.8
	$\sigma_{s,c}23$	-32365	2523	-11	-631.2
	$\sigma_{cls,Max}23$	-32365	2523	-11	-48.2
	$\sigma_{cls,Med}23$	-32365	2523	-11	-24.0

Pilastro: 361/461 / L 2.980[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4  $\phi$  18 + 4  $\phi$  14 Af=16.34 [cm<sup>2</sup>] < 1 $\phi$ 18 x 4 V + 0 $\phi$ 12 x 2 B + 2 $\phi$ 14 x 2 H >

Staffe:  $\phi$  8 2br.x4br./10.0' x 49.7/ $\phi$  8 2br.x4br./15.0' x 198.7/ $\phi$  8 2br.x4br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
361	14	-14703	8456	228	1.00	1.00	0.66
461	14	-13734	-10044	-217	1.00	1.00	0.82

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	7962	18906	149	27190	$\phi$ 8 2br.x4br./10.0'
0.622	2.608	7962	12604	149	18127	$\phi$ 8 2br.x4br./15.0'
2.608	3.105	7962	18906	149	27190	$\phi$ 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare

361	Ft. 19	-17705	3109	58	524.5
	$\sigma_{s,c}19$	-17705	3109	58	-627.1
	$\sigma_{cls,Max}19$	-17705	3109	58	-53.7
	$\sigma_{cls,Med}19$	-17705	3109	58	-26.3
461	Ft. 19	-16736	-3697	-48	831.9
	$\sigma_{s,c}19$	-16736	-3697	-48	-715.5
	$\sigma_{cls,Max}19$	-16736	-3697	-48	-63.7
	$\sigma_{cls,Med}19$	-16736	-3697	-48	-31.3

Combinazioni Frequenti

361	Ft. 21	-15585	2819	57	498.2
	$\sigma_{s,c}21$	-15585	2819	57	-566.9

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Max</sub> 21	-15585	2819	57	-48.8
	σ <sub>cls,Med</sub> 21	-15585	2819	57	-23.8
461	Ft. 21	-14616	-3264	-43	743.0
	σ <sub>s,c</sub> 21	-14616	-3264	-43	-630.8
	σ <sub>cls,Max</sub> 21	-14616	-3264	-43	-56.2
	σ <sub>cls,Med</sub> 21	-14616	-3264	-43	-27.6
Combinazioni Quasi Permanenti					
361	Ft. 23	-15061	2724	57	481.7
	σ <sub>s,c</sub> 23	-15061	2724	57	-548.2
	σ <sub>cls,Max</sub> 23	-15061	2724	57	-47.2
	σ <sub>cls,Med</sub> 23	-15061	2724	57	-23.0
461	Ft. 23	-14092	-3145	-43	715.6
	σ <sub>s,c</sub> 23	-14092	-3145	-43	-608.1
	σ <sub>cls,Max</sub> 23	-14092	-3145	-43	-54.2
	σ <sub>cls,Med</sub> 23	-14092	-3145	-43	-26.6

Pilastro: 62/162 / L 3.700[m] / Sezione 42 B 40 [cm]H 60 [cm]

Af: 12 ø 18 Af=30.54 [cm²] < 1φ18 x 4 V + 2φ18 x 2 B + 2φ18 x 2 H >

Staffe: ø 8 4br./12.5' x 50.0/ø 8 4br./20.0' x 270.0/ø 8 4br./12.5' x 50.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
62	15	-128062	12289	126	1.00	1.00	0.38
162	1	-168416	1920	-151	1.00	1.00	0.35

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.625	17096	46393	8862	29399	ø 8 4br./12.5'
0.625	3.325	17096	28996	8862	18375	ø 8 4br./20.0'
3.325	3.825	17096	46393	8862	29399	ø 8 4br./12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

62	Ft. 20	-124215	1265	95	-596.0
	σ <sub>s,c</sub> 19	-128615	1241	104	-730.5
	σ <sub>cls,Max</sub> 19	-128615	1241	104	-49.6
	σ <sub>cls,Med</sub> 19	-128615	1241	104	-45.0
162	Ft. 20	-121845	1276	-111	-582.3
	σ <sub>s,c</sub> 19	-126245	1410	-114	-725.4
	σ <sub>cls,Max</sub> 19	-126245	1410	-114	-49.4
	σ <sub>cls,Med</sub> 19	-126245	1410	-114	-44.2

Combinazioni Frequenti

62	Ft. 22	-113731	1254	82	-542.1
	σ <sub>s,c</sub> 21	-117084	1242	89	-669.1
	σ <sub>cls,Max</sub> 21	-117084	1242	89	-45.5
	σ <sub>cls,Med</sub> 21	-117084	1242	89	-41.0

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
162	Ft. 22	-111361	1106	-104	-534.4
	σ <sub>s,c</sub> 21	-114714	1195	-107	-655.8
	σ <sub>cls,Max</sub> 21	-114714	1195	-107	-44.6
	σ <sub>cls,Med</sub> 21	-114714	1195	-107	-40.1
Combinazioni Quasi Permanenti					
62	Ft. 23	-113101	1248	82	-539.0
	σ <sub>s,c</sub> 23	-113101	1248	82	-648.1
	σ <sub>cls,Max</sub> 23	-113101	1248	82	-44.1
	σ <sub>cls,Med</sub> 23	-113101	1248	82	-39.6
162	Ft. 23	-110731	1108	-104	-531.0
	σ <sub>s,c</sub> 23	-110731	1108	-104	-631.3
	σ <sub>cls,Max</sub> 23	-110731	1108	-104	-42.9
	σ <sub>cls,Med</sub> 23	-110731	1108	-104	-38.7

Pilastro: 162/262 / L 3.120[m] / Sezione 12 B 40 [cm]H 60 [cm]  
Af: 12 ø 18 Af=30.54 [cm²] < 1ø18 x 4 V + 2ø18 x 2 B + 2ø18 x 2 H >  
Staffe: ø 8 4br./12.5' x 50.0/ø 8 4br./20.0' x 212.0/ø 8 4br./12.5' x 50.0  
Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
162	14	-76744	17363	693	1.00	1.00	0.37
262	1	-133377	-11605	270	1.00	1.00	0.38

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.625	12831	47243	516	30249	ø 8 4br./12.5'
0.625	2.745	12831	29527	516	18906	ø 8 4br./20.0'
2.745	3.245	12831	47243	516	30249	ø 8 4br./12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

162	Ft. 20	-98772	5345	-154	-290.5
	σ <sub>s,c</sub> 19	-101925	5637	-152	-774.7
	σ <sub>cls,Max</sub> 19	-101925	5637	-152	-54.7
	σ <sub>cls,Med</sub> 19	-101925	5637	-152	-35.7
262	Ft. 19	-99903	-8665	206	-157.4
	σ <sub>s,c</sub> 19	-99903	-8665	206	-891.2
	σ <sub>cls,Max</sub> 19	-99903	-8665	206	-64.1
	σ <sub>cls,Med</sub> 19	-99903	-8665	206	-35.0

Combinazioni Frequenti

162	Ft. 22	-89825	4903	-156	-261.5
	σ <sub>s,c</sub> 21	-92358	5103	-155	-702.8
	σ <sub>cls,Max</sub> 21	-92358	5103	-155	-49.6
	σ <sub>cls,Med</sub> 21	-92358	5103	-155	-32.3
262	Ft. 22	-87803	-7478	195	-143.2
	σ <sub>s,c</sub> 21	-90336	-7787	198	-804.6

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Max</sub> 21	-90336	-7787	198	-57.8
	σ <sub>cls,Med</sub> 21	-90336	-7787	198	-31.6
Combinazioni Quasi Permanenti					
162	Ft. 23	-89178	4896	-156	-258.4
	σ <sub>s,c</sub> 23	-89178	4896	-156	-677.7
	σ <sub>cls,Max</sub> 23	-89178	4896	-156	-47.8
	σ <sub>cls,Med</sub> 23	-89178	4896	-156	-31.2
262	Ft. 23	-87156	-7457	195	-140.6
	σ <sub>s,c</sub> 23	-87156	-7457	195	-774.2
	σ <sub>cls,Max</sub> 23	-87156	-7457	195	-55.6
	σ <sub>cls,Med</sub> 23	-87156	-7457	195	-30.5

Pilastro: 262/362 / L 2.980[m] / Sezione 12 B 40 [cm]H 60 [cm]

Af: 12 ø 18 Af=30.54 [cm²] < 1ø18 x 4 V + 2ø18 x 2 B + 2ø18 x 2 H >

Staffe: ø 8 4br./12.5' x 49.0/ø 8 4br./20.0' x 200.0/ø 8 4br./12.5' x 49.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
262	14	-50956	-26200	2	1.00	1.00	0.59
362	14	-49018	21712	-245	1.00	1.00	0.47

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.615	18314	47243	824	30249	ø 8 4br./12.5'
0.615	2.615	18314	29527	824	18906	ø 8 4br./20.0'
2.615	3.105	18314	47243	824	30249	ø 8 4br./12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

262	Ft. 19	-67812	-9674	317	90.0
	σ <sub>s,c</sub> 19	-67812	-9674	317	-783.4
	σ <sub>cls,Max</sub> 19	-67812	-9674	317	-57.8
	σ <sub>cls,Med</sub> 19	-67812	-9674	317	-28.0
362	Ft. 19	-65874	8386	-265	22.8
	σ <sub>s,c</sub> 19	-65874	8386	-265	-709.0
	σ <sub>cls,Max</sub> 19	-65874	8386	-265	-51.9
	σ <sub>cls,Med</sub> 19	-65874	8386	-265	-25.3

Combinazioni Frequenti

262	Ft. 21	-60844	-8811	297	90.5
	σ <sub>s,c</sub> 21	-60844	-8811	297	-710.3
	σ <sub>cls,Max</sub> 21	-60844	-8811	297	-52.5
	σ <sub>cls,Med</sub> 21	-60844	-8811	297	-25.4
362	Ft. 21	-58906	7733	-256	34.9
	σ <sub>s,c</sub> 21	-58906	7733	-256	-646.2
	σ <sub>cls,Max</sub> 21	-58906	7733	-256	-47.4
	σ <sub>cls,Med</sub> 21	-58906	7733	-256	-23.0

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Combinazioni Quasi Permanenti					
262	Ft. 23	-58718	-8456	289	84.3
	$\sigma_{s,c23}$	-58718	-8456	289	-683.3
	$\sigma_{cls,Max23}$	-58718	-8456	289	-50.5
	$\sigma_{cls,Med23}$	-58718	-8456	289	-24.4
362	Ft. 23	-56780	7421	-250	32.0
	$\sigma_{s,c23}$	-56780	7421	-250	-621.6
	$\sigma_{cls,Max23}$	-56780	7421	-250	-45.6
	$\sigma_{cls,Med23}$	-56780	7421	-250	-22.1

Pilastro: 362/462 / L 2.980[m] / Sezione 12 B 40 [cm]H 60 [cm]  
 Af: 12  $\phi$  18 Af=30.54 [cm<sup>2</sup>] < 1 $\phi$ 18 x 4 V + 2 $\phi$ 18 x 2 B + 2 $\phi$ 18 x 2 H >  
 Staffe:  $\phi$  8 4br./12.5' x 49.0/ $\phi$  8 4br./20.0' x 200.0/ $\phi$  8 4br./12.5' x 49.0  
 Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
362	14	-26477	20964	-303	1.00	1.00	0.52
462	14	-24539	-30458	-7	1.00	1.00	0.82

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.615	22113	47243	473	30249	$\phi$ 8 4br./12.5'
0.615	2.615	22113	29527	473	18906	$\phi$ 8 4br./20.0'
2.615	3.105	22113	47243	473	30249	$\phi$ 8 4br./12.5'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare					
362	Ft. 19	-34283	10830	-316	760.8
	$\sigma_{s,c19}$	-34283	10830	-316	-756.2
	$\sigma_{cls,Max19}$	-34283	10830	-316	-60.1
	$\sigma_{cls,Med19}$	-34283	10830	-316	-28.7
462	Ft. 19	-32345	-15438	372	1532.3
	$\sigma_{s,c19}$	-32345	-15438	372	-1023.7
	$\sigma_{cls,Max19}$	-32345	-15438	372	-84.4
	$\sigma_{cls,Med19}$	-32345	-15438	372	-40.4

Combinazioni Frequenti					
362	Ft. 21	-29807	9556	-292	683.8
	$\sigma_{s,c21}$	-29807	9556	-292	-667.4
	$\sigma_{cls,Max21}$	-29807	9556	-292	-53.1
	$\sigma_{cls,Med21}$	-29807	9556	-292	-25.3
462	Ft. 21	-27869	-13175	331	1301.4
	$\sigma_{s,c21}$	-27869	-13175	331	-876.0
	$\sigma_{cls,Max21}$	-27869	-13175	331	-72.2
	$\sigma_{cls,Med21}$	-27869	-13175	331	-34.5

Combinazioni Quasi Permanenti					
362	Ft. 23	-28710	9143	-283	649.8
	$\sigma_{s,c23}$	-28710	9143	-283	-639.4

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Max</sub> 23	-28710	9143	-283	-50.8
	σ <sub>cls,Med</sub> 23	-28710	9143	-283	-24.2
462	Ft. 23	-26772	-12584	321	1239.1
	σ <sub>s,c</sub> 23	-26772	-12584	321	-837.8
	σ <sub>cls,Max</sub> 23	-26772	-12584	321	-69.0
	σ <sub>cls,Med</sub> 23	-26772	-12584	321	-33.0

Pilastro: 163/63 / L 3.700[m] / Sezione 34 B 30 [cm]H 40 [cm]

Af: 4 ø 24 + 6 ø 14 Af=27.33 [cm²] < 1φ24 x 4 V + 1φ14 x 2 B + 2φ14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 51.0/ø 8 2br.x4br./15.0' x 268.0/ø 8 2br.x4br./10.0' x 51.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
163	1	-97429	708	-207	1.00	1.00	0.35
63	15	-81562	4281	777	1.00	1.00	0.39

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.635	8107	18375	4519	26128	ø 8 2br.x4br./10.0'
0.635	3.315	8107	12250	4519	17419	ø 8 2br.x4br./15.0'
3.315	3.825	8107	18375	4519	26128	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

163	Ft. 20	-71398	489	-151	-602.7
	σ <sub>s,c</sub> 19	-73419	525	-155	-750.5
	σ <sub>cls,Max</sub> 19	-73419	525	-155	-52.2
	σ <sub>cls,Med</sub> 19	-73419	525	-155	-45.6
63	Ft. 20	-72583	346	834	-550.4
	σ <sub>s,c</sub> 19	-74604	339	852	-822.3
	σ <sub>cls,Max</sub> 19	-74604	339	852	-60.0
	σ <sub>cls,Med</sub> 19	-74604	339	852	-46.3

Combinazioni Frequenti

163	Ft. 22	-66550	439	-139	-563.4
	σ <sub>s,c</sub> 21	-68093	464	-143	-693.7
	σ <sub>cls,Max</sub> 21	-68093	464	-143	-48.2
	σ <sub>cls,Med</sub> 21	-68093	464	-143	-42.3
63	Ft. 22	-67735	344	791	-510.2
	σ <sub>s,c</sub> 21	-69278	341	805	-767.5
	σ <sub>cls,Max</sub> 21	-69278	341	805	-56.1
	σ <sub>cls,Med</sub> 21	-69278	341	805	-43.0

Combinazioni Quasi Permanenti

163	Ft. 23	-66257	439	-139	-560.8
	σ <sub>s,c</sub> 23	-66257	439	-139	-673.8
	σ <sub>cls,Max</sub> 23	-66257	439	-139	-46.8
	σ <sub>cls,Med</sub> 23	-66257	439	-139	-41.2

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
63	Ft. 23	-67442	343	788	-507.9
	σ <sub>s,c</sub> 23	-67442	343	788	-748.8
	σ <sub>cls,Max</sub> 23	-67442	343	788	-54.8
	σ <sub>cls,Med</sub> 23	-67442	343	788	-41.9

Pilastro: 163/263 / L 3.120[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4 ø 24 + 4 ø 14 Af=24.25 [cm²] < 1ø24 x 4 V + 0ø12 x 2 B + 2ø14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 52.0/ø 8 2br.x4br./15.0' x 208.0/ø 8 2br.x4br./10.0' x 52.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
163	14	-41558	8684	-195	1.00	1.00	0.43
263	1	-77495	-6167	265	1.00	1.00	0.44

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.645	7434	18906	237	27190	ø 8 2br.x4br./10.0'
0.645	2.725	7434	12604	237	18127	ø 8 2br.x4br./15.0'
2.725	3.245	7434	18906	237	27190	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

163	Ft. 20	-57874	2764	-380	-232.1
	σ <sub>s,c</sub> 19	-59357	2871	-384	-903.6
	σ <sub>cls,Max</sub> 19	-59357	2871	-384	-68.2
	σ <sub>cls,Med</sub> 19	-59357	2871	-384	-38.0
263	Ft. 19	-58346	-4645	203	-62.4
	σ <sub>s,c</sub> 19	-58346	-4645	203	-1053.7
	σ <sub>cls,Max</sub> 19	-58346	-4645	203	-81.5
	σ <sub>cls,Med</sub> 19	-58346	-4645	203	-39.5

Combinazioni Frequenti

163	Ft. 22	-53675	2598	-371	-209.7
	σ <sub>s,c</sub> 21	-54865	2672	-374	-839.2
	σ <sub>cls,Max</sub> 21	-54865	2672	-374	-63.4
	σ <sub>cls,Med</sub> 21	-54865	2672	-374	-35.1
263	Ft. 21	-53854	-4313	199	-53.0
	σ <sub>s,c</sub> 21	-53854	-4313	199	-976.8
	σ <sub>cls,Max</sub> 21	-53854	-4313	199	-75.7
	σ <sub>cls,Med</sub> 21	-53854	-4313	199	-36.6

Combinazioni Quasi Permanenti

163	Ft. 23	-53372	2595	-370	-207.2
	σ <sub>s,c</sub> 23	-53372	2595	-370	-816.7
	σ <sub>cls,Max</sub> 23	-53372	2595	-370	-61.7
	σ <sub>cls,Med</sub> 23	-53372	2595	-370	-34.1
263	Ft. 23	-52361	-4187	197	-51.8
	σ <sub>s,c</sub> 23	-52361	-4187	197	-949.5



COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Max</sub> 23	-52361	-4187	197	-73.5
	σ <sub>cls,Med</sub> 23	-52361	-4187	197	-35.6

Pilastro: 263/363 / L 2.980[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4 ø 24 + 4 ø 14 Af=24.25 [cm²] < 1φ24 x 4 V + 0φ12 x 2 B + 2φ14 x 2 H >

Staffe: ø 8 2br.x4br./10.0' x 49.7/ø 8 2br.x4br./15.0' x 198.7/ø 8 2br.x4br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
263	14	-26515	-14051	4	1.00	1.00	0.76
363	14	-25546	12998	-124	1.00	1.00	0.70

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	10909	18906	250	27190	ø 8 2br.x4br./10.0'
0.622	2.608	10909	12604	250	18127	ø 8 2br.x4br./15.0'
2.608	3.105	10909	18906	250	27190	ø 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

263	Ft. 19	-38260	-5986	92	547.2
	σ <sub>s,c</sub> 19	-38260	-5986	92	-1049.8
	σ <sub>cls,Max</sub> 19	-38260	-5986	92	-87.9
	σ <sub>cls,Med</sub> 19	-38260	-5986	92	-43.2
363	Ft. 19	-37291	5629	-128	486.7
	σ <sub>s,c</sub> 19	-37291	5629	-128	-1002.9
	σ <sub>cls,Max</sub> 19	-37291	5629	-128	-83.6
	σ <sub>cls,Med</sub> 19	-37291	5629	-128	-40.8

Combinazioni Frequenti

263	Ft. 21	-34991	-5603	91	535.6
	σ <sub>s,c</sub> 21	-34991	-5603	91	-978.0
	σ <sub>cls,Max</sub> 21	-34991	-5603	91	-82.2
	σ <sub>cls,Med</sub> 21	-34991	-5603	91	-40.4
363	Ft. 21	-34022	5296	-128	487.4
	σ <sub>s,c</sub> 21	-34022	5296	-128	-937.7
	σ <sub>cls,Max</sub> 21	-34022	5296	-128	-78.6
	σ <sub>cls,Med</sub> 21	-34022	5296	-128	-38.3

Combinazioni Quasi Permanenti

263	Ft. 23	-33995	-5451	91	522.6
	σ <sub>s,c</sub> 23	-33995	-5451	91	-951.5
	σ <sub>cls,Max</sub> 23	-33995	-5451	91	-80.0
	σ <sub>cls,Med</sub> 23	-33995	-5451	91	-39.3
363	Ft. 23	-33026	5154	-129	477.2
	σ <sub>s,c</sub> 23	-33026	5154	-129	-912.6
	σ <sub>cls,Max</sub> 23	-33026	5154	-129	-76.5
	σ <sub>cls,Med</sub> 23	-33026	5154	-129	-37.2

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Pilastro: 363/463 / L 2.980[m] / Sezione 4 B 30 [cm]H 40 [cm]

Af: 4  $\phi$  24 + 4  $\phi$  14 Af=24.25 [cm<sup>2</sup>] < 1 $\phi$ 24 x 4 V + 0 $\phi$ 12 x 2 B + 2 $\phi$ 14 x 2 H >

Staffe:  $\phi$  8 2br.x4br./10.0' x 49.7/ $\phi$  8 2br.x4br./15.0' x 198.7/ $\phi$  8 2br.x4br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
363	14	-12882	12851	-168	1.00	1.00	0.77
463	14	-11913	-15215	120	1.00	1.00	0.93

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	11286	18906	159	27190	$\phi$ 8 2br.x4br./10.0'
0.622	2.608	11286	12604	159	18127	$\phi$ 8 2br.x4br./15.0'
2.608	3.105	11286	18906	159	27190	$\phi$ 8 2br.x4br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare

363	Ft. 19	-17869	6188	-171	1291.3
	$\sigma_{s,c}19$	-17869	6188	-171	-936.6
	$\sigma_{cls,Max}19$	-17869	6188	-171	-87.6
	$\sigma_{cls,Med}19$	-17869	6188	-171	-42.1
463	Ft. 19	-16900	-7263	164	1664.6
	$\sigma_{s,c}19$	-16900	-7263	164	-1056.1
	$\sigma_{cls,Max}19$	-16900	-7263	164	-101.0
	$\sigma_{cls,Med}19$	-16900	-7263	164	-48.9

Combinazioni Frequenti

363	Ft. 21	-15744	5655	-167	1204.5
	$\sigma_{s,c}21$	-15744	5655	-167	-852.9
	$\sigma_{cls,Max}21$	-15744	5655	-167	-80.1
	$\sigma_{cls,Med}21$	-15744	5655	-167	-38.4
463	Ft. 21	-14775	-6453	158	1490.7
	$\sigma_{s,c}21$	-14775	-6453	158	-938.4
	$\sigma_{cls,Max}21$	-14775	-6453	158	-89.9
	$\sigma_{cls,Med}21$	-14775	-6453	158	-43.4

Combinazioni Quasi Permanenti

363	Ft. 23	-15224	5484	-165	1170.2
	$\sigma_{s,c}23$	-15224	5484	-165	-827.4
	$\sigma_{cls,Max}23$	-15224	5484	-165	-77.7
	$\sigma_{cls,Med}23$	-15224	5484	-165	-37.3
463	Ft. 23	-14255	-6234	156	1441.7
	$\sigma_{s,c}23$	-14255	-6234	156	-907.1
	$\sigma_{cls,Max}23$	-14255	-6234	156	-86.9
	$\sigma_{cls,Med}23$	-14255	-6234	156	-41.9

Pilastro: 64/164 / L 3.700[m] / Sezione 40 B 40 [cm]H 25 [cm]

Af: 4  $\phi$  18 + 4  $\phi$  14 Af=16.34 [cm<sup>2</sup>] < 1 $\phi$ 18 x 4 V + 2 $\phi$ 14 x 2 B + 0 $\phi$ 12 x 2 H >

Staffe:  $\phi$  8 4br.x2br./10.0' x 51.0/ $\phi$  8 4br.x2br./15.0' x 268.0/ $\phi$  8 4br.x2br./10.0' x 51.0

Verifiche a Presso-Flessione S.L.U.

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
64	7	-41256	19	4544	1.00	1.00	0.37
164	14	-48154	708	-382	1.00	1.00	0.26

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.635	3424	20818	4529	18375	ø 8 4br.x2br./10.0'
0.635	3.315	3424	13878	4529	12250	ø 8 4br.x2br./15.0'
3.315	3.825	3424	20818	4529	18375	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

64	Ft. 19	-38627	-32	2277	-167.2
	σ <sub>s,c</sub> 19	-38627	-32	2277	-763.6
	σ <sub>cls,Max</sub> 19	-38627	-32	2277	-59.0
	σ <sub>cls,Med</sub> 19	-38627	-32	2277	-31.0
164	Ft. 20	-36994	245	259	-373.1
	σ <sub>s,c</sub> 19	-37640	265	235	-526.1
	σ <sub>cls,Max</sub> 19	-37640	265	235	-38.2
	σ <sub>cls,Med</sub> 19	-37640	265	235	-30.2

Combinazioni Frequenti

64	Ft. 22	-36083	12	2051	-169.0
	σ <sub>s,c</sub> 21	-36608	2	2099	-711.3
	σ <sub>cls,Max</sub> 21	-36608	2	2099	-54.6
	σ <sub>cls,Med</sub> 21	-36608	2	2099	-29.4
164	Ft. 22	-35096	200	321	-349.4
	σ <sub>s,c</sub> 21	-35621	215	302	-502.5
	σ <sub>cls,Max</sub> 21	-35621	215	302	-36.5
	σ <sub>cls,Med</sub> 21	-35621	215	302	-28.6

Combinazioni Quasi Permanenti

64	Ft. 23	-35942	13	2039	-168.5
	σ <sub>s,c</sub> 23	-35942	13	2039	-697.5
	σ <sub>cls,Max</sub> 23	-35942	13	2039	-53.6
	σ <sub>cls,Med</sub> 23	-35942	13	2039	-28.9
164	Ft. 23	-34955	198	325	-347.6
	σ <sub>s,c</sub> 23	-34955	198	325	-494.6
	σ <sub>cls,Max</sub> 23	-34955	198	325	-35.9
	σ <sub>cls,Med</sub> 23	-34955	198	325	-28.1

Pilastro: 164/264 / L 3.120[m] / Sezione 10 B 40 [cm]H 25 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm²] < 1φ18 x 4 V + 2φ14 x 2 B + 0φ12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 52.0/ø 8 4br.x2br./15.0' x 208.0/ø 8 4br.x2br./10.0' x 52.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
164	14	-37844	2523	3423	1.00	1.00	0.44
264	14	-37002	-2333	-2367	1.00	1.00	0.38

Verifiche a Taglio

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.645	2726	21880	2136	18906	ø 8 4br.x2br./10.0'
0.645	2.725	2726	14586	2136	12604	ø 8 4br.x2br./15.0'
2.725	3.245	2726	21880	2136	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

164	Ft. 19	-29129	617	2682	181.2
	σ <sub>s,c</sub> 19	-29129	617	2682	-848.0
	σ <sub>cls,Max</sub> 19	-29129	617	2682	-69.5
	σ <sub>cls,Med</sub> 19	-29129	617	2682	-28.7
264	Ft. 19	-28287	-745	-2219	128.3
	σ <sub>s,c</sub> 19	-28287	-745	-2219	-788.5
	σ <sub>cls,Max</sub> 19	-28287	-745	-2219	-64.8
	σ <sub>cls,Med</sub> 19	-28287	-745	-2219	-26.3

Combinazioni Frequenti

164	Ft. 22	-27083	523	2632	189.3
	σ <sub>s,c</sub> 21	-27476	544	2643	-811.7
	σ <sub>cls,Max</sub> 21	-27476	544	2643	-66.5
	σ <sub>cls,Med</sub> 21	-27476	544	2643	-27.8
264	Ft. 21	-26634	-659	-2194	132.1
	σ <sub>s,c</sub> 21	-26634	-659	-2194	-751.1
	σ <sub>cls,Max</sub> 21	-26634	-659	-2194	-61.6
	σ <sub>cls,Med</sub> 21	-26634	-659	-2194	-25.1

Combinazioni Quasi Permanenti

164	Ft. 23	-26949	519	2630	190.7
	σ <sub>s,c</sub> 23	-26949	519	2630	-799.7
	σ <sub>cls,Max</sub> 23	-26949	519	2630	-65.6
	σ <sub>cls,Med</sub> 23	-26949	519	2630	-27.5
264	Ft. 23	-26106	-631	-2184	132.7
	σ <sub>s,c</sub> 23	-26106	-631	-2184	-738.7
	σ <sub>cls,Max</sub> 23	-26106	-631	-2184	-60.6
	σ <sub>cls,Med</sub> 23	-26106	-631	-2184	-24.7

Pilastro: 264/364 / L 2.980[m] / Sezione 10 B 40 [cm]H 25 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm²] < 1φ18 x 4 V + 2φ14 x 2 B + 0φ12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 49.7/ø 8 4br.x2br./15.0' x 198.7/ø 8 4br.x2br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
264	14	-23454	-3444	-2454	1.00	1.00	0.47
364	14	-22646	3364	2410	1.00	1.00	0.46

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	2773	21880	2693	18906	ø 8 4br.x2br./10.0'
0.622	2.608	2773	14586	2693	12604	ø 8 4br.x2br./15.0'

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
2.608	3.105	2773	21880	2693	18906	Ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

264	Ft. 19	-17978	-867	-1936	356.2
	σ <sub>s,c</sub> 19	-17978	-867	-1936	-695.2
	σ <sub>cls,Max</sub> 19	-17978	-867	-1936	-61.0
	σ <sub>cls,Med</sub> 19	-17978	-867	-1936	-21.9
364	Ft. 19	-17171	889	2082	443.4
	σ <sub>s,c</sub> 19	-17171	889	2082	-727.0
	σ <sub>cls,Max</sub> 19	-17171	889	2082	-64.6
	σ <sub>cls,Med</sub> 19	-17171	889	2082	-23.0

Combinazioni Frequenti

264	Ft. 21	-16859	-775	-1929	355.9
	σ <sub>s,c</sub> 21	-16859	-775	-1929	-664.7
	σ <sub>cls,Max</sub> 21	-16859	-775	-1929	-58.3
	σ <sub>cls,Med</sub> 21	-16859	-775	-1929	-21.1
364	Ft. 21	-16052	794	2073	444.8
	σ <sub>s,c</sub> 21	-16052	794	2073	-695.7
	σ <sub>cls,Max</sub> 21	-16052	794	2073	-61.9
	σ <sub>cls,Med</sub> 21	-16052	794	2073	-22.3

Combinazioni Quasi Permanenti

264	Ft. 23	-16512	-744	-1924	354.5
	σ <sub>s,c</sub> 23	-16512	-744	-1924	-654.3
	σ <sub>cls,Max</sub> 23	-16512	-744	-1924	-57.4
	σ <sub>cls,Med</sub> 23	-16512	-744	-1924	-20.9
364	Ft. 23	-15705	762	2067	443.6
	σ <sub>s,c</sub> 23	-15705	762	2067	-684.7
	σ <sub>cls,Max</sub> 23	-15705	762	2067	-60.9
	σ <sub>cls,Med</sub> 23	-15705	762	2067	-22.1

Pilastro: 364/464 / L 2.980[m] / Sezione 10 B 40 [cm]H 25 [cm]

Af: 4 Ø 18 + 4 Ø 14 Af=16.34 [cm²] < 1Ø18 x 4 V + 2Ø14 x 2 B + 0Ø12 x 2 H >

Staffe: Ø 8 4br.x2br./10.0' x 49.7/Ø 8 4br.x2br./15.0' x 198.7/Ø 8 4br.x2br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
364	14	-8769	3182	2648	1.00	1.00	0.52
464	14	-7962	-3406	-2482	1.00	1.00	0.54

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	3570	21880	3981	18906	Ø 8 4br.x2br./10.0'
0.622	2.608	3570	14586	3981	12604	Ø 8 4br.x2br./15.0'
2.608	3.105	3570	21880	3981	18906	Ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
Combinazioni Rare					
364	Ft. 19	-7138	909	2009	936.6
	σ <sub>s,c</sub> 19	-7138	909	2009	-681.9
	σ <sub>cls,Max</sub> 19	-7138	909	2009	-67.8
	σ <sub>cls,Med</sub> 19	-7138	909	2009	-22.7
464	Ft. 19	-6331	-939	-1811	912.6
	σ <sub>s,c</sub> 19	-6331	-939	-1811	-646.3
	σ <sub>cls,Max</sub> 19	-6331	-939	-1811	-65.1
	σ <sub>cls,Med</sub> 19	-6331	-939	-1811	-21.7
Combinazioni Frequenti					
364	Ft. 21	-6527	798	1983	908.4
	σ <sub>s,c</sub> 21	-6527	798	1983	-643.2
	σ <sub>cls,Max</sub> 21	-6527	798	1983	-63.9
	σ <sub>cls,Med</sub> 21	-6527	798	1983	-21.6
464	Ft. 21	-5719	-811	-1764	863.8
	σ <sub>s,c</sub> 21	-5719	-811	-1764	-599.7
	σ <sub>cls,Max</sub> 21	-5719	-811	-1764	-60.2
	σ <sub>cls,Med</sub> 21	-5719	-811	-1764	-20.1
Combinazioni Quasi Permanenti					
364	Ft. 23	-6367	763	1975	897.8
	σ <sub>s,c</sub> 23	-6367	763	1975	-630.9
	σ <sub>cls,Max</sub> 23	-6367	763	1975	-62.6
	σ <sub>cls,Med</sub> 23	-6367	763	1975	-21.3
464	Ft. 23	-5560	-773	-1753	849.4
	σ <sub>s,c</sub> 23	-5560	-773	-1753	-586.2
	σ <sub>cls,Max</sub> 23	-5560	-773	-1753	-58.8
	σ <sub>cls,Med</sub> 23	-5560	-773	-1753	-19.7

Pilastro: 65/165 / L 3.700[m] / Sezione 40 B 40 [cm]H 25 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm²] < 1ø18 x 4 V + 2ø14 x 2 B + 0ø12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 51.0/ø 8 4br.x2br./15.0' x 268.0/ø 8 4br.x2br./10.0' x 51.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
65	14	-77043	1536	-53	1.00	1.00	0.43
165	14	-76055	-1476	456	1.00	1.00	0.42

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.635	3723	20818	5649	18375	ø 8 4br.x2br./10.0'
0.635	3.315	3723	13878	5649	12250	ø 8 4br.x2br./15.0'
3.315	3.825	3723	20818	5649	18375	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Combinazioni Rare					
65	Ft. 20	-52309	478	-223	-524.9
	$\sigma_{s,c}19$	-53453	511	-228	-755.2
	$\sigma_{cls,Max}19$	-53453	511	-228	-55.7
	$\sigma_{cls,Med}19$	-53453	511	-228	-42.9
165	Ft. 20	-51321	-621	521	-451.8
	$\sigma_{s,c}19$	-52465	-664	526	-806.1
	$\sigma_{cls,Max}19$	-52465	-664	526	-61.5
	$\sigma_{cls,Med}19$	-52465	-664	526	-42.1
Combinazioni Frequenti					
65	Ft. 22	-49680	405	-214	-506.0
	$\sigma_{s,c}21$	-50543	430	-218	-705.8
	$\sigma_{cls,Max}21$	-50543	430	-218	-51.6
	$\sigma_{cls,Med}21$	-50543	430	-218	-40.6
165	Ft. 22	-48693	-533	509	-435.8
	$\sigma_{s,c}21$	-49556	-564	513	-753.4
	$\sigma_{cls,Max}21$	-49556	-564	513	-57.0
	$\sigma_{cls,Med}21$	-49556	-564	513	-39.8
Combinazioni Quasi Permanenti					
65	Ft. 23	-49530	401	-214	-504.9
	$\sigma_{s,c}23$	-49530	401	-214	-688.5
	$\sigma_{cls,Max}23$	-49530	401	-214	-50.2
	$\sigma_{cls,Med}23$	-49530	401	-214	-39.8
165	Ft. 23	-48542	-528	509	-434.7
	$\sigma_{s,c}23$	-48542	-528	509	-734.9
	$\sigma_{cls,Max}23$	-48542	-528	509	-55.5
	$\sigma_{cls,Med}23$	-48542	-528	509	-39.0

Pilastro: 165/265 / L 3.120[m] / Sezione 10 B 40 [cm]H 25 [cm]  
 Af:  $4 \phi 18 + 4 \phi 14$  Af=16.34 [cm<sup>2</sup>] <  $1 \phi 18 \times 4 V + 2 \phi 14 \times 2 B + 0 \phi 12 \times 2 H$  >  
 Staffe:  $\phi 8$  4br.x2br./10.0' x 52.0/ $\phi 8$  4br.x2br./15.0' x 208.0/ $\phi 8$  4br.x2br./10.0' x 52.0  
 Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
165	14	-57960	3482	-147	1.00	1.00	0.47
265	14	-57118	-3197	418	1.00	1.00	0.45

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.645	4317	21880	4110	18906	$\phi 8$ 4br.x2br./10.0'
0.645	2.725	4317	14586	4110	12604	$\phi 8$ 4br.x2br./15.0'
2.725	3.245	4317	21880	4110	18906	$\phi 8$ 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare					
165	Ft. 19	-37937	766	-848	-210.4
	$\sigma_{s,c}19$	-37937	766	-848	-703.7

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Max</sub> 19	-37937	766	-848	-54.6
	σ <sub>cls,Med</sub> 19	-37937	766	-848	-30.5
265	Ft. 20	-36338	-640	797	-219.8
	σ <sub>s,c</sub> 19	-37094	-689	802	-674.0
	σ <sub>cls,Max</sub> 19	-37094	-689	802	-51.9
	σ <sub>cls,Med</sub> 19	-37094	-689	802	-29.8

Combinazioni Frequenti

165	Ft. 22	-35160	612	-832	-205.8
	σ <sub>s,c</sub> 21	-35757	649	-835	-655.4
	σ <sub>cls,Max</sub> 21	-35757	649	-835	-50.5
	σ <sub>cls,Med</sub> 21	-35757	649	-835	-28.7
265	Ft. 22	-34318	-538	783	-215.2
	σ <sub>s,c</sub> 21	-34914	-574	787	-625.6
	σ <sub>cls,Max</sub> 21	-34914	-574	787	-47.9
	σ <sub>cls,Med</sub> 21	-34914	-574	787	-28.0

Combinazioni Quasi Permanenti

165	Ft. 23	-35022	607	-831	-205.1
	σ <sub>s,c</sub> 23	-35022	607	-831	-638.7
	σ <sub>cls,Max</sub> 23	-35022	607	-831	-49.1
	σ <sub>cls,Med</sub> 23	-35022	607	-831	-28.1
265	Ft. 23	-34180	-533	782	-214.6
	σ <sub>s,c</sub> 23	-34180	-533	782	-609.0
	σ <sub>cls,Max</sub> 23	-34180	-533	782	-46.5
	σ <sub>cls,Med</sub> 23	-34180	-533	782	-27.5

Pilastro: 265/365 / L 2.980[m] / Sezione 10 B 40 [cm]H 25 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm²] < 1ø18 x 4 V + 2ø14 x 2 B + 0ø12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 49.7/ø 8 4br.x2br./15.0' x 198.7/ø 8 4br.x2br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
265	15	-6915	3703	1679	1.00	1.00	0.57
365	15	-6108	-3549	-1496	1.00	1.00	0.55

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	5419	21880	4411	18906	ø 8 4br.x2br./10.0'
0.622	2.608	5419	14586	4411	12604	ø 8 4br.x2br./15.0'
2.608	3.105	5419	21880	4411	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

265	Ft. 19	-23647	-633	842	-61.7
	σ <sub>s,c</sub> 19	-23647	-633	842	-507.9
	σ <sub>cls,Max</sub> 19	-23647	-633	842	-40.6
	σ <sub>cls,Med</sub> 19	-23647	-633	842	-19.1



COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
CORPO A

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
365	Ft. 19	-22840	703	-841	-38.5
	σ <sub>s,c</sub> 19	-22840	703	-841	-511.1
	σ <sub>cls,Max</sub> 19	-22840	703	-841	-41.3
	σ <sub>cls,Med</sub> 19	-22840	703	-841	-18.7
Combinazioni Frequenti					
265	Ft. 21	-22131	-517	820	-67.1
	σ <sub>s,c</sub> 21	-22131	-517	820	-466.2
	σ <sub>cls,Max</sub> 21	-22131	-517	820	-36.9
	σ <sub>cls,Med</sub> 21	-22131	-517	820	-17.8
365	Ft. 21	-21324	574	-823	-46.3
	σ <sub>s,c</sub> 21	-21324	574	-823	-467.2
	σ <sub>cls,Max</sub> 21	-21324	574	-823	-37.4
	σ <sub>cls,Med</sub> 21	-21324	574	-823	-17.3
Combinazioni Quasi Permanenti					
265	Ft. 23	-21650	-477	812	-69.3
	σ <sub>s,c</sub> 23	-21650	-477	812	-452.4
	σ <sub>cls,Max</sub> 23	-21650	-477	812	-35.7
	σ <sub>cls,Med</sub> 23	-21650	-477	812	-17.4
365	Ft. 23	-20843	530	-816	-49.2
	σ <sub>s,c</sub> 23	-20843	530	-816	-452.9
	σ <sub>cls,Max</sub> 23	-20843	530	-816	-36.1
	σ <sub>cls,Med</sub> 23	-20843	530	-816	-16.9

Pilastro: 365/465 / L 2.980[m] / Sezione 10 B 40 [cm]H 25 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm²] < 1ø18 x 4 V + 2ø14 x 2 B + 0ø12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 49.7/ø 8 4br.x2br./15.0' x 198.7/ø 8 4br.x2br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
365	14	-13278	4257	355	1.00	1.00	0.57
465	15	-1927	3457	1868	1.00	1.00	0.60

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	4647	21880	6171	18906	ø 8 4br.x2br./10.0'
0.622	2.608	4647	14586	6171	12604	ø 8 4br.x2br./15.0'
2.608	3.105	4647	21880	6171	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

365	Ft. 19	-8971	685	-840	251.5
	σ <sub>s,c</sub> 19	-8971	685	-840	-389.1
	σ <sub>cls,Max</sub> 19	-8971	685	-840	-35.7
	σ <sub>cls,Med</sub> 19	-8971	685	-840	-12.4
465	Ft. 19	-8164	-631	813	248.3
	σ <sub>s,c</sub> 19	-8164	-631	813	-366.0

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Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Max</sub> 19	-8164	-631	813	-33.7
	σ <sub>cls,Med</sub> 19	-8164	-631	813	-11.6
Combinazioni Frequenti					
365	Ft. 21	-8213	546	-811	204.0
	σ <sub>s,c</sub> 21	-8213	546	-811	-342.6
	σ <sub>cls,Max</sub> 21	-8213	546	-811	-30.9
	σ <sub>cls,Med</sub> 21	-8213	546	-811	-10.7
465	Ft. 21	-7405	-491	774	197.1
	σ <sub>s,c</sub> 21	-7405	-491	774	-317.2
	σ <sub>cls,Max</sub> 21	-7405	-491	774	-28.7
	σ <sub>cls,Med</sub> 21	-7405	-491	774	-9.9
Combinazioni Quasi Permanenti					
365	Ft. 23	-8006	500	-801	187.8
	σ <sub>s,c</sub> 23	-8006	500	-801	-327.6
	σ <sub>cls,Max</sub> 23	-8006	500	-801	-29.4
	σ <sub>cls,Med</sub> 23	-8006	500	-801	-10.2
465	Ft. 23	-7198	-446	762	180.3
	σ <sub>s,c</sub> 23	-7198	-446	762	-301.8
	σ <sub>cls,Max</sub> 23	-7198	-446	762	-27.1
	σ <sub>cls,Med</sub> 23	-7198	-446	762	-9.4

Pilastro: 66/166 / L 3.700[m] / Sezione 40 B 40 [cm]H 25 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm²] < 1ø18 x 4 V + 2ø14 x 2 B + 0ø12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 50.0/ø 8 4br.x2br./15.0' x 270.0/ø 8 4br.x2br./10.0' x 50.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
66	13	-42067	1344	2762	1.00	1.00	0.35
166	14	-43551	-1301	305	1.00	1.00	0.27

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.625	2847	20818	4318	18375	ø 8 4br.x2br./10.0'
0.625	3.325	2847	13878	4318	12250	ø 8 4br.x2br./15.0'
3.325	3.825	2847	20818	4318	18375	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

66	Ft. 19	-27526	286	1104	-143.9
	σ <sub>s,c</sub> 19	-27526	286	1104	-519.4
	σ <sub>cls,Max</sub> 19	-27526	286	1104	-41.0
	σ <sub>cls,Med</sub> 19	-27526	286	1104	-22.1
166	Ft. 20	-26078	-498	350	-189.3
	σ <sub>s,c</sub> 19	-26538	-525	345	-448.2
	σ <sub>cls,Max</sub> 19	-26538	-525	345	-35.8
	σ <sub>cls,Med</sub> 19	-26538	-525	345	-21.3

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Combinazioni Frequenti					
66	Ft. 21	-26379	238	1040	-146.0
	$\sigma_{s,c}21$	-26379	238	1040	-489.7
	$\sigma_{cls,Max}21$	-26379	238	1040	-38.3
	$\sigma_{cls,Med}21$	-26379	238	1040	-21.2
166	Ft. 22	-25047	-442	363	-184.3
	$\sigma_{s,c}21$	-25392	-461	359	-426.0
	$\sigma_{cls,Max}21$	-25392	-461	359	-33.8
	$\sigma_{cls,Med}21$	-25392	-461	359	-20.4
Combinazioni Quasi Permanenti					
66	Ft. 23	-25978	221	1018	-146.6
	$\sigma_{s,c}23$	-25978	221	1018	-479.3
	$\sigma_{cls,Max}23$	-25978	221	1018	-37.4
	$\sigma_{cls,Med}23$	-25978	221	1018	-20.9
166	Ft. 23	-24990	-439	363	-184.0
	$\sigma_{s,c}23$	-24990	-439	363	-418.2
	$\sigma_{cls,Max}23$	-24990	-439	363	-33.1
	$\sigma_{cls,Med}23$	-24990	-439	363	-20.1

Pilastro: 166/266 / L 3.120[m] / Sezione 10 B 40 [cm]H 25 [cm]

Af: 4  $\phi$  18 + 4  $\phi$  14 Af=16.34 [cm<sup>2</sup>] < 1 $\phi$ 18 x 4 V + 2 $\phi$ 14 x 2 B + 0 $\phi$ 12 x 2 H >

Staffe:  $\phi$  8 4br.x2br./10.0' x 52.0/ $\phi$  8 4br.x2br./15.0' x 208.0/ $\phi$  8 4br.x2br./10.0' x 52.0

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	$\alpha_{12}$	$\alpha_{13}$	Sd/Sr
166	15	-2595	-2258	-2203	1.00	1.00	0.41
266	14	-32685	-2988	1210	1.00	1.00	0.37

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.645	2513	21880	1643	18906	$\phi$ 8 4br.x2br./10.0'
0.645	2.725	2513	14586	1643	12604	$\phi$ 8 4br.x2br./15.0'
2.725	3.245	2513	21880	1643	18906	$\phi$ 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]

Combinazioni Rare					
166	Ft. 19	-19141	680	-1669	178.2
	$\sigma_{s,c}19$	-19141	680	-1669	-603.7
	$\sigma_{cls,Max}19$	-19141	680	-1669	-51.0
	$\sigma_{cls,Med}19$	-19141	680	-1669	-19.5
266	Ft. 19	-18299	-599	1357	98.8
	$\sigma_{s,c}19$	-18299	-599	1357	-522.9
	$\sigma_{cls,Max}19$	-18299	-599	1357	-43.5
	$\sigma_{cls,Med}19$	-18299	-599	1357	-17.2
Combinazioni Frequenti					
166	Ft. 21	-18334	613	-1643	169.4
	$\sigma_{s,c}21$	-18334	613	-1643	-577.1

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Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Max</sub> 21	-18334	613	-1643	-48.6
	σ <sub>cls,Med</sub> 21	-18334	613	-1643	-18.7
266	Ft. 21	-17492	-534	1338	92.1
	σ <sub>s,c</sub> 21	-17492	-534	1338	-497.9
	σ <sub>cls,Max</sub> 21	-17492	-534	1338	-41.3
	σ <sub>cls,Med</sub> 21	-17492	-534	1338	-16.4
Combinazioni Quasi Permanenti					
166	Ft. 23	-18061	589	-1634	166.1
	σ <sub>s,c</sub> 23	-18061	589	-1634	-567.9
	σ <sub>cls,Max</sub> 23	-18061	589	-1634	-47.7
	σ <sub>cls,Med</sub> 23	-18061	589	-1634	-18.4
266	Ft. 23	-17219	-511	1331	89.7
	σ <sub>s,c</sub> 23	-17219	-511	1331	-489.4
	σ <sub>cls,Max</sub> 23	-17219	-511	1331	-40.5
	σ <sub>cls,Med</sub> 23	-17219	-511	1331	-16.2

Pilastro: 266/366 / L 2.980[m] / Sezione 10 B 40 [cm]H 25 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm²] < 1ø18 x 4 V + 2ø14 x 2 B + 0ø12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 49.7/ø 8 4br.x2br./15.0' x 198.7/ø 8 4br.x2br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
266	15	-1430	3576	1785	1.00	1.00	0.62
366	15	-623	-3314	-1646	1.00	1.00	0.59

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	3348	21880	1712	18906	ø 8 4br.x2br./10.0'
0.622	2.608	3348	14586	1712	12604	ø 8 4br.x2br./15.0'
2.608	3.105	3348	21880	1712	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

266	Ft. 19	-12020	-587	1222	218.2
	σ <sub>s,c</sub> 19	-12020	-587	1222	-452.2
	σ <sub>cls,Max</sub> 19	-12020	-587	1222	-39.6
	σ <sub>cls,Med</sub> 19	-12020	-587	1222	-14.2
366	Ft. 19	-11212	720	-1290	326.4
	σ <sub>s,c</sub> 19	-11212	720	-1290	-497.6
	σ <sub>cls,Max</sub> 19	-11212	720	-1290	-45.0
	σ <sub>cls,Med</sub> 19	-11212	720	-1290	-15.5

Combinazioni Frequenti

266	Ft. 21	-11465	-521	1203	204.5
	σ <sub>s,c</sub> 21	-11465	-521	1203	-428.6
	σ <sub>cls,Max</sub> 21	-11465	-521	1203	-37.4
	σ <sub>cls,Med</sub> 21	-11465	-521	1203	-13.6

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Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
366	Ft. 21	-10657	638	-1273	305.3
	σ <sub>s,c</sub> 21	-10657	638	-1273	-470.0
	σ <sub>cls,Max</sub> 21	-10657	638	-1273	-42.3
	σ <sub>cls,Med</sub> 21	-10657	638	-1273	-14.7
Combinazioni Quasi Permanenti					
266	Ft. 23	-11284	-500	1196	200.0
	σ <sub>s,c</sub> 23	-11284	-500	1196	-421.0
	σ <sub>cls,Max</sub> 23	-11284	-500	1196	-36.6
	σ <sub>cls,Med</sub> 23	-11284	-500	1196	-13.3
366	Ft. 23	-10477	612	-1266	299.1
	σ <sub>s,c</sub> 23	-10477	612	-1266	-461.3
	σ <sub>cls,Max</sub> 23	-10477	612	-1266	-41.5
	σ <sub>cls,Med</sub> 23	-10477	612	-1266	-14.4

Pilastro: 366/466 / L 2.980[m] / Sezione 10 B 40 [cm]H 25 [cm]

Af: 4 ø 18 + 4 ø 14 Af=16.34 [cm²] < 1φ18 x 4 V + 2φ14 x 2 B + 0φ12 x 2 H >

Staffe: ø 8 4br.x2br./10.0' x 49.7/ø 8 4br.x2br./15.0' x 198.7/ø 8 4br.x2br./10.0' x 49.7

Verifiche a Presso-Flessione S.L.U.

Nodo	Comb	N	M <sub>12</sub>	M <sub>13</sub>	α <sub>12</sub>	α <sub>13</sub>	Sd/Sr
366	14	-7306	4306	-597	1.00	1.00	0.66
466	14	-6499	-4574	475	1.00	1.00	0.71

Verifiche a Taglio

Da [m]	A [m]	V <sub>d12</sub> [kg]	V <sub>Rd12</sub> [kg]	V <sub>d13</sub> [kg]	V <sub>Rd13</sub> [kg]	Staffe
0.125	0.622	3796	21880	2527	18906	ø 8 4br.x2br./10.0'
0.622	2.608	3796	14586	2527	12604	ø 8 4br.x2br./15.0'
2.608	3.105	3796	21880	2527	18906	ø 8 4br.x2br./10.0'

Verifiche a Presso-Flessione S.L.E.

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]

Combinazioni Rare

366	Ft. 19	-4296	779	-1297	728.3
	σ <sub>s,c</sub> 19	-4296	779	-1297	-489.1
	σ <sub>cls,Max</sub> 19	-4296	779	-1297	-50.3
	σ <sub>cls,Med</sub> 19	-4296	779	-1297	-16.8
466	Ft. 19	-3489	-747	1211	725.7
	σ <sub>s,c</sub> 19	-3489	-747	1211	-458.5
	σ <sub>cls,Max</sub> 19	-3489	-747	1211	-47.9
	σ <sub>cls,Med</sub> 19	-3489	-747	1211	-16.0

Combinazioni Frequenti

366	Ft. 21	-4073	693	-1266	681.0
	σ <sub>s,c</sub> 21	-4073	693	-1266	-459.8
	σ <sub>cls,Max</sub> 21	-4073	693	-1266	-46.9
	σ <sub>cls,Med</sub> 21	-4073	693	-1266	-15.6
466	Ft. 21	-3265	-669	1168	676.7
	σ <sub>s,c</sub> 21	-3265	-669	1168	-428.8

Nodo	Comb	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
	σ <sub>cls,Max</sub> 21	-3265	-669	1168	-44.5
	σ <sub>cls,Med</sub> 21	-3265	-669	1168	-14.8
Combinazioni Quasi Permanenti					
366	Ft. 23	-4005	666	-1255	665.6
	σ <sub>s,c</sub> 23	-4005	666	-1255	-450.1
	σ <sub>cls,Max</sub> 23	-4005	666	-1255	-45.8
	σ <sub>cls,Med</sub> 23	-4005	666	-1255	-15.3
466	Ft. 23	-3197	-642	1154	660.1
	σ <sub>s,c</sub> 23	-3197	-642	1154	-418.8
	σ <sub>cls,Max</sub> 23	-3197	-642	1154	-43.4
	σ <sub>cls,Med</sub> 23	-3197	-642	1154	-14.5

### 2.2.4.c Verifica delle solette in c.a.

#### 2.2.4.c.1 Verifica delle solette dei balconi

I balconi saranno realizzati con solette in calcestruzzo armato dallo spessore di 32 cm, armatura inferiore Ø10 passo 20 cm, armatura superiore Ø12 passo 20 cm, e armatura di ripartizione a maglia 20x20cm Ø8.

Si esegue la verifica per un metro lineare di soletta.

Caratteristiche - Balcone						
spessore	Sbalzo max	As-inf	As-sup	G1	G2	Q
32 cm	73 cm	3.93 cmq	5.65 cmq	800 kg/mq	375 kg/mq	400 kg/mq

$$q_{stu} = (G_1 + G_2) * \gamma_G + Q * \gamma_Q = (800 + 375) * 1.3 + 400 * 1.5 = 2128 \text{ kg/mq}$$

$$M_E = \frac{q * l^2}{2} = \frac{(2128 * 1m) * 0.73^2}{2} = 567 \text{ kg m}$$

Verifica sezione rettangolare pressoinflessa(NTC 2008)				Nota: L'NTC 2008 impone la deformazione ultima sempre nel calcestruzzo Il foglio è protetto per evitare la modifica accidentale di celle contenenti formule.			
Dati geometrici				Materiali			
b	1'000	mm	Base della sezione	f <sub>ck</sub>	14.00	N/mm <sup>2</sup>	resistenza caratteristica cilindrica del cls
h	320	mm	Altezza sezione	f <sub>yk</sub>	391	N/mm <sup>2</sup>	tensione caratteristica di snervamento dell'acciaio
d'	30	mm	Copri ferro	E <sub>s</sub>	205'000	N/mm <sup>2</sup>	modulo elastico dell'acciaio
A' <sub>s</sub>	565	mm <sup>2</sup>	Armatura superiore	f <sub>cd</sub>	7.93	N/mm <sup>2</sup>	resistenza di prg cilindrica del cls
A <sub>s</sub>	393	mm <sup>2</sup>	Armatura inferiore	f <sub>yd</sub>	340	N/mm <sup>2</sup>	tensione al limite elastico di progetto dell'acciaio
ψ	0.80		coeff. di riduz. di γ <sub>c</sub> (stress block)	E <sub>cm</sub>	27'871	N/mm <sup>2</sup>	modulo elastico medio del cls
λ	0.40		coeff. di riduz. di γ <sub>c</sub> per il calcolo del braccio	E <sub>cd</sub>	23'226	N/mm <sup>2</sup>	modulo elastico di prg del cls
Solicitazioni							
Ned	0	kN	Sforzo normale agente				
Med	6	kNm	Momento sollecitante				
Verifica							
γ <sub>c</sub>	27.32	mm	Asse neutro				
Nu,Rd(γ <sub>c</sub> )	0.00	kN	Sforzo normale resistente SLU				
MRd(γ <sub>c</sub> )	38.02	kNm	Momento resistente allo SLU				
Verifica soddisfatta							
ξ= γ <sub>c</sub> /h = 0.09							

Sezione: Diagramma della sezione rettangolare con coordinate x/h e y/h.

Deformazione: Diagramma della deformazione lineare con coordinate ε/ε<sub>c</sub> e y/h.

Tensioni: Diagramma delle tensioni con coordinate σ/σ<sub>max</sub> e y/h.

## 2.2.4.c.2 Verifica delle solette delle pensiline

Le pensiline saranno realizzate con solette in calcestruzzo armato dallo spessore di 15 cm, e armatura come indicato nella tabella seguente.

Caratteristiche - Pensiline							
spessore	Sbalzo	As-inf	As-sup	As-ripart.	G1	G2	Q
15 cm	213 cm	5.65 cmq/ml	12.72 cmq/ml	20x20Φ8	375 kg/mq	315 kg/mq	120 kg/mq
		Φ12/20 cm	Φ18/20 cm				
15 cm	143 cm	2.26 cmq/ml	5.09 cmq/ml	20x20Φ8	375 kg/mq	315 kg/mq	120 kg/mq
		Φ12/travetto	Φ18/travetto				
15 cm	141 cm	2.51 cmq/ml	5.65 cmq/ml	20x20Φ8	375 kg/mq	315 kg/mq	120 kg/mq
		Φ8/20 cm	Φ12/20 cm				

$$q_{slu} = (G_1 + G_2) * \gamma_G + Q * \gamma_Q = (375 + 315) * 1.3 + 120 * 1.5 = 1077 \text{ kg/mq}$$

Si esegue la verifica per un metro lineare di soletta con sbalzo da 213 cm:

$$M_E = \frac{q * l^2}{2} = \frac{(1077 * 1m) * 2.13^2}{2} = 2443 \text{ kg m}$$

Verifica sezione rettangolare pressoinflessa(NTC 2008)				Nota: L'NTC 2008 impone la deformazione ultima sempre nel calcestruzzo Il foglio è protetto per evitare la modifica accidentale di celle contenenti formule.			
Dati geometrici				Materiali			
b	1'000	mm	Base della sezione	fck	14.00	N/mm^2	resistenza caratteristica cilindrica del cls
h	150	mm	Altezza sezione	fyk	391	N/mm^2	tensione caratteristica di snervamento dell'acciaio
d'	30	mm	Copriferro	Es	205'000	N/mm^2	modulo elastico dell'acciaio
A's	565	mm^2	Armatura superiore	fcd	7.93	N/mm^2	resistenza di prg cilindrica del cls
As	1'272	mm^2	Armatura inferiore	fyd	340	N/mm^2	tensione al limite elastico di progetto dell'acciaio
ψ	0.80		coeff. di riduz. di yc (stress block)	Ecm	27'871	N/mm^2	modulo elastico medio del cls
λ	0.40		coeff. di riduz. di yc per il calcolo del braccio	Ecd	23'226	N/mm^2	modulo elastico di prg del cls
Solicitazioni				Sezione			
Ned	0	kN	Sforzo normale agente	Deformazione			
Med	24	kNm	Momento sollecitante	Tensioni			
Verifica							
yc	45.96	mm	Asse neutro				
Nu,Rd(yc)	0.00	kN	Sforzo normale resistente SLU				
MRd(yc)	42.32	kNm	Momento resistente allo SLU				
Verifica soddisfatta			ξ= yc/h = 0.31				

Verifica con sbalzo da 143 cm:

$$M_E = \frac{q \cdot l^2}{2} = \frac{(1077 \cdot 1ml) \cdot 1.43^2}{2} = 1101 \text{ kg m}$$

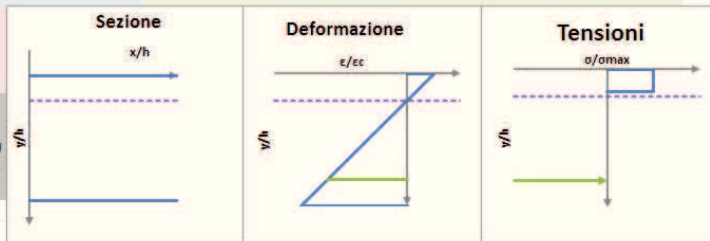
Verifica sezione rettangolare pressoinflessa(NTC 2008)				Nota: L'NTC 2008 impone la deformazione ultima sempre nel calcestruzzo Il foglio è protetto per evitare la modifica accidentale di celle contenenti formule.			
Dati geometrici				Materiali			
b	1'000	mm	Base della sezione	fck	14.00	N/mm^2	resistenza caratteristica cilindrica del cls
h	150	mm	Altezza sezione	fyk	391	N/mm^2	tensione caratteristica di snervamento dell'acciaio
d'	30	mm	Copriferro	Es	205'000	N/mm^2	modulo elastico dell'acciaio
A's	226	mm^2	Armatura superiore	fcd	7.93	N/mm^2	resistenza di prg cilindrica del cls
As	509	mm^2	Armatura inferiore	fyd	340	N/mm^2	tensione al limite elastico di progetto dell'acciaio
ψ	0.80		coeff. di riduz. di yc (stress block)	Ecm	27'871	N/mm^2	modulo elastico medio del cls
λ	0.40		coeff. di riduz. di yc per il calcolo del braccio	Ecd	23'226	N/mm^2	modulo elastico di prg del cls
Solicitazioni				Sezione			
Ned	0	kN	Sforzo normale agente	Deformazione			
Med	11	kNm	Momento sollecitante	Tensioni			
Verifica							
yc	28.56	mm	Asse neutro				
Nu,Rd(yc)	0.00	kN	Sforzo normale resistente SLU				
MRd(yc)	18.94	kNm	Momento resistente allo SLU				
Verifica soddisfatta			ξ= yc/h = 0.19				

Verifica con sbalzo da 141 cm:

$$M_E = \frac{q \cdot l^2}{2} = \frac{(1077 \cdot 1ml) \cdot 1.41^2}{2} = 1071 \text{ kg m}$$



Verifica sezione rettangolare pressoinflessa (NTC 2008)				Nota: L'NTC 2008 impone la deformazione ultima sempre nel calcestruzzo il foglio è protetto per evitare la modifica accidentale di celle contenenti formule.			
<b>Dati geometrici</b>				<b>Materiali</b>			
b	1'000	mm	Base della sezione	f <sub>ck</sub>	14.00	N/mm <sup>2</sup>	resistenza caratteristica cilindrica del cls
h	150	mm	Altezza sezione	f <sub>yk</sub>	391	N/mm <sup>2</sup>	tensione caratteristica di snervamento dell'acciaio
d'	30	mm	Copriferro	E <sub>s</sub>	205'000	N/mm <sup>2</sup>	modulo elastico dell'acciaio
A' <sub>s</sub>	251	mm <sup>2</sup>	Armatura superiore	f <sub>cd</sub>	7.93	N/mm <sup>2</sup>	resistenza di prg cilindrica del cls
A <sub>s</sub>	565	mm <sup>2</sup>	Armatura inferiore	f <sub>yd</sub>	340	N/mm <sup>2</sup>	tensione al limite elastico di progetto dell'acciaio
ψ	0.80		coeff. di riduz. di y <sub>c</sub> (stress block)	E <sub>cm</sub>	27'871	N/mm <sup>2</sup>	modulo elastico medio del cls
λ	0.40		coeff. di riduz. di y <sub>c</sub> per il calcolo del braccio	E <sub>cd</sub>	23'226	N/mm <sup>2</sup>	modulo elastico di prg del cls
<b>Sollecitazioni</b>							
N <sub>ed</sub>	0	kN	Sforzo normale agente				
M <sub>ed</sub>	11	kNm	Momento sollecitante				
<b>Verifica</b>							
y <sub>c</sub>	30.15	mm	Asse neutro				
N <sub>u</sub> , R <sub>d</sub> (y <sub>c</sub> )	0.00	kN	Sforzo normale resistente SLU				
M <sub>Rd</sub> (y <sub>c</sub> )	20.74	kNm	Momento resistente allo SLU				
Verifica soddisfatta				ξ = y <sub>c</sub> /h = 0.20			



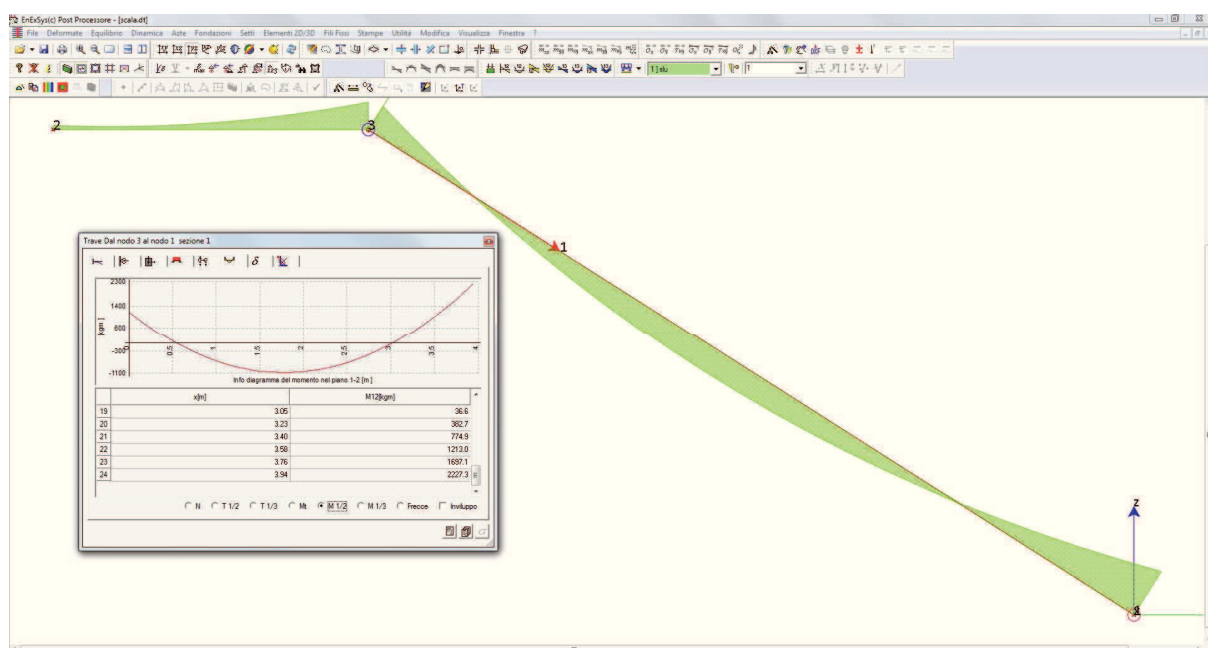
### 2.2.4.c.3 Verifica delle solette delle rampe scale

Le rampe delle scale saranno realizzate con solette in calcestruzzo armato dallo spessore di 18 cm, armatura inferiore e superiore 9Φ12, e armatura a staffe Φ8/10 cm.

Caratteristiche – Rampa scale								
spessore	Larghezza max	Lunghezza max	As-inf	As-sup	Ast	G1	G2	Q
18 cm	134 cm	522 cm	10.18 cmq	10.18 cmq	Φ8/10 cm	450 kg/mq	240 kg/mq	400 kg/mq

$$q_{slu} = (G_1 + G_2) * \gamma_G + Q * \gamma_Q = (450 + 240) * 1.3 + 400 * 1.5 = 1497 * 1.34 = 2006 \text{ kg/m}$$

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Sollecitazioni massime

Sforzo normale	Min asta 3 1	7582 [kg]	Comb. 1	Max asta 3 1	11160 [kg]	Comb. 1
Taglio piano 1-2	Min asta 3 1	-3087 [kg]	Comb. 1	Max asta 3 1	2560 [kg]	Comb. 1
Taglio piano 1-3	Min asta 2 3	0 [kg]	Comb. 1	Max asta 2 3	0 [kg]	Comb. 1
Momento torcente	Min asta 2 3	0 [kgm]	Comb. 1	Max asta 2 3	0 [kgm]	Comb. 1
Momento Flet. piano 1-2	Min asta 3 1	-1098 [kgm]	Comb. 1	Max asta 3 1	2227 [kgm]	Comb. 1
Momento Flet. piano 1-3	Min asta 2 3	-0 [kgm]	Comb. 1	Max asta 2 3	-0 [kgm]	Comb. 1

Verifiche:

Travata: 2 Travata 2 3 1

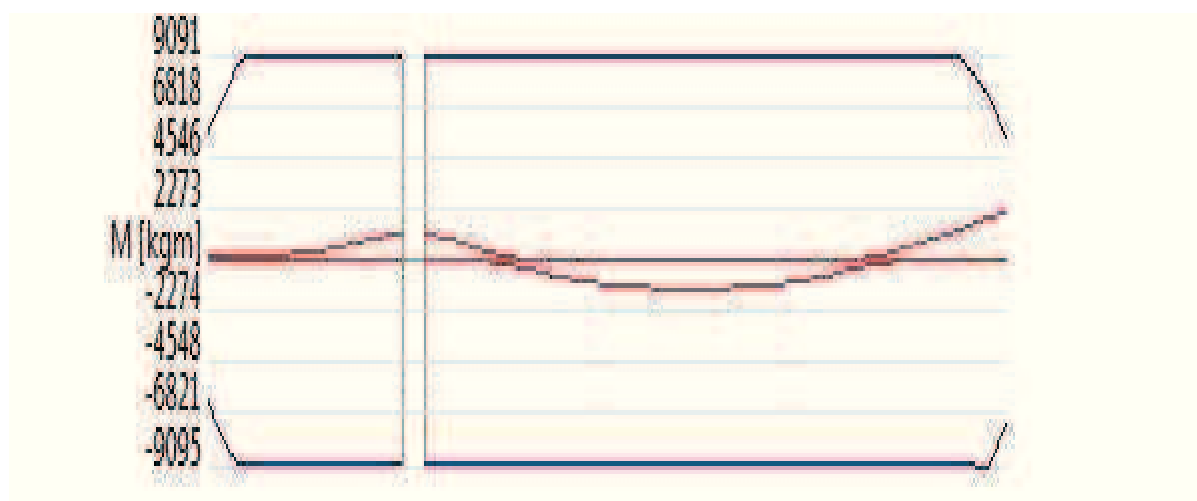


Diagramma dei momenti flettenti

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>ti</sub> [cm²]	Q <sub>T</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave Sez. 1 Rett. 134x18 [cm]																
2	0.050	11.03	12.38			166	5614	0.28	0	-6116	0.28					
						SLE Rare	122		0			0.0	3.2	50.0	1.5	
						SLE Freq.	122		0			0.0	3.2	50.0	1.5	OK
						SLE Q.P.	122		0			0.0	3.2	50.0	1.5	OK
Camp.	0.697	20.36	20.36	1696	3	354	9091	0.34	-3	-9091	0.34					
						SLE Rare	219		-2			0.0	4.4	94.7	14.0	
						SLE Freq.	219		-2			0.0	4.4	94.7	14.0	OK
						SLE Q.P.	219		-2			0.0	4.4	94.7	14.0	OK
3	1.344	20.36	20.36			1142	9091	0.34	0	-9091	0.34					
						SLE Rare	837		0			0.0	16.8	361.7	53.3	
						SLE Freq.	837		0			0.0	16.8	361.7	53.3	OK
						SLE Q.P.	837		0			0.0	16.8	361.7	53.3	OK
Trave Sez. 1 Rett. 134x18 [cm]																
3	0.026	20.36	20.36			1096	9091	0.34	0	-9091	0.34					
						SLE Rare	826		0			0.0	16.6	356.8	52.6	
						SLE Freq.	826		0			0.0	16.6	356.8	52.6	OK
						SLE Q.P.	826		0			0.0	16.6	356.8	52.6	OK
Camp.	1.959	20.36	20.36	1433	22	0	9091	0.34	-1246	-9091	0.34					
						SLE Rare	0		-914			18.3	0.0	58.2	394.9	
						SLE Freq.	0		-914			18.3	0.0	58.2	394.9	OK
						SLE Q.P.	0		-914			18.3	0.0	58.2	394.9	OK
1	3.892	10.14	14.93			2028	5291	0.28	0	-7075	0.30					
						SLE Rare	1524		0			0.0	41.2	621.3	10.5	
						SLE Freq.	1524		0			0.0	41.2	621.3	10.5	OK
						SLE Q.P.	1524		0			0.0	41.2	621.3	10.5	OK

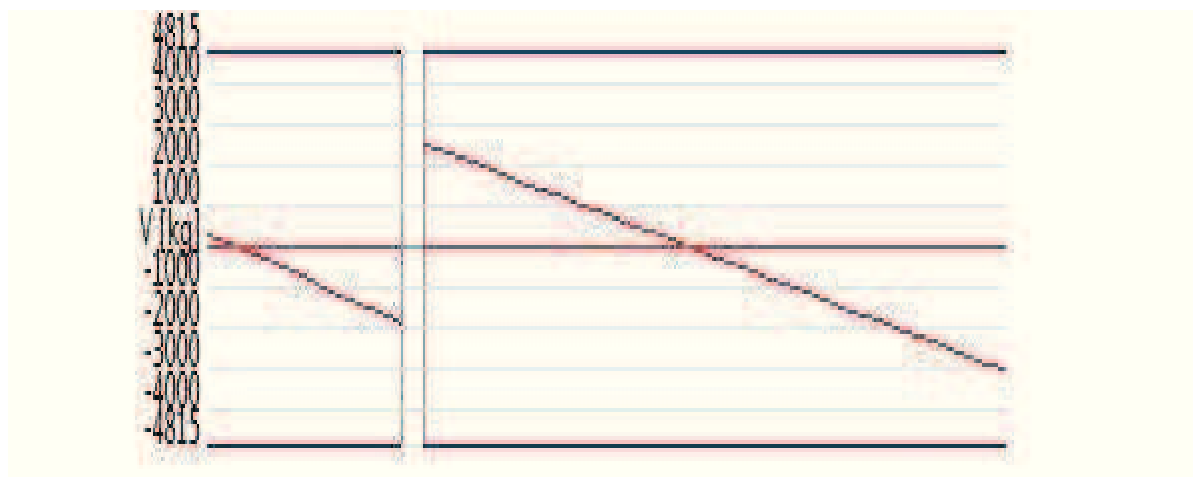


Diagramma del taglio

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	T <sub>Ed</sub> [kgm]	T <sub>Rd</sub> [kgm]	T <sub>Rd</sub> [kgm]	Staffe
Trave 2 3 Sez. 1 Rett. 134x18 [cm]										
0.050	1.344	1.294	1851	11241	58103	4815	0	6755	39606	ø 8 2br. 10.0'
Trave 3 1 Sez. 1 Rett. 134x18 [cm]										
0.026	3.892	3.866	3015	11965	58103	4815	0	6755	39606	ø 8 2br. 10.0'

#### 2.2.4.d Verifica della gerarchia delle resistenze

In conformità al punto 7.4.4.2 si effettua il controllo della gerarchia delle resistenze, ovvero la verifica che per ogni nodo trave – pilastro e per ogni direzione e verso di ingresso del sisma la resistenza complessiva dei pilastri sia almeno  $\gamma_{Rd}$  volte maggiore della resistenza complessiva delle travi:

$$\sum M_{C,Rd} \geq \gamma_{Rd} \cdot \sum M_{b,Rd}$$

dove  $M_{C,Rd}$  è il momento resistente del generico pilastro convergente nel nodo e  $M_{b,Rd}$  quello della generica trave convergente al medesimo nodo.

Il controllo viene eseguito via equilibrio nodale; sono esclusi dal controllo i nodi:

- Terminali di una stilata
- Connessi ad elementi di fondazione
- Connessi a setti
- Nodi nei quali non confluisca almeno un pilastro ed una trave

L'equilibrio è imposto nel sistema di riferimento globale.

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Le azioni resistenti dei pilastri sono calcolate indipendentemente nelle due direzioni principali assumendo per N il valore medio dell'azione assiale nelle combinazioni sismiche.

Nodo	N <sub>TOP</sub> [kg]	N <sub>BOTTOM</sub> [kg]	Direzione X						Direzione Y					
			ΣM <sup>+</sup> Pilastri [kgm]	ΣM <sup>+</sup> Travi [kgm]	ΣM <sup>+</sup> Pilastri ΣM <sub>Travi</sub>	ΣM <sup>-</sup> Pilastri [kgm]	ΣM <sup>-</sup> Travi [kgm]	ΣM <sup>-</sup> Pilastri ΣM <sub>Travi</sub>	ΣM <sup>+</sup> Pilastri [kgm]	ΣM <sup>+</sup> Travi [kgm]	ΣM <sup>+</sup> Pilastri ΣM <sub>Travi</sub>	ΣM <sup>-</sup> Pilastri [kgm]	ΣM <sup>-</sup> Travi [kgm]	ΣM <sup>-</sup> Pilastri ΣM <sub>Travi</sub>
101	-20667	-26673	-23325	-0	432233457.18	23325	0	158024964.98	-30546	-10246	2.98	30546	10246	2.98
102	-53080	-72157	-39161	-8655	4.52	39161	16094	2.43	-41473	-9515	4.36	41473	9515	4.36
103	-39049	-52594	-18847	-0	129205934.46	18847	0	69507098.67	-18846	-11542	1.63	18846	11542	1.63
104	-36075	-48158	-18527	-0	159261333.65	18527	0	96555429.39	-18527	-7825	2.37	18527	7825	2.37
105	-47355	-64133	-27330	-4431	6.17	27330	7204	3.79	-33839	-10464	3.23	33839	10601	3.19
106	-44234	-58994	-26934	-4434	6.07	26934	2506	10.75	-33598	-10246	3.28	33598	10246	3.28
107	-42676	-56585	-25181	-0	N.D.	25181	0	N.D.	-32541	-10246	3.18	32541	10246	3.18
108	-33958	-43057	-23828	-4433	5.37	23828	4644	5.13	-31570	-4616	6.84	31570	4900	6.44
109	-32336	-43202	-34112	-3907	8.73	34111	12360	2.76	-25866	-5706	4.53	25866	4742	5.46
110	-42164	-55910	-25118	-0	93422386.22	25118	0	255530730.97	-32492	-10246	3.17	32492	10246	3.17
111	-47550	-63993	-25787	-4428	5.82	25787	7198	3.58	-33005	-10698	3.09	33005	10524	3.14
112	-41439	-55930	-19056	-4433	4.30	19056	4644	4.10	-19056	-7825	2.44	19056	7825	2.44
113	-35748	-47697	-24095	-0	N.D.	24095	0	N.D.	-24095	-7825	3.08	24095	7825	3.08
114	-45011	-60226	-49046	-24700	1.99	49046	24700	1.99	-36841	-1563	23.57	36841	1563	23.57
115	-57219	-79619	-70445	-28078	2.51	70445	28078	2.51	-47163	-7505	6.28	47163	4644	10.16
116	-40532	-54208	-24927	0	N.D.	24927	0	N.D.	-32343	-12149	2.66	32343	12149	2.66
117	-64120	-87457	-27022	-6979	3.87	27022	4659	5.80	-33932	-26813	1.27	33932	23529	1.44
118	-105022	-141252	-31921	-4635	6.89	31921	4425	7.21	-46489	-40215	1.16	46489	40229	1.16
119	-130987	-176539	-119403	-11649	10.25	119403	11649	10.25	-56049	-51090	1.10	56049	51090	1.10
120	-103507	-138485	-32040	-4639	6.91	32040	4428	7.24	-46630	-40166	1.16	46630	40156	1.16
121	-66999	-87339	-41360	-7602	5.44	41360	9078	4.56	-31284	-23531	1.33	31284	27936	1.12
122	-51352	-67660	-18752	0	N.D.	18752	0	N.D.	-18752	-11965	1.57	18752	10511	1.78
123	-47826	-58761	-31376	-9006	3.48	31376	8623	3.64	-24178	-2735	8.84	24178	7503	3.22
124	-43096	-58191	-48841	-24700	1.98	48841	24700	1.98	-36569	-1563	23.40	36569	1563	23.40
127	-37312	-48551	-30221	-8028	3.76	30221	10705	2.82	-22793	-6964	3.27	22793	7200	3.17
128	-37442	-46074	-21197	-8761	2.42	21197	7603	2.79	-21197	-4644	4.56	21197	4433	4.78
129	-34222	-39516	-22869	0	N.D.	22869	0	N.D.	-22869	-9078	2.52	22869	9078	2.52
136	-27557	-35483	-28520	-9260	3.08	28520	9333	3.06	-21180	-4437	4.77	21180	4648	4.56
137	-33947	-42970	-18238	-9078	2.01	18238	9078	2.01	-18238	-7200	2.53	18238	6964	2.62
142	-83446	-85220	-55880	-2305	24.25	55880	2499	22.36	-46317	-3342	13.86	46317	3120	14.85
143	-76983	-79966	-118209	-6184	19.11	118209	6184	19.11	-77671	-6299	12.33	77671	6292	12.34
148	-13704	-14634	-18407	-2503	7.35	18407	2308	7.97	-18407	-2988	6.16	18407	3199	5.75
149	-62345	-85748	-42195	-12672	3.33	42195	17664	2.39	-32372	-11419	2.84	32372	7387	4.38
150	-73012	-98724	-35328	0	N.D.	35328	0	N.D.	-47855	-24908	1.92	47855	24908	1.92
151	-73281	-99603	-30950	-7212	4.29	30950	4437	6.98	-40901	-21584	1.89	40901	21584	1.89
152	-42153	-55443	-19091	0	N.D.	19091	0	N.D.	-19091	-12814	1.49	19091	12814	1.49
153	-46948	-64058	-19424	0	N.D.	19424	0	N.D.	-19423	-15270	1.27	19423	12843	1.51
154	-54409	-64528	-31906	-6642	4.80	31906	7304	4.37	-24835	-4368	5.69	24835	7981	3.11

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155	-7579	-11557	-17860	-3254	5.49	17860	3018	5.92	-17860	-2782	6.42	17860	2270	7.87
156	-18078	-26755	-37222	-5272	7.06	37222	3441	10.82	-53023	-7253	7.31	53023	7318	7.25
157	-11618	-17363	-34737	-2700	12.86	34737	2420	14.35	-48031	-3319	14.47	48031	1968	24.41
159	-41404	-46451	-23051	0	N.D.	23051	0	N.D.	-30389	-8013	3.79	30389	8013	3.79
161	-53995	-73374	-33605	-19924	1.69	33605	19924	1.69	-27016	-1255	21.52	27016	1252	21.58
162	-89178	-110731	-92968	-22129	4.20	92968	22123	4.20	-60536	-1296	46.72	60536	1202	50.37
163	-53372	-66257	-42550	-12145	3.50	42550	12146	3.50	-33020	-784	42.10	33020	794	41.58
164	-26949	-34955	-17025	-4832	3.52	17025	7853	2.17	-26435	-3696	7.15	26435	4925	5.37
165	-35022	-48542	-18409	-8702	2.12	18409	8270	2.23	-27693	-11503	2.41	27693	11531	2.40
166	-18061	-24990	-15662	-5183	3.02	15662	4775	3.28	-24940	-4921	5.07	24940	2982	8.36
201	-13193	-19656	-21109	-0	378097536.52	21109	0	143181610.76	-27045	-10333	2.62	27045	10333	2.62
202	-33292	-52069	-37807	-8828	4.28	37807	16334	2.31	-42101	-14979	2.81	42101	12183	3.46
203	-24889	-38291	-15364	-0	136608639.21	15364	0	56742779.19	-15364	-10607	1.45	15364	10607	1.45
204	-23116	-35317	-14959	-0	122012408.89	14959	0	50679982.27	-14959	-10607	1.41	14959	10607	1.41
205	-29803	-46344	-25211	-4612	5.47	25211	7269	3.47	-30099	-10559	2.85	30099	10690	2.82
206	-28466	-43223	-24816	-4614	5.38	24816	4614	5.38	-29815	-10333	2.89	29815	10333	2.89
207	-26240	-41665	-21354	-0	N.D.	21354	0	N.D.	-27542	-12319	2.24	27542	10330	2.67
208	-19108	-32947	-19856	-4617	4.30	19856	7278	2.73	-26274	-4825	5.45	26274	7491	3.51
209	-20404	-31325	-29990	-7613	3.94	29990	16262	1.84	-22097	-5854	3.77	22097	7973	2.77
210	-27209	-41153	-21403	-0	79697562.96	21403	0	210455805.71	-27585	-10333	2.67	27585	10333	2.67
211	-29984	-46539	-22134	-4608	4.80	22134	7263	3.05	-28194	-10788	2.61	28194	10622	2.65
212	-25960	-40681	-15622	-4617	3.38	15622	7278	2.15	-15622	-7845	1.99	15622	7845	1.99
213	-22913	-34990	-20796	-0	N.D.	20796	0	N.D.	-20796	-7845	2.65	20796	7845	2.65
214	-28827	-44000	-46220	-36613	1.26	46220	36613	1.26	-35113	-2317	15.16	35113	2317	15.16
215	-35800	-55956	-68831	-45004	1.53	68831	52195	1.32	-43604	-9752	4.47	43604	7487	5.82
216	-25722	-39521	-21113	0	N.D.	21113	0	N.D.	-27341	-13573	2.01	27341	13573	2.01
217	-40513	-63109	-24166	-8806	2.74	24166	7254	3.33	-29709	-13008	2.28	29709	17499	1.70
218	-67837	-103759	-32198	-7263	4.43	32198	4608	6.99	-46536	-37446	1.24	46536	37612	1.24
219	-84542	-129471	-120265	-11895	10.11	120265	11895	10.11	-57653	-48923	1.18	57653	48923	1.18
220	-67304	-102243	-32139	-7269	4.42	32139	4612	6.97	-46504	-37514	1.24	46504	37383	1.24
221	-45784	-65988	-39207	-13391	2.93	39207	16766	2.34	-30670	-17497	1.75	30670	14182	2.16
222	-49392	-50821	-17816	-3168	5.62	17816	3168	5.62	-17816	-2441	7.30	17816	2441	7.30
223	-44125	-47118	-29313	-3168	9.25	29313	3168	9.25	-23469	-2441	9.61	23469	2441	9.61
224	-27623	-42085	-45967	-36613	1.26	45967	36613	1.26	-34827	-2317	15.03	34827	2317	15.03
227	-24201	-36301	-26969	-16059	1.68	26969	16059	1.68	-20673	-7263	2.85	20673	7263	2.85
228	-27377	-36684	-21313	-15392	1.38	21313	13392	1.59	-21313	-4614	4.62	21313	4614	4.62
229	-30190	-33691	-21338	-3168	6.73	21338	3168	6.73	-21338	-4888	4.37	21338	3172	6.73
236	-17361	-26546	-25603	-16293	1.57	25603	17845	1.43	-19068	-7269	2.62	19068	7269	2.62
237	-25619	-33189	-15015	-9228	1.63	15015	9228	1.63	-15015	-7278	2.06	15015	4617	3.25
242	-44883	-70020	-58473	-50596	1.16	58473	50596	1.16	-49049	-10696	4.59	49049	6031	8.13
243	-43687	-67800	-116058	-60613	1.91	116058	61018	1.90	-77130	-16500	4.67	77130	16294	4.73
248	-10111	-12897	-11585	-3168	3.66	11585	3168	3.66	-11585	-2441	4.75	11585	2441	4.75
249	-38693	-61334	-40391	-13023	3.10	40391	21520	1.88	-32212	-8279	3.89	32212	5081	6.34
250	-45279	-72001	-35548	0	N.D.	35548	0	N.D.	-46585	-36525	1.28	46585	36525	1.28

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251	-44921	-72270	-30836	-7278	4.24	30836	4617	6.68	-39280	-30747	1.28	39280	30747	1.28
252	-26185	-41394	-15687	0	N.D.	15687	0	N.D.	-15687	-11007	1.43	15687	11007	1.43
253	-29078	-46190	-16214	0	N.D.	16214	0	N.D.	-16214	-11007	1.47	16214	11007	1.47
254	-36794	-53398	-29175	-11173	2.61	29175	11173	2.61	-23291	-8436	2.76	23291	11103	2.10
261	-33334	-52984	-30271	-20023	1.51	30271	20023	1.51	-24723	-1262	19.59	24723	1258	19.65
262	-58718	-87156	-89190	-49277	1.81	89190	49269	1.81	-60029	-2736	21.94	60029	2595	23.13
263	-33995	-52361	-39695	-29330	1.35	39695	27267	1.46	-31196	-1725	18.08	31196	1856	16.81
264	-16512	-26106	-16196	-7765	2.09	16196	7933	2.04	-25341	-5081	4.99	25341	7736	3.28
266	-11284	-17219	-15066	-9312	1.62	15066	9312	1.62	-24139	-5176	4.66	24139	5176	4.66
301	-5361	-12224	-19565	-0	350442263.36	19565	0	132708846.00	-25877	-10333	2.50	25877	10333	2.50
302	-13846	-32323	-34260	-8828	3.88	34260	16334	2.10	-40745	-14979	2.72	40745	12183	3.34
303	-10838	-24162	-12762	-0	113474285.66	12762	0	47133522.25	-12762	-10607	1.20	12762	10607	1.20
304	-10149	-22390	-12524	-0	102151414.52	12524	0	42430371.83	-12524	-10607	1.18	12524	10607	1.18
305	-12292	-28834	-21908	-4612	4.75	21908	7269	3.01	-27648	-10559	2.62	27648	10690	2.59
306	-12599	-27497	-21812	-4614	4.73	21812	4614	4.73	-27576	-10333	2.67	27576	10333	2.67
307	-11669	-25271	-18361	-0	N.D.	18361	0	N.D.	-24921	-12319	2.02	24921	10330	2.41
308	-8631	-18139	-17337	-4617	3.75	17337	7278	2.38	-23906	-4825	4.96	23906	7491	3.19
309	-8600	-19435	-27741	-7613	3.64	27741	16262	1.71	-19873	-5854	3.40	19873	7973	2.49
310	-12189	-26240	-18509	-0	68922778.26	18509	0	182003041.15	-25070	-10333	2.43	25070	10333	2.43
311	-12401	-29015	-18799	-4608	4.08	18799	7263	2.59	-25327	-10788	2.35	25327	10622	2.38
312	-10597	-25233	-12837	-4617	2.78	12837	7278	1.76	-12837	-7845	1.64	12837	7845	1.64
313	-10055	-22186	-18453	-0	N.D.	18453	0	N.D.	-18453	-7845	2.35	18453	7845	2.35
314	-12802	-27858	-43191	-36613	1.18	43191	36613	1.18	-32004	-2317	13.81	32004	2317	13.81
315	-15443	-34589	-65674	-45004	1.46	65674	52195	1.26	-39814	-9752	4.08	39814	7487	5.32
316	-10821	-24753	-18223	0	N.D.	18223	0	N.D.	-24766	-13573	1.82	24766	13573	1.82
317	-17406	-39544	-20288	-8806	2.30	20288	7254	2.80	-26636	-13008	2.05	26636	17499	1.52
318	-30866	-66626	-27506	-7263	3.79	27506	4608	5.97	-42715	-37446	1.14	42715	37612	1.14
319	-38196	-83089	-117612	-11895	9.89	117612	11895	9.89	-55490	-48923	1.13	55490	48923	1.13
320	-31263	-66093	-27511	-7269	3.78	27511	4612	5.97	-42740	-37514	1.14	42740	37383	1.14
321	-24706	-44815	-36694	-13391	2.74	36694	16766	2.19	-27383	-17497	1.57	27383	14182	1.93
322	-35661	-36599	-16173	-3168	5.10	16173	3168	5.10	-16173	-2441	6.62	16173	2441	6.62
323	-27769	-30377	-26798	-3168	8.46	26798	3168	8.46	-20467	-2441	8.38	20467	2441	8.38
324	-11910	-26654	-42981	-36613	1.17	42981	36613	1.17	-31795	-2317	13.72	31795	2317	13.72
327	-10689	-23232	-24620	-16059	1.53	24620	16059	1.53	-18060	-7263	2.49	18060	7263	2.49
328	-17154	-26650	-20722	-15392	1.35	20722	13392	1.55	-20722	-4614	4.49	20722	4614	4.49
329	-19210	-23040	-19405	-3168	6.12	19405	3168	6.12	-19405	-4888	3.97	19405	3172	6.12
336	-6699	-16392	-23485	-16293	1.44	23485	17845	1.32	-16958	-7269	2.33	16958	7269	2.33
337	-17403	-24892	-13493	-9228	1.46	13493	9228	1.46	-13493	-7278	1.85	13493	4617	2.92
342	-19034	-43914	-57210	-50596	1.13	57210	50596	1.13	-46739	-10696	4.37	46739	6031	7.75
343	-20157	-41749	-110187	-60613	1.82	110187	61018	1.81	-71935	-16500	4.36	71935	16294	4.41
348	-6654	-9384	-10866	-3168	3.43	10866	3168	3.43	-10866	-2441	4.45	10866	2441	4.45
349	-16813	-37724	-36279	-13023	2.79	36279	21520	1.69	-27150	-8279	3.28	27150	5081	5.34
350	-20371	-44310	-31624	0	N.D.	31624	0	N.D.	-43510	-36525	1.19	43510	36525	1.19
351	-19082	-43952	-26770	-7278	3.68	26770	4617	5.80	-36130	-30747	1.18	36130	30747	1.18
352	-11401	-25458	-12940	0	N.D.	12940	0	N.D.	-12940	-11007	1.18	12940	11007	1.18
353	-13018	-28352	-13368	0	N.D.	13368	0	N.D.	-13369	-11007	1.21	13369	11007	1.21
354	-20172	-35825	-26591	-11173	2.38	26591	11173	2.38	-20230	-8436	2.40	20230	11103	1.82

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361	-15061	-32365	-27040	-20023	1.35	27040	20023	1.35	-20985	-1262	16.63	20985	1258	16.68
362	-28710	-56780	-80787	-49277	1.64	80787	49269	1.64	-54145	-2736	19.79	54145	2595	20.86
363	-15224	-33026	-36435	-29330	1.24	36435	27267	1.34	-27575	-1725	15.98	27575	1856	14.86
364	-6367	-15705	-14530	-7765	1.87	14530	7933	1.83	-23528	-5081	4.63	23528	7736	3.04
366	-4005	-10477	-13894	-9312	1.49	13894	9312	1.49	-22746	-5176	4.40	22746	5176	4.40
421	-5725	-23737	-33001	-13391	2.46	33001	16766	1.97	-23611	-17497	1.35	23611	14182	1.66
422	-23120	-23651	-13928	-3168	4.40	13928	3168	4.40	-13928	-2441	5.71	13928	2441	5.71
423	-14455	-16950	-24518	-3168	7.74	24518	3168	7.74	-17818	-2441	7.30	17818	2441	7.30
428	-6626	-16427	-19433	-15392	1.26	19433	13392	1.45	-19433	-4614	4.21	19433	4614	4.21
429	-7310	-11489	-17174	-3168	5.42	17174	3168	5.42	-17174	-4888	3.51	17174	3172	5.41
437	-9173	-16676	-11869	-9228	1.29	11869	9228	1.29	-11869	-7278	1.63	11869	4617	2.57
448	-3346	-5928	-10158	-3168	3.21	10158	3168	3.21	-10158	-2441	4.16	10158	2441	4.16
454	-7088	-19203	-23781	-11173	2.13	23781	11173	2.13	-17284	-8436	2.05	17284	11103	1.56
542	-71031	-83179	-57294	-12384	4.63	57294	6371	8.99	-48105	-5047	9.53	48105	5217	9.22
543	-69822	-76449	-118534	-7516	15.77	118534	7189	16.49	-78518	-4433	17.71	78518	4644	16.91
622	-12963	-22892	-12860	-4614	2.79	12860	4614	2.79	-12860	-9388	1.37	12860	7856	1.64
623	-4436	-14152	-22948	-7276	3.15	22948	4251	5.40	-16492	-4177	3.95	16492	7492	2.20
629	-11988	-18983	-18343	-4614	3.98	18343	4614	3.98	-18343	-4614	3.98	18343	4614	3.98
648	-13428	-13503	-15163	-4644	3.26	15163	4433	3.42	-15163	0	N.D.	15163	0	N.D.
722	-24150	-35434	-15066	-4614	3.27	15066	4614	3.27	-15066	-9388	1.60	15066	7856	1.92
723	-17616	-27466	-25701	-7276	3.53	25701	4251	6.05	-19183	-4177	4.59	19183	7492	2.56
729	-23539	-29963	-20425	-4614	4.43	20425	4614	4.43	-20425	-4614	4.43	20425	4614	4.43
822	-37098	-49165	-17033	-4614	3.69	17033	4614	3.69	-17033	-9388	1.81	17033	7856	2.17
823	-31043	-43822	-28091	-7276	3.86	28091	4251	6.61	-22003	-4177	5.27	22003	7492	2.94

#### 2.2.4.e Verifica delle pareti sismo resistenti

I setti in c.a. vengono verificati come setti/diaframmi o nuclei. La verifica dei setti/diaframmi viene condotta a presso-flessione retta e a taglio.

Viene calcolato lo sforzo normale medio agente sul setto e il momento ad esso associato; quando previsto, sono introdotti ferri verticali aggiuntivi da disporsi sulle estremità del setto stesso.

La verifica a taglio nel piano del setto viene condotta in dipendenza del rapporto H/B (snellezza del setto):

- $H/B > 2$ : l'elemento viene considerato snello e viene condotta una verifica a taglio classica;
- $H/B < 2$ : l'elemento viene considerato tozzo e viene considerato un meccanismo a tirante-puntone.

La verifica dei nuclei viene condotta a pressoflessione deviata sulla sezione complessiva e a taglio sulle singole pareti.

Simbologia utilizzata:



Setti piani	
Nodi	Numero nodi identificativi alla base
Sez	Tipologia sezione impiegata
B	Sviluppo orizzontale setto
H	Altezza setto
Comb.	Combinazione di verifica
C.	Tensione massima nel calcestruzzo
Ft.	Tensione massima di trazione nell'acciaio
Fc.	Tensione massima di compressione nell'acciaio
N	Sforzo assiale sollecitante
M	Momento flettente sollecitante
$\sigma_{max}$	Tensione massima nel calcestruzzo
$\sigma_{med}$	Tensione media nel calcestruzzo
Rete	Diametri e passi delle reti d'armatura (armatura simmetrica sulle facce)
Arm. Sp. n.	Armatura aggiuntiva di testa
$\sigma_{id}$	Tensione ideale massima per sforzo normale e taglio

Nuclei	
Comb.	Combinazione di verifica
Cls.	Tensione massima nel calcestruzzo
ClsMed.	Tensione media calcestruzzo
Ft.	Tensione massima di trazione nell'acciaio
Fc.	Tensione massima di compressione nell'acciaio
Diaframma Nodi	Nodi identificativi poligonale di base
B	Sviluppo orizzontale diaframma
H	Altezza diaframma
$V_d$	Taglio sollecitante
$\tau$	Tensione tangenziale massima nel calcestruzzo
$N_d$	Sforzo assiale sollecitante
$\sigma_{id}$	Tensione ideale massima nel cls per verifica come elemento tozzo

Setti piani	
Base	Valori Sezione di base
Som.	Valori Sezione di Sommità
Comb.	Combinazione di verifica

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N	Sforzo assiale sollecitante
$M_x, M_y$	Momenti flettenti sollecitanti
$S_d/S_r$	Rapporto massimo Sollecitazione/Resistenza
Nodi	Numero nodi identificativi alla base
$V_{dc}$	Taglio di calcolo del modello fem
$\alpha$	Coefficiente amplificativo per duttilità
$V_d$	Taglio di progetto della sezione
$V_{Rd2}$	Taglio resistente compressione del calcestruzzo dell'anima ( $V_{Rcd}$ nel DM2008)
$V_{Rd3}$	Taglio resistente trazione dell'armatura dell'anima ( $V_{Rsd}$ nel DM2008)
$V_{Rds}$	Taglio resistente scorrimento delle zone critiche ( $V_{Rd,s}$ nel DM2008)

Nuclei	
Nodi	Numero nodi identificativi alla base
Sezione Numero	Tipologia sezione impiegata
B	Sviluppo orizzontale diaframma
H	Altezza diaframma
Spessore	Spessore diaframma
Armatura Verticale	Diametro e passo armatura verticale (simmetrica sulle due facce)
Armatura Orizzontale	Diametro e passo armatura orizzontale (simmetrica sulle due facce)
Base	Valori Sezione di base
Base	Valori Sezione di Sommità
Comb. critica	Combinazione di verifica
N	Sforzo assiale sollecitante
$M_x, M_y$	Momenti flettenti sollecitanti
$S_d/S_r$	Rapporto massimo Sollecitazione/Resistenza
Diaframma	Numero nodi identificativi alla base
$V_{dc}$	Taglio di calcolo del modello fem
$\alpha$	Coefficiente amplificativo per duttilità
$V_d$	Taglio di progetto della sezione
$V_{Rd2}$	Taglio resistente compressione del calcestruzzo dell'anima ( $V_{Rcd}$ nel DM2008)
$V_{Rd3}$	Taglio resistente trazione dell'armatura dell'anima ( $V_{Rsd}$ nel DM2008)
$V_{Rds}$	Taglio resistente scorrimento delle zone critiche ( $V_{Rd,s}$ nel DM2008)

Sezioni Impiegate:

Sez.	Info	Dimensio	Criteri	Calcestruz	$f_{ck}$	$f_{cd}$	$\sigma_{RARE}$	$\sigma_{FREQ}$	$\sigma_{QP}$	Acciai	$f_{yk}$	$f_{yd}$	$\sigma_{yRARE}$	$\sigma_{yFREQ}$	$\sigma_{yQP}$	Copriferr
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Num.		ni	o	zo	[kg/cm <sup>2</sup> ]	[kg/cm <sup>2</sup> ]	[kg/cm <sup>2</sup> ]	[kg/cm <sup>2</sup> ]	[kg/cm <sup>2</sup> ]	o	[kg/cm <sup>2</sup> ]	[kg/cm <sup>2</sup> ]	[kg/cm <sup>2</sup> ]	[kg/cm <sup>2</sup> ]	[kg/cm <sup>2</sup> ]	o [cm]
4	Muro fondazione 25	B 140 [cm] H 50 [cm] s 25 [cm] Terreno numero 1	Verset	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	2.500
3	Muro 25	s 25 [cm]	Verset	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	2.500
2	Muro fondazione 20	B 100 [cm] H 50 [cm] s 20 [cm] Terreno numero 1	Verset	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	2.500
1	Muro 20	s 20 [cm]	Verset	C28/35	280.0	158.7	168.0	280.0	126.0	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	2.500

Per nuclei e diaframmi i momenti di progetto sono traslati e involuppati

Per nuclei e diaframmi i tagli di progetto sono traslati e involuppati

Taglio di progetto pari al taglio di calcolo

EC2. 4.3.2.4.4. Verifica a taglio con il metodo dell'inclinazione variabile del traliccio.  $\cotg \theta = 1.00$

Verifiche Setti:

NUCLEO 25 31 32 / Nodi: 25 31 32

Armature Nucleo

Nodi	Sezione Numero	B [cm]	H [cm]	Spessore [cm]	Armatura Verticale	Armatura Orizzontale	
25 31	4	153	395	25	2x ø 18 20'+ Sx: 2 x 3 ø 24 20'	2x ø 14 20'	
31 32	4	152	395	25	2x ø 18 20'+ Dx: 2 x 3 ø 24 20'	2x ø 14 20'	
Sezione		Comb.		N <sub>Ed</sub> [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	Sd/Sr
Base		8inv.		-25663	693529	-0	0.93
Sommità		8		-59228	657340	-0	0.83

S.L.E.	Combinazione	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm <sup>2</sup> ]
Base					
σ <sub>Clis,Max</sub>	23	-146700	35673	-0	-21.4
σ <sub>Clis,Med</sub>	23	-146700	35673	-0	-15.0
σ <sub>s,t</sub>	23	-146700	35673	-0	-128.2
σ <sub>s,c</sub>	23	-146700	35673	-0	-320.3
Sommità					
σ <sub>Clis,Max</sub>	23	-133833	10683	-0	-15.6
σ <sub>Clis,Med</sub>	23	-133833	10683	-0	-13.6
σ <sub>s,t</sub>	23	-133833	10683	-0	-175.8
σ <sub>s,c</sub>	23	-133833	10683	-0	-233.3

Verifiche a taglio dei diaframmi

Diaframma	B [m]	H [m]	Comb. critica	V <sub>dc</sub> [kg]	α	V <sub>Ed</sub> [kg]	N <sub>Ed</sub> [kg]	M <sub>Ed</sub> [kgm]	V <sub>Rcd</sub> [kg]	V <sub>Rds</sub> [kg]	V <sub>Rds,scorrimento</sub> [kg]	S/R
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25-31-32	3.050	3.950	3	148395	1.00	148395	-267737	622181	270038	163992	285188	0.90
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NUCLEO 525 531 532 / Nodi: 125 131 132

Armature Nucleo

Nodi	Sezione Numero	B [cm]	H [cm]	Spessore [cm]	Armatura Verticale	Armatura Orizzontale	
125 131	3	153	337	25	2x ø 18 20'+ Sx: 2 x 3 ø 24 20'	2x ø 14 20'	
131 132	3	152	337	25	2x ø 18 20'+ Dx: 2 x 3 ø 24 20'	2x ø 14 20'	
Sezione		Comb.		N <sub>Ed</sub> [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	Sd/Sr
Base		8inv.		-27289	657340	-0	0.87
Sommità		8		-23474	521832	-0	0.69

S.L.E.	Combinazione	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
Base					
σ <sub>Cl,Max</sub>	23	-105128	5419	-0	-11.7
σ <sub>Cl,Med</sub>	23	-105128	5419	-0	-10.7
σ <sub>s,t</sub>	23	-105128	5419	-0	-146.1
σ <sub>s,c</sub>	23	-105128	5419	-0	-175.3
Sommità					
σ <sub>Cl,Max</sub>	23	-98704	14192	-0	-12.6
σ <sub>Cl,Med</sub>	23	-98704	14192	-0	-10.1
σ <sub>s,t</sub>	23	-98704	14192	-0	-112.7
σ <sub>s,c</sub>	23	-98704	14192	-0	-189.1

Verifiche a taglio dei diaframmi

Diaframma	B [m]	H [m]	Comb. critica	V <sub>dc</sub> [kg]	α	V <sub>Ed</sub> [kg]	N <sub>Ed</sub> [kg]	M <sub>Ed</sub> [kgm]	V <sub>Rod</sub> [kg]	V <sub>Rds</sub> [kg]	V <sub>Rds,scorrimento</sub> [kg]	S/R
125-131-132	3.050	3.370	3	118334	1.00	118334	-182968	589098	270038	163992	261361	0.72

NUCLEO 225 231 232 / Nodi: 225 231 232

Armature Nucleo

Nodi	Sezione Numero	B [cm]	H [cm]	Spessore [cm]	Armatura Verticale	Armatura Orizzontale	
225 231	3	153	323	25	2x ø 14 15'+ Sx: 2 x 2 ø 24 20'	2x ø 14 20'	
231 232	3	152	323	25	2x ø 14 15'+ Dx: 2 x 2 ø 24 20'	2x ø 14 20'	
Sezione		Comb.		N <sub>Ed</sub> [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	Sd/Sr
Base		8inv.		-27203	521832	-0	0.87
Sommità		8		31907	391954	-0	0.76

S.L.E.	Combinazione	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
Base					
σ <sub>Cl,Max</sub>	23	-70108	452	-0	-7.6
σ <sub>Cl,Med</sub>	23	-70108	452	-0	-7.6
σ <sub>s,t</sub>	23	-70108	452	-0	-112.1
σ <sub>s,c</sub>	23	-70108	452	-0	-114.7
Sommità					
σ <sub>Cl,Max</sub>	23	-63951	9627	-0	-8.7

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
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$\sigma_{Cl,Med}$	23	-63951	9627	-0	-6.9
$\sigma_{s,t}$	23	-63951	9627	-0	-75.6
$\sigma_{s,c}$	23	-63951	9627	-0	-131.2

Verifiche a taglio dei diaframmi

Diaframma	B [m]	H [m]	Comb. critica	$V_{dc}$ [kg]	$\alpha$	$V_{Ed}$ [kg]	$N_{Ed}$ [kg]	$M_{Ed}$ [kgm]	$V_{Rcd}$ [kg]	$V_{Rds}$ [kg]	$V_{Rds,scorrimento}$ [kg]	S/R
225-231-232	3.050	3.230	3	105234	1.00	105234	-113014	465220	270038	163992	198977	0.64

NUCLEO 325 331 332 / Nodi: 325 331 332

Armature Nucleo

Nodi	Sezione Numero	B [cm]	H [cm]	Spessore [cm]	Armatura Verticale	Armatura Orizzontale
325 331	3	153	323	25	2x $\phi$ 14 15'+ Sx: 2 x 2 $\phi$ 24 20'	2x $\phi$ 14 20'
331 332	3	152	323	25	2x $\phi$ 14 15'+ Dx: 2 x 2 $\phi$ 24 20'	2x $\phi$ 14 20'
Sezione	Comb.	$N_{Ed}$ [kg]	$M_{12}$ [kgm]	$M_{13}$ [kgm]	Sd/Sr	
Base	8inv.	-11454	391954	-0	0.67	
Sommità	8	-3765	262076	-0	0.46	

S.L.E.	Combinazione	N [kg]	$M_{12}$ [kgm]	$M_{13}$ [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]
Base					
$\sigma_{Cl,Max}$	23	-32535	-2537	0	-4.0
$\sigma_{Cl,Med}$	23	-32535	-2537	0	-3.5
$\sigma_{s,t}$	23	-32535	-2537	0	-45.3
$\sigma_{s,c}$	23	-32535	-2537	0	-59.9
Sommità					
$\sigma_{Cl,Max}$	23	-26378	11897	-0	-5.1
$\sigma_{Cl,Med}$	23	-26378	11897	-0	-2.8
$\sigma_{s,t}$	23	-26378	11897	-0	-8.3
$\sigma_{s,c}$	23	-26378	11897	-0	-77.0

Verifiche a taglio dei diaframmi

Diaframma	B [m]	H [m]	Comb. critica	$V_{dc}$ [kg]	$\alpha$	$V_{Ed}$ [kg]	$N_{Ed}$ [kg]	$M_{Ed}$ [kgm]	$V_{Rcd}$ [kg]	$V_{Rds}$ [kg]	$V_{Rds,scorrimento}$ [kg]	S/R
325-331-332	3.050	3.230	3	89716	1.00	89716	-53616	346488	270038	163992	184114	0.55

NUCLEO 30 41 / Nodi: 30 41

Armature Nucleo

Nodi	Sezione Numero	B [cm]	H [cm]	Spessore [cm]	Armatura Verticale	Armatura Orizzontale
30 41	4	400	395	25	2x $\phi$ 14 15'+ Sx: 2 x 6 $\phi$ 20 15'+ Dx: 2 x 6 $\phi$ 20 15'	2x $\phi$ 14 15'
Sezione	Comb.	$N_{Ed}$ [kg]	$M_{12}$ [kgm]	$M_{13}$ [kgm]	Sd/Sr	
Base	8inv.	-88567	802892	-0	0.66	
Sommità	8	-72553	802892	-0	0.68	

S.L.E.	Combinazione	N [kg]	$M_{12}$ [kgm]	$M_{13}$ [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]
Base					
$\sigma_{Cl,Max}$	23	-117766	23268	-0	-12.0

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$\sigma_{Cl,Med}$	23	-117766	23268	-0	-9.5
$\sigma_{s,t}$	22	-117940	23416	-0	-103.9
$\sigma_{s,c}$	23	-117766	23268	-0	-180.4
Sommità					
$\sigma_{Cl,Max}$	23	-100891	18637	-0	-10.2
$\sigma_{Cl,Med}$	23	-100891	18637	-0	-8.1
$\sigma_{s,t}$	23	-100891	18637	-0	-91.2
$\sigma_{s,c}$	23	-100891	18637	-0	-152.5

Verifiche a taglio dei diaframmi

Diaframma	B [m]	H [m]	Comb. critica	$V_{dc}$ [kg]	$\alpha$	$V_{Ed}$ [kg]	$N_{Ed}$ [kg]	$M_{Ed}$ [kgm]	$V_{Rod}$ [kg]	$V_{Rds}$ [kg]	$V_{Rds,scorrimento}$ [kg]	S/R
30-41	4.000	3.950	8	101383	1.00	101383	-72553	-802892	354843	287325	258906	0.39

NUCLEO 630 641 / Nodi: 130 141

Armature Nucleo

Nodi	Sezione Numero	B [cm]	H [cm]	Spessore [cm]	Armatura Verticale	Armatura Orizzontale	
130 141	3	400	236	25	2x ø 14 15'+ Sx: 2 x 6 ø 20 15'+ Dx: 2 x 6 ø 20 15'	2x ø 14 15'	
Sezione		Comb.		N <sub>Ed</sub> [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	Sd/Sr
Base		8inv.		-72870	802892	-0	0.68
Sommità		8		-66715	703075	-0	0.59

S.L.E.	Combinazione	N [kg]	$M_{12}$ [kgm]	$M_{13}$ [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]
Base					
$\sigma_{Cl,Max}$	23	-93692	11618	-0	-8.8
$\sigma_{Cl,Med}$	23	-93692	11618	-0	-7.5
$\sigma_{s,t}$	23	-93692	11618	-0	-94.0
$\sigma_{s,c}$	23	-93692	11618	-0	-132.2
Sommità					
$\sigma_{Cl,Max}$	23	-87792	9728	-0	-8.1
$\sigma_{Cl,Med}$	23	-87792	9728	-0	-7.1
$\sigma_{s,t}$	23	-87792	9728	-0	-90.0
$\sigma_{s,c}$	23	-87792	9728	-0	-122.0

Verifiche a taglio dei diaframmi

Diaframma	B [m]	H [m]	Comb. critica	$V_{dc}$ [kg]	$\alpha$	$V_{Ed}$ [kg]	$N_{Ed}$ [kg]	$M_{Ed}$ [kgm]	$V_{Rod}$ [kg]	$V_{Rds}$ [kg]	$V_{Rds,scorrimento}$ [kg]	S/R
130-141	4.000	2.360	8	241519	1.00	241519	-72870	-802892	354843	287325	258978	0.93

NUCLEO 230 241 / Nodi: 230 241

Armature Nucleo

Nodi	Sezione Numero	B [cm]	H [cm]	Spessore [cm]	Armatura Verticale	Armatura Orizzontale	
230 241	3	400	323	25	2x ø 14 15'+ Sx: 2 x 6 ø 20 15'+ Dx: 2 x 6 ø 20 15'	2x ø 14 15'	
Sezione		Comb.		N <sub>Ed</sub> [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	Sd/Sr
Base		8inv.		47	703075	-0	0.67
Sommità		8		-51561	566460	-0	0.48

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
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S.L.E.	Combinazione	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
Base					
σ <sub>Cls,Max</sub>	23	-72627	89	-0	-5.9
σ <sub>Cls,Med</sub>	23	-72627	89	-0	-5.8
σ <sub>s,t</sub>	23	-72627	89	-0	-87.5
σ <sub>s,c</sub>	23	-72627	89	-0	-87.8
Sommità					
σ <sub>Cls,Max</sub>	23	-64552	16703	-0	-7.0
σ <sub>Cls,Med</sub>	23	-64552	16703	-0	-5.2
σ <sub>s,t</sub>	22	-64700	16814	-0	-50.5
σ <sub>s,c</sub>	23	-64552	16703	-0	-105.4

Verifiche a taglio dei diaframmi

Diaframma	B [m]	H [m]	Comb. critica	V <sub>dc</sub> [kg]	α	V <sub>Ed</sub> [kg]	N <sub>Ed</sub> [kg]	M <sub>Ed</sub> [kgm]	V <sub>Rcd</sub> [kg]	V <sub>Rds</sub> [kg]	V <sub>Rds,scorrimento</sub> [kg]	S/R
230-241	4.000	3.230	4	230749	1.00	230749	47	661906	354843	287325	243755	0.95

NUCLEO 330 341 / Nodi: 330 341

Armature Nucleo

Nodi	Sezione Numero	B [cm]	H [cm]	Spessore [cm]	Armatura Verticale	Armatura Orizzontale
330 341	3	400	323	25	2x ø 14 20'+ Sx: 2 x 4 ø 18 15'+ Dx: 2 x 4 ø 18 15'	2x ø 14 20'

Sezione	Comb.	N <sub>Ed</sub> [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	Sd/Sr
Base	8inv.	-38101	566460	-0	0.71
Sommità	8	-17507	429845	-0	0.56

S.L.E.	Combinazione	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
Base					
σ <sub>Cls,Max</sub>	23	-48974	5801	-0	-4.9
σ <sub>Cls,Med</sub>	23	-48974	5801	-0	-4.2
σ <sub>s,t</sub>	23	-48974	5801	-0	-53.0
σ <sub>s,c</sub>	23	-48974	5801	-0	-73.9
Sommità					
σ <sub>Cls,Max</sub>	23	-40899	13034	-0	-5.1
σ <sub>Cls,Med</sub>	23	-40899	13034	-0	-3.5
σ <sub>s,t</sub>	23	-40899	13034	-0	-29.6
σ <sub>s,c</sub>	23	-40899	13034	-0	-76.4

Verifiche a taglio dei diaframmi

Diaframma	B [m]	H [m]	Comb. critica	V <sub>dc</sub> [kg]	α	V <sub>Ed</sub> [kg]	N <sub>Ed</sub> [kg]	M <sub>Ed</sub> [kgm]	V <sub>Rcd</sub> [kg]	V <sub>Rds</sub> [kg]	V <sub>Rds,scorrimento</sub> [kg]	S/R
330-341	4.000	3.230	8	176395	1.00	176395	-38101	-566460	354843	215494	183673	0.96

NUCLEO 430 441 / Nodi: 430 441

Armature Nucleo

Nodi	Sezione Numero	B [cm]	H [cm]	Spessore [cm]	Armatura Verticale	Armatura Orizzontale	
430 441	3	400	424	25	2x ø 14 20'+ Sx: 2 x 4 ø 18 15'+ Dx: 2 x 4 ø 18 15'	2x ø 14 20'	
Sezione		Comb.		N <sub>Ed</sub>	M <sub>12</sub>	M <sub>13</sub>	Sd/Sr

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		[kg]	[kgm]	[kgm]	
Base	8inv.	-12806	429845	-0	0.57
Sommità	8	-3762	250512	-0	0.34

S.L.E.	Combinazione	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
Base					
σ <sub>Clis,Max</sub>	23	-24909	1986	-0	-2.4
σ <sub>Clis,Med</sub>	23	-24909	1986	-0	-2.2
σ <sub>s,t</sub>	23	-24909	1986	-0	-28.7
σ <sub>s,c</sub>	23	-24909	1986	-0	-35.8
Sommità					
σ <sub>Clis,Max</sub>	20	-15173	3211	-0	-1.7
σ <sub>Clis,Med</sub>	23	-14309	3924	-0	-1.2
σ <sub>s,t</sub>	23	-14309	3924	-0	-11.5
σ <sub>s,c</sub>	20	-15173	3211	-0	-25.4

Verifiche a taglio dei diaframmi

Diaframma	B [m]	H [m]	Comb. critica	V <sub>dc</sub> [kg]	α	V <sub>Ed</sub> [kg]	N <sub>Ed</sub> [kg]	M <sub>Ed</sub> [kgm]	V <sub>Rod</sub> [kg]	V <sub>Rds</sub> [kg]	V <sub>Rds,scorrimento</sub> [kg]	S/R
430-441	4.000	4.240	8	122042	1.00	122042	-12806	-429845	354843	215494	178586	0.68

NUCLEO 44 45 33 34 / Nodi: 44 45 33 34

Armature Nucleo

Nodi	Sezione Numero	B [cm]	H [cm]	Spessore [cm]	Armatura Verticale	Armatura Orizzontale	
44 45	2	190	395	20	2x ø 14 15'+ Sx: 2 x 3 ø 20 15'+ Dx: 2 x 3 ø 20 15'	2x ø 14 15'	
33 34	2	190	395	20	2x ø 14 15'+ Sx: 2 x 3 ø 20 15'+ Dx: 2 x 3 ø 20 15'	2x ø 14 15'	
33 44	2	170	395	20	2x ø 14 15'+ Sx: 2 x 3 ø 20 15'+ Dx: 2 x 3 ø 20 15'	2x ø 14 15'	
Sezione		Comb.		N <sub>Ed</sub> [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	Sd/Sr
Base		10inv.		-53809	361207	533139	0.73
Sommità		8		-29281	319783	-384146	0.67

S.L.E.	Combinazione	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
Base					
σ <sub>Clis,Max</sub>	23	-118967	629	52820	-18.6
σ <sub>Clis,Med</sub>	23	-118967	629	52820	-8.2
σ <sub>s,t</sub>	23	-118967	629	52820	-27.7
σ <sub>s,c</sub>	23	-118967	629	52820	-279.5
Sommità					
σ <sub>Clis,Max</sub>	23	-101243	19013	-13877	-10.7
σ <sub>Clis,Med</sub>	23	-101243	19013	-13877	-6.9
σ <sub>s,t</sub>	23	-101243	19013	-13877	-32.9
σ <sub>s,c</sub>	23	-101243	19013	-13877	-159.4

Verifiche a taglio dei diaframmi

Diaframma	B [m]	H [m]	Comb. critica	V <sub>dc</sub> [kg]	α	V <sub>Ed</sub> [kg]	N <sub>Ed</sub> [kg]	M <sub>Ed</sub> [kgm]	V <sub>Rod</sub> [kg]	V <sub>Rds</sub> [kg]	V <sub>Rds,scorrimento</sub> [kg]	S/R
33-44	1.700	3.950	5	27601	1.00	27601	-325936	46961	119620	121074	74025	0.37



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33-34	1.898	3.950	3	70621	1.00	70621	11464	-104145	133755	135381	77999	0.91
44-45	1.898	3.950	7	58832	1.00	58832	12104	-103769	133755	135381	77999	0.75

NUCLEO 545 544 533 534 / Nodi: 145 144 133 134

Armature Nucleo

Nodi	Sezione Numero	B [cm]	H [cm]	Spessore [cm]	Armatura Verticale	Armatura Orizzontale	
145 144	1	190	337	20	2x ø 14 15'+ Sx: 2 x 3 ø 20 15'+ Dx: 2 x 3 ø 20 15'	2x ø 14 15'	
133 134	1	190	337	20	2x ø 14 15'+ Sx: 2 x 3 ø 20 15'+ Dx: 2 x 3 ø 20 15'	2x ø 14 15'	
133 144	1	170	337	20	2x ø 14 15'+ Sx: 2 x 3 ø 20 15'+ Dx: 2 x 3 ø 20 15'	2x ø 14 15'	
Sezione		Comb.		N <sub>Ed</sub> [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	Sd/Sr
Base		8inv.		25046	319783	-384146	0.72
Sommità		8		-2271	235347	-308986	0.55

S.L.E.	Combinazione	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
Base					
σ <sub>Clis,Max</sub>	23	-91544	11855	-27419	-10.8
σ <sub>Clis,Med</sub>	23	-91544	11855	-27419	-6.4
σ <sub>s,i</sub>	23	-91544	11855	-27419	5.7
σ <sub>s,c</sub>	23	-91544	11855	-27419	-162.1
Sommità					
σ <sub>Clis,Max</sub>	23	-82284	5465	18129	-9.8
σ <sub>Clis,Med</sub>	23	-82284	5465	18129	-5.7
σ <sub>s,i</sub>	21	-85292	6429	19089	-43.7
σ <sub>s,c</sub>	23	-82284	5465	18129	-147.0

Verifiche a taglio dei diaframmi

Diaframma	B [m]	H [m]	Comb. critica	V <sub>dc</sub> [kg]	α	V <sub>Ed</sub> [kg]	N <sub>Ed</sub> [kg]	M <sub>Ed</sub> [kgm]	V <sub>Rod</sub> [kg]	V <sub>Rds</sub> [kg]	V <sub>Rds,scorrimento</sub> [kg]	S/R
133-144	1.700	3.370	5	69218	1.00	69218	-306527	41507	119620	121074	74025	0.94
133-134	1.898	3.370	3	66013	1.00	66013	-7131	-103845	133755	135381	77999	0.85
145-144	1.898	3.370	7	50898	1.00	50898	-6299	103357	133755	135381	77999	0.65

NUCLEO 245 244 234 233 / Nodi: 245 244 234 233

Armature Nucleo

Nodi	Sezione Numero	B [cm]	H [cm]	Spessore [cm]	Armatura Verticale	Armatura Orizzontale
245 244	1	190	323	20	2x ø 14 20'+ Sx: 2 x 3 ø 20 15'+ Dx: 2 x 3 ø 20 15'	2x ø 14 20'
234 233	1	190	323	20	2x ø 14 20'+ Sx: 2 x 3 ø 20 15'+ Dx: 2 x 3 ø 20 15'	2x ø 14 20'
244 233	1	170	323	20	2x ø 14 20'+ Sx: 2 x 3 ø 20 15'+ Dx: 2 x 3 ø 20 15'	2x ø 14 20'

Sezione	Comb.	N <sub>Ed</sub> [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	Sd/Sr
Base	8inv.	-334	235347	-308986	0.63
Sommità	8	-5694	171338	-277024	0.54

S.L.E.	Combinazione	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
Base					
σ <sub>Clis,Max</sub>	23	-62239	6649	4906	-6.2

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$\sigma_{Cl,Med}$	23	-62239	6649	4906	-4.4
$\sigma_{s,t}$	23	-62239	6649	4906	-46.2
$\sigma_{s,c}$	23	-62239	6649	4906	-92.0
Sommità					
$\sigma_{Cl,Max}$	23	-53363	4678	-3161	-4.7
$\sigma_{Cl,Med}$	23	-53363	4678	-3161	-3.8
$\sigma_{s,t}$	23	-53363	4678	-3161	-39.3
$\sigma_{s,c}$	23	-53363	4678	-3161	-70.2

Verifiche a taglio dei diaframmi

Diaframma	B [m]	H [m]	Comb. critica	$V_{dc}$ [kg]	$\alpha$	$V_{Ed}$ [kg]	$N_{Ed}$ [kg]	$M_{Ed}$ [kgm]	$V_{Rd}$ [kg]	$V_{Rds}$ [kg]	$V_{Rds,scorrimento}$ [kg]	S/R
244-233	1.700	3.230	5	52769	1.00	52769	-225846	-30391	119620	90806	65491	0.81
234-233	1.898	3.230	3	56901	1.00	56901	-2459	81574	133755	101536	68472	0.83
245-244	1.898	3.230	7	44522	1.00	44522	-1237	80857	133755	101536	68472	0.65

NUCLEO 345 344 334 333 / Nodi: 345 344 334 333

Armature Nucleo

Nodi	Sezione Numero	B [cm]	H [cm]	Spessore [cm]	Armatura Verticale	Armatura Orizzontale
345 344	1	190	323	20	2x ø 14 20'+ Sx: 2 x 3 ø 20 15'+ Dx: 2 x 3 ø 20 15'	2x ø 14 20'
334 333	1	190	323	20	2x ø 14 20'+ Sx: 2 x 3 ø 20 15'+ Dx: 2 x 3 ø 20 15'	2x ø 14 20'
333 344	1	170	323	20	2x ø 14 20'+ Sx: 2 x 3 ø 20 15'+ Dx: 2 x 3 ø 20 15'	2x ø 14 20'

Sezione	Comb.	N <sub>Ed</sub> [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	Sd/Sr
Base	8inv.	-17916	171338	-277024	0.53
Sommità	8	-10153	115123	-216094	0.41

S.L.E.	Combinazione	N [kg]	$M_{12}$ [kgm]	$M_{13}$ [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]
Base					
$\sigma_{Cl,Max}$	23	-32206	6646	-16100	-5.3
$\sigma_{Cl,Med}$	23	-32206	6646	-16100	-2.9
$\sigma_{s,t}$	23	-32206	6646	-16100	36.8
$\sigma_{s,c}$	23	-32206	6646	-16100	-78.6
Sommità					
$\sigma_{Cl,Max}$	23	-23331	2203	11823	-4.3
$\sigma_{Cl,Med}$	23	-23331	2203	11823	-1.7
$\sigma_{s,t}$	23	-23331	2203	11823	0.4
$\sigma_{s,c}$	23	-23331	2203	11823	-64.4

Verifiche a taglio dei diaframmi

Diaframma	B [m]	H [m]	Comb. critica	$V_{dc}$ [kg]	$\alpha$	$V_{Ed}$ [kg]	$N_{Ed}$ [kg]	$M_{Ed}$ [kgm]	$V_{Rd}$ [kg]	$V_{Rds}$ [kg]	$V_{Rds,scorrimento}$ [kg]	S/R
333-344	1.700	3.230	5	33285	1.00	33285	-160622	21729	119620	90806	65491	0.51
334-333	1.898	3.230	3	46106	1.00	46106	-1315	72570	133755	101536	68472	0.67
345-344	1.898	3.230	7	36969	1.00	36969	1117	71143	133755	101536	68472	0.54

NUCLEO 47 46 40 39 / Nodi: 47 46 40 39

Armature Nucleo

Nodi	Sezione	B	H	Spessore	Armatura	Armatura
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	Numero	[cm]	[cm]	[cm]	Verticale	Orizzontale
47 46	2	190	395	20	2x ø 18 15'+ Sx: 2 x 3 ø 20 15'+ Dx: 2 x 3 ø 20 15'	2x ø 14 20'
47 40	2	170	395	20	2x ø 18 15'+ Sx: 2 x 3 ø 20 15'+ Dx: 2 x 3 ø 20 15'	2x ø 14 20'
40 39	2	190	395	20	2x ø 18 15'+ Sx: 2 x 3 ø 20 15'+ Dx: 2 x 3 ø 20 15'	2x ø 14 20'

Sezione	Comb.	N <sub>Ed</sub> [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	Sd/Sr
Base	10inv.	-75269	279820	554992	0.67
Sommità	10	-76842	262854	521802	0.63

S.L.E.	Combinazione	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
Base					
σ <sub>Clis,Max</sub>	23	-119973	2506	-37042	-14.6
σ <sub>Clis,Med</sub>	23	-119973	2506	-37042	-7.6
σ <sub>s,t</sub>	23	-119973	2506	-37042	-49.6
σ <sub>s,c</sub>	23	-119973	2506	-37042	-218.8
Sommità					
σ <sub>Clis,Max</sub>	23	-102265	8443	-11472	-9.4
σ <sub>Clis,Med</sub>	23	-102265	8443	-11472	-6.5
σ <sub>s,t</sub>	21	-105244	9829	-11959	-66.0
σ <sub>s,c</sub>	23	-102265	8443	-11472	-141.0

Verifiche a taglio dei diaframmi

Diaframma	B [m]	H [m]	Comb. critica	V <sub>dc</sub> [kg]	α	V <sub>Ed</sub> [kg]	N <sub>Ed</sub> [kg]	M <sub>Ed</sub> [kgm]	V <sub>Rcd</sub> [kg]	V <sub>Rds</sub> [kg]	V <sub>Rds,scorrimento</sub> [kg]	S/R
40-39	1.896	3.950	3	59180	1.00	59180	241724	304629	133584	101406	0	0.58
47-40	1.700	3.950	3	31654	1.00	31654	-368910	-35892	119620	90806	0	0.35
47-46	1.896	3.950	3	72107	1.00	72107	-37492	140792	133584	101406	0	0.71

NUCLEO 147 146 140 139 / Nodi: 147 146 140 139

Armature Nucleo

Nodi	Sezione Numero	B [cm]	H [cm]	Spessore [cm]	Armatura Verticale	Armatura Orizzontale
147 146	1	190	337	20	2x ø 18 15'+ Sx: 2 x 3 ø 20 15'+ Dx: 2 x 3 ø 20 15'	2x ø 14 20'
140 139	1	190	337	20	2x ø 18 15'+ Sx: 2 x 3 ø 20 15'+ Dx: 2 x 3 ø 20 15'	2x ø 14 20'

Sezione	Comb.	N <sub>Ed</sub> [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	Sd/Sr
Base	8inv.	-64783	262854	-592108	0.97
Sommità	8	-66530	211579	-480372	0.78

S.L.E.	Combinazione	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	σ [kg/cm²]
Base					
σ <sub>Clis,Max</sub>	23	-90745	6550	31835	-17.2
σ <sub>Clis,Med</sub>	23	-90745	6550	31835	-8.5
σ <sub>s,t</sub>	23	-90745	6550	31835	6.9
σ <sub>s,c</sub>	23	-90745	6550	31835	-257.8
Sommità					
σ <sub>Clis,Max</sub>	23	-84357	15793	-16939	-14.0
σ <sub>Clis,Med</sub>	23	-84357	15793	-16939	-7.8

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$\sigma_{s,t}$	19	-93994	21684	-20039	-16.1
$\sigma_{s,c}$	23	-84357	15793	-16939	-208.5

Verifiche a taglio dei diaframmi

Diaframma	B [m]	H [m]	Comb. critica	V <sub>dc</sub> [kg]	$\alpha$	V <sub>Ed</sub> [kg]	N <sub>Ed</sub> [kg]	M <sub>Ed</sub> [kgm]	V <sub>Rod</sub> [kg]	V <sub>Rds</sub> [kg]	V <sub>Rds,scorrimento</sub> [kg]	S/R
140-139	1.896	3.370	3	45101	1.00	45101	92666	296054	133584	101406	140603	0.44
147-146	1.896	3.370	3	36053	1.00	36053	-172219	240186	133584	101406	0	0.36

NUCLEO 247 246 240 239 / Nodi: 247 246 240 239

Armature Nucleo

Nodi	Sezione Numero	B [cm]	H [cm]	Spessore [cm]	Armatura Verticale	Armatura Orizzontale
247 246	1	190	323	20	2x $\emptyset$ 18 15'+ Sx: 2 x 3 $\emptyset$ 20 15'+ Dx: 2 x 3 $\emptyset$ 20 15'	2x $\emptyset$ 14 20'
240 239	1	190	323	20	2x $\emptyset$ 18 15'+ Sx: 2 x 3 $\emptyset$ 20 15'+ Dx: 2 x 3 $\emptyset$ 20 15'	2x $\emptyset$ 14 20'

Sezione	Comb.	N <sub>Ed</sub> [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	Sd/Sr
Base	8inv.	-62220	211579	-480372	0.78
Sommità	8	-49921	162433	-373278	0.60

S.L.E.	Combinazione	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]
Base					
$\sigma_{Clis,Max}$	23	-72586	13661	-3017	-9.1
$\sigma_{Clis,Med}$	23	-72586	13661	-3017	-6.7
$\sigma_{s,t}$	22	-73046	13878	-3092	-65.0
$\sigma_{s,c}$	23	-72586	13661	-3017	-135.6
Sommità					
$\sigma_{Clis,Max}$	23	-66464	5233	-403	-6.9
$\sigma_{Clis,Med}$	23	-66464	5233	-403	-6.1
$\sigma_{s,t}$	21	-68333	6063	-704	-81.2
$\sigma_{s,c}$	23	-66464	5233	-403	-102.5

Verifiche a taglio dei diaframmi

Diaframma	B [m]	H [m]	Comb. critica	V <sub>dc</sub> [kg]	$\alpha$	V <sub>Ed</sub> [kg]	N <sub>Ed</sub> [kg]	M <sub>Ed</sub> [kgm]	V <sub>Rod</sub> [kg]	V <sub>Rds</sub> [kg]	V <sub>Rds,scorrimento</sub> [kg]	S/R
240-239	1.896	3.230	3	42844	1.00	42844	79650	240186	133584	101406	0	0.42
247-246	1.896	3.230	3	36053	1.00	36053	-162603	240186	133584	101406	0	0.36

NUCLEO 347 346 340 339 / Nodi: 347 346 340 339

Armature Nucleo

Nodi	Sezione Numero	B [cm]	H [cm]	Spessore [cm]	Armatura Verticale	Armatura Orizzontale
347 346	1	190	323	20	2x $\emptyset$ 18 15'+ Sx: 2 x 3 $\emptyset$ 20 15'+ Dx: 2 x 3 $\emptyset$ 20 15'	2x $\emptyset$ 14 20'
340 339	1	190	323	20	2x $\emptyset$ 18 15'+ Sx: 2 x 3 $\emptyset$ 20 15'+ Dx: 2 x 3 $\emptyset$ 20 15'	2x $\emptyset$ 14 20'

Sezione	Comb.	N <sub>Ed</sub> [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	Sd/Sr
Base	8inv.	-39617	162433	-373278	0.61
Sommità	8	-31163	113870	-266184	0.43

S.L.E.	Combinazione	N [kg]	M <sub>12</sub> [kgm]	M <sub>13</sub> [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]
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Base					
$\sigma_{Clis,Max}$	23	-54484	3361	13881	-8.9
$\sigma_{Clis,Med}$	23	-54484	3361	13881	-5.0
$\sigma_{s,t}$	19	-60208	4760	15923	-14.5
$\sigma_{s,c}$	23	-54484	3361	13881	-133.9
Sommità					
$\sigma_{Clis,Max}$	23	-48362	8868	-25435	-12.4
$\sigma_{Clis,Med}$	23	-48362	8868	-25435	-5.6
$\sigma_{s,t}$	23	-48362	8868	-25435	57.4
$\sigma_{s,c}$	23	-48362	8868	-25435	-184.9

Verifiche a taglio dei diaframmi

Diaframma	B [m]	H [m]	Comb. critica	$V_{dc}$ [kg]	$\alpha$	$V_{Ed}$ [kg]	$N_{Ed}$ [kg]	$M_{Ed}$ [kgm]	$V_{Rcd}$ [kg]	$V_{Rds}$ [kg]	$V_{Rds,scorrimento}$ [kg]	S/R
340-339	1.896	3.230	3	38426	1.00	38426	57801	186639	133584	101406	0	0.38
347-346	1.896	3.230	3	36053	1.00	36053	-127152	186639	133584	101406	0	0.36

NUCLEO 447 446 440 439 / Nodi: 447 446 440 439

Armature Nucleo

Nodi	Sezione Numero	B [cm]	H [cm]	Spessore [cm]	Armatura Verticale	Armatura Orizzontale
447 446	1	190	323	20	2x $\emptyset$ 18 15'+ Sx: 2 x 3 $\emptyset$ 20 15'+ Dx: 2 x 3 $\emptyset$ 20 15'	2x $\emptyset$ 14 20'
440 439	1	190	323	20	2x $\emptyset$ 18 15'+ Sx: 2 x 3 $\emptyset$ 20 15'+ Dx: 2 x 3 $\emptyset$ 20 15'	2x $\emptyset$ 14 20'

Sezione	Comb.	$N_{Ed}$ [kg]	$M_{12}$ [kgm]	$M_{13}$ [kgm]	Sd/Sr
Base	8inv.	-15507	113870	-266184	0.44
Sommità	8	-19508	68325	-159090	0.26

S.L.E.	Combinazione	N [kg]	$M_{12}$ [kgm]	$M_{13}$ [kgm]	$\sigma$ [kg/cm <sup>2</sup> ]
Base					
$\sigma_{Clis,Max}$	23	-34132	7212	-11147	-6.9
$\sigma_{Clis,Med}$	23	-34132	7212	-11147	-3.3
$\sigma_{s,t}$	23	-34132	7212	-11147	8.2
$\sigma_{s,c}$	23	-34132	7212	-11147	-102.3
Sommità					
$\sigma_{Clis,Max}$	23	-28010	1939	-8220	-4.9
$\sigma_{Clis,Med}$	23	-28010	1939	-8220	-2.6
$\sigma_{s,t}$	20	-31818	4155	-9620	-0.2
$\sigma_{s,c}$	23	-28010	1939	-8220	-73.3

Verifiche a taglio dei diaframmi

Diaframma	B [m]	H [m]	Comb. critica	$V_{dc}$ [kg]	$\alpha$	$V_{Ed}$ [kg]	$N_{Ed}$ [kg]	$M_{Ed}$ [kgm]	$V_{Rcd}$ [kg]	$V_{Rds}$ [kg]	$V_{Rds,scorrimento}$ [kg]	S/R
440-439	1.896	3.230	3	34008	1.00	34008	37447	133092	133584	101406	0	0.34
447-446	1.896	3.230	3	36053	1.00	36053	-90205	133092	133584	101406	0	0.36

## 2.2.4.f Verifica delle fondazioni

Si riportano di seguito i risultati delle verifiche geotecniche e strutturali eseguite sulle fondazioni.

Le verifiche vengono eseguite su un modello matematico nel quale, in conformità a quanto indicato al punto 2.1.l.3 Azioni di calcolo della presente relazione, sono state incrementate le azioni di calcolo  $A_D$  agli SLV del fattore di sovraresistenza  $\gamma_{Rd}$  pari a 1.1.

#### 2.2.4.f.1 Verifiche geotecniche: pressioni sul terreno

Nel seguito vengono riportate le pressioni, massime e minime per le combinazioni di carico SLU e SLV, trasmesse al terreno dalla struttura in corrispondenza dei nodi di fondazione.

Pressioni massime sul terreno

Combinazioni agli Stati Limite Ultimi

	Elemento	Combinazione	p [kg/cm <sup>2</sup> ]
Min	Trave di fondazione Sez. 2 Nodi: 20 21	1	-2.1
Max	Setto Sez. 4 Nodi: 31 131 132 32	1	1.9

Combinazioni agli Stati Limite di Salvaguardia della Vita

	Elemento	Combinazione	p [kg/cm <sup>2</sup> ]
Min	Trave di fondazione Sez. 3 Nodi: 65 64	5	-3.0
Max	Setto Sez. 4 Nodi: 25 125 131 31	15	2.4

Per tutte le combinazioni è verificato che:  $E_d < R_d$

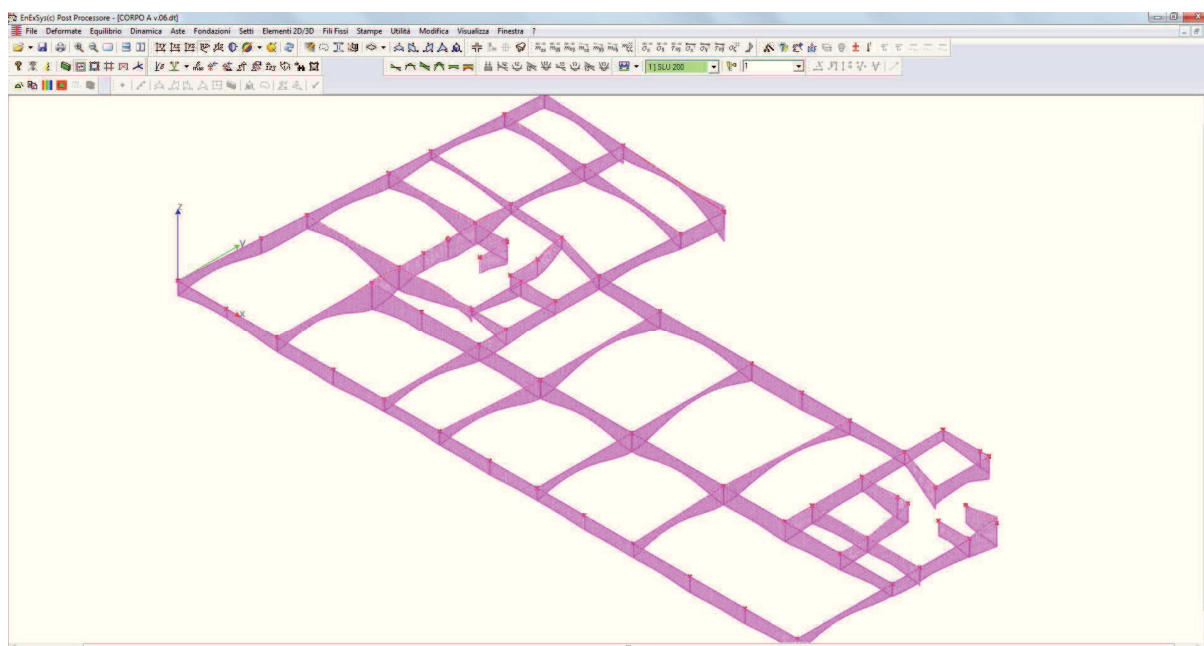
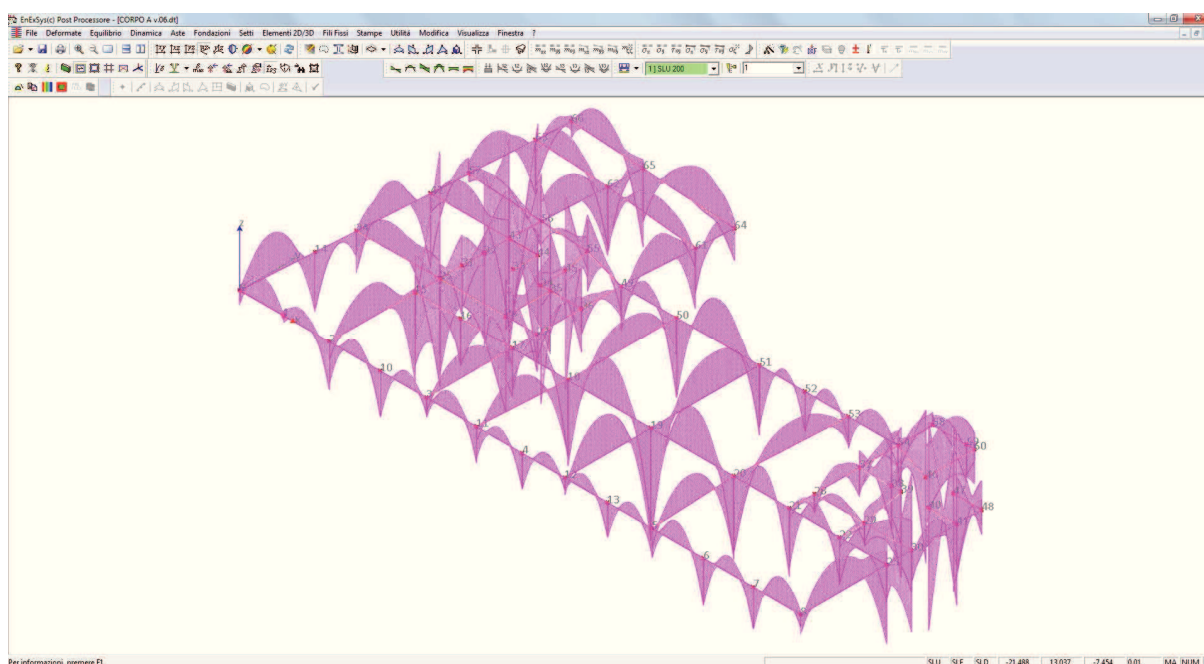


DIAGRAMMA DELL'INVILUPPO DELLE PRESSIONI TRASMESSE AL TERRENO

#### 2.2.4.f.2 Verifiche strutturali: travi di fondazione



INVILUPPO DIAGRAMMA MOMENTI TRAVI DI FONDAZIONE

Sezioni Impiegate: Trave di fondazione

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Sez. Num.	Info	Dimensioni	Criterio	Calcestruzzo	$f_{ck}$ [kg/cm <sup>2</sup> ]	$f_{td}$ [kg/cm <sup>2</sup> ]	$\sigma_{RARE}$ [kg/cm <sup>2</sup> ]	$\sigma_{FREQ}$ [kg/cm <sup>2</sup> ]	$\sigma_{QP}$ [kg/cm <sup>2</sup> ]	Acciaio	$f_{yk}$ [kg/cm <sup>2</sup> ]	$f_{yd}$ [kg/cm <sup>2</sup> ]	$\sigma_{yRARE}$ [kg/cm <sup>2</sup> ]	$\sigma_{yFREQ}$ [kg/cm <sup>2</sup> ]	$\sigma_{yQP}$ [kg/cm <sup>2</sup> ]	Cop. Es [cm]	Cop. In [cm]
2	Rett. 50-170	B 170 [cm] H 50 [cm] Terreno numero 1	Verfond	C25/30	250.0	141.7	150.0	250.0	112.5	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	4.000	4.000
3	Rett. 50-120	B 120 [cm] H 50 [cm] Terreno numero 1	Verfond	C25/30	250.0	141.7	150.0	250.0	112.5	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	4.000	4.000
4	Rett. 50-80	B 80 [cm] H 50 [cm] Terreno numero 1	Verfond	C25/30	250.0	141.7	150.0	250.0	112.5	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	4.000	4.000
5	Rett. 50-140	B 140 [cm] H 50 [cm] Terreno numero 1	Verfond	C25/30	250.0	141.7	150.0	250.0	112.5	B 450 C	4500.0	3913.0	3600.0	4500.0	4500.0	4.000	4.000

Elemento	Comb. mm	Rare	Comb. mm	Frequenti	Comb. mm	Quasi	Permanenti
Trave di Fondazione	No		0.400		0.300		

Verifiche Travi :

Travata: 1 Travata 9 1 2 10 3 11 4 12 13 5 6 7 8

Nodo	x [m]	A <sub>fe</sub> [cm <sup>2</sup> ]	A <sub>fi</sub> [cm <sup>2</sup> ]	Q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	$\sigma_{be}$ [kg/cm <sup>2</sup> ]	$\sigma_{ti}$ [kg/cm <sup>2</sup> ]	$\sigma_{fe}$ [kg/cm <sup>2</sup> ]	$\sigma_{fi}$ [kg/cm <sup>2</sup> ]	w mm
Trave di fondazione Sez. 2 Rett. 170x50 [cm] 50-170																
9	0.150	27.99	27.99			5090	43415	0.13	-3082	-43415	0.13					
						SLE Rare	133		-1113			2.4	0.3	17.2	99.7	
						SLE Freq.	131		-981			2.1	0.3	15.2	87.9	0.0110
						SLE Q.P.	130		-935			2.0	0.3	14.5	83.7	0.0105
Camp.	1.480	27.99	27.99			15929	43415	0.13	0	-43415	0.13					
						SLE Rare	11993		0			0.0	25.4	1073.8	185.8	
						SLE Freq.	11202		0			0.0	23.7	1003.0	173.5	0.0218
						SLE Q.P.	10926		0			0.0	23.1	978.3	169.2	0.0212
1	2.810	27.99	27.99			7426	43415	0.13	-51	-43415	0.13					
						SLE Rare	2850		0			0.0	6.0	255.2	44.1	
						SLE Freq.	2281		0			0.0	4.8	204.2	35.3	0.0044
						SLE Q.P.	2079		0			0.0	4.4	186.1	32.2	0.0040
Trave di fondazione Sez. 2 Rett. 170x50 [cm] 50-170																
1	0.200	27.99	27.99			6550	43415	0.13	-1334	-43415	0.13					
						SLE Rare	2390		0			0.0	5.1	214.0	37.0	
						SLE Freq.	1823		0			0.0	3.9	163.2	28.2	0.0035
						SLE Q.P.	1622		0			0.0	3.4	145.2	25.1	0.0031
Camp.	1.645	27.99	27.99			9311	43415	0.13	0	-43415	0.13					



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				SLE Rare	6008			0			0.0	12.7	537.9	93.1	
				SLE Freq.	5612			0			0.0	11.9	502.5	86.9	0.0109
				SLE Q.P.	5475			0			0.0	11.6	490.2	84.8	0.0106
2	3.090	27.99	27.99			0	43415	0.13	-21522	-43415	0.13				
				SLE Rare	0				-16184			34.2	0.0	250.7	1449.0
				SLE Freq.	0				-14898			31.5	0.0	230.8	1333.9
				SLE Q.P.	0				-14446			30.5	0.0	223.8	1293.4
Trave di fondazione Sez. 2 Rett. 170x50 [cm] 50-170															
2	0.200	27.99	27.99			0	43415	0.13	-17230	-43415	0.13				
				SLE Rare	0				-12984			27.4	0.0	201.1	1162.5
				SLE Freq.	0				-12048			25.5	0.0	186.6	1078.7
				SLE Q.P.	0				-11720			24.8	0.0	181.5	1049.4
Camp.	1.670	27.99	27.99			9771	43415	0.13	0	-43415	0.13				
				SLE Rare	7377			0				0.0	15.6	660.5	114.3
				SLE Freq.	6894			0				0.0	14.6	617.3	106.8
				SLE Q.P.	6726			0				0.0	14.2	602.2	104.2
10	3.140	37.69	40.78			0	57805	0.14	-18697	-62304	0.15				
				SLE Rare	0				-14065			24.9	0.0	206.6	875.9
				SLE Freq.	0				-12957			23.0	0.0	190.3	806.9
				SLE Q.P.	0				-12574			22.3	0.0	184.7	783.0
Trave di fondazione Sez. 2 Rett. 170x50 [cm] 50-170															
10	0.200	44.17	55.98			0	67406	0.15	-19557	-84352	0.17				
				SLE Rare	0				-14717			22.8	0.0	165.3	675.3
				SLE Freq.	0				-13579			21.0	0.0	152.5	623.1
				SLE Q.P.	0				-13185			20.4	0.0	148.0	605.0
Camp.	1.625	27.99	27.99			8808	43415	0.13	0	-43415	0.13				
				SLE Rare	6378			0				0.0	13.5	571.1	98.8
				SLE Freq.	5936			0				0.0	12.5	531.5	91.9
				SLE Q.P.	5782			0				0.0	12.2	517.7	89.6
3	3.050	27.99	27.99			110	43415	0.13	-6410	-43415	0.13				
				SLE Rare	0				-4811			10.2	0.0	74.5	430.7
				SLE Freq.	0				-4447			9.4	0.0	68.9	398.1
				SLE Q.P.	0				-4319			9.1	0.0	66.9	386.7
Trave di fondazione Sez. 2 Rett. 170x50 [cm] 50-170															
3	0.150	27.99	27.99			0	43415	0.13	-7345	-43415	0.13				
				SLE Rare	0				-5444			11.5	0.0	84.3	487.4
				SLE Freq.	0				-4996			10.6	0.0	77.4	447.3
				SLE Q.P.	0				-4839			10.2	0.0	75.0	433.3
Camp.	1.680	27.99	27.99			11568	43415	0.13	0	-43415	0.13				
				SLE Rare	8615			0				0.0	18.2	771.4	133.5
				SLE Freq.	8000			0				0.0	16.9	716.3	123.9
				SLE Q.P.	7786			0				0.0	16.5	697.1	120.6
11	3.210	27.99	27.99			0	43415	0.13	-14510	-43415	0.13				
				SLE Rare	0				-10974			23.2	0.0	170.0	982.6

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				SLE Freq.	0				-10324			21.8	0.0	159.9	924.4	0.1159
				SLE Q.P.	0				-10098			21.3	0.0	156.4	904.2	0.1134
Trave di fondazione Sez. 2 Rett. 170x50 [cm] 50-170																
11	0.200	27.99	27.99			0	43415	0.13	-12022	-43415	0.13					
				SLE Rare	0				-9104			19.2	0.0	141.0	815.2	
				SLE Freq.	0				-8603			18.2	0.0	133.3	770.3	0.0966
				SLE Q.P.	0				-8430			17.8	0.0	130.6	754.8	0.0947
Camp.	1.590	27.99	27.99			7179	43415	0.13	0	-43415	0.13					
				SLE Rare	5372				0			0.0	11.4	481.0	83.2	
				SLE Freq.	5002				0			0.0	10.6	447.9	77.5	0.0097
				SLE Q.P.	4874				0			0.0	10.3	436.4	75.5	0.0095
4	2.980	39.15	54.16			0	60014	0.14	-16022	-81635	0.17					
				SLE Rare	0				-12053			19.2	0.0	133.6	571.2	
				SLE Freq.	0				-11108			17.7	0.0	123.1	526.5	0.0471
				SLE Q.P.	0				-10779			17.2	0.0	119.4	510.9	0.0457
Trave di fondazione Sez. 2 Rett. 170x50 [cm] 50-170																
4	0.150	36.57	41.32			0	56155	0.14	-15986	-63073	0.15					
				SLE Rare	0				-12027			21.3	0.0	177.6	739.6	
				SLE Freq.	0				-11089			19.6	0.0	163.8	681.9	0.0691
				SLE Q.P.	0				-10762			19.0	0.0	159.0	661.8	0.0671
Camp.	1.465	27.99	27.99			8324	43415	0.13	0	-43415	0.13					
				SLE Rare	5991				0			0.0	12.7	536.4	92.8	
				SLE Freq.	5581				0			0.0	11.8	499.7	86.4	0.0108
				SLE Q.P.	5438				0			0.0	11.5	486.9	84.2	0.0106
12	2.780	27.99	27.99			794	43415	0.13	-4274	-43415	0.13					
				SLE Rare	0				-3068			6.5	0.0	47.5	274.7	
				SLE Freq.	0				-2965			6.3	0.0	45.9	265.4	0.0333
				SLE Q.P.	0				-2928			6.2	0.0	45.4	262.2	0.0329
Trave di fondazione Sez. 2 Rett. 170x50 [cm] 50-170																
12	0.150	27.99	27.99			978	43415	0.13	-4691	-43415	0.13					
				SLE Rare	0				-3151			6.7	0.0	48.8	282.1	
				SLE Freq.	0				-3042			6.4	0.0	47.1	272.4	0.0342
				SLE Q.P.	0				-3005			6.4	0.0	46.5	269.0	0.0337
Camp.	1.465	27.99	27.99			8416	43415	0.13	0	-43415	0.13					
				SLE Rare	6090				0			0.0	12.9	545.3	94.3	
				SLE Freq.	5674				0			0.0	12.0	508.0	87.9	0.0110
				SLE Q.P.	5529				0			0.0	11.7	495.0	85.6	0.0107
13	2.780	27.99	27.99			0	43415	0.13	-15410	-43415	0.13					
				SLE Rare	0				-11592			24.5	0.0	179.6	1037.9	
				SLE Freq.	0				-10684			22.6	0.0	165.5	956.6	0.1200
				SLE Q.P.	0				-10367			21.9	0.0	160.6	928.3	0.1164
Trave di fondazione Sez. 2 Rett. 170x50 [cm] 50-170																
13	0.150	27.99	27.99			0	43415	0.13	-15221	-43415	0.13					

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				SLE Rare	0			-11451			24.2	0.0	177.4	1025.3	
				SLE Freq.	0			-10555			22.3	0.0	163.5	945.0	0.1185
				SLE Q.P.	0			-10243			21.7	0.0	158.7	917.1	0.1150
Camp.	1.500	27.99	27.99			7744	43415	0.13	0	-43415	0.13				
				SLE Rare	5786			0			0.0	12.2	518.1	89.6	
				SLE Freq.	5394			0			0.0	11.4	483.0	83.6	0.0105
				SLE Q.P.	5257			0			0.0	11.1	470.7	81.4	0.0102
5	2.850	35.37	38.53			0	54372	0.14	-9672	-58997	0.15				
				SLE Rare	0			-7279			13.3	0.0	108.4	478.8	
				SLE Freq.	0			-6891			12.6	0.0	102.6	453.3	0.0476
				SLE Q.P.	0			-6756			12.3	0.0	100.6	444.4	0.0466
Trave di fondazione Sez. 2 Rett. 170x50 [cm] 50-170															
5	0.200	40.94	55.66			227	62668	0.15	-10579	-83812	0.17				
				SLE Rare	0			-7926			12.4	0.0	86.9	365.9	
				SLE Freq.	0			-7503			11.8	0.0	82.2	346.3	0.0307
				SLE Q.P.	0			-7355			11.5	0.0	80.6	339.5	0.0301
Camp.	1.740	27.99	27.99			12519	43415	0.13	0	-43415	0.13				
				SLE Rare	9367			0			0.0	19.8	838.7	145.1	
				SLE Freq.	8697			0			0.0	18.4	778.7	134.7	0.0169
				SLE Q.P.	8467			0			0.0	17.9	758.1	131.2	0.0164
6	3.280	27.99	27.99			0	43415	0.13	-19314	-43415	0.13				
				SLE Rare	0			-14548			30.8	0.0	225.4	1302.6	
				SLE Freq.	0			-13483			28.5	0.0	208.9	1207.2	0.1514
				SLE Q.P.	0			-13107			27.7	0.0	203.0	1173.5	0.1472
Trave di fondazione Sez. 2 Rett. 170x50 [cm] 50-170															
6	0.200	27.99	27.99			0	43415	0.13	-19302	-43415	0.13				
				SLE Rare	0			-14543			30.7	0.0	225.3	1302.2	
				SLE Freq.	0			-13496			28.5	0.0	209.1	1208.4	0.1515
				SLE Q.P.	0			-13123			27.7	0.0	203.3	1175.0	0.1473
Camp.	1.735	27.99	27.99			9933	43415	0.13	0	-43415	0.13				
				SLE Rare	7503			0			0.0	15.9	671.8	116.2	
				SLE Freq.	7008			0			0.0	14.8	627.5	108.6	0.0136
				SLE Q.P.	6847			0			0.0	14.5	613.1	106.1	0.0133
7	3.270	27.99	27.99			0	43415	0.13	-16981	-43415	0.13				
				SLE Rare	0			-12768			27.0	0.0	197.8	1143.2	
				SLE Freq.	0			-11731			24.8	0.0	181.7	1050.3	0.1317
				SLE Q.P.	0			-11380			24.1	0.0	176.3	1019.0	0.1278
Trave di fondazione Sez. 2 Rett. 170x50 [cm] 50-170															
7	0.200	27.99	27.99			0	43415	0.13	-16551	-43415	0.13				
				SLE Rare	0			-12436			26.3	0.0	192.6	1113.5	
				SLE Freq.	0			-11403			24.1	0.0	176.6	1021.0	0.1280
				SLE Q.P.	0			-11048			23.4	0.0	171.1	989.2	0.1240
Camp.	1.605	27.99	27.99			15240	43415	0.13	0	-43415	0.13				
				SLE Rare	10998			0			0.0	23.3	984.7	170.4	

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				SLE Freq.	10340			0			0.0	21.9	925.8	160.2	0.0201
				SLE Q.P.	10140			0			0.0	21.4	907.9	157.1	0.0197
8	3.010	27.99	27.99		8924	43415	0.13	-4022	-43415	0.13					
				SLE Rare	949			-193			0.4	2.0	84.9	17.3	
				SLE Freq.	874			-189			0.4	1.8	78.3	16.9	0.0021
				SLE Q.P.	845			-177			0.4	1.8	75.6	15.9	0.0020

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave di fondazione 9 1 Sez. 2 Rett. 170x50 [cm] 50-170							
0.149	2.791	2.642	26363	31865	241733	49344	ø 10 6br. 15.0'
Trave di fondazione 1 2 Sez. 2 Rett. 170x50 [cm] 50-170							
0.210	3.248	3.038	36208	31865	241733	49344	ø 10 6br. 15.0'
Trave di fondazione 2 10 Sez. 2 Rett. 170x50 [cm] 50-170							
0.191	2.996	2.806	37282	31865	241733	49344	ø 10 6br. 15.0'
Trave di fondazione 10 3 Sez. 2 Rett. 170x50 [cm] 50-170							
0.202	3.079	2.877	36666	31865	241733	49344	ø 10 6br. 15.0'
Trave di fondazione 3 11 Sez. 2 Rett. 170x50 [cm] 50-170							
0.149	3.182	3.033	32486	31865	241733	49344	ø 10 6br. 15.0'
Trave di fondazione 11 4 Sez. 2 Rett. 170x50 [cm] 50-170							
0.200	2.980	2.780	32418	31865	241733	49344	ø 10 6br. 15.0'
Trave di fondazione 4 12 Sez. 2 Rett. 170x50 [cm] 50-170							
0.150	2.780	2.630	32774	31865	241733	49344	ø 10 6br. 15.0'
Trave di fondazione 12 13 Sez. 2 Rett. 170x50 [cm] 50-170							
0.150	2.780	2.630	32325	31865	241733	49344	ø 10 6br. 15.0'
Trave di fondazione 13 5 Sez. 2 Rett. 170x50 [cm] 50-170							
0.150	2.850	2.700	32215	31865	241733	49344	ø 10 6br. 15.0'
Trave di fondazione 5 6 Sez. 2 Rett. 170x50 [cm] 50-170							
0.197	3.234	3.036	39360	31865	241733	49344	ø 10 6br. 15.0'
Trave di fondazione 6 7 Sez. 2 Rett. 170x50 [cm] 50-170							
0.203	3.318	3.115	38527	31865	241733	49344	ø 10 6br. 15.0'
Trave di fondazione 7 8 Sez. 2 Rett. 170x50 [cm] 50-170							
0.197	2.964	2.767	38454	31865	241733	49344	ø 10 6br. 15.0'

Travata: 10 Travata 49 50 51 52 53 54

COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
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Nodo	X [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>r</sub> [kg/m]	M <sub>irr</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave di fondazione Sez. 5 Rett. 140x50 [cm] 50-140																
49	0.150	22.90	31.42			0	35514	0.13	-15484	-47951	0.15					
					SLE Rare	0			-11358			26.0	0.0	215.0	918.4	
					SLE Freq.	0			-10510			24.1	0.0	199.0	849.9	0.0948
					SLE Q.P.	0			-10214			23.4	0.0	193.4	825.9	0.0921
Camp.	1.880	22.90	31.42			9763	35514	0.13	0	-47951	0.15					
					SLE Rare	6989			0			0.0	17.4	765.5	121.8	
					SLE Freq.	6440			0			0.0	16.1	705.3	112.2	0.0154
					SLE Q.P.	6253			0			0.0	15.6	685.0	109.0	0.0150
50	3.610	22.90	31.42			0	35514	0.13	-35771	-47951	0.15					
					SLE Rare	0			-26906			61.7	0.0	509.4	2175.7	
					SLE Freq.	0			-24735			56.7	0.0	468.3	2000.2	0.2548
					SLE Q.P.	0			-24017			55.1	0.0	454.7	1942.1	0.2440
Trave di fondazione Sez. 5 Rett. 140x50 [cm] 50-140																
50	0.200	22.90	31.42			0	35514	0.13	-37312	-47951	0.15					
					SLE Rare	0			-27016			61.9	0.0	511.5	2184.6	
					SLE Freq.	0			-24842			57.0	0.0	470.3	2008.8	0.2564
					SLE Q.P.	0			-24125			55.3	0.0	456.8	1950.8	0.2457
Camp.	2.870	22.90	31.42			24706	35514	0.13	0	-47951	0.15					
					SLE Rare	18601			0			0.0	46.4	2037.4	324.2	
					SLE Freq.	17172			0			0.0	42.8	1880.9	299.3	0.0411
					SLE Q.P.	16696			0			0.0	41.7	1828.7	291.0	0.0400
51	5.540	23.78	39.24			0	36835	0.13	-31658	-59130	0.17					
					SLE Rare	0			-22808			48.0	0.0	291.0	1310.2	
					SLE Freq.	0			-21181			44.6	0.0	270.2	1216.7	0.1183
					SLE Q.P.	0			-20641			43.5	0.0	263.3	1185.7	0.1153
Trave di fondazione Sez. 5 Rett. 140x50 [cm] 50-140																
51	0.200	23.78	33.28			0	36846	0.13	-25645	-50700	0.15					
					SLE Rare	0			-19350			43.2	0.0	283.6	1479.2	
					SLE Freq.	0			-18014			40.2	0.0	264.0	1377.1	0.1447
					SLE Q.P.	0			-17568			39.2	0.0	257.5	1343.0	0.1411
Camp.	1.565	22.90	22.90			5852	35531	0.13	0	-35531	0.13					
					SLE Rare	4278			0			0.0	11.0	468.0	80.5	
					SLE Freq.	3940			0			0.0	10.1	431.0	74.2	0.0093
					SLE Q.P.	3828			0			0.0	9.9	418.8	72.1	0.0091
52	2.930	22.90	22.90			0	35531	0.13	-18014	-35531	0.13					
					SLE Rare	0			-13536			34.9	0.0	254.8	1480.9	
					SLE Freq.	0			-12395			31.9	0.0	233.3	1356.1	0.1707
					SLE Q.P.	0			-12015			30.9	0.0	226.2	1314.6	0.1655
Trave di fondazione Sez. 5 Rett. 140x50 [cm] 50-140																
52	0.150	22.90	22.90			0	35531	0.13	-18143	-35531	0.13					
					SLE Rare	0			-13634			35.1	0.0	256.7	1491.6	

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				SLE Freq.	0			-12490			32.2	0.0	235.1	1366.5	0.1720
				SLE Q.P.	0			-12110			31.2	0.0	228.0	1325.0	0.1668
Camp.	1.465	22.90	22.90			8285	35531	0.13	0	-35531	0.13				
				SLE Rare	6176			0			0.0	15.9	675.7	116.3	
				SLE Freq.	5764			0			0.0	14.8	630.7	108.5	0.0137
				SLE Q.P.	5626			0			0.0	14.5	615.5	105.9	0.0133
53	2.780	22.90	22.90			0	35531	0.13	-9706	-35531	0.13				
				SLE Rare	0			-7282			18.8	0.0	137.1	796.7	
				SLE Freq.	0			-6626			17.1	0.0	124.7	725.0	0.0913
				SLE Q.P.	0			-6409			16.5	0.0	120.7	701.2	0.0883

Trave di fondazione Sez. 5 Rett. 140x50 [cm] 50-140															
53	0.150	22.90	22.90			0	35531	0.13	-13767	-35531	0.13				
				SLE Rare	0			-10226			26.3	0.0	192.5	1118.8	
				SLE Freq.	0			-9300			24.0	0.0	175.1	1017.5	0.1281
				SLE Q.P.	0			-8995			23.2	0.0	169.3	984.1	0.1239
Camp.	1.725	22.90	22.90			12302	35531	0.13	0	-35531	0.13				
				SLE Rare	9014			0			0.0	23.2	986.2	169.7	
				SLE Freq.	8373			0			0.0	21.6	916.1	157.6	0.0198
				SLE Q.P.	8155			0			0.0	21.0	892.2	153.5	0.0193
54	3.300	22.90	22.90			2642	35531	0.13	-7883	-35531	0.13				
				SLE Rare	0			-4125			10.6	0.0	77.6	451.3	
				SLE Freq.	0			-4089			10.5	0.0	77.0	447.4	0.0563
				SLE Q.P.	0			-4073			10.5	0.0	76.7	445.7	0.0561

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave di fondazione 49 50 Sez. 5 Rett. 140x50 [cm] 50-140							
0.150	1.043	0.892	32094	26185	199074	49344	Ø 10 6br. 15.0'
1.043	2.719	1.677	24911	26185	199074	37008	Ø 10 6br. 20.0'
2.719	3.612	0.892	49216	26185	199074	49344	Ø 10 6br. 15.0'
Trave di fondazione 50 51 Sez. 5 Rett. 140x50 [cm] 50-140							
0.202	1.102	0.900	51810	26185	199074	59213	Ø 10 6br. 12.5'
1.102	4.689	3.587	29843	26185	199074	37008	Ø 10 6br. 20.0'
4.689	5.589	0.900	48981	26185	199074	59213	Ø 10 6br. 12.5'
Trave di fondazione 51 52 Sez. 5 Rett. 140x50 [cm] 50-140							
0.197	1.075	0.878	42462	26185	199074	49344	Ø 10 6br. 15.0'
1.075	2.005	0.931	16435	26185	199074	37008	Ø 10 6br. 20.0'
2.005	2.883	0.878	37092	26185	199074	49344	Ø 10 6br. 15.0'
Trave di fondazione 52 53 Sez. 5 Rett. 140x50 [cm] 50-140							
0.147	1.025	0.877	37849	26185	199074	49344	Ø 10 6br. 15.0'
1.025	1.856	0.832	13199	26185	199074	37008	Ø 10 6br. 20.0'
1.856	2.733	0.877	28700	26185	199074	49344	Ø 10 6br. 15.0'

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CORPO A

Trave di fondazione 53 54 Sez. 5 Rett. 140x50 [cm] 50-140							
0.152	3.349	3.196	32080	26185	199074	37008	ø 10 6br. 20.0'

Travata: 11 Travata 58 59 60

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>ti</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120																
58	0.150	12.32	13.85			8508	19557	0.11	0	-21912	0.11					
				SLE Rare		4378			0			0.0	16.2	872.1	99.3	
				SLE Freq.		4189			0			0.0	15.5	834.4	95.0	0.0142
				SLE Q.P.		4125			0			0.0	15.2	821.6	93.5	0.0140
Camp.	0.965	12.32	13.85			8698	19557	0.11	-5849	-21912	0.11					
				SLE Rare		2221			0			0.0	8.2	442.4	50.4	
				SLE Freq.		2102			0			0.0	7.8	418.7	47.7	0.0071
				SLE Q.P.		2061			0			0.0	7.6	410.5	46.7	0.0070
59	1.780	12.32	13.85			988	19557	0.11	-18534	-21912	0.11					
				SLE Rare		0			-10146			36.0	0.0	238.3	1802.5	
				SLE Freq.		0			-9675			34.3	0.0	227.3	1718.9	0.2295
				SLE Q.P.		0			-9507			33.7	0.0	223.3	1689.1	0.2255
Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120																
59	0.200	12.32	13.85			891	19557	0.11	-18308	-21912	0.11					
				SLE Rare		0			-11370			40.3	0.0	267.1	2019.9	
				SLE Freq.		0			-10827			38.4	0.0	254.3	1923.5	0.2568
				SLE Q.P.		0			-10634			37.7	0.0	249.8	1889.2	0.2522
Camp.	0.725	12.32	13.85			6462	19557	0.11	-17881	-21912	0.11					
				SLE Rare		0			-5609			19.9	0.0	131.8	996.5	
				SLE Freq.		0			-5352			19.0	0.0	125.7	950.9	0.1269
				SLE Q.P.		0			-5261			18.7	0.0	123.6	934.6	0.1248
60	1.250	12.32	13.85			6855	19557	0.11	-12537	-21912	0.11					
				SLE Rare		0			-572			2.0	0.0	13.4	101.6	
				SLE Freq.		0			-566			2.0	0.0	13.3	100.6	0.0134
				SLE Q.P.		0			-563			2.0	0.0	13.2	100.0	0.0134

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave di fondazione 58 59 Sez. 3 Rett. 120x50 [cm] 50-120							
0.129	1.532	1.403	25352	20207	170635	29607	ø 10 6br. 25.0'
Trave di fondazione 59 60 Sez. 3 Rett. 120x50 [cm] 50-120							
0.469	2.931	2.462	36038	20207	170635	37008	ø 10 6br. 20.0'

Travata: 14 Travata 34 45

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>r</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
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COMPARTO ZIS R5.2, BLOCCO G EDIFICIO G1 – PROGETTO ESECUTIVO – 2° FASE  
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Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120																
34	0.125	67.86	67.86			7140	99728	0.20	-12470	-99728	0.20					
				SLE Rare	0			-2549			4.1	0.0	38.5	98.9		
				SLE Freq.	0			-2448			3.9	0.0	37.0	95.0	0.0079	
				SLE Q.P.	0			-2423			3.9	0.0	36.6	94.0	0.0078	
Camp.	0.850	67.86	67.86			4155	99728	0.20	-10103	-99728	0.20					
				SLE Rare	0			-2730			4.4	0.0	41.3	105.9		
				SLE Freq.	0			-2517			4.0	0.0	38.0	97.7	0.0081	
				SLE Q.P.	0			-2446			3.9	0.0	37.0	94.9	0.0079	
45	1.575	67.86	67.86			2734	99728	0.20	-18677	-99728	0.20					
				SLE Rare	0			-8316			13.3	0.0	125.7	322.7		
				SLE Freq.	0			-7529			12.0	0.0	113.8	292.2	0.0243	
				SLE Q.P.	0			-7247			11.6	0.0	109.5	281.2	0.0234	

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave di fondazione 34 45 Sez. 3 Rett. 120x50 [cm] 50-120							
0.125	1.575	1.450	21297	33936	170635	29607	Ø 10 6br. 25.0'

Travata: 16 Travata 3 17 27 36 49

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>ri</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120																
3	0.150	12.32	20.36			1077	19524	0.12	-6026	-31539	0.13					
				SLE Rare		0			-3766			11.6	0.0	91.0	463.7	
				SLE Freq.		0			-3459			10.6	0.0	83.6	425.8	0.0522
				SLE Q.P.		0			-3352			10.3	0.0	81.0	412.7	0.0506
Camp.	2.950	12.32	20.36			15234	19524	0.12	0	-31539	0.13					
				SLE Rare		11325			0			0.0	40.8	2260.1	230.0	
				SLE Freq.		10379			0			0.0	37.4	2071.3	210.8	0.0363
				SLE Q.P.		10046			0			0.0	36.2	2004.9	204.0	0.0352
17	5.750	12.32	20.36			0	19524	0.12	-26085	-31539	0.13					
				SLE Rare		0			-18138			55.6	0.0	438.2	2233.2	
				SLE Freq.		0			-16631			51.0	0.0	401.8	2047.5	0.2510
				SLE Q.P.		0			-16106			49.4	0.0	389.1	1982.9	0.2431
Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120																
17	0.150	12.32	20.36			0	19524	0.12	-16818	-31539	0.13					
				SLE Rare		0			-12674			38.9	0.0	306.2	1560.3	
				SLE Freq.		0			-11747			36.0	0.0	283.8	1446.2	0.1773
				SLE Q.P.		0			-11433			35.1	0.0	276.2	1407.6	0.1726
Camp.	0.820	12.32	20.36			0	19524	0.12	-10529	-31539	0.13					
				SLE Rare		0			-6091			18.7	0.0	147.1	749.9	
				SLE Freq.		0			-5483			16.8	0.0	132.5	675.1	0.0828
				SLE Q.P.		0			-5268			16.2	0.0	127.3	648.5	0.0795
27	1.490	9.35	16.89			0	14966	0.11	-10094	-26238	0.12					



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	SLE Rare	0			-6253			21.0	0.0	108.9	720.2	
	SLE Freq.	0			-5328			17.9	0.0	92.8	613.7	0.0789
	SLE Q.P.	0			-4984			16.7	0.0	86.8	574.1	0.0738

Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120												
27	0.200	9.35	14.13			802	14981	0.10	-11901	-22272	0.11	
	SLE Rare	0				-7851			28.1	0.0	115.6	1187.0
	SLE Freq.	0				-6779			24.3	0.0	99.8	1024.8
	SLE Q.P.	0				-6382			22.8	0.0	94.0	964.8
Camp.	1.575	12.32	12.32			10117	19561	0.11	0	-19561	0.11	
	SLE Rare	6990				0			0.0	26.0	1391.8	161.1
	SLE Freq.	6427				0			0.0	23.9	1279.8	148.2
	SLE Q.P.	6233				0			0.0	23.2	1241.1	143.7
36	2.950	12.32	12.32			9408	19561	0.11	-8387	-19561	0.11	
	SLE Rare	582				-194			0.7	2.2	115.9	38.6
	SLE Freq.	463				-288			1.1	1.7	92.3	57.2
	SLE Q.P.	422				-292			1.1	1.6	84.0	58.2

Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120												
36	0.200	12.32	12.32			6373	19561	0.11	-10896	-19561	0.11	
	SLE Rare	0				-2218			8.3	0.0	51.1	441.6
	SLE Freq.	0				-2126			7.9	0.0	49.0	423.3
	SLE Q.P.	0				-2085			7.8	0.0	48.1	415.1
Camp.	1.425	12.32	12.32			4097	19561	0.11	-1897	-19561	0.11	
	SLE Rare	1598				0			0.0	6.0	318.2	36.8
	SLE Freq.	1411				0			0.0	5.3	280.9	32.5
	SLE Q.P.	1345				0			0.0	5.0	267.8	31.0
49	2.650	12.32	12.32			0	19561	0.11	-16261	-19561	0.11	
	SLE Rare	0				-11377			42.4	0.0	262.2	2265.5
	SLE Freq.	0				-10515			39.2	0.0	242.4	2093.8
	SLE Q.P.	0				-10225			38.1	0.0	235.7	2036.0

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave di fondazione 3 17 Sez. 3 Rett. 120x50 [cm] 50-120							
0.150	0.792	0.642	19676	20207	170635	37008	ø 10 6br. 20.0'
0.792	5.110	4.318	22181	20207	170635	29607	ø 10 6br. 25.0'
5.110	5.753	0.642	33277	20207	170635	37008	ø 10 6br. 20.0'
Trave di fondazione 17 27 Sez. 3 Rett. 120x50 [cm] 50-120							
0.150	1.490	1.340	19616	20207	170635	29607	ø 10 6br. 25.0'
Trave di fondazione 27 36 Sez. 3 Rett. 120x50 [cm] 50-120							
0.207	3.047	2.840	26871	20207	170635	29607	ø 10 6br. 25.0'
Trave di fondazione 36 49 Sez. 3 Rett. 120x50 [cm] 50-120							

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0.210	2.784	2.574	24661	20207	170635	29607	Ø 10 6br. 25.0'
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Travata: 19 Travata 21 28 37 54

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>if</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120																
21	0.200	12.32	12.32			1008	19561	0.11	-4028	-19561	0.11					
				SLE Rare		0			-2399			8.9	0.0	55.3	477.7	
				SLE Freq.		0			-2098			7.8	0.0	48.3	417.7	0.0603
				SLE Q.P.		0			-1997			7.4	0.0	46.0	397.7	0.0574
Camp.	0.855	12.32	12.32			1732	19561	0.11	-2049	-19561	0.11					
				SLE Rare		96			-23			0.1	0.4	19.1	4.7	
				SLE Freq.		120			-6			0.0	0.4	23.9	2.8	0.0004
				SLE Q.P.		118			0			0.0	0.4	23.6	2.7	0.0004
28	1.510	12.32	12.32			0	19561	0.11	-6831	-19561	0.11					
				SLE Rare		0			-5128			19.1	0.0	118.2	1021.2	
				SLE Freq.		0			-4729			17.6	0.0	109.0	941.6	0.1359
				SLE Q.P.		0			-4571			17.0	0.0	105.4	910.2	0.1314
Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120																
28	0.150	12.32	12.32			647	19561	0.11	-7777	-19561	0.11					
				SLE Rare		0			-5505			20.5	0.0	126.9	1096.2	
				SLE Freq.		0			-5032			18.7	0.0	116.0	1002.0	0.1447
				SLE Q.P.		0			-4849			18.1	0.0	111.8	965.5	0.1394
Camp.	1.575	12.32	12.32			9722	19561	0.11	0	-19561	0.11					
				SLE Rare		7324			0			0.0	27.3	1458.4	168.8	
				SLE Freq.		6786			0			0.0	25.3	1351.3	156.4	0.0226
				SLE Q.P.		6601			0			0.0	24.6	1314.3	152.1	0.0220
37	3.000	12.32	12.32			2211	19561	0.11	-11834	-19561	0.11					
				SLE Rare		0			-5727			21.3	0.0	132.0	1140.3	
				SLE Freq.		0			-5399			20.1	0.0	124.5	1075.1	0.1552
				SLE Q.P.		0			-5277			19.7	0.0	121.6	1050.8	0.1517
Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120																
37	0.150	12.32	12.32			230	19561	0.11	-12549	-19561	0.11					
				SLE Rare		0			-7051			26.3	0.0	162.5	1403.9	
				SLE Freq.		0			-6637			24.7	0.0	153.0	1321.6	0.1908
				SLE Q.P.		0			-6483			24.1	0.0	149.4	1291.0	0.1864
Camp.	1.295	12.32	12.32			6279	19561	0.11	0	-19561	0.11					
				SLE Rare		3171			0			0.0	11.8	631.4	73.1	
				SLE Freq.		2925			0			0.0	10.9	582.3	67.4	0.0097
				SLE Q.P.		2835			0			0.0	10.6	564.5	65.3	0.0094
54	2.440	12.32	12.32			6768	19561	0.11	-11061	-19561	0.11					
				SLE Rare		0			-2457			9.1	0.0	56.6	489.2	
				SLE Freq.		0			-2356			8.8	0.0	54.3	469.1	0.0677
				SLE Q.P.		0			-2333			8.7	0.0	53.8	464.6	0.0671

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Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave di fondazione 21 28 Sez. 3 Rett. 120x50 [cm] 50-120							
0.194	1.466	1.272	17488	20207	170635	29607	ø 10 6br. 25.0'
Trave di fondazione 28 37 Sez. 3 Rett. 120x50 [cm] 50-120							
0.152	3.048	2.896	25618	20207	170635	29607	ø 10 6br. 25.0'
Trave di fondazione 37 54 Sez. 3 Rett. 120x50 [cm] 50-120							
0.150	2.437	2.288	21353	20207	170635	29607	ø 10 6br. 25.0'

Travata: 19 Travata 54 58

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>r</sub> [kg/m]	M <sub>rf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave di fondazione Sez. 5 Rett. 140x50 [cm] 50-140																
54	0.200	17.81	17.81			0	27910	0.12	-15888	-27910	0.12					
				SLE Rare		0			-11474			33.4	0.0	219.9	1599.8	
				SLE Freq.		0			-10780			31.4	0.0	206.6	1503.0	0.2221
				SLE Q.P.		0			-10560			30.7	0.0	202.3	1472.4	0.2175
Camp.	1.175	17.81	17.81			8075	27910	0.12	-2233	-27910	0.12					
				SLE Rare		3351			0			0.0	9.8	467.2	64.2	
				SLE Freq.		3199			0			0.0	9.3	446.1	61.3	0.0091
				SLE Q.P.		3137			0			0.0	9.1	437.4	60.1	0.0089
58	2.150	17.81	17.81			8782	27910	0.12	0	-27910	0.12					
				SLE Rare		6074			0			0.0	17.7	846.9	116.4	
				SLE Freq.		5786			0			0.0	16.8	806.8	110.9	0.0164
				SLE Q.P.		5689			0			0.0	16.6	793.2	109.0	0.0161

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave di fondazione 54 58 Sez. 5 Rett. 140x50 [cm] 50-140							
0.192	2.063	1.871	27963	24081	199074	37008	ø 10 6br. 20.0'

Travata: 2 Travata 15 16 17

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>r</sub> [kg/m]	M <sub>rf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120																
15	0.150	20.36	20.36			22815	31537	0.13	-24230	-31537	0.13					
				SLE Rare		72			-1098			3.2	0.2	24.0	135.3	
				SLE Freq.		75			-823			2.4	0.2	18.0	101.5	0.0125
				SLE Q.P.		75			-718			2.1	0.2	15.7	88.5	0.0109
Camp.	1.525	20.36	20.36			16876	31537	0.13	-2170	-31537	0.13					
				SLE Rare		7150			0			0.0	21.1	881.2	156.3	
				SLE Freq.		6489			0			0.0	19.2	799.7	141.9	0.0175

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				SLE Q.P.	6254			0			0.0	18.5	770.8	136.7	0.0168
16	2.900	20.36	20.36			0	31537	0.13	-20124	-31537	0.13				
				SLE Rare	0				-14783			43.6	0.0	323.2	1821.9
				SLE Freq.	0				-13776			40.7	0.0	301.1	1697.8
				SLE Q.P.	0				-13432			39.6	0.0	293.6	1655.4
Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120															
16	0.200	20.36	20.36			395	31537	0.13	-24116	-31537	0.13				
				SLE Rare	0				-14747			43.5	0.0	322.4	1817.5
				SLE Freq.	0				-13742			40.6	0.0	300.4	1693.6
				SLE Q.P.	0				-13399			39.5	0.0	292.9	1651.4
Camp.	1.760	20.36	20.36			12019	31537	0.13	0	-31537	0.13				
				SLE Rare	8516				0			0.0	25.1	1049.5	186.2
				SLE Freq.	7750				0			0.0	22.9	955.1	169.4
				SLE Q.P.	7479				0			0.0	22.1	921.8	163.5
17	3.320	20.36	20.36			1132	31537	0.13	-6357	-31537	0.13				
				SLE Rare	0				-4444			13.1	0.0	97.1	547.7
				SLE Freq.	0				-3887			11.5	0.0	85.0	479.0
				SLE Q.P.	0				-3681			10.9	0.0	80.5	453.7

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave di fondazione 15 16 Sez. 3 Rett. 120x50 [cm] 50-120							
0.150	0.607	0.457	39669	22718	170635	49344	ø 10 6br. 15.0'
0.607	2.443	1.837	26501	22718	170635	29607	ø 10 6br. 25.0'
2.443	2.900	0.457	36636	22718	170635	49344	ø 10 6br. 15.0'
Trave di fondazione 16 17 Sez. 3 Rett. 120x50 [cm] 50-120							
0.197	0.630	0.433	36542	22718	170635	49344	ø 10 6br. 15.0'
0.630	2.841	2.211	26550	22718	170635	29607	ø 10 6br. 25.0'
2.841	3.274	0.433	25662	22718	170635	49344	ø 10 6br. 15.0'

Travata: 2 Travata 17 18 19 20 21 22 23

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	Q <sub>T</sub> [kg/m]	M <sub>nf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave di fondazione Sez. 2 Rett. 170x50 [cm] 50-170																
17	0.200	27.99	27.99			0	43415	0.13	-16904	-43415	0.13					
				SLE Rare	0				-12617			26.7	0.0	195.4	1129.7	
				SLE Freq.	0				-11305			23.9	0.0	175.1	1012.3	0.1269
				SLE Q.P.	0				-10828			22.9	0.0	167.7	969.5	0.1216
Camp.	1.880	27.99	27.99			14111	43415	0.13	0	-43415	0.13					
				SLE Rare	10335				0			0.0	21.8	925.4	160.1	
				SLE Freq.	9435				0			0.0	19.9	844.7	146.1	0.0183
				SLE Q.P.	9120				0			0.0	19.3	816.6	141.3	0.0177
18	3.560	27.99	27.99			0	43415	0.13	-32445	-43415	0.13					
				SLE Rare	0				-24338			51.5	0.0	377.0	2179.2	

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				SLE Freq.	0			-22179			46.9	0.0	343.6	1985.8	0.2490
				SLE Q.P.	0			-21431			45.3	0.0	332.0	1918.9	0.2406
Trave di fondazione Sez. 2 Rett. 170x50 [cm] 50-170															
18	0.250	27.99	27.99			0	43415	0.13	-36319	-43415	0.13				
				SLE Rare	0				-26940			57.0	0.0	417.3	2412.1
				SLE Freq.	0				-24546			51.9	0.0	380.2	2197.8
				SLE Q.P.	0				-23719			50.1	0.0	367.4	2123.8
Camp.	2.920	27.99	27.99			26926	43415	0.13	0	-43415	0.13				
				SLE Rare	20101				0			0.0	42.5	1799.8	311.4
				SLE Freq.	18317				0			0.0	38.7	1640.0	283.7
				SLE Q.P.	17695				0			0.0	37.4	1584.4	274.1
19	5.590	49.04	55.98			0	74517	0.16	-51431	-84455	0.17				
				SLE Rare	0				-37453			57.0	0.0	496.1	1717.7
				SLE Freq.	0				-34183			52.1	0.0	452.8	1567.7
				SLE Q.P.	0				-33044			50.3	0.0	437.7	1515.5
Trave di fondazione Sez. 2 Rett. 170x50 [cm] 50-170															
19	0.150	46.16	53.94			0	70303	0.15	-52970	-81472	0.17				
				SLE Rare	0				-38632			60.2	0.0	536.1	1836.6
				SLE Freq.	0				-35281			55.0	0.0	489.6	1677.3
				SLE Q.P.	0				-34116			53.1	0.0	473.5	1621.9
Camp.	2.820	27.99	27.99			26881	43415	0.13	0	-43415	0.13				
				SLE Rare	20055				0			0.0	42.4	1795.7	310.7
				SLE Freq.	18272				0			0.0	38.6	1636.0	283.0
				SLE Q.P.	17652				0			0.0	37.3	1580.5	273.4
20	5.490	36.68	40.41			0	56316	0.14	-34985	-61748	0.15				
				SLE Rare	0				-25894			46.2	0.0	382.5	1627.0
				SLE Freq.	0				-23431			41.8	0.0	346.1	1472.2
				SLE Q.P.	0				-22580			40.3	0.0	333.5	1418.7
Trave di fondazione Sez. 2 Rett. 170x50 [cm] 50-170															
20	0.250	42.56	54.96			0	65036	0.15	-26123	-82859	0.17				
				SLE Rare	0				-19537			30.6	0.0	233.2	912.6
				SLE Freq.	0				-17599			27.6	0.0	210.1	822.0
				SLE Q.P.	0				-16927			26.5	0.0	202.1	790.7
Camp.	1.935	27.99	27.99			15228	43415	0.13	0	-43415	0.13				
				SLE Rare	11340				0			0.0	24.0	1015.3	175.7
				SLE Freq.	10358				0			0.0	21.9	927.4	160.4
				SLE Q.P.	10013				0			0.0	21.2	896.6	155.1
21	3.620	27.99	27.99			0	43415	0.13	-32262	-43415	0.13				
				SLE Rare	0				-23869			50.5	0.0	369.7	2137.2
				SLE Freq.	0				-22141			46.8	0.0	343.0	1982.4
				SLE Q.P.	0				-21525			45.5	0.0	333.4	1927.2
Trave di fondazione Sez. 2 Rett. 170x50 [cm] 50-170															
21	0.150	27.99	27.99			0	43415	0.13	-27312	-43415	0.13				

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				SLE Rare	0			-20380			43.1	0.0	315.7	1824.8	
				SLE Freq.	0			-18826			39.8	0.0	291.6	1685.6	0.2114
				SLE Q.P.	0			-18273			38.6	0.0	283.1	1636.1	0.2052
Camp.	1.745	27.99	27.99			12211	43415	0.13	0	-43415	0.13				
				SLE Rare	9187			0			0.0	19.4	822.6	142.3	
				SLE Freq.	8471			0			0.0	17.9	758.5	131.2	0.0165
				SLE Q.P.	8221			0			0.0	17.4	736.1	127.3	0.0160
22	3.340	27.99	27.99			0	43415	0.13	-19371	-43415	0.13				
				SLE Rare	0			-14365			30.4	0.0	222.5	1286.2	
				SLE Freq.	0			-13080			27.7	0.0	202.6	1171.1	0.1469
				SLE Q.P.	0			-12618			26.7	0.0	195.5	1129.8	0.1417
Trave di fondazione Sez. 2 Rett. 170x50 [cm] 50-170															
22	0.150	27.99	27.99			0	43415	0.13	-21409	-43415	0.13				
				SLE Rare	0			-16045			33.9	0.0	248.5	1436.6	
				SLE Freq.	0			-14598			30.9	0.0	226.1	1307.0	0.1639
				SLE Q.P.	0			-14076			29.8	0.0	218.0	1260.4	0.1580
Camp.	1.595	27.99	27.99			18230	43415	0.13	0	-43415	0.13				
				SLE Rare	9464			0			0.0	20.0	847.4	146.6	
				SLE Freq.	8861			0			0.0	18.7	793.4	137.3	0.0172
				SLE Q.P.	8653			0			0.0	18.3	774.7	134.0	0.0168
23	3.040	27.99	27.99			21312	43415	0.13	-17587	-43415	0.13				
				SLE Rare	2062			0			0.0	4.4	184.6	31.9	
				SLE Freq.	1755			0			0.0	3.7	157.2	27.2	0.0034
				SLE Q.P.	1644			0			0.0	3.5	147.2	25.5	0.0032

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave di fondazione 17 18 Sez. 2 Rett. 170x50 [cm] 50-170							
0.200	0.739	0.539	40722	31865	241733	59213	ø 10 6br. 12.5'
0.739	3.021	2.282	35951	31865	241733	49344	ø 10 6br. 15.0'
3.021	3.560	0.539	52447	31865	241733	59213	ø 10 6br. 12.5'
Trave di fondazione 18 19 Sez. 2 Rett. 170x50 [cm] 50-170							
0.252	0.800	0.548	56017	31865	241733	74016	ø 10 6br. 10.0'
0.800	5.091	4.292	47193	31865	241733	49344	ø 10 6br. 15.0'
5.091	5.639	0.548	63406	33865	241733	74016	ø 10 6br. 10.0'
Trave di fondazione 19 20 Sez. 2 Rett. 170x50 [cm] 50-170							
0.151	0.729	0.578	64167	32469	241733	74016	ø 10 6br. 10.0'
0.729	4.961	4.232	47040	31865	241733	49344	ø 10 6br. 15.0'
4.961	5.538	0.578	55280	31865	241733	74016	ø 10 6br. 10.0'
Trave di fondazione 20 21 Sez. 2 Rett. 170x50 [cm] 50-170							
0.247	0.808	0.561	50139	32550	241733	59213	ø 10 6br. 12.5'
0.808	3.012	2.204	35911	31865	241733	49344	ø 10 6br. 15.0'

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3.012	3.573	0.561	54913	31865	241733	59213	Ø 10 6br. 12.5'
Trave di fondazione 21 22 Sez. 2 Rett. 170x50 [cm] 50-170							
0.152	3.389	3.236	49836	31865	241733	74016	Ø 10 6br. 10.0'
Trave di fondazione 22 23 Sez. 2 Rett. 170x50 [cm] 50-170							
0.148	2.993	2.845	40712	31865	241733	49344	Ø 10 6br. 15.0'

Travata: 22 Travata 8 23 41 48

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>r</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave di fondazione Sez. 2 Rett. 170x50 [cm] 50-170																
8	0.150	27.99	27.99			2602	43415	0.13	-9052	-43415	0.13					
				SLE Rare	0				-5185			11.0	0.0	80.3	464.2	
				SLE Freq.	0				-4860			10.3	0.0	75.3	435.1	0.0546
				SLE Q.P.	0				-4774			10.1	0.0	74.0	427.5	0.0536
Camp.	2.950	27.99	27.99			19970	43415	0.13	0	-43415	0.13					
				SLE Rare	14788				0			0.0	31.3	1324.0	229.1	
				SLE Freq.	13929				0			0.0	29.4	1247.1	215.8	0.0271
				SLE Q.P.	13662				0			0.0	28.9	1223.3	211.6	0.0265
23	5.750	18.85	31.21			7798	29629	0.12	-40299	-48107	0.14					
				SLE Rare	0				-16108			33.8	0.0	153.3	1271.9	
				SLE Freq.	0				-15209			31.9	0.0	144.8	1200.9	0.1447
				SLE Q.P.	0				-14927			31.3	0.0	142.1	1178.6	0.1420
Trave di fondazione Sez. 2 Rett. 170x50 [cm] 50-170																
23	0.200	20.18	33.11			2175	31526	0.12	-15971	-50729	0.14					
				SLE Rare	0				-9842			20.2	0.0	73.4	495.6	
				SLE Freq.	0				-9265			19.0	0.0	69.1	466.5	0.0546
				SLE Q.P.	0				-9086			18.6	0.0	67.8	457.6	0.0535
Camp.	0.930	34.56	34.56			6929	52994	0.14	-9755	-52994	0.14					
				SLE Rare	99				-938			1.8	0.2	13.9	68.7	
				SLE Freq.	86				-891			1.7	0.2	13.2	65.3	0.0077
				SLE Q.P.	83				-871			1.7	0.2	12.9	63.8	0.0075
41	1.660	34.56	34.56			2531	52994	0.14	-9554	-52994	0.14					
				SLE Rare	0				-3956			7.6	0.0	58.7	289.9	
				SLE Freq.	0				-3722			7.1	0.0	55.2	272.8	0.0322
				SLE Q.P.	0				-3636			7.0	0.0	53.9	266.5	0.0315
Trave di fondazione Sez. 2 Rett. 170x50 [cm] 50-170																
41	1.650	34.56	34.56			25110	52994	0.14	-24498	-52994	0.14					
				SLE Rare	269				0			0.0	0.5	19.7	4.0	
				SLE Freq.	280				0			0.0	0.5	20.5	4.2	0.0005
				SLE Q.P.	278				0			0.0	0.5	20.4	4.1	0.0005
Camp.	2.350	34.56	34.56			21347	52994	0.14	-14066	-52994	0.14					
				SLE Rare	3672				0			0.0	7.0	269.0	54.5	

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CORPO A

				SLE Freq.	3490			0			0.0	6.7	255.8	51.8	0.0061
				SLE Q.P.	3425			0			0.0	6.6	251.0	50.8	0.0060
48	3.050	34.56	34.56			16740	52994	0.14	-14506	-52994	0.14				
				SLE Rare	4				-700			1.3	0.0	10.4	51.3
				SLE Freq.	4				-651			1.2	0.0	9.7	47.7
				SLE Q.P.	4				-635			1.2	0.0	9.4	46.5

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave di fondazione 8 23 Sez. 2 Rett. 170x50 [cm] 50-170							
0.151	5.801	5.650	39001	28626	241733	49344	ø 10 6br. 15.0'
Trave di fondazione 23 41 Sez. 2 Rett. 170x50 [cm] 50-170							
0.168	0.690	0.522	37284	28626	241733	49344	ø 10 6br. 15.0'
Trave di fondazione 41 48 Sez. 2 Rett. 170x50 [cm] 50-170							
3.078	4.420	1.342	38775	34184	241733	49344	ø 10 6br. 15.0'

Travata: 27 Travata 54 46

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave di fondazione Sez. 4 Rett. 80x50 [cm] 50-80																
54	0.400	25.13	25.13			7591	37906	0.16	-10413	-37906	0.16					
				SLE Rare	0				-1974			6.4	0.0	55.9	201.8	
				SLE Freq.	0				-2019			6.6	0.0	57.2	206.5	0.0196
				SLE Q.P.	0				-2018			6.6	0.0	57.1	206.4	0.0196
Camp.	1.105	25.13	25.13			15665	37906	0.16	-9767	-37906	0.16					
				SLE Rare	3147				0			0.0	10.3	321.9	89.1	
				SLE Freq.	2945				0			0.0	9.6	301.1	83.4	0.0079
				SLE Q.P.	2876				0			0.0	9.4	294.1	81.4	0.0077
46	1.810	25.13	25.13			28214	37906	0.16	-33589	-37906	0.16					
				SLE Rare	0				-2965			9.7	0.0	84.0	303.2	
				SLE Freq.	0				-2588			8.4	0.0	73.3	264.7	0.0252
				SLE Q.P.	0				-2443			8.0	0.0	69.2	249.9	0.0238

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave di fondazione 54 46 Sez. 4 Rett. 80x50 [cm] 50-80							
0.357	1.194	0.837	31915	18599	113757	32896	ø 10 4br. 15.0'

Travata: 29 Travata 33 44

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120																
33	0.125	22.90	22.90			17343	35315	0.14	-19830	-35315	0.14					



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CORPO A

				SLE Rare	0			-1245			3.5	0.0	26.7	137.0	
				SLE Freq.	0			-1161			3.2	0.0	24.9	127.7	0.0147
				SLE Q.P.	0			-1131			3.1	0.0	24.3	124.4	0.0143
Camp.	0.850	22.90	22.90			7488	35315	0.14	-5218	-35315	0.14				
				SLE Rare	1303			0			0.0	3.6	143.3	28.0	
				SLE Freq.	1184			0			0.0	3.3	130.2	25.4	0.0029
				SLE Q.P.	1140			0			0.0	3.2	125.4	24.5	0.0028
44	1.575	22.90	22.90			11089	35315	0.14	-15341	-35315	0.14				
				SLE Rare	0			-2221			6.2	0.0	47.7	244.4	
				SLE Freq.	0			-2008			5.6	0.0	43.1	220.8	0.0254
				SLE Q.P.	0			-1932			5.4	0.0	41.5	212.6	0.0245

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave di fondazione 33 44 Sez. 3 Rett. 120x50 [cm] 50-120							
0.125	1.575	1.450	28388	23628	170635	37008	ø 10 6br. 20.0'

Travata: 31 Travata 26 35

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>r</sub> [kg/m]	M <sub>rf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120																
26	0.050	67.86	67.86			15175	99728	0.20	-7900	-99728	0.20					
				SLE Rare		3684			0			0.0	5.9	143.0	55.7	
				SLE Freq.		3405			0			0.0	5.4	132.1	51.5	0.0043
				SLE Q.P.		3307			0			0.0	5.3	128.3	50.0	0.0042
Camp.	1.525	67.86	67.86			10544	99728	0.20	-4058	-99728	0.20					
				SLE Rare		4178			0			0.0	6.7	162.1	63.1	
				SLE Freq.		3843			0			0.0	6.2	149.1	58.1	0.0048
				SLE Q.P.		3727			0			0.0	6.0	144.6	56.3	0.0047
35	3.000	67.86	67.86			21601	99728	0.20	-38494	-99728	0.20					
				SLE Rare		0			-8817			14.1	0.0	133.3	342.1	
				SLE Freq.		0			-7984			12.8	0.0	120.7	309.8	0.0257
				SLE Q.P.		0			-7679			12.3	0.0	116.1	297.9	0.0248

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave di fondazione 26 35 Sez. 3 Rett. 120x50 [cm] 50-120							
0.050	0.942	0.892	11097	33936	170635	49344	ø 10 6br. 15.0'
0.942	2.108	1.166	21610	33936	170635	29607	ø 10 6br. 25.0'
2.108	3.000	0.892	32162	33936	170635	49344	ø 10 6br. 15.0'

Travata: 32 Travata 57 56 55 49

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>r</sub> [kg/m]	M <sub>rf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120																

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57	0.150	15.27	15.27			5786	23923	0.12	-3840	-23923	0.12						
					SLE Rare	825			-194			0.7	2.8	134.3	31.6		
					SLE Freq.	758			-192			0.7	2.6	123.4	31.2	0.0046	
					SLE Q.P.	736			-189			0.6	2.5	119.8	30.8	0.0046	
Camp.	2.655	15.27	15.27			8385	23923	0.12	0	-23923	0.12						
					SLE Rare	6056			0			0.0	20.6	985.0	135.4		
					SLE Freq.	5649			0			0.0	19.2	918.9	126.3	0.0187	
					SLE Q.P.	5502			0			0.0	18.7	895.0	123.0	0.0182	
56	5.160	15.27	15.27			0	23923	0.12	-14436	-23923	0.12						
					SLE Rare	0			-9151			31.1	0.0	204.6	1488.5		
					SLE Freq.	0			-8443			28.7	0.0	188.7	1373.3	0.2029	
					SLE Q.P.	0			-8184			27.8	0.0	182.9	1331.2	0.1967	

Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120																	
56	0.150	15.27	15.27			0	23923	0.12	-11846	-23923	0.12						
					SLE Rare	0			-8244			28.0	0.0	184.3	1340.9		
					SLE Freq.	0			-7591			25.8	0.0	169.7	1234.8	0.1824	
					SLE Q.P.	0			-7352			25.0	0.0	164.3	1195.8	0.1767	
Camp.	1.690	15.27	15.27			4576	23923	0.12	-64	-23923	0.12						
					SLE Rare	2581			0			0.0	8.8	419.8	57.7		
					SLE Freq.	2390			0			0.0	8.1	388.7	53.4	0.0079	
					SLE Q.P.	2323			0			0.0	7.9	377.8	51.9	0.0077	
55	3.230	20.32	24.18			8052	31484	0.13	-7892	-37181	0.14						
					SLE Rare	208			-17			0.0	0.6	23.6	4.4		
					SLE Freq.	130			-18			0.0	0.4	14.9	2.8	0.0003	
					SLE Q.P.	109			-18			0.0	0.3	12.4	2.3	0.0003	

Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120																	
55	0.150	20.32	28.38			20933	31487	0.13	-19505	-43321	0.15						
					SLE Rare	805			0			0.0	2.3	72.5	16.4		
					SLE Freq.	682			0			0.0	1.9	61.5	13.9	0.0013	
					SLE Q.P.	649			0			0.0	1.8	58.5	13.2	0.0013	
Camp.	1.635	15.27	15.27			9844	23923	0.12	-0	-23923	0.12						
					SLE Rare	5036			0			0.0	17.1	819.1	112.6		
					SLE Freq.	4658			0			0.0	15.8	757.7	104.1	0.0154	
					SLE Q.P.	4528			0			0.0	15.4	736.5	101.2	0.0150	
49	3.120	15.27	15.27			0	23923	0.12	-13255	-23923	0.12						
					SLE Rare	0			-9964			33.8	0.0	222.7	1620.7		
					SLE Freq.	0			-9150			31.1	0.0	204.5	1488.4	0.2199	
					SLE Q.P.	0			-8872			30.1	0.0	198.3	1443.1	0.2132	

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave di fondazione 57 56 Sez. 3 Rett. 120x50 [cm] 50-120							
0.150	5.147	4.997	16099	20641	170635	29607	ø 10 6br. 25.0'

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Trave di fondazione 56 55 Sez. 3 Rett. 120x50 [cm] 50-120							
0.150	3.230	3.080	17889	20641	170635	29607	ø 10 6br. 25.0'
Trave di fondazione 55 49 Sez. 3 Rett. 120x50 [cm] 50-120							
0.146	3.046	2.900	24231	20641	170635	29607	ø 10 6br. 25.0'

Travata: 32 Travata 45 55

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120																
45	0.950	53.09	61.58			40556	78374	0.19	-60965	-89905	0.21					
				SLE Rare		0			-10639			18.8	0.0	175.6	457.1	
				SLE Freq.		0			-9635			17.1	0.0	159.1	414.0	0.0379
				SLE Q.P.		0			-9277			16.4	0.0	153.2	398.6	0.0365
Camp.	1.780	53.09	61.58			20851	78374	0.19	-26291	-89905	0.21					
				SLE Rare		0			-998			1.8	0.0	16.5	42.9	
				SLE Freq.		0			-888			1.6	0.0	14.7	38.2	0.0035
				SLE Q.P.		0			-850			1.5	0.0	14.0	36.5	0.0033
55	2.610	53.09	61.58			18487	78374	0.19	-12391	-89905	0.21					
				SLE Rare		3263			0			0.0	5.9	161.3	51.3	
				SLE Freq.		2901			0			0.0	5.2	143.4	45.6	0.0045
				SLE Q.P.		2771			0			0.0	5.0	137.0	43.6	0.0043

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave di fondazione 45 55 Sez. 3 Rett. 120x50 [cm] 50-120							
1.691	3.361	1.671	57118	31271	170635	74016	ø 10 6br. 10.0'

Travata: 33 Travata 12 19 51

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave di fondazione Sez. 2 Rett. 170x50 [cm] 50-170																
12	0.150	27.99	27.99			1800	43415	0.13	-7131	-43415	0.13					
				SLE Rare		0			-4250			9.0	0.0	65.8	380.6	
				SLE Freq.		0			-3973			8.4	0.0	61.6	355.8	0.0446
				SLE Q.P.		0			-3877			8.2	0.0	60.1	347.1	0.0435
Camp.	2.950	27.99	27.99			23696	43415	0.13	0	-43415	0.13					
				SLE Rare		17458			0			0.0	36.9	1563.1	270.4	
				SLE Freq.		16078			0			0.0	34.0	1439.6	249.1	0.0312
				SLE Q.P.		15599			0			0.0	33.0	1396.7	241.6	0.0303
19	5.750	39.68	44.69			0	60746	0.15	-47556	-68010	0.16					
				SLE Rare		0			-35830			61.0	0.0	519.0	2042.8	
				SLE Freq.		0			-32721			55.7	0.0	474.0	1865.6	0.2157
				SLE Q.P.		0			-31642			53.9	0.0	458.4	1804.0	0.2057
Trave di fondazione Sez. 2 Rett. 170x50 [cm] 50-170																

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19	0.300	44.17	51.11			0	67379	0.15	-49469	-77360	0.16						
Camp.	3.725	27.99	27.99			24770	43415	0.13	0	-43415	0.13						
51	7.150	27.99	27.99			1082	43415	0.13	-14086	-43415	0.13						

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave di fondazione 12 19 Sez. 2 Rett. 170x50 [cm] 50-170							
0.154	1.069	0.915	29190	31865	241733	59213	ø 10 6br. 12.5'
1.069	4.984	3.915	34286	31865	241733	49344	ø 10 6br. 15.0'
4.984	5.899	0.915	58657	31865	241733	59213	ø 10 6br. 12.5'
Trave di fondazione 19 51 Sez. 2 Rett. 170x50 [cm] 50-170							
0.294	1.168	0.874	56512	31865	241733	59213	ø 10 6br. 12.5'
1.168	6.130	4.962	31725	31865	241733	49344	ø 10 6br. 15.0'
6.130	7.003	0.874	40877	31865	241733	59213	ø 10 6br. 12.5'

Travata: 35 Travata 46 60

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>r</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120																
46	0.100	20.36	20.36			20561	31537	0.13	-27777	-31537	0.13					
Camp.	1.455	20.36	20.36			27901	31537	0.13	-7581	-31537	0.13					
60	2.810	20.36	20.36			14372	31537	0.13	-19674	-31537	0.13					

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave di fondazione 46 60 Sez. 3 Rett. 120x50 [cm] 50-120							

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0.086	0.849	0.764	31814	22718	170635	37008	ø 10 6br. 20.0'
0.849	1.642	0.793	13078	22718	170635	29607	ø 10 6br. 25.0'
1.642	2.406	0.764	29618	22718	170635	37008	ø 10 6br. 20.0'

Travata: 37 Travata 49 61 64

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>ti</sub> [cm²]	q <sub>r</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave di fondazione Sez. 5 Rett. 140x50 [cm] 50-140																
49	0.200	20.36	20.36			0	31730	0.13	-20003	-31730	0.13					
					SLE Rare	0			-13975			38.1	0.0	266.2	1713.0	
					SLE Freq.	0			-12929			35.3	0.0	246.2	1584.7	0.2146
					SLE Q.P.	0			-12577			34.3	0.0	239.5	1541.6	0.2087
Camp.	2.285	20.36	20.36			17956	31730	0.13	0	-31730	0.13					
					SLE Rare	13245			0			0.0	36.1	1623.5	252.3	
					SLE Freq.	12279			0			0.0	33.5	1505.0	233.8	0.0317
					SLE Q.P.	11951			0			0.0	32.6	1464.9	227.6	0.0308
61	4.370	20.36	20.36			1098	31730	0.13	-28377	-31730	0.13					
					SLE Rare	0			-15360			41.9	0.0	292.5	1882.7	
					SLE Freq.	0			-14083			38.4	0.0	268.2	1726.2	0.2337
					SLE Q.P.	0			-13663			37.3	0.0	260.2	1674.8	0.2268
Trave di fondazione Sez. 5 Rett. 140x50 [cm] 50-140																
61	0.200	20.36	20.36			0	31730	0.13	-19720	-31730	0.13					
					SLE Rare	0			-14720			40.2	0.0	280.3	1804.2	
					SLE Freq.	0			-13416			36.6	0.0	255.5	1644.4	0.2227
					SLE Q.P.	0			-12981			35.4	0.0	247.2	1591.1	0.2154
Camp.	1.305	20.36	20.36			7697	31730	0.13	-1822	-31730	0.13					
					SLE Rare	3291			0			0.0	9.0	403.4	62.7	
					SLE Freq.	3230			0			0.0	8.8	395.9	61.5	0.0083
					SLE Q.P.	3212			0			0.0	8.8	393.7	61.2	0.0083
64	2.410	20.36	20.36			3556	31730	0.13	-1390	-31730	0.13					
					SLE Rare	84			-396			1.1	0.2	10.3	48.6	
					SLE Freq.	77			-413			1.1	0.2	9.4	50.7	0.0069
					SLE Q.P.	74			-415			1.1	0.2	9.1	50.9	0.0069

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave di fondazione 49 61 Sez. 5 Rett. 140x50 [cm] 50-140							
0.190	1.038	0.848	35048	25177	199074	49344	ø 10 6br. 15.0'
1.038	3.307	2.269	20370	25177	199074	37008	ø 10 6br. 20.0'
3.307	4.155	0.848	39270	25177	199074	49344	ø 10 6br. 15.0'
Trave di fondazione 61 64 Sez. 5 Rett. 140x50 [cm] 50-140							
0.200	2.411	2.211	34640	25177	199074	37008	ø 10 6br. 20.0'

Travata: 4 Travata 28 29 30

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Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave di fondazione Sez. 4 Rett. 80x50 [cm] 50-80																
28	0.150	15.71	12.72			0	24122	0.14	-5969	-19752	0.13					
					SLE Rare	0			-4443			19.9	0.0	139.1	874.9	
					SLE Freq.	0			-4211			18.9	0.0	131.9	829.2	0.1064
					SLE Q.P.	0			-4131			18.5	0.0	129.4	813.5	0.1044
Camp.	1.745	15.71	12.72			7073	24122	0.14	0	-19752	0.13					
					SLE Rare	5308			0			0.0	22.4	854.2	177.0	
					SLE Freq.	4900			0			0.0	20.7	788.6	163.4	0.0184
					SLE Q.P.	4753			0			0.0	20.1	765.0	158.5	0.0179
29	3.340	15.71	12.72			639	24122	0.14	-9808	-19752	0.13					
					SLE Rare	0			-5978			26.8	0.0	187.2	1177.1	
					SLE Freq.	0			-5274			23.6	0.0	165.1	1038.4	0.1333
					SLE Q.P.	0			-5011			22.5	0.0	156.9	986.7	0.1267
Trave di fondazione Sez. 4 Rett. 80x50 [cm] 50-80																
29	0.150	15.71	12.72			941	24122	0.14	-11590	-19752	0.13					
					SLE Rare	0			-6607			29.6	0.0	206.9	1301.0	
					SLE Freq.	0			-5773			25.9	0.0	180.8	1136.7	0.1459
					SLE Q.P.	0			-5459			24.5	0.0	170.9	1074.9	0.1380
Camp.	1.620	15.71	12.72			12283	24122	0.14	-5244	-19752	0.13					
					SLE Rare	3489			0			0.0	14.8	561.5	116.3	
					SLE Freq.	3258			0			0.0	13.8	524.3	108.6	0.0123
					SLE Q.P.	3175			0			0.0	13.4	510.9	105.8	0.0120
30	3.090	15.71	20.86			16995	24133	0.14	-22597	-31480	0.16					
					SLE Rare	0			-2458			9.2	0.0	77.8	302.5	
					SLE Freq.	0			-2534			9.5	0.0	80.2	311.8	0.0321
					SLE Q.P.	0			-2529			9.4	0.0	80.0	311.2	0.0320

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave di fondazione 28 29 Sez. 4 Rett. 80x50 [cm] 50-80							
0.152	0.736	0.584	18123	15902	113757	24672	ø 10 4br. 20.0'
0.736	2.805	2.069	11978	15902	113757	19738	ø 10 4br. 25.0'
2.805	3.389	0.584	18332	15902	113757	24672	ø 10 4br. 20.0'
Trave di fondazione 29 30 Sez. 4 Rett. 80x50 [cm] 50-80							
0.149	0.652	0.503	17035	15902	113757	24672	ø 10 4br. 20.0'
0.652	2.563	1.912	15852	15902	113757	19738	ø 10 4br. 25.0'
2.563	3.066	0.503	20380	15902	113757	24672	ø 10 4br. 20.0'

Travata: 498 Travata 24 25 27

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120																

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24	0.160	20.36	20.36			3647	31537	0.13	-9898	-31537	0.13						
				SLE Rare		0			-4355			12.9	0.0	95.2	536.7		
				SLE Freq.		0			-4074			12.0	0.0	89.1	502.1	0.0619	
				SLE Q.P.		0			-3978			11.7	0.0	87.0	490.3	0.0604	
Camp.	2.870	20.36	20.36			17613	31537	0.13	0	-31537	0.13						
				SLE Rare		11732			0			0.0	34.6	1445.9	256.5		
				SLE Freq.		10715			0			0.0	31.6	1320.5	234.2	0.0289	
				SLE Q.P.		10354			0			0.0	30.6	1276.0	226.3	0.0279	
25	5.580	68.05	73.95			9485	99559	0.19	-60922	-107627	0.21						
				SLE Rare		0			-27572			42.7	0.0	411.8	979.2		
				SLE Freq.		0			-24818			38.5	0.0	370.7	881.4	0.0822	
				SLE Q.P.		0			-23833			36.9	0.0	356.0	846.4	0.0776	

Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120																	
25	0.125	62.60	66.16			4477	91585	0.19	-55053	-96481	0.20						
				SLE Rare		0			-26361			43.3	0.0	409.2	1045.0		
				SLE Freq.		0			-23741			39.0	0.0	368.5	941.1	0.0898	
				SLE Q.P.		0			-22793			37.4	0.0	353.8	903.5	0.0848	
Camp.	3.310	54.29	54.29			52336	80300	0.19	-29639	-80300	0.19						
				SLE Rare		11752			0			0.0	21.3	566.5	194.3		
				SLE Freq.		10597			0			0.0	19.2	510.8	175.2	0.0157	
				SLE Q.P.		10183			0			0.0	18.5	490.9	168.3	0.0151	
27	6.495	54.29	54.29			0	80300	0.19	-17140	-80300	0.19						
				SLE Rare		0			-12838			23.3	0.0	212.2	618.9		
				SLE Freq.		0			-11647			21.1	0.0	192.5	561.5	0.0503	
				SLE Q.P.		0			-11223			20.4	0.0	185.5	541.0	0.0485	

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave di fondazione 24 25 Sez. 3 Rett. 120x50 [cm] 50-120							
0.161	1.081	0.920	22614	22718	170635	59213	ø 10 6br. 12.5'
1.081	4.682	3.601	32625	22718	170635	37008	ø 10 6br. 20.0'
4.682	5.602	0.920	55790	27959	170635	59213	ø 10 6br. 12.5'
Trave di fondazione 25 27 Sez. 3 Rett. 120x50 [cm] 50-120							
0.125	0.719	0.595	52258	31504	170635	59213	ø 10 6br. 12.5'
0.719	5.876	5.156	36863	31504	170635	37008	ø 10 6br. 20.0'
5.876	6.471	0.595	33490	31504	170635	59213	ø 10 6br. 12.5'

Travata: 5 Travata 34 36

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>r</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>ti</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120																
34	0.100	45.24	45.24			56578	67323	0.18	-62252	-67323	0.18					
				SLE Rare		0			-2947			5.9	0.0	52.0	169.5	
				SLE Freq.		0			-2680			5.4	0.0	47.3	154.2	0.0148

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				SLE Q.P.	0			-2579			5.2	0.0	45.5	148.4	0.0143
Camp.	1.370	45.24	45.24			23448	67323	0.18	-8133	-67323	0.18				
				SLE Rare	8229			0			0.0	16.5	473.4	145.1	
				SLE Freq.	7516			0			0.0	15.0	432.3	132.5	0.0128
				SLE Q.P.	7262			0			0.0	14.5	417.8	128.1	0.0123
36	2.640	45.24	45.24			22879	67323	0.18	-20513	-67323	0.18				
				SLE Rare	1375			0			0.0	2.8	79.1	24.3	
				SLE Freq.	1155			0			0.0	2.3	66.5	20.4	0.0020
				SLE Q.P.	1075			0			0.0	2.2	61.9	19.0	0.0018

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave di fondazione 34 36 Sez. 3 Rett. 120x50 [cm] 50-120							
0.100	0.991	0.891	74210	29646	170635	98689	ø 10 6br. 7.5'
0.991	1.747	0.755	27697	29646	170635	29607	ø 10 6br. 25.0'
1.747	2.638	0.891	30279	29646	170635	98689	ø 10 6br. 7.5'

Travata: 503 Travata 63 62 61

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>r</sub> [kg/m]	M <sub>ref</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>le</sub> [kg/cm²]	σ <sub>li</sub> [kg/cm²]	w mm
Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120																
63	0.150	12.32	12.32			3115	19561	0.11	-5874	-19561	0.11					
				SLE Rare	0				-2216			8.3	0.0	51.1	441.2	
				SLE Freq.	0				-2027			7.5	0.0	46.7	403.6	0.0583
				SLE Q.P.	0				-1963			7.3	0.0	45.2	390.9	0.0564
Camp.	2.600	12.32	12.32			14887	19561	0.11	0	-19561	0.11					
				SLE Rare	10768				0			0.0	40.1	2144.1	248.2	
				SLE Freq.	9947				0			0.0	37.0	1980.6	229.3	0.0331
				SLE Q.P.	9663				0			0.0	36.0	1924.1	222.7	0.0322
62	5.050	22.34	24.63			0	34702	0.13	-28829	-38089	0.14					
				SLE Rare	0				-21185			56.9	0.0	465.4	2160.0	
				SLE Freq.	0				-19339			51.9	0.0	424.9	1971.7	0.2065
				SLE Q.P.	0				-18702			50.2	0.0	410.9	1906.7	0.1960
Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120																
62	0.200	23.36	24.63			0	36217	0.14	-30600	-38096	0.14					
				SLE Rare	0				-22128			59.1	0.0	482.1	2256.0	
				SLE Freq.	0				-20218			54.0	0.0	440.4	2061.2	0.2209
				SLE Q.P.	0				-19558			52.2	0.0	426.1	1993.9	0.2101
Camp.	3.380	12.32	12.32			15867	19561	0.11	0	-19561	0.11					
				SLE Rare	11637				0			0.0	43.3	2317.3	268.2	
				SLE Freq.	10713				0			0.0	39.9	2133.1	246.9	0.0356
				SLE Q.P.	10399				0			0.0	38.7	2070.7	239.7	0.0346
61	6.560	12.32	12.32			2562	19561	0.11	-9890	-19561	0.11					
				SLE Rare	0				-5339			19.9	0.0	123.1	1063.2	
				SLE Freq.	0				-4861			18.1	0.0	112.0	968.0	0.1397



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	SLE Q.P.	0			-4701			17.5	0.0	108.4	936.1	0.1351
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Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rd</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave di fondazione 63 62 Sez. 3 Rett. 120x50 [cm] 50-120							
0.150	0.774	0.624	20343	20207	170635	37008	ø 10 6br. 20.0'
0.774	4.426	3.653	24700	20207	170635	29607	ø 10 6br. 25.0'
4.426	5.050	0.624	34890	20207	170635	37008	ø 10 6br. 20.0'

Trave di fondazione 62 61 Sez. 3 Rett. 120x50 [cm] 50-120							
0.200	0.813	0.613	33655	20207	170635	37008	ø 10 6br. 20.0'
0.813	5.943	5.130	23821	20207	170635	29607	ø 10 6br. 25.0'
5.943	6.556	0.613	24924	20207	170635	37008	ø 10 6br. 20.0'

Travata: 506 Travata 66 65 64

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>ti</sub> [cm²]	q <sub>r</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ni</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>te</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave di fondazione Sez. 5 Rett. 140x50 [cm] 50-140																
66	0.200	20.36	20.36			6487	31730	0.13	-5516	-31730	0.13					
				SLE Rare	0				-673			1.8	0.0	12.8	82.4	
				SLE Freq.	0				-722			2.0	0.0	13.8	88.6	0.0120
				SLE Q.P.	0				-721			2.0	0.0	13.7	88.4	0.0120
Camp.	2.600	20.36	20.36			18651	31730	0.13	0	-31730	0.13					
				SLE Rare	10980				0			0.0	30.0	1345.8	209.1	
				SLE Freq.	10377				0			0.0	28.3	1271.9	197.6	0.0268
				SLE Q.P.	10167				0			0.0	27.7	1246.2	193.6	0.0262
65	5.000	36.60	40.72			2904	55805	0.15	-42375	-61727	0.16					
				SLE Rare	0				-19314			37.9	0.0	329.9	1212.8	
				SLE Freq.	0				-18070			35.4	0.0	308.6	1134.7	0.1059
				SLE Q.P.	0				-17638			34.6	0.0	301.3	1107.6	0.1034

Trave di fondazione Sez. 5 Rett. 140x50 [cm] 50-140																
65	0.200	35.73	40.72			0	54531	0.15	-30644	-61714	0.16					
				SLE Rare	0				-19832			39.0	0.0	340.6	1245.4	
				SLE Freq.	0				-18575			36.6	0.0	319.0	1166.5	0.1088
				SLE Q.P.	0				-18139			35.7	0.0	311.5	1139.1	0.1063
Camp.	3.330	20.36	20.36			23735	31730	0.13	0	-31730	0.13					
				SLE Rare	12232				0			0.0	33.4	1499.3	233.0	
				SLE Freq.	11512				0			0.0	31.4	1411.1	219.3	0.0297
				SLE Q.P.	11269				0			0.0	30.7	1381.3	214.6	0.0291
64	6.460	20.36	20.36			13677	31730	0.13	-15389	-31730	0.13					
				SLE Rare	0				-2244			6.1	0.0	42.7	275.0	
				SLE Freq.	0				-2186			6.0	0.0	41.6	268.0	0.0363
				SLE Q.P.	0				-2157			5.9	0.0	41.1	264.4	0.0358

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Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave di fondazione 66 65 Sez. 5 Rett. 140x50 [cm] 50-140							
0.198	1.082	0.884	23122	25177	199074	49344	ø 10 6br. 15.0'
1.082	4.069	2.987	26070	25177	199074	37008	ø 10 6br. 20.0'
4.069	4.952	0.884	43784	25177	199074	49344	ø 10 6br. 15.0'
Trave di fondazione 65 64 Sez. 5 Rett. 140x50 [cm] 50-140							
0.199	1.084	0.885	30551	25177	199074	49344	ø 10 6br. 15.0'
1.084	5.527	4.443	18470	25177	199074	37008	ø 10 6br. 20.0'
5.527	6.412	0.885	41886	25177	199074	49344	ø 10 6br. 15.0'

Travata: 513 Travata 9 14 24 42 57 63 66

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>ti</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>ti</sub> [kg/cm²]	σ <sub>le</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave di fondazione Sez. 2 Rett. 170x50 [cm] 50-170																
9	0.200	27.99	30.54			8317	43418	0.13	-4849	-47193	0.14					
				SLE Rare		364			-446			0.9	0.8	32.6	36.7	
				SLE Freq.		270			-425			0.9	0.6	24.2	35.0	0.0042
				SLE Q.P.		234			-419			0.9	0.5	20.9	34.5	0.0041
Camp.	2.420	27.99	30.54			24082	43418	0.13	0	-47193	0.14					
				SLE Rare		17646			0			0.0	37.0	1580.2	269.1	
				SLE Freq.		16478			0			0.0	34.5	1475.6	251.3	0.0321
				SLE Q.P.		16071			0			0.0	33.7	1439.1	245.0	0.0314
14	4.640	27.99	30.54			0	43418	0.13	-28801	-47193	0.14					
				SLE Rare		0			-19528			39.9	0.0	303.5	1607.6	
				SLE Freq.		0			-18007			36.8	0.0	279.9	1482.4	0.1764
				SLE Q.P.		0			-17480			35.7	0.0	271.7	1439.0	0.1713
Trave di fondazione Sez. 2 Rett. 170x50 [cm] 50-170																
14	0.200	27.99	30.54			0	43418	0.13	-27679	-47193	0.14					
				SLE Rare		0			-20833			42.6	0.0	323.8	1715.0	
				SLE Freq.		0			-19240			39.3	0.0	299.0	1583.9	0.1885
				SLE Q.P.		0			-18684			38.2	0.0	290.4	1538.1	0.1831
Camp.	1.340	27.99	30.54			0	43418	0.13	-5189	-47193	0.14					
				SLE Rare		0			-2257			4.6	0.0	35.1	185.8	
				SLE Freq.		0			-2092			4.3	0.0	32.5	172.2	0.0205
				SLE Q.P.		0			-2033			4.2	0.0	31.6	167.3	0.0199
24	2.480	36.75	49.37			0	56451	0.14	-10881	-74731	0.17					
				SLE Rare		0			-8214			13.6	0.0	101.2	425.6	
				SLE Freq.		0			-7677			12.7	0.0	94.6	397.8	0.0370
				SLE Q.P.		0			-7488			12.4	0.0	92.3	387.9	0.0361
Trave di fondazione Sez. 2 Rett. 170x50 [cm] 50-170																
24	0.200	36.75	46.03			6700	56438	0.14	-20004	-69911	0.16					
				SLE Rare		0			-7994			13.6	0.0	105.6	443.1	
				SLE Freq.		0			-7440			12.7	0.0	98.3	412.4	0.0397

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				SLE Q.P.	0			-7245			12.3	0.0	95.7	401.6	0.0386
Camp.	2.410	27.99	27.99			19160	43415	0.13	0	-43415	0.13				
				SLE Rare	14023			0			0.0	29.6	1255.6	217.2	
				SLE Freq.	13048			0			0.0	27.6	1168.3	202.1	0.0253
				SLE Q.P.	12709			0			0.0	26.9	1137.9	196.9	0.0247
42	4.620	46.75	55.98			0	71188	0.15	-35156	-84408	0.17				
				SLE Rare	0				-26145		40.1	0.0	324.6	1199.3	
				SLE Freq.	0				-24272		37.3	0.0	301.4	1113.4	0.1003
				SLE Q.P.	0				-23632		36.3	0.0	293.4	1084.1	0.0960
Trave di fondazione Sez. 2 Rett. 170x50 [cm] 50-170															
42	0.200	41.18	46.83			0	62958	0.15	-32552	-71132	0.16				
				SLE Rare	0				-24558		40.9	0.0	352.2	1338.3	
				SLE Freq.	0				-22858		38.1	0.0	327.9	1245.7	0.1190
				SLE Q.P.	0				-22284		37.1	0.0	319.6	1214.4	0.1160
Camp.	1.255	27.99	27.99			3376	43415	0.13	-6927	-43415	0.13				
				SLE Rare	81				-905		1.9	0.2	14.0	81.0	
				SLE Freq.	66				-871		1.8	0.1	13.5	78.0	0.0098
				SLE Q.P.	61				-860		1.8	0.1	13.3	77.0	0.0097
57	2.310	27.99	27.99			9288	43415	0.13	0	-43415	0.13				
				SLE Rare	6972				0		0.0	14.7	624.2	108.0	
				SLE Freq.	6345				0		0.0	13.4	568.2	98.3	0.0123
				SLE Q.P.	6146				0		0.0	13.0	550.3	95.2	0.0119
Trave di fondazione Sez. 2 Rett. 170x50 [cm] 50-170															
57	0.150	27.99	27.99			11087	43415	0.13	0	-43415	0.13				
				SLE Rare	6462				0		0.0	13.7	578.6	100.1	
				SLE Freq.	5834				0		0.0	12.3	522.4	90.4	0.0113
				SLE Q.P.	5633				0		0.0	11.9	504.4	87.3	0.0109
Camp.	2.125	27.99	27.99			16237	43415	0.13	0	-43415	0.13				
				SLE Rare	11501				0		0.0	24.3	1029.7	178.1	
				SLE Freq.	10774				0		0.0	22.8	964.6	166.9	0.0209
				SLE Q.P.	10521				0		0.0	22.2	942.0	163.0	0.0204
63	4.100	27.99	27.99			32	43415	0.13	-28056	-43415	0.13				
				SLE Rare	0				-17000		35.9	0.0	263.3	1522.1	
				SLE Freq.	0				-15592		33.0	0.0	241.5	1396.0	0.1751
				SLE Q.P.	0				-15111		31.9	0.0	234.1	1353.0	0.1697
Trave di fondazione Sez. 2 Rett. 170x50 [cm] 50-170															
63	0.200	27.99	27.99			0	43415	0.13	-24657	-43415	0.13				
				SLE Rare	0				-16288		34.4	0.0	252.3	1458.4	
				SLE Freq.	0				-14869		31.4	0.0	230.3	1331.3	0.1669
				SLE Q.P.	0				-14383		30.4	0.0	222.8	1287.8	0.1615
Camp.	1.205	27.99	27.99			5813	43415	0.13	-7708	-43415	0.13				
				SLE Rare	199				-211		0.4	0.4	17.8	18.9	
				SLE Freq.	257				-51		0.1	0.5	23.0	4.5	0.0006
				SLE Q.P.	265				0		0.0	0.6	23.7	4.1	0.0005

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66	2.210	27.99	27.99			4388	43415	0.13	-3704	-43415	0.13					
				SLE Rare		132			-21			0.0	0.3	11.8	2.0	
				SLE Freq.		127			-28			0.1	0.3	11.4	2.5	0.0003
				SLE Q.P.		125			-28			0.1	0.3	11.2	2.5	0.0003

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
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Trave di fondazione 9 14 Sez. 2 Rett. 170x50 [cm] 50-170

0.198	4.603	4.405	44159	31865	241733	49344	ø 10 6br. 15.0'
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Trave di fondazione 14 24 Sez. 2 Rett. 170x50 [cm] 50-170

0.200	2.480	2.280	36354	31865	241733	49344	ø 10 6br. 15.0'
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Trave di fondazione 24 42 Sez. 2 Rett. 170x50 [cm] 50-170

0.201	1.096	0.895	33230	31865	241733	59213	ø 10 6br. 12.5'
1.096	3.741	2.645	27456	31865	241733	49344	ø 10 6br. 15.0'
3.741	4.636	0.895	47488	31873	241733	59213	ø 10 6br. 12.5'

Trave di fondazione 42 57 Sez. 2 Rett. 170x50 [cm] 50-170

0.199	2.294	2.095	41586	31865	241733	49344	ø 10 6br. 15.0'
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Trave di fondazione 57 63 Sez. 2 Rett. 170x50 [cm] 50-170

0.150	4.100	3.950	35846	31865	241733	49344	ø 10 6br. 15.0'
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Trave di fondazione 63 66 Sez. 2 Rett. 170x50 [cm] 50-170

0.200	2.210	2.010	32274	31865	241733	49344	ø 10 6br. 15.0'
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Travata: 524 Travata 2 15 25 43 56

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>r</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
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Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120

2	0.150	20.36	12.32			1805	31539	0.13	-8653	-19524	0.12					
				SLE Rare		0			-5424			19.6	0.0	110.2	1082.5	
				SLE Freq.		0			-5052			18.2	0.0	102.6	1008.2	0.1461
				SLE Q.P.		0			-4925			17.8	0.0	100.0	982.9	0.1425

Camp.	2.950	20.36	12.32			21810	31539	0.13	0	-19524	0.12					
				SLE Rare		13040			0			0.0	40.0	1605.5	315.0	
				SLE Freq.		11973			0			0.0	36.7	1474.1	289.3	0.0298
				SLE Q.P.		11596			0			0.0	35.6	1427.7	280.2	0.0289

15	5.750	18.85	50.54			1643	28969	0.14	-43445	-72690	0.23					
				SLE Rare		0			-21084			46.1	0.0	260.6	1112.4	
				SLE Freq.		0			-19296			42.2	0.0	238.5	1018.1	0.0969
				SLE Q.P.		0			-18670			40.8	0.0	230.8	985.1	0.0922

Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120

15	0.250	31.57	46.14			7882	46977	0.16	-43764	-66796	0.19					
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				SLE Rare	0				-23728			50.4	0.0	218.7	1341.9	
				SLE Freq.	0				-21808			46.4	0.0	201.0	1233.3	0.1286
				SLE Q.P.	0				-21135			44.9	0.0	194.8	1195.2	0.1229
Camp.	0.910	61.86	42.47			44679	90112	0.22	-37228	-63350	0.17					
				SLE Rare	0				-1501			2.9	0.0	23.2	92.0	
				SLE Freq.	0				-1310			2.5	0.0	20.2	80.3	0.0083
				SLE Q.P.	0				-1238			2.4	0.0	19.1	75.9	0.0079
25	1.570	63.71	42.47			71551	92635	0.23	-44847	-63364	0.17					
				SLE Rare	13224				0			0.0	24.2	549.6	231.1	
				SLE Freq.	12410				0			0.0	22.7	515.8	216.9	0.0170
				SLE Q.P.	12138				0			0.0	22.2	504.5	212.1	0.0166
Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120																
25	1.450	63.71	42.47			6434	92635	0.23	-878	-63364	0.17					
				SLE Rare	3316				0			0.0	6.1	137.8	58.0	
				SLE Freq.	3049				0			0.0	5.6	126.7	53.3	0.0042
				SLE Q.P.	2956				0			0.0	5.4	122.8	51.7	0.0040
Camp.	2.350	63.71	42.47			11557	92635	0.23	-12635	-63364	0.17					
				SLE Rare	0				-493			0.9	0.0	7.7	30.2	
				SLE Freq.	0				-377			0.7	0.0	5.9	23.1	0.0024
				SLE Q.P.	0				-332			0.6	0.0	5.2	20.3	0.0021
43	3.250	63.71	42.47			50737	92635	0.23	-58142	-63364	0.17					
				SLE Rare	0				-3615			6.9	0.0	56.9	221.5	
				SLE Freq.	0				-3419			6.5	0.0	53.8	209.5	0.0218
				SLE Q.P.	0				-3366			6.4	0.0	53.0	206.3	0.0215
Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120																
43	0.300	63.71	42.47			24480	92635	0.23	-47757	-63364	0.17					
				SLE Rare	0				-12010			23.0	0.0	189.0	736.1	
				SLE Freq.	0				-10942			20.9	0.0	172.1	670.6	0.0698
				SLE Q.P.	0				-10581			20.2	0.0	166.5	648.4	0.0675
Camp.	1.035	63.71	42.47			11808	92635	0.23	-13575	-63364	0.17					
				SLE Rare	2122				0			0.0	3.9	88.2	37.1	
				SLE Freq.	1811				0			0.0	3.3	75.2	31.6	0.0025
				SLE Q.P.	1700				0			0.0	3.1	70.7	29.7	0.0023
56	1.770	63.71	42.47			25754	92635	0.23	-7538	-63364	0.17					
				SLE Rare	9884				0			0.0	18.1	410.8	172.8	
				SLE Freq.	8723				0			0.0	15.9	362.5	152.5	0.0119
				SLE Q.P.	8333				0			0.0	15.2	346.3	145.6	0.0114

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave di fondazione 2 15 Sez. 3 Rett. 120x50 [cm] 50-120							
0.153	1.127	0.975	24122	22718	170635	59213	ø 10 6br. 12.5'
1.127	4.875	3.748	26739	22718	170635	29607	ø 10 6br. 25.0'
4.875	5.850	0.975	50905	21889	170635	59213	ø 10 6br. 12.5'

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Trave di fondazione 15 25 Sez. 3 Rett. 120x50 [cm] 50-120							
0.355	1.616	1.261	50935	26295	170635	59213	ø 10 6br. 12.5'
Trave di fondazione 25 43 Sez. 3 Rett. 120x50 [cm] 50-120							
1.928	2.749	0.821	56054	33230	170635	59213	ø 10 6br. 12.5'
Trave di fondazione 43 56 Sez. 3 Rett. 120x50 [cm] 50-120							
0.269	1.589	1.320	58127	33230	170635	74016	ø 10 6br. 10.0'

Travata: 525 Travata 56 62 65

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>ri</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>si</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>ri</sub> [kg/cm²]	w mm
Trave di fondazione Sez. 2 Rett. 170x50 [cm] 50-170																
56	0.150	27.99	27.99			16679	43415	0.13	0	-43415	0.13					
				SLE Rare		9430			0			0.0	19.9	844.3	146.1	
				SLE Freq.		8317			0			0.0	17.6	744.7	128.8	0.0162
				SLE Q.P.		7950			0			0.0	16.8	711.8	123.1	0.0154
Camp.	2.075	27.99	27.99			20218	43415	0.13	0	-43415	0.13					
				SLE Rare		12193			0			0.0	25.8	1091.7	188.9	
				SLE Freq.		11186			0			0.0	23.6	1001.6	173.3	0.0217
				SLE Q.P.		10832			0			0.0	22.9	969.8	167.8	0.0210
62	4.000	27.99	27.99			0	43415	0.13	-32291	-43415	0.13					
				SLE Rare		0			-20866			44.1	0.0	323.2	1868.3	
				SLE Freq.		0			-18733			39.6	0.0	290.2	1677.3	0.2103
				SLE Q.P.		0			-18004			38.1	0.0	278.9	1612.0	0.2021
Trave di fondazione Sez. 2 Rett. 170x50 [cm] 50-170																
62	0.300	27.99	27.99			0	43415	0.13	-28986	-43415	0.13					
				SLE Rare		0			-21643			45.8	0.0	335.3	1937.8	
				SLE Freq.		0			-19357			40.9	0.0	299.9	1733.2	0.2173
				SLE Q.P.		0			-18571			39.3	0.0	287.7	1662.8	0.2085
Camp.	1.255	27.99	27.99			4068	43415	0.13	-7230	-43415	0.13					
				SLE Rare		0			-997			2.1	0.0	15.4	89.3	
				SLE Freq.		0			-701			1.5	0.0	10.9	62.8	0.0079
				SLE Q.P.		0			-600			1.3	0.0	9.3	53.8	0.0067
65	2.210	27.99	27.99			6932	43415	0.13	0	-43415	0.13					
				SLE Rare		5173			0			0.0	10.9	463.2	80.1	
				SLE Freq.		4617			0			0.0	9.8	413.4	71.5	0.0090
				SLE Q.P.		4425			0			0.0	9.4	396.2	68.5	0.0086

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave di fondazione 56 62 Sez. 2 Rett. 170x50 [cm] 50-170							
0.148	3.958	3.810	41678	31865	241733	49344	ø 10 6br. 15.0'

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Trave di fondazione 62 65 Sez. 2 Rett. 170x50 [cm] 50-170

0.306	2.253	1.948	40677	31865	241733	49344	ø 10 6br. 15.0'
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Travata: 530 Travata 11 18 50

N.B. Nella travata che segue sono incluse le verifiche delle travate:

530 Travata 5 20 53

Nodo	x [m]	A <sub>te</sub> [cm²]	A <sub>ti</sub> [cm²]	q <sub>r</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>te</sub> [kg/cm²]	σ <sub>ti</sub> [kg/cm²]	w mm
Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120																
11	0.150	16.34	16.34			727	25488	0.12	-8600	-25488	0.12					
				SLE Rare		0			-5650			18.5	0.0	130.6	862.4	
				SLE Freq.		0			-5280			17.3	0.0	122.1	806.0	0.1058
				SLE Q.P.		0			-5149			16.8	0.0	119.1	785.9	0.1031
Camp.	2.950	16.34	16.34			17199	25488	0.12	0	-25488	0.12					
				SLE Rare		12624			0			0.0	41.3	1927.0	291.9	
				SLE Freq.		11614			0			0.0	38.0	1772.8	268.5	0.0352
				SLE Q.P.		11262			0			0.0	36.8	1719.1	260.4	0.0342
18	5.750	20.19	29.77			0	31263	0.13	-40600	-45228	0.15					
				SLE Rare		0			-29753			75.9	0.0	664.3	2548.6	
				SLE Freq.		0			-27062			69.1	0.0	604.2	2318.1	0.2775
				SLE Q.P.		0			-26128			66.7	0.0	583.4	2238.1	0.2648
Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120																
18	0.150	20.40	33.11			0	31584	0.13	-42833	-50034	0.16					
				SLE Rare		0			-31417			77.1	0.0	575.6	2429.8	
				SLE Freq.		0			-28596			70.2	0.0	523.9	2211.6	0.2570
				SLE Q.P.		0			-27611			67.8	0.0	505.9	2135.5	0.2456
Camp.	3.725	16.34	16.34			17625	25488	0.12	0	-25488	0.12					
				SLE Rare		13028			0			0.0	42.6	1988.6	301.2	
				SLE Freq.		11920			0			0.0	39.0	1819.4	275.6	0.0362
				SLE Q.P.		11541			0			0.0	37.8	1761.6	266.9	0.0350
50	7.300	16.34	16.34			197	25488	0.12	-17691	-25488	0.12					
				SLE Rare		0			-12133			39.7	0.0	280.5	1852.0	
				SLE Freq.		0			-11140			36.4	0.0	257.6	1700.5	0.2231
				SLE Q.P.		0			-10806			35.4	0.0	249.9	1649.4	0.2164

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave di fondazione 11 18 Sez. 3 Rett. 120x50 [cm] 50-120							
0.150	0.878	0.728	24062	21111	170635	49344	ø 10 6br. 15.0'
0.878	5.013	4.135	29435	21111	170635	29607	ø 10 6br. 25.0'
5.013	5.741	0.728	44428	21111	170635	49344	ø 10 6br. 15.0'
Trave di fondazione 18 50 Sez. 3 Rett. 120x50 [cm] 50-120							
0.150	0.852	0.702	43879	21111	170635	49344	ø 10 6br. 15.0'
0.852	6.595	5.744	29474	21111	170635	29607	ø 10 6br. 25.0'
6.595	7.297	0.702	33101	21111	170635	49344	ø 10 6br. 15.0'

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Travata: 537 Travata 22 29 39

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave di fondazione Sez. 4 Rett. 80x50 [cm] 50-80																
22	0.150	20.36	20.36			19	31045	0.15	-4893	-31045	0.15					
					SLE Rare	0			-2927			10.6	0.0	88.5	365.9	
					SLE Freq.	0			-2921			10.6	0.0	88.3	365.0	0.0362
					SLE Q.P.	0			-2906			10.5	0.0	87.9	363.3	0.0361
Camp.	0.805	20.36	20.36			1897	31045	0.15	-2249	-31045	0.15					
					SLE Rare	18			-7			0.0	0.1	2.2	0.9	
					SLE Freq.	36			0			0.0	0.1	4.5	1.1	0.0001
					SLE Q.P.	34			0			0.0	0.1	4.2	1.0	0.0001
29	1.460	20.36	20.36			1338	31045	0.15	-2386	-31045	0.15					
					SLE Rare	0			-1495			5.4	0.0	45.2	186.8	
					SLE Freq.	0			-1051			3.8	0.0	31.8	131.4	0.0130
					SLE Q.P.	0			-869			3.1	0.0	26.3	108.6	0.0108
Trave di fondazione Sez. 4 Rett. 80x50 [cm] 50-80																
29	0.150	20.36	20.36			7563	31045	0.15	-9321	-31045	0.15					
					SLE Rare	0			-1791			6.5	0.0	54.2	223.8	
					SLE Freq.	0			-1349			4.9	0.0	40.8	168.7	0.0167
					SLE Q.P.	0			-1170			4.2	0.0	35.4	146.2	0.0145
Camp.	1.640	20.36	20.36			10526	31045	0.15	-1981	-31045	0.15					
					SLE Rare	4714			0			0.0	17.0	589.2	142.6	
					SLE Freq.	4412			0			0.0	15.9	551.4	133.4	0.0132
					SLE Q.P.	4307			0			0.0	15.6	538.3	130.2	0.0129
39	3.130	20.36	20.36			17540	31045	0.15	-28818	-31045	0.15					
					SLE Rare	0			-5531			20.0	0.0	167.3	691.3	
					SLE Freq.	0			-5227			18.9	0.0	158.1	653.3	0.0649
					SLE Q.P.	0			-5123			18.5	0.0	154.9	640.3	0.0636

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave di fondazione 22 29 Sez. 4 Rett. 80x50 [cm] 50-80							
0.141	1.375	1.233	9578	17337	113757	19738	ø 10 4br. 25.0'
Trave di fondazione 29 39 Sez. 4 Rett. 80x50 [cm] 50-80							
0.154	1.067	0.913	13809	17337	113757	32896	ø 10 4br. 15.0'
1.067	2.291	1.225	17572	17337	113757	19738	ø 10 4br. 25.0'
2.291	3.205	0.913	29689	17337	113757	32896	ø 10 4br. 15.0'

Travata: 6 Travata 37 39

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave di fondazione Sez. 4 Rett. 80x50 [cm] 50-80																



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37	0.150	27.14	36.19			9798	40656	0.17	-10585	-53269	0.20						
				SLE Rare		73			-340			1.0	0.2	9.1	24.6		
				SLE Freq.		21			-360			1.0	0.1	9.7	26.1	0.0023	
				SLE Q.P.		3			-361			1.0	0.0	9.7	26.2	0.0023	
Camp.	1.415	27.14	36.19			16489	40656	0.17	-9861	-53269	0.20						
				SLE Rare		3876			0			0.0	11.6	370.0	97.3		
				SLE Freq.		3631			0			0.0	10.9	346.6	91.1	0.0099	
				SLE Q.P.		3544			0			0.0	10.6	338.4	89.0	0.0097	
39	2.680	27.14	36.19			35485	40656	0.17	-46820	-53269	0.20						
				SLE Rare		0			-5881			17.0	0.0	158.3	426.2		
				SLE Freq.		0			-5346			15.4	0.0	143.9	387.4	0.0345	
				SLE Q.P.		0			-5152			14.9	0.0	138.7	373.3	0.0333	

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave di fondazione 37 39 Sez. 4 Rett. 80x50 [cm] 50-80							
0.146	2.610	2.464	39558	19082	113757	49344	ø 10 4br. 10.0'

Travata: 7 Travata 40 41

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave di fondazione Sez. 4 Rett. 80x50 [cm] 50-80																
40	0.100	31.67	40.72			36267	47194	0.17	-53770	-59708	0.21					
				SLE Rare		0			-8989			24.3	0.0	230.1	581.0	
				SLE Freq.		0			-8225			22.2	0.0	210.6	531.6	0.0455
				SLE Q.P.		0			-7956			21.5	0.0	203.7	514.2	0.0440
Camp.	1.000	31.67	40.72			11494	47194	0.17	-13422	-59708	0.21					
				SLE Rare		710			0			0.0	2.0	58.3	17.0	
				SLE Freq.		702			0			0.0	1.9	57.7	16.8	0.0017
				SLE Q.P.		696			0			0.0	1.9	57.3	16.7	0.0017
41	1.900	31.67	40.72			42284	47194	0.17	-33526	-59708	0.21					
				SLE Rare		4538			0			0.0	12.6	373.1	108.9	
				SLE Freq.		4126			0			0.0	11.4	339.2	99.0	0.0100
				SLE Q.P.		3981			0			0.0	11.0	327.3	95.5	0.0097

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave di fondazione 40 41 Sez. 4 Rett. 80x50 [cm] 50-80							
0.105	1.994	1.889	59841	20088	113757	65792	ø 10 4br. 7.5'

Travata: 8 Travata 42 43 44

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>rif</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120																
42	0.150	13.85	13.85			2099	21909	0.11	-10189	-21909	0.11					

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				SLE Rare	0			-5817			20.5	0.0	134.5	1033.7	
				SLE Freq.	0			-5457			19.2	0.0	126.2	969.8	0.1296
				SLE Q.P.	0			-5336			18.8	0.0	123.4	948.3	0.1267
Camp.	2.660	13.85	13.85			19249	21909	0.11	0	-21909	0.11				
				SLE Rare	11925			0			0.0	42.0	2119.2	275.8	
				SLE Freq.	10993			0			0.0	38.7	1953.6	254.2	0.0340
				SLE Q.P.	10666			0			0.0	37.5	1895.4	246.6	0.0330
43	5.170	49.31	67.41			8841	72835	0.17	-45751	-97281	0.22				
				SLE Rare	0			-18660			32.1	0.0	276.7	739.4	
				SLE Freq.	0			-16922			29.1	0.0	251.0	670.5	0.0524
				SLE Q.P.	0			-16307			28.0	0.0	241.8	646.1	0.0502

Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120															
43	0.200	58.48	60.32			19452	85049	0.19	-47027	-87587	0.19				
				SLE Rare	0			-14334			24.6	0.0	229.1	621.7	
				SLE Freq.	0			-13002			22.3	0.0	207.8	564.0	0.0458
				SLE Q.P.	0			-12534			21.5	0.0	200.4	543.7	0.0441
Camp.	1.040	54.29	54.29			31491	80300	0.19	-27704	-80300	0.19				
				SLE Rare	175			-325			0.6	0.3	8.5	15.7	
				SLE Freq.	166			-287			0.5	0.3	8.0	13.8	0.0012
				SLE Q.P.	164			-272			0.5	0.3	7.9	13.1	0.0012
44	1.880	54.29	54.29			72120	80300	0.19	-62152	-80300	0.19				
				SLE Rare	5169			0			0.0	9.4	249.2	85.4	
				SLE Freq.	4688			0			0.0	8.5	226.0	77.5	0.0069
				SLE Q.P.	4531			0			0.0	8.2	218.4	74.9	0.0067

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave di fondazione 42 43 Sez. 3 Rett. 120x50 [cm] 50-120							
0.150	1.040	0.890	24874	20207	170635	59213	ø 10 6br. 12.5'
1.040	4.271	3.230	28129	20207	170635	29607	ø 10 6br. 25.0'
4.271	5.161	0.890	49392	20866	170635	59213	ø 10 6br. 12.5'
Trave di fondazione 43 44 Sez. 3 Rett. 120x50 [cm] 50-120							
0.200	1.880	1.680	69675	31504	170635	74016	ø 10 6br. 10.0'

Travata: 9 Travata 47 48

Nodo	x [m]	A <sub>fe</sub> [cm²]	A <sub>fi</sub> [cm²]	q <sub>T</sub> [kg/m]	M <sub>inf</sub> [kgm]	M <sub>de</sub> [kgm]	M <sub>re</sub> [kgm]	x/d	M <sub>di</sub> [kgm]	M <sub>ri</sub> [kgm]	x/d	σ <sub>be</sub> [kg/cm²]	σ <sub>bi</sub> [kg/cm²]	σ <sub>fe</sub> [kg/cm²]	σ <sub>fi</sub> [kg/cm²]	w mm
Trave di fondazione Sez. 3 Rett. 120x50 [cm] 50-120																
47	0.100	40.72	45.24			35835	60883	0.17	-55656	-67234	0.18					
				SLE Rare		0			-10191			20.8	0.0	185.0	586.5	
				SLE Freq.		0			-9319			19.0	0.0	169.2	536.3	0.0515
				SLE Q.P.		0			-9010			18.4	0.0	163.5	518.5	0.0498
Camp.	0.975	40.72	45.24			17783	60883	0.17	-20121	-67234	0.18					
				SLE Rare		469			-9			0.0	1.0	29.9	8.3	

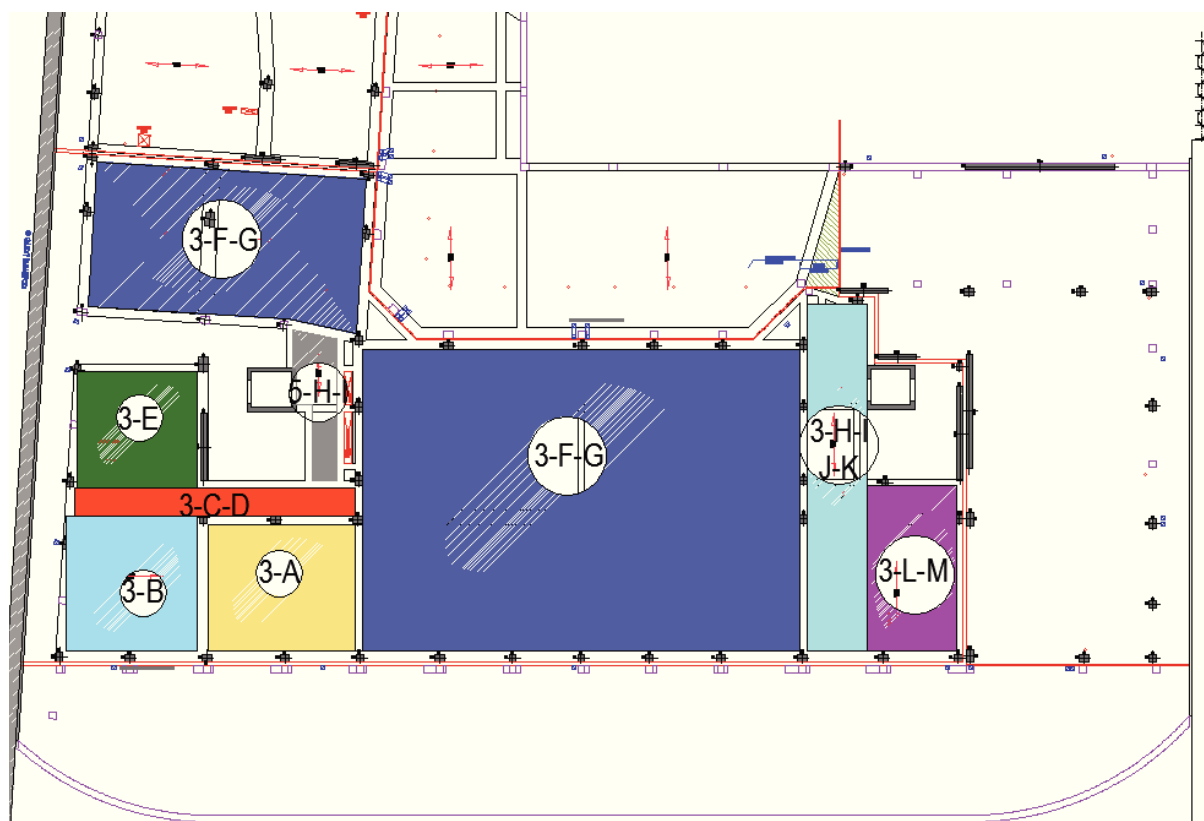
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	SLE Freq.	523			0			0.0	1.1	33.3	9.3	0.0010
	SLE Q.P.	526			0			0.0	1.1	33.5	9.3	0.0010
48	1.850	40.72	45.24			17101	60883	0.17	-12155	-67234	0.18	
	SLE Rare	2579			0			0.0	5.4	164.2	45.7	
	SLE Freq.	2344			0			0.0	4.9	149.2	41.5	0.0043
	SLE Q.P.	2260			0			0.0	4.7	143.9	40.0	0.0041

Da [m]	A [m]	Dx [m]	V <sub>Ed</sub> [kg]	V <sub>Rd,c</sub> [kg]	V <sub>Rod</sub> [kg]	V <sub>Rd</sub> [kg]	Staffe
Trave di fondazione 47 48 Sez. 3 Rett. 120x50 [cm] 50-120							
0.104	1.917	1.813	57351	28623	170635	74016	ø 10 6br. 10.0'

### 2.2.4.g Verifiche dei solai

Solaio tipo 1° IMPALCATO



Altezza Solaio: 4.0 + 24.0 + 4.0 = 32.0 cm Interasse Solaio: 120.0 cm

Peso proprio Solaio: 400 daN/mq Peso Manufatto: 100 daN/mq Rompritratta: 1.60 / 1.80 m Interasse Nervature: 60.0 cm

Nervature: Numero tot.: 3 Numero laterali: 2 Larghezza lat.: 13.00 cm Numero centrali: 1 Larghezza centr.: 14.00

Spessore Lastra: 4.0 cm Altezza Nervature: 24.0 cm Larghezza totale Nervature: 40.0 cm Spessore Cappa: 4.0

Spessore Soletta collaborante: 4.0 cm Larghezza Nervature collaboranti: 40.0 cm Coefficiente Omogeneizzazione N: 15

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Interposto Polistirolo: Numero: 2 Larghezza: 40.0 cm Altezza: 24.0 cm Taglio: 100 cm Peso: 0.00 daN  
 Tralicci: Numero T.N.L.: 1 Numero T.N.C.: 1 Tipo: 2 fi 5.0 Inf. + 1 fi 7.0 Sup. + St. fi 5.0 / 20.0 cm - 12.5 cm  
 Armatura diffusa nella Lastra: 1 fi 5.0 / 19.0 cm parallela ai Tralicci - 1 fi 5.0 / 25.0 cm ortogonale ai Tralicci  
 Armatura Ripartizione Cappa: RETE FI 5 - MAGLIA 20X20 Le Sollecitazioni e le Verifiche sono riferite all'Interasse  
 Copriferri Armature: Tral.: 2.0 cm Diff.: 2.0 cm Rip.: 2.0 cm Camp.: 4.5 cm Sup. App.: 2.0 cm Inf. App: 4.5 cm  
 Armature considerate in Verifica: Tralicci: 0.00 cmq Armatura diffusa: 0.00 cmq Armatura di Rip.ne: 0.00 cmq  
 Calcestruzzo Manufatto: Rck: 300 daN/cm<sup>2</sup> Fck: 249 daN/cm<sup>2</sup> acc: 0.85 γc: 1.5 Fcd: 141.10 daN/cm<sup>2</sup> Ec: 314472 daN/cm<sup>2</sup>  
 Calcestruzzo Manufatto: ocr: 149.40 daN/cm<sup>2</sup> σcq: 112.05 daN/cm<sup>2</sup> Riduzione Fcd/ocr/σcq spessori < 5cm: -20%/-20%/-20%  
 Calcestruzzo Getto in Opera: Rck: 300 daN/cm<sup>2</sup> Fck: 249 daN/cm<sup>2</sup> acc: 0.85 γc: 1.5 Fcd: 141.10 daN/cm<sup>2</sup> Ec: 314472 daN/cm<sup>2</sup>  
 Calcestruzzo Getto in Opera: ocr: 149.40 daN/cm<sup>2</sup> σcq: 112.05 daN/cm<sup>2</sup> Riduzione Fcd/ocr/σcq spessori < 5cm: -20%/-20%/-20%  
 Acciaio: γs: 1.15 σs: 0.8\*Fyk Campate Fyk: 4500 daN/cm<sup>2</sup> Appoggi Fyk: 4500 daN/cm<sup>2</sup> Traliccio Fyk: 4500 daN/cm<sup>2</sup>  
 Acciaio: Campate Fyd: 3913 daN/cm<sup>2</sup> Campate σs: 3600 daN/cm<sup>2</sup> Appoggi Fyd: 3913 daN/cm<sup>2</sup> Appoggi σs: 3600 daN/cm<sup>2</sup>  
 Acciaio: Traliccio Fyd/ σs inf.: 3913/3600 daN/cm<sup>2</sup> Fyd/ σs sup.: 1881/1731 daN/cm<sup>2</sup> Fyd/ σs St. 1763/1622 daN/cm<sup>2</sup>  
 Condizioni ambientali: Ordinarie Classe di esposizione: XC1 Fessurazione: Wr/Wf/Wp: \*\*\*/0.40/0.30 mm  
 Coefficienti Incremento Carichi: GammaG1: 1.30 GammaG2: 1.50 GammaQ: 1.50 Psi0: 0.00 Psi1: 0.00 Psi2: 0.00  
 Vincoli App. estremi: 0: App. semplice 1: Incastro Altro: Semincastro NN105FE360-CLASTREAPP2APP1LASTRAA2  
 Caratt. Staffe: Posizione: Per Interasse (1 St./Interasse) Tipologia: Tipo 2-S-2BV - 2 Bracci verticali Area Staffe: Asw = Area(Φ Staffe)\*2\*1

**Schema 1 - CAMPATA 3-A**

Vincolo Appoggio iniziale = 16.00  
 Vincolo Appoggio finale = 16.00  
 Profondità campo solaio = 6.50 m  
 Carichi distribuiti: Stato Limite di Esercizio - Combinazione Rara

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	A	588	544	22/22	22/22	1	Si	400	0	440	200	1040

Carichi distribuiti: Stato Limite Ultimo

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	A	588	544	22/22	22/22	1	Si	520	0	660	300	1480

Distinta Armature Appoggi / 60.00 cm

Appoggio	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm
1 sup.	1	10	170	1	12	130	0	0	0
2 sup.	1	10	170	1	12	130	0	0	0

Distinta Armature Inferiori Campate

Campata	Tralicci	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm	N./Φ/Passo Staffe N./mm/cm	Tratto Staffe Iniz./Fine/Lungh. cm/cm/cm
1-A	Lat.	2	12	595	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Centr.	2	12	595	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0

Sollecitazioni / Verifiche Appoggi: Stato Limite di Esercizio - Combinazione Rara

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente daN*cm	Momento Fittizio daN*cm	Reazione Vincolare daN	Lato Appoggio	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm <sup>2</sup>	Trazione Acciaio daN/cm <sup>2</sup>
1	1.00	14.00	-272273	-311170	3704	Sx	0.00	0.00	0	0

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						Dx	3.83	4.85	37	2867
2	1.00	14.00	-272273	-311170	3704	Sx	3.83	4.85	37	2867
						Dx	0.00	0.00	0	0

Sollecitazioni / Verifiche Appoggi: Stato Limite Ultimo

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente (MEd1) daN*cm	Momento Fittizio (MEd2) daN*cm	Reazione Vincolare daN	Lato Appoggio	Momento Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Deform. Max Cls %	Deform. Max Acc. %
1	1.00	14.00	-387665	-443046	5274	Sx	0	0.00	0.00	0.00	0.00
						Dx	-518533	3.83	2.95	0.35	3.21
2	1.00	14.00	-387665	-443046	5274	Sx	-518533	3.83	2.95	0.35	3.21
						Dx	0	0.00	0.00	0.00	0.00

Sollecitazioni / Verifiche Campate: Stato Limite di Esercizio - Combinazione Rara

Campata	Coeff. Mom. Fitt.	Mom. Flettente daN*cm	Mom. Fittizio daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cmq	Traz. Acciaio daN/cmq	Freccia Istan./Differ./Contro. mm
1-A	9.00	272117	484042	299	3704	-3704	6.79	6.28	55	2780	2.31/5.93/11.76

Sollecitazioni / Verifiche Campate: Stato Limite Ultimo

Campata	Coeff. Mom. Fitt.	Mom. Flettente (MEd1) daN*cm	Mom. Fittizio (MEd2) daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acc. %	Fessure Rara/Freq./QPerm. mm
1-A	9.00	387443	689183	289	5274	-5274	704808	6.79	2.36	0.35	3.73	***0.063/0.063

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite di Esercizio - Combinazione Rara

Campata	Zona piena	Lar. Sottom. Interposto cm	Mom. Flettente daN*cm	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cmq	Traz. Acciaio daN/cmq	Taglio daN	Tau daN/cmq	Arm. Taglio Res. minima cmq
1-A	Sx	40	-193826	3.83	4.89	23	1784	3427	3.17	1.03
	Dx	40	-193826	3.83	4.89	23	1784	-3427	3.17	1.03

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite Ultimo

Campata	Zona piena	Mom. Flettente (MEd) daN*cm	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acciaio %	Taglio (VEd) daN	Taglio Ultimo (VRd) daN	Arm. Taglio Res. minima cmq
1-A	Sx	-275971	-477851	3.83	2.41	0.35	4.01	4880	5221	1.35
	Dx	-275971	-476677	3.83	2.36	0.35	4.10	-4880	5221	1.35

**Schema 2 - CAMPATA 3-B**

Vincolo Appoggio iniziale = 16.00

Vincolo Appoggio finale = 16.00

Profondità campo solaio = 5.60 m

Carichi distribuiti: Stato Limite di Esercizio - Combinazione Rara

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	B	605	560	22/22	22/22	1	Si	400	0	440	200	1040

Carichi distribuiti: Stato Limite Ultimo

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	B	605	560	22/22	22/22	1	Si	520	0	660	300	1480

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Distinta Armature Appoggi / 60.00 cm

Appoggio	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm
1 sup.	1	12	170	1	12	130	0	0	0
2 sup.	1	12	170	1	12	130	0	0	0

Distinta Armature Inferiori Campate

Campata	Tralicci	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm	N./Φ/Passo Staffe N./mm/cm	Tratto Staffe Iniz./Fine/Lungh. cm/cm/cm
1-B	Lat.	1	12	610	1	14	610	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Centr.	1	12	610	1	14	610	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0

Sollecitazioni / Verifiche Appoggi: Stato Limite di Esercizio - Combinazione Rara

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente daN*cm	Momento Fittizio daN*cm	Reazione Vincolare daN	Lato Appoggio	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Trazione Acciaio daN/cm
1	1.00	14.00	-288245	-329423	3811	Sx	0.00	0.00	0	0
						Dx	4.52	5.17	36	2587
2	1.00	14.00	-288245	-329423	3812	Sx	4.52	5.17	36	2587
						Dx	0.00	0.00	0	0

Sollecitazioni / Verifiche Appoggi: Stato Limite Ultimo

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente (MEd1) daN*cm	Momento Fittizio (MEd2) daN*cm	Reazione Vincolare daN	Lato Appoggio	Momento Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Deform. Max Cls %	Deform. Max Acc. %
1	1.00	14.00	-410406	-469035	5427	Sx	0	0.00	0.00	0.00	0.00
						Dx	-592196	4.52	3.12	0.35	3.01
2	1.00	14.00	-410406	-469035	5427	Sx	-592196	4.52	3.12	0.35	3.01
						Dx	0	0.00	0.00	0.00	0.00

Sollecitazioni / Verifiche Campate: Stato Limite di Esercizio - Combinazione Rara

Campata	Coeff. Mom. Fitt.	Mom. Flettente daN*cm	Mom. Fittizio daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Freccia Istan./Differ./Contro. mm
1-B	9.00	288090	512435	307	3811	-3812	8.01	6.84	55	2502	2.63/6.64/13.44

Sollecitazioni / Verifiche Campate: Stato Limite Ultimo

Campata	Coeff. Mom. Fitt.	Mom. Flettente (MEd1) daN*cm	Mom. Fittizio (MEd2) daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def.Max Cls %	Def.Max Acc. %	Fessure Rara/Freq./QPerm. mm
1-B	9.00	410185	729610	298	5427	-5427	826406	8.01	2.80	0.35	3.09	***0.064/0.064

Sollecitazioni / Verifiche Limite Zone Pieni: Stato Limite di Esercizio - Combinazione Rara

Campata	Zona piena	Lar. Sottom. Interposto cm	Mom. Flettente daN*cm	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Taglio daN	Tau daN/cm	Arm. Taglio Res. minima cmq
1-B	Sx	40	-207441	4.52	5.25	23	1626	3534	3.27	1.06
	Dx	40	-207441	4.52	5.25	23	1626	-3534	3.27	1.06

Sollecitazioni / Verifiche Limite Zone Pieni: Stato Limite Ultimo

Campata	Zona piena	Mom. Flettente (MEd) daN*cm	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acciaio %	Taglio (VEd) daN	Taglio Ultimo (VRd) daN	Arm. Taglio Res. minima cmq
1-B	Sx	-295356	-555427	4.52	2.74	0.35	3.49	5032	5518	1.39
	Dx	-295356	-553054	4.52	2.65	0.35	3.62	-5032	5518	1.39

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Schema 3 - CAMPATE 3-C-D

Vincolo Appoggio iniziale = 16.00

Vincolo Appoggio finale = 16.00

Profondità campo solaio = 1.35 m

Carichi distribuiti: Stato Limite di Esercizio - Combinazione Rara

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	C	564	520	22/22	22/22	1	Si	400	0	440	200	1040
2	D	669	632	22/22	15/15	1	Si	400	0	440	200	1040

Carichi distribuiti: Stato Limite Ultimo

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	C	564	520	22/22	22/22	1	Si	520	0	660	300	1480
2	D	669	632	22/22	15/15	1	Si	520	0	660	300	1480

Distinta Armature Appoggi / 60.00 cm

Appoggio	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm
1 sup.	1	12	160	1	12	110	0	0	0
2 sup.	1	14	380	1	16	230	0	0	0
3 sup.	1	14	170	1	14	120	0	0	0

Distinta Armature Inferiori Campate

Campata	Tralici	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm	N./Φ/Passo Staffe N./mm/cm	Tratto Staffe Iniz./Fine/Lungh. cm/cm/cm
1-C	Lat.	2	10	565	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Centr.	2	10	565	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0
2-D	Lat.	2	12	680	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Centr.	2	12	680	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0

Sollecitazioni / Verifiche Appoggi: Stato Limite di Esercizio - Combinazione Rara

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente daN*cm	Momento Fittizio daN*cm	Reazione Vincolare daN	Lato Appoggio	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Trazione Acciaio daN/cm
1	1.00	12.00	-250501	-334001	3281	Sx	0.00	0.00	0	0
						Dx	4.52	5.21	37	2620
2	1.00	12.00	-458728	-469939	8296	Sx	7.10	6.26	42	2386
						Dx	7.10	6.26	42	2386
3	1.00	12.00	-352454	-469939	4105	Sx	6.16	5.89	45	2738
						Dx	0.00	0.00	0	0

Sollecitazioni / Verifiche Appoggi: Stato Limite Ultimo

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente (MEd1) daN*cm	Momento Fittizio (MEd2) daN*cm	Reazione Vincolare daN	Lato Appoggio	Momento Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Deform. Max Cls %	Deform. Max Acc. %
1	1.00	12.00	-356665	-475553	4679	Sx	0	0.00	0.00	0.00	0.00
						Dx	-576252	4.52	2.57	0.35	3.73
2	1.00	12.00	-653141	-669104	11812	Sx	-853895	7.10	3.29	0.35	2.84
						Dx	-853895	7.10	3.29	0.35	2.84
3	1.00	12.00	-501828	-669104	5848	Sx	-757028	6.16	3.19	0.35	2.94

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						Dx	0	0.00	0.00	0.00	0.00
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Sollecitazioni / Verifiche Campate: Stato Limite di Esercizio - Combinazione Rara

Campata	Coeff. Mom. Fitt.	Mom. Flettente daN*cm	Mom. Fittizio daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Freccia Istan./Differ./Contro. mm
1-C	12.00	176588	334001	257	3281	-3922	4.71	5.22	43	2741	1.44/3.77/11.28
2-D	12.00	316078	469939	339	4374	-4105	6.79	6.28	53	2699	2.82/7.36/14.87

Sollecitazioni / Verifiche Campate: Stato Limite Ultimo

Campata	Coeff. Mom. Fitt.	Mom. Flettente (MEd1) daN*cm	Mom. Fittizio (MEd2) daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acc. %	Fessure Rara/Freq./QPerm. mm
1-C	12.00	253326	475553	257	4679	-5585	495119	4.71	1.62	0.35	5.59	***0.000/0.000
2-D	12.00	451264	669104	339	6227	-5848	704808	6.79	2.36	0.35	3.73	***0.059/0.059

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite di Esercizio - Combinazione Rara

Campata	Zona piena	Lar. Sottom. Interposto cm	Mom. Flettente daN*cm	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Taglio daN	Tau daN/cm	Arm. Taglio Res. minima cmq
1-C	Sx	40	-183502	4.52	5.30	21	1436	3004	2.78	0.91
	Dx	40	-375484	7.10	6.60	36	1892	-3645	3.38	1.09
2-D	Sx	40	-365559	7.10	6.52	34	1845	4096	3.79	1.21
	Dx	40	-293034	6.16	6.08	29	1700	-3916	3.63	1.14

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite Ultimo

Campata	Zona piena	Mom. Flettente (MEd) daN*cm	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acciaio %	Taglio (VEd) daN	Taglio Ultimo (VRd) daN	Arm. Taglio Res. minima cmq
1-C	Sx	-261272	-544613	4.52	2.33	0.35	4.17	4284	5518	1.20
	Dx	-534618	-820613	7.10	3.10	0.35	3.04	-5190	6412	1.43
2-D	Sx	-520486	-822962	7.10	3.22	0.35	2.91	5832	6412	1.59
	Dx	-417225	-585041	4.83	2.70	0.35	3.54	-5579	5640	1.49

**Schema 4 - CAMPATA 3-E**

Vincolo Appoggio iniziale = 16.00

Vincolo Appoggio finale = 16.00

Profondità campo solaio = 4.70 m

Carichi distribuiti: Stato Limite di Esercizio - Combinazione Rara

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	E	554	510	22/22	22/22	1	Sì	400	0	440	200	1040

Carichi distribuiti: Stato Limite Ultimo

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	E	554	510	22/22	22/22	1	Sì	520	0	660	300	1480

Distinta Armature Appoggi / 60.00 cm

Appoggio	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm
1 sup.	1	10	160	1	12	130	0	0	0
2 sup.	1	10	160	1	12	140	0	0	0



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**Distinta Armature Inferiori Campate**

Campata	Tralicci	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm	N./Φ/Passo Staffe N./mm/cm	Tratto Staffe Iniz./Fine/Lungh. cm/cm/cm
1-E	Lat.	2	12	560	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Centr.	2	12	560	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0

**Sollecitazioni / Verifiche Appoggi: Stato Limite di Esercizio - Combinazione Rara**

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente daN*cm	Momento Fittizio daN*cm	Reazione Vincolare daN	Lato Appoggio	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Trazione Acciaio daN/cm
1	1.00	14.00	-241696	-276224	3490	Sx	0.00	0.00	0	0
						Dx	3.83	4.85	33	2545
2	1.00	14.00	-241696	-276224	3490	Sx	3.83	4.85	33	2545
						Dx	0.00	0.00	0	0

**Sollecitazioni / Verifiche Appoggi: Stato Limite Ultimo**

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente (MEd1) daN*cm	Momento Fittizio (MEd2) daN*cm	Reazione Vincolare daN	Lato Appoggio	Momento Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Deform. Max Cls %	Deform. Max Acc. %
1	1.00	14.00	-344130	-393291	4969	Sx	0	0.00	0.00	0.00	0.00
						Dx	-518533	3.83	2.95	0.35	3.21
2	1.00	14.00	-344129	-393291	4969	Sx	-518533	3.83	2.95	0.35	3.21
						Dx	0	0.00	0.00	0.00	0.00

**Sollecitazioni / Verifiche Campate: Stato Limite di Esercizio - Combinazione Rara**

Campata	Coeff. Mom. Fitt.	Mom. Flettente daN*cm	Mom. Fittizio daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Freccia Istan./Differ./Contro. mm
1-E	9.00	241696	429682	277	3490	-3490	6.79	6.28	49	2467	1.71/4.56/11.08

**Sollecitazioni / Verifiche Campate: Stato Limite Ultimo**

Campata	Coeff. Mom. Fitt.	Mom. Flettente (MEd1) daN*cm	Mom. Fittizio (MEd2) daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acc. %	Fessure Rara/Freq./QPerm. mm
1-E	9.00	344130	611786	277	4969	-4969	704808	6.79	2.36	0.35	3.73	***0.000/0.000

**Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite di Esercizio - Combinazione Rara**

Campata	Zona piena	Lar. Sottom. Interposto cm	Mom. Flettente daN*cm	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Taglio daN	Tau daN/cm	Arm. Taglio Res. minima cmq
1-E	Sx	40	-167961	3.83	4.89	20	1546	3213	2.97	0.97
	Dx	40	-167961	3.83	4.89	20	1546	-3213	2.97	0.97

**Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite Ultimo**

Campata	Zona piena	Mom. Flettente (MEd) daN*cm	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acciaio %	Taglio (VEd) daN	Taglio Ultimo (VRd) daN	Arm. Taglio Res. minima cmq
1-E	Sx	-239145	-476677	3.83	2.36	0.35	4.10	4575	5221	1.27
	Dx	-239144	-476677	3.83	2.36	0.35	4.10	-4575	5221	1.27

**Schema 5 - CAMPATE 3-F-G**

Vincolo Appoggio iniziale = 16.00

Vincolo Appoggio finale = 16.00

Profondità campo solaio = 20.00 m

Carichi distribuiti: Stato Limite di Esercizio - Combinazione Rara

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Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	F	600	544	22/22	30/30	1	Si	400	0	440	200	1040
2	G	735	690	30/30	22/22	1	Si	400	0	440	200	1040

Carichi distribuiti: Stato Limite Ultimo

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	F	600	544	22/22	30/30	1	Si	520	0	660	300	1480
2	G	735	690	30/30	22/22	1	Si	520	0	660	300	1480

Distinta Armature Appoggi / 60.00 cm

Appoggio	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm
1 sup.	1	12	190	1	14	130	0	0	0
2 sup.	1	16	410	1	16	240	0	0	0
3 sup.	1	16	190	1	16	140	0	0	0

Distinta Armature Inferiori Campate

Campata	Tralici	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm	N./Φ/Passo Staffe N./mm/cm	Tratto Staffe Iniz./Fine/Lungh. cm/cm/cm
1-F	Lat.	1	10	600	1	12	600	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Centr.	1	10	600	1	12	600	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0
2-G	Lat.	1	12	740	1	14	740	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Centr.	1	12	740	1	14	740	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0

Sollecitazioni / Verifiche Appoggi: Stato Limite di Esercizio - Combinazione Rara

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente daN*cm	Momento Fittizio daN*cm	Reazione Vincolare daN	Lato Appoggio	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Trazione Acciaio daN/cm
1	1.00	12.00	-283500	-378000	3460	Sx	0.00	0.00	0	0
						Dx	5.34	5.57	38	2526
2	1.00	12.00	-542460	-567236	9001	Sx	8.04	6.83	50	2544
						Dx	8.04	6.83	50	2544
3	1.00	12.00	-425427	-567236	4521	Sx	8.04	6.56	48	2554
						Dx	0.00	0.00	0	0

Sollecitazioni / Verifiche Appoggi: Stato Limite Ultimo

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente (MEd1) daN*cm	Momento Fittizio (MEd2) daN*cm	Reazione Vincolare daN	Lato Appoggio	Momento Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Deform. Max Cls %	Deform. Max Acc. %
1	1.00	12.00	-403650	-538200	4935	Sx	0	0.00	0.00	0.00	0.00
						Dx	-670741	5.34	3.00	0.35	3.15
2	1.00	12.00	-772359	-807636	12816	Sx	-915704	8.04	2.23	0.35	4.36
						Dx	-915704	8.04	2.23	0.35	4.36
3	1.00	12.00	-605727	-807636	6441	Sx	-952247	8.04	3.48	0.35	2.66
						Dx	0	0.00	0.00	0.00	0.00

Sollecitazioni / Verifiche Campate: Stato Limite di Esercizio - Combinazione Rara

Campata	Coeff. Mom. Fitt.	Mom. Flettente daN*cm	Mom. Fittizio daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Freccia Istan./Differ./Contro. mm
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1-F	12.00	191413	378000	270	3460	-4212	5.75	5.77	45	2553	1.83/4.79/12.00
2-G	12.00	385581	567236	377	4790	-4521	8.01	6.84	61	2769	4.35/11.68/18.38

Sollecitazioni / Verifiche Campate: Stato Limite Ultimo

Campata	Coeff. Mom. Fitt.	Mom. Flettente (MEd1) daN*cm	Mom. Fittizio (MEd2) daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def.Max Cls %	Def.Max Acc. %	Fessure Rara/Freq./QPPerm. mm
1-F	12.00	274842	538200	280	4935	-5997	600604	5.75	1.99	0.35	4.49	***0.000/0.000
2-G	12.00	550344	807636	377	6820	-6441	826406	8.01	2.80	0.35	3.09	***0.078/0.078

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite di Esercizio - Combinazione Rara

Campata	Zona piena	Lar. Sottom. Interposto cm	Mom. Flettente daN*cm	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Taglio daN	Tau daN/cm	Arm. Taglio Res. minima cmq
1-F	Sx	40	-212884	5.34	5.71	22	1418	3183	2.95	0.96
	Dx	40	-421782	8.04	6.97	38	1883	-3834	3.55	1.17
2-G	Sx	40	-404438	8.04	6.87	36	1809	4412	4.08	1.33
	Dx	40	-330108	8.04	6.87	29	1477	-4244	3.93	1.26

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite Ultimo

Campata	Zona piena	Mom. Flettente (MEd) daN*cm	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acciaio %	Taglio (VEd) daN	Taglio Ultimo (VRd) daN	Arm. Taglio Res. minima cmq
1-F	Sx	-303107	-640859	5.34	2.91	0.35	3.26	4540	5832	1.26
	Dx	-600537	-920082	8.04	3.38	0.35	2.76	-5458	6684	1.53
2-G	Sx	-575842	-921672	8.04	3.45	0.35	2.69	6281	6684	1.74
	Dx	-470012	-876818	7.59	3.48	0.35	2.66	-6046	6557	1.65

**Schema 6 - CAMPATE 3-H-I-J-K**

Vincolo Appoggio iniziale = 16.00

Vincolo Appoggio finale = 16.00

Profondità campo solaio = 2.20 m

Carichi distribuiti: Stato Limite di Esercizio - Combinazione Rara

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	H	600	557	22/22	22/22	1	Si	400	0	440	200	1040
2	I	156	119	22/22	15/15	1	Si	400	0	440	200	1040
3	J	325	295	15/15	15/15	1	Si	400	0	440	200	1040
4	K	454	424	15/15	15/15	1	Si	400	0	440	200	1040

Carichi distribuiti: Stato Limite Ultimo

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	H	600	557	22/22	22/22	1	Si	520	0	660	300	1480
2	I	156	119	22/22	15/15	1	Si	520	0	660	300	1480
3	J	325	295	15/15	15/15	1	Si	520	0	660	300	1480
4	K	454	424	15/15	15/15	1	Si	520	0	660	300	1480

Distinta Armature Appoggi / 60.00 cm

Appoggio	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm
1 sup.	1	12	160	1	14	120	0	0	0

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2 sup.	1	12	590	1	14	220	0	0	0
4 sup.	1	10	280	1	10	170	0	0	0
5 sup.	1	10	140	1	10	120	0	0	0

**Distinta Armature Inferiori Campate**

Campata	Tralicci	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm	N./Φ/Passo Staffe N./mm/cm	Tratto Staffe Iniz./Fine/Lungh. cm/cm/cm
1-H	Lat.	1	10	600	1	12	600	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Centr.	1	10	600	1	12	600	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0
2-I	Lat.	1	8	155	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Centr.	1	8	155	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0
3-J	Lat.	1	8	325	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Centr.	1	8	325	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0
4-K	Lat.	2	8	460	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Centr.	2	8	460	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0

**Sollecitazioni / Verifiche Appoggi: Stato Limite di Esercizio - Combinazione Rara**

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente daN*cm	Momento Fittizio daN*cm	Reazione Vincolare daN	Lato Appoggio	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Trazione Acciaio daN/cm
1	1.00	12.00	-283500	-378000	3680	Sx	0.00	0.00	0	0
						Dx	5.34	5.70	39	2519
2	1.00	12.00	-345699	-378000	7100	Sx	5.34	5.70	39	2519
						Dx	5.34	5.70	39	2519
3	1.00	12.00	-4870	-110906	1499	Sx	2.26	3.90	17	1703
						Dx	2.26	3.90	17	1703
4	1.00	12.00	-211887	-216422	5677	Sx	3.14	4.48	28	2416
						Dx	3.14	4.48	28	2416
5	1.00	12.00	-162316	-216422	2777	Sx	3.14	4.48	28	2416
						Dx	0.00	0.00	0	0

**Sollecitazioni / Verifiche Appoggi: Stato Limite Ultimo**

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente (MEd1) daN*cm	Momento Fittizio (MEd2) daN*cm	Reazione Vincolare daN	Lato Appoggio	Momento Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Deform. Max Cls %	Deform. Max Acc. %
1	1.00	12.00	-403650	-538200	5240	Sx	0	0.00	0.00	0.00	0.00
						Dx	-614718	5.34	1.47	0.35	6.75
2	1.00	12.00	-492209	-538200	10110	Sx	-614718	5.34	1.47	0.35	6.75
						Dx	-614718	5.34	1.47	0.35	6.75
3	1.00	12.00	-7519	-157909	2142	Sx	-306694	2.26	1.45	0.34	6.75
						Dx	-306694	2.26	1.45	0.34	6.75
4	1.00	12.00	-301687	-308143	8084	Sx	-405538	3.14	1.70	0.35	5.84
						Dx	-405538	3.14	1.70	0.35	5.84
5	1.00	12.00	-231108	-308143	3956	Sx	-405538	3.14	1.70	0.35	5.84
						Dx	0	0.00	0.00	0.00	0.00

**Sollecitazioni / Verifiche Campate: Stato Limite di Esercizio - Combinazione Rara**

Campata	Coeff. Mom. Fitt.	Mom. Flettente daN*cm	Mom. Fittizio daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Freccia Istan./Differ./Contro. mm
1-H	12.00	253918	378000	290	3680	-3884	5.75	5.77	45	2553	1.83/4.79/12.00
2-I	12.00	9949	25553	156	3217	0	1.51	2.85	5	641	0.01/0.02/2.60

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3-J	12.00	84247	110906	118	1499	-2708	1.51	2.95	22	2780	0.16/0.41/5.42
4-K	12.00	143605	216422	237	2969	-2777	3.02	4.19	33	2749	0.61/1.60/8.25

Sollecitazioni / Verifiche Campate: Stato Limite Ultimo

Campata	Coeff. Mom. Fitt.	Mom. Flettente (MEd1) daN*cm	Mom. Fittizio (MEd2) daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def.Max Cls %	Def.Max Acc. %	Fessure Rara/Freq./QPerm. mm
1-H	12.00	361616	538200	290	5240	-5530	600604	5.75	1.99	0.35	4.49	***0.000/0.000
2-I	12.00	14710	36382	156	4580	0	174819	1.51	1.54	0.35	5.90	***0.000/0.000
3-J	12.00	120373	157909	118	2142	-3856	172366	1.51	1.29	0.33	6.75	***0.000/0.000
4-K	12.00	204893	308143	237	4228	-3956	319742	3.02	1.08	0.28	6.75	***0.000/0.000

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite di Esercizio - Combinazione Rara

Campata	Zona piena	Lar. Sottom. Interposto cm	Mom. Flettente daN*cm	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Taglio daN	Tau daN/cm	Arm. Taglio Res. minima cmq
1-H	Sx	40	-205670	5.34	5.71	21	1370	3403	3.15	1.02
	Dx	40	-263307	5.34	5.71	27	1753	-3606	3.34	1.08
2-I	Sx	40	-280624	5.34	5.83	30	1863	2940	2.72	0.89
	Dx	40	-26635	2.26	3.87	4	409	1527	1.41	0.00
3-J	Sx	40	23967	1.51	2.95	5	601	1310	1.21	0.42
	Dx	40	-172684	3.14	4.49	23	1927	-2519	2.33	0.75
4-K	Sx	40	-168764	3.14	4.49	22	1883	2780	2.57	0.82
	Dx	40	-122469	3.14	4.49	16	1367	-2588	2.40	0.77

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite Ultimo

Campata	Zona piena	Mom. Flettente (MEd) daN*cm	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acciaio %	Taglio (VEd) daN	Taglio Ultimo (VRd) daN	Arm. Taglio Res. minima cmq
1-H	Sx	-292835	-609244	5.10	2.60	0.35	3.69	4845	5743	1.34
	Dx	-374900	-635491	5.34	2.68	0.35	3.57	-5135	5832	1.41
2-I	Sx	-399757	-618614	5.34	2.07	0.35	4.72	4185	5832	1.17
	Dx	-38628	-271741	2.26	1.07	0.25	6.75	2181	5131	0.00
3-J	Sx	34260	72537	0.55	1.02	0.26	6.75	1873	5131	0.55
	Dx	-245868	-370700	3.14	1.29	0.30	6.75	-3587	5131	0.99
4-K	Sx	-240288	-380789	3.14	1.51	0.35	6.59	3959	5131	1.08
	Dx	-174372	-380789	3.14	1.51	0.35	6.59	-3687	5131	1.01

**Schema 7 - CAMPATE 3-L-M**

Vincolo Appoggio iniziale = 16.00

Vincolo Appoggio finale = 16.00

Profondità campo solaio = 5.00 m

Carichi distribuiti: Stato Limite di Esercizio - Combinazione Rara

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	L	588	544	22/22	22/22	1	Si	400	0	440	200	1040
2	M	156	119	22/22	15/15	1	Si	400	0	440	200	1040

Carichi distribuiti: Stato Limite Ultimo

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
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1	L	588	544	22/22	22/22	1	Sì	520	0	660	300	1480
2	M	156	119	22/22	15/15	1	Sì	520	0	660	300	1480

Distinta Armature Appoggi / 60.00 cm

Appoggio	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm
1 sup.	1	12	180	1	14	130	0	0	0
2 sup.	1	12	340	1	14	210	0	0	0

Distinta Armature Inferiori Campate

Campata	Tralicci	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm	N./Φ/Passo Staffe N./mm/cm	Tratto Staffe Iniz./Fine/Lungh. cm/cm/cm
1-L	Lat.	1	10	590	1	12	590	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Centr.	1	10	590	1	12	590	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0
2-M	Lat.	1	8	160	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Centr.	1	8	160	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0

Sollecitazioni / Verifiche Appoggi: Stato Limite di Esercizio - Combinazione Rara

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente daN*cm	Momento Fittizio daN*cm	Reazione Vincolare daN	Lato Appoggio	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Trazione Acciaio daN/cm
1	1.00	12.00	-272273	-363031	3610	Sx	0.00	0.00	0	0
						Dx	5.34	5.57	37	2426
2	1.00	12.00	-328803	-363031	6768	Sx	5.34	5.57	37	2426
						Dx	5.34	5.57	37	2426
3	1.00	12.00	-19165	-25553	0	Sx	2.26	3.87	4	393
						Dx	0.00	0.00	0	0

Sollecitazioni / Verifiche Appoggi: Stato Limite Ultimo

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente (MEd1) daN*cm	Momento Fittizio (MEd2) daN*cm	Reazione Vincolare daN	Lato Appoggio	Momento Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Deform. Max Cls %	Deform. Max Acc. %
1	1.00	12.00	-387665	-516887	5140	Sx	0	0.00	0.00	0.00	0.00
						Dx	-670741	5.34	3.00	0.35	3.15
2	1.00	12.00	-468153	-516887	9637	Sx	-670741	5.34	3.00	0.35	3.15
						Dx	-670741	5.34	3.00	0.35	3.15
3	1.00	12.00	-27287	-36382	0	Sx	-286032	2.26	1.11	0.26	6.75
						Dx	0	0.00	0.00	0.00	0.00

Sollecitazioni / Verifiche Campate: Stato Limite di Esercizio - Combinazione Rara

Campata	Coeff. Mom. Fitt.	Mom. Flettente daN*cm	Mom. Fittizio daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Freccia Istan./Differ./Contro. mm
1-L	12.00	244895	363031	289	3610	-3801	5.75	5.77	43	2452	1.69/4.42/11.76
2-M	12.00	-15514	25553	156	2968	0	1.51	2.85	5	641	0.01/0.02/2.60

Sollecitazioni / Verifiche Campate: Stato Limite Ultimo

Campata	Coeff. Mom. Fitt.	Mom. Flettente (MEd1) daN*cm	Mom. Fittizio (MEd2) daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def.Max Cls %	Def.Max Acc. %	Fessure Rara/Freq./QPerm. mm
1-L	12.00	348728	516887	289	5140	-5411	600604	5.75	1.99	0.35	4.49	***0.000/0.000
2-M	12.00	-21811	36382	156	4225	0	174819	1.51	1.54	0.35	5.90	***0.000/0.000

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite di Esercizio - Combinazione Rara

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Campata	Zona piena	Lar. Sottom. Interposto cm	Mom. Flettente daN*cm	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Taglio daN	Tau daN/cm	Arm. Taglio Res. minima cmq
1-L	Sx	40	-195941	5.34	5.71	20	1305	3333	3.09	1.00
	Dx	40	-248240	5.34	5.71	26	1653	-3523	3.26	1.06
2-M	Sx	40	-268601	5.34	5.83	29	1783	2690	2.49	0.82
	Dx	40	-35613	2.26	3.87	5	547	1358	1.26	0.00

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite Ultimo

Campata	Zona piena	Mom. Flettente (MEd) daN*cm	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acciaio %	Taglio (VEd) daN	Taglio Ultimo (VRd) daN	Arm. Taglio Res. minima cmq
1-L	Sx	-278982	-636357	5.34	2.72	0.35	3.51	4746	5832	1.31
	Dx	-353447	-636357	5.34	2.72	0.35	3.51	-5017	5832	1.38
2-M	Sx	-382591	-619368	5.34	2.10	0.35	4.65	3831	5832	1.08
	Dx	-50706	-273834	2.26	1.10	0.26	6.75	1947	5131	0.00

Schema 8 - CAMPATE 5-H-I

Vincolo Appoggio iniziale = 16.00

Vincolo Appoggio finale = 16.00

Profondità campo solaio = 5.20 m

Carichi distribuiti: Stato Limite di Esercizio - Combinazione Rara

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	H	339	295	22/22	22/22	1	Si	400	0	440	200	1040
2	I	364	320	22/22	22/22	1	Si	400	0	440	200	1040

Carichi distribuiti: Stato Limite Ultimo

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	H	339	295	22/22	22/22	1	Si	520	0	660	300	1480
2	I	364	320	22/22	22/22	1	Si	520	0	660	300	1480

Distinta Armature Appoggi / 60.00 cm

Appoggio	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm
1 sup.	1	10	130	0	0	0	0	0	0
2 sup.	1	12	250	0	0	0	0	0	0
3 sup.	1	12	140	0	0	0	0	0	0

Distinta Armature Inferiori Campate

Campata	Tralicci	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm	N./Φ/Passo Staffe N./mm/cm	Tratto Staffe Iniz./Fine/Lungh. cm/cm/cm
1-H	Lat.	1	10	340	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Centr.	1	10	340	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0
2-I	Lat.	1	10	365	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Centr.	1	10	365	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0

Sollecitazioni / Verifiche Appoggi: Stato Limite di Esercizio - Combinazione Rara

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente daN*cm	Momento Fittizio daN*cm	Reazione Vincolare daN	Lato Appoggio	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Trazione Acciaio daN/cm
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1	1.00	12.00	-90500	-120667	2016	Sx	0.00	0.00	0	0
						Dx	1.57	3.34	22	2639
2	1.00	12.00	-146500	-139121	4710	Sx	2.26	3.93	23	2246
						Dx	2.26	3.93	23	2246
3	1.00	12.00	-104341	-139121	2212	Sx	2.26	3.85	21	2142
						Dx	0.00	0.00	0	0

Sollecitazioni / Verifiche Appoggi: Stato Limite Ultimo

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente (MEd1) daN*cm	Momento Fittizio (MEd2) daN*cm	Reazione Vincolare daN	Lato Appoggio	Momento Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Deform. Max Cls %	Deform. Max Acc. %
1	1.00	12.00	-128855	-171807	2874	Sx	0	0.00	0.00	0.00	0.00
						Dx	-219346	1.57	1.14	0.27	6.75
2	1.00	12.00	-208588	-198082	6706	Sx	-327285	2.26	1.93	0.35	5.09
						Dx	-327285	2.26	1.93	0.35	5.09
3	1.00	12.00	-148561	-198082	3152	Sx	-263305	2.26	0.76	0.17	6.75
						Dx	0	0.00	0.00	0.00	0.00

Sollecitazioni / Verifiche Campate: Stato Limite di Esercizio - Combinazione Rara

Campata	Coeff. Mom. Fitt.	Mom. Flettente daN*cm	Mom. Fittizio daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cmq	Traz. Acciaio daN/cmq	Freccia Istan./Differ./Contro. mm
1-H	12.00	70785	120667	160	2016	-2301	2.36	3.74	20	1951	0.19/0.50/5.65
2-I	12.00	89744	139121	187	2409	-2212	2.36	3.74	24	2249	0.25/0.67/6.07

Sollecitazioni / Verifiche Campate: Stato Limite Ultimo

Campata	Coeff. Mom. Fitt.	Mom. Flettente (MEd1) daN*cm	Mom. Fittizio (MEd2) daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acc. %	Fessure Rara/Freq./QPerm. mm
1-H	12.00	101338	171807	160	2874	-3276	250629	2.36	0.90	0.23	6.75	***0.000/0.000
2-I	12.00	128241	198082	187	3430	-3152	250629	2.36	0.90	0.23	6.75	***0.000/0.000

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite di Esercizio - Combinazione Rara

Campata	Zona piena	Lar. Sottom. Interposto cm	Mom. Flettente daN*cm	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cmq	Traz. Acciaio daN/cmq	Taglio daN	Tau daN/cmq	Arm. Taglio Res. minima cmq
1-H	Sx	40	-50198	1.57	3.34	9	1098	1739	1.61	0.56
	Dx	40	-98929	2.26	3.89	15	1520	-2024	1.87	0.64
2-I	Sx	40	-96551	2.26	3.89	15	1483	2132	1.97	0.67
	Dx	40	-59487	2.26	3.89	9	914	-1934	1.79	0.61

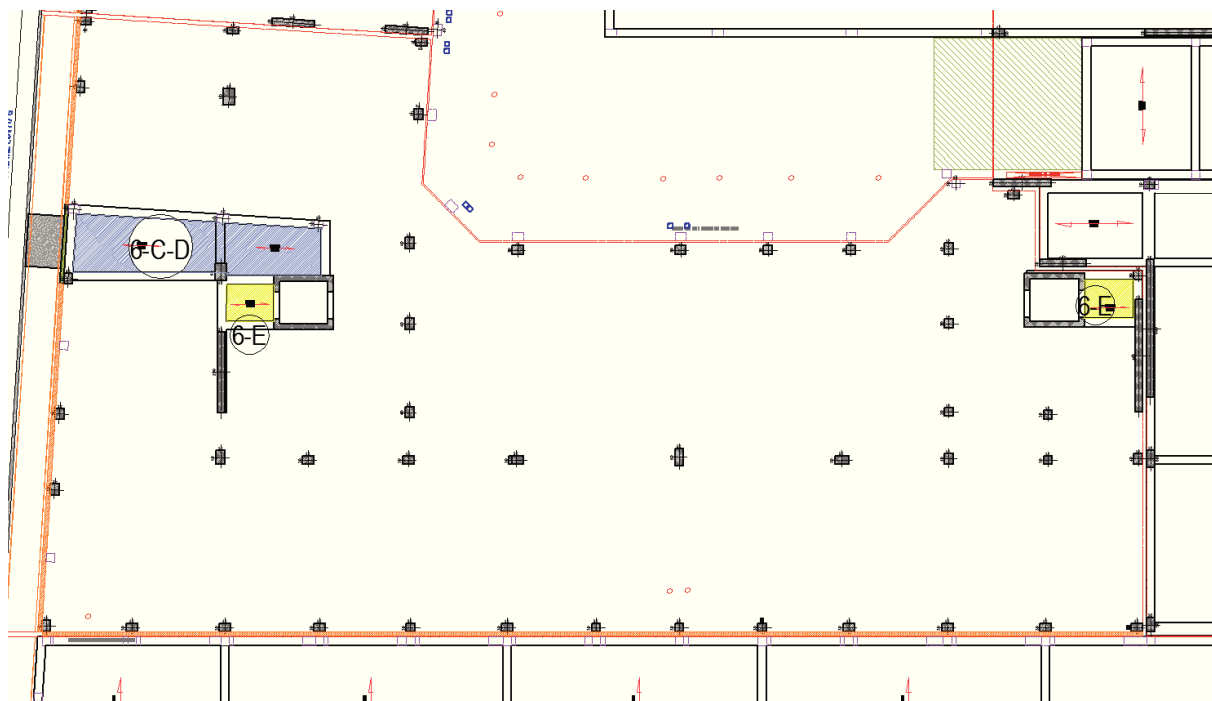
Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite Ultimo

Campata	Zona piena	Mom. Flettente (MEd) daN*cm	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acciaio %	Taglio (VEd) daN	Taglio Ultimo (VRd) daN	Arm. Taglio Res. minima cmq
1-H	Sx	-71473	-199413	1.57	1.00	0.23	6.75	2479	5131	0.73
	Dx	-140857	-278355	2.26	1.20	0.28	6.75	-2881	5131	0.84
2-I	Sx	-137470	-278680	2.26	1.20	0.28	6.75	3035	5131	0.88
	Dx	-84699	-278020	2.26	1.19	0.28	6.75	-2757	5131	0.81

Solaio zona di ingresso



Altezza Solaio:  $4.0 + 16.0 + 4.0 = 24.0$  cm Interasse Solaio: 120.0 cm  
 Peso proprio Solaio: 335 daN/mq Peso Manufatto: 100 daN/mq Rompitratte: 1.75 / 1.95 m Interasse Nervature: 60.0 cm  
 Nervature: Numero tot.: 3 Numero laterali: 2 Larghezza lat.: 13.00 cm Numero centrali: 1 Larghezza centr.: 14.00  
 Spessore Lastra: 4.0 cm Altezza Nervature: 16.0 cm Larghezza totale Nervature: 40.0 cm Spessore Cappa: 4.0  
 Spessore Soletta collaborante: 4.0 cm Larghezza Nervature collaboranti: 40.0 cm Coefficiente Omogeneizzazione N: 15  
 Interposto Polistirolo: Numero: 2 Larghezza: 40.0 cm Altezza: 16.0 cm Taglio: 100 cm Peso: 0.00 daN  
 Tralicci: Numero T.N.L.: 1 Numero T.N.C.: 1 Tipo: 2 fi 5.0 Inf. + 1 fi 7.0 Sup. + St. fi 5.0 / 20.0 cm - 12.5 cm  
 Armatura diffusa nella Lastra: 1 fi 5.0 / 19.0 cm parallela ai Tralicci - 1 fi 5.0 / 25.0 cm ortogonale ai Tralicci  
 Armatura Ripartizione Cappa: RETE FI 5 - MAGLIA 20X20 Le Sollecitazioni e le Verifiche sono riferite all'Interasse  
 Copriferri Armature: Tral.: 2.0 cm Diff.: 2.0 cm Rip.: 2.0 cm Camp.: 4.5 cm Sup. App.: 2.0 cm Inf. App.: 4.5 cm  
 Armature considerate in Verifica: Tralicci: 0.00 cmq Armatura diffusa: 0.00 cmq Armatura di Rip.ne: 0.00 cmq  
 Calcestruzzo Manufatto: Rck: 300 daN/cm<sup>2</sup> Fck: 249 daN/cm<sup>2</sup> acc: 0.85  $\gamma_c$ : 1.5 Fcd: 141.10 daN/cm<sup>2</sup> Ec: 314472 daN/cm<sup>2</sup>  
 Calcestruzzo Manufatto:  $\sigma_{cr}$ : 149.40 daN/cm<sup>2</sup>  $\sigma_{cqp}$ : 112.05 daN/cm<sup>2</sup> Riduzione Fcd/ $\sigma_{cr}$ / $\sigma_{cqp}$  spessori < 5cm: -20%/-20%/-20%  
 Calcestruzzo Getto in Opera: Rck: 300 daN/cm<sup>2</sup> Fck: 249 daN/cm<sup>2</sup> acc: 0.85  $\gamma_c$ : 1.5 Fcd: 141.10 daN/cm<sup>2</sup> Ec: 314472 daN/cm<sup>2</sup>  
 Calcestruzzo Getto in Opera:  $\sigma_{cr}$ : 149.40 daN/cm<sup>2</sup>  $\sigma_{cqp}$ : 112.05 daN/cm<sup>2</sup> Riduzione Fcd/ $\sigma_{cr}$ / $\sigma_{cqp}$  spessori < 5cm: -20%/-20%/-20%  
 Acciaio:  $\gamma_s$ : 1.15  $\sigma_s$ : 0.8\*Fyk Campate Fyk: 4500 daN/cm<sup>2</sup> Appoggi Fyk: 4500 daN/cm<sup>2</sup> Traliccio Fyk: 4500 daN/cm<sup>2</sup>  
 Acciaio: Campate Fyd: 3913 daN/cm<sup>2</sup> Campate  $\sigma_s$ : 3600 daN/cm<sup>2</sup> Appoggi Fyd: 3913 daN/cm<sup>2</sup> Appoggi  $\sigma_s$ : 3600 daN/cm<sup>2</sup>  
 Acciaio: Traliccio Fyd/  $\sigma_s$  inf.: 3913/3600 daN/cm<sup>2</sup> Fyd/  $\sigma_s$  sup.: 1881/1731 daN/cm<sup>2</sup> Fyd/  $\sigma_s$  St. 1763/1622 daN/cm<sup>2</sup>  
 Condizioni ambientali: Ordinarie Classe di esposizione: XC1 Fessurazione: W<sub>r</sub>/W<sub>f</sub>/W<sub>p</sub>: \*\*/0.40/0.30 mm  
 Coefficienti Incremento Carichi: GammaG1: 1.30 GammaG2: 1.50 GammaQ: 1.50 Psi0: 0.00 Psi1: 0.00 Psi2: 0.00  
 Vincoli App. estremi: 0: App. semplice 1: Incastro Altro: Semincastro NN105FE360-CLASTREAPP2APP1LASTRAA2  
 Caratt. Staffe: Posizione: Per Interasse (1 St./Interasse) Tipologia: Tipo 2-S-2BV - 2 Bracci verticali Area Staffe: Asw = Area( $\Phi$  Staffe)\*2\*1



Schema 1 - CAMPATE 6-C-D

Vincolo Appoggio iniziale = 16.00  
 Vincolo Appoggio finale = 16.00  
 Profondità campo solaio = 2.50 m  
 Carichi distribuiti: Stato Limite di Esercizio - Combinazione Rara

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Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	C	531	501	15/15	15/15	1	Si	335	0	175	400	910
2	D	366	336	15/15	15/15	1	Si	335	0	175	400	910

Carichi distribuiti: Stato Limite Ultimo

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	C	531	501	15/15	15/15	1	Si	435	0	263	600	1298
2	D	366	336	15/15	15/15	1	Si	435	0	263	600	1298

Distinta Armature Appoggi / 60.00 cm

Appoggio	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm
1 sup.	1	10	160	1	12	120	0	0	0
2 sup.	1	10	330	1	12	200	0	0	0
3 sup.	1	10	150	0	0	0	0	0	0

Distinta Armature Inferiori Campate

Campata	Tralici	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm	N./Φ/Passo Staffe N./mm/cm	Tratto Staffe Iniz./Fine/Lungh. cm/cm/cm
1-C	Lat.	2	10	535	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Centr.	2	10	535	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0
2-D	Lat.	1	10	380	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Centr.	1	10	380	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0

Sollecitazioni / Verifiche Appoggi: Stato Limite di Esercizio - Combinazione Rara

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente daN*cm	Momento Fittizio daN*cm	Reazione Vincolare daN	Lato Appoggio	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Trazione Acciaio daN/cm
1	1.00	12.00	-195187	-260250	2906	Sx	0.00	0.00	0	0
						Dx	3.83	4.18	39	2526
2	1.00	12.00	-230074	-260250	5408	Sx	3.83	4.20	40	2523
						Dx	3.83	4.20	40	2523
3	1.00	12.00	-92732	-123642	1785	Sx	1.57	2.90	29	2820
						Dx	0.00	0.00	0	0

Sollecitazioni / Verifiche Appoggi: Stato Limite Ultimo

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente (MEd1) daN*cm	Momento Fittizio (MEd2) daN*cm	Reazione Vincolare daN	Lato Appoggio	Momento Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Deform. Max Cls %	Deform. Max Acc. %
1	1.00	12.00	-274362	-365816	4086	Sx	0	0.00	0.00	0.00	0.00
						Dx	-380717	3.83	2.38	0.35	2.89
2	1.00	12.00	-323400	-365816	7602	Sx	-399549	3.83	2.97	0.35	2.24
						Dx	-399549	3.83	2.97	0.35	2.24
3	1.00	12.00	-130346	-173794	2522	Sx	-170335	1.57	1.06	0.34	6.75
						Dx	0	0.00	0.00	0.00	0.00

Sollecitazioni / Verifiche Campate: Stato Limite di Esercizio - Combinazione Rara

Campata	Coeff. Mom. Fitt.	Mom. Flettente daN*cm	Mom. Fittizio daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Freccia Istan./Differ./Contro. mm
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1-C	12.00	185738	260250	266	2906	-3007	4.71	4.24	44	2348	1.63/3.97/10.62
2-D	12.00	51065	123642	208	2402	-1785	2.36	3.11	28	2186	0.37/0.91/6.10

Sollecitazioni / Verifiche Campate: Stato Limite Ultimo

Campata	Coeff. Mom. Fitt.	Mom. Flettente (MEd1) daN*cm	Mom. Fittizio (MEd2) daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def.Max Cls %	Def.Max Acc. %	Fessure Rara/Freq./QPerm. mm
1-C	12.00	261834	365816	266	4086	-4226	347585	4.71	1.62	0.35	3.85	***0.000/0.000
2-D	12.00	73771	173794	208	3376	-2522	176998	2.36	0.81	0.29	6.75	***0.000/0.000

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite di Esercizio - Combinazione Rara

Campata	Zona piena	Lar. Sottom. Interposto cm	Mom. Flettente daN*cm	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Taglio daN	Tau daN/cm	Arm. Taglio Res. minima cmq
1-C	Sx	40	-153309	3.83	4.18	23	1488	2739	2.66	0.62
	Dx	40	-186224	3.83	4.18	28	1807	-2841	2.76	0.64
2-D	Sx	40	-195287	3.83	4.16	30	1898	2236	2.17	0.51
	Dx	40	-69202	1.57	2.9	16	1578	-1619	1.57	0.38

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite Ultimo

Campata	Zona piena	Mom. Flettente (MEd) daN*cm	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acciaio %	Taglio (VEd) daN	Taglio Ultimo (VRd) daN	Arm. Taglio Res. minima cmq
1-C	Sx	-215495	-344047	3.83	1.94	0.35	3.62	3853.2	4566	0.80
	Dx	-261762	-342936	3.83	1.90	0.35	3.69	-3992.3	4566	0.83
2-D	Sx	-274502	-336378	3.83	1.71	0.35	4.17	3143.4	4566	0.66
	Dx	-97272	-151184	1.57	0.93	0.30	6.75	-2288	4196	0.50

**Schema 2 - CAMPATA 6-E**

Vincolo Appoggio iniziale = 16.00

Vincolo Appoggio finale = 16.00

Profondità campo solaio = 6.50 m

Carichi distribuiti: Stato Limite di Esercizio - Combinazione Rara

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	E	205	175	15/15	15/15	1	Si	335	0	175	400	910

Carichi distribuiti: Stato Limite Ultimo

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	E	205	175	15/15	15/15	1	Si	435	0	263	600	1298

Distinta Armature Appoggi / 60.00 cm

Appoggio	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm
1 sup.	1	8	100	0	0	0	0	0	0
2 sup.	1	8	100	0	0	0	0	0	0

Distinta Armature Inferiori Campate

Campata	Tralici	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm	N./Φ/Passo Staffe N./mm/cm	Tratto Staffe Iniz./Fine/Lungh. cm/cm/cm
1-E	Lat.	1	8	210	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0

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	Centr.	1	8	210	0	0	0	0	0	0	Dx-1x0 St. $\Phi$ 0/0	Dx-0/0/0
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Sollecitazioni / Verifiche Appoggi: Stato Limite di Esercizio - Combinazione Rara

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente daN*cm	Momento Fittizio daN*cm	Reazione Vincolare daN	Lato Appoggio	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Trazione Acciaio daN/cm
1	1.00	14.00	-22378	-25575	873	Sx	0.00	0.00	0	0
						Dx	1.01	2.39	9	1167
2	1.00	14.00	-22378	-25575	873	Sx	1.01	2.39	9	1167
						Dx	0.00	0.00	0	0

Sollecitazioni / Verifiche Appoggi: Stato Limite Ultimo

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente (MEd1) daN*cm	Momento Fittizio (MEd2) daN*cm	Reazione Vincolare daN	Lato Appoggio	Momento Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Deform. Max Cls %	Deform. Max Acc. %
1	1.00	14.00	-40893	-46734	1596	Sx	0	0.00	0.00	0.00	0.00
						Dx	-110539	1.01	0.74	0.23	6.75
2	1.00	14.00	-40893	-46734	1596	Sx	-110539	1.01	0.74	0.23	6.75
						Dx	0	0.00	0.00	0.00	0.00

Sollecitazioni / Verifiche Campate: Stato Limite di Esercizio - Combinazione Rara

Campata	Coeff. Mom. Fitt.	Mom. Flettente daN*cm	Mom. Fittizio daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Freccia Istan./Differ./Contro. mm
1-E	10.00	28960	46547	107	1135	-1135	1.51	2.53	13	1273	0.04/0.11/3.42

Sollecitazioni / Verifiche Campate: Stato Limite Ultimo

Campata	Coeff. Mom. Fitt.	Mom. Flettente (MEd1) daN*cm	Mom. Fittizio (MEd2) daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acc. %	Fessure Rara/Freq./QPerm. mm
1-E	10.00	40707	65428	107	1596	-1596	113939	1.51	0.58	0.21	6.75	***0.000/0.000

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite di Esercizio - Combinazione Rara

Campata	Zona piena	Lar. Sottom. Interposto cm	Mom. Flettente daN*cm	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Taglio daN	Tau daN/cm	Arm. Taglio Res. minima cmq
1-E	Sx	40	-13308	1.01	2.39	4	467	969	0.94	0.24
	Dx	40	-13308	1.01	2.39	4	467	-969	0.94	0.24

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite Ultimo

Campata	Zona piena	Mom. Flettente (MEd) daN*cm	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acciaio %	Taglio (VEd) daN	Taglio Ultimo (VRd) daN	Arm. Taglio Res. minima cmq
1-E	Sx	-18707	-96983	1.01	0.65	0.20	6.75	1362	4196	0.31
	Dx	-18707	-96983	1.01	0.65	0.20	6.75	-1362	4196	0.31

**Solaio 2°-3° IMPALCATO**

Altezza Solaio: 28.0 + 4.0 = 32.0 cm Interasse Solaio: 50.0 cm

Peso proprio Solaio: 365 daN/mq Peso Manufatto: 12 daN/m Rompitratte: 1.50 / 1.50 m Interasse Nervature: 50.0 cm

Spessore Cappa: 4.0 cm Larghezza totale Nervature: 12.0 cm Altezza totale Nervature: 28.0 cm Numero Nervature: 1

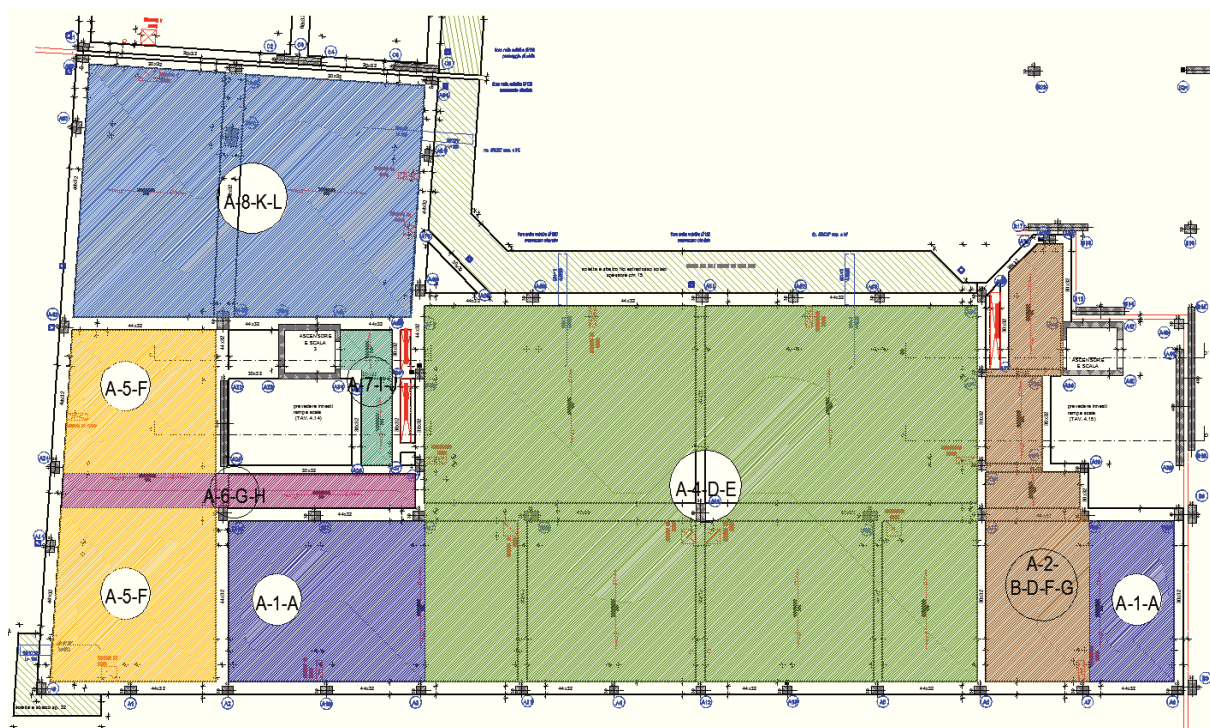
Spessore Soletta collaborante: 7.4 cm Largh. Nervature collaboranti: 14.6 cm Coefficiente di Omogeneizzazione N: 15

Interposto Laterizio: Coll. = S Numero: 1 Larghezza: 38.0 cm Altezza: 28.0 cm Taglio: 25 cm Peso: 12.40 daN

Numero Travetti: 1 Num. Tralicci: 1 Tipo Traliccio: 2 fi 5.0 Inf. + 1 fi 7.0 Sup. + St. fi 5.0 / 20.0 cm - 12.5 cm

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Armatura Ripartizione Cappa: RETE FI 5 - MAGLIA 20X20 Le Sollecitazioni e le Verifiche sono riferite all'interasse  
 Copriferri Armature: Tral.: 2.0 cm Cat.: 0.0 cm Camp.: 2.0 cm Sup. App.: 2.0 cm Inf. App.: 4.5 cm Rip.: 2.0 cm  
 Armature considerate in Verifica: Armatura Traliccio: 0.00 cmq Armatura di Ripartizione della Cappa: 0.00 cmq  
 Calcestruzzo Manufatto: Rck: 300 daN/cm<sup>2</sup> Fck: 249 daN/cm<sup>2</sup> acc: 0.85  $\gamma_c$ : 1.5 Fcd: 141.10 daN/cm<sup>2</sup> Ec: 314472 daN/cm<sup>2</sup>  
 Calcestruzzo Manufatto:  $\sigma_{cr}$ : 149.40 daN/cm<sup>2</sup>  $\sigma_{cqp}$ : 112.05 daN/cm<sup>2</sup> Riduzione Fcd/ $\sigma_{cr}$ / $\sigma_{cqp}$  spessori < 5cm: -20%/-20%/-20%  
 Calcestruzzo Getto in Opera: Rck: 300 daN/cm<sup>2</sup> Fck: 249 daN/cm<sup>2</sup> acc: 0.85  $\gamma_c$ : 1.5 Fcd: 141.10 daN/cm<sup>2</sup> Ec: 314472 daN/cm<sup>2</sup>  
 Calcestruzzo Getto in Opera:  $\sigma_{cr}$ : 149.40 daN/cm<sup>2</sup>  $\sigma_{cqp}$ : 112.05 daN/cm<sup>2</sup> Riduzione Fcd/ $\sigma_{cr}$ / $\sigma_{cqp}$  spessori < 5cm: -20%/-20%/-20%  
 Acciaio:  $\gamma_s$ : 1.15  $\sigma_s$ : 0.8\*Fyk Campate Fyk: 4500 daN/cm<sup>2</sup> Appoggi Fyk: 4500 daN/cm<sup>2</sup> Traliccio Fyk: 4500 daN/cm<sup>2</sup>  
 Acciaio: Campate Fyd: 3913 daN/cm<sup>2</sup> Campate  $\sigma_s$ : 3600 daN/cm<sup>2</sup> Appoggi Fyd: 3913 daN/cm<sup>2</sup> Appoggi  $\sigma_s$ : 3600 daN/cm<sup>2</sup>  
 Acciaio: Traliccio Fyd/  $\sigma_s$  inf.: 3913/3600 daN/cm<sup>2</sup> Fyd/  $\sigma_s$  sup.: 1881/1731 daN/cm<sup>2</sup> Fyd/  $\sigma_s$  St. 1763/1622 daN/cm<sup>2</sup>  
 Condizioni ambientali: Ordinarie Classe di esposizione: XC1 Fessurazione: W<sub>r</sub>/W<sub>f</sub>/W<sub>p</sub>: \*\*\*/0.40/0.30 mm  
 Coefficienti Incremento Carichi: GammaG1: 1.30 GammaG2: 1.50 GammaQ: 1.50 Psi0: 0.00 Psi1: 0.00 Psi2: 0.00  
 Vincoli App. estremi: 0: App. semplice 1: Incastro Altro: Semincastro N105FE360-CBAUSTASAPP2APP1BAUSTA2  
 Caratt. Staffe: Posizione: Per Interasse (1 St./Interasse) Tipologia: Tipo 2-S-2BV - 2 Bracci verticali Area Staffe: A<sub>sw</sub> = Area( $\Phi$  Staffe)\*2\*1



**Schema 1 - CAMPATA A-1-A**

Vincolo Appoggio iniziale = 16.00

Vincolo Appoggio finale = 16.00

Profondità campo solaio = 2.89 m

Carichi distribuiti: Stato Limite di Esercizio - Combinazione Rara

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	A	586	542	22/22	22/22	1	Sì	365	55	425	200	1045

Carichi distribuiti: Stato Limite Ultimo

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec.	Zona piena Dx Or./Nec.	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale	Carico variabile daN/mq	Carico totale daN/mq

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				cm/cm	cm/cm					daN/mq		
1	A	586	542	22/22	22/22	1	Si	474	72	638	300	1484

Distinta Armature Appoggi / Singolo Travetto

Appoggio	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm
1 sup.	1	10	170	1	10	120	0	0	0
2 sup.	1	10	160	1	10	120	0	0	0

Distinta Armature Inferiori Campate

Campata	Tipo	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm	N./Φ/Passo Staffe N./mm/cm	Tratto Staffe Iniz./Fine/Lungh. cm/cm/cm
1-A	Conf.	2	12	590	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0

Sollecitazioni / Verifiche Appoggi: Stato Limite di Esercizio - Combinazione Rara

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente daN*cm	Momento Fittizio daN*cm	Reazione Vincolare daN	Lato Appoggio	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Trazione Acciaio daN/cm
1	1.00	14.00	-104628	-119575	1428	Sx	0.00	0.00	0	0
						Dx	1.57	4.53	32	2679
2	1.00	14.00	-104628	-119575	1428	Sx	1.57	4.53	32	2679
						Dx	0.00	0.00	0	0

Sollecitazioni / Verifiche Appoggi: Stato Limite Ultimo

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente (MEd1) daN*cm	Momento Fittizio (MEd2) daN*cm	Reazione Vincolare daN	Lato Appoggio	Momento Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Deform. Max Cls %	Deform. Max Acc. %
1	1.00	14.00	-149109	-170410	2036	Sx	0	0.00	0.00	0.00	0.00
						Dx	-185166	1.57	1.64	0.35	6.04
2	1.00	14.00	-149109	-170410	2036	Sx	-185166	1.57	1.64	0.35	6.04
						Dx	0	0.00	0.00	0.00	0.00

Sollecitazioni / Verifiche Campate: Stato Limite di Esercizio - Combinazione Rara

Campata	Coeff. Mom. Fitt.	Mom. Flettente daN*cm	Mom. Fittizio daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Freccia Istan./Differ./Contro. mm
1-A	10.00	104568	167406	298	1428	-1428	2.26	5.74	42	2635	2.61/7.69/11.72

Sollecitazioni / Verifiche Campate: Stato Limite Ultimo

Campata	Coeff. Mom. Fitt.	Mom. Flettente (MEd1) daN*cm	Mom. Fittizio (MEd2) daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def.Max Cls %	Def.Max Acc. %	Fessure Rara/Freq./QPerm. mm
1-A	10.00	149023	238574	288	2036	-2036	260273	2.26	1.49	0.35	6.69	***0.093/0.093

Sollecitazioni / Verifiche Limite Zone Pieni: Stato Limite di Esercizio - Combinazione Rara

Campata	Zona piena	Lar. Sottom. Interposto cm	Mom. Flettente daN*cm	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Taglio daN	Tau daN/cm	Arm. Taglio Res. minima cmq
1-A	Sx	38	-74384	1.57	7.09	35	1706	1321	3.35	0.40
	Dx	38	-74384	1.57	7.09	35	1706	-1321	3.35	0.40

Sollecitazioni / Verifiche Limite Zone Pieni: Stato Limite Ultimo

Campata	Zona piena	Mom. Flettente (MEd)	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acciaio %	Taglio (VEd) daN	Taglio Ultimo (VRd)	Arm. Taglio Res. minima
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		daN*cm							daN	cmq
1-A	Sx	-106007	-176287	1.57	2.63	0.35	3.65	1883	1981	0.52
	Dx	-106007	-176287	1.57	2.63	0.35	3.65	-1883	1981	0.52

**Schema 2 - CAMPATA A-2-B-D-F-G**

Vincolo Appoggio iniziale = 16.00

Vincolo Appoggio finale = 16.00

Profondità campo solaio = 3.20 m

Carichi distribuiti: Stato Limite di Esercizio - Combinazione Rara

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	B	586	542	22/22	22/22	1	Si	365	55	425	200	1045
2	D	165	121	22/22	22/22	1	No	365	55	425	200	1045
3	F	339	295	15/15	15/15	1	No	365	55	425	200	1045
4	G	468	424	22/22	22/22	1	No	365	55	425	200	1045

Carichi distribuiti: Stato Limite Ultimo

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	B	586	542	22/22	22/22	1	Si	474	72	638	300	1484
2	D	165	121	22/22	22/22	1	No	474	72	638	300	1484
3	F	339	295	15/15	15/15	1	No	474	72	638	300	1484
4	G	468	424	22/22	22/22	1	No	474	72	638	300	1484

Distinta Armature Appoggi / Singolo Travetto

Appoggio	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm
1 sup.	1	10	170	1	12	120	0	0	0
2 sup.	1	10	590	1	12	210	0	0	0
4 sup.	1	12	290	0	0	0	0	0	0
5 sup.	1	12	150	0	0	0	0	0	0

Distinta Armature Inferiori Campate

Campata	Tipo	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm	N./Φ/Passo Staffe N./mm/cm	Tratto Staffe Iniz./Fine/Lungh. cm/cm/cm
1-B	Conf.	1	12	590	1	12	590	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0
2-D	Conf.	1	12	165	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0
3-F	Conf.	1	12	335	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0
4-G	Conf.	2	10	475	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0

Sollecitazioni / Verifiche Appoggi: Stato Limite di Esercizio - Combinazione Rara

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente daN*cm	Momento Fittizio daN*cm	Reazione Vincolare daN	Lato Appoggio	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Trazione Acciaio daN/cm
1	1.00	12.00	-104628	-139505	1394	Sx	0.00	0.00	0	0
						Dx	1.92	4.97	34	2573
2	1.00	12.00	-125808	-139505	2613	Sx	1.92	4.82	33	2571

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						Dx	1.92	4.82	33	2571
3	1.00	12.00	-6023	-46687	625	Sx	0.79	3.40	18	2064
						Dx	0.79	3.40	18	2064
4	1.00	12.00	-86898	-88979	2258	Sx	1.13	3.97	28	2750
						Dx	1.13	3.97	28	2750
5	1.00	12.00	-66734	-88979	1109	Sx	1.13	3.97	28	2750
						Dx	0.00	0.00	0	0

Sollecitazioni / Verifiche Appoggi: Stato Limite Ultimo

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente (MEd1) daN*cm	Momento Fittizio (MEd2) daN*cm	Reazione Vincolare daN	Lato Appoggio	Momento Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Deform. Max Cls %	Deform. Max Acc. %
1	1.00	12.00	-149109	-198812	1987	Sx	0	0.00	0.00	0.00	0.00
						Dx	-223240	1.92	1.72	0.35	5.74
2	1.00	12.00	-179292	-198812	3723	Sx	-223479	1.92	1.78	0.35	5.54
						Dx	-223479	1.92	1.78	0.35	5.54
3	1.00	12.00	-8830	-66534	894	Sx	-97015	0.79	1.26	0.29	6.75
						Dx	-97015	0.79	1.26	0.29	6.75
4	1.00	12.00	-123841	-126806	3219	Sx	-136153	1.13	1.46	0.35	6.75
						Dx	-136153	1.13	1.46	0.35	6.75
5	1.00	12.00	-95104	-126806	1581	Sx	-136153	1.13	1.46	0.35	6.75
						Dx	0	0.00	0.00	0.00	0.00

Sollecitazioni / Verifiche Campate: Stato Limite di Esercizio - Combinazione Rara

Campata	Coeff. Mom. Fitt.	Mom. Flettente daN*cm	Mom. Fittizio daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cmq	Traz. Acciaio daN/cmq	Freccia Istan./Differ./Contro. mm
1-B	12.00	94704	139505	288	1394	-1465	2.26	5.74	35	2196	2.19/5.72/11.72
2-D	12.00	1147	11060	165	1148	0	1.13	3.93	3	342	0.01/0.03/2.75
3-F	12.00	34026	46687	130	625	-1075	1.13	4.08	15	1443	0.24/0.63/5.65
4-G	12.00	59362	88979	239	1184	-1109	1.57	4.87	26	1996	0.87/2.25/8.51

Sollecitazioni / Verifiche Campate: Stato Limite Ultimo

Campata	Coeff. Mom. Fitt.	Mom. Flettente (MEd1) daN*cm	Mom. Fittizio (MEd2) daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def.Max Cls %	Def.Max Acc. %	Fessure Rara/Freq./QPerm. mm
1-B	12.00	135006	198812	288	1987	-2087	260273	2.26	1.49	0.35	6.69	***0.068/0.068
2-D	12.00	1923	15762	165	1636	0	136436	1.13	1.51	0.35	6.59	***0.000/0.000
3-F	12.00	48699	66534	130	894	-1531	134940	1.13	1.26	0.30	6.75	***0.000/0.000
4-G	12.00	84789	126806	239	1687	-1581	181874	1.57	1.11	0.26	6.75	***0.000/0.000

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite di Esercizio - Combinazione Rara

Campata	Zona piena	Lar. Sottom. Interposto cm	Mom. Flettente daN*cm	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cmq	Traz. Acciaio daN/cmq	Taglio daN	Tau daN/cmq	Arm. Taglio Res. minima cmq
1-B	Sx	38	-75179	1.92	7.78	33	1422	1287	3.26	0.39
	Dx	38	-94768	1.92	7.78	42	1793	-1357	3.44	0.41
2-D	Sx	38	-102778	1.92	8.38	51	1961	1041	2.64	0.32
	Dx	38	-15750	0.79	5.58	11	713	485	1.23	0.00
3-F	Sx	38	6898	1.13	4.08	2	213	552	1.40	0.17
	Dx	38	-71327	1.13	6.61	43	2266	-1002	2.54	0.30
4-G	Sx	38	-62034	1.13	6.38	35	1966	1077	2.73	0.33



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	Dx	38	-43765	1.13	6.38	25	1387	-1002	2.54	0.31
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Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite Ultimo

Campata	Zona piena	Mom. Flettente (MEd) daN*cm	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acciaio %	Taglio (VEd) daN	Taglio Ultimo (VRd) daN	Arm. Taglio Res. minima cmq
1-B	Sx	-107140	-213918	1.92	3.02	0.35	3.13	1834	2117	0.51
	Dx	-135057	-213918	1.92	3.02	0.35	3.13	-1934	2117	0.53
2-D	Sx	-146551	-213239	1.92	3.57	0.35	2.59	1483	2117	0.42
	Dx	-22768	-90076	0.79	1.89	0.35	5.20	693	1873	0.00
3-F	Sx	9943	52279	0.41	0.90	0.21	6.75	790	1873	0.23
	Dx	-101650	-128119	1.13	2.50	0.35	3.85	-1427	1873	0.39
4-G	Sx	-88406	-128120	1.13	2.22	0.35	4.37	1534	1873	0.43
	Dx	-62371	-128115	1.13	2.23	0.35	4.36	-1428	1873	0.40

**Schema 3 - CAMPATE A-4-D-E**

Vincolo Appoggio iniziale = 16.00

Vincolo Appoggio finale = 16.00

Profondità campo solaio = 18.50 m

Carichi distribuiti: Stato Limite di Esercizio - Combinazione Rara

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	D	586	542	22/22	22/22	1	Si	365	55	425	200	1045
2	E	719	675	22/32	22/22	1	Si	365	55	425	200	1045

Carichi distribuiti: Stato Limite Ultimo

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	D	586	542	22/22	22/22	1	Si	474	72	638	300	1484
2	E	719	675	22/32	22/22	1	Si	474	72	638	300	1484

Distinta Armature Appoggi / Singolo Travetto

Appoggio	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm
1 sup.	1	12	180	1	12	120	0	0	0
2 sup.	1	14	410	1	14	240	0	0	0
3 sup.	1	12	200	1	14	140	0	0	0

Distinta Armature Inferiori Campate

Campata	Tipo	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm	N./Φ/Passo Staffe N./mm/cm	Tratto Staffe Iniz./Fine/Lungh. cm/cm/cm
1-D	Conf.	3	12	590	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0
2-E	Conf.	1	12	725	1	14	725	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0

Sollecitazioni / Verifiche Appoggi: Stato Limite di Esercizio - Combinazione Rara

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente daN*cm	Momento Fittizio daN*cm	Reazione Vincolare daN	Lato Appoggio	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Trazione Acciaio daN/cm
1	1.00	12.00	-104628	-139505	1310	Sx	0.00	0.00	0	0

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						Dx	2.26	5.21	31	2186
2	1.00	12.00	-200647	-210015	3405	Sx	3.08	5.64	37	2429
						Dx	3.08	5.64	37	2429
3	1.00	12.00	-157512	-210015	1713	Sx	2.67	5.74	44	2801
						Dx	0.00	0.00	0	0

**Sollecitazioni / Verifiche Appoggi: Stato Limite Ultimo**

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente (MEd1) daN*cm	Momento Fittizio (MEd2) daN*cm	Reazione Vincolare daN	Lato Appoggio	Momento Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Deform. Max Cls %	Deform. Max Acc. %
1	1.00	12.00	-149109	-198812	1870	Sx	0	0.00	0.00	0.00	0.00
						Dx	-261491	2.26	1.85	0.35	5.33
2	1.00	12.00	-285948	-299299	4852	Sx	-351376	3.08	2.01	0.35	4.87
						Dx	-351376	3.08	2.01	0.35	4.87
3	1.00	12.00	-224474	-299299	2442	Sx	-306483	2.67	1.92	0.35	5.13
						Dx	0	0.00	0.00	0.00	0.00

**Sollecitazioni / Verifiche Campate: Stato Limite di Esercizio - Combinazione Rara**

Campata	Coeff. Mom. Fitt.	Mom. Flettente daN*cm	Mom. Fittizio daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cmq	Traz. Acciaio daN/cmq	Freccia Istan./Differ./Contro. mm
1-D	12.00	71405	139505	268	1310	-1592	3.39	6.86	29	1484	1.90/4.97/11.72
2-E	12.00	143327	210015	369	1813	-1713	2.67	6.18	49	2815	5.67/13.80/17.98

**Sollecitazioni / Verifiche Campate: Stato Limite Ultimo**

Campata	Coeff. Mom. Fitt.	Mom. Flettente (MEd1) daN*cm	Mom. Fittizio (MEd2) daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acc. %	Fessure Rara/Freq./QPerm. mm
1-D	12.00	102675	198812	268	1870	-2269	386149	3.39	2.26	0.35	4.30	***0.038/0.038
2-E	12.00	204786	299299	369	2583	-2442	306047	2.67	1.77	0.35	5.59	***0.118/0.118

**Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite di Esercizio - Combinazione Rara**

Campata	Zona piena	Lar. Sottom. Interposto cm	Mom. Flettente daN*cm	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cmq	Traz. Acciaio daN/cmq	Taglio daN	Tau daN/cmq	Arm. Taglio Res. minima cmq
1-D	Sx	38	-77989	2.26	7.87	30	1248	1203	3.05	0.36
	Dx	38	-166798	3.08	9.10	57	1981	-1485	3.77	0.44
2-E	Sx	34	-145141	3.08	9.44	53	1732	1657	4.20	0.50
	Dx	38	-121455	2.67	8.85	46	1663	-1605	4.07	0.48

**Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite Ultimo**

Campata	Zona piena	Mom. Flettente (MEd) daN*cm	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acciaio %	Taglio (VEd) daN	Taglio Ultimo (VRd) daN	Arm. Taglio Res. minima cmq
1-D	Sx	-111144	-251741	2.26	3.07	0.35	3.08	1718	2237	0.48
	Dx	-237708	-339904	3.08	3.92	0.35	2.33	-2116	2479	0.58
2-E	Sx	-206845	-340047	3.08	3.87	0.35	2.36	2361	2635	0.66
	Dx	-173089	-295206	2.67	3.91	0.35	2.33	-2289	2364	0.62

**Schema 4 - CAMPATA A-5-F**

Vincolo Appoggio iniziale = 16.00

Vincolo Appoggio finale = 16.00

Profondità campo solaio = 10.77 m

Carichi distribuiti: Stato Limite di Esercizio - Combinazione Rara

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Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	F	606	562	22/22	22/22	1	Si	365	55	425	200	1045

Carichi distribuiti: Stato Limite Ultimo

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	F	606	562	22/22	22/22	1	Si	474	72	638	300	1484

Distinta Armature Appoggi / Singolo Travetto

Appoggio	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm
1 sup.	1	10	170	1	12	130	0	0	0
2 sup.	1	10	170	1	12	130	0	0	0

Distinta Armature Inferiori Campate

Campata	Tipo	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm	N./Φ/Passo Staffe N./mm/cm	Tratto Staffe Iniz./Fine/Lungh. cm/cm/cm
1-F	Conf.	2	12	610	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0

Sollecitazioni / Verifiche Appoggi: Stato Limite di Esercizio - Combinazione Rara

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente daN*cm	Momento Fittizio daN*cm	Reazione Vincolare daN	Lato Appoggio	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Trazione Acciaio daN/cm
1	1.00	14.00	-111892	-127877	1477	Sx	0.00	0.00	0	0
						Dx	1.92	4.97	31	2358
2	1.00	14.00	-111892	-127877	1477	Sx	1.92	4.97	31	2358
						Dx	0.00	0.00	0	0

Sollecitazioni / Verifiche Appoggi: Stato Limite Ultimo

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente (MEd1) daN*cm	Momento Fittizio (MEd2) daN*cm	Reazione Vincolare daN	Lato Appoggio	Momento Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Deform. Max Cls %	Deform. Max Acc. %
1	1.00	14.00	-159461	-182241	2105	Sx	0	0.00	0.00	0.00	0.00
						Dx	-223240	1.92	1.72	0.35	5.74
2	1.00	14.00	-159461	-182241	2105	Sx	-223240	1.92	1.72	0.35	5.74
						Dx	0	0.00	0.00	0.00	0.00

Sollecitazioni / Verifiche Campate: Stato Limite di Esercizio - Combinazione Rara

Campata	Coeff. Mom. Fitt.	Mom. Flettente daN*cm	Mom. Fittizio daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Freccia Istan./Differ./Contro. mm
1-F	10.00	111832	179028	298	1477	-1477	2.26	5.74	44	2818	3.30/8.85/13.47

Sollecitazioni / Verifiche Campate: Stato Limite Ultimo

Campata	Coeff. Mom. Fitt.	Mom. Flettente (MEd1) daN*cm	Mom. Fittizio (MEd2) daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acc. %	Fessure Rara/Freq./QPerm. mm
1-F	10.00	159375	255137	308	2105	-2105	260273	2.26	1.49	0.35	6.69	***0.103/0.103

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite di Esercizio - Combinazione Rara

Campata	Zona piena	Lar. Sottom. Interposto	Mom. Flettente	Area Tesa	Asse Neutro	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Taglio daN	Tau daN/cm	Arm. Taglio Res.
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		cm	daN*cm	cmq	cm					minima cmq
1-F	Sx	38	-80575	1.92	7.78	36	1524	1370	3.48	0.41
	Dx	38	-80575	1.92	7.78	36	1524	-1370	3.48	0.41

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite Ultimo

Campata	Zona piena	Mom. Flettente (MEd) daN*cm	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acciaio %	Taglio (VEd) daN	Taglio Ultimo (VRd) daN	Arm. Taglio Res. minima cmq
1-F	Sx	-114830	-213918	1.92	3.02	0.35	3.13	1952	2117	0.54
	Dx	-114830	-213918	1.92	3.02	0.35	3.13	-1952	2117	0.54

**Schema 5 - CAMPATE A-6-G-H**

Vincolo Appoggio iniziale = 16.00

Vincolo Appoggio finale = 16.00

Profondità campo solaio = 1.14 m

Carichi distribuiti: Stato Limite di Esercizio - Combinazione Rara

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	G	568	524	22/22	22/22	1	Si	365	55	425	200	1045
2	H	676	632	22/22	22/22	1	Si	365	55	425	200	1045

Carichi distribuiti: Stato Limite Ultimo

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	G	568	524	22/22	22/22	1	Si	474	72	638	300	1484
2	H	676	632	22/22	22/22	1	Si	474	72	638	300	1484

Distinta Armature Appoggi / Singolo Travetto

Appoggio	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm
1 sup.	1	10	180	1	12	130	0	0	0
2 sup.	1	12	390	1	14	230	0	0	0
3 sup.	1	12	180	1	14	130	0	0	0

Distinta Armature Inferiori Campate

Campata	Tipo	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm	N./Φ/Passo Staffe N./mm/cm	Tratto Staffe Iniz./Fine/Lungh. cm/cm/cm
1-G	Conf.	1	12	570	1	12	570	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0
2-H	Conf.	1	12	680	1	14	680	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0

Sollecitazioni / Verifiche Appoggi: Stato Limite di Esercizio - Combinazione Rara

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente daN*cm	Momento Fittizio daN*cm	Reazione Vincolare daN	Lato Appoggio	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Trazione Acciaio daN/cm
1	1.00	12.00	-98300	-131066	1280	Sx	0.00	0.00	0	0
						Dx	1.92	4.97	32	2417
2	1.00	12.00	-180816	-185647	3239	Sx	2.67	5.41	36	2470
						Dx	2.67	5.41	36	2470
3	1.00	12.00	-139235	-185647	1607	Sx	2.67	5.74	39	2476
						Dx	0.00	0.00	0	0

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**Sollecitazioni / Verifiche Appoggi: Stato Limite Ultimo**

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente (MEd1) daN*cm	Momento Fittizio (MEd2) daN*cm	Reazione Vincolare daN	Lato Appoggio	Momento Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Deform. Max Cls %	Deform. Max Acc. %
1	1.00	12.00	-140089	-186786	1828	Sx	0	0.00	0.00	0.00	0.00
						Dx	-223240	1.92	1.72	0.35	5.74
2	1.00	12.00	-257686	-264570	4616	Sx	-306537	2.67	1.94	0.35	5.05
						Dx	-306537	2.67	1.94	0.35	5.05
3	1.00	12.00	-198428	-264570	2291	Sx	-306483	2.67	1.92	0.35	5.13
						Dx	0	0.00	0.00	0.00	0.00

**Sollecitazioni / Verifiche Campate: Stato Limite di Esercizio - Combinazione Rara**

Campata	Coeff. Mom. Fitt.	Mom. Flettente daN*cm	Mom. Fittizio daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cmq	Traz. Acciaio daN/cmq	Freccia Istan./Differ./Contro. mm
1-G	12.00	69767	131066	259	1280	-1530	2.26	5.74	33	2063	1.96/4.90/11.36
2-H	12.00	125517	185647	348	1709	-1607	2.67	6.18	43	2488	3.79/10.75/15.02

**Sollecitazioni / Verifiche Campate: Stato Limite Ultimo**

Campata	Coeff. Mom. Fitt.	Mom. Flettente (MEd1) daN*cm	Mom. Fittizio (MEd2) daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acc. %	Fessure Rara/Freq./QPerm. mm
1-G	12.00	100222	186786	259	1828	-2180	260273	2.26	1.49	0.35	6.69	***0.060/0.060
2-H	12.00	179379	264570	348	2436	-2291	306047	2.67	1.77	0.35	5.59	***0.100/0.100

**Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite di Esercizio - Combinazione Rara**

Campata	Zona piena	Lar. Sottom. Interposto cm	Mom. Flettente daN*cm	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cmq	Traz. Acciaio daN/cmq	Taglio daN	Tau daN/cmq	Arm. Taglio Res. minima cmq
1-G	Sx	38	-72216	1.92	7.78	32	1366	1173	2.98	0.36
	Dx	38	-148341	2.67	9.06	59	2037	-1423	3.61	0.42
2-H	Sx	38	-144392	2.67	8.85	55	1977	1602	4.06	0.47
	Dx	38	-105517	2.67	8.85	40	1444	-1499	3.80	0.45

**Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite Ultimo**

Campata	Zona piena	Mom. Flettente (MEd) daN*cm	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acciaio %	Taglio (VEd) daN	Taglio Ultimo (VRd) daN	Arm. Taglio Res. minima cmq
1-G	Sx	-102918	-213894	1.92	3.05	0.35	3.09	1675	2117	0.47
	Dx	-211405	-294869	2.67	4.07	0.35	2.23	-2027	2364	0.56
2-H	Sx	-205777	-295125	2.67	3.92	0.35	2.33	2283	2364	0.62
	Dx	-150376	-295125	2.67	3.92	0.35	2.33	-2138	2364	0.59

**Schema 6 – CAMPATE A-7-I-J**

Vincolo Appoggio iniziale = 16.00

Vincolo Appoggio finale = 16.00

Profondità campo solaio = 1.20 m

Carichi distribuiti: Stato Limite di Esercizio - Combinazione Rara

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	I	339	295	22/22	22/22	1	Sì	365	55	425	200	1045
2	J	184	140	22/22	22/22	1	Sì	365	55	425	200	1045

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Carichi distribuiti: Stato Limite Ultimo

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	I	339	295	22/22	22/22	1	Si	474	72	638	300	1484
2	J	184	140	22/22	22/22	1	Si	474	72	638	300	1484

Distinta Armature Appoggi / Singolo Travetto

Appoggio	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm
1 sup.	1	10	120	0	0	0	0	0	0
2 sup.	1	10	310	0	0	0	0	0	0

Distinta Armature Inferiori Campate

Campata	Tipo	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm	N./Φ/Passo Staffe N./mm/cm	Tratto Staffe Iniz./Fine/Lungh. cm/cm/cm
1-I	Conf.	1	10	340	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0
2-J	Conf.	1	10	185	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0

Sollecitazioni / Verifiche Appoggi: Stato Limite di Esercizio - Combinazione Rara

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente daN*cm	Momento Fittizio daN*cm	Reazione Vincolare daN	Lato Appoggio	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Trazione Acciaio daN/cm
1	1.00	12.00	-35015	-46687	816	Sx	0.00	0.00	0	0
						Dx	0.79	3.44	18	2064
2	1.00	12.00	-39488	-46687	1447	Sx	0.79	3.36	17	2065
						Dx	0.79	3.36	17	2065
3	1.00	12.00	-10316	-13754	328	Sx	0.79	3.53	5	608
						Dx	0.00	0.00	0	0

Sollecitazioni / Verifiche Appoggi: Stato Limite Ultimo

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente (MEd1) daN*cm	Momento Fittizio (MEd2) daN*cm	Reazione Vincolare daN	Lato Appoggio	Momento Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Deform. Max Cls %	Deform. Max Acc. %
1	1.00	12.00	-49901	-66534	1164	Sx	0	0.00	0.00	0.00	0.00
						Dx	-95823	0.79	1.11	0.26	6.75
2	1.00	12.00	-56275	-66534	2062	Sx	-97776	0.79	1.37	0.32	6.75
						Dx	-97776	0.79	1.37	0.32	6.75
3	1.00	12.00	-14701	-19601	470	Sx	-91539	0.79	0.67	0.15	6.75
						Dx	0	0.00	0.00	0.00	0.00

Sollecitazioni / Verifiche Campate: Stato Limite di Esercizio - Combinazione Rara

Campata	Coeff. Mom. Fitt.	Mom. Flettente daN*cm	Mom. Fittizio daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Freccia Istan./Differ./Contro. mm
1-I	12.00	33337	46687	170	816	-840	0.79	3.53	18	2062	0.25/0.65/5.65
2-J	12.00	712	13754	116	607	-328	0.79	3.44	5	608	0.02/0.06/3.07

Sollecitazioni / Verifiche Campate: Stato Limite Ultimo

Campata	Coeff. Mom. Fitt.	Mom. Flettente (MEd1) daN*cm	Mom. Fittizio (MEd2) daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def.Max Cls %	Def.Max Acc. %	Fessure Rara/Freq./QPerm. mm
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1-I	12.00	47551	66534	170	1164	-1196	91539	0.79	0.67	0.15	6.75	***0.000/0.000
2-J	12.00	1207	19601	116	865	-470	95823	0.79	1.11	0.26	6.75	***0.000/0.000

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite di Esercizio - Combinazione Rara

Campata	Zona piena	Lar. Sottom. Interposto cm	Mom. Flettente daN*cm	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Taglio daN	Tau daN/cm	Arm. Taglio Res. minima cmq
1-I	Sx	38	-18306	0.79	5.75	13	830	709	1.80	0.23
	Dx	38	-22199	0.79	5.75	16	1007	-732	1.86	0.23
2-J	Sx	38	-27859	0.79	5.75	20	1264	500	1.27	0.17
	Dx	38	-5116	0.79	5.75	4	232	-221	0.56	0.09

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite Ultimo

Campata	Zona piena	Mom. Flettente (MEd) daN*cm	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acciaio %	Taglio (VEd) daN	Taglio Ultimo (VRd) daN	Arm. Taglio Res. minima cmq
1-I	Sx	-26089	-90083	0.79	1.88	0.35	5.24	1011	1873	0.30
	Dx	-31636	-90083	0.79	1.88	0.35	5.24	-1044	1873	0.31
2-J	Sx	-39743	-90088	0.79	1.88	0.35	5.24	712	1873	0.22
	Dx	-7291	-90079	0.79	1.88	0.35	5.24	-317	1873	0.12

Schema 7 - CAMPATE A-8-K-L

Vincolo Appoggio iniziale = 16.00

Vincolo Appoggio finale = 16.00

Profondità campo solaio = 8.50 m

Carichi distribuiti: Stato Limite di Esercizio - Combinazione Rara

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	K	505	461	22/22	22/22	1	Si	365	55	425	200	1045
2	L	651	607	22/22	22/22	1	Si	365	55	425	200	1045

Carichi distribuiti: Stato Limite Ultimo

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	K	505	461	22/22	22/22	1	Si	474	72	638	300	1484
2	L	651	607	22/22	22/22	1	Si	474	72	638	300	1484

Distinta Armature Appoggi / Singolo Travetto

Appoggio	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm
1 sup.	1	10	180	1	10	120	0	0	0
2 sup.	1	12	370	1	12	220	0	0	0
3 sup.	1	12	190	1	12	130	0	0	0

Distinta Armature Inferiori Campate

Campata	Tipo	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm	N./Φ/Passo Staffe N./mm/cm	Tratto Staffe Iniz./Fine/Lungh. cm/cm/cm
1-K	Conf.	2	10	505	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0
2-L	Conf.	2	12	655	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0

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Sollecitazioni / Verifiche Appoggi: Stato Limite di Esercizio - Combinazione Rara

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente daN*cm	Momento Fittizio daN*cm	Reazione Vincolare daN	Lato Appoggio	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Trazione Acciaio daN/cm
1	1.00	12.00	-77703	-103604	1112	Sx	0.00	0.00	0	0
						Dx	1.57	4.63	28	2322
2	1.00	12.00	-159993	-172169	3028	Sx	2.26	5.37	39	2701
						Dx	2.26	5.37	39	2701
3	1.00	12.00	-129127	-172169	1555	Sx	2.26	5.37	39	2701
						Dx	0.00	0.00	0	0

Sollecitazioni / Verifiche Appoggi: Stato Limite Ultimo

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente (MEd1) daN*cm	Momento Fittizio (MEd2) daN*cm	Reazione Vincolare daN	Lato Appoggio	Momento Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Deform. Max Cls %	Deform. Max Acc. %
1	1.00	12.00	-110737	-147649	1588	Sx	0	0.00	0.00	0.00	0.00
						Dx	-184857	1.57	1.57	0.35	6.33
2	1.00	12.00	-228011	-245363	4315	Sx	-261399	2.26	1.81	0.35	5.47
						Dx	-261399	2.26	1.81	0.35	5.47
3	1.00	12.00	-184022	-245363	2218	Sx	-261399	2.26	1.81	0.35	5.47
						Dx	0	0.00	0.00	0.00	0.00

Sollecitazioni / Verifiche Campate: Stato Limite di Esercizio - Combinazione Rara

Campata	Coeff. Mom. Fitt.	Mom. Flettente daN*cm	Mom. Fittizio daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Freccia Istan./Differ./Contro. mm
1-K	12.00	49188	103604	228	1112	-1394	1.57	4.87	30	2324	1.15/3.02/10.10
2-L	12.00	118988	172169	335	1634	-1555	2.26	5.74	43	2710	3.46/9.79/14.47

Sollecitazioni / Verifiche Campate: Stato Limite Ultimo

Campata	Coeff. Mom. Fitt.	Mom. Flettente (MEd1) daN*cm	Mom. Fittizio (MEd2) daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acc. %	Fessure Rara/Freq./QPerm. mm
1-K	12.00	70855	147649	228	1588	-1986	181874	1.57	1.11	0.26	6.75	***0.048/0.048
2-L	12.00	169952	245363	335	2329	-2218	260273	2.26	1.49	0.35	6.69	***0.097/0.097

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite di Esercizio - Combinazione Rara

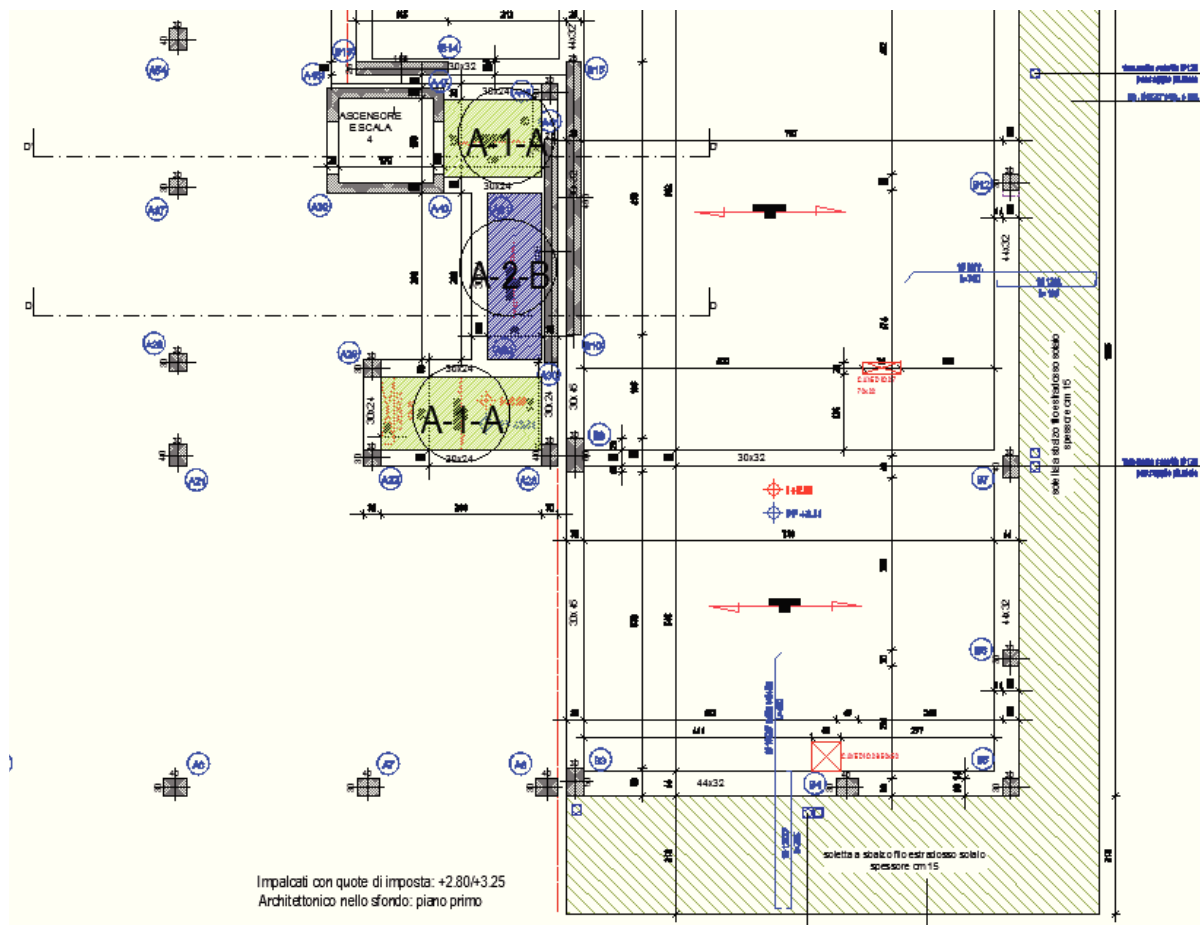
Campata	Zona piena	Lar. Sottom. Interposto cm	Mom. Flettente daN*cm	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Taglio daN	Tau daN/cm	Arm. Taglio Res. minima cmq
1-K	Sx	38	-55387	1.57	7.44	28	1276	1005	2.55	0.31
	Dx	38	-130508	2.26	8.77	58	2115	-1287	3.26	0.39
2-L	Sx	38	-125220	2.26	8.40	52	2018	1527	3.87	0.45
	Dx	38	-96440	2.26	8.40	40	1554	-1448	3.67	0.43

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite Ultimo

Campata	Zona piena	Mom. Flettente (MEd) daN*cm	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acciaio %	Taglio (VEd) daN	Taglio Ultimo (VRd) daN	Arm. Taglio Res. minima cmq
1-K	Sx	-78934	-176223	1.57	2.76	0.35	3.45	1436	1981	0.41
	Dx	-185990	-250637	2.26	3.83	0.35	2.39	-1834	2237	0.51
2-L	Sx	-178455	-251276	2.26	3.45	0.35	2.69	2176	2237	0.60
	Dx	-137439	-251215	2.26	3.50	0.35	2.65	-2065	2237	0.57



Solaio 2°-3°-4° zona vano scala 4



Altezza Solaio:  $20.0 + 4.0 = 24.0$  cm Interasse Solaio: 50.0 cm

Peso proprio Solaio: 300 daN/mq Peso Manufatto: 12 daN/m Rompitratte: 1.60 / 1.60 m Interasse Nervature: 50.0 cm

Spessore Cappa: 4.0 cm Larghezza totale Nervature: 12.0 cm Altezza totale Nervature: 20.0 cm Numero Nervature: 1

Spessore Soletta collaborante: 6.7 cm Largh. Nervature collaboranti: 14.6 cm Coefficiente di Omogeneizzazione N: 15

Interposto Laterizio: Coll. = S Numero: 1 Larghezza: 38.0 cm Altezza: 20.0 cm Taglio: 25 cm Peso: 10.50 daN

Numero Travetti: 1 Num. Tralicci: 1 Tipo Traliccio: 2 fi 5.0 Inf. + 1 fi 7.0 Sup. + St. fi 5.0 / 20.0 cm - 12.5 cm

Armatura Ripartizione Cappa: RETE FI 5 - MAGLIA 20X20 Le Sollecitazioni e le Verifiche sono riferite all'interasse

Copriferri Armature: Tral.: 2.0 cm Cat.: 0.0 cm Camp.: 2.0 cm Sup. App.: 2.0 cm Inf. App.: 4.5 cm Rip.: 2.0 cm

Armature considerate in Verifica: Armatura Traliccio: 0.00 cmq Armatura di Ripartizione della Cappa: 0.00 cmq

Calcestruzzo Manufatto: Rck: 300 daN/cm<sup>2</sup> Fck: 249 daN/cm<sup>2</sup> acc: 0.85  $\gamma_c$ : 1.5 Fcd: 141.10 daN/cm<sup>2</sup> Ec: 314472 daN/cm<sup>2</sup>

Calcestruzzo Manufatto:  $\sigma_{cr}$ : 149.40 daN/cm<sup>2</sup>  $\sigma_{cqp}$ : 112.05 daN/cm<sup>2</sup> Riduzione Fcd/ $\sigma_{cr}$ / $\sigma_{cqp}$  spessori < 5cm: -20%/-20%/-20%

Calcestruzzo Getto in Opera: Rck: 300 daN/cm<sup>2</sup> Fck: 249 daN/cm<sup>2</sup> acc: 0.85  $\gamma_c$ : 1.5 Fcd: 141.10 daN/cm<sup>2</sup> Ec: 314472 daN/cm<sup>2</sup>

Calcestruzzo Getto in Opera:  $\sigma_{cr}$ : 149.40 daN/cm<sup>2</sup>  $\sigma_{cqp}$ : 112.05 daN/cm<sup>2</sup> Riduzione Fcd/ $\sigma_{cr}$ / $\sigma_{cqp}$  spessori < 5cm: -20%/-20%/-20%

Acciaio:  $\gamma_s$ : 1.15  $\sigma_s$ : 0.8\*Fyk Campate Fyk: 4500 daN/cm<sup>2</sup> Appoggi Fyk: 4500 daN/cm<sup>2</sup> Traliccio Fyk: 4500 daN/cm<sup>2</sup>

Acciaio: Campate Fyd: 3913 daN/cm<sup>2</sup> Campate  $\sigma_s$ : 3600 daN/cm<sup>2</sup> Appoggi Fyd: 3913 daN/cm<sup>2</sup> Appoggi  $\sigma_s$ : 3600 daN/cm<sup>2</sup>

Acciaio: Traliccio Fyd/  $\sigma_s$  inf.: 3913/3600 daN/cm<sup>2</sup> Fyd/  $\sigma_s$  sup.: 1881/1731 daN/cm<sup>2</sup> Fyd/  $\sigma_s$  St. 1763/1622 daN/cm<sup>2</sup>

Condizioni ambientali: Ordinarie Classe di esposizione: XC1 Fessurazione: W<sub>r</sub>/W<sub>f</sub>/W<sub>p</sub>: \*\*\*/0.40/0.30 mm

Coefficienti Incremento Carichi: GammaG1: 1.30 GammaG2: 1.50 GammaQ: 1.50 Psi0: 0.00 Psi1: 0.00 Psi2: 0.00

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Vincoli App. estremi: 0: App. semplice 1: Incastro Altro: Semincastro N105FE360-CBAUSTASAPP2APP1BAUSTA2

Caratt. Staffe: Posizione: Per Interasse (1 St./Interasse) Tipologia: Tipo 2-S-2BV - 2 Bracci verticali Area Staffe: Asw = Area( $\Phi$  Staffe)\*2\*1

**Schema 1 - CAMPATA A-1-A**

Vincolo Appoggio iniziale = 16.00

Vincolo Appoggio finale = 16.00

Profondità campo solaio = 1.37 m

Carichi distribuiti: Stato Limite di Esercizio - Combinazione Rara

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	A	219	175	22/22	22/22	1	Si	300	20	200	400	920

Carichi distribuiti: Stato Limite Ultimo

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	A	219	175	22/22	22/22	1	Si	390	26	300	600	1316

Distinta Armature Appoggi / Singolo Travetto

Appoggio	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm
1 sup.	1	8	100	0	0	0	0	0	0
2 sup.	1	8	100	0	0	0	0	0	0

Distinta Armature Inferiori Campate

Campata	Tipo	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm	N./ $\Phi$ /Passo Staffe N./mm/cm	Tratto Staffe Iniz./Fine/Lungh. cm/cm/cm
1-A	Conf.	1	8	220	0	0	0	0	0	0	Sx-1x0 St. $\Phi$ 0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. $\Phi$ 0/0	Dx-0/0/0

Sollecitazioni / Verifiche Appoggi: Stato Limite di Esercizio - Combinazione Rara

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente daN*cm	Momento Fittizio daN*cm	Reazione Vincolare daN	Lato Appoggio	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm <sup>2</sup>	Trazione Acciaio daN/cm <sup>2</sup>
1	1.00	14.00	-13523	-15453	494	Sx	0.00	0.00	0	0
						Dx	0.50	2.41	9	1117
2	1.00	14.00	-13523	-15453	494	Sx	0.50	2.41	9	1117
						Dx	0.00	0.00	0	0

Sollecitazioni / Verifiche Appoggi: Stato Limite Ultimo

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente (MEd1) daN*cm	Momento Fittizio (MEd2) daN*cm	Reazione Vincolare daN	Lato Appoggio	Momento Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Deform. Max Cls %	Deform. Max Acc. %
1	1.00	14.00	-19114	-21844	698	Sx	0	0.00	0.00	0.00	0.00
						Dx	-46227	0.50	0.72	0.23	6.75
2	1.00	14.00	-19114	-21844	698	Sx	-46227	0.50	0.72	0.23	6.75
						Dx	0	0.00	0.00	0.00	0.00

Sollecitazioni / Verifiche Campate: Stato Limite di Esercizio - Combinazione Rara

Campata	Coeff. Mom. Fitt.	Mom. Flettente daN*cm	Mom. Fittizio daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm <sup>2</sup>	Traz. Acciaio daN/cm <sup>2</sup>	Freccia Istan./Differ./Contro. mm
1-A	10.00	13523	21635	110	494	-494	0.50	2.43	13	1562	0.09/0.22/3.65

Sollecitazioni / Verifiche Campate: Stato Limite Ultimo

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Campata	Coeff. Mom. Fitt.	Mom. Flettente (MEd1) daN*cm	Mom. Fittizio (MEd2) daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def.Max Cls %	Def.Max Acc. %	Fessure Rara/Freq./QPerm. mm
1-A	10.00	19114	30583	110	698	-698	43017	0.50	0.44	0.14	6.75	***0.000/0.000

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite di Esercizio - Combinazione Rara

Campata	Zona piena	Lar. Sottom. Interposto cm	Mom. Flettente daN*cm	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Taglio daN	Tau daN/cm	Arm. Taglio Res. minima cmq
1-A	Sx	38	-3745	0.50	4.05	4	279	395	1.05	0.11
	Dx	38	-3745	0.50	4.05	4	279	-395	1.05	0.11

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite Ultimo

Campata	Zona piena	Mom. Flettente (MEd) daN*cm	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acciaio %	Taglio (VEd) daN	Taglio Ultimo (VRd) daN	Arm. Taglio Res. minima cmq
1-A	Sx	-5296	-43022	0.50	1.52	0.35	4.72	558	1532	0.14
	Dx	-5296	-43022	0.50	1.52	0.35	4.72	-558	1532	0.14

**Schema 2 - CAMPATA A-2-B**

Vincolo Appoggio iniziale = 16.00

Vincolo Appoggio finale = 16.00

Profondità campo solaio = 1.20 m

Carichi distribuiti: Stato Limite di Esercizio - Combinazione Rara

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	B	342	298	22/22	22/22	1	Si	300	20	200	400	920

Carichi distribuiti: Stato Limite Ultimo

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	B	342	298	22/22	22/22	1	Si	390	26	300	400	1316

Distinta Armature Appoggi / Singolo Travetto

Appoggio	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm
1 sup.	1	10	120	0	0	0	0	0	0
2 sup.	1	10	120	0	0	0	0	0	0

Distinta Armature Inferiori Campate

Campata	Tipo	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm	N./Φ/Passo Staffe N./mm/cm	Tratto Staffe Iniz./Fine/Lungh. cm/cm/cm
1-B	Conf.	1	12	345	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0

Sollecitazioni / Verifiche Appoggi: Stato Limite di Esercizio - Combinazione Rara

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente daN*cm	Momento Fittizio daN*cm	Reazione Vincolare daN	Lato Appoggio	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Trazione Acciaio daN/cm
1	1.00	14.00	-32977	-37687	771	Sx	0.00	0.00	0	0
						Dx	0.50	2.39	22	2725
2	1.00	14.00	-32977	-37687	771	Sx	0.50	2.39	22	2725
						Dx	0.00	0.00	0	0

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**Sollecitazioni / Verifiche Appoggi: Stato Limite Ultimo**

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente (MEd1) daN*cm	Momento Fittizio (MEd2) daN*cm	Reazione Vincolare daN	Lato Appoggio	Momento Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Deform. Max Cls %	Deform. Max Acc. %
1	1.00	14.00	-46614	-53273	1091	Sx	0	0.00	0.00	0.00	0.00
						Dx	-67019	0.79	0.87	0.28	6.75
2	1.00	14.00	-46614	-53273	1091	Sx	-67019	0.79	0.87	0.28	6.75
						Dx	0	0.00	0.00	0.00	0.00

**Sollecitazioni / Verifiche Campate: Stato Limite di Esercizio - Combinazione Rara**

Campata	Coeff. Mom. Fitt.	Mom. Flettente daN*cm	Mom. Fittizio daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cmq	Traz. Acciaio daN/cmq	Freccia Istan./Differ./Contro. mm
1-B	10.00	32923	52763	176	771	-771	1.13	2.99	26	2460	0.52/1.25/5.70

**Sollecitazioni / Verifiche Campate: Stato Limite Ultimo**

Campata	Coeff. Mom. Fitt.	Mom. Flettente (MEd1) daN*cm	Mom. Fittizio (MEd2) daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acc. %	Fessure Rara/Freq./QPerm. mm
1-B	10.00	46537	74582	176	1091	-1091	95862	1.13	0.60	0.19	6.75	***0.000/0.000

**Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite di Esercizio - Combinazione Rara**

Campata	Zona piena	Lar. Sottom. Interposto cm	Mom. Flettente daN*cm	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cmq	Traz. Acciaio daN/cmq	Taglio daN	Tau daN/cmq	Arm. Taglio Res. minima cmq
1-B	Sx	38	-17567	0.79	3.94	18	1272	517	1.79	0.16
	Dx	38	-17567	0.79	3.94	18	1272	-517	1.79	0.16

**Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite Ultimo**

Campata	Zona piena	Mom. Flettente (MEd) daN*cm	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acciaio %	Taglio (VEd) daN	Taglio Ultimo (VRd) daN	Arm. Taglio Res. minima cmq
1-B	Sx	-18591	-68072	0.50	1.59	0.35	4.50	950	1532	0.21
	Dx	-18591	-68072	0.50	1.58	0.35	4.53	-950	1532	0.21

Solaio DI COPERTURA



Altezza Solaio:  $28.0 + 4.0 = 32.0$  cm Interasse Solaio: 50.0 cm

Peso proprio Solaio: 365 daN/mq Peso Manufatto: 12 daN/m Rompitratte: 1.50 / 1.50 m Interasse Nervature: 50.0 cm

Spessore Cappa: 4.0 cm Larghezza totale Nervature: 12.0 cm Altezza totale Nervature: 28.0 cm Numero Nervature: 1

Spessore Soletta collaborante: 7.4 cm Largh. Nervature collaboranti: 14.6 cm Coefficiente di Omogeneizzazione N: 15

Interposto Laterizio: Coll. = S Numero: 1 Larghezza: 38.0 cm Altezza: 28.0 cm Taglio: 25 cm Peso: 12.40 daN

Numero Travetti: 1 Num. Tralicci: 1 Tipo Traliccio: 2 fi 5.0 Inf. + 1 fi 7.0 Sup. + St. fi 5.0 / 20.0 cm - 12.5 cm

Armatura Ripartizione Cappa: RETE FI 5 - MAGLIA 20X20 Le Sollecitazioni e le Verifiche sono riferite all'interasse

Copriferri Armature: Tral.: 2.0 cm Cat.: 0.0 cm Camp.: 2.0 cm Sup. App.: 2.0 cm Inf. App.: 4.5 cm Rip.: 2.0 cm

Armature considerate in Verifica: Armatura Traliccio: 0.00 cmq Armatura di Ripartizione della Cappa: 0.00 cmq

Calcestruzzo Manufatto: Rck: 300 daN/cm<sup>2</sup> Fck: 249 daN/cm<sup>2</sup> acc: 0.85  $\gamma_c$ : 1.5 Fcd: 141.10 daN/cm<sup>2</sup> Ec: 314472 daN/cm<sup>2</sup>

Calcestruzzo Manufatto:  $\sigma_{cr}$ : 149.40 daN/cm<sup>2</sup>  $\sigma_{cqp}$ : 112.05 daN/cm<sup>2</sup> Riduzione Fcd/ $\sigma_{cr}$ / $\sigma_{cqp}$  spessori < 5cm: -20%/-20%/-20%

Calcestruzzo Getto in Opera: Rck: 300 daN/cm<sup>2</sup> Fck: 249 daN/cm<sup>2</sup> acc: 0.85  $\gamma_c$ : 1.5 Fcd: 141.10 daN/cm<sup>2</sup> Ec: 314472 daN/cm<sup>2</sup>

Calcestruzzo Getto in Opera:  $\sigma_{cr}$ : 149.40 daN/cm<sup>2</sup>  $\sigma_{cqp}$ : 112.05 daN/cm<sup>2</sup> Riduzione Fcd/ $\sigma_{cr}$ / $\sigma_{cqp}$  spessori < 5cm: -20%/-20%/-20%

Acciaio:  $\gamma_s$ : 1.15  $\sigma_s$ : 0.8\*Fyk Campate Fyk: 4500 daN/cm<sup>2</sup> Appoggi Fyk: 4500 daN/cm<sup>2</sup> Traliccio Fyk: 4500 daN/cm<sup>2</sup>

Acciaio: Campate Fyd: 3913 daN/cm<sup>2</sup> Campate  $\sigma_s$ : 3600 daN/cm<sup>2</sup> Appoggi Fyd: 3913 daN/cm<sup>2</sup> Appoggi  $\sigma_s$ : 3600 daN/cm<sup>2</sup>

Acciaio: Traliccio Fyd/  $\sigma_s$  inf.: 3913/3600 daN/cm<sup>2</sup> Fyd/  $\sigma_s$  sup.: 1881/1731 daN/cm<sup>2</sup> Fyd/  $\sigma_s$  St. 1763/1622 daN/cm<sup>2</sup>

Condizioni ambientali: Ordinarie Classe di esposizione: XC1 Fessurazione:  $W_r/W_f/W_p$ : \*\*\*0.40/0.30 mm

Coefficienti Incremento Carichi: GammaG1: 1.30 GammaG2: 1.50 GammaQ: 1.50 Psi0: 0.00 Psi1: 0.00 Psi2: 0.00

Vincoli App. estremi: 0: App. semplice 1: Incastro Altro: Semincastro N105FE360-CBAUSTASAPP2APP1BAUSTA2

Caratt. Staffe: Posizione: Per Interasse (1 St./Interasse) Tipologia: Tipo 2-S-2BV - 2 Bracci verticali Area Staffe:  $As_w = Area(\Phi \text{ Staffe}) * 2 * 1$

Schema 1 - CAMPATA A-1-A

Vincolo Appoggio iniziale = 16.00

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Vincolo Appoggio finale = 16.00

Profondità campo solaio = 2.90 m

Carichi distribuiti: Stato Limite di Esercizio - Combinazione Rara

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	A	586	542	22/22	22/22	1	Si	365	55	360	120	900

Carichi distribuiti: Stato Limite Ultimo

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	A	586	542	22/22	22/22	1	Si	474	72	540	180	1266

Distinta Armature Appoggi / Singolo Travetto

Appoggio	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm
1 sup.	1	10	160	1	10	110	0	0	0
2 sup.	1	10	160	1	10	110	0	0	0

Distinta Armature Inferiori Campate

Campata	Tipo	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm	N./Φ/Passo Staffe N./mm/cm	Tratto Staffe Iniz./Fine/Lungh. cm/cm/cm
1-A	Conf.	1	10	590	1	12	590	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0

Sollecitazioni / Verifiche Appoggi: Stato Limite di Esercizio - Combinazione Rara

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente daN*cm	Momento Fittizio daN*cm	Reazione Vincolare daN	Lato Appoggio	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Trazione Acciaio daN/cm
1	1.00	14.00	-97117	-110990	1326	Sx	0.00	0.00	0	0
						Dx	1.57	4.58	30	2487
2	1.00	14.00	-97117	-110990	1326	Sx	1.57	4.58	30	2487
						Dx	0.00	0.00	0	0

Sollecitazioni / Verifiche Appoggi: Stato Limite Ultimo

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente (MEd1) daN*cm	Momento Fittizio (MEd2) daN*cm	Reazione Vincolare daN	Lato Appoggio	Momento Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Deform. Max Cls %	Deform. Max Acc. %
1	1.00	14.00	-135802	-155203	1854	Sx	0	0.00	0.00	0.00	0.00
						Dx	-185111	1.57	1.61	0.35	6.18
2	1.00	14.00	-135802	-155203	1854	Sx	-185111	1.57	1.61	0.35	6.18
						Dx	0	0.00	0.00	0.00	0.00

Sollecitazioni / Verifiche Campate: Stato Limite di Esercizio - Combinazione Rara

Campata	Coeff. Mom. Fitt.	Mom. Flettente daN*cm	Mom. Fittizio daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Freccia Istan./Differ./Contro. mm
1-A	10.00	97061	155387	288	1326	-1326	1.92	5.33	41	2873	2.53/7.65/11.72

Sollecitazioni / Verifiche Campate: Stato Limite Ultimo

Campata	Coeff. Mom. Fitt.	Mom. Flettente (MEd1) daN*cm	Mom. Fittizio (MEd2) daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def.Max Cls %	Def.Max Acc. %	Fessure Rara/Freq./QPerm. mm
1-A	10.00	135724	217284	288	1854	-1854	221206	1.92	1.30	0.31	6.75	***0.118/0.118

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Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite di Esercizio - Combinazione Rara

Campata	Zona piena	Lar. Sottom. Interposto cm	Mom. Flettente daN*cm	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Taglio daN	Tau daN/cm	Arm. Taglio Res. minima cmq
1-A	Sx	38	-69044	1.57	7.26	34	1587	1226	3.11	0.37
	Dx	38	-69044	1.57	7.26	34	1587	-1226	3.11	0.37

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite Ultimo

Campata	Zona piena	Mom. Flettente (MEd) daN*cm	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acciaio %	Taglio (VEd) daN	Taglio Ultimo (VRd) daN	Arm. Taglio Res. minima cmq
1-A	Sx	-96547	-176265	1.57	2.68	0.35	3.57	1715	1981	0.47
	Dx	-96547	-176265	1.57	2.68	0.35	3.57	-1715	1981	0.47

Schema 2 - CAMPATA A-2-B-C-D-E

Vincolo Appoggio iniziale = 16.00

Vincolo Appoggio finale = 16.00

Profondità campo solaio = 3.19 m

Carichi distribuiti: Stato Limite di Esercizio - Combinazione Rara

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	B	586	542	22/22	22/22	1	Si	365	55	360	120	900
2	C	165	121	22/22	22/22	1	No	365	55	360	120	900
3	D	339	295	22/22	22/22	1	No	365	55	360	120	900
4	E	468	424	22/22	22/22	1	No	365	55	360	120	900

Carichi distribuiti: Stato Limite Ultimo

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	B	586	542	22/22	22/22	1	Si	474	72	540	180	1266
2	C	165	121	22/22	22/22	1	No	474	72	540	180	1266
3	D	339	295	22/22	22/22	1	No	474	72	540	180	1266
4	E	468	424	22/22	22/22	1	No	474	72	540	180	1266

Distinta Armature Appoggi / Singolo Travetto

Appoggio	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm
1 sup.	1	10	170	1	10	120	0	0	0
2 sup.	1	12	790	1	10	210	0	0	0
5 sup.	1	12	150	0	0	0	0	0	0

Distinta Armature Inferiori Campate

Campata	Tipo	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm	N./Φ/Passo Staffe N./mm/cm	Tratto Staffe Iniz./Fine/Lungh. cm/cm/cm
1-B	Conf.	2	10	590	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0
2-C	Conf.	1	10	165	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0
3-D	Conf.	1	10	335	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0
4-E	Conf.	2	8	470	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0

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	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. 0/0	Dx-0/0/0
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Sollecitazioni / Verifiche Appoggi: Stato Limite di Esercizio - Combinazione Rara

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente daN*cm	Momento Fittizio daN*cm	Reazione Vincolare daN	Lato Appoggio	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cmq	Trazione Acciaio daN/cmq
1	1.00	12.00	-97117	-129489	1293	Sx	0.00	0.00	0	0
						Dx	1.57	4.63	35	2902
2	1.00	12.00	-116775	-129489	2425	Sx	1.92	4.96	32	2388
						Dx	1.92	4.96	32	2388
3	1.00	12.00	-4505	-43335	565	Sx	1.13	4.19	14	1340
						Dx	1.13	4.19	14	1340
4	1.00	12.00	-80659	-82590	2096	Sx	1.13	4.05	27	2553
						Dx	1.13	4.05	27	2553
5	1.00	12.00	-61943	-82590	1026	Sx	1.13	4.05	27	2553
						Dx	0.00	0.00	0	0

Sollecitazioni / Verifiche Appoggi: Stato Limite Ultimo

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente (MEd1) daN*cm	Momento Fittizio (MEd2) daN*cm	Reazione Vincolare daN	Lato Appoggio	Momento Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Deform. Max Cls %	Deform. Max Acc. %
1	1.00	12.00	-135802	-181070	1809	Sx	0	0.00	0.00	0.00	0.00
						Dx	-184857	1.57	1.57	0.35	6.33
2	1.00	12.00	-163292	-181070	3391	Sx	-223384	1.92	1.72	0.35	5.74
						Dx	-223384	1.92	1.72	0.35	5.74
3	1.00	12.00	-6501	-60597	792	Sx	-131441	1.13	0.87	0.20	6.75
						Dx	-131441	1.13	0.87	0.20	6.75
4	1.00	12.00	-112789	-115490	2931	Sx	-135419	1.13	1.33	0.31	6.75
						Dx	-135419	1.13	1.33	0.31	6.75
5	1.00	12.00	-86617	-115490	1435	Sx	-135419	1.13	1.33	0.31	6.75
						Dx	0	0.00	0.00	0.00	0.00

Sollecitazioni / Verifiche Campate: Stato Limite di Esercizio - Combinazione Rara

Campata	Coeff. Mom. Fitt.	Mom. Flettente daN*cm	Mom. Fittizio daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cmq	Traz. Acciaio daN/cmq	Freccia Istan./Differ./Contro. mm
1-B	12.00	87726	129489	288	1293	-1359	1.57	4.87	38	2905	2.13/6.50/11.72
2-C	12.00	-204	10266	165	1066	0	0.79	3.32	4	454	0.01/0.03/2.75
3-D	12.00	30672	43335	130	565	-997	0.79	3.40	16	1916	0.23/0.63/5.65
4-E	12.00	54261	82590	239	1099	-1026	1.01	3.96	29	2865	0.84/2.29/8.51

Sollecitazioni / Verifiche Campate: Stato Limite Ultimo

Campata	Coeff. Mom. Fitt.	Mom. Flettente (MEd1) daN*cm	Mom. Fittizio (MEd2) daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acc. %	Fessure Rara/Freq./QPerm. mm
1-B	12.00	122704	181070	288	1809	-1901	181874	1.57	1.11	0.26	6.75	***0.097/0.097
2-C	12.00	-49	14356	165	1490	0	98194	0.79	1.43	0.34	6.75	***0.000/0.000
3-D	12.00	43059	60597	130	792	-1395	97015	0.79	1.26	0.29	6.75	***0.000/0.000
4-E	12.00	76031	115490	239	1537	-1435	116971	1.01	0.79	0.18	6.75	***0.000/0.000

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite di Esercizio - Combinazione Rara

Campata	Zona piena	Lar. Sottom. Interposto cm	Mom. Flettente daN*cm	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cmq	Traz. Acciaio daN/cmq	Taglio daN	Tau daN/cmq	Arm. Taglio Res. minima
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										cmq
1-B	Sx	38	-69782	1.57	7.44	35	1607	1194	3.03	0.36
	Dx	38	-87964	1.92	8.14	42	1672	-1260	3.20	0.38
2-C	Sx	38	-95054	1.92	8.58	49	1820	966	2.45	0.30
	Dx	38	-13212	1.13	6.80	8	421	439	1.11	0.00
3-D	Sx	38	8465	0.79	3.40	3	374	465	1.18	0.16
	Dx	38	-59810	1.13	6.80	37	1904	-898	2.28	0.28
4-E	Sx	38	-57580	1.13	6.67	35	1830	999	2.53	0.31
	Dx	38	-40623	1.13	6.67	25	1291	-926	2.35	0.28

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite Ultimo

Campata	Zona piena	Mom. Flettente (MEd) daN*cm	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acciaio %	Taglio (VEd) daN	Taglio Ultimo (VRd) daN	Arm. Taglio Res. minima cmq
1-B	Sx	-97579	-176254	1.57	2.73	0.35	3.50	1670	1981	0.46
	Dx	-123004	-213759	1.92	3.19	0.35	2.94	-1762	2117	0.49
2-C	Sx	-132983	-212985	1.92	3.72	0.35	2.47	1351	2117	0.38
	Dx	-18736	-128130	1.13	2.36	0.35	4.10	616	1873	0.00
3-D	Sx	11865	44549	0.32	1.04	0.24	6.75	653	1873	0.20
	Dx	-83635	-128132	1.13	2.38	0.35	4.07	-1256	1873	0.36
4-E	Sx	-80516	-128125	1.13	2.29	0.35	4.24	1397	1873	0.39
	Dx	-56805	-128125	1.13	2.29	0.35	4.24	-1296	1873	0.37

Schema 3 - CAMPATA A-3-F-G

Vincolo Appoggio iniziale = 16.00

Vincolo Appoggio finale = 16.00

Profondità campo solaio = 3.20 m

Carichi distribuiti: Stato Limite di Esercizio - Combinazione Rara

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	C	586	542	22/22	22/22	1	Si	365	55	360	120	900
2	G	720	675	22/22	22/22	1	No	365	55	360	120	900

Carichi distribuiti: Stato Limite Ultimo

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	C	586	542	22/22	22/22	1	Si	474	72	540	180	1266
2	G	720	675	22/22	22/22	1	No	474	72	540	180	1266

Distinta Armature Appoggi / Singolo Travetto

Appoggio	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm
1 sup.	1	10	170	1	12	130	0	0	0
2 sup.	1	12	390	1	14	230	0	0	0
3 sup.	1	12	200	1	14	120	0	0	0

Distinta Armature Inferiori Campate

Campata	Tipo	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm	N./Φ/Passo Staffe N./mm/cm	Tratto Staffe Iniz./Fine/Lungh. cm/cm/cm
1-C	Conf.	1	12	590	1	10	590	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0

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2-G	Conf.	1	12	725	1	14	725	0	0	0	Sx-1x0 St. Ø0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. Ø0/0	Dx-0/0/0

Sollecitazioni / Verifiche Appoggi: Stato Limite di Esercizio - Combinazione Rara

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente daN*cm	Momento Fittizio daN*cm	Reazione Vincolare daN	Lato Appoggio	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Trazione Acciaio daN/cm
1	1.00	12.00	-97117	-129489	1201	Sx	0.00	0.00	0	0
						Dx	1.92	5.02	32	2389
2	1.00	12.00	-186604	-195480	3163	Sx	2.67	5.46	39	2602
						Dx	2.67	5.46	39	2602
3	1.00	12.00	-146610	-195480	1585	Sx	2.67	5.74	41	2607
						Dx	0.00	0.00	0	0

Sollecitazioni / Verifiche Appoggi: Stato Limite Ultimo

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente (MEd1) daN*cm	Momento Fittizio (MEd2) daN*cm	Reazione Vincolare daN	Lato Appoggio	Momento Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Deform. Max Cls %	Deform. Max Acc. %
1	1.00	12.00	-135802	-181070	1682	Sx	0	0.00	0.00	0.00	0.00
						Dx	-223212	1.92	1.70	0.35	5.84
2	1.00	12.00	-260936	-273348	4423	Sx	-306449	2.67	1.94	0.35	5.05
						Dx	-306449	2.67	1.94	0.35	5.05
3	1.00	12.00	-205011	-273348	2218	Sx	-306483	2.67	1.92	0.35	5.13
						Dx	0	0.00	0.00	0.00	0.00

Sollecitazioni / Verifiche Campate: Stato Limite di Esercizio - Combinazione Rara

Campata	Coeff. Mom. Fitt.	Mom. Flettente daN*cm	Mom. Fittizio daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Freccia Istan./Differ./Contro. mm
1-C	12.00	62127	129489	268	1201	-1479	1.92	5.33	34	2394	2.10/6.03/11.72
2-G	12.00	131156	195480	370	1685	-1585	2.67	6.18	45	2620	4.84/13.02/18.00

Sollecitazioni / Verifiche Campate: Stato Limite Ultimo

Campata	Coeff. Mom. Fitt.	Mom. Flettente (MEd1) daN*cm	Mom. Fittizio (MEd2) daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acc. %	Fessure Rara/Freq./QPerm. mm
1-C	12.00	87623	181070	268	1682	-2067	221206	1.92	1.30	0.31	6.75	***0.088/0.088
2-G	12.00	183829	273348	370	2356	-2218	306047	2.67	1.77	0.35	5.59	***0.121/0.121

Sollecitazioni / Verifiche Limite Zone Pieni: Stato Limite di Esercizio - Combinazione Rara

Campata	Zona piena	Lar. Sottom. Interposto cm	Mom. Flettente daN*cm	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Taglio daN	Tau daN/cm	Arm. Taglio Res. minima cmq
1-C	Sx	38	-72403	1.92	7.96	33	1373	1101	2.79	0.33
	Dx	38	-155171	2.67	9.24	63	2137	-1379	3.50	0.41
2-G	Sx	38	-150639	2.67	8.85	58	2062	1585	4.02	0.47
	Dx	38	-113089	2.67	8.85	43	1548	-1486	3.77	0.44

Sollecitazioni / Verifiche Limite Zone Pieni: Stato Limite Ultimo

Campata	Zona piena	Mom. Flettente (MEd) daN*cm	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acciaio %	Taglio (VEd) daN	Taglio Ultimo (VRd) daN	Arm. Taglio Res. minima cmq
1-C	Sx	-101244	-213846	1.92	3.10	0.35	3.04	1542	2117	0.43
	Dx	-216982	-294536	2.67	4.21	0.35	2.15	-1928	2364	0.53

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2-G	Sx	-210644	-295386	2.67	3.83	0.35	2.39	2216	2364	0.60
	Dx	-158138	-282306	2.55	3.77	0.35	2.44	-2079	2328	0.57

**Schema 4 - CAMPATE A-4-H**

Vincolo Appoggio iniziale = 16.00

Vincolo Appoggio finale = 16.00

Profondità campo solaio = 5.87 m

Carichi distribuiti: Stato Limite di Esercizio - Combinazione Rara

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	D	606	562	22/22	22/22	1	Si	365	55	360	120	900

Carichi distribuiti: Stato Limite Ultimo

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	D	606	562	22/22	22/22	1	Si	474	72	540	180	1266

Distinta Armature Appoggi / Singolo Travetto

Appoggio	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm
1 sup.	1	10	170	1	10	120	0	0	0
2 sup.	1	10	170	1	10	120	0	0	0

Distinta Armature Inferiori Campate

Campata	Tipo	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm	N./Φ/Passo Staffe N./mm/cm	Tratto Staffe Iniz./Fine/Lungh. cm/cm/cm
1-D	Conf.	2	12	610	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0

Sollecitazioni / Verifiche Appoggi: Stato Limite di Esercizio - Combinazione Rara

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente (MEd1) daN*cm	Momento Fittizio (MEd2) daN*cm	Reazione Vincolare daN	Lato Appoggio	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Trazione Acciaio daN/cm
1	1.00	14.00	-103859	-118696	1371	Sx	0.00	0.00	0	0
						Dx	1.57	4.53	32	2659
2	1.00	14.00	-103859	-118696	1371	Sx	1.57	4.53	32	2659
						Dx	0.00	0.00	0	0

Sollecitazioni / Verifiche Appoggi: Stato Limite Ultimo

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente (MEd1) daN*cm	Momento Fittizio (MEd2) daN*cm	Reazione Vincolare daN	Lato Appoggio	Momento Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Deform. Max Cls %	Deform. Max Acc. %
1	1.00	14.00	-145230	-165978	1917	Sx	0	0.00	0.00	0.00	0.00
						Dx	-185166	1.57	1.64	0.35	6.04
2	1.00	14.00	-145230	-165978	1917	Sx	-185166	1.57	1.64	0.35	6.04
						Dx	0	0.00	0.00	0.00	0.00

Sollecitazioni / Verifiche Campate: Stato Limite di Esercizio - Combinazione Rara

Campata	Coeff. Mom. Fitt.	Mom. Flettente daN*cm	Mom. Fittizio daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Freccia Istan./Differ./Contro. mm
1-D	10.00	103803	166174	298	1371	-1371	2.26	5.74	41	2616	2.74/8.31/13.47

Sollecitazioni / Verifiche Campate: Stato Limite Ultimo

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Campata	Coeff. Mom. Fitt.	Mom. Flettente (MEd1) daN*cm	Mom. Fittizio (MEd2) daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def.Max Cls %	Def.Max Acc. %	Fessure Rara/Freq./QPerm. mm
1-D	10.00	145152	232369	308	1917	-1917	260273	2.26	1.49	0.35	6.69	***0.105/0.105

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite di Esercizio - Combinazione Rara

Campata	Zona piena	Lar. Sottom. Interposto cm	Mom. Flettente daN*cm	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Taglio daN	Tau daN/cm	Arm. Taglio Res. minima cmq
1-D	Sx	38	-74790	1.57	7.09	35	1716	1272	3.23	0.38
	Dx	38	-74790	1.57	7.09	35	1716	-1272	3.23	0.38

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite Ultimo

Campata	Zona piena	Mom. Flettente (MEd) daN*cm	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acciaio %	Taglio (VEd) daN	Taglio Ultimo (VRd) daN	Arm. Taglio Res. minima cmq
1-D	Sx	-104582	-176287	1.57	2.63	0.35	3.65	1778	1981	0.49
	Dx	-104583	-176287	1.57	2.63	0.35	3.65	-1778	1981	0.49

**Schema 5 - CAMPATA A-5-I-J**

Vincolo Appoggio iniziale = 16.00

Vincolo Appoggio finale = 16.00

Profondità campo solaio = 6.50 m

Carichi distribuiti: Stato Limite di Esercizio - Combinazione Rara

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	I	568	524	22/22	22/22	1	Si	365	55	360	120	900
2	J	676	632	22/22	22/22	1	No	365	55	360	120	900

Carichi distribuiti: Stato Limite Ultimo

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	I	568	524	22/22	22/22	1	Si	474	72	540	180	1266
2	J	676	632	22/22	22/22	1	No	474	72	540	180	1266

Distinta Armature Appoggi / Singolo Travetto

Appoggio	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm
1 sup.	1	10	180	1	10	120	0	0	0
2 sup.	1	12	380	1	12	220	0	0	0
3 sup.	1	12	190	1	12	130	0	0	0

Distinta Armature Inferiori Campate

Campata	Tipo	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm	N./Φ/Passo Staffe N./mm/cm	Tratto Staffe Iniz./Fine/Lungh. cm/cm/cm
1-I	Conf.	2	10	570	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0
2-J	Conf.	2	12	680	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0

Sollecitazioni / Verifiche Appoggi: Stato Limite di Esercizio - Combinazione Rara

Appoggio	Coefficiente Riduzione	Coefficiente Momento	Momento Flettente	Momento Fittizio	Reazione Vincolare	Lato Appoggio	Area Tesa	Asse Neutro	Compr. Cls	Trazione Acciaio
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CORPO A**

	Momenti	Fittizio	daN*cm	daN*cm	daN		cmq	cm	daN/cmq	daN/cmq
1	1.00	12.00	-91242	-121656	1175	Sx	0.00	0.00	0	0
						Dx	1.57	4.63	33	2726
2	1.00	12.00	-167835	-172318	3006	Sx	2.26	5.15	37	2699
						Dx	2.26	5.15	37	2699
3	1.00	12.00	-129239	-172318	1485	Sx	2.26	5.37	39	2703
						Dx	0.00	0.00	0	0

Sollecitazioni / Verifiche Appoggi: Stato Limite Ultimo

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente (MEd1) daN*cm	Momento Fittizio (MEd2) daN*cm	Reazione Vincolare daN	Lato Appoggio	Momento Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Deform. Max Cls %	Deform. Max Acc. %
1	1.00	12.00	-127588	-170117	1645	Sx	0	0.00	0.00	0.00	0.00
						Dx	-184857	1.57	1.57	0.35	6.33
2	1.00	12.00	-234690	-240960	4204	Sx	-261638	2.26	1.86	0.35	5.31
						Dx	-261638	2.26	1.86	0.35	5.31
3	1.00	12.00	-180720	-240960	2077	Sx	-261399	2.26	1.81	0.35	5.47
						Dx	0	0.00	0.00	0.00	0.00

Sollecitazioni / Verifiche Campate: Stato Limite di Esercizio - Combinazione Rara

Campata	Coeff. Mom. Fitt.	Mom. Flettente daN*cm	Mom. Fittizio daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cmq	Traz. Acciaio daN/cmq	Freccia Istan./Differ./Contro. mm
1-I	12.00	61273	121656	259	1175	-1420	1.57	4.87	35	2729	1.90/5.40/11.36
2-J	12.00	114306	172318	348	1587	-1485	2.26	5.74	43	2712	3.74/10.74/15.02

Sollecitazioni / Verifiche Campate: Stato Limite Ultimo

Campata	Coeff. Mom. Fitt.	Mom. Flettente (MEd1) daN*cm	Mom. Fittizio (MEd2) daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acc. %	Fessure Rara/Freq./QPerm. mm
1-I	12.00	86328	170117	259	1645	-1986	181874	1.57	1.11	0.26	6.75	***0.087/0.087
2-J	12.00	160247	240960	348	2219	-2077	260273	2.26	1.49	0.35	6.69	***0.111/0.111

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite di Esercizio - Combinazione Rara

Campata	Zona piena	Lar. Sottom. Interposto cm	Mom. Flettente daN*cm	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cmq	Traz. Acciaio daN/cmq	Taglio daN	Tau daN/cmq	Arm. Taglio Res. minima cmq
1-I	Sx	38	-67032	1.57	7.44	34	1544	1075	2.73	0.33
	Dx	38	-137691	2.26	8.77	61	2231	-1320	3.35	0.39
2-J	Sx	38	-134026	2.26	8.40	56	2160	1487	3.77	0.44
	Dx	38	-97942	2.26	8.40	41	1578	-1385	3.51	0.41

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite Ultimo

Campata	Zona piena	Mom. Flettente (MEd) daN*cm	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acciaio %	Taglio (VEd) daN	Taglio Ultimo (VRd) daN	Arm. Taglio Res. minima cmq
1-I	Sx	-93733	-176239	1.57	2.75	0.35	3.47	1506	1981	0.42
	Dx	-192539	-250781	2.26	3.75	0.35	2.45	-1846	2237	0.51
2-J	Sx	-187414	-251245	2.26	3.48	0.35	2.67	2079	2237	0.57
	Dx	-136956	-251245	2.26	3.48	0.35	2.67	-1938	2237	0.53

Schema 6 - CAMPATE A-7-J-K-L

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CORPO A**

Vincolo Appoggio iniziale = 16.00

Vincolo Appoggio finale = 16.00

Profondità campo solaio = 3.20 m

Carichi distribuiti: Stato Limite di Esercizio - Combinazione Rara

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	J	560	516	22/22	22/22	1	Si	365	55	360	120	900
2	K	462	418	22/22	22/22	1	Si	365	55	360	120	900
3	L	146	106	22/22	22/22	1	Si	365	55	360	120	900

Carichi distribuiti: Stato Limite Ultimo

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	J	560	516	22/22	22/22	1	Si	474	72	540	180	1266
2	K	462	418	22/22	22/22	1	Si	474	72	540	180	1266
3	L	146	106	22/22	22/22	1	Si	474	72	540	180	1266

Distinta Armature Appoggi / Singolo Travetto

Appoggio	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm
1 sup.	1	10	170	1	10	120	0	0	0
2 sup.	1	10	330	1	12	200	0	0	0
3 sup.	1	12	300	0	0	0	0	0	0

Distinta Armature Inferiori Campate

Campata	Tipo	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm	N./Φ/Passo Staffe N./mm/cm	Tratto Staffe Iniz./Fine/Lungh. cm/cm/cm
1-J	Conf.	2	10	560	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0
2-K	Conf.	2	8	450	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0
3-L	Conf.	1	10	150	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0

Sollecitazioni / Verifiche Appoggi: Stato Limite di Esercizio - Combinazione Rara

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente daN*cm	Momento Fittizio daN*cm	Reazione Vincolare daN	Lato Appoggio	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Trazione Acciaio daN/cm
1	1.00	12.00	-88690	-118253	1227	Sx	0.00	0.00	0	0
						Dx	1.57	4.87	34	2653
2	1.00	12.00	-116227	-118253	2505	Sx	1.92	5.33	31	2186
						Dx	1.92	5.33	31	2186
3	1.00	12.00	-53454	-80486	1562	Sx	1.13	4.19	27	2488
						Dx	1.13	4.19	27	2488
4	1.00	12.00	-6028	-8038	101	Sx	1.13	4.08	3	248
						Dx	0.00	0.00	0	0

Sollecitazioni / Verifiche Appoggi: Stato Limite Ultimo

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente (MEd1) daN*cm	Momento Fittizio (MEd2) daN*cm	Reazione Vincolare daN	Lato Appoggio	Momento Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Deform. Max Cls %	Deform. Max Acc. %
1	1.00	12.00	-124019	-165359	1716	Sx	0	0.00	0.00	0.00	0.00

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						Dx	-181874	1.57	1.11	0.26	6.75
2	1.00	12.00	-162525	-165359	3503	Sx	-221206	1.92	1.30	0.31	6.75
						Dx	-221206	1.92	1.30	0.31	6.75
3	1.00	12.00	-75123	-112547	2187	Sx	-131441	1.13	0.87	0.20	6.75
						Dx	-131441	1.13	0.87	0.20	6.75
4	1.00	12.00	-8430	-11240	149	Sx	-134940	1.13	1.26	0.30	6.75
						Dx	0	0.00	0.00	0.00	0.00

Sollecitazioni / Verifiche Campate: Stato Limite di Esercizio - Combinazione Rara

Campata	Coeff. Mom. Fitt.	Mom. Flettente daN*cm	Mom. Fittizio daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Freccia Istan./Differ./Contro. mm
1-J	12.00	77554	118253	270	1227	-1316	1.57	4.87	34	2653	1.80/4.96/11.20
2-K	12.00	42554	80486	256	1189	-932	1.01	3.96	28	2792	0.80/2.18/8.40
3-L	12.00	-4912	8038	127	630	-101	0.79	3.40	3	355	0.01/0.02/2.43

Sollecitazioni / Verifiche Campate: Stato Limite Ultimo

Campata	Coeff. Mom. Fitt.	Mom. Flettente (MEd1) daN*cm	Mom. Fittizio (MEd2) daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acc. %	Fessure Rara/Freq./QPerm. mm
1-J	12.00	108687	165359	270	1716	-1840	181874	1.57	1.11	0.26	6.75	***0.082/0.082
2-K	12.00	59774	112547	256	1663	-1307	116971	1.01	0.79	0.18	6.75	***0.000/0.000
3-L	12.00	-6729	11240	127	881	-149	97015	0.79	1.26	0.29	6.75	***0.000/0.000

Sollecitazioni / Verifiche Limite Zone Pieni: Stato Limite di Esercizio - Combinazione Rara

Campata	Zona piena	Lar. Sottom. Interposto cm	Mom. Flettente daN*cm	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Taglio daN	Tau daN/cm	Arm. Taglio Res. minima cmq
1-J	Sx	38	-62993	1.57	7.44	32	1451	1127	2.86	0.34
	Dx	38	-88366	1.92	8.14	42	1680	-1217	3.09	0.37
2-K	Sx	38	-91160	1.92	8.46	46	1742	1090	2.76	0.33
	Dx	38	-34042	1.13	6.67	21	1082	-833	2.11	0.26
3-L	Sx	38	-40833	1.13	6.80	25	1300	530	1.35	0.17
	Dx	38	-7142	1.13	6.80	4	227	130	0.33	0.03

Sollecitazioni / Verifiche Limite Zone Pieni: Stato Limite Ultimo

Campata	Zona piena	Mom. Flettente (MEd) daN*cm	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acciaio %	Taglio (VEd) daN	Taglio Ultimo (VRd) daN	Arm. Taglio Res. minima cmq
1-J	Sx	-88086	-176227	1.57	2.77	0.35	3.44	1577	1981	0.44
	Dx	-123566	-213680	1.92	3.26	0.35	2.88	-1701	2117	0.47
2-K	Sx	-127474	-213067	1.92	3.67	0.35	2.51	1524	2117	0.42
	Dx	-47909	-128124	1.13	2.35	0.35	4.12	-1167	1873	0.33
3-L	Sx	-57489	-128122	1.13	2.36	0.35	4.10	742	1873	0.23
	Dx	-10058	-128129	1.13	2.33	0.35	4.15	188	1873	0.04

Schema 7 - CAMPATE A-8-M-N

Vincolo Appoggio iniziale = 16.00

Vincolo Appoggio finale = 16.00

Profondità campo solaio = 8.50 m

Carichi distribuiti: Stato Limite di Esercizio - Combinazione Rara

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec.	Zona piena Dx Or./Nec.	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale	Carico variabile daN/mq	Carico totale daN/mq
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				cm/cm	cm/cm					daN/mq		
1	M	505	461	22/22	22/22	1	Si	365	55	360	120	900
2	N	651	607	22/22	22/22	1	Si	365	55	360	120	900

Carichi distribuiti: Stato Limite Ultimo

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	M	505	461	22/22	22/22	1	Si	474	72	540	180	1266
2	N	651	607	22/22	22/22	1	Si	474	72	540	180	1266

Distinta Armature Appoggi / Singolo Travetto

Appoggio	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm
1 sup.	1	8	160	1	10	120	0	0	0
2 sup.	2	12	380	0	0	0	0	0	0
3 sup.	1	16	170	0	0	0	0	0	0

Distinta Armature Inferiori Campate

Campata	Tipo	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm	N./Φ/Passo Staffe N./mm/cm	Tratto Staffe Iniz./Fine/Lungh. cm/cm/cm
1-M	Conf.	1	8	505	1	10	505	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0
2-N	Conf.	2	12	655	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0

Sollecitazioni / Verifiche Appoggi: Stato Limite di Esercizio - Combinazione Rara

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente daN*cm	Momento Fittizio daN*cm	Reazione Vincolare daN	Lato Appoggio	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Trazione Acciaio daN/cm
1	1.00	12.00	-72124	-96166	1018	Sx	0.00	0.00	0	0
						Dx	1.29	4.26	29	2617
2	1.00	12.00	-148507	-159808	2811	Sx	2.26	5.37	36	2507
						Dx	2.26	5.37	36	2507
3	1.00	12.00	-119856	-159808	1439	Sx	2.01	5.09	38	2812
						Dx	0.00	0.00	0	0

Sollecitazioni / Verifiche Appoggi: Stato Limite Ultimo

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente (MEd1) daN*cm	Momento Fittizio (MEd2) daN*cm	Reazione Vincolare daN	Lato Appoggio	Momento Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Deform. Max Cls %	Deform. Max Acc. %
1	1.00	12.00	-100854	-134473	1426	Sx	0	0.00	0.00	0.00	0.00
						Dx	-153352	1.29	1.45	0.34	6.75
2	1.00	12.00	-207663	-223467	3930	Sx	-261399	2.26	1.81	0.35	5.47
						Dx	-261399	2.26	1.81	0.35	5.47
3	1.00	12.00	-167600	-223467	2012	Sx	-233633	2.01	1.75	0.35	5.66
						Dx	0	0.00	0.00	0.00	0.00

Sollecitazioni / Verifiche Campate: Stato Limite di Esercizio - Combinazione Rara

Campata	Coeff. Mom. Fitt.	Mom. Flettente daN*cm	Mom. Fittizio daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Freccia Istan./Differ./Contro. mm
1-M	12.00	42345	96166	228	1018	-1294	1.29	4.44	30	2618	1.09/3.03/10.10
2-N	12.00	108783	159808	335	1517	-1439	2.26	5.74	40	2515	2.93/9.28/14.47



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Sollecitazioni / Verifiche Campate: Stato Limite Ultimo

Campata	Coeff. Mom. Fitt.	Mom. Flettente (MEd1) daN*cm	Mom. Fittizio (MEd2) daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acc. %	Fessure Rara/Freq./QPerm. mm
1-M	12.00	59828	134473	228	1426	-1809	149510	1.29	0.95	0.22	6.75	***0.066/0.066
2-N	12.00	152425	223467	335	2121	-2012	260273	2.26	1.49	0.35	6.69	***0.099/0.099

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite di Esercizio - Combinazione Rara

Campata	Zona piena	Lar. Sottom. Interposto cm	Mom. Flettente daN*cm	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Taglio daN	Tau daN/cm	Arm. Taglio Res. minima cmq
1-M	Sx	38	-51410	1.29	6.93	29	1438	918	2.33	0.28
	Dx	38	-121138	2.26	8.92	56	1968	-1194	3.03	0.36
2-N	Sx	38	-116230	2.26	8.40	49	1873	1417	3.60	0.42
	Dx	38	-89516	2.01	7.96	39	1616	-1339	3.40	0.40

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite Ultimo

Campata	Zona piena	Mom. Flettente (MEd) daN*cm	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acciaio %	Taglio (VEd) daN	Taglio Ultimo (VRd) daN	Arm. Taglio Res. minima cmq
1-M	Sx	-71889	-145331	1.29	2.46	0.35	3.92	1287	1873	0.36
	Dx	-169392	-250414	2.26	3.92	0.35	2.33	-1670	2237	0.46
2-N	Sx	-162529	-251276	2.26	3.45	0.35	2.69	1982	2237	0.54
	Dx	-125174	-174298	1.55	2.62	0.35	3.66	-1873	1973	0.51

Schema 8 - CAMPATE A-9-O-P

Vincolo Appoggio iniziale = 16.00

Vincolo Appoggio finale = 16.00

Profondità campo solaio = 1.72 m

Carichi distribuiti: Stato Limite di Esercizio - Combinazione Rara

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	O	540	496	22/22	22/22	1	Si	365	55	360	120	900
2	P	212	168	22/22	22/22	1	Si	365	55	360	120	900

Carichi distribuiti: Stato Limite Ultimo

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	O	540	496	22/22	22/22	1	Si	474	72	540	180	1266
2	P	212	168	22/22	22/22	1	Si	474	72	540	180	1266

Distinta Armature Appoggi / Singolo Travetto

Appoggio	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm
1 sup.	1	10	150	1	10	100	0	0	0
2 sup.	1	10	380	1	10	230	0	0	0

Distinta Armature Inferiori Campate

Campata	Tipo	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm	N./Φ/Passo Staffe N./mm/cm	Tratto Staffe Iniz./Fine/Lungh. cm/cm/cm
1-O	Conf.	2	10	540	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0

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	Cat.	0	0	0	0	0	0	0	0	0	0	Dx-1x0 St. $\Phi$ 0/0	Dx-0/0/0
2-P	Conf.	1	10	215	0	0	0	0	0	0	0	Sx-1x0 St. $\Phi$ 0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	0	Dx-1x0 St. $\Phi$ 0/0	Dx-0/0/0

Sollecitazioni / Verifiche Appoggi: Stato Limite di Esercizio - Combinazione Rara

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente daN*cm	Momento Fittizio daN*cm	Reazione Vincolare daN	Lato Appoggio	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Trazione Acciaio daN/cm
1	1.00	12.00	-82468	-109958	1201	Sx	0.00	0.00	0	0
						Dx	1.57	4.87	32	2467
2	1.00	12.00	-94204	-109958	2108	Sx	1.57	4.74	31	2465
						Dx	1.57	4.74	31	2465
3	1.00	12.00	-12711	-16948	151	Sx	0.79	3.44	6	749
						Dx	0.00	0.00	0	0

Sollecitazioni / Verifiche Appoggi: Stato Limite Ultimo

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente (MEd1) daN*cm	Momento Fittizio (MEd2) daN*cm	Reazione Vincolare daN	Lato Appoggio	Momento Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Deform. Max Cls %	Deform. Max Acc. %
1	1.00	12.00	-115319	-153758	1680	Sx	0	0.00	0.00	0.00	0.00
						Dx	-181874	1.57	1.11	0.26	6.75
2	1.00	12.00	-131729	-153758	2947	Sx	-184153	1.57	1.42	0.34	6.75
						Dx	-184153	1.57	1.42	0.34	6.75
3	1.00	12.00	-17774	-23699	217	Sx	-95823	0.79	1.11	0.26	6.75
						Dx	0	0.00	0.00	0.00	0.00

Sollecitazioni / Verifiche Campate: Stato Limite di Esercizio - Combinazione Rara

Campata	Coeff. Mom. Fitt.	Mom. Flettente daN*cm	Mom. Fittizio daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Freccia Istan./Differ./Contro. mm
1-O	12.00	76957	109958	270	1201	-1243	1.57	4.87	32	2467	1.44/3.93/10.80
2-P	12.00	-10242	16948	183	864	-151	0.79	3.36	6	749	0.03/0.10/3.53

Sollecitazioni / Verifiche Campate: Stato Limite Ultimo

Campata	Coeff. Mom. Fitt.	Mom. Flettente (MEd1) daN*cm	Mom. Fittizio (MEd2) daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acc. %	Fessure Rara/Freq./QPerm. mm
1-O	12.00	107648	153758	270	1680	-1739	181874	1.57	1.11	0.26	6.75	***0.071/0.071
2-P	12.00	-14128	23699	173	1208	-217	97776	0.79	1.37	0.32	6.75	***0.000/0.000

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite di Esercizio - Combinazione Rara

Campata	Zona piena	Lar. Sottom. Interposto cm	Mom. Flettente daN*cm	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Taglio daN	Tau daN/cm	Arm. Taglio Res. minima cmq
1-O	Sx	38	-57163	1.57	7.44	29	1317	1102	2.79	0.33
	Dx	38	-67942	1.57	7.44	34	1565	-1144	2.90	0.35
2-P	Sx	38	-76730	1.57	7.87	42	1779	765	1.94	0.24
	Dx	38	-11710	0.79	5.75	8	531	59	0.15	0.04

Sollecitazioni / Verifiche Limite Zone Piene: Stato Limite Ultimo

Campata	Zona piena	Mom. Flettente (MEd) daN*cm	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acciaio %	Taglio (VEd) daN	Taglio Ultimo (VRd) daN	Arm. Taglio Res. minima cmq
1-O	Sx	-79933	-176227	1.57	2.77	0.35	3.44	1541	1981	0.43

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	Dx	-95006	-176227	1.57	2.77	0.35	3.44	-1600	1981	0.44
2-P	Sx	-107340	-176028	1.57	3.05	0.35	3.09	1069	1981	0.31
	Dx	-16375	-90088	0.79	1.88	0.35	5.24	88	1873	0.06

Schema 9 - CAMPATA A-10-Q

Vincolo Appoggio iniziale = 16.00

Vincolo Appoggio finale = 16.00

Profondità campo solaio = 1.60 m

Carichi distribuiti: Stato Limite di Esercizio - Combinazione Rara

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	Q	220	175	22/22	22/22	1	Si	365	55	360	120	900

Carichi distribuiti: Stato Limite Ultimo

Campata	Sigla	Luce calcolo cm	Luce netta cm	Zona piena Sx Or./Nec. cm/cm	Zona piena Dx Or./Nec. cm/cm	Tipo Solaio	Allin. Estrad.	Peso proprio daN/mq	Carico permanente daN/mq	Carico perm. non strutturale daN/mq	Carico variabile daN/mq	Carico totale daN/mq
1	Q	220	175	22/22	22/22	1	Si	474	72	540	180	1266

Distinta Armature Appoggi / Singolo Travetto

Appoggio	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm
1 sup.	1	8	100	0	0	0	0	0	0
2 sup.	1	8	100	0	0	0	0	0	0

Distinta Armature Inferiori Campate

Campata	Tipo	Num. 1	Diam. 1 mm	Lun. 1 cm	Num. 2	Diam. 2 mm	Lun. 2 cm	Num. 3	Diam. 3 mm	Lun. 3 cm	N./Φ/Passo Staffe N./mm/cm	Tratto Staffe Iniz./Fine/Lungh. cm/cm/cm
1-Q	Conf.	1	10	220	0	0	0	0	0	0	Sx-1x0 St. Φ0/0	Sx-0/0/0
	Cat.	0	0	0	0	0	0	0	0	0	Dx-1x0 St. Φ0/0	Dx-0/0/0

Sollecitazioni / Verifiche Appoggi: Stato Limite di Esercizio - Combinazione Rara

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente daN*cm	Momento Fittizio daN*cm	Reazione Vincolare daN	Lato Appoggio	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm <sup>2</sup>	Trazione Acciaio daN/cm <sup>2</sup>
1	1.00	14.00	-13688	-15644	498	Sx	0.00	0.00	0	0
						Dx	0.50	2.86	8	1071
2	1.00	14.00	-13688	-15644	498	Sx	0.50	2.86	8	1071
						Dx	0.00	0.00	0	0

Sollecitazioni / Verifiche Appoggi: Stato Limite Ultimo

Appoggio	Coefficiente Riduzione Momenti	Coefficiente Momento Fittizio	Momento Flettente (MEd1) daN*cm	Momento Fittizio (MEd2) daN*cm	Reazione Vincolare daN	Lato Appoggio	Momento Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Deform. Max Cls %	Deform. Max Acc. %
1	1.00	14.00	-19141	-21875	696	Sx	0	0.00	0.00	0.00	0.00
						Dx	-58713	0.50	0.51	0.12	6.75
2	1.00	14.00	-19141	-21875	696	Sx	-58713	0.50	0.51	0.12	6.75
						Dx	0	0.00	0.00	0.00	0.00

Sollecitazioni / Verifiche Campate: Stato Limite di Esercizio - Combinazione Rara

Campata	Coeff. Mom. Fitt.	Mom. Flettente daN*cm	Mom. Fittizio daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm <sup>2</sup>	Traz. Acciaio daN/cm <sup>2</sup>	Freccia Istan./Differ./Contro. mm
1-Q	10.00	13688	21901	110	498	-498	0.79	3.53	9	967	0.05/0.14/3.67

Sollecitazioni / Verifiche Campate: Stato Limite Ultimo

Campata	Coeff. Mom. Fitt.	Mom. Flettente (MEd1) daN*cm	Mom. Fittizio (MEd2) daN*cm	X Mom. Max cm	Taglio Sx daN	Taglio Dx daN	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def.Max Cls %	Def.Max Acc. %	Fessure Rara/Freq./QPerm. mm
1-Q	10.00	19141	30625	110	696	-696	91539	0.79	0.67	0.15	6.75	***0.000/0.000

Sollecitazioni / Verifiche Limite Zone Pieni: Stato Limite di Esercizio - Combinazione Rara

Campata	Zona piena	Lar. Sottom. Interposto cm	Mom. Flettente daN*cm	Area Tesa cmq	Asse Neutro cm	Compr. Cls daN/cm	Traz. Acciaio daN/cm	Taglio daN	Tau daN/cm	Arm. Taglio Res. minima cmq
1-Q	Sx	38	-3833	0.50	4.67	3	269	398	1.01	0.14
	Dx	38	-3833	0.50	4.67	3	269	-398	1.01	0.14

Sollecitazioni / Verifiche Limite Zone Pieni: Stato Limite Ultimo

Campata	Zona piena	Mom. Flettente (MEd) daN*cm	Mom. Ultimo (MRd) daN*cm	Area Tesa cmq	Asse Neutro cm	Def. Max Cls %	Def. Max Acciaio %	Taglio (VEd) daN	Taglio Ultimo (VRd) daN	Arm. Taglio Res. minima cmq
1-Q	Sx	-5359	-58781	0.50	1.56	0.35	6.40	557	1873	0.18
	Dx	-5359	-58781	0.50	1.56	0.35	6.40	-557	1873	0.18

## 2.2.5 Verifica dell'assenza di martellamento tra strutture contigue

La distanza tra costruzioni contigue deve essere tale da evitare fenomeni di martellamento e comunque non può essere inferiore alla somma degli spostamenti massimi determinati per lo SLV, calcolati per ciascuna costruzione secondo la seguente formula:

$$d_E = \mu_d d_{Ee} \quad (7.3.3.3)$$

$$\text{Dove } \mu_d = q \quad \text{se } T_1 > T_c; \quad \mu_d = 1 + \frac{(q-1)T_c}{T_1} \quad \text{se } T_1 < T_c$$

$$\text{In ogni caso } \mu_d \leq 5q - 4$$

La distanza tra due punti che si fronteggiano non può essere inferiore ad 1/100 della quota dei punti considerati misurati dal piano di fondazione moltiplicata per  $a_g S / 0.5g$ , per cui lo spessore minimo del giunto è pari:

$$d_{min} = \frac{H}{100} * \frac{a_g S}{0.5g} = \frac{1693}{100} * \frac{0.1693g \cdot 1.456}{0.5g} = 4.17 \text{ cm}$$

È stato previsto per il corpo E e le strutture confinanti (corpo A e B) un giunto di 5 cm, mentre per gli altri corpi il giunto è pari a 15 cm.

### 2.2.5.a Verifica del giunto tra corpo A e corpo B

La verifica a martellamento viene effettuata sommando gli spostamenti dei nodi degli elementi strutturali adiacenti, per la porzione di edificio relativa al piano quinto, e la parte residua del piano quarto.

- La verifica del martellamento piano quinto

#### SPOSTAMENTI CORPO A - Combinazioni agli Stati Limite di Salvaguardia della Vita

Componente	Valori Min			Valori Max			Valori   Max		
	Comb	Nodo	Valore	Comb	Nodo	Valore	Comb	Nodo	Valore
Ux	9 Sisma 180- / 90-	523	-1.081 [cm]	4 Sisma 0+ / 270+	523	1.007 [cm]	9 Sisma 180- / 90-	523	1.081 [cm]
Uy	18 Sisma 270- / 180-	560	-0.528 [cm]	11 Sisma 90+ / 0+	560	0.506 [cm]	18 Sisma 270- / 180-	560	0.528 [cm]
Uz	18 Sisma 270- / 180-	522	-0.392 [cm]	10 Sisma 180- / 270-	548	-0.021 [cm]	18 Sisma 270- / 180-	522	-0.392 [cm]
Rx	14 Sisma 90- / 180-	539	-0.06 [°]	15 Sisma 270+ / 0+	539	0.06 [°]	14 Sisma 90- / 180-	539	-0.06 [°]
Ry	14 Sisma 90- / 180-	523	-0.07 [°]	14 Sisma 90- / 180-	530	0.05 [°]	14 Sisma 90- / 180-	523	-0.07 [°]
Rz	14 Sisma 90- / 180-	560	-0.06 [°]	15 Sisma 270+ / 0+	560	0.05 [°]	14 Sisma 90- / 180-	560	-0.06 [°]

$$T_{1A} = 0.536 > T_c = 0.479 \quad \mu_d = q = 2.64$$

$$d_{ExA} = \mu_d d_{Eex} = 2.64 * 1.081 = 2.85 \text{ cm}$$

$$d_{EyA} = \mu_d d_{Eey} = 2.64 * 0.528 = 1.39 \text{ cm}$$

#### SPOSTAMENTI CORPO B - Combinazioni agli Stati Limite di Salvaguardia della Vita

Componente	Valori Min			Valori Max			Valori   Max		
	Comb	Nodo	Valore	Comb	Nodo	Valore	Comb	Nodo	Valore
Ux	10 Sisma 180- / 270-	509	-4.279 [cm]	3 Sisma 0+ / 90+	509	4.478 [cm]	3 Sisma 0+ / 90+	509	4.478 [cm]
Uy	16 Sisma 270+ / 180+	519	-2.017 [cm]	13 Sisma 90- / 0-	519	2.058 [cm]	13 Sisma 90- / 0-	519	2.058 [cm]
Uz	15 Sisma 270+ / 0+	509	-0.653 [cm]	14 Sisma 90- / 180-	510	0.062 [cm]	15 Sisma 270+ / 0+	509	-0.653 [cm]
Rx	14 Sisma 90- / 180-	517	-0.11 [°]	15 Sisma 270+ / 0+	517	0.09 [°]	14 Sisma 90- / 180-	517	-0.11 [°]
Ry	10 Sisma 180- / 270-	510	-0.09 [°]	3 Sisma 0+ / 90+	510	0.11 [°]	3 Sisma 0+ / 90+	510	0.11 [°]
Rz	10 Sisma 180- / 270-	519	-0.15 [°]	3 Sisma 0+ / 90+	519	0.17 [°]	3 Sisma 0+ / 90+	519	0.17 [°]

$$T_{1B} = 0.6 > T_c = 0.479 \quad \mu_d = q = 2.64$$

$$d_{ExB} = \mu_d d_{Eex} = 2.64 * 4.478 = 11.82 \text{ cm}$$

$$d_{EyB} = \mu_d d_{Eey} = 2.64 * 2.058 = 5.43 \text{ cm}$$

$$d_{Ex} = d_{ExA} + d_{ExB} = 2.85 + 11.82 = 14.67 \text{ cm} < 15 \text{ cm verificata}$$

$$d_{Ey} = d_{EyA} + d_{EyB} = 1.39 + 5.43 = 6.82 \text{ cm} < 15 \text{ cm verificata}$$

- La verifica del martellamento piano quarto

#### SPOSTAMENTI CORPO A - Combinazioni agli Stati Limite di Salvaguardia della Vita

Componente	Valori Min			Valori Max			Valori   Max		
	Comb	Nodo	Valore	Comb	Nodo	Valore	Comb	Nodo	Valore
Ux	14 Sisma 90- / 180-	408	-1.035 [cm]	15 Sisma 270+ / 0+	408	1.035 [cm]	15 Sisma 270+ / 0+	408	1.035 [cm]
Uy	13 Sisma 90- / 0-	408	-0.103 [cm]	16 Sisma 270+ / 180+	408	0.089 [cm]	13 Sisma 90- / 0-	408	-0.103 [cm]
Uz	17 Sisma 270- / 0-	623	-0.300 [cm]	12 Sisma 90+ / 180+	623	-0.187 [cm]	17 Sisma 270- / 0-	623	-0.300 [cm]
Rx	11 Sisma 90+ / 0+	408	-0.03 [°]	10 Sisma 180- / 270-	623	0.01 [°]	11 Sisma 90+ / 0+	408	-0.03 [°]
Ry	14 Sisma 90- / 180-	408	-0.04 [°]	15 Sisma 270+ / 0+	408	0.01 [°]	14 Sisma 90- / 180-	408	-0.04 [°]
Rz	14 Sisma 90- / 180-	408	-0.04 [°]	15 Sisma 270+ / 0+	408	0.04 [°]	15 Sisma 270+ / 0+	408	0.04 [°]

$$T_{1A} = 0.536 > T_c = 0.479 \quad \mu_d = q = 2.64$$

$$d_{ExA} = \mu_d d_{Ex} = 2.64 * 1.035 = 2.73 \text{ cm}$$

#### SPOSTAMENTI CORPO B - Combinazioni agli Stati Limite di Salvaguardia della Vita

Componente	Valori Min			Valori Max			Valori   Max		
	Comb	Nodo	Valore	Comb	Nodo	Valore	Comb	Nodo	Valore
Ux	10 Sisma 180- / 270-	403	-5.014 [cm]	3 Sisma 0+ / 90+	403	5.275 [cm]	3 Sisma 0+ / 90+	403	4.275 [cm]
Uy	16 Sisma 270+ / 180+	403	-1.605 [cm]	13 Sisma 90- / 0-	403	1.631 [cm]	13 Sisma 90- / 0-	403	1.631 [cm]
Uz	15 Sisma 270+ / 0+	409	-0.638 [cm]	14 Sisma 90- / 180-	410	0.077 [cm]	15 Sisma 270+ / 0+	409	-0.638 [cm]
Rx	14 Sisma 90- / 180-	403	-0.09 [°]	15 Sisma 270+ / 0+	410	0.08 [°]	14 Sisma 90- / 180-	403	-0.09 [°]
Ry	10 Sisma 180- / 270-	403	-0.13 [°]	3 Sisma 0+ / 90+	403	0.16 [°]	3 Sisma 0+ / 90+	403	0.16 [°]
Rz	10 Sisma 180- / 270-	403	-0.13 [°]	3 Sisma 0+ / 90+	403	0.14 [°]	3 Sisma 0+ / 90+	403	0.14 [°]

$$T_{1B} = 0.6 > T_c = 0.479 \quad \mu_d = q = 2.64$$

$$d_{ExB} = \mu_d d_{Ex} = 2.64 * 4.275 = 11.29 \text{ cm}$$

$$d_{Ex} = d_{ExA} + d_{ExB} = 2.73 + 14.02 = \text{cm} < 15 \text{ cm verificata}$$

In direzione y non vi è martellamento.

#### 2.2.5.b Verifica del giunto tra corpo A e corpo C

Il fenomeno del martellamento tra i due corpi può avvenire unicamente nella direzione y.

SPOSTAMENTI CORPO A - Combinazioni agli Stati Limite di Salvaguardia della Vita

Componente	Valori Min				Valori Max				Valori   Max			
	Comb	Nodo	Valore		Comb	Nodo	Valore		Comb	Nodo	Valore	
Ux	8 Sisma 180+ / 270+	466	-0.691	[cm]	5 Sisma 0- / 90-	466	0.645	[cm]	8 Sisma 180+ / 270+	466	-0.691	[cm]
Uy	15 Sisma 270+ / 0+	466	-2.479	[cm]	14 Sisma 90- / 180-	466	2.385	[cm]	15 Sisma 270+ / 0+	466	-2.479	[cm]
Uz	14 Sisma 90- / 180-	465	-0.348	[cm]	15 Sisma 270+ / 0+	466	-0.080	[cm]	14 Sisma 90- / 180-	465	-0.348	[cm]
Rx	14 Sisma 90- / 180-	466	-0.04	[°]	15 Sisma 270+ / 0+	466	0.07	[°]	15 Sisma 270+ / 0+	466	0.07	[°]
Ry	16 Sisma 270+ / 180+	464	-0.03	[°]	13 Sisma 90- / 0-	466	0.03	[°]	16 Sisma 270+ / 180+	464	-0.03	[°]
Rz	14 Sisma 90- / 180-	466	-0.04	[°]	15 Sisma 270+ / 0+	466	0.04	[°]	15 Sisma 270+ / 0+	466	0.04	[°]

$$T_{1A} = 0.536 > T_c = 0.479 \quad \mu_d = q = 2.64$$

$$d_{EyA} = \mu_d d_{Eey} = 2.64 * 2.479 = 6.54 \text{ cm}$$

SPOSTAMENTI CORPO C - Combinazioni agli Stati Limite di Salvaguardia della Vita

Componente	Valori Min				Valori Max				Valori   Max			
	Comb	Nodo	Valore		Comb	Nodo	Valore		Comb	Nodo	Valore	
Ux	9 Sisma 180- / 90-	401	-2.187	[cm]	4 Sisma 0+ / 270+	401	2.250	[cm]	4 Sisma 0+ / 270+	401	2.250	[cm]
Uy	4 Sisma 0+ / 270+	401	-1.134	[cm]	9 Sisma 180- / 90-	401	1.135	[cm]	9 Sisma 180- / 90-	401	1.135	[cm]
Uz	4 Sisma 0+ / 270+	406	-0.442	[cm]	9 Sisma 180- / 90-	406	0.136	[cm]	4 Sisma 0+ / 270+	406	-0.442	[cm]
Rx	9 Sisma 180- / 90-	401	-0.04	[°]	17 Sisma 270- / 0-	405	0.04	[°]	9 Sisma 180- / 90-	401	-0.04	[°]
Ry	9 Sisma 180- / 90-	403	-0.12	[°]	4 Sisma 0+ / 270+	403	0.12	[°]	4 Sisma 0+ / 270+	403	0.12	[°]
Rz	9 Sisma 180- / 90-	401	-0.04	[°]	4 Sisma 0+ / 270+	401	0.04	[°]	4 Sisma 0+ / 270+	401	0.04	[°]

$$T_{1C} = 0.511 > T_c = 0.479 \quad \mu_d = q = 2.76$$

$$d_{EyC} = \mu_d d_{Eey} = 2.76 * 1.135 = 3.13 \text{ cm}$$

$$d_{Ey} = d_{EyA} + d_{EyC} = 6.54 + 3.13 = 9.67 \text{ cm} < 15 \text{ cm verificata}$$

2.2.5.c Verifica del giunto tra corpo A e corpo D

Il fenomeno del martellamento tra i due corpi può avvenire unicamente nella direzione y.

SPOSTAMENTI CORPO A - Combinazioni agli Stati Limite di Salvaguardia della Vita

Componente	Valori Min				Valori Max				Valori   Max			
	Comb	Nodo	Valore		Comb	Nodo	Valore		Comb	Nodo	Valore	
Ux	8 Sisma 180+ / 270+	164	-0.274	[cm]	5 Sisma 0- / 90-	164	0.262	[cm]	8 Sisma 180+ / 270+	164	-0.274	[cm]
Uy	16 Sisma 270+ / 180+	149	-0.235	[cm]	13 Sisma 90- / 0-	149	0.233	[cm]	16 Sisma 270+ / 180+	149	-0.235	[cm]
Uz	13 Sisma 90- / 0-	170	-0.408	[cm]	17 Sisma 270- / 0-	158	-0.100	[cm]	13 Sisma 90- / 0-	170	-0.408	[cm]

Rx	14 Sisma 90- / 180-	149	-0.05	[°]	16 Sisma 270+ / 180+	151	0.06	[°]	16 Sisma 270+ / 180+	151	0.06	[°]
Ry	8 Sisma 180+ / 270+	164	-0.06	[°]	5 Sisma 0- / 90-	160	0.04	[°]	8 Sisma 180+ / 270+	164	-0.06	[°]
Rz	14 Sisma 90- / 180-	160	-0.01	[°]	15 Sisma 270+ / 0+	160	0.01	[°]	14 Sisma 90- / 180-	160	-0.01	[°]

$$T_{1A} = 0.536 > T_c = 0.479 \quad \mu_d = q = 2.64$$

$$d_{ExA} = \mu_d d_{Ex} = 2.64 * 0.274 = 0.72 \text{ cm}$$

$$d_{EyA} = \mu_d d_{Ey} = 2.64 * 0.235 = 0.62 \text{ cm}$$

#### SPOSTAMENTI CORPO D - Combinazioni agli Stati Limite di Salvaguardia della Vita

Componente	Valori Min			Valori Max			Valori   Max		
	Comb	Nodo	Valore	Comb	Nodo	Valore	Comb	Nodo	Valore
Ux	10 Sisma 180- / 270-	106	-0.610 [cm]	3 Sisma 0+ / 90+	106	0.622 [cm]	3 Sisma 0+ / 90+	106	0.622 [cm]
Uy	18 Sisma 270- / 180-	110	-1.022 [cm]	11 Sisma 90+ / 0+	110	1.048 [cm]	11 Sisma 90+ / 0+	110	1.048 [cm]
Uz	18 Sisma 270- / 180-	106	-0.340 [cm]	5 Sisma 0- / 90-	109	0.012 [cm]	18 Sisma 270- / 180-	106	-0.340 [cm]
Rx	11 Sisma 90+ / 0+	103	-0.12 [°]	18 Sisma 270- / 180-	103	0.12 [°]	11 Sisma 90+ / 0+	103	-0.12 [°]
Ry	7 Sisma 180+ / 90+	110	-0.07 [°]	5 Sisma 0- / 90-	111	0.09 [°]	5 Sisma 0- / 90-	111	0.09 [°]
Rz	18 Sisma 270- / 180-	101	-0.02 [°]	11 Sisma 90+ / 0+	101	0.03 [°]	11 Sisma 90+ / 0+	101	0.03 [°]

$$T_{1D} = 0.21 < T_c = 0.479 \quad \mu_d = 1 + (q - 1)T_c/T_1 = 5.9$$

$$d_{ExC} = \mu_d d_{Ex} = 5.9 * 0.622 = 3.67 \text{ cm}$$

$$d_{EyC} = \mu_d d_{Ey} = 5.9 * 1.048 = 6.18 \text{ cm}$$

$$d_{Ex} = d_{ExA} + d_{ExC} = 0.72 + 3.67 = 4.39 \text{ cm} < 15 \text{ cm verificata}$$

$$d_{Ey} = d_{EyA} + d_{EyC} = 0.62 + 6.18 = 6.80 \text{ cm} < 15 \text{ cm verificata}$$

#### 2.2.5.d Verifica del giunto tra corpo A e corpo E

Il fenomeno del martellamento tra i due corpi può avvenire unicamente nella direzione y.

#### SPOSTAMENTI CORPO A - Combinazioni agli Stati Limite di Salvaguardia della Vita

Componente	Valori Min			Valori Max			Valori   Max		
	Comb	Nodo	Valore	Comb	Nodo	Valore	Comb	Nodo	Valore
Ux	10 Sisma 180- / 270-	113	-0.268 [cm]	3 Sisma 0+ / 90+	113	0.253 [cm]	10 Sisma 180- / 270-	113	-0.268 [cm]
Uy	16 Sisma 270+ / 180+	109	-0.344 [cm]	13 Sisma 90- / 0-	109	0.344 [cm]	16 Sisma 270+ / 180+	109	-0.344 [cm]
Uz	15 Sisma 270+ / 0+	102	-0.222 [cm]	13 Sisma 90- / 0-	101	-0.109 [cm]	15 Sisma 270+ / 0+	102	-0.222 [cm]
Rx	14 Sisma 90- / 180-	102	-0.10 [°]	15 Sisma 270+ / 0+	101	0.06 [°]	14 Sisma 90- / 180-	102	-0.10 [°]



Ry	7 Sisma 180+ / 90+	108	-0.05	[°]	6 Sisma 0- / 270-	102	0.04	[°]	7 Sisma 180+ / 90+	108	-0.05	[°]
Rz	14 Sisma 90- / 180-	113	-0.01	[°]	15 Sisma 270+ / 0+	113	0.01	[°]	14 Sisma 90- / 180-	113	-0.01	[°]

$$T_{1A} = 0.536 > T_c = 0.479 \quad \mu_d = q = 2.64$$

$$d_{EyA} = \mu_d d_{Eey} = 2.64 * 0.344 = 0.91 \text{ cm}$$

#### SPOSTAMENTI CORPO E - Combinazioni agli Stati Limite di Salvaguardia della Vita

Componente	Valori Min				Valori Max				Valori   Max			
	Comb	Nodo	Valore		Comb	Nodo	Valore		Comb	Nodo	Valore	
Ux	15 Sisma 270+ / 180+	123	-0.049	[cm]	12 Sisma 90- / 0-	123	0.048	[cm]	15 Sisma 270+ / 180+	123	-0.049	[cm]
Uy	15 Sisma 270+ / 180+	123	-0.296	[cm]	12 Sisma 90- / 0-	123	0.251	[cm]	15 Sisma 270+ / 180+	123	-0.296	[cm]
Uz	12 Sisma 90- / 0-	125	-0.082	[cm]	16 Sisma 270- / 0-	137	-0.027	[cm]	12 Sisma 90- / 0-	125	-0.082	[cm]
Rx	12 Sisma 90- / 0-	124	-0.05	[°]	15 Sisma 270+ / 180+	124	0.07	[°]	15 Sisma 270+ / 180+	124	0.07	[°]
Ry	15 Sisma 270+ / 180+	136	-0.05	[°]	12 Sisma 90- / 0-	135	0.04	[°]	15 Sisma 270+ / 180+	136	-0.05	[°]
Rz	12 Sisma 90- / 0-	123	-0.00	[°]	15 Sisma 270+ / 180+	123	0.00	[°]	15 Sisma 270+ / 180+	123	0.00	[°]

$$T_{1E} = 0.161 < T_c = 0.479 \quad \mu_d = 1 + (q - 1)T_c/T_1 = 3.97$$

$$d_{EyE} = \mu_d d_{Eey} = 3.97 * 0.296 = 1.18 \text{ cm}$$

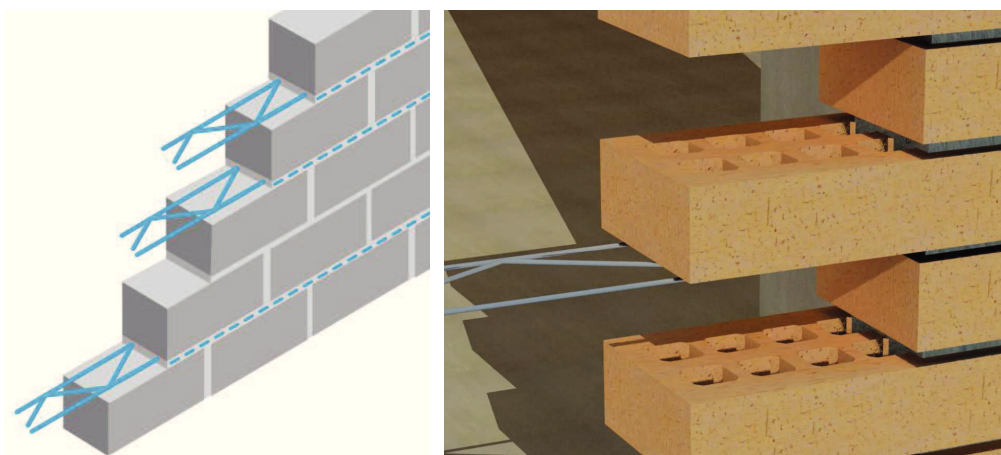
$$d_{Ey} = d_{EyA} + d_{EyE} = 0.91 + 1.18 = 2.09 \text{ cm} < 5 \text{ cm verificata}$$

#### 2.2.6 Assenza di collasso fragile per elementi non strutturali

Per gli elementi costruttivi senza funzione strutturale devono essere adottati magisteri atti ad evitare collassi fragili o prematuri e la possibile espulsione sotto l'azione  $F_a$  corrispondente allo SLV.

In base al punto C7.3.6.3 della Circolare 02/02/2009 tale verifica si può ritenere conseguita con l'inserimento di elementi di armatura orizzontale nei letti di malta, a distanza non superiore a 500 mm.

Quindi per soddisfare tale verifica sono previsti inserimenti, con interasse 500 mm, di tralicci di armatura nei letti di malta orizzontale, per la realizzazione delle murature di tamponamento, come mostrato dalle figure seguenti (schema tipo).



### 2.2.7 Resistenza dei sostegni e collegamenti degli impianti

L'azione del sisma può provocare lo spostamento di macchinari, caduta di elementi sospesi o rottura di tubazioni e linee di alimentazione con conseguenti rischi indotti anche di elevata entità.

Per ciascuno degli impianti principali, gli elementi strutturali che sostengono e collegano i diversi elementi funzionali costituenti l'impianto tra loro ed alla struttura principale devono avere resistenza sufficiente a sostenere l'azione della  $F_a$  corrispondente allo SLV.

Il calcolo dell'azione sismica agente su ogni tipo di impianto è funzione della sua massa, non quantificabile in fase di progettazione strutturale, per cui sarà cura degli installatori adottare sistemi di staffaggi e collegamenti antisismici.

Per creare uno staffaggio resistente al sisma è necessario aggiungere alla staffa statica opportuni controventi ad un determinato interasse, disposti sia in direzione longitudinale (lungo i tubi) che trasversale (perpendicolare ai tubi).

